AMERICAN TRANSMISSION SYSTEMS, INCORPORATED
A FIRSTENERGY COMPANY

LETTER OF NOTIFICATION

DARROW-HUDSON EAST 138 kV TRANSMISSION LINE STRUCTURE REPLACEMENT AND ADDITION PROJECT

Case No.: 24-0243-EL-BLN

April 29, 2024

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

LETTER OF NOTIFICATION
DARROW-HUDSON EAST 138 kV TRANSMISSION LINE STRUCTURE REPLACEMENT AND ADDITION PROJECT

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

4906-6-05(B): LETTER OF NOTIFICATION REQUIREMENTS

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

Name of Project: Darrow-Hudson East 138 kV Transmission Line Structure Replacement and Addition Project ("Project")

Reference Number: 2317-1

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

In this Project, American Transmission Systems, Incorporated, ("ATSI"), a FirstEnergy company, is proposing to install seven (7) new midspan structures and replace nine (9) existing structures at various locations on the existing Darrow-Hudson East 138 kV Transmission Line. The existing conductor and shield wires will be transferred to the new mid-span and replaced structures. The Project is needed to address multiple clearance concerns that were identified on the existing Darrow-Hudson East 138 kV Transmission Line.

The Project is located in the city of Hudson, Summit County, and the city of Streetsboro, Portage County, Ohio. The general location of the Project is shown in Exhibit 1, a partial copy of the United States Geologic Survey, Summit and Portage Counties, OH, Quad Map. Exhibit 2 is a copy of ESRI aerial imagery of the Project area. The general layout of the Project is shown in Exhibit 3.

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

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

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

(b) More than two miles.

The proposed Project is within the requirements of Item (2)(b) because it involves the replacement of structures for a distance greater than 2 miles.

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

As a part of ATSI's Right-Of-Way ("ROW") Assurance Program, a program that assesses existing transmission lines and their associated ROWs for clearance issues that violate the National Electric Reliability Corporation ("NERC") design and operating field condition requirements; and the National Electrical Safety Code ("NESC") minimum transmission line conductor-to-conductor clearance requirements, multiple clearance concerns throughout the existing Darrow-Hudson East 138 kV Transmission Line have been identified. After modeling the circuits with new LiDAR data, it was found that actual field clearances did not match the design clearances for the operation of the circuits.

Upon discovery of the clearance concern, immediate action was taken to reduce the allowable ratings of the Darrow-Hudson East 138 kV Transmission Line ("de-rate")

and to begin developing permanent mitigation to achieve adequate clearances at the transmission line's maximum operating temperature.

The proposed permanent solution consists of installing seven (7) new mid-span wooden h-frame structures and replacing nine (9) wooden h-frame structures. These proposed structures will reestablish adequate clearances for the conductors.

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

The location of the Project relative to existing or proposed lines is shown in the ATSI Transmission Network Map, included as part of the confidential portion of the FirstEnergy Corp. 2023 Long-Term Forecast Report. This map was submitted to the Public Utilities Commission of Ohio ("PUCO") in Case No. 23-0504-EL-FOR under Rule 4901:5-5:04 (C)(2)(b) of the Ohio Administrative Code. This map is incorporated by reference only. The Project was not included in the 2023 LTFR as it was not identified at the time of filing and does not entail any topology or rating change. The general location of the Project area is shown in Exhibits 1 and 2. The general layout is shown in Exhibit 3.

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

Due to the nature of the identified clearance issue, there were no alternatives considered for this project.

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

ATSI's manager of External Affairs will advise local officials of features and the status of the proposed Project as necessary. ATSI will maintain a copy of this Letter of Notification, along with other Project information, on FirstEnergy's website: https://www.firstenergycorp.com/about/transmission_projects/ohio.html.

ATSI will publish notice of the Project in the Akron Beacon Journal and the Ravenna Record Courier within 7 days of filing this Letter of Notification application. The notice will comply with OAC 4906-6-08(A)(1)-(6). In addition to the public notice,

ATSI will mail letters in accordance with OAC 4906-6-08(B) explaining the Project to affected landowners and tenants and informing them of the Project's anticipated sequencing of construction and restoration activities, including the start date and overall time frame. During all phases of this Project, the public may contact ATSI through the transmission projects hotline at 1-888-311-4737 or via email at: transmissionprojects@firstenergycorp.com.

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

Construction on the Project is expected to begin as early as August 2024 and be completed/in-service by November 2024.

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

The general location of the Project is shown in Exhibit 1, a partial copy of the United States Geologic Survey, Summit County and Portage County, OH, Quad Map. Exhibit 2 is a copy of ESRI aerial imagery of the Project area. The general layout of the Project is shown in Exhibit 3.

4906-6-05(B)(8): Properties List

The Project is located on existing right-of-way. New temporary access rights may be required as part of the Project. Exhibit 4 contains a list of properties affected by the Project.

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

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

The transmission line construction will have the following characteristics:

Voltage:	138 kV
Conductors:	477 kcmil 26/7 ACSR (existing)
Static Wire:	134.6 kcmil 12/7 ACSR (Existing from Darrow Substation to Existing Structure 7845)

	101.8 kcmil 12/7 ACSR (Existing from structure 7485 to Hudson East Substation
Insulators:	Polymer, Glass
ROW Width:	100 feet
Land Requirements:	Access Rights
Structure Types:	Sixteen (16) new structures will be installed. Exhibit 5: Two Pole Wood H-Frame Nonstandard Midspan Post Structure (6 Structures) Exhibit 6: Two Pole Wood H-Frame Nonstandard Deadend Structure (1 Structure) Exhibit 7: Single Circuit Wood Pole Structure Suspension Horizontal Two Pole H-Frame (6 Structures) Exhibit 8: Single Circuit Wood Pole Structure Tangent Strain Horizontal Two Pole H-Frame (3 Structures)

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

As there are occupied residences or institutions within 100 feet from the existing transmission line centerline, Electric and Magnetic Field ("EMF") calculations are required by this code provision.

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

The Project is an approximately 7.65-mile single circuit 138 kV transmission line located within an existing 100-foot-wide rights-of-way that does not share the right-of-way with any other transmission lines.

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

Table 1: Transmission Line Loading

Line Name	Normal Loading Amps	Emergency Loading Amps	Winter Rating Amps
Darrow-Hudson East 138 kV Transmission Line	96.9	233	1198

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

Table 2: EMF Calculations for Darrow-Hudson East 138 kV Transmission Line Tangent to Tangent Structures

Darrow-Hudson East 138 kV Transmission Line Tangent to Tangent Structures, 100-foot ROW		Electric Field kV/m	Magnetic Field mG
Normal Loading	Under Lowest Conductors	2.299	31.53
	At Right-of-Way Edges	0.627 / 0.647	6.52 / 6.92
Emergency Loading	Under Lowest Conductors	2.299	76.09
	At Right-of-Way Edges	0.627 / 0.647	15.26 / 16.10
Winter Rating	Under Lowest Conductors	2.299	391.23
	At Right-of-Way Edges	0.627 / 0.647	78.48 / 79.80

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

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

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

The estimated cost for the proposed Project is $1,758,521. Although not statutorily required for approval, at the request of OPSB Staff, ATSI confirms that ATSI's costs will be captured and allocated via FERC formula rates for the ATSI Transmission Zone, Attachment H-21 in the PJM OATT.

4906-6-05(B)(10): Social and Ecological Impacts

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

The Project is located in the city of Hudson, Summit County and the city of Streetsboro, Portage County, Ohio. There are various land uses along the route of the line, mainly residential uses, with agricultural, commercial and industrial uses to a lesser extent.

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

A list of all agricultural land and acreage including agricultural district land is provided in Exhibit 4.

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

As part of the investigation for this Construction Notice, TRC submitted a request to the Ohio State Historic Preservation Office to review and provide comments on the

project area on March 6, 2024. On April 3, 2024, the Ohio State Historic Preservation Office (SHPO) replied to the request, attached as part of Exhibit 9. SHPO concluded that several historic properties, districts, or archaeological sites are located within or adjacent to the affected project area (APE). A summary of these sites is listed in Exhibit 9. Based on this information and the nature of the proposed project, it is the SHPO's opinion that no cultural resource studies are warranted for the Project. Furthermore, as proposed, the Project will have no effect to historic properties. No further coordination is required for this Project unless the scope of work changes or archaeological remains are discovered during the course of the Project. A map of the surveyed APE is also attached as part of Exhibit 9.

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

Table 3 shows the list of government agency requirements for the Project.

Table 3. List of Government Agency Requirements.

Agency	Documents
USACE	NWP 57
Portage County Engineer	Individual Haul Permits, or RUMA
Portage County Soil and Water Conservation District	Stormwater Plan Review
Summit Soil and Water Conservation District	Stormwater Plan Review
Ohio Environmental Protection Agency	Stormwater Plan
Notice of Intent (NOI) for National Pollutant Discharge Elimination System (NPDES)	Ohio EPA
Storm Water Pollution Prevention Plan Review	Lucas County Engineer's Office

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

As part of the investigation, ATSI retained TRC to conduct the necessary environmental surveys. TRC submitted a request to the Ohio Department of Natural

Resources (ODNR) Office of Real Estate to conduct an Environmental Review. As part of the Environmental Review, the ODNR Office of Real Estate conducted a search of the ODNR Division of Wildlife's Natural Heritage Database to research the presence of any endangered, threatened, or rare species within one (1) mile of the Project Study Area. The ODNR's Office of Real Estate's response on December 22, 2023, indicated that there are 42 records of state and/or federally listed plants, animals, and communities located within a one-mile radius of the Project Study Area. Additionally, the Project is within the range of 12 state and/or federally listed plants or animal species. A copy of ODNR's Office of Real Estate's response is included as Exhibit 10. A list of all endangered, threatened, and rare species, as identified by ODNR, within a one-mile radius of the Project is provided in Table 4 and a list of all endangered, threatened, and rare species, as identified by ODNR, within the range of the Project is provided in Table 5.

As part of the investigation, TRC also submitted a request to the US Fish and Wildlife Service (USFWS) for an Ecological Review to research the presence of any endangered, threatened, rare, or designated species within one (1) mile of the Project Area. A copy of USFWS's Ecological Review response, dated November 29, 2023, is included as Exhibit 11. The response indicated that the proposed Project is in the vicinity of one or more confirmed records of Indiana bats and/or northern long-eared bats. Seasonal tree clearing is recommended by USFWS to avoid any adverse effects to Indiana bats and northern long-eared bats. Due to the project type, size, location, and the proposed implementation of seasonal tree cutting, the USFWS does not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat.

Table 4. List of Endangered, Threatened, and Rare Species within a 1-mile radius of Project Area

Common Name	Scientific Name	State Listed Status	Federal Listed Status	Affected Habitat
Birds				
Sora Rail	*Porzana carolina*	Species of Concern	N/A	Freshwater wetlands with emergent vegetation such as cattails, sedges, and rushes
Virginia Rail	*Rallus limicola*	Species of Concern	N/A	Fresh and brackish wetlands with cattails and bulrushes, and secondarily use coastal saltmarshes
Wilson's Snipe	*Gallinago delicata*	Special Interest	N/A	Muddy pond edges, damp fields, and other wet, open habitats
Insects				
Sphagnum Sprite	*Nehalennia gracilis*	Species of Concern	N/A	Sphagnum bogs and grassy ponds with dense beds of sedges and grasses
Mussels				
Creek Heelsplitter	*Lasmigona compressa*	Species of Concern	N/A	Perennial streams with fine gravel or sand
Plants and Plant Communities				
Autumn Willow	*Salix serissima*	Potentially Threatened	N/A	Shores, fens, swamps, bogs, floating mats, sedge meadows, and peatlands
Bayberry	*Myrica pensylvanica*	Endangered	N/A	Sandy, peaty, and slightly acidic well drained soils receiving full to partial sun
Bearded Wheat Grass	*Elymus trachycaulus*	Threatened	N/A	Average to dry sandy or rocky soil; prairies, savanna, dunes, shores, forest openings, rocky slopes, rock outcrops
Bebb's Sedge	*Carex bebbii*	Potentially Threatened	N/A	Shores, stream banks, swamps, meadows, forest clearings, swales
Blue-leaved Willow	*Salix myricoides*	Potentially Threatened	N/A	Beaches and dunes of the Lakes, and occasionally along inland streams and in fens, if calcareous
Bog Bedstraw	*Galium labradoricum*	Endangered	N/A	Fens, swamps, cold bogs, wet meadows, moist thickets
Boreal fen plant community	N/A	N/A	N/A	N/A
Broad-winged Sedge	*Carex alata*	Potentially Threatened	N/A	Marshes, swamps, meadows, and fens, particularly those with limestone or non-acidic substrates
Bunchberry	*Cornus canadensis*	Threatened	N/A	Acidic soil; moist woods, bogs

Bunchflower	*Veratrum virginicum*	Threatened	N/A	Open bottomland woodlands, damp meadows, swamps, marshes, fens, floating bogs, and roadside ditches
Crinkled Hair Grass	*Avenella flexuosa*	Potentially Threatened	N/A	Dry, open woods; fields, roadsides, and hillsides; often on sandy soils
False Asphodel	*Triantha glutinosa*	Threatened	N/A	Calcareous soil; fens, seeps, marly shorelines, wet meadows
Floating Pondweed	*Potamogeton natans*	Potentially Threatened	N/A	Shallow to 8 feet deep water; lakes, ponds, streams, rivers
Fuzzy Hypnum Moss	*Tomentypnum nitens*	Endangered	N/A	Calcareous to intermediately mineral-rich habitats, mesotrophic fens
Great St. John's-wort	*Hypericum ascyron ssp. pyramidatum*	Threatened	N/A	Floodplain (river or stream floodplains), marshes, meadows and fields, shores of rivers or lakes
Green Cotton-grass	*Eriophorum viridicarinatum*	Threatened	N/A	Bogs, conifer swamps, marshes, fens, wet meadows, wet woods, shores
Highbush-cranberry	*Viburnum opulus var. americanum*	Endangered	N/A	Moist soil; forest edges, clearings, swamps, fens, shores, banks
Hoary Willow	*Salix candida*	Threatened	N/A	Calcareous fens, swamps, wet meadows, floating mats, shores, peatlands
Leather-leaf	*Chamaedaphne calyculata*	Threatened	N/A	Bogs, peatlands, swampy streambanks in coniferous forests
Lesser Panicled Sedge	*Carex diandra*	Endangered	N/A	Swamps, marshes, floating mats, wet meadows, shores
Little Green Sedge	*Carex viridula*	Threatened	N/A	Moist to wet, sandy or rocky soil; marshes, fens, lakeshores, wet meadows, seeps, swales
Marsh Arrow-grass	*Triglochin palustris*	Potentially Threatened	N/A	Fens, marshes, bogs
Mixed emergent marsh plant community	N/A	N/A	N/A	N/A
Prairie Rattlesnake-root	*Nabalus racemosus*	Potentially Threatened	N/A	Moist sandy soil; wet meadows, prairies, stream banks, fens
Pumpkin Ash	*Fraxinus profunda*	Potentially Threatened	N/A	Swamps, floodplains and other wet bottomland habitats
Showy Lady's-slipper	*Cypripedium reginae*	Threatened	N/A	Moist prairies, sedge meadows, calcareous fens
Slender Sedge	*Carex lasiocarpa*	Potentially Threatened	N/A	Sedge meadows, fens, bogs, lakeshores

Small Yellow Lady's-slipper	*Cypripedium parviflorum var. makasin*	Endangered	N/A	Wet to moist soil; conifer swamps, fens, boreal forests
Tamarack	*Larix laricina*	Potentially Threatened	N/A	Moist to wet; boggy swamps, lakeshores, along streams, upland forest
Water Avens	*Geum rivale*	Potentially Threatened	N/A	Wet meadows, fens, swamps, along streams and lakes
White Beak-rush	*Rhynchospora alba*	Potentially Threatened	N/A	Wetlands, fens, bogs, peatlands, floating mats
White Wand-lily	*Anticlea elegans*	Potentially Threatened	N/A	Sunny, rich, moist prairies and meadows
Wrinkled-leaved Marsh Hypnum	*Hypnum pratense*	Endangered	N/A	Wet places in open swamps and meadows
Yellow Sedge	*Carex flava*	Potentially Threatened	N/A	Moist to wet; fens, coniferous swamps, sedge meadows, along streams in deciduous and mixed forest
Reptiles				
Kirtland's Snake	*Clonophis kirtlandii*	Threatened	N/A	Open wetlands or edges of forested wetlands
Smooth Greensnake	*Opheodrys vernalis*	Endangered	N/A	Many different habitats, including marshes, meadows, the edges of streams, and open woods
Spotted Turtle	*Clemmys guttata*	Threatened	N/A	Shallow, sluggish waters of wet prairies and meadows, fens, bogs, marshes, small streams, ditches, and pond edges

Table 5. List of Endangered, Threatened, and Rare Species within range of Project Area

Common Name	Scientific Name	State Listed Status	Federal Listed Status	Affected Habitat
Birds				
Sandhill Crane	*Antigone canadensis*	Threatened	N/A	On their wintering grounds, they will utilize agricultural fields. On breeding grounds, they require a rather large tract of wet meadow, shallow marsh, or bog for nesting.
Trumpeter Swan	*Cygnus buccinator*	Threatened	N/A	Large marshes and lakes ranging in size from 40 to 150 acres

Fish				
Iowa Darter	*Etheostoma exile*	Endangered	N/A	Clear, sluggishly vegetated streams and weedy areas of glacial lakes, marshes, and ponds
Lake Chubsucker	*Erimyzon sucetta*	Threatened	N/A	Lakes, ponds, and swamps
Paddlefish	*Polyodon spathula*	Threatened	N/A	Freshwater perennial streams and lakes
Pugnose Minnow	*Opsopoeodus emiliae*	Endangered	N/A	Slow, clear, vegetated waters of rivers and shallow areas of lakes
Western banded killifish	*Fundulus diaphanus menona*	Endangered	N/A	Shallow areas of clear lakes, ponds, rivers, and estuaries with sandy gravel or muddy bottoms
Mammals				
Indiana Bat	*Myotis sodalis*	Endangered	Endangered	Trees and forests
Little Brown Bat	*Myotis lucifugus*	Endangered	N/A	Trees and forests
Northern Long-eared Bat	*Myotis septentrionalis*	Endangered	Endangered	Trees and forests
Tricolored Bat	*Perimyotis subflavus*	Endangered	N/A	Trees and forests
Reptiles				
Spotted Turtle	*Clemmys guttata*	Threatened	N/A	Shallow, sluggish waters of wet prairies and meadows, fens, bogs, marshes, small streams, ditches, and pond edges

Based on the information received from correspondence with ODNR, the Project is within the vicinity of records for 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, and the little brown bat (*Myotis lucifugus*), a state endangered species. Since presence of state endangered bat species has been established in the area, the DOW states that summer tree cutting is not recommended, and additional summer surveys would not indicate presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with the DOW. Although several bat species were identified, there is no structure removal or tree clearing anticipated as a result of this Project; therefore, no impacts to these species are expected.

The Project is within the range of the Iowa darter *(Etheostoma exile),* a state endangered fish; the pugnose minnow (*Opsopoeodus emiliae*), a state endangered

fish; the western banded killifish (*Fundulus diaphanus menona*), a state endangered fish; the lake chubsucker (*Erimyzon sucetta*), a state threatened fish; and the paddlefish (*Polyodon spathula*), a state threatened fish. Since no in-water work is proposed in a perennial stream, the Project is not likely to impact these or other aquatic species.

The response from ODNR, DOW indicated that the Project is within the range of the spotted turtle (*Clemmys guttata*), a state threatened species. This species prefers fens, bogs, and other wetland features, including small streams. The DOW recommended that an approved herpetologist conduct a habitat suitability survey to determine if suitable habitat is present within the Project area. A site visit was conducted on March 7, 2024, by ODNR approved herpetologist, Jeffrey G. Davis, to examine seven areas of interest identified as potential habitat during a desktop survey. Based on the findings of the Habitat Assessment Report dated March 11, 2024, attached as Exhibit 12, there is limited concern for impact to spotted turtles or their habitat along the project ROW; therefore, a presence – absence survey was not recommended. However, because spotted turtles may use Tinker's Creek as a migration corridor, a barrier consisting of silt fencing buried 3 inches below grade to block turtles that might move from Tinker's Creek and migrate toward the wetland adjacent to Structure 7870 was recommended. The fence will extend from Structure 7869, north to the base of the embankment upon which the east bound lane of Interstate 80 is located. Due to the implementation of silt fencing within the Project Study Area, negative impacts to this state listed species are not anticipated by the Project.

The Project is within the range of the sandhill crane (*Antigone canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds, they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through August 31. This habitat

will not be impacted; therefore, this Project is not likely to have an impact on this species.

The Project is also within the range of the trumpeter swan (*Cygnus buccinator*), a state threatened bird. Trumpeter swans prefer large marshes and lakes ranging in size from 40 to 150 acres. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through June 15. This habitat type will not be impacted by Project activities; therefore, this Project is not likely to impact this species.

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

TRC conducted a wetland and waterway delineation for this Project on February 21 - 23 and February 26, 2024. The Project Study Area is 53.7 acres total in size and is located in the City of Hudson in Summit County and the City of Streetsboro in Portage County, Ohio. The Project Study Area occurs in an existing, maintained utility right-of-way located within agricultural, forested, industrial, and residential lands. During the field investigation, TRC did not observe the presence of any of the ODNR listed species due to the highly maintained and urban nature of the utility right-of-way. The surface water delineation report and photo record are included in Exhibit 13. A review of the National Conservation Easement Database (www.conservationeasement.us) revealed no conservation easements are located within the Project Study Area.

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

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

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

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

This Letter of Notification application is being provided concurrently with its docketing with the Board to the following officials.

Summit County

Ms. Ilene Shapiro
Summit County Executive
175 S Main St 7th floor
Akron, OH 44308

Mr. Alan Brubaker
Summit County Engineer
538 E South St
Akron, OH 44311

Ms. Rita Darrow
Summit County Council VP
175 S Main St 7th floor
Akron, OH 44308

Ms. Kristen Scalise
Summit County Fiscal Officer
538 E South St
Akron, OH 44311

Summit Soil and Water
Conservation District
1180 South Main Street #230
Akron, OH 44301

Hudson

Mr. Jeffrey Anzevino
Hudson Mayor
115 Executive Pkwy STE 400
Hudson, OH 44236

Ms. Karen Heater
Hudson City Council
115 Executive Pkwy STE 400
Hudson, OH 44236

Mr. Chris Banweg
Hudson City Council
115 Executive Pkwy STE 400
Hudson, OH 44236

Ms. Nicole Kowalski
Hudson City Council
115 Executive Pkwy STE 400
Hudson, OH 44236

Portage

Mr. Tony Badalamenti
Portage County Commissioner
449 S. Meridian St. Room 101
Ravenna, OH 44266

Mr. Mike Tinlin
Portage County Commissioner
449 S. Meridian St. Room 101
Ravenna, OH 44266

Ms. Sabrina Christian-Bennett
Portage County Commissioner
449 S. Meridian St. Room 101
Ravenna, OH 44266

Mr. Larry Jenkins P.E. P.S.
Portage County Engineer
332 Majors Ln.
Kent, OH 44240

Streetsboro

Mr. Justin Ring
Streetsboro City Council
555 Frost Road
Streetsboro, OH 44241

Mr. Jon Hannan
Streetsboro City Council
555 Frost Road
Streetsboro, OH 44241

Mr. Steve Michniak
Streetsboro City Council
555 Frost Road
Streetsboro, OH 44241

Mr. Glenn Broska
Streetsboro Mayor
555 Frost Road
Streetsboro, OH 44241

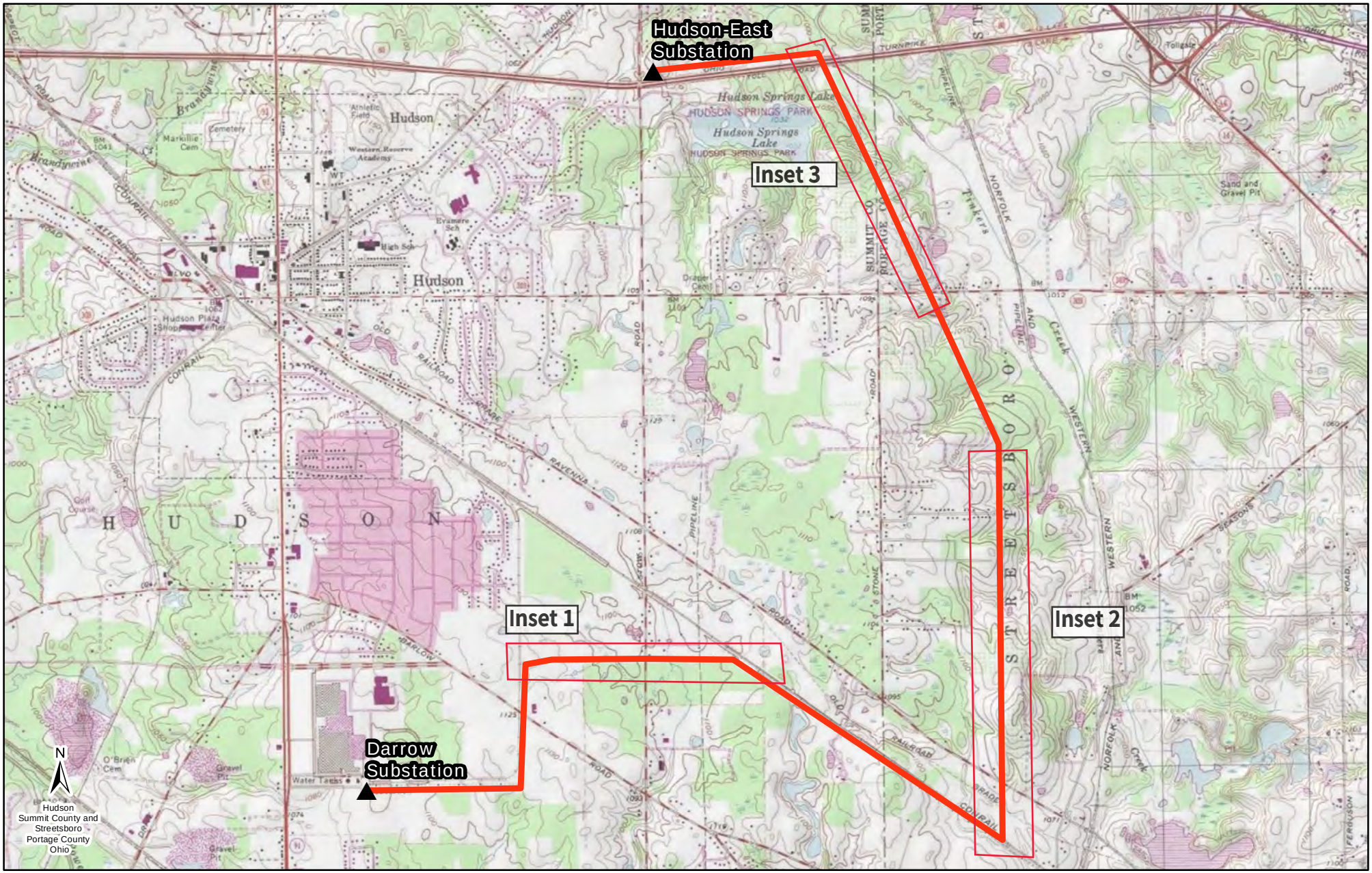
Library

Ms. Leslie Polott
Hudson Library & Historical Society
Executive Director
96 Library Street
Hudson, OH 44236

Mr. Jonathan Harris
Portage County District Library
Director
8990 Kirby Lane
Streetsboro, OH 44241

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

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



LEGEND:

- ▲ Substations
- Darrow-Hudson East 138 kV Transmission Line

0 1,500 3,000 6,000

Feet

Reference:
USGS Topographical Overlay

Coordinate System:
NAD_1983_StatePlane_Ohio_North_FIPS_3401_Feet
WKID: 3734 Authority: EPSG

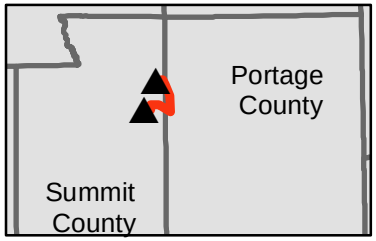
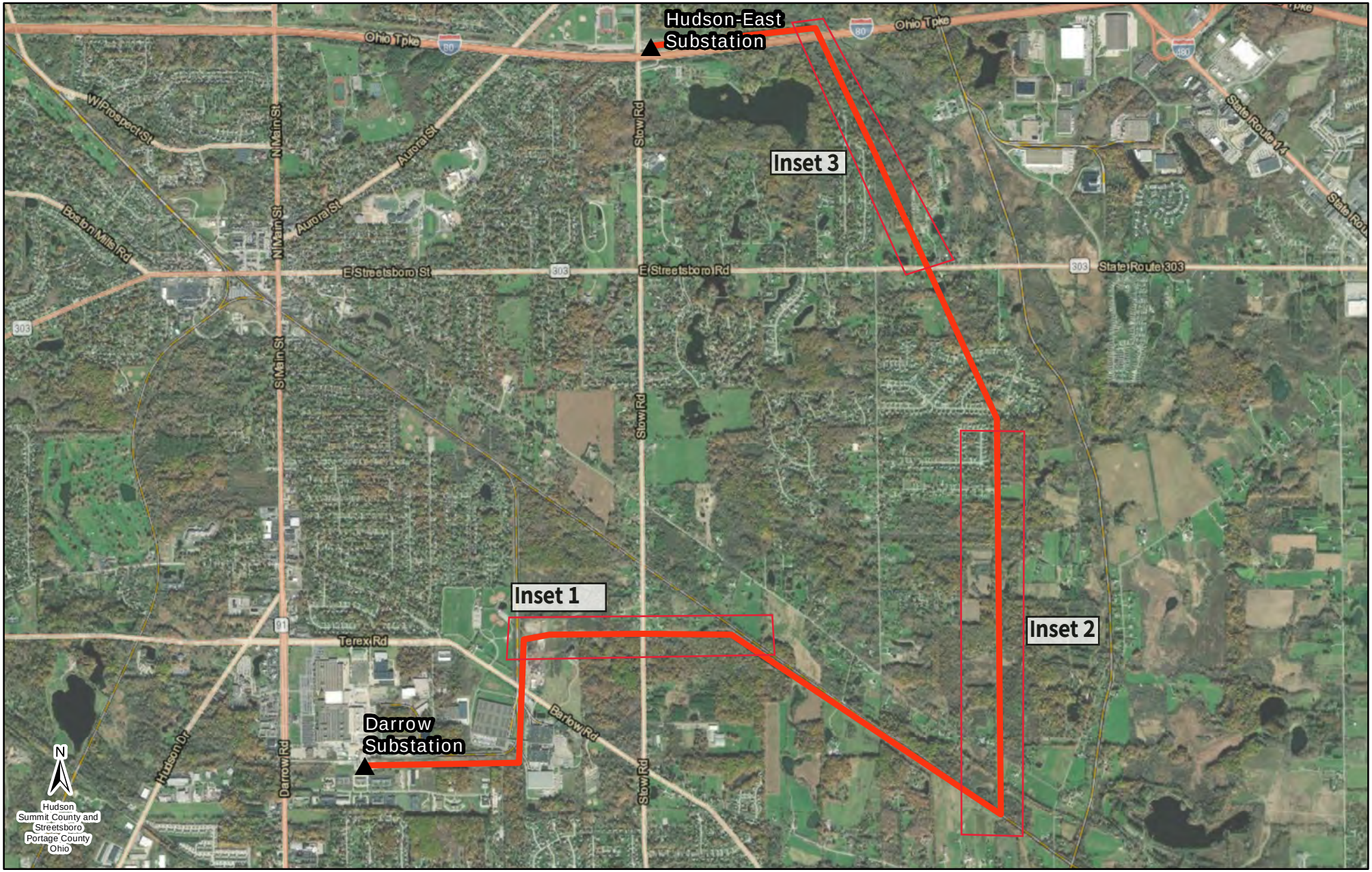


EXHIBIT 1

ATSI®
American Transmission Systems, Inc.
A subsidiary of FirstEnergy Corp.

Darrow-Hudson East 138 kV
Transmission Line Structure Addition Project



LEGEND:

- ▲ Substations
- Darrow-Hudson East 138 kV Transmission Line

0 1,500 3,000 6,000

Feet

Reference:
ESRI Aerial Imagery

Coordinate System:
NAD_1983_StatePlane_Ohio_North_FIPS_3401_Feet
WKID: 3734 Authority: EPSG

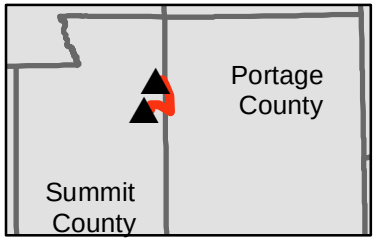
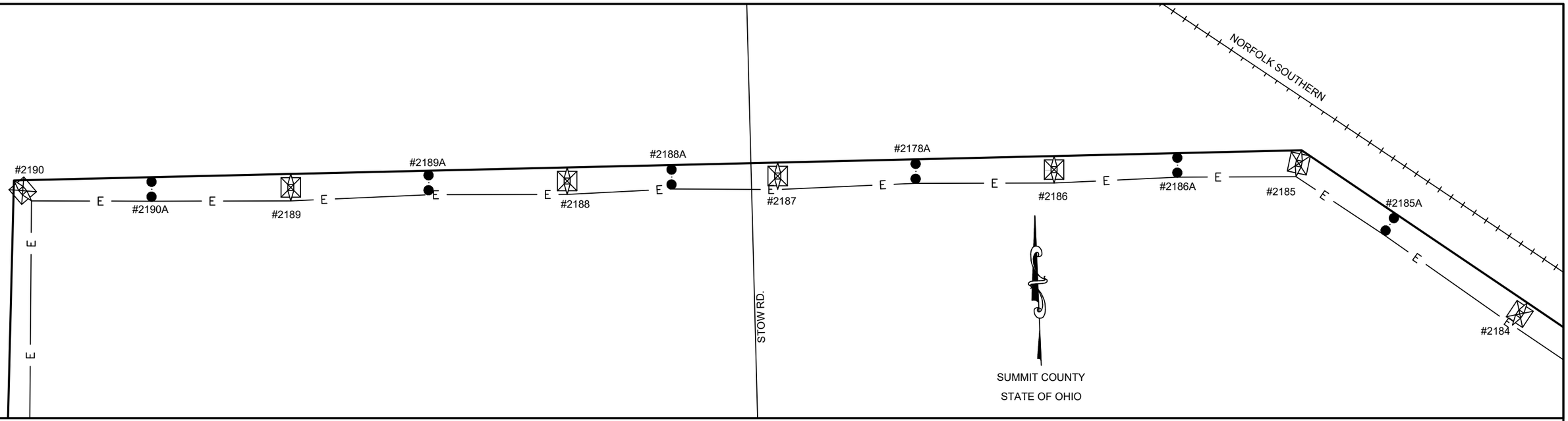


EXHIBIT 2

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

Darrow-Hudson East 138 kV
Transmission Line Structure Addition Project



LEGEND

- NEW OR REPLACED STRUCTURE
- EXISTING LATTICE STRUCTURE
- TRANSMISSION LINE
- PAVED ROAD
- RAILROAD
- OTHER TRANSMISSION LINE
- PROPERTY LINE
- COUNTY BORDER
- WATER'S EDGE

0' 350' 700'

HORIZONTAL SCALE IN FEET

DARROW–HUDSON EAST 138KV, MITIGATION PACKAGE, EX. 3

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

DARROW-HUDSON EAST 138 kV
TRANSMISSION LINE STRUCTURE
REPLACEMENT AND ADDITION PROJECT

GENERAL PROJECT LAYOUT

EXHIBIT 3 - Inset 1

#7849
#7848
#7847
#7846
#7845
#2177
#2178A
#2178
DARROW-HUDSON EAST 138KV
NORFOLK SOUTHERN
BRADY - DARROW 138KV
E
PORTAGE COUNTY
STATE OF OHIO
STONERIDGE DR.
McCRACKEN RD.
HALE DR.
#7856
#7855
#7854
#7853
DARROW-HUDSON 138KV
PORTAGE COUNTY
STATE OF OHIO
0'
350'
700'
HORIZONTAL SCALE IN FEET

LEGEND

- NEW OR REPLACED STRUCTURE
- EXISTING LATTICE STRUCTURE
- TRANSMISSION LINE
- PAVED ROAD
- RAILROAD
- E - OTHER TRANSMISSION LINE

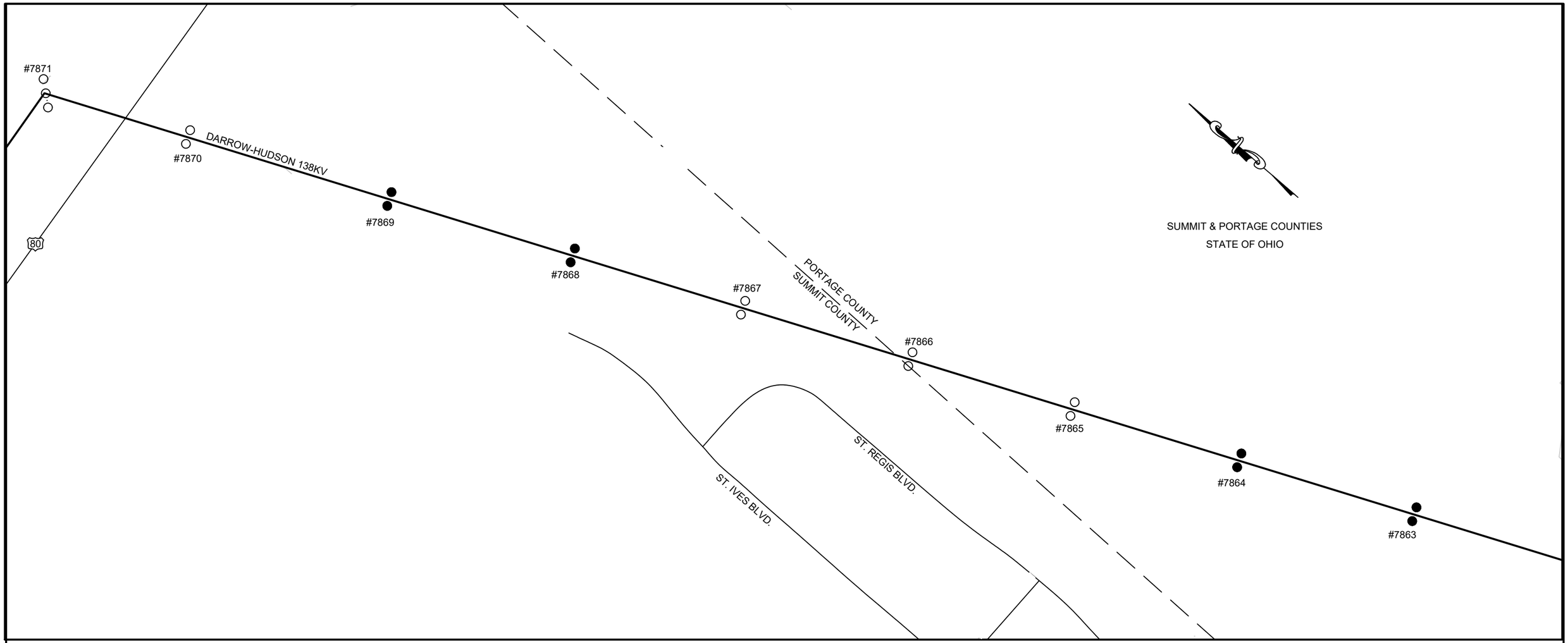
DARROW–HUDSON EAST 138kV, MITIGATION PACKAGE, EX. 3

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

DARROW-HUDSON EAST 138 kV
TRANSMISSION LINE STRUCTURE
REPLACEMENT AND ADDITION PROJECT

GENERAL PROJECT LAYOUT

EXHIBIT 3 - Inset 2



LEGEND

- NEW OR REPLACED STRUCTURE
- EXISTING LATTICE STRUCTURE
- TRANSMISSION LINE
- PAVED ROAD
- RAILROAD
- E - OTHER TRANSMISSION LINE

0' 350' 700'
HORIZONTAL SCALE IN FEET

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

DARROW-HUDSON EAST 138 kV
TRANSMISSION LINE STRUCTURE
REPLACEMENT AND ADDITION PROJECT

GENERAL PROJECT LAYOUT

EXHIBIT 3 - Inset 3

DARROW–HUDSON EAST 138KV, MITIGATION PACKAGE, EX. 3

Exhibit 4

Property owner list and Agricultural Land

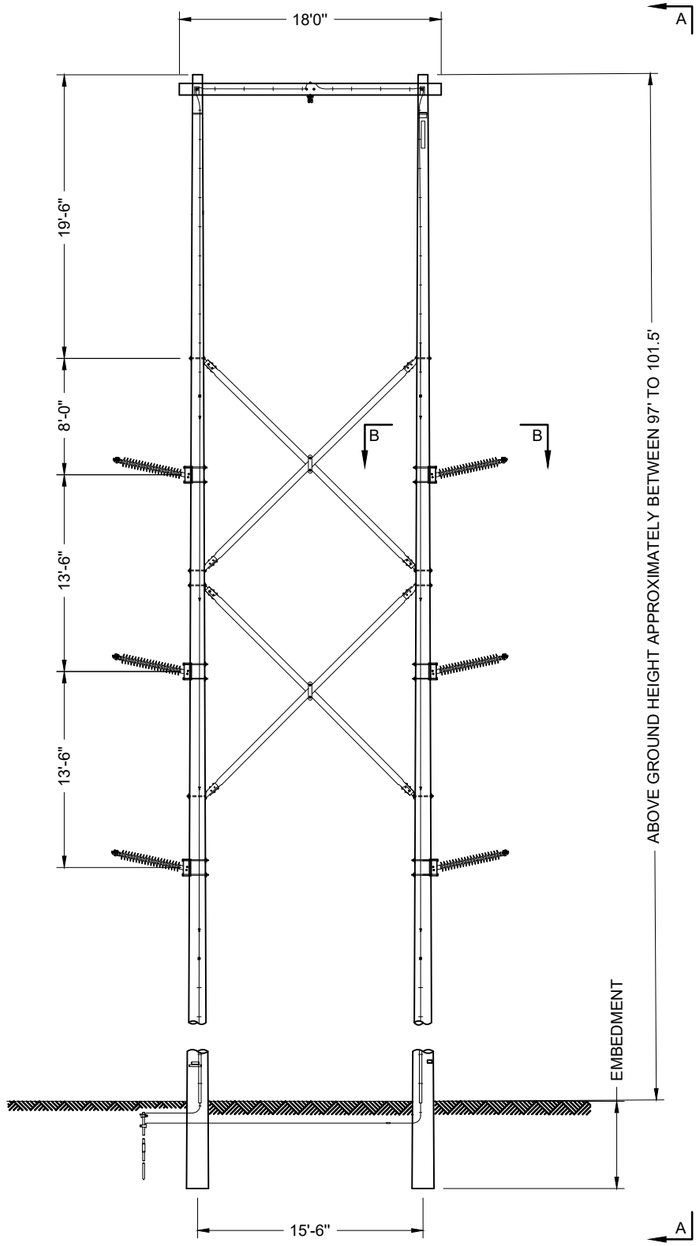
Darrow-Hudson East 138 kV Transmission Line

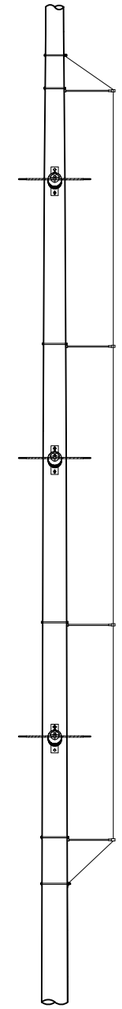
Structure Addition and Replacement Project

Case No.: 24-0243-El-BLN

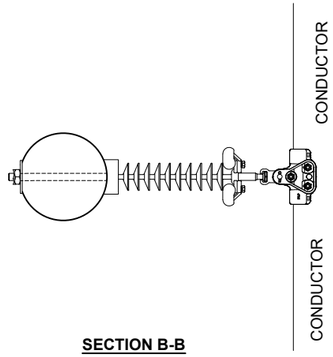
Parcel Number	Acreage	Easement Status	Agricultural District (Yes/No)	Agricultural District Expiration Year
3001786	6.434	Existing	No	N/A
3001051	5.87	Existing	No	N/A
35-091-00-00-016-012, 35-091-00-00-016-011	13.227 13.876	Existing	No	N/A
3004151	7.06	Existing	Yes	2025
3003372, 3003371	.4591 .5739	Existing	No	N/A
3001047	7.73	Existing	No	N/A
3002041	3.4539	Existing	No	N/A
3009557	.9642	Existing	No	N/A
35-091-00-00-016-013	8.607	Existing	No	N/A
3002081 3001531 3001350	58.02 6.1 23.28	Existing	No	N/A
3009425 3003549	102.77 96.01	Existing	No	N/A
35-051-00-00-014-002, 35-051-00-00-014-003, 35-051-00-00-014-004, 35-051-00-00-014-001	3.34 4.96 3.47 6.60	Existing	No	N/A
35-081-00-00-021-000	67.96	Existing	No	N/A
3004497	6.07	Existing	No	N/A
3004381	1.79	Existing	No	N/A
3004380	2.19	Existing	No	N/A
3004379	2.21	Existing	No	N/A
3004378	1.77	Existing	No	N/A
3001541	19.06	Existing	No	N/A
3009198	N/A	Existing	No	N/A

35-041-00-00-002-000	50.54	Existing	No	N/A
35-041-00-00-004-000	64.96	Existing	No	N/A
35-052-10-00-001-000	N/A	Existing	No	N/A
35-061-00-00-035-001 35-061-00-00-035-000	5.00 76.31	Existing	No	N/A
35-072-00-00-006-003	15.23	Existing	No	N/A
35-072-00-00-006-005	17.00	Existing	No	N/A
35-081-00-00-021-000	67.96	Existing	No	N/A





SECTION A-A



SECTION B-B

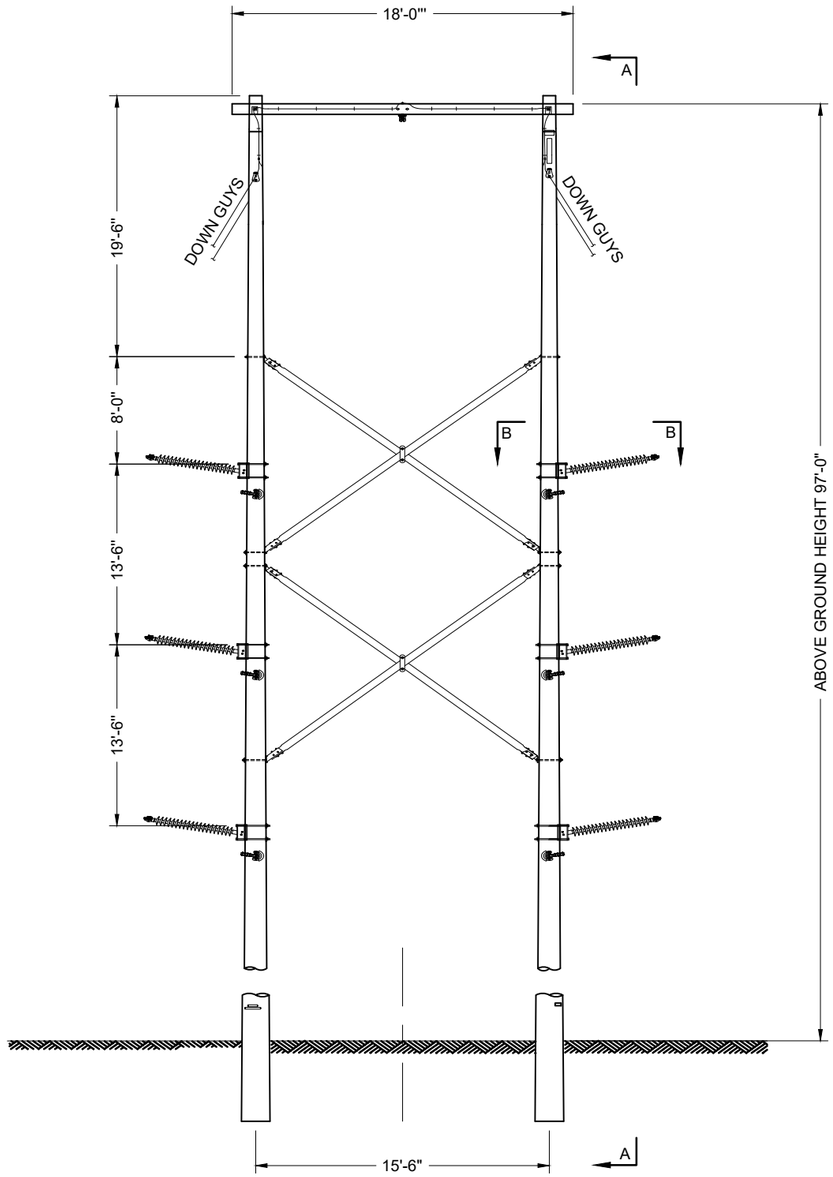
DARROW–HUDSON EAST 138KV, MITIGATION PACKAGE, EX. 4

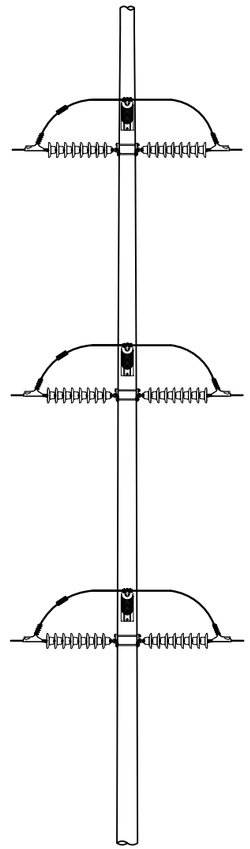
ATSI® American Transmission Systems, Inc a subsidiary of FirstEnergy Corp.

DARROW-HUDSON EAST 138KV Transmission Line Structure Replacement and Addition Project

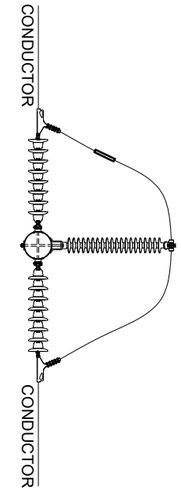
TWO POLE WOOD H-FRAME (WITH TWO X-BRACES)
NONSTANDARD MIDSPAN POST STRUCTURE

EXHIBIT 5





SECTION A-A



SECTION B-B

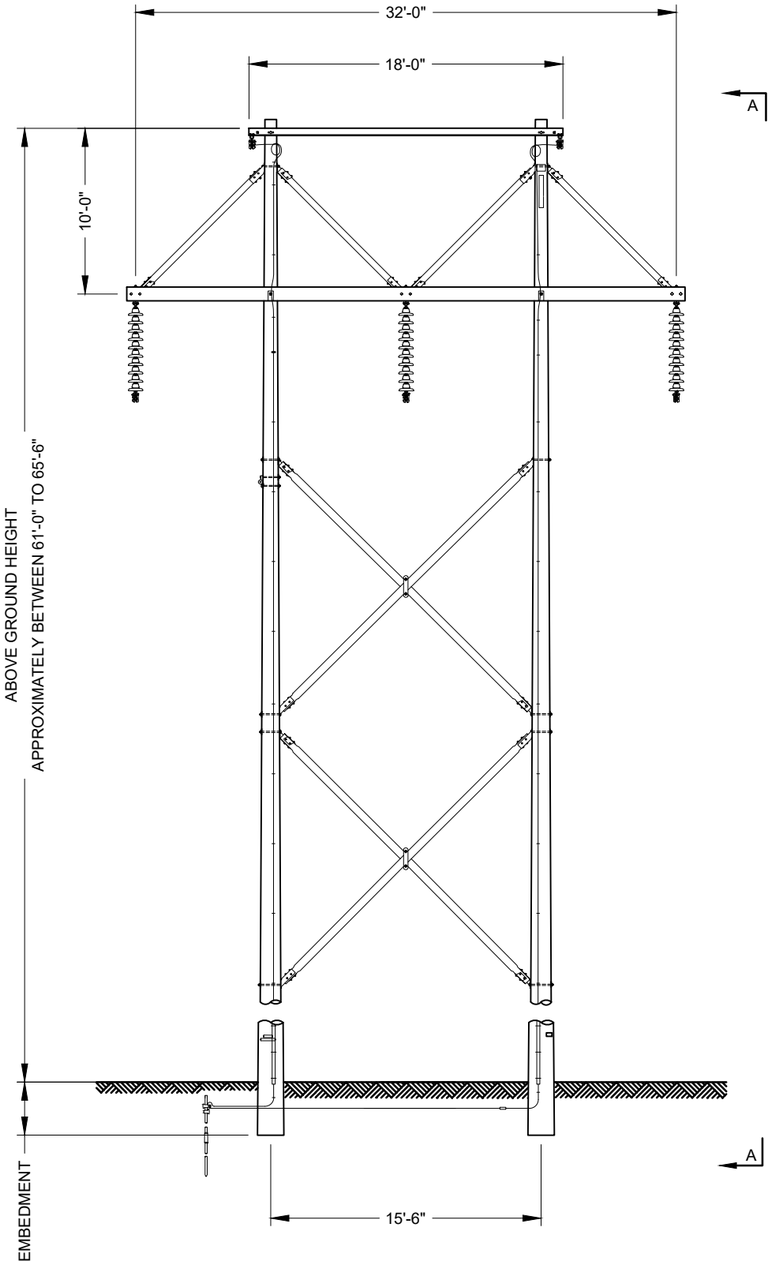
DARROW–HUDSON EAST 138KV, MITIGATION PACKAGE, EX. 4

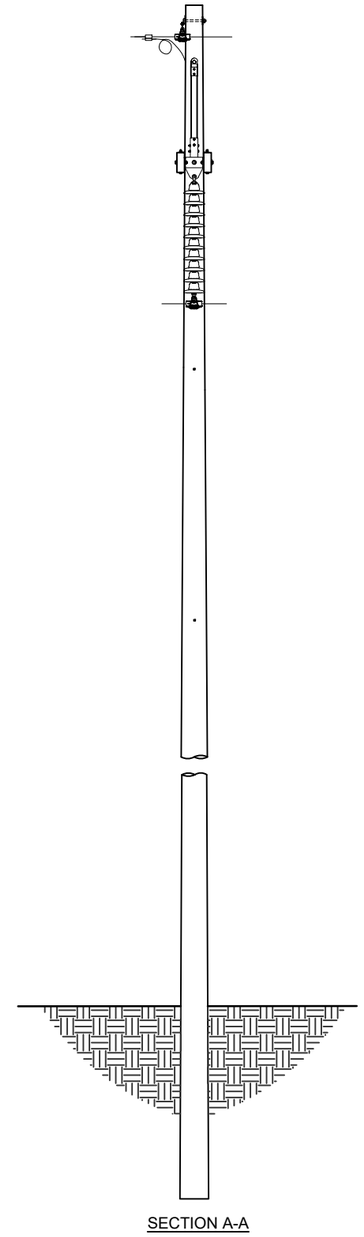
ATSI® American Transmission Systems, Inc a subsidiary of FirstEnergy Corp.

DARROW-HUDSON EAST 138KV Transmission Line Structure Replacement and Addition Project

TWO POLE WOOD H-FRAME (WITH TWO X-BRACES)
NONSTANDARD DEADEND STRUCTURE

EXHIBIT 6





SECTION A-A

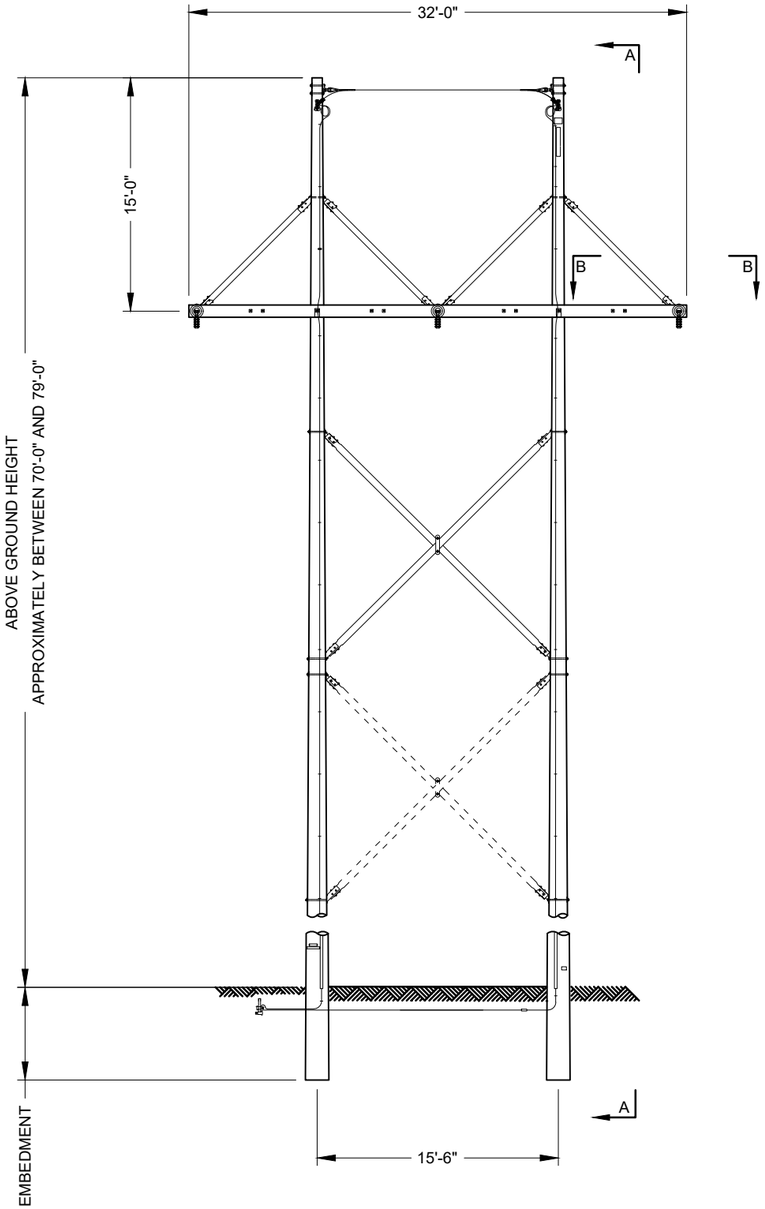
DARROW–HUDSON EAST 138KV, MITIGATION PACKAGE, EX. 4

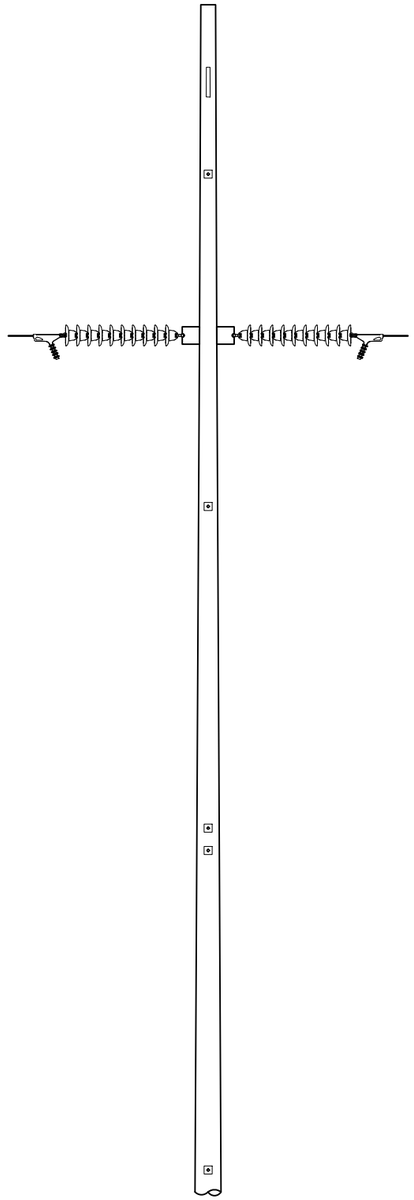
ATSI®
American Transmission Systems, Inc
a subsidiary of FirstEnergy Corp.

DARROW-HUDSON EAST 138KV Transmission
Line Structure Replacement and Addition Project

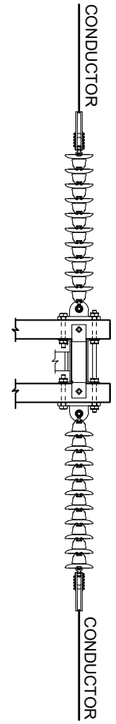
TR-138045 138KV SINGLE CIRCUIT WOOD POLE STRUCTURE
SUSPENSION HORIZONTAL TWO POLE H-FRAME
ANGLES 0° TO 5°

EXHIBIT 7





SECTION A-A



SECTION B-B

DARROW–HUDSON EAST 138KV, MITIGATION PACKAGE, EX. 4

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

DARROW-HUDSON EAST 138KV Transmission
Line Structure Replacement and Addition Project

TR-138080 138KV SINGLE CIRCUIT WOOD POLE STRUCTURE
TANGENT STRAIN HORIZONTAL
TWO POLE H-FRAME

EXHIBIT 8

EXHIBIT 9

Ohio archaeological Inventory (OAI), The Ohio Historic Inventory (OHI), previous cultural resource surveys, and the Ohio Genealogical Society (OGS) cemetery inventory

National Historic Registered Places

Resource Name	Address	City	County
Case Barlow Farm	1931 Barlow Rd	Hudson	Summit

List of OHI Listed Structural Resources

OHI Number	Present Name	Historic Use	County	Municipality
POR0000105	Lowell Spencer Farm	Single Dwelling	Portage	Streetsboro
POR0048205	Cadwallader Crawford House	Single Dwelling	Portage	Streetsboro
SUM0001709	Stow Heritage House	Single Dwelling	Summit	Stow
SUM0085605	Earl D Flood House	Single Dwelling	Summit	Hudson (Township of)
SUM0085705		Single Dwelling	Summit	Hudson (Township of)
SUM0085805	George Oswald House	Single Dwelling	Summit	Hudson (Township of)
SUM0085905	Arthur Malarik House	Single Dwelling	Summit	Hudson (Township of)
SUM0086005		Single Dwelling	Summit	Hudson (Township of)
SUM0086105	Thomas Mancuso House	Single Dwelling	Summit	Hudson (Township of)
SUM0086205		Single Dwelling	Summit	Hudson (Township of)
SUM0086305	Donald Barlow House	Single Dwelling	Summit	Hudson (Township of)
SUM0086405		Single Dwelling	Summit	Hudson (Township of)
SUM0086505	Roger Bourgeoise House	Single Dwelling	Summit	Hudson (Township of)
SUM0086605	TE Neal House	Single Dwelling	Summit	Hudson (Township of)
SUM0086705		Single Dwelling	Summit	Hudson (Township of)
SUM0086805		Single Dwelling	Summit	Hudson (Township of)
SUM0089105	Ford Bush House	Unknown Use	Summit	Hudson (Township of)
SUM0089305	Ford Bush Commercial Units	Animal Facilities	Summit	Hudson (Township of)

SUM0089505	Charles Szeles House	Single Dwelling	Summit	Hudson (Township of)
SUM0089605	Brubaker Cole & Assoc Offices	Single Dwelling	Summit	Hudson (Township of)
SUM0089705	Tallmadge Furniture Co Shed	Storage	Summit	Hudson (Township of)
SUM0089805		Single Dwelling	Summit	Hudson (Township of)
SUM0089905		Single Dwelling	Summit	Hudson (Township of)
SUM0092705	F Gladden House	Single Dwelling	Summit	Hudson (Township of)
SUM0092805	Gary Korb House	One Room Schoolhouse	Summit	Hudson (Township of)
SUM0092905	R Dawson House	Single Dwelling	Summit	Hudson (Township of)
SUM0093005	J Bouyer House	Single Dwelling	Summit	Hudson (Township of)
SUM0093105	Charles Walder House	Single Dwelling	Summit	Hudson (Township of)
SUM0093205	John Litzell House	Single Dwelling	Summit	Hudson (Township of)
SUM0093305	Lighton Barn	Barn	Summit	Hudson (Township of)
SUM0093405	Wesley Dean House	Single Dwelling	Summit	Hudson (Township of)
SUM0093505	J Henderson House	Single Dwelling	Summit	Hudson (Township of)
SUM0093605	Margery Clelland Lust House	Barn	Summit	Hudson (Township of)
SUM0093705	Clinton Airline Railroad Bridge	Rail Related	Summit	Hudson (Township of)
SUM0093805	Edward Fitch House	Single Dwelling	Summit	Hudson (Township of)
SUM0093905	Ogden S Residence	Single Dwelling	Summit	Hudson (Township of)
SUM0094005	Spring Hill Farm	Single Dwelling	Summit	Hudson (Township of)
SUM0094105	J Graver House	Barn	Summit	Hudson (Township of)
SUM0094205	Keith Dixon House	Single Dwelling	Summit	Hudson (Township of)
SUM0094305	A Daugherty House	Single Dwelling	Summit	Hudson (Township of)
SUM0094405	W Kremser Rental House	Single Dwelling	Summit	Hudson (Township of)
SUM0096005	Robert Entenman House	Single Dwelling	Summit	Hudson (Township of)
SUM0096105	Thomas McDonald House	Single Dwelling	Summit	Hudson (Township of)
SUM0096205	Peter Flood House	Single Dwelling	Summit	Hudson (Township of)
SUM0096305	Robert A Murphy House	Single Dwelling	Summit	Hudson (Township of)

SUM0096705	L McCoy House	Single Dwelling	Summit	Hudson (Township of)
SUM0096805	M Kuryla House	Single Dwelling	Summit	Hudson (Township of)
SUM0096905	Charles Turnblacer House	Single Dwelling	Summit	Hudson (Township of)
SUM0097005	W B Sargent House	Single Dwelling	Summit	Hudson (Township of)
SUM0097605	Richard Andrews House	Single Dwelling	Summit	Hudson (Township of)
SUM0097705	Randall Trump House	Single Dwelling	Summit	Hudson (Township of)
SUM0097805	Paul Cosma House	Single Dwelling	Summit	Hudson (Township of)
SUM0097905	Mike Jacobs Jr House	Single Dwelling	Summit	Hudson (Township of)
SUM0098005	Paul Sergi House	Single Dwelling	Summit	Hudson (Township of)
SUM0098105		Single Dwelling	Summit	Hudson (Township of)
SUM0098205	Lonnie Blaney House	Single Dwelling	Summit	Hudson (Township of)
SUM0098305		Single Dwelling	Summit	Hudson (Township of)
SUM0098405	J Stefano House	Single Dwelling	Summit	Hudson (Township of)
SUM0099105	Remains of Outbuildings	Agricultural Outbuildings	Summit	Hudson (Township of)
SUM0099205	L Mordarski House	Road/Vehicle Related	Summit	Hudson (Township of)
SUM0099305	B Basta House	Single Dwelling	Summit	Hudson (Township of)
SUM0099405	J Morgan House	Agricultural Outbuildings	Summit	Hudson (Township of)
SUM0099505	Guillermo Carrasco House	Single Dwelling	Summit	Hudson (Township of)
SUM0099605	Gabriel Fortin House	Single Dwelling	Summit	Hudson (Township of)
SUM0099705		Single Dwelling	Summit	Hudson (Township of)
SUM0099805	Mary Weaver House	Single Dwelling	Summit	Hudson (Township of)
SUM0099905	SJ Hasbrouck House	Single Dwelling	Summit	Hudson (Township of)
SUM0100005	EW Luther Corn Crib & Shed	Agricultural Outbuildings	Summit	Hudson (Township of)
SUM0100105	Thomas Armbruster House	One Room Schoolhouse	Summit	Hudson (Township of)
SUM0100205	NJ Oberle House	Single Dwelling	Summit	Hudson (Township of)
SUM0100305	L Salatsky House	Single Dwelling	Summit	Hudson (Township of)
SUM0100405	JW Douds House	Single Dwelling	Summit	Hudson (Township of)

SUM0100705	David Cesaratto House	Single Dwelling	Summit	Hudson (Township of)
SUM0100805	McArn Angus Barn	Barn	Summit	Hudson (Township of)
SUM0100905	Angus McArn Barn	Barn	Summit	Hudson (Township of)
SUM0101405	E Fenn Johston House	Agricultural Outbuildings	Summit	Hudson (Township of)
SUM0101505	R Poritsky House	Single Dwelling	Summit	Hudson (Township of)
SUM0101605	F Trotter House	Single Dwelling	Summit	Hudson (Township of)
SUM0101705	A Talbert House	Single Dwelling	Summit	Hudson (Township of)
SUM0101805	C Klisky House	Single Dwelling	Summit	Hudson (Township of)
SUM0101905	R Daberko House	Single Dwelling	Summit	Hudson (Township of)
SUM0102005	Charles Sharp House	Single Dwelling	Summit	Hudson (Township of)
SUM0102105	A Exline House	Single Dwelling	Summit	Hudson (Township of)
SUM0102205	P Wides House	Single Dwelling	Summit	Hudson (Township of)
SUM0102305	P Alestri House	Single Dwelling	Summit	Hudson (Township of)
SUM0102405	J Thomas House	Single Dwelling	Summit	Hudson (Township of)
SUM0102505	F Kelley House	Single Dwelling	Summit	Hudson (Township of)
SUM0102605		Single Dwelling	Summit	Hudson (Township of)
SUM0102705	E Breedon House	Single Dwelling	Summit	Hudson (Township of)
SUM0102805	G Hale House	Single Dwelling	Summit	Hudson (Township of)
SUM0102905	B Stranahan House	One Room Schoolhouse	Summit	Hudson (Township of)
SUM0103005	WR Hall House	Single Dwelling	Summit	Hudson (Township of)
SUM0103905	TR Maas Log Cabin	Storage	Summit	Hudson (Township of)
SUM0108905	Faculty Housing WR Academy	Single Dwelling	Summit	Hudson
SUM0109005	Neil Jones House	Single Dwelling	Summit	Hudson
SUM0109105	William Danforth House	Single Dwelling	Summit	Hudson
SUM0109205	Joan Von Osdol House	Single Dwelling	Summit	Hudson
SUM0109305	June Mohler House	Single Dwelling	Summit	Hudson
SUM0109405	Roxanna Brannan House	Single Dwelling	Summit	Hudson
SUM0109505	F Webber House	Single Dwelling	Summit	Hudson

SUM0109605	Thomas Murdough House	Single Dwelling	Summit	Hudson
SUM0109705	William Jennings House	Single Dwelling	Summit	Hudson
SUM0109805	John Burke House	Single Dwelling	Summit	Hudson
SUM0109905	Virginia Rogers House	Single Dwelling	Summit	Hudson
SUM0110005	W Niederst House	Single Dwelling	Summit	Hudson
SUM0110105	William Newkirk House	Single Dwelling	Summit	Hudson
SUM0110205	David Mikelycyk House	Single Dwelling	Summit	Hudson
SUM0110305	Perry Noe House	Single Dwelling	Summit	Hudson
SUM0110405	F Dobson House	Single Dwelling	Summit	Hudson
SUM0110505	A Kallman House	Single Dwelling	Summit	Hudson
SUM0110605	M Oberlin House	Single Dwelling	Summit	Hudson
SUM0110705	Rev Reid Heydt House	Single Dwelling	Summit	Hudson
SUM0110805	Henry Leonard House	Single Dwelling	Summit	Hudson
SUM0110905	John D Ong House	Single Dwelling	Summit	Hudson
SUM0111005	S Baker House	Single Dwelling	Summit	Hudson
SUM0111105	J Renner House	Single Dwelling	Summit	Hudson
SUM0111205	John Leonard House	Single Dwelling	Summit	Hudson
SUM0111305	J Sorgi House	Single Dwelling	Summit	Hudson
SUM0111405	William Cordier House	Secondary Structure (Residential)	Summit	Hudson
SUM0111505	Edward Dollmeyer House	Agricultural Outbuildings	Summit	Hudson
SUM0111605	Grissom Farm Silos	Agricultural Outbuildings	Summit	Hudson (Township of)
SUM0119205	Bicknell Gymnasium WRAcadmy	Sport Facility	Summit	Hudson
SUM0119805		Single Dwelling	Summit	Hudson
SUM0120005	Wstrn Res Academy Residence	Single Dwelling	Summit	Hudson
SUM0120105	Wstrn Res Academy Residence	Single Dwelling	Summit	Hudson
SUM0120205	Wstrn Res Academy Barn	Barn	Summit	Hudson
SUM0122305	Elm St Streetlight	Street Furniture/Object	Summit	Hudson
SUM0123705	G Gundlack House	Single Dwelling	Summit	Hudson
SUM0124005	J Witters House	Slaughter House	Summit	Hudson
SUM0124105		Single Dwelling	Summit	Hudson
SUM0124205	A Vince House	Single Dwelling	Summit	Hudson

SUM0124305	A Kerr House	Single Dwelling	Summit	Hudson
SUM0124405	L Hutchinson House	Single Dwelling	Summit	Hudson
SUM0124805	Leonard Carlson House	Single Dwelling	Summit	Hudson
SUM0124905	Ada Cooper Miller House	Single Dwelling	Summit	Hudson
SUM0125005	Elizabeth Phipps House	Single Dwelling	Summit	Hudson
SUM0125705	Wstrn Res Acdmy Faculty Hsg	Single Dwelling	Summit	Hudson
SUM0125805	Wstrn Res Acdmy Faculty House	Single Dwelling	Summit	Hudson
SUM0125905	Wstrn Res Acdmy Faculty Hsg	Single Dwelling	Summit	Hudson
SUM0126005	R M Clewell House	Single Dwelling	Summit	Hudson
SUM0126105	Robert Sauer House	Single Dwelling	Summit	Hudson
SUM0126205	Walter Maischoss House	Single Dwelling	Summit	Hudson
SUM0126305	Jeffrey Case House	Single Dwelling	Summit	Hudson
SUM0126405	Alonzo Church House	Single Dwelling	Summit	Hudson
SUM0126505	K Osrunn House	Single Dwelling	Summit	Hudson
SUM0126605	C Duncan House	Single Dwelling	Summit	Hudson
SUM0126705	J Penniston House	Single Dwelling	Summit	Hudson
SUM0126805	G Winklepleck House	Single Dwelling	Summit	Hudson
SUM0126905	D Kimmerle House	Road/Vehicle Related	Summit	Hudson
SUM0134805	James Maurer House	Single Dwelling	Summit	Hudson
SUM0144705		Double	Summit	Hudson
SUM0144805	Peter Euse House	Single Dwelling	Summit	Hudson
SUM0144905	L C Honeycutt House	Single Dwelling	Summit	Hudson
SUM0145005	Gary Dolch House	Single Dwelling	Summit	Hudson
SUM0145405	George Gott House	Single Dwelling	Summit	Hudson
SUM0145505	G Morse House	Single Dwelling	Summit	Hudson
SUM0146505	Streetsboro Street Light	Street Furniture/Object	Summit	Hudson
SUM0150305	G Philabaum House	Single Dwelling	Summit	Hudson
SUM0150605	David & Patricia Zabell	Single Dwelling	Summit	Hudson
SUM0150705	Dale Smith House	Single Dwelling	Summit	Hudson
SUM0150805	J Tyrell House	Single Dwelling	Summit	Hudson
SUM0150905	R Romano House	Single Dwelling	Summit	Hudson

SUM0151005	Charles Taylor House	Single Dwelling	Summit	Hudson
SUM0151105	W Kinney House	Single Dwelling	Summit	Hudson
SUM0151305	D Polzin House	Single Dwelling	Summit	Hudson
SUM0151405	K Davis House	Single Dwelling	Summit	Hudson
SUM0151505	M McCadam House	Single Dwelling	Summit	Hudson
SUM0152305	Paul Ruxin House	Barn	Summit	Hudson
SUM0152405	John Shaw House	Single Dwelling	Summit	Hudson
SUM0154809	Hanson Fred House	Single Dwelling	Summit	Stow
SUM0154909	Ruggles House	Single Dwelling	Summit	Stow
SUM0159009	Silver Springs Farmhouse	Single Dwelling	Summit	Stow
SUM0159609	Green Valley Baptist Church	School	Summit	Stow
SUM0159709	Darrow Minnie House	Single Dwelling	Summit	Stow
SUM0160305	Raymond W King House	Single Dwelling	Summit	Hudson
SUM0176409		Single Dwelling	Summit	Stow
SUM0176509		Single Dwelling	Summit	Stow
SUM0192209		Single Dwelling	Summit	Stow
SUM0329305	M More House	Single Dwelling	Summit	Hudson (Township of)

List of OGS Cemetery Inventory

OGS ID	Name	County	Municipality
10698	Walker Graveyard	Summit	Hudson
11787	Cackler	Portage	Streetsboro
11789	Moran-Trotter Farm	Portage	Streetsboro
11790	Myers/Meyers	Portage	Streetsboro
11919	Draper	Summit	Hudson
12766	Silver Springs	Summit	Stow

Exhibit 9

OHIO HISTORY CONNECTION

In reply refer to:
2024-POR-60616

April 3, 2024

Justin McKissick, MA, RPA
Project Archaeologist/Field Director
TRC Environmental Corporation
317 E Carson Street, Suite 113
Pittsburgh, PA 15219
Email: JMcKissick@trccompanies.com

RE: Section 106 Review: Darrow-Hudson East 138kV Project, City of Streetsboro, Portage County, and City of Hudson, Summit County, Ohio

Dear Mr. McKissick:

This letter is in response to the correspondence received on March 6, 2024, regarding the above reference project in Portage and Summit Counties, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code (O.R.C.) and the Ohio Power Siting Board rules for siting this project. The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The proposed project consists of the maintenance of existing structures within the Darrow-Hudson East 138kV transmission line corridor. No ground disturbance is anticipated for the project. According to the submission, which included a check of our records, several National Register-listed and/or -eligible resources were identified in the study area, although none of the properties will be directly impacted by the proposed work. Due to the nature of the project, which involves the maintenance of existing structures and repairing or replacing infrastructure at or below existing heights, no new visual impacts are anticipated. Therefore, based on this information, it is the SHPO's opinion that no cultural resource studies are warranted for the project. Furthermore, as proposed, the project will have no effect on historic properties. No further coordination is required for this project unless the scope of work changes or archaeological remains are discovered during the course of the project. In such a situation, this office should be contacted as required by 36 CFR § 800.13. If you have any questions concerning this review, please contact either myself via email at sbiehl@ohiohistory.org or Ms. Joy Williams at jwilliams@ohiohistory.org. Thank you for your cooperation.

Sincerely,

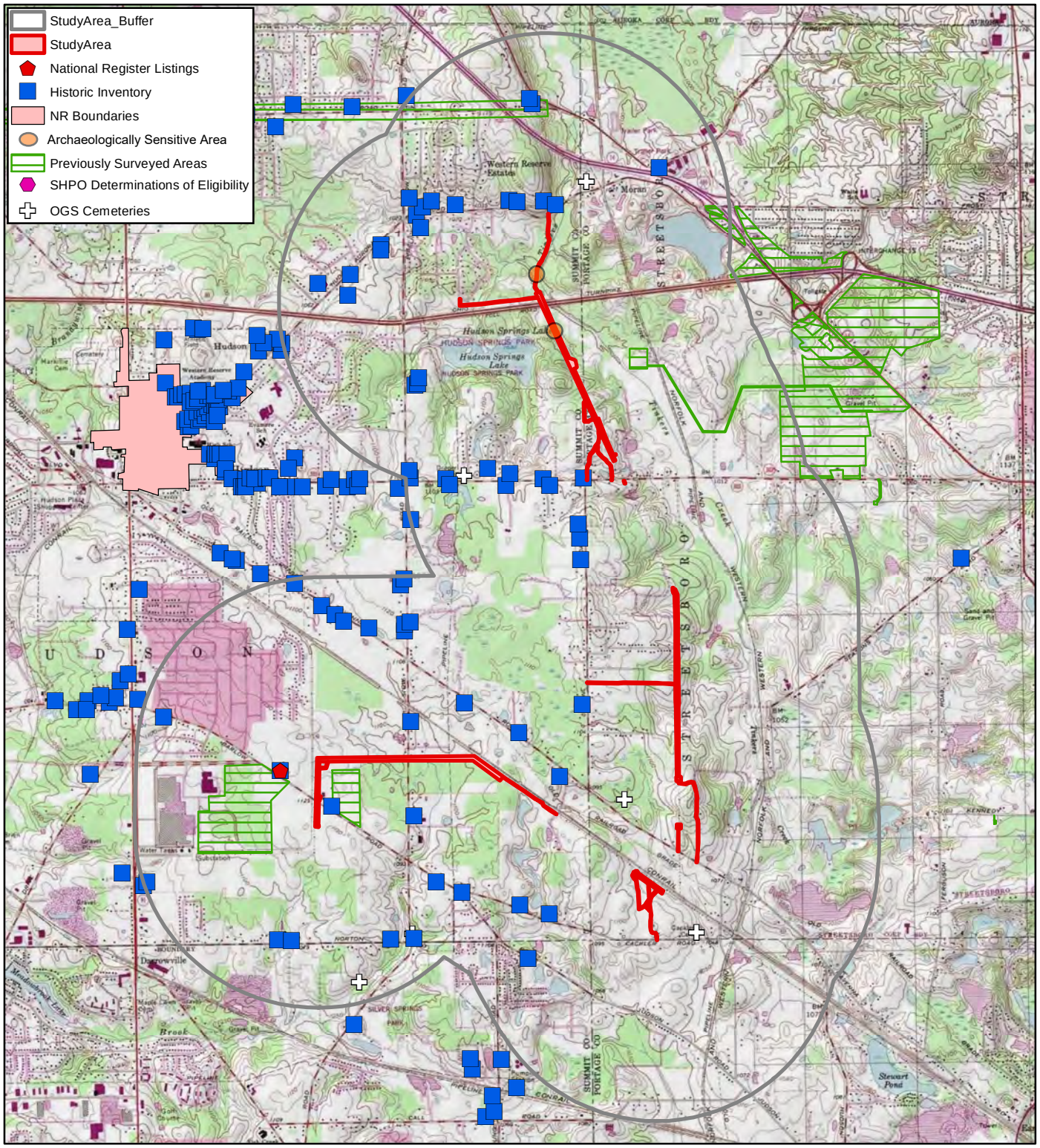
Stephen M. Biehl

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

RPR Serial No. 1102124

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

Exhibit 9



BASE MAP FROM 7.5-MINUTE SERIES TOPOGRAPHICAL MAPS

Sheet 1

N

1 " = 4,167 ' 0 500 1,000

1:50,000 FEET

TRC

317 E. Carson Street
Suite 113
Pittsburgh, PA 15219

TRC - GIS

PROJECT:

Darrow-Hudson East 138kV Project

TITLE:

OHC Database Results Map

DRAWN BY:	JUSTIN MCKISSICK
CHECKED BY:	CURTIS BIONDICH
APPROVED BY:	CURTIS BIONDICH
DATE:	FEBRUARY 2024
PROJ. NO.:	550808.0009.0000
FILE:	Darrow.mxd

Figure 3

C:\Users\jmckissick\OneDrive - TRC\Documents\Projects\Various\Darrow.mxd -- Saved By: JMCKISSICK on 2/21/2024, 12:08:52 PM

Exhibit 10

Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR | MARY MERTZ, DIRECTOR

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

December 22, 2023

Jenna Slabe
TRC Companies, Inc.
1382 West 9th Street, Suite 400
Cleveland, Ohio 44113

Re: 23-1407_Darrow-Hudson East 138kV Project - ROW Assurance Program Project

Project: The proposed project involves the maintenance of existing structures on the Darrow-Hudson East 138kV transmission line, as part of FirstEnergy's ROW Assurance Project.

Location: The proposed project is located in the City of Hudson of Summit County, and the City of Streetsboro of Portage 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 at or within one mile of the project area:

White Wand-lily (*Anticlea elegans*), P
Crinkled Hair Grass (*Avenella flexuosa*), P
Broad-winged Sedge (*Carex alata*), P
Bebb's Sedge (*Carex bebbii*), P
Lesser Panicled Sedge (*Carex diandra*), E
Yellow Sedge (*Carex flava*), P
Slender Sedge (*Carex lasiocarpa*), P
Little Green Sedge (*Carex viridula*), T
Leather-leaf (*Chamaedaphne calyculata*), T
Bunchberry (*Cornus canadensis*), T
Small Yellow Lady's-slipper (*Cypripedium parviflorum* var. *makasin*), E
Showy Lady's-slipper (*Cypripedium reginae*), T
Bearded Wheat Grass (*Elymus trachycaulus*), T
Green Cotton-grass (*Eriophorum viridicarinatum*), T
Pumpkin Ash (*Fraxinus profunda*), P
Bog Bedstraw (*Galium labradoricum*), E
Water Avens (*Geum rivale*), P

Great St. John's-wort (*Hypericum ascyron* ssp. *pyramidatum*), T
Tamarack (*Larix laricina*), P
Bayberry (*Myrica pensylvanica*), E
Prairie Rattlesnake-root (*Nabalus racemosus*), P
Floating Pondweed (*Potamogeton natans*), P
White Beak-rush (*Rhynchospora alba*), P
Hoary Willow (*Salix candida*), T
Blue-leaved Willow (*Salix myricoides*), P
Autumn Willow (*Salix serissima*), P
False Asphodel (*Triantha glutinosa*), T
Marsh Arrow-grass (*Triglochin palustris*), P
Bunchflower (*Veratrum virginicum*), T
Highbush-cranberry (*Viburnum opulus* var. *americanum*), E
Wrinkled-leaved Marsh Hypnum (*Hypnum pratense*), E
Fuzzy Hypnum Moss (*Tomentypnum nitens*), E
Spotted Turtle (*Clemmys guttata*), T
Kirtland's Snake (*Clonophis kirtlandii*), T
Wilson's Snipe (*Gallinago delicata*), SI
Smooth Greensnake (*Opheodrys vernalis*), E
Sora Rail (*Porzana carolina*), SC
Virginia Rail (*Rallus limicola*), SC
Creek Heelsplitter (*Lasmigona compressa*), SC
Sphagnum Sprite (*Nehalennia gracilis*), SC
Boreal fen plant community
Mixed emergent marsh 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.

Of the species and features listed above, only the Kirtland's Snake and Creek Heelsplitter are recorded within or just outside the boundaries of the specified project area. 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 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, and the little brown bat (*Myotis lucifugus*), 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 ≥ 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.

The project is within the range of the Iowa darter *(Etheostoma exile),* a state endangered fish, the pugnose minnow (*Opsopoeodus emiliae*), a state endangered fish, the western banded killifish (*Fundulus diaphanus menona*), a state endangered fish, the lake chubsucker (*Erimyzon sucetta*), a state threatened fish, and the paddlefish (*Polyodon spathula*) a state threatened fish. The DOW recommends no in-water work in perennial streams from March 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the spotted turtle (*Clemmys guttata*), a state threatened species. This species prefers fens, bogs and marshes, but also is known to inhabit wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches. The DOW recommends that an approved herpetologist conducts a habitat suitability survey to determine if suitable habitat is present within the project area. If suitable habitat is determined to be present; the DOW recommends that a presence/absence survey be conducted, or an avoidance/minimization plan be developed and implemented by the approved herpetologist. A list of approved herpetologists has been provided for your convenience.

The project is within the range of the sandhill crane (*Antigone canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds, they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction

should be avoided in this habitat during the species' nesting period of April 1 through August 31. If this habitat will not be impacted, this project is not likely to have an impact on this species.

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

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

Exhibit 11

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

November 29, 2023

Project Code: 2024-0016932

Dear Jenna Slabe:

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 November 15 and March 15. 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.

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,

Scott Hicks

Scott Hicks
Acting Field Office Supervisor

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

Exhibit 12

Report: A Spotted Turtle Habitat Assessment along the Darrow-Hudson East 138 kV Project – ROW Assurance Program in Summit and Portage Counties, Ohio

ODNR Project Number 23-1407

Submitted to:

Brad Falkinburg
TRC
1382 West Ninth Street, Suite 400
Cleveland, Ohio 44113

March 11, 2024

Jeffrey G. Davis, LLC
625 Crescent Road
Hamilton, Ohio 45013
(513) 470-8748 ohiofrogs@gmail.com
Ohio Division of Wildlife Approved Herpetologist
USFWS Massasauga Permit Holder

Introduction

This report provides the results of a Spotted Turtle Habitat Assessment along the Darrow-Hudson East 138 kV Project – ROW Assurance Program in Summit and Portage Counties, Ohio. In his letter to Jenna Slabe (TRC), Mike Pettegrew (ODNR) mentions that Kirtland's Snake is recorded within or just outside the boundaries of the project area. This species was included in the desktop survey and site visits during the present study.

1.0 Subject Site

The proposed Project Study Area is approximately 46.41 acres, located in the City of Hudson in Summit County, Ohio and the City of Streetsboro in Portage County. The proposed Project Study Area (Figure 1: Aerial Map) occurs within existing, maintained utility right-of-way (ROW) located within agricultural, forested, industrial, and residential lands.

2.0 Spotted Turtle Natural History

The Spotted Turtle (*Clemmys guttata*) (Figure 2) is listed as threatened by the Ohio Department of Natural Resources (ODNR, 2019). It is a small (80–125 mm carapace length) freshwater turtle that inhabits shallow wetlands in the East Coast-Great Lakes Region. The ground color of the carapace is black, and it is adorned with 15–115 small, scattered, yellow spots. The plastron is usually a shade of yellow covered by a large black blotch that conceals all but an irregular-shaped area, usually in the middle of the plastron. The skin color is black to gray with yellow or bright orange spots on the head. The limbs are scaled and may or may not have yellow spots. Males have brown eyes and a tan chin; females have orange eyes and a yellow chin. The plastron of the male is concave while that of the female is flat. Males have a longer tail than females with the cloaca of the former situated beyond the margin of the plastron. Juveniles have just one yellow spot per carapacial scute, although some lack yellow spots.

In early spring, Spotted Turtles leave their hibernacula and move to their feeding/breeding habitat which consists of clean shallow water with a mud bottom and ample aquatic and

emergent vegetation (i.e., bogs, fens, wet prairies, vernal pools, and even roadside ditches). Habitat for spotted turtles has little or no canopy cover. During early spring they may be found basking on logs or clumps of emergent grasses. When disturbed they will take to the water and bury themselves in the mud. Spotted Turtles are also quite terrestrial. Research has suggested over 60% of their time is spent in upland areas. They can be found in wooded areas in spring, but only before trees leaf out. The Spotted Turtle is omnivorous. Its diet consists of insects, worms, frogs, and grass. They are capable of swallowing food both in and out of water.

Nesting usually occurs during early June depending on temperatures. After this time, during the summer months, Spotted Turtles go into aestivation, burying themselves in muskrat burrows, or leaf litter. During the fall there is a brief period of activity before they return to their hibernacula for overwintering.

3.0 Kirtland's Snake Natural History

Kirtland's Snake (*Clonophis kirtlandii*) (Figure 3) is listed as threatened by the Ohio Department of Natural Resources (ODNR, 2019). It typically inhabits low wet fields, abandoned city lots where the water table is close to the surface, and even unkempt urban areas where there is abundant trash under which it can take cover. The common characteristic in each of these is hydric soils which retain sufficient moisture to provide abundant earthworms and slugs, the mainstay of Kirtland's Snake's diet, and habitat for burrowing crayfish species. Despite being a watersnake, standing water is not necessary and is seldom entered by the species, although it will cross small bodies of water. Hibernation takes place in crayfish burrows whose depth allows the snakes to avoid subfreezing winter temperatures. Crayfish burrows are usually present where Kirtland's Snakes are found and when the snakes are encountered in early spring, they often have a coat of mud covering them, suggesting they had recently emerged from a burrow. Because they spend much of their time in crayfish burrows or under cover when at the surface, this species is difficult to detect. Through June 2023, of 385 encounters with this species at four of my study sites, I have found only two individuals moving at the surface.

Adding to the difficulty in finding Kirtland's Snake is that it is highly nocturnal. During the day it typically retreats into a crayfish burrow. If it is found during the daylight hours, it is usually under cover objects such as rocks, logs, bark slabs, or refuse such as boards, old carpet, or cardboard left by people. During dry periods, the species becomes inactive and apparently retreats underground. Mating takes place in May and five to ten offspring are born alive from late July through August. Kirtland's Snake distribution is not widespread, but where the correct conditions are present, it can be a rare, but abundant species.

4.0 Methods

Habitat Assessment methods for Spotted Turtles and Kirtland's Snakes are approved by the Ohio Division of Wildlife and are conducted in two phases (described below). A Presence-Absence Survey may be recommended based on the results of the desktop survey and site visit.

4.1 Desktop Survey

A literature review and a search for Spotted Turtle and Kirtland's Snake museum specimens was conducted to determine their known distribution in the vicinity of the subject site. The proximity of the subject site to known Spotted Turtle populations in the region and the availability of the type of open-canopy wetlands preferred by the species was determined by examining aerial photographs and topographic maps.

4.2 Site Visit

A site visit was made on 7 March 2024 to examine seven areas of interest identified as potential Spotted Turtle habitat during the desktop survey. They were examined for dominant vegetation species, hydrologic conditions, and surrounding land-use and land cover. Determination of potential habitat was made by comparing on-site conditions to areas of known occupancy in the region. The segment of the transmission line near where the Kirtland's Snake was reported along the north edge of the Wood Hollow Metro Park between structures 2188 and 2190 was also examined.

4.3 Habitat Survey Assessment and Report

In the sections below, the results of the site visits are combined with the literature and museum search results to determine the suitability of the subject site for Spotted Turtles and Kirtland's Snake.

5.0 Results

5.1 Desktop Survey (Museum and Literature Search)

5.1.1 Museum Search

Seventy-two Spotted Turtle records from Portage County, Streetsboro Township were found in the Cincinnati Museum Center's Herpetological Photodocumentation Collection. These records are from Gott Fen State Nature Preserve and environs along Tinker's Creek which flows along the eastern margin of Gott Fen. Portions of the project ROW are just 0.3 miles west of Gott Fen (Figure 4) and Area of Interest No. 5 is just 125 meters west of Tinker's Creek. Museum records from Portage and Summit Counties were also found in the collections of the Cleveland Museum of Natural History. The Ohio State University Museum of Biodiversity has a Spotted Turtle specimen collected from Summit County. Museum records from the region surrounding the subject site are summarized in Table 1 and illustrated in Figure 5.

In addition to the museum records, the Summit County Metro Parks has photographic records of Spotted Turtles from the Pond Brook Conservation Area, part of Liberty Park north of the project ROW in Summit County, Twinsburg Township (Ramsey Langford, pers. comm.). Pond Brook is a tributary of Tinker's Creek upstream of the subject site.

A Kirtland's Snake was photographed at 41.21676° N, 81.41413° W in Wood Hollow Metro Park in Summit County, Hudson Township on September 3, 2019 by park visitor Doug Dawes (pers. comm.). The closest documented record for Kirtland's Snake is 29 miles southwest of Wood Hollow Metro Park in Wayne County, Ohio. Two specimens, collected there in 1960 are accessioned into the collections of the Carnegie Museum of Natural History in Pittsburg, and another, collected at the same time, is in the collections of the University of Colorado.

5.1.2 Literature Search

A literature review resulted in published records of Spotted Turtles from near the subject site in Portage County, Aurora Township (Conant, 1938; Lipps, 2013), and Summit County, Northampton Township (Lipps, 2013). Lipps (2013) also reported Spotted Turtles from Portage County, Brimfield Township, Suffield Township, and Summit County, Green Township reinforcing the species' presence in the region. Wynn and Moody (2006) reported records from Portage County, Suffield Township. Figure 5 illustrates the proximity of these townships to the project ROW. The records published in these works are the same as those found during the museum search.

5.2 Site Visit Results

The seven areas of interest for Spotted Turtles, identified during the desktop survey and visited on 7 March 2024, are discussed in Sections 5.2.1 through 5.2.6 below. The habitat where Kirtland's Snake was reported is discussed in Section 5.2.7. Photographs of each area of interest are provided in Figures 6 through 12.

5.2.1 Area of Interest No. 1

This site, located east of Stow Road in Summit County, Hudson Township at 41.21772° N, 81.40657° W, is a deep permanent pond on the edge of the project ROW (Figure 6). It does not provide habitat for Spotted Turtles.

5.2.2 Area of Interest No. 2

Located west of Stow Road in Summit County, Hudson Township at the northern edge of Wood Hollow Metro Park at 41.21774° N, -81.41436° W (Figure 7). The appearance, on aerial photographs, suggested this area might be a wet meadow with emergent vegetation. It is indeed wet, but it was vegetated with plants typical of hydric soil, but it only has shallow temporary pools of water after heavy rain events (Ramsey Langford, pers. comm.). During summer it can be very dry. It does not provide suitable habitat for Spotted Turtles.

5.2.3 Areas of Interest No. 3 and 4

Located approximately 650 meters north of Ravenna Road in Portage County, Streetsboro Township at 41.21559° N, -81.38207° W (Figure 8). On aerial photographs from 2003 through 2017 on Google Earth, this appeared to be a shallow wetland which warranted a site visit. Areas of Interest 3 and 4 were marked at the eastern and western extremes of the wetland, respectively. At the time of the site visit, there was a depression and no water, and the entire area was vegetated by Reed Canary Grass. Areas of Interest 3 and 4 do not provide habitat for Spotted Turtles.

5.2.4 Area of Interest No. 5

Located adjacent to Structure 7870, approximately 75 m south of Interstate 80 and 125 meters west of Tinker's Creek, at 41.25304° N, -81.39612° W in Summit County, Hudson Township (Figure 9), this wetland has an open canopy during spring but after leaf out, the trees that surround much of it close the canopy. During high water events, this wetland could connect to Tinker's Creek across its floodplain creating a migration corridor for Spotted Turtles.

5.2.5 Area of Interest No. 6

This wetland is a deep permanent pond located at the edge of Portage County, Streetsboro Township at 41.24571° N, -81.39182° W (Figure 10). It does not provide Spotted Turtle habitat.

5.2.6 Area of Interest No. 7

On some aerial photographs, there appeared to be vegetative cover consistent with wet prairies even though it is immediately adjacent to west bound Interstate 80 at 41.25405° N, 81.40297° W (Figure 11). However, it is the narrow floodplain of a small tributary to Tinker's Creek, and it provides no Spotted Turtle habitat.

5.2.7 Kirtland's Snake Habitat

This area is located at Wood Hollow Metro Park in Summit County, Hudson Township at 41.21676° N, 81.41413° W, approximately 250 feet south of the segment of the project ROW

between Structures 2188 and 2189 (Figure 12). The vegetation beyond the mowed lawn at the entrance to the Downy loop trail is a mix of forbs leading into a forested wetland. The soils at the site are Elsworth and Mahoning silt loams but there are deposits of Willette muck nearby. Muck soils provide excellent habitat for terrestrial crayfish. Kirtland's Snakes use crayfish burrows extensively for daytime refugia. The deposits of muck soil extend onto the ROW from the adjoining property to the north (Figure 13).

6.0 Discussion

The results of the desktop survey and site visit were combined to determine if the subject site provides suitable Spotted Turtle habitat. Only Area of Interest No. 5 provides potential habitat. It is not optimal as its position at the edge of a woodlot suggests that after leaf out, the canopy will make it less likely to be used. If a turtle uses the small wetland at Area of Interest No. 5, it would probably be by one that wanders away from Tinker's Creek if the stream is used as a migration corridor.

Because a Kirtland's Snake has been documented at Wood Hollow Metro Park, consideration must be given to how widely distributed the species might be in that area. Since the soil, Willette Muck, most likely to support them is north of the transmission line ROW, the individual encountered at Wood Hollow might be at the periphery of the species' distribution in the area. However, Kirtland's Snakes have very small home ranges (Gibson and Kingsbury, 2004; Wynn and Armitage, 2021). At one of my study sites in Champaign County, Ohio, the same individuals were found under the same artificial cover objects for an entire season. Therefore, the documented individual was probably not one that wandered south from more optimal habitat north of the ROW.

7.0 Recommendations

7.1 Spotted Turtle

Based on the Habitat Assessment, there is limited concern for impact to Spotted Turtles or Spotted Turtle habitat along the project ROW and that is only at Area of Interest No. 5.

Consequently, I do not recommend a Presence – Absence Survey. However, because they might use Tinker's Creek as a migration corridor, I do recommend creating a barrier consisting of silt fencing buried 3 inches below grade to block turtles that might move from Tinker's Creek and wander in the direction of the wetland adjacent to Structure 7870 from entering the ROW where heavy equipment might be used. The fence should extend from Structure 7869 north to the base of the embankment upon which the east bound lane of Interstate 80 is located (at approximately 41.25364° N, 81.39592° W).

7.2 Kirtland's Snake

Summit County Metro Parks biologists were unable to find additional Kirtland's Snakes after the initial sighting. The species is nocturnal, highly secretive, and difficult to detect. The segment of the ROW between Structures 2188A and 2189A was delineated by TRC as a wetland. The locality of the Kirtland's Snake encounter in 2019 is immediately south of that segment of the ROW and a deposit of Willette muck is directly north of it. Therefore, this segment of the ROW is most likely where Kirtland's Snakes might occur. If, FirstEnergy can access Structure 2188A from Stow Road to the east, and Structure 2189A from an access point from its west, impact to potential Kirtland's Snake habitat can be avoided and a Presence – Absence Survey will not be required. If FirstEnergy cannot avoid the segment of the ROW between Structures 2188A and 2189A, I recommend a Presence – Survey on it (Figure 14).

Literature Cited

Conant R. 1938. The Reptiles of Ohio. The American Midland Naturalist 20(1): 1-200.

Gibson J, Kingsbury B. 2004. Conservation assessment for Kirtland's Snake (*Clonophis kirtlandii*). A report to the U.S. Forest Service. 29 p.

Lipps GJ, Jr. 2013. Spotted Turtle. Pages 139-155. In: Davis, J.G., G.J. Lipps, Jr., D. Wynn, B.J. Armitage, T.O. Matson, R.A. Pfingsten, and C. Caldwell (Editors). 2021. Reptiles of Ohio. Ohio Biological Survey Bulletin New Series. Volume 20 Number 1. Part I. xiv + 402 p.

Ohio Department of Natural Resources. Division of Wildlife. 2019. Publication 5356. Ohio's Listed Species Wildlife that are Considered to be Endangered, Threatened, Species of Concern, Special Interest, Extirpated, or Extinct in Ohio. Ohio Department of Natural Resources. Columbus, Ohio. 10 p.

Wynn DE, Moody SM. 2006. Ohio Turtle, Lizard, and Snake Atlas. Ohio Biological Survey Miscellaneous Contributions Number 10. iv + 81 p.

Wynn D. and Armitage B. 2021. Kirtland's Snake Pages 441-452. In: Davis J.G., G.L. Lipps, Jr., D. Wynn, B.J. Armitage, T.O. Matson, R.A. Pfingsten, and C. Caldwell (Editors). Reptiles of Ohio. Ohio Biological Survey Bulletin New Series. Volume 20 Number 1. Part I. xiv – 402 p.

Table 1. The subject site is in both Summit County, Hudson Township, and Portage County, Streetsboro Township. Aurora Township is immediately north of Streetsboro Township. Twinsburg and Northampton Townships are adjacent to Hudson Township to the immediate north and southwest, respectively. More than seventy records were found in museum collections as a result of the museum search. Most of the Streetsboro Township records were confirmed as recently as 2017 and 2018.

County	Township	Museum Collection (and accession no.)	Year
Portage	Aurora	CMNH 246	1934
Portage	Brimfield	CMC HP 7056	2010
Portage	Streetsboro	CMC HP 5694 -99, 5745-56, 5766-91	2007
		CMC HP 12074, 12075, 12091, 12093, 12094, 12095, 12096 12098, 12099, 12100, 12103	2017
		CMC HP 11334, 11338, 11346, 11348, 11357, 11371-73, 11381, 11387, 11393, 11395-97, 11399, 11407, 11415	2018
Portage	Suffield	CMNH 771	1974
Summit	Green	OSM 871c	1950
Summit	Northampton	CMNH (not yet accessioned)	2016
Summit	Twinsburg	Ramsey Langford (pers. comm.)	2019

CMC HP = Cincinnati Museum Center Herpetological Photodocumentation Collection; **CMNH** = Cleveland Museum of Natural History; **OSM** = Ohio State University Museum of Biodiversity; **Ramsey Langford** is a Biologist with Summit Metro Parks District.

Figure 1. Aerial photograph showing the location(s) of the Darrow-Hudson East 138 kV Project.

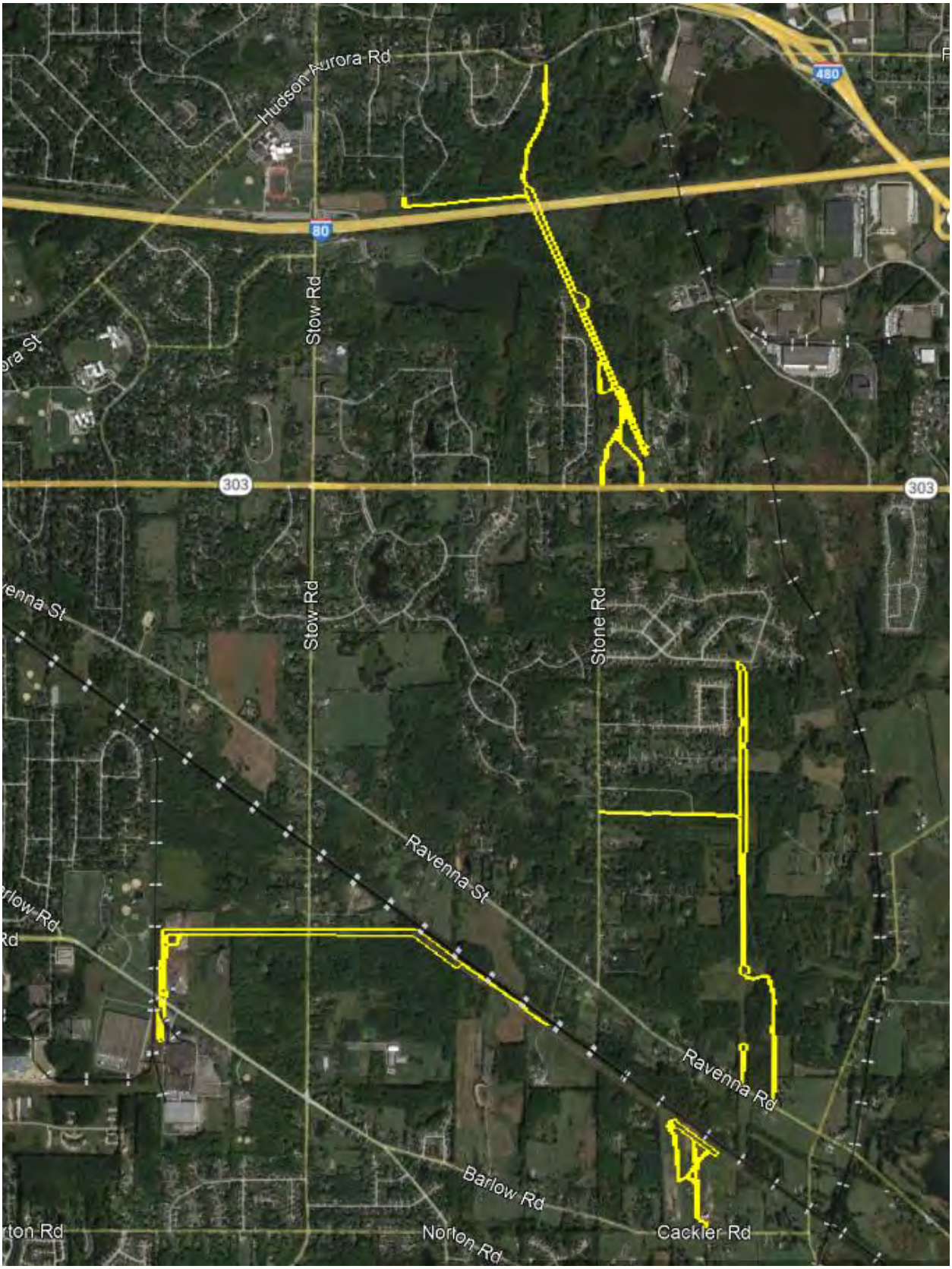


Figure 2. A Spotted Turtle from Clark County, Ohio.

Figure 3. This Kirtland's Snake was photographed at Wood Hollow Metro Park.

Figure 4. Gott Fen State Nature Preserve has a population of Spotted Turtles and is within 0.3 miles of a portion of the project right-of-way.

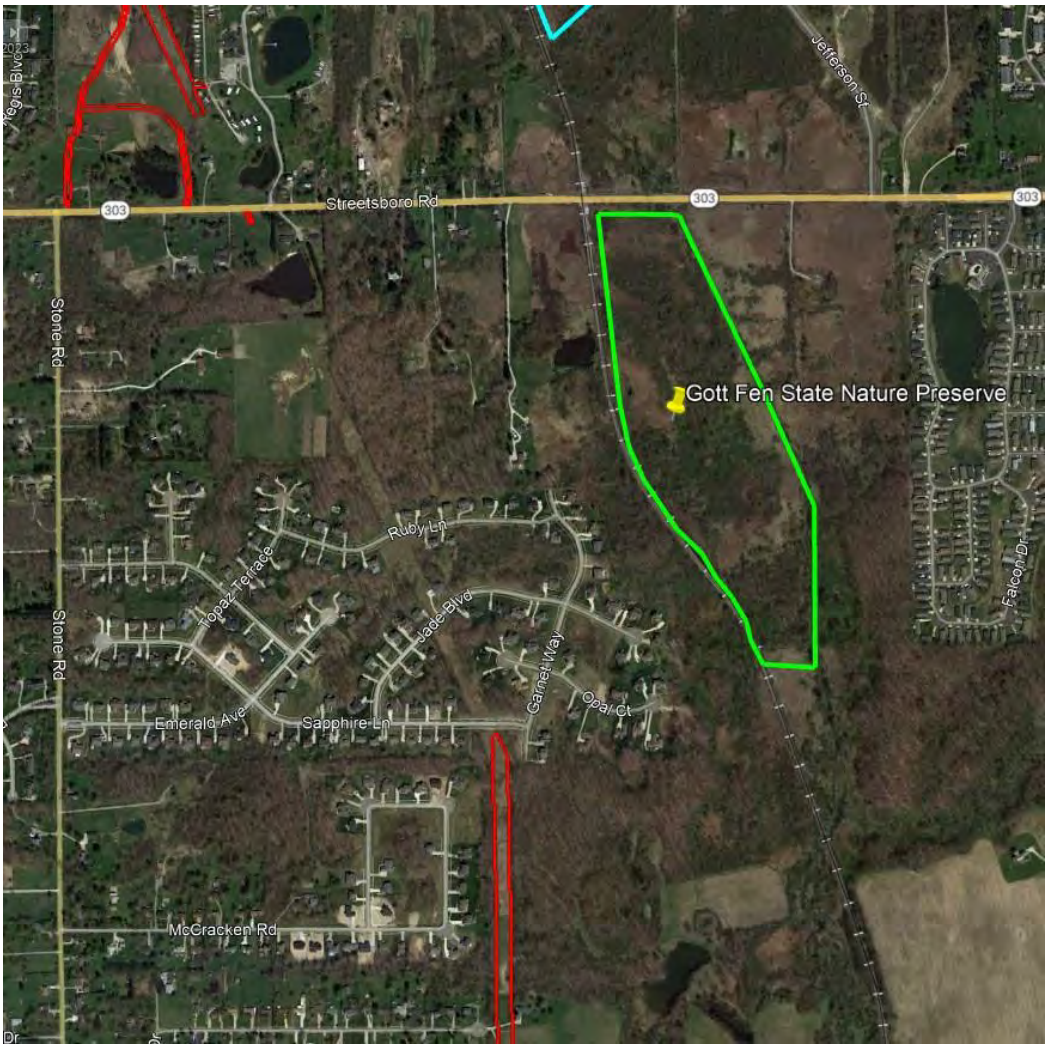


Figure 5. The project area is confined to Hudson and Streetsboro Townships in Summit and Portage Counties, respectively (yellow). Spotted Turtles have not been reported from Hudson Township, but they have been reported from Streetsboro Township as well as each of the townships shaded blue.

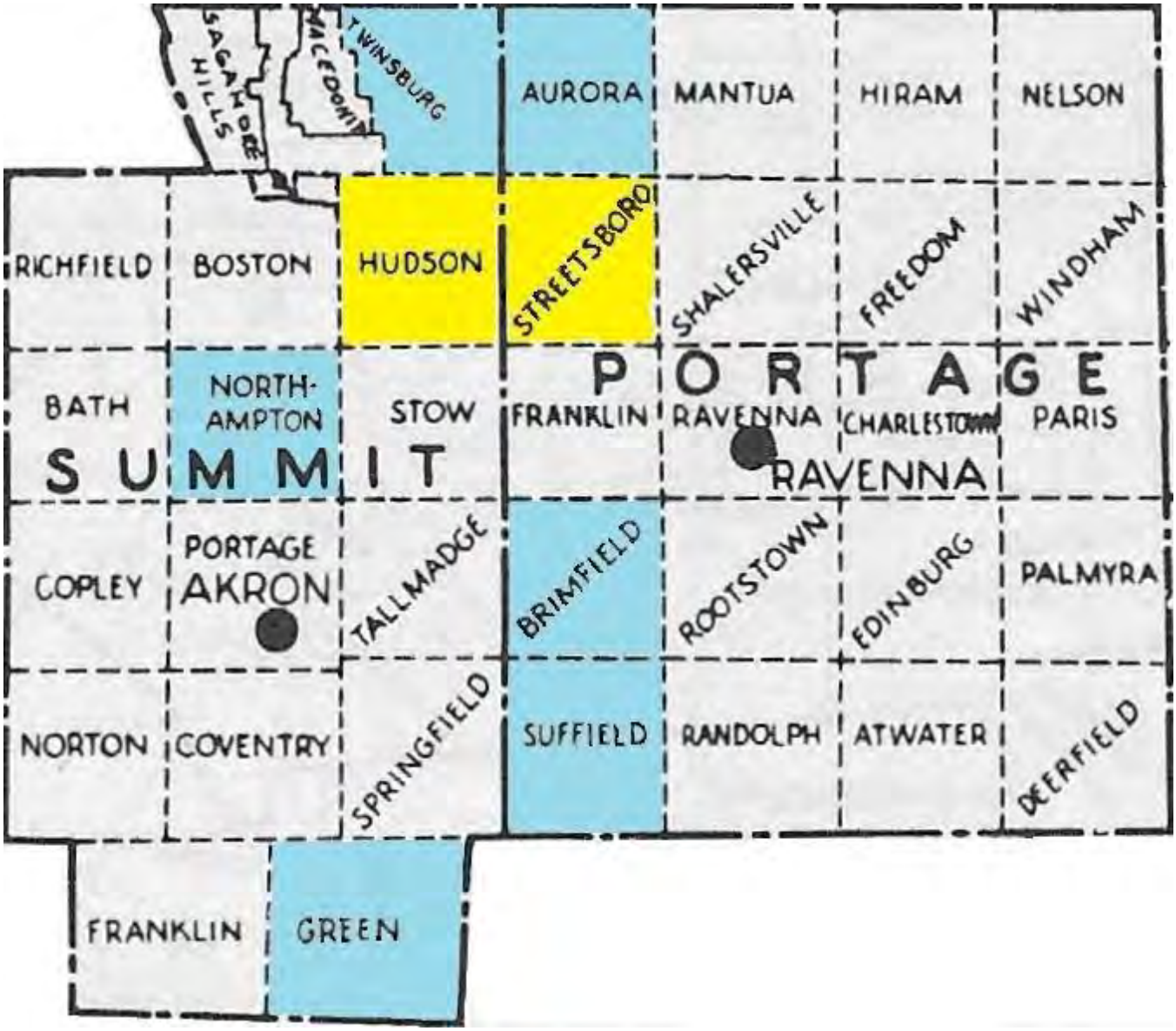


Figure 6. Area of Interest No. 1.

Figure 7. Area of Interest No. 2.

Figure 8. Area of Interest No. 3 and No. 4.

Figure 9. Area of Interest No. 5.

Figure 10. Area of Interest No. 6.

Figure 11. Area of Interest No. 7.

Figure 12. Kirtland's Snake habitat.

Figure 13. Soils near the area where the Kirtland's Snake was encountered are silt loams. Deposits of Willette Muck are located nearby, one of which is near Structure 2189. **MgA** and **MgB** – Mahoning silt loam; **Tr** – Trumbull silt loam; **ElB** – Ellsworth silt loam; **Wt** – Willette muck.

Figure 14. A Presence – Absence Survey area in the segment of the ROW near Structure 2188A is recommended unless FirstEnergy can access Structure 2188A from Stow Road to the east and Structure 2189A from an access point to its west. The white dot is the approximate location where the Kirtland's Snake was documented in 2019.

Exhibit 13

Surface Water Delineation Report

Darrow-Hudson East 138kV ROW Assurance Program Project

March 21, 2024

City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio

Prepared For:

FirstEnergy®

FirstEnergy Corporation
341 White Pond Drive, Building B3
Akron, Ohio 44320

Prepared By:
TRC Companies, Inc.
1382 West Ninth Street, Suite 400
Cleveland, Ohio 44113

TRC Project Number: 550808.0009.0000

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 METHODOLOGY 1

2.1 Wetland Parameters 1

2.1.1 Hydrology 2

2.1.2 Hydric Soils 2

2.1.3 Hydrophytic Vegetation 2

2.2 USACE Wetland Delineation 3

2.3 Ohio Environmental Protection Agency's Ohio Rapid Assessment Method 4

2.4 USACE Waterbody Identification 4

3.0 RESULTS 5

3.1 Site Description 5

3.2 Surface Water Resource Field Delineations 7

3.2.1 Wetlands 8

3.2.2 Waterbodies 9

4.0 PERMITTING CONSIDERATIONS 10

4.1 USACE Verification 11

5.0 LIMITATIONS 11

6.0 REFERENCES 12

TABLES

Table 1. Soils Type Summary 6

Table 2. Delineated Wetland Features Summary Table 8

Table 3. Waterbody Resource Details 9

APPENDICES

Appendix A Figures

Appendix B Photographic Record

Appendix C Data Forms

ACRONYMS AND DEFINITIONS

CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
FirstEnergy	FirstEnergy Corporation
GPS	Global Positioning System
HHEI	Headwater Habitat Evaluation Index
HUC	Hydrologic Unit Code
NHD	National Hydrography Dataset
NWI	National Wetlands Inventory
OAC	Ohio Administrative Code
OBL	Obligate Wetland
OEPA	Ohio Environmental Protection Agency
OHWM	Ordinary High-Water Mark
ORAM	Ohio Rapid Assessment Method
Project	Darrow-Hudson East 138kV ROW Assurance Program Project
Project Study Area	53.7 acres, located in the City of Hudson, Summit County, Ohio and the City of Streetsboro, Portage County, Ohio
QHEI	Qualitative Habitat Evaluation Index
Regional Supplement	Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)
Report	Surface Water Delineation Report
TNM	The National Map
TRC	TRC Companies, Inc.
UPL	Obligate Upland
USACE	United States Army Corps of Engineers
USDA-NRCS	United States Department of Agriculture – Natural Resources Conservation Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WQC	Water Quality Certification
1987 Manual	United States Army Corps of Engineers 1987 Wetland Delineation Manual

1.0 Introduction

On behalf of FirstEnergy Corporation (FirstEnergy), TRC Companies, Inc. (TRC) performed a surface water delineation for the Darrow-Hudson East 138kV ROW Assurance Program Project (Project). The proposed Project Study Area is approximately 53.7 acres, located in the City of Hudson, Summit County, Ohio and the City of Streetsboro, Portage County, Ohio. The proposed Project involves the maintenance of the existing Darrow-Hudson East 138 kV transmission line, as part of FirstEnergy's ROW Assurance Program. On behalf of FirstEnergy, TRC has prepared this Surface Water Delineation Report (Report) for the Project. A site location map of the Project Study Area can be found in **Appendix A, Figure 1.**

TRC personnel performed field investigations between February 21, 2024, through February 24, 2024, and were completed on February 26, 2024. TRC personnel performed field investigations to evaluate and delineate surface water resources (i.e., wetlands and streams) located within the Project Study Area. The delineations were conducted by qualified wetland scientists in accordance with the United States Army Corps of Engineers (USACE) parameters. The objective was to evaluate and delineate potential surface water resources within the Project Study Area, such that the resources could be considered during each phase of the Project. This Report describes the surface water delineation methodology implemented and the existing surface water resources identified within the Project Study Area during field investigations.

The Project Study Area is located at the following approximate coordinates: 41.261213, -81.395672 (Northern Terminus), 41.202831, -81.385092 (Southern Terminus), 41.217672, -81.420962 (Western Terminus); located in the City of Hudson, Summit County, Ohio and the City of Streetsboro, Portage County, Ohio and occurs within maintained utility right-of-way surrounded by commercial, industrial, residential, and agricultural land use. **Appendix A, Figure 1** and **Figure 2,** provides further information on the location of the proposed Project Study Area.

2.0 Methodology

To complete the surface water delineation and evaluation of the Project Study Area, TRC followed the guidelines and methods outlined by the USACE and Ohio Environmental Protection Agency (OEPA), as described within this section.

2.1 Wetland Parameters

The *USACE 1987 Wetland Delineation Manual* (*1987 Manual*) (USACE, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (*Regional Supplement)* (USACE, 2012), and the March 6, 1992 guidance memorandum (Williams, 1992) emphasize a three parameter approach to wetland boundary determination in the field. This approach involves the following:

i. Evidence of wetland hydrology;
ii. Presence of hydric soils; and

iii. Predominance of hydrophytic vegetation as defined by *The National Wetland Plant List: 2020 Wetland Ratings* (USACE, 2020).

Positive indicators of all three parameters are normally present in wetlands and serve to distinguish between both dry land and transitional plant communities.

2.1.1 Hydrology

The *1987 Manual* and *Regional Supplement* provides guidelines for determining the presence of wetland hydrology. Criteria for wetland hydrology are met if the area is inundated or saturated at the soil surface during the growing season for a time sufficient to develop hydric soils and to support hydrophytic vegetation.

2.1.2 Hydric Soils

Hydric soils are defined as soils "that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil" (Federal Register, 1994). Hydric soil indicators described in the *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils Version 8.2* (USDA, NRCS, 2018) were used to identify and document hydric soils as described in the *Regional Supplement*.

2.1.3 Hydrophytic Vegetation

To determine the presence of hydrophytic vegetation, the dominant and non-dominant species in each major vegetative stratum (e.g., tree, shrub/sapling, herbaceous, and woody vine) were identified and recorded.

Plants are placed into indicator status categories depending on their probability of occurring in a wetland in accordance with the USACE's *The National Wetland Plant List: 2020 wetland ratings* (USACE, 2020). There are five indicator status categories for plants:

1. Obligate wetland plants (OBL): plants that occur almost always (>99%) in wetlands in natural conditions, but which may also occur rarely (<1%) in non-wetlands;
2. Facultative wetland plants (FACW): plants that occur usually (>67-99%) in wetlands but also occur (1-33%) in non-wetlands;
3. Facultative plants (FAC): plants with a similar likelihood (33-67%) of occurring in both wetlands and non-wetlands;
4. Facultative upland plants (FACU): plants that occur sometimes (1-<33%) in wetlands, but occur more often (>67-99%) in non-wetlands; and
5. Obligate upland plants (UPL): plants that occur rarely (<1%) in wetlands but occur almost always (>99%) in non-wetlands under natural conditions.

A prevalence of dominant species that are FAC, FACW, and/or OBL indicates the presence of hydrophytic vegetation.

2.2 USACE Wetland Delineation

Qualified wetland scientists from TRC conducted surface water field investigations on February 21st, February 22nd, February 23rd, and February 26th, 2024. The surface water field investigations were conducted within the predetermined Project Study Area (**Appendix A, Figure 1**) that was developed in accordance with the Project location information provided by FirstEnergy. Surface water delineations were conducted using the Federal Routine Determination Method presented in the *1987 Manual* and *Regional Supplement*, including clarifications and interpretations provided in the March 6, 1992 guidance memorandum, and the USACE and Environmental Protection Agency (EPA) guidance on jurisdictional forms (EPA and USACE, 2007 and USACE, 2008).

Hydrology was determined based on a number of indicators that are divided into two categories, primary and secondary. The *1987 Manual* defines hydrology as present when at least one primary indicator (i.e., surface water, saturation, etc.) or two secondary indicators (i.e., geomorphic position, stunted or stressed plants, etc.) are identified. One primary indicator is sufficient to determine if hydrology is present; however, if these are absent then two or more of the secondary indicators are required to determine hydrology. If other probable hydrologic evidence was found, then this was subsequently documented on the data form.

Soils were examined in the field by using a tile spade, generally to a depth of at least 22 inches below the soil surface or until refusal, whichever was shallower. Soil coloration was identified using a *Munsell Soil Color Chart* (Munsell Color Company, 2009). Other characteristics, such as the presence of redoximorphic (Redox) concentrations and depletions and soil texture were also recorded. Redox concentrations and depletions are created when the soil is saturated and has anaerobic conditions (without oxygen gas) which leads to changes in the chemical processes in the soil that produce visible color changes in the soil. Hydric characteristics such as organic soil layers, depleted matrix, gleying, and hydrogen sulfide odor, were noted when observed. Soils at both wetland (if present) and dry land data plot locations were characterized and recorded on the data form.

The presence of hydrophytic vegetation was determined using the procedures described in the *Regional Supplement* and recorded on the data form. Vegetation in both dry land and wetland communities was characterized using a real dominance method, with a radius of 30-feet around the soil sample location for trees and woody vines, 15-foot radius for saplings and shrubs, and a 5-foot radius for herbaceous plants. Plant communities meeting the “50/20” Rule or meeting one of the other indicators set forth in the *1987 Manual, Regional Supplement,* and guidance memorandums are considered hydrophytic for the purposes of the wetland classification criteria. In areas where the vegetation was disturbed or not identifiable due to seasonal conditions, soil and hydrology characteristics, and professional judgment/experience were utilized in assessing the primary determining factors for classification as wetlands.

If the soils, hydrology, and vegetation characteristics at a survey point indicated that it was within a wetland, the boundary of the wetland was determined, and the approximate boundary was flagged using wetland flagging and recorded using a handheld Juniper Systems Geode and Trimble R1, both with sub-meter accuracy. Areas observed to have problematic or difficult

situations were delineated utilizing the procedures identified in the *Regional Supplement*, Section 5 – "Difficult Wetland Situations in the Northcentral and Northeast Region." Data from the Global Positioning System (GPS) survey was downloaded and integrated into a Geographic Information System database for the proposed work areas and used to make the accompanying figures. Identified wetlands were classified according to Cowardin et al. (Cowardin, Carter, Golet, & LaRoe, 1979). Photographs are included in **Appendix B**.

2.3 Ohio Environmental Protection Agency's Ohio Rapid Assessment Method

According to the Ohio Wetland Water Quality Standards, a wetland quality category (Category 1, Category 2, or Category 3) must be assigned for each wetland if a project will require discharge of dredged or fill material into jurisdictional wetlands. In general, Category 1 wetlands are considered to be of "low quality", Category 2 wetlands are considered to be of "moderate quality" and Category 3 wetlands are considered to be of "high quality."

The OEPA has developed the Ohio Rapid Assessment Method (ORAM), which can be utilized to evaluate wetland habitat quality based on the apparent functions and values of the wetland resource. The two primary components of the ORAM are the Narrative Rating and the Quantitative Rating. Each delineated wetland resource received a provisional category designation based on the results of the ORAM Narrative and Quantitative Ratings and review of narrative criteria in the Ohio Administrative Code (OAC) 3745-1-54(C) (Mack, 2000).

2.4 USACE Waterbody Identification

During field investigations, other waterbody features including streams, ponds, lakes, etc. were investigated. Streams within the Project Study Area were identified by the presence of an ordinary high-water mark (OHWM) and scoured channel or defined bed and banks. All streams identified in the Project Study Area that were wider than five feet were demarcated via GPS from bank-to-bank. Streams that were less than five feet wide had the centerline demarcated.

Identified streams were evaluated utilizing OEPA approved methods for stream habitat assessment which include the Qualitative Habitat Evaluation Index (QHEI) (Ohio EPA, 2006) and/or the Headwater Habitat Evaluation Index (HHEI) (Ohio EPA, 2020) assessment method. These approved assessment methods provide an empirical, quantified evaluation of streams as required by the State of Ohio for permitting and mitigation purposes. These methods assess stream habitat to provide a qualitative index (or score) to determine the level of compensatory mitigation that may be needed for impacts to waters of the U.S. (i.e., streams).

Use of the QHEI or HHEI assessment method is determined based on the size of the stream's drainage area and/or the stream's pool depths. Where coverage was available, the drainage area was calculated using automated basin characteristics from StreamStats v 4.19.4: Ohio (USGS, 2021).

Following OEPA guidance, streams with a drainage area of greater than 1.0 square mile (2.6 square kilometers) or which have pools with maximum depths over 15.8 inches (40.0 centimeters), as determined by measuring pool depth within the stream, were evaluated using

the QHEI. Data on these streams were collected on the QHEI form provided by the OEPA. The QHEI is composed of six principal metrics: substrate, instream cover, channel morphology, riparian zone and bank erosion, pool/glide and riffle-run quality, and map gradient. Each metric is scored separately and summed to obtain the total QHEI score. Using the scoring methods associated with these forms, the stream is placed into the following general narrative ranges, dependent on stream size; for smaller streams (≤20 sq. mi): Excellent >70, Good 55-69, Fair 43-54, Poor 30-42, and Very Poor <30; for larger streams (>20 sq. mi): Excellent >75, Good 60-74, Fair 45-59, Poor 30-44, and Very Poor <30.

The HHEI was utilized to score streams with a drainage area of <1.0 square mile (2.6 square kilometers). Data on these streams were collected on the HHEI forms, provided by the OEPA. Observational data regarding the physical nature of the stream corridor including stream flow, riparian zone land use and buffer width, and channel modification were recorded. Measurements included bankfull width, maximum pool depth and substrate composition.

Streams identified during the course of the investigation were classified as perennial, intermittent, or ephemeral waterways in accordance with the rationale defined by the USACE Buffalo District.

The Project Study Area was also investigated for areas that were considered “open water” by the USACE. According to the USACE an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of “open waters” may include rivers, lakes, and ponds. Artificial “open water” features may include stormwater retention basins, fish hatchery ponds, drainage tile pump stations, etc.

3.0 Results

3.1 Site Description

The Project Study Area is approximately 53.7 acres located in the City of Hudson, Summit County, Ohio and the City of Streetsboro, Portage County, Ohio within the Headwaters Tinkers Creek watershed (12-Digit Hydrologic Unit Code [HUC]: 041100020502), Fish Creek-Cuyahoga River Watershed (HUC: 041100020305), and the Mud Brook Watershed (HUC: 041100020401) (USGS, 2022).

The Project Study Area is shown on the Twinsburg, Ohio (2019) and Hudson, Ohio (2019) United States Geological Survey (USGS) 7.5-minute series topographic quadrangles (**Appendix A, Figure 1**).

The United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey (USDA-NRCS, 2016) was used to identify the soil types contained within the Project Study Area (**Appendix A, Figure 3**). **Table 1** provides a summary of the soils identified within proposed Project Study Area.

Table 1. Soils Type Summary

Map Unit Symbol	Map Unit Name	Hydric Status	Acres Within Study Area	Percent Cover in Study Area
BgB	Bogart loam, 2 to 6 percent slopes	Non-Hydric	0.041	0.1%
Ca	Canadice silty clay loam	Hydric	1.749	3.3%
CnC	Chili loam, 6 to 12 percent slopes	Non-Hydric	0.094	0.2%
CoC2	Chili gravelly loam, 6 to 12 percent slopes, moderately eroded	Non-Hydric	0.604	1.1%
CtD	Chili-Oshtemo complex, 12 to 18 percent slopes	Non-Hydric	0.052	0.1%
ElB	Ellsworth silt loam, 2 to 6 percent slopes	Non-Hydric with Hydric Inclusions	8.193	15.3%
ElB2	Ellsworth silt loam, 2 to 6 percent slopes, eroded	Non-Hydric with Hydric Inclusions	3.962	7.4%
ElC	Ellsworth silt loam, 6 to 12 percent slopes	Non-Hydric	1.595	3.0%
ElC2	Ellsworth silt loam, 6 to 12 percent slopes, eroded	Non-Hydric	6.942	12.9%
ElD2	Ellsworth silt loam, 12 to 18 percent slopes, eroded	Non-Hydric	1.414	2.6%
ElE2	Ellsworth silt loam, 12 to 25 percent slopes, eroded	Non-Hydric	0.944	1.8%
Ln	Lorain silty clay loam	Hydric	0.075	0.1%
LoD	Loudonville silt loam, 12 to 18 percent slopes	Non-Hydric	0.097	0.2%
LoD2	Loudonville silt loam, 12 to 18 percent slopes, moderately eroded	Non-Hydric	0.138	0.3%
MgA	Mahoning silt loam, 0 to 2 percent slopes	Non-Hydric with Hydric Inclusions	3.300	6.1%
MgB	Mahoning silt loam, 2 to 6 percent slopes	Non-Hydric with Hydric Inclusions	14.601	27.2%

Table 1. Soils Type Summary

Map Unit Symbol	Map Unit Name	Hydric Status	Acres Within Study Area	Percent Cover in Study Area
Or	Orrville silt loam	Non-Hydric with Hydric Inclusions	3.060	5.7%
RsB	Rittman silt loam, 2 to 6 percent slopes	Non-Hydric	1.834	3.4%
RsC	Rittman silt loam, 6 to 12 percent slopes	Non-Hydric	0.321	0.6%
Sb	Sebring silt loam, 0 to 2 percent slopes	Hydric	0.201	0.4%
Tr	Trumbull silt loam, 0 to 2 percent slopes	Hydric	3.477	6.5%
Ua	Udorthents	Non-Hydric	0.928	1.7%
Wt	Willette muck	Hydric	0.096	0.2%
		TOTAL	**53.7**	**100%**

Notes:
Accessed online March 2024 at: http://websoilsurvey.sc.egov.usda.gov.

There are fifteen (15) United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) features mapped within the Project Study Area, including nine (9) riverine features, three (3) freshwater ponds, and three (3) freshwater forest/shrub wetlands (**Appendix A, Figure 4)** (USFWS, 2022).

The USGS National Hydrography Dataset (NHD) (USGS, 2018) Downloadable Data Collection from The National Map (TNM) is a comprehensive set of digital spatial data that encodes information about naturally occurring and constructed bodies of surface water (e.g., lakes, ponds, and reservoirs), paths through which water flows (e.g., canals, ditches, streams, and rivers) and related entities such as point features (e.g., springs, wells, stream gages, and dams). There are nine (9) NHD streams mapped within the Project Study Area (**Appendix A, Figure 4**).

According to Federal Emergency Management Agency Flood Insurance Rate Map (39153C0135E: eff. 7/20/2009; 39153C0069F: eff. 4/19/2016; 39133C0109D: eff. 8/18/2009; 39133C0107D: eff. 8/18/2009; 39133C0019D: eff. 8/18/2009; 39055C0300D: eff. 6/16/2009; 39035C0375E; eff. 12/3/2010), portions of the proposed Project are located within a regulated 100-year floodplain (**Appendix A, Figure 4**) (FEMA, 2021).

3.2 Surface Water Resource Field Delineations

TRC performed the field investigation on February 21st, February 22nd, February 23rd, and February 26th, 2024. Weather conditions were normal for the season, with temperatures ranging between 32 degrees to 61 degrees Fahrenheit, and partly cloudy skies. Native and non-native

herbaceous vegetation was observed within the Project Study Area. The USACE maintains the final authority that determines jurisdiction; therefore, statements about jurisdiction within this Report are preliminary and subject to final determination by the USACE and OEPA.

3.2.1 Wetlands

During the field investigation, nineteen (19) wetlands were identified and delineated within the Project Study Area. The delineated wetland boundaries and sample points are shown on **Figure 5** in **Appendix A**. Representative photographs of sample points and other areas of interest are provided in **Appendix B**. Data was collected and recorded on USACE Wetland Determination Data Forms –: Northcentral and Northeast (**Appendix C**) and wetland functional assessments were completed for each delineated wetland using the ORAM (**Appendix C**). Delineated wetlands within the Project Study Area are summarized in **Table 2**.

Table 2: Delineated Wetland Features Summary Table

Resource ID[1]	Cowardin Classification[2]	Connection[3]	Provisional Jurisdictional Status[4]	ORAM Score	ORAM Category[5]	Approximate Delineated Area within Project Study Area[6] (acres)
W-EVN-1	PEM	Abutting	USACE Jurisdictional, Wetland	38	Cat. 2	0.080
W-EVN-2	PFO	Abutting	USACE Jurisdictional, Wetland	49	Cat. 2	0.993
W-EVN-3	PEM	Adjacent	USACE Jurisdictional, Wetland	20	Cat. 1	0.035
W-EVN-4	PEM	Adjacent	USACE Jurisdictional, Wetland	23	Cat. 1	0.083
W-EVN-5	PEM	Abutting	USACE Jurisdictional, Wetland	22.5	Cat. 1	0.041
W-EVN-6	PEM	Adjacent	USACE Jurisdictional, Wetland	22.5	Cat. 1	0.136
W-EVN-7	PEM	Abutting	USACE Jurisdictional, Wetland	30.5	Cat. 2	0.452
W-EVN-8	PEM	Abutting	USACE Jurisdictional, Wetland	44	Cat. 2	1.154
W-EVN-9	PEM	Abutting	USACE Jurisdictional, Wetland	28.5	Cat. 1	0.216
W-EVN-10	PEM	Abutting	USACE Jurisdictional, Wetland	20.5	Cat. 1	0.055
W-EVN-11	PEM	Adjacent	USACE Jurisdictional, Wetland	25	Cat. 1	0.685
W-EVN-12	PEM	Adjacent	USACE Jurisdictional, Wetland	26.5	Cat. 1	0.175
W-EVN-13	PEM	Adjacent	USACE Jurisdictional, Wetland	27	Cat. 1	0.280
W-EVN-14	PEM	Adjacent	USACE Jurisdictional, Wetland	29.5	Cat. 1	0.099
W-EVN-15	PEM	Adjacent	USACE Jurisdictional, Wetland	29	Cat. 1	0.093

Resource ID[1]	Cowardin Classification[2]	Connection[3]	Provisional Jurisdictional Status[4]	ORAM Score	ORAM Category[5]	Approximate Delineated Area within Project Study Area[6] (acres)
W-EVN-16	PEM	Abutting	USACE Jurisdictional, Wetland	37	Cat. 2	3.845
W-EVN-17	PEM	Abutting	USACE Jurisdictional, Wetland	23	Cat. 1	0.162
W-EVN-18	PEM	Abutting	USACE Jurisdictional, Wetland	45	Cat. 2	2.597
W-EVN-19	PEM	Adjacent	USACE Jurisdictional, Wetland	41.5	Cat. 2	0.993
					Total	**12.173**

[1] TRC resource identification.
[2]Cowardin Wetland Classification within Study Area (approximation based upon field identification and delineation) (Cowardin, Carter, Golet, & LaRoe, 1979): PEM – Palustrine Emergent, PFO – Palustrine Forested
[3]Connection to a jurisdictional waterway: Isolated, Abutting, or Adjacent as determined by TRC; subject to USACE verification. Wetland connection is pending an update from OEPA and USACE based on the EPA vs. Sackett case.
[4]Jurisdiction status is based upon field observations and mapping review of apparent connectivity or adjacency of the resource to Waters of the United States and the assumption that a preliminary jurisdictional determination process will be utilized for the project.
[5]ORAM Category based on scoring breakpoints from Table 2 of the ORAM v. 5.0 Quantitative Score Calibration; scores falling within a "gray zone" or "modified" category were rounded up.
[6]Area is rounded to nearest 0.001-acre, based upon GPS data.

3.2.2 Waterbodies

During the field investigations, thirteen (13) streams and two (2) waterbodies (ponds) were delineated within the Project Study Area. A detailed summary of the waterbody resources identified is provided in **Table 3** and **Appendix A**, **Figure 5**. Data points were recorded to provide a characterization of the delineated waterbody resources located within the Project Study Area, which were recorded on the OEPA HHEI and QHEI data forms. HHEI and QHEI data forms are provided within **Appendix C**. Representative photographs of the described waterbodies identified within the Project Study Area can be found in **Appendix B**.

Table 3. Waterbody Resource Details

Waterbody ID[1]	Resource Name[2]	Flow Regime	OEPA Use Designation[3]	Existing Use Designation[4]	HHEI Score[5]	QHEI Score[6]	Approximate Delineated Area within Project Study Area[7] (linear feet/acres)
S-EVN-1	UNT to Tinkers Creek	Intermittent	NA	Modified Class I PHWH	27	-	6 feet (0.001-acre)
S-EVN-2	UNT to Tinkers Creek	Perennial	WWH	Fair	-	47.5	28 feet (0.008-acre)
S-EVN-3	UNT to Tinkers Creek	Perennial	NA	Fair	-	51.5	27 feet (0.008-acre)
S-EVN-4	UNT to Tinkers Creek	Intermittent	NA	Modified Class I PHWH	22	-	30 feet (0.001-acre)

Table 3. Waterbody Resource Details

Waterbody ID[1]	Resource Name[2]	Flow Regime	OEPA Use Designation[3]	Existing Use Designation[4]	HHEI Score[5]	QHEI Score[6]	Approximate Delineated Area within Project Study Area[7] (linear feet/acres)
S-EVN-5	UNT to Tinkers Creek	Intermittent	NA	Modified Class II PHWH	57	-	89 feet (0.003-acre)
S-EVN-6	UNT to Tinkers Creek	Intermittent	NA	Modified Class II PHWH	32	-	136 feet (0.010-acre)
S-EVN-7	UNT to Tinkers Creek	Intermittent	NA	Modified Class II PHWH	35	-	61 feet (0.002-acre)
S-EVN-8	UNT to Tinkers Creek	Intermittent	NA	Modified Class I PHWH	25	-	115 feet (0.005-acre)
S-EVN-9	UNT to Tinkers Creek	Intermittent	NA	Modified Class II PHWH	37	-	107 feet (0.002-acre)
S-EVN-10	UNT to Tinkers Creek	Intermittent	NA	Modified Class II PHWH	56	-	107 feet (0.003-acre)
S-EVN-11	UNT to Tinkers Creek	Intermittent	NA	Modified Class II PHWH	58	-	114 feet (0.006-acre)
S-EVN-12	Powers Brook	Perennial	NA	Fair	-	46	130 feet (0.008-acre)
S-EVN-13	UNT to Powers Brook	Perennial	NA	Modified Class I PHWH	16	-	100 feet (0.004-acre)
WB-EVN-1	-	Pond	-	-	-	-	0.226-acre
WB-EVN-2	-	Pond	-	-	-	-	0.038-acre
						TOTAL	**1,050 feet (0.325-acre)**

Notes:
[1] TRC resource identification.
[2] UNT = Unnamed Tributary
[3] Determined by OEPA and listed in OAC §3745-1-26 Cuyahoga River drainage basin.
[4] Determined by TRC, subject to verification by Ohio EPA.
[5] HHEI, for streams with drainage areas of less than 1.0 square mile and a maximum pool depth of less than 40 centimeters.
[6] QHEI, for streams with drainage areas of greater than 1.0 square mile and a maximum pool depth greater than 40 centimeters.
[7] Area is rounded to nearest 0.001-acre, based upon GPS data. Resources comprising <0.001-acre are tabulated within the total as 0.001-acre.

4.0 Permitting Considerations

It is anticipated that due to the nature of the Project, jurisdictional resources may be impacted by the proposed Project activities. As currently proposed, it is TRC's understanding that this Project would fall under Nationwide Permit (NWP) 57 - Electric Utility Line and Telecommunications Activities (USACE, 2022). This Project is located in the City of Hudson, Summit County, Ohio and the City of Streetsboro, Portage County, Ohio, which is within the USACE Buffalo Regulatory

District. The Project location is listed in Appendix 1 to Regional General Condition 5(a) (Endangered Species and Threatened Species), therefore triggering the need for a Section 404 Pre-Construction Notification (PCN).

The Project is located within an “Eligible” area according to Ohio EPA’s Stream Eligibility for Nationwide Permit Program (OEPA, 2017) and therefore is eligible for coverage under the OEPA 401 Water Quality Certification (WQC) for Nationwide Permits **(Appendix A, Figure 6)**.

4.1 USACE Verification

The USACE has the authority to determine and/or verify the geographical boundaries of Waters of the United States in accordance with 33 Code of Federal Regulations (CFR) 328 and 33 CFR 329; therefore, the results of this Report are termed “preliminary” until verified and accepted by the USACE. This verification is part of the Jurisdictional Determination process, which is required for approval under Section 404 Clean Water Act, Section 401 Water Quality Certification, and/or isolated wetland permitting process through OEPA. It is the responsibility of any party that intends to discharge dredge or fill material into Waters of the United States to comply with all applicable regulations.

5.0 Limitations

This Report is limited in scope to the specific terms of the Agreement previously entered into between TRC and FirstEnergy. This Report represents the conditions within the Project Study Area identified herein, as of the inspection dates.

Should the Project change from the scope described herein, TRC should be immediately notified such that additional investigations may be conducted to amend the content of the Report herein. Human-induced and/or natural changes within the Project Study Area may occur after the date of this investigation and may result in changes to the presence, extent, and classification of the surface water resources identified within this Report.

6.0 References

Cowardin, L., Carter, V., Golet, F., & LaRoe, E. (1979). Classification of Wetland and Deepwater Habitats of the United States. 103 pp. U.S. Fish and Wildlife Service.

Federal Register. (1994, July 13). Changes in hydric soils of the United States.

FEMA. (2021, November). *FEMA Flood Map Service Center*. Retrieved March 2023, from U.S. Department of Homeland Security: Federal Emergency Management Agency: https://msc.fema.gov/portal

Mack, J. (2000). ORAM v. 5.0 Quantitative Score Calibration. Columbus, Ohio: Ohio Environmental Protection Agency, Division of Surface Water, 401/Wetland Ecology Unit.

Mack, J. (2001). Ohio EPA Technical Report WET/201-1. Columbus, Ohio: Ohio Environmental Protection Agency, Division of Surface Water, 401/Wetland Ecology Unit.

Munsell Color Company. (2009). X-Rite Munsell Soil Color Book 2009 Revised Edition.

OEPA. (2017). 401 Water Quality Certification for Nationwide Permit Eligibility Online Map. Retrieved March 2024, from https://www.arcgis.com/apps/webappviewer/index.html?id=e6b46d29a38f46229c1eb47deefe49b6

Ohio Administrative Code Rule 3745-1-26. (n.d.). Cuyahoga River Drainage Basin, Table 15-1. *Use Designations for Water Bodies in the Cuygahoga River Drainage Basin*.

Ohio EPA. (2006). *Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI).* Columbus, OH: Division of Surface Water, Ohio Environmental Protection Agency.

Ohio EPA. (2020). *Field Methods for Evaluating Primary Headwater Streams in Ohio(Version 4.1) (HHEI).* Columbus, OH: Division of Surface Water, Ohio Environmental Protection Agency.

Rankin, E. T. (1989, November 6). The Qualitative Habitat Evaluation Index (QHEI): Rationale, Methods, and Application. Columbus, Ohio: Ohio Environmental Protection Agency, Division of Surface Water.

USACE. (1987). *Corps of Engineers Wetlands Delineation Manual.* Vicksburg, MS: Environmental Laboratory U.S. Army Corps of Engineers.

USACE. (2008, June 26). Regulatory Guidance Letter, Subject: Jurisdictional Determinations.

USACE. (2012). *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0).* Vicksburg: U.S. Army Engineer Research and Development Center Environmental Laboratory: U.S. Army Corps of Engineers.

USACE. (2020). *The National Wetland Plant List, version 3.5*. Retrieved from http://wetland-plants.usace.army.mil/

USACE. (2022, February 23). *Nationwide Permits for the State of Ohio*. Retrieved from https://www.dot.state.oh.us/environmental-services/manuals_guidance1/Waterway%20Permits/2022%20Nationwide%20Permits%20for%20Ohio.pdf?ID=822

USDA, NRCS. (2018). Field Indicators of Hyrdric Soils in the United States, Version 8.2. (L. Vasilas, G. Hurt, & C. Noble, Eds.) USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.

USDA-NRCS. (2016). Web Soil Survey. Retrieved March 2024, from http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

USEPA, USACE. (2007, June 5). Clean Water Act Jurisdiction Following Supreme Court's Decision in Rapanos V. United States & Carabell v. United States.

USFWS. (2022). National Wetlands Inventory. Retrieved March 2024, from http://www.fws.gov/wetlands/Data/Mapper.html

USGS. (1999). Topographical Quadrangle Maps (7.5-minute series). *Twinsburg, OH 7.5-minute Quadrangle*. U.S. Geological Survey.

USGS. (2018). National Hydrography Dataset. Retrieved March 2024, from https://nhd.usgs.gov/data.html

USGS. (2019). Topographical Quadrangle Maps (7.5-minute series). *Hudson, OH 7.5-minute Quadrangle*. U.S. Geological Survey. Retrieved March 2024

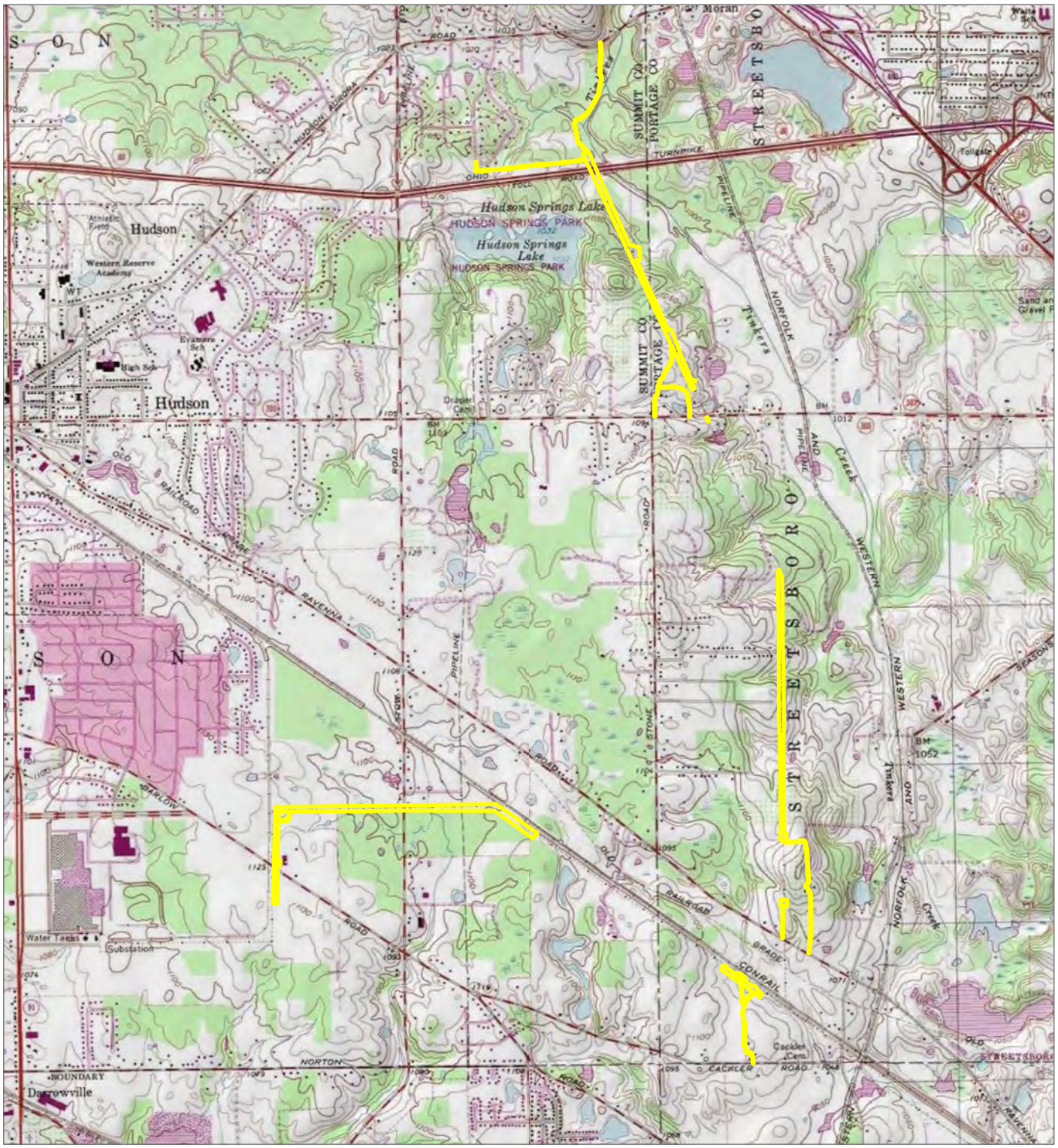
USGS. (2021). *StreamStats, v 4.19.4*. (U.S. Geological Survey) Retrieved March 2024, from StreamStats Ohio: https://streamstats.usgs.gov/ss/

USGS. (2022, February). *The National Map (TNM)*. Retrieved March 2024, from https://apps.nationalmap.gov/viewer/

Williams, A. (1992). Memorandum: Clarification and Interpretation of the 1987 Manual. U.S. Army Corps of Engineers.

Appendix A

Figures



PROJECT STUDY AREA

BASE MAP: USA TOPO MAPS MAP SERVICE , TWINSBURG & HUDSON QUAD

N

0 1,500 3,000

FEET

1:36,000 1" = 3,000'

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST 138 KV PROJECT - ROW ASSURANCE PROGRAM SUMMIT & PORTAGE COUNTIES, OH

TITLE: SITE LOCATION MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		FIGURE 1
DATE:	MARCH 2024		

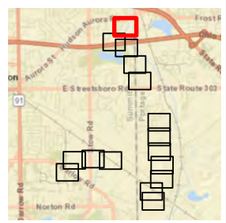
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRV2

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400

1" = 200'

0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 2 (PAGE 1 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

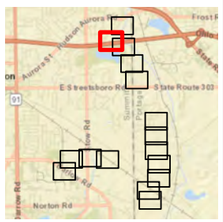
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Stored By: MOPEL on 3/4/2024 - 14:49:01 PM; File Path: T:\1 PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig02_Aerial

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400

1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE: AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		FIGURE 2 (PAGE 2 OF 16)
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

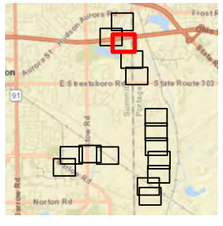
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:45:01 PM; File Path: T:\TRC PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig02_Aerial

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400

1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE: AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	FIGURE 2 (PAGE 3 OF 16)	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

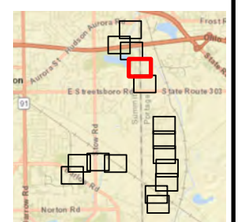
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet. Map Rotation: 0
Saved By: MOPEL on 3/4/2024, 1:45:07 PM. File Path: T:\1-PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\3-APRX\WDRv2.aprx Layout Name: Fig02_Aerial

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400

1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE: AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	FIGURE 2 (PAGE 4 OF 16)	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

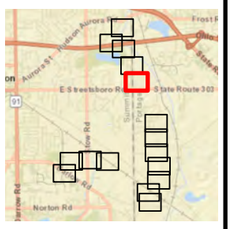
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:43:01 PM; File Path: T:\1-PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig02_Aerial

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

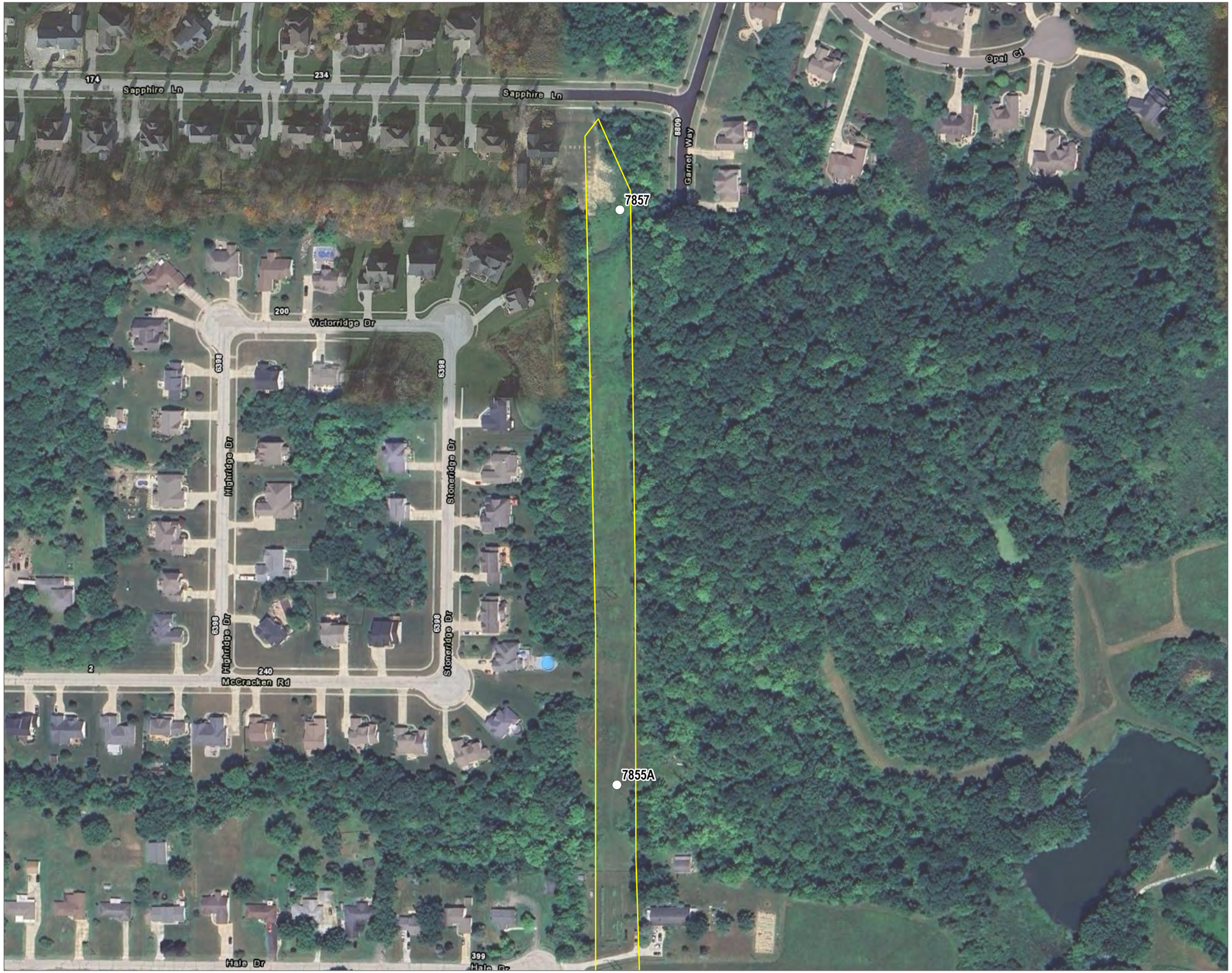
TITLE: AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	FIGURE 2 (PAGE 5 OF 16)	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

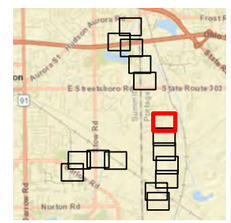
Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet. Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 4:49:50 PM - File Path: T:\1-PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\3-APRX\WDRv2.aprx - Layout Name: Fig02_Aerial



PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400

1" = 200'

0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 2 (PAGE 6 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

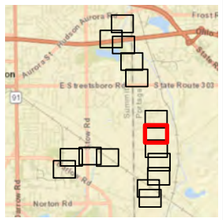
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:44:00 PM; File Path: T:\PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx Layout Name: Fig02_Aerial

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400

1" = 200'

0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 2 (PAGE 7 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

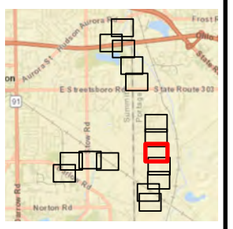
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:44:01 PM; File Path: T:\1_PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig02_Aerial

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE: AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		FIGURE 2 (PAGE 8 OF 16)
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

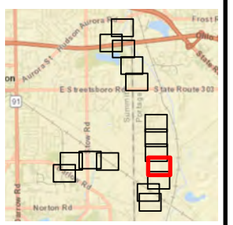
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 1:49:07 PM - File Path: T:\1-PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APRX\MDRv2.aprx - Layout Name: Fig02_Aerial

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400

1" = 200'

0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

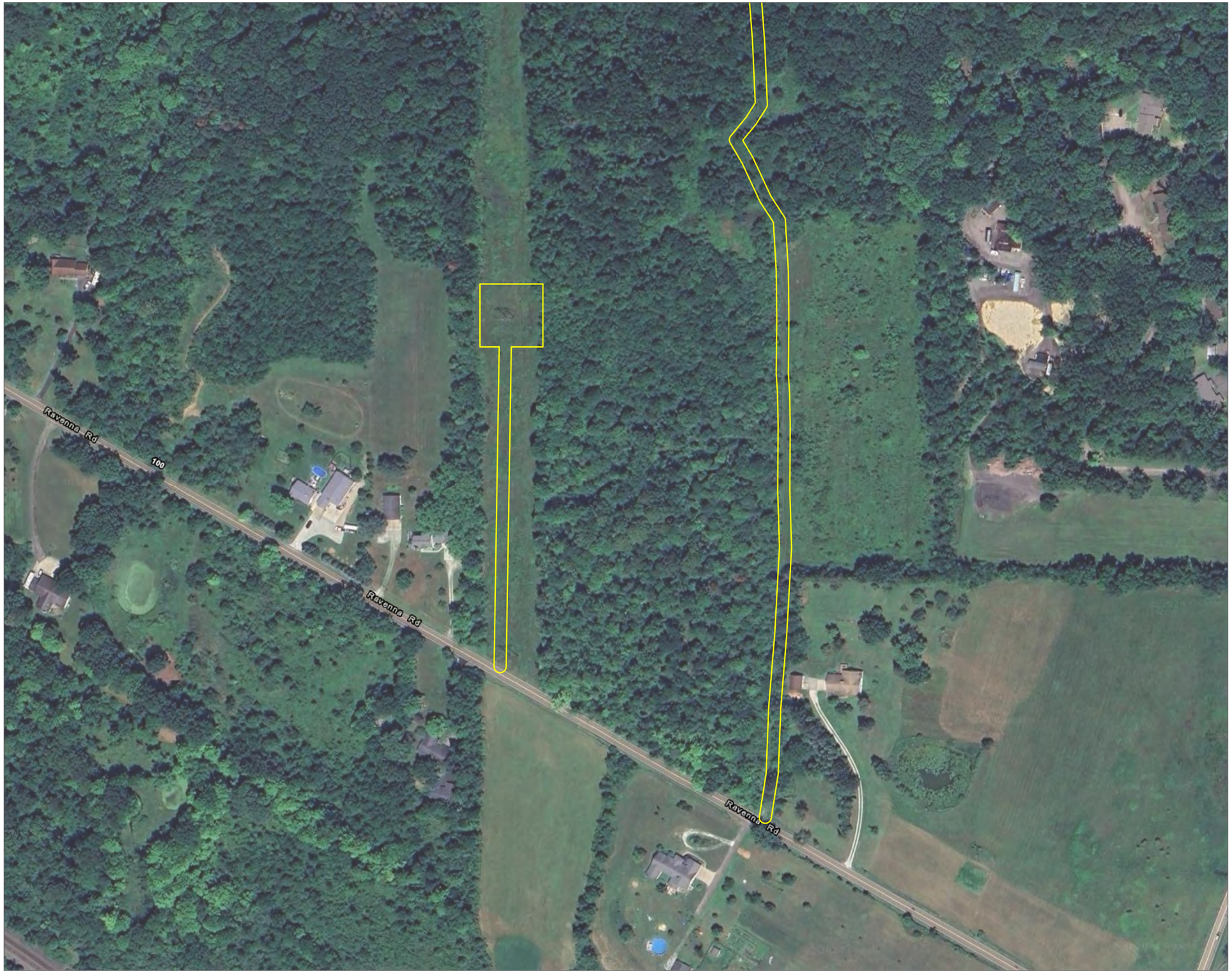
TITLE:
AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 2 (PAGE 9 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

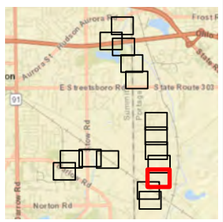
Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:43:01 PM; File Path: T:\PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig02_Aerial



PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400

1" = 200'

0 200 400 FEET

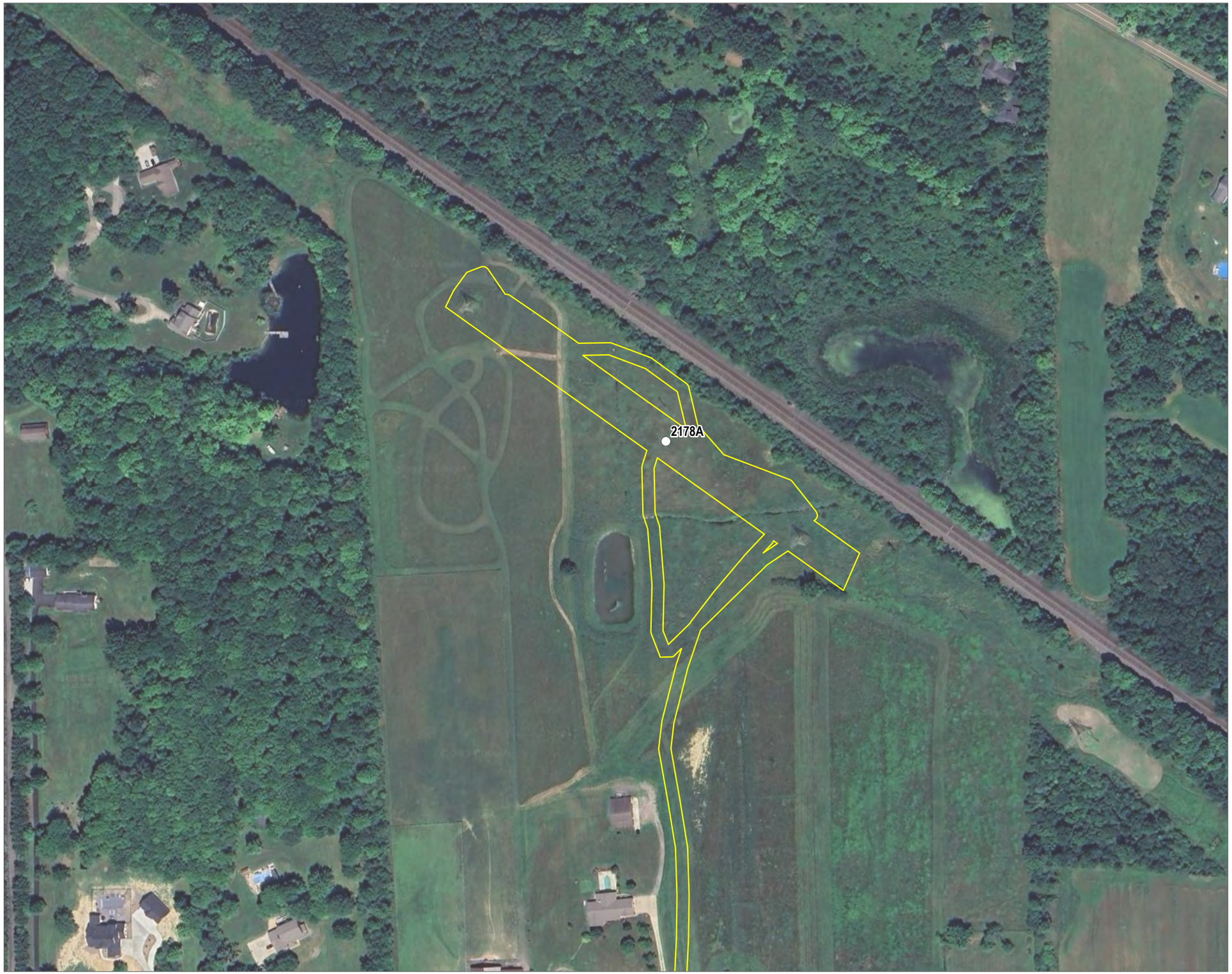
PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 2 (PAGE 10 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

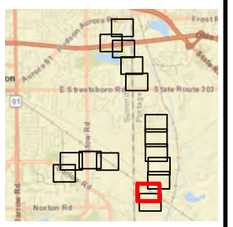
FILE: WDRv2.aprx



PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400

1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:

AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 2
(PAGE 11 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

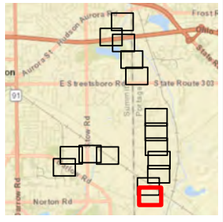
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:45:01 PM; File Path: T:\PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx Layout Name: Fig02_Aerial

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:

AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 2
(PAGE 12 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

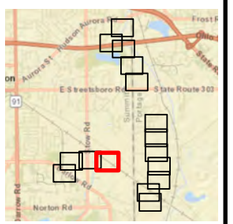
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet. Map Rotation: 0
Saved By: MOPEL on 3/4/2024, 1:45:01 PM - File Path: T:\1-PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx - Layout Name: Fig02_Aerial

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400

1" = 200'

0 200 400 FEET

PROJECT: **FIRSTENERGY - DARROW-HUDSON EAST 138 KV PROJECT - ROW ASSURANCE PROGRAM SUMMIT & PORTAGE COUNTIES, OH**

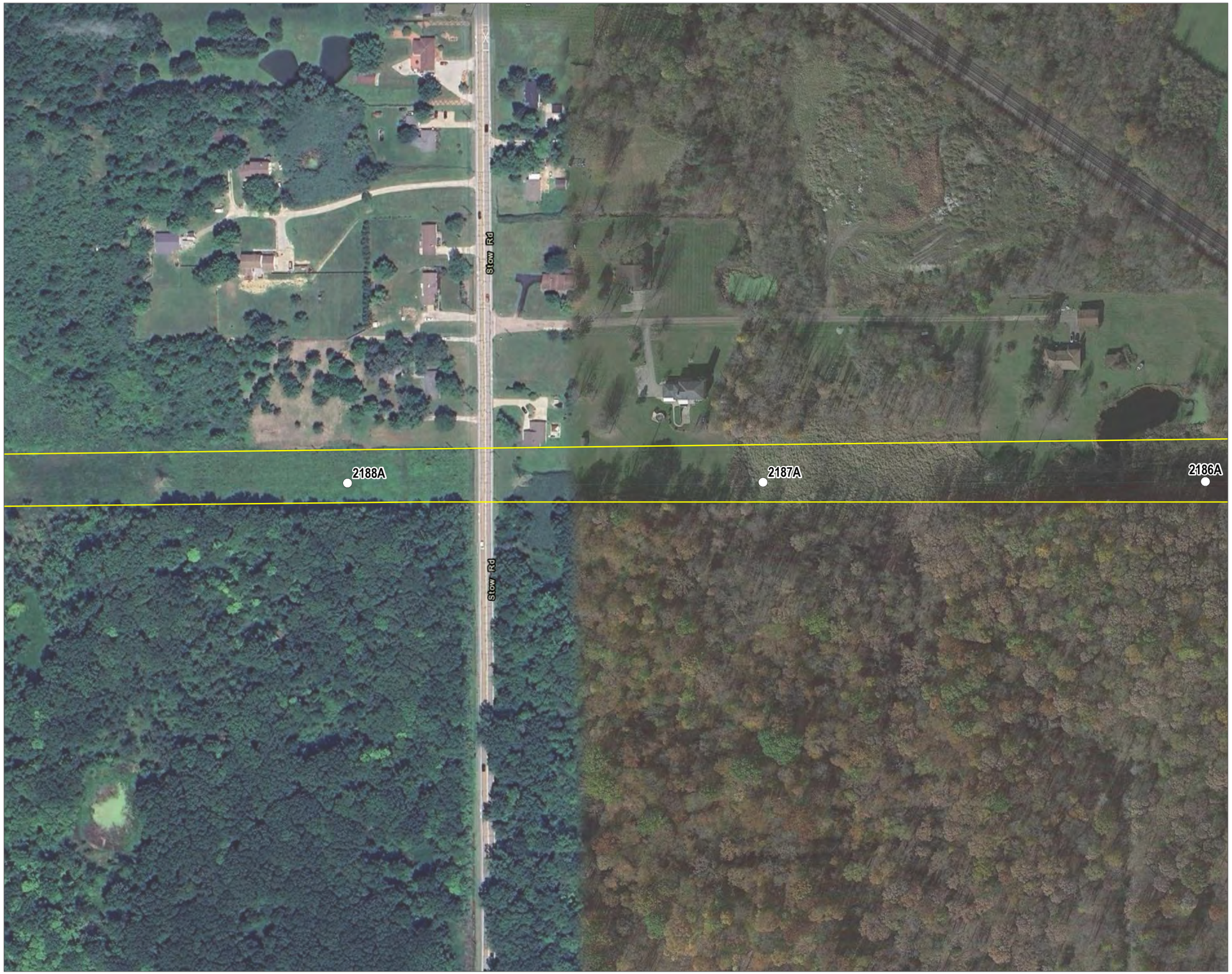
TITLE: **AERIAL MAP**

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		**FIGURE 2 (PAGE 13 OF 16)**
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

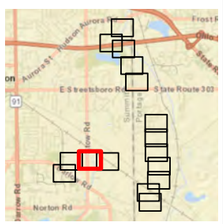
Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:45:01 PM; File Path: T:\PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx Layout Name: Fig02_Aerial



PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400

1" = 200'

0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 2 (PAGE 14 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

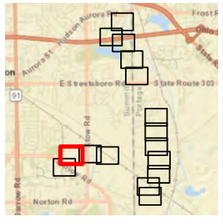
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Stored By: AMOPEL on 3/4/2024, 1:49:01 PM; File Path: T:\1-PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig02_Aerial

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400

1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:

AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 2
(PAGE 15 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

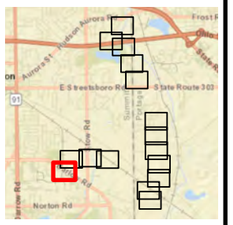
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet. Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:45:07 PM. File Path: T:\1-PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx Layout Name: Fig02_Aerial

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE: AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 2
(PAGE 16 OF 16)

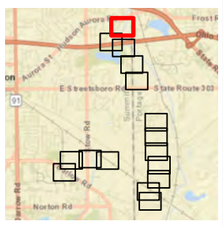
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 14:49:07 PM; File Path: T:\1_PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig02_Aerial

PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE: SOILS MAP

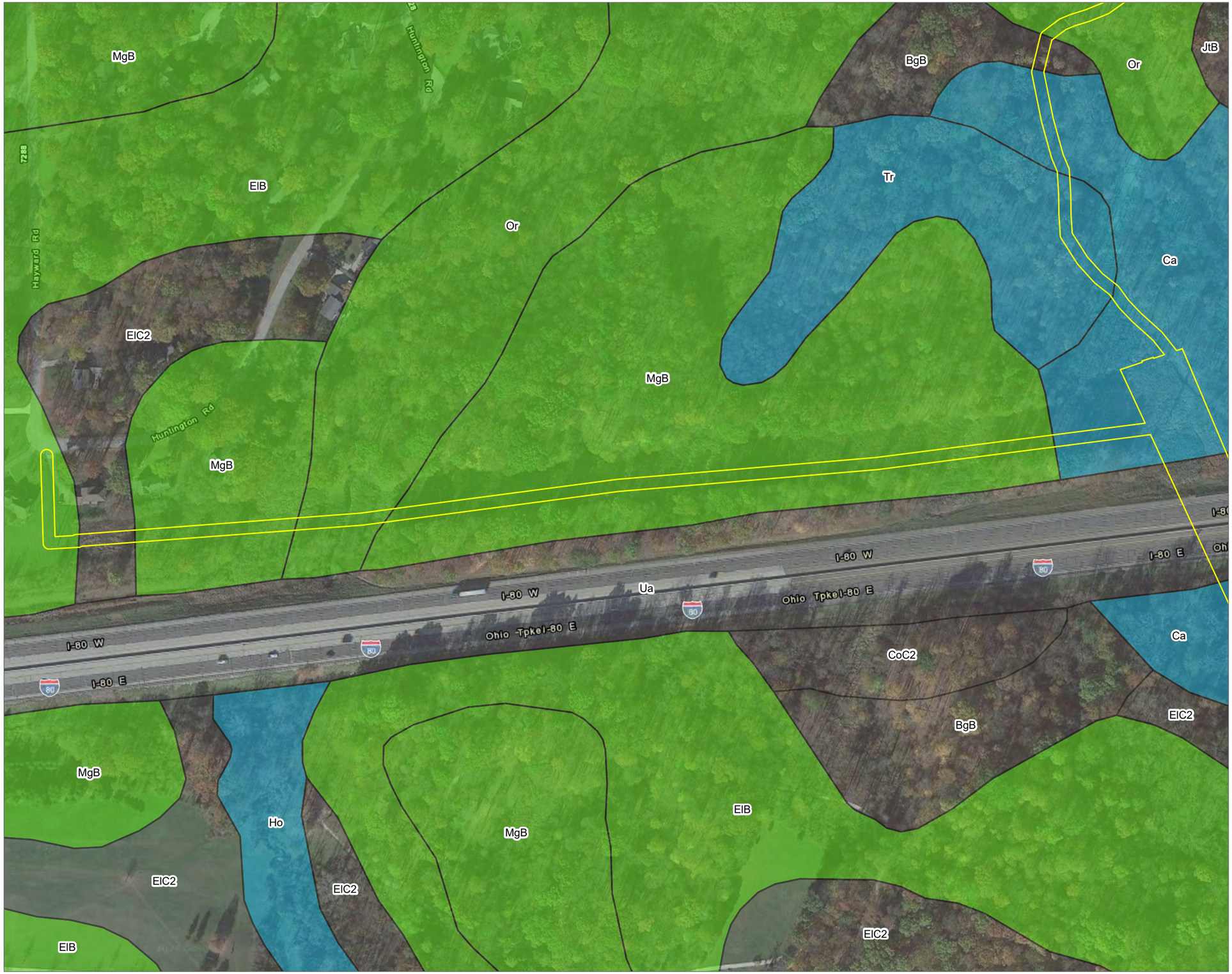
DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 3
(PAGE 1 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

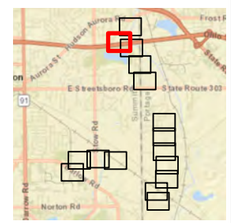
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:49:07 PM Path: T:\PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx Layout Name: Fig03_Soils



PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

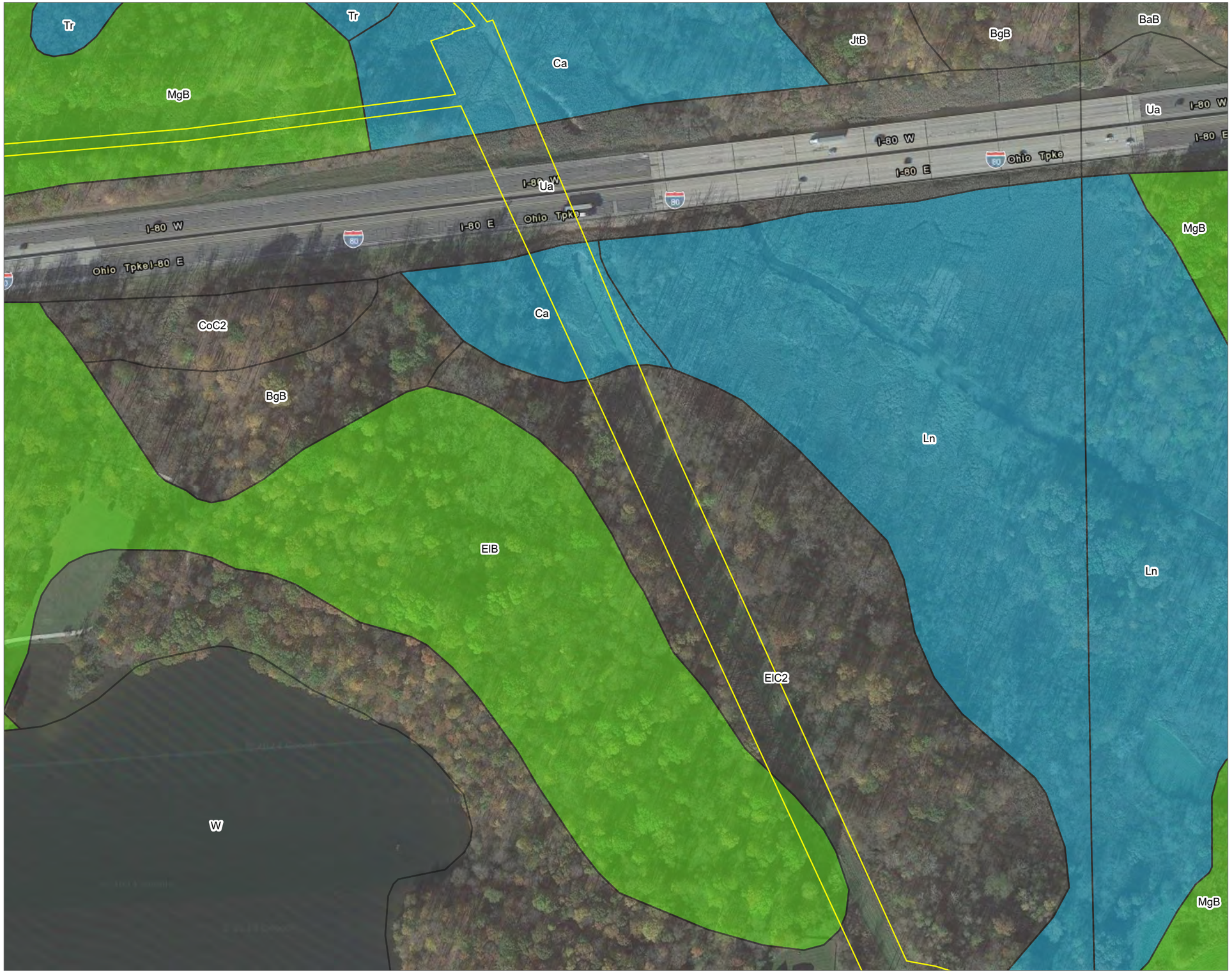
TITLE:
SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		**FIGURE 3 (PAGE 2 OF 16)**
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

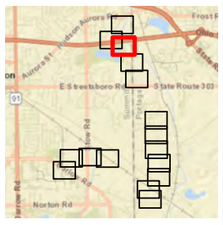
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:45:01 PM; File Path: \\TI\PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig03_Soils



PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE: SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		FIGURE 3 (PAGE 3 OF 16)
DATE:	MARCH 2024		

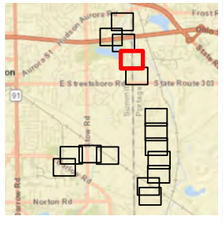
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:49:07 PM Path: T:\PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx Layout Name: Fig03_Soils

PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST 138 KV PROJECT - ROW ASSURANCE PROGRAM SUMMIT & PORTAGE COUNTIES, OH

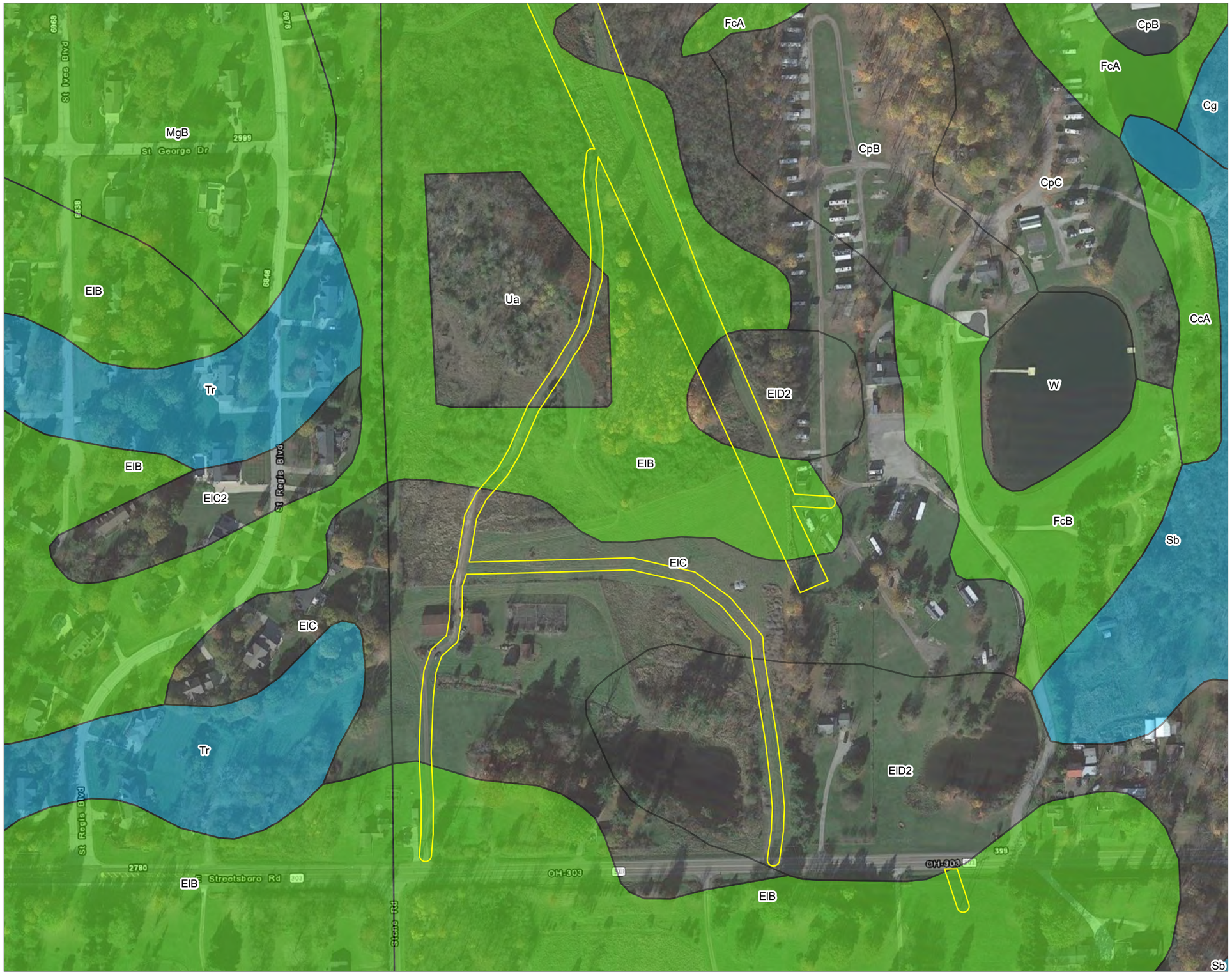
TITLE: SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		FIGURE 3 (PAGE 4 OF 16)
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

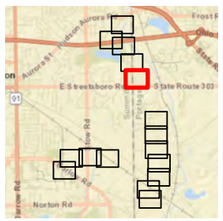
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:49:01 PM; File Path: T:\1_PROJECTS\Fed_Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig03_Soils



PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

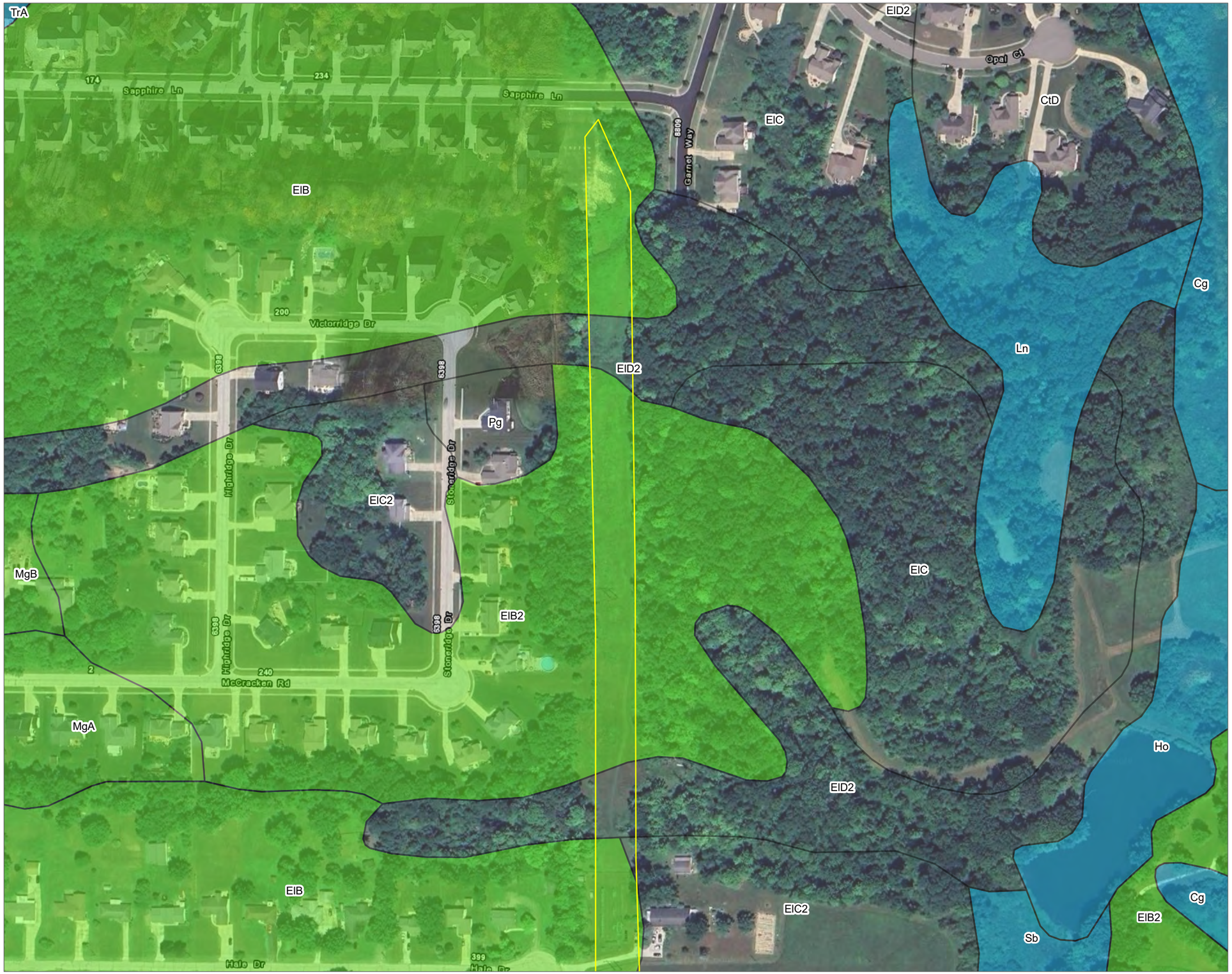
TITLE: SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	FIGURE 3 (PAGE 5 OF 16)	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

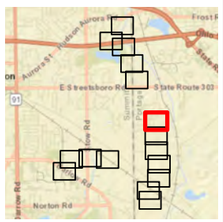
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:49:07 PM; File Path: T:\PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig03_Soils



PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT:
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

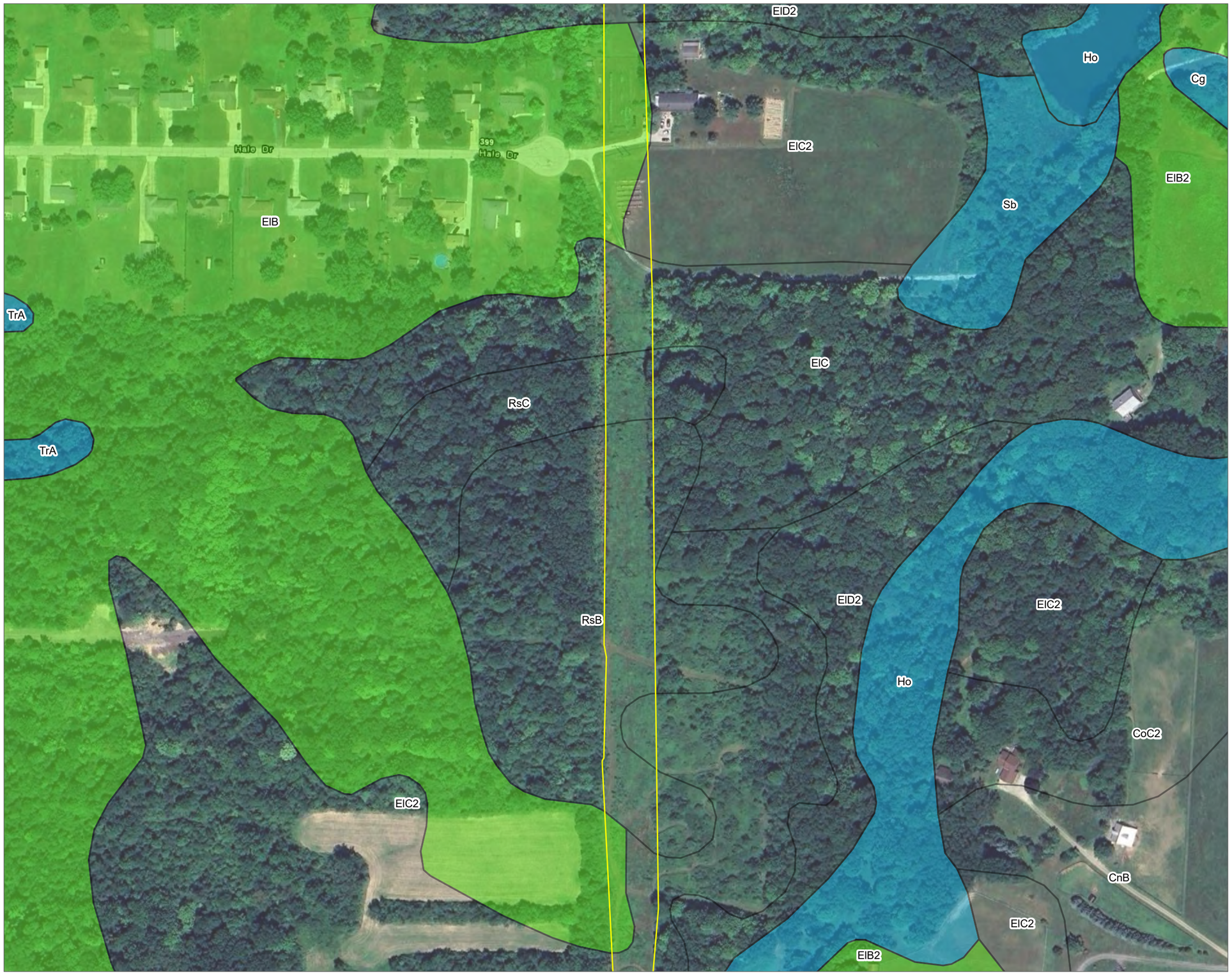
TITLE:
SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 3 (PAGE 6 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

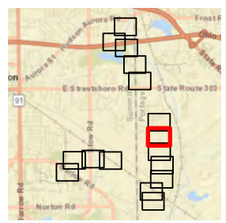
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet. Map Rotation: 0
Saved By: MOPEL on 3/4/2024, 1:49:50 PM. File Path: T:\1-PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\3-APRX\WDRv2.aprx. Layout Name: Fig03_Soils



PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT:
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 3 (PAGE 7 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

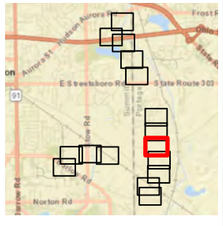
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:49:01 PM; File Path: T:\1 PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig03_Soils

PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
SOILS MAP

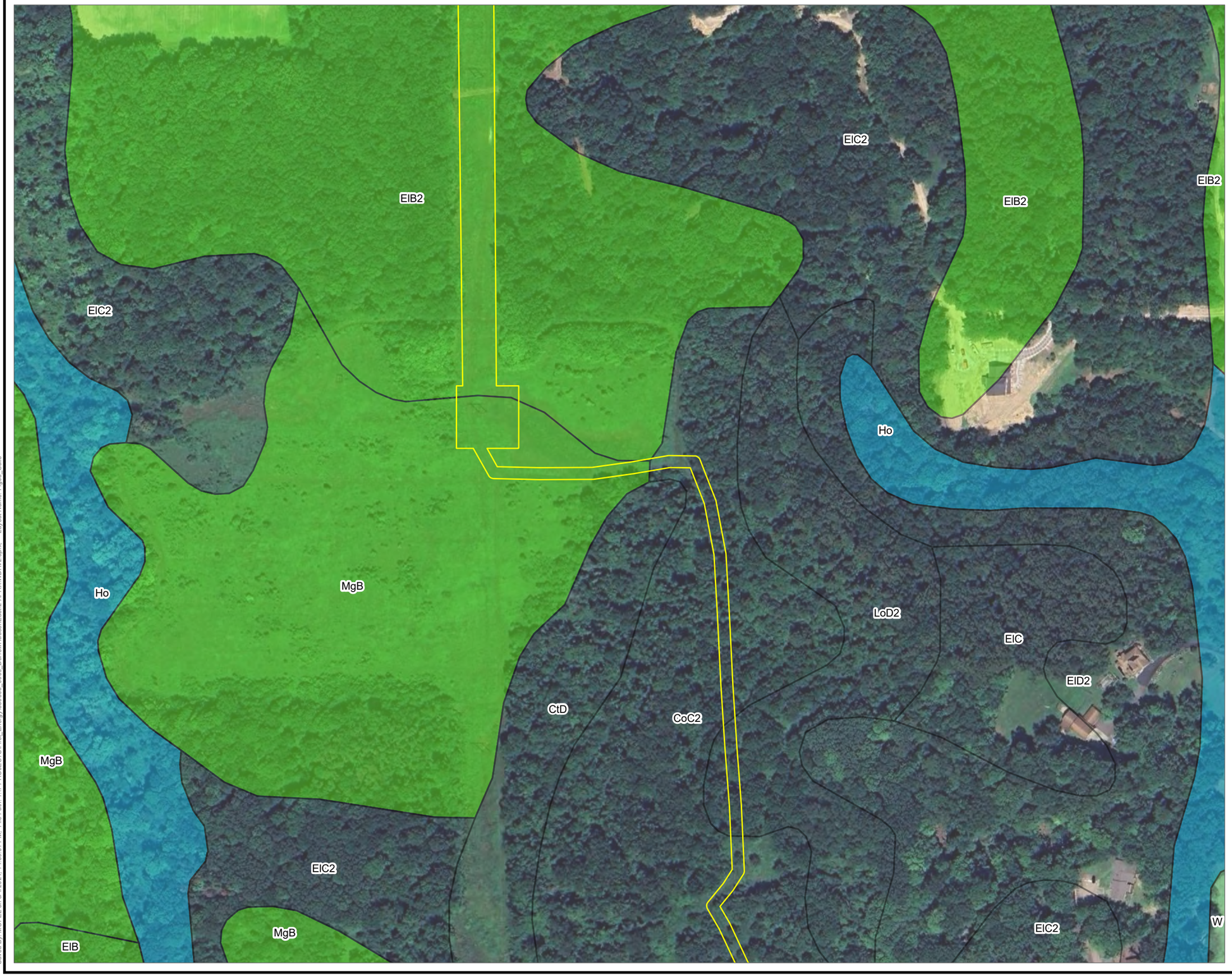
DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 3
(PAGE 8 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

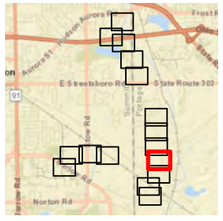
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 14:59:07 PM; File Path: T:\1_PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APPX\WDRv2.aprx; Layout Name: Fig03_Soils



PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE: SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 3
(PAGE 9 OF 16)

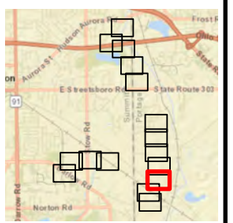
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 1:49:07 PM - File Path: T:\1-PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APRX\MDR\v2.aprx - Layout Name: Fig03_Soils

PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		FIGURE 3 (PAGE 10 OF 16)
DATE:	MARCH 2024		

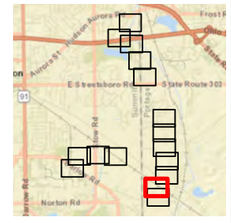
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:49:01 PM File Path: T:\1-PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx Layout Name: Fig03_Soils

PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST 138 KV PROJECT - ROW ASSURANCE PROGRAM SUMMIT & PORTAGE COUNTIES, OH

TITLE:
SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		**FIGURE 3 (PAGE 11 OF 16)**
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

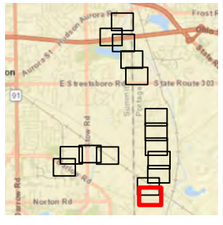
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:45:01 PM; File Path: T:\PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig03_Soils

PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE: SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		FIGURE 3 (PAGE 12 OF 16)
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

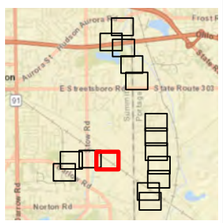
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Stored By: MOPEL on 3/4/2024 - 14:59:01 PM - File Path: T:\1-PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx - Layout Name: Fig03_Soils

PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

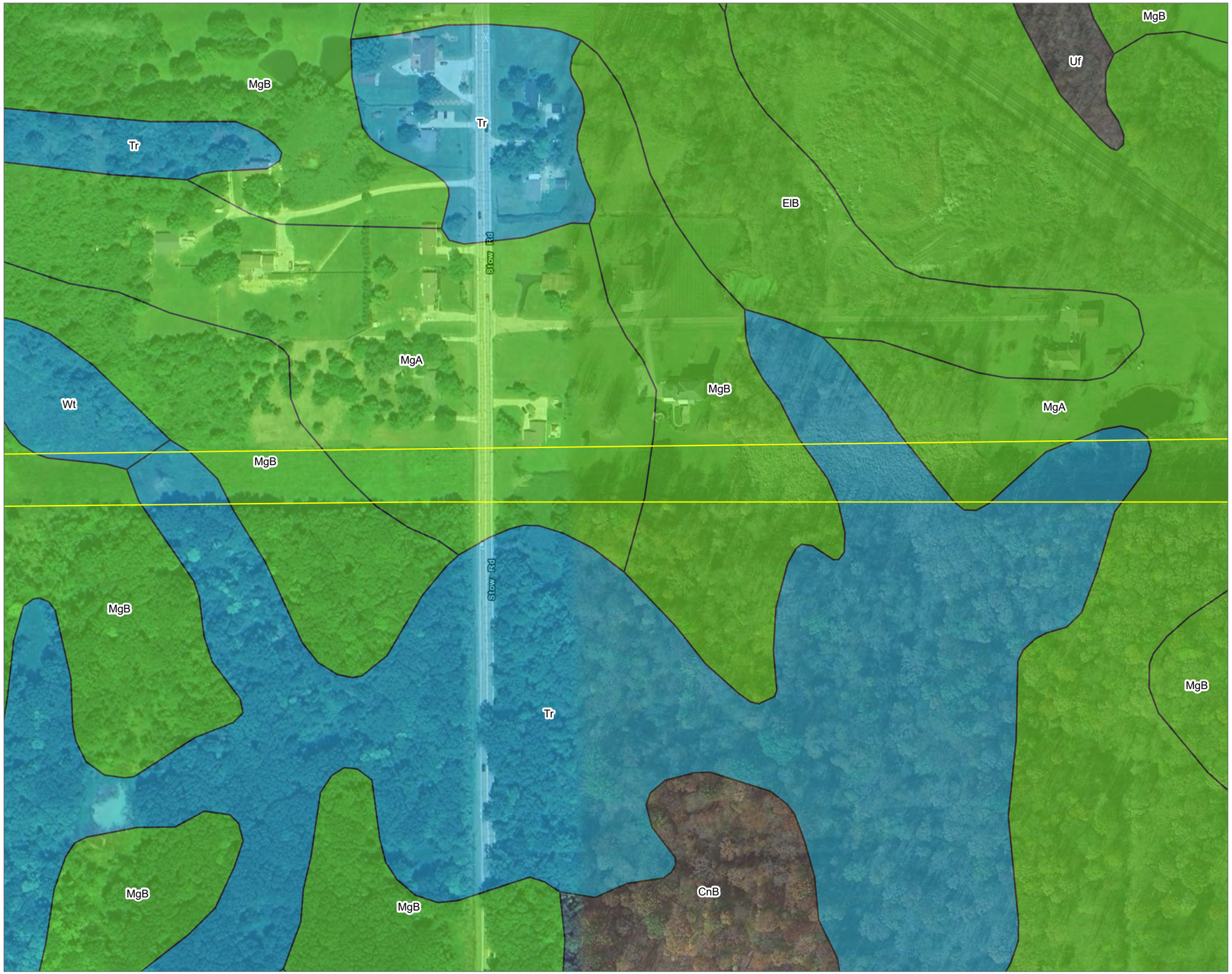
TITLE: SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	FIGURE 3 (PAGE 13 OF 16)	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

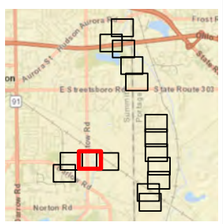
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:49:07 PM; File Path: T:\1_PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig03_Soils



PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 3 (PAGE 14 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

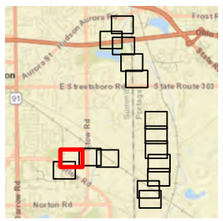
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Stored By AMOPEL on 3/4/2024 1:45:01 PM; File Path: T:\1 PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig03_Soils

PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

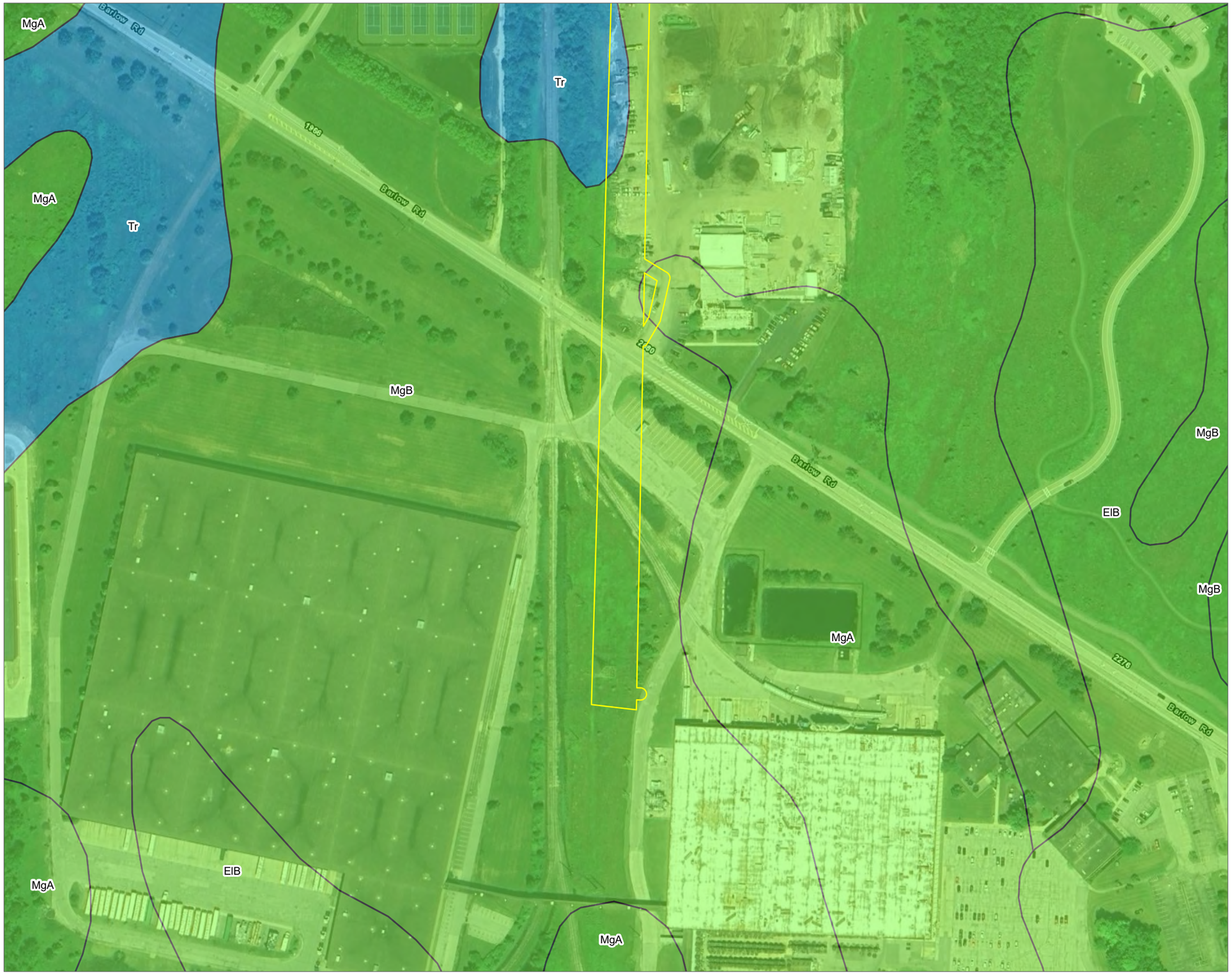
TITLE: SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		FIGURE 3 (PAGE 15 OF 16)
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

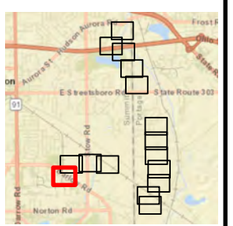
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet. Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:49:57 PM. File Path: T:\1-PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\MDRv2.aprx. Layout Name: Fig03_Soils



PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

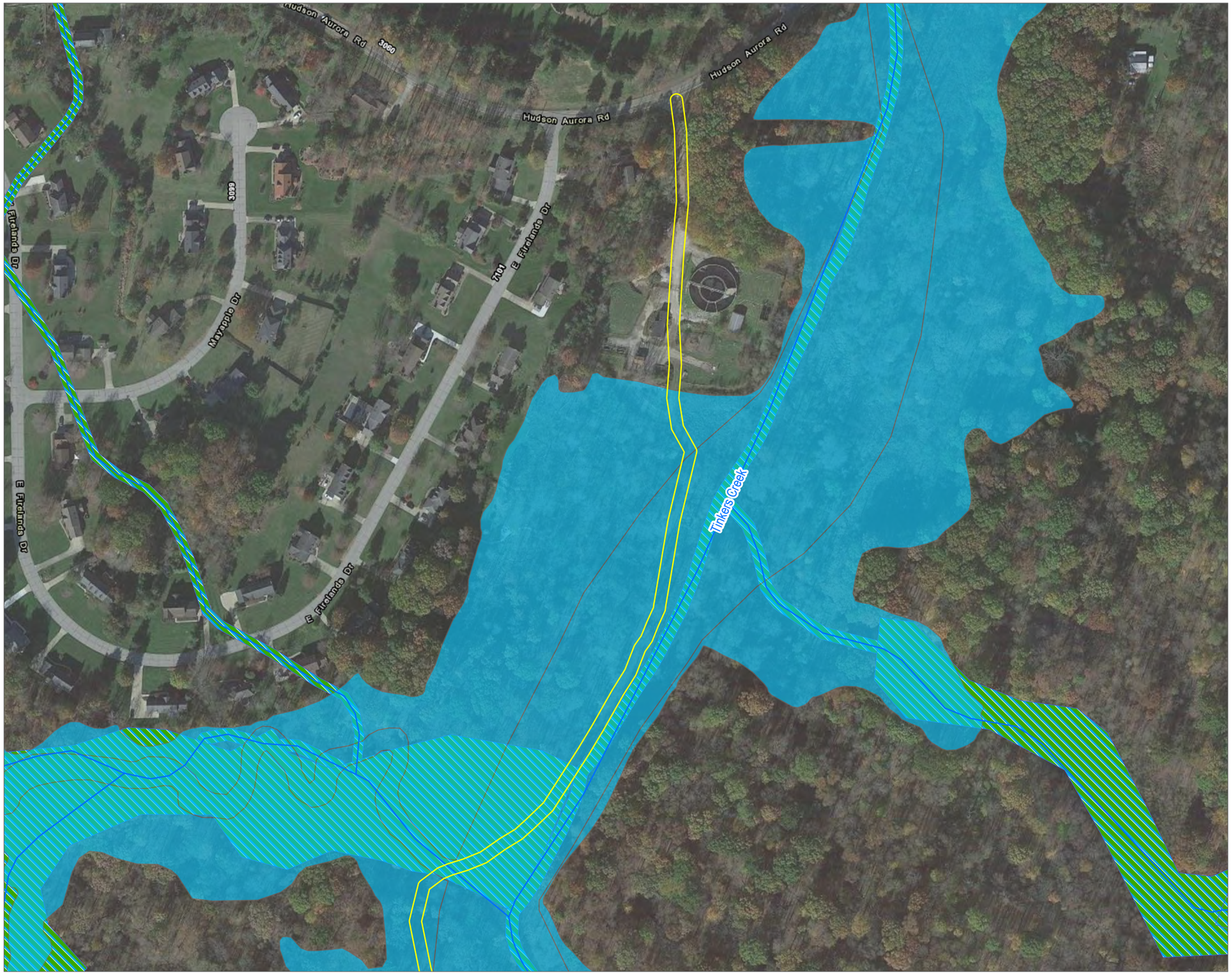
TITLE:
SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 3 (PAGE 16 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

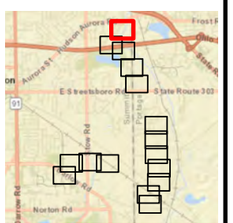
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By AMOPEL on 3/4/2024 1:49:01 PM; File Path: T:\1_PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig03_Soils



PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		FIGURE 4 (PAGE 1 OF 16)
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 14:49:01 - File Path: ...\11-PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\MXD\Rv2.aprx - Layout Name: Fig04_Hydro

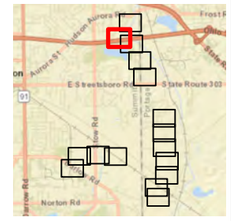
PROJECT STUDY AREA

NATIONAL HYDROGRAPHY DATASET (NHD) STREAM

NATIONAL WETLANDS INVENTORY (NWI) FEATURE

100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'

0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

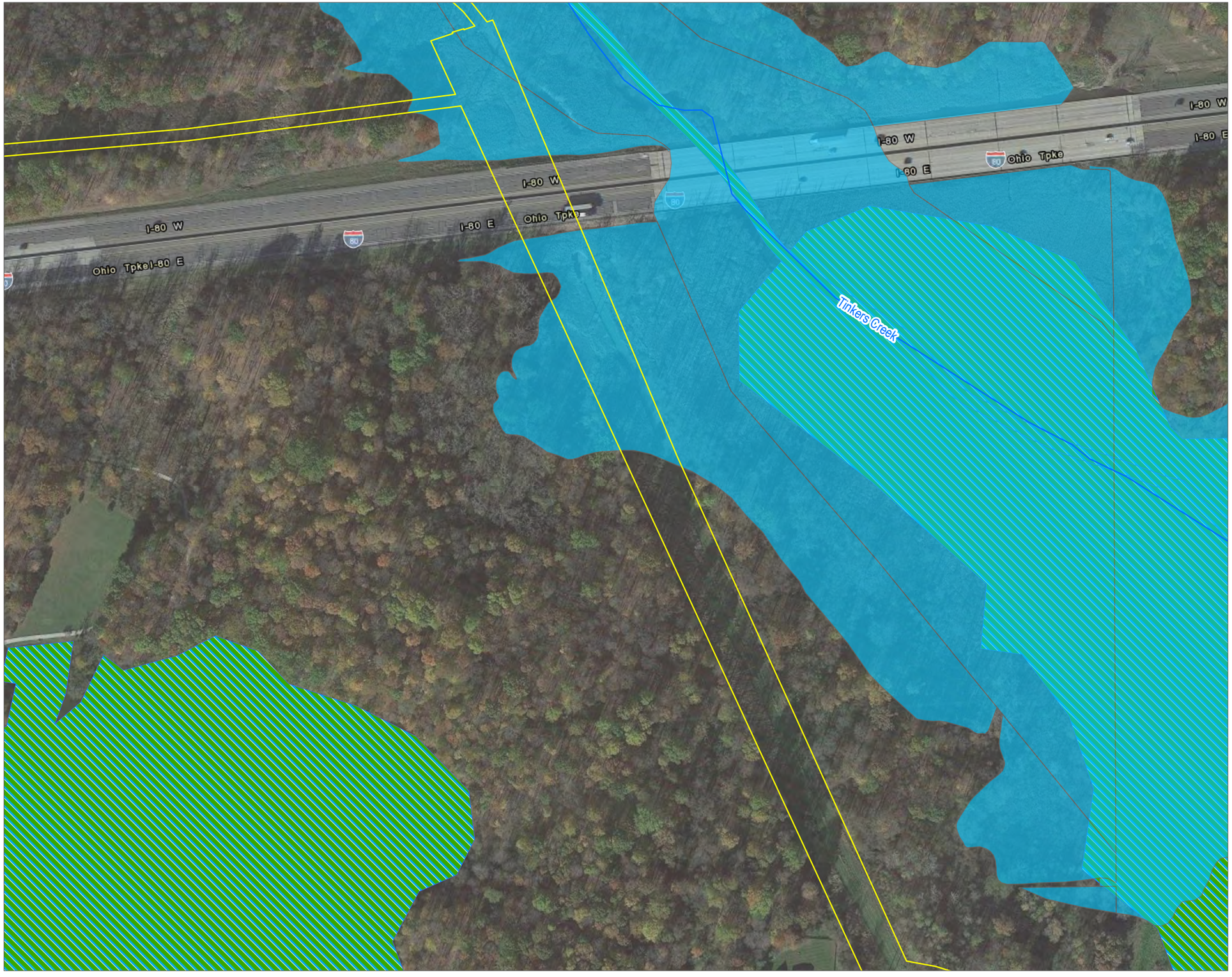
TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		**FIGURE 4 (PAGE 2 OF 16)**
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

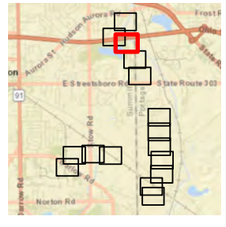
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:49:01 PM; File Path: T:\1-PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig04_Hydro



PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'

0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 4 (PAGE 3 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

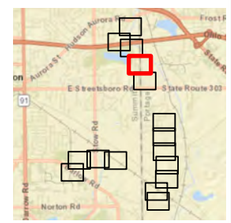
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:49:57 PM File Path: T:\1-PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APRX\MDRv2.aprx Layout Name: Fig04_Hydro

PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		**FIGURE 4 (PAGE 4 OF 16)**
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

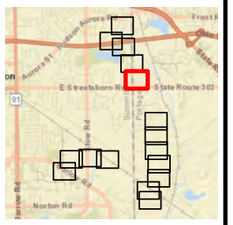
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:43:01 PM; File Path: T:\PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig04_Hydro

PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'
0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

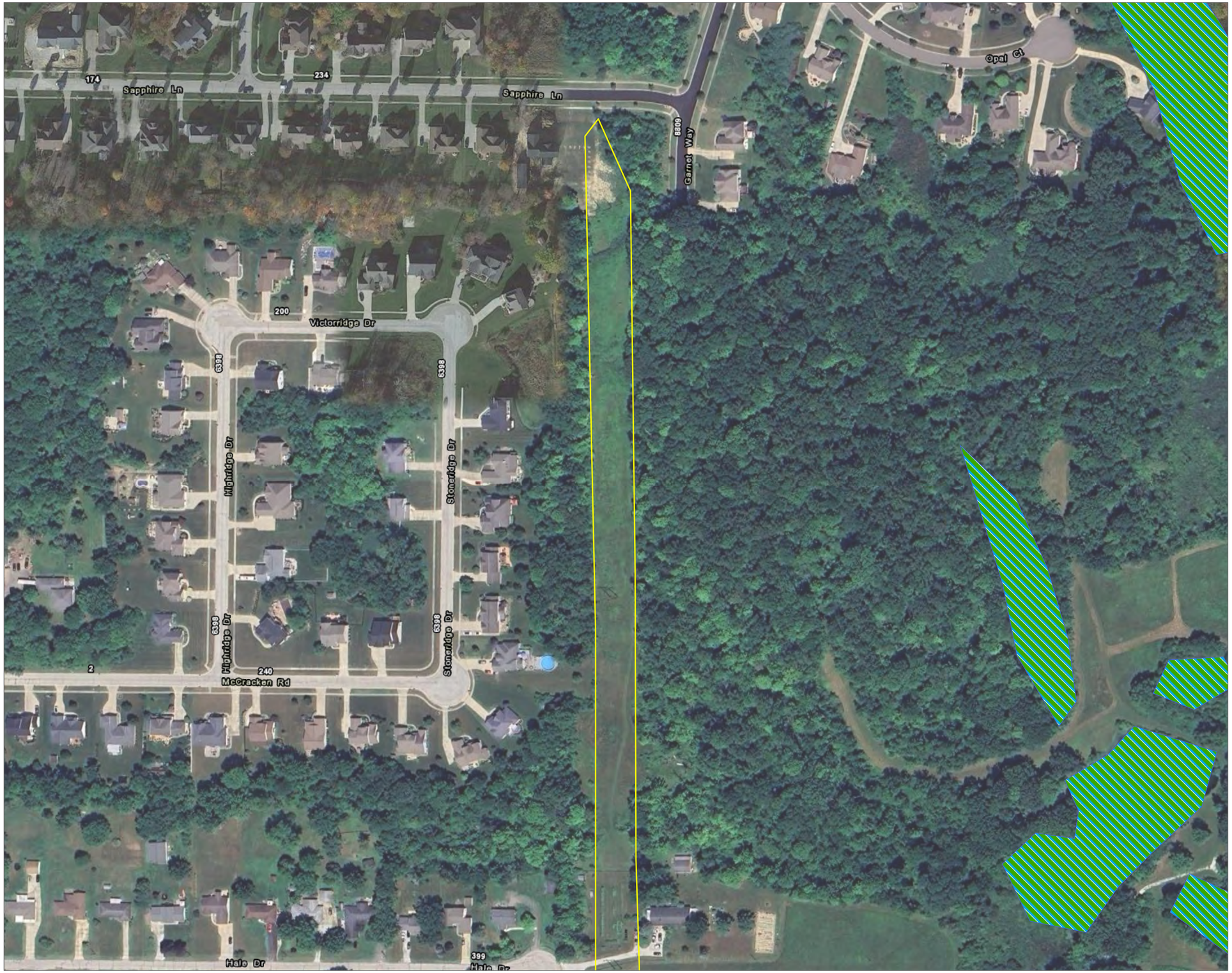
TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		FIGURE 4 (PAGE 5 OF 16)
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

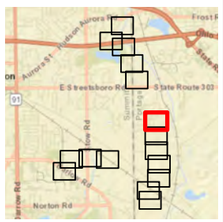
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 11:49:07 PM; File Path: T:\PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig04_Hydro



PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

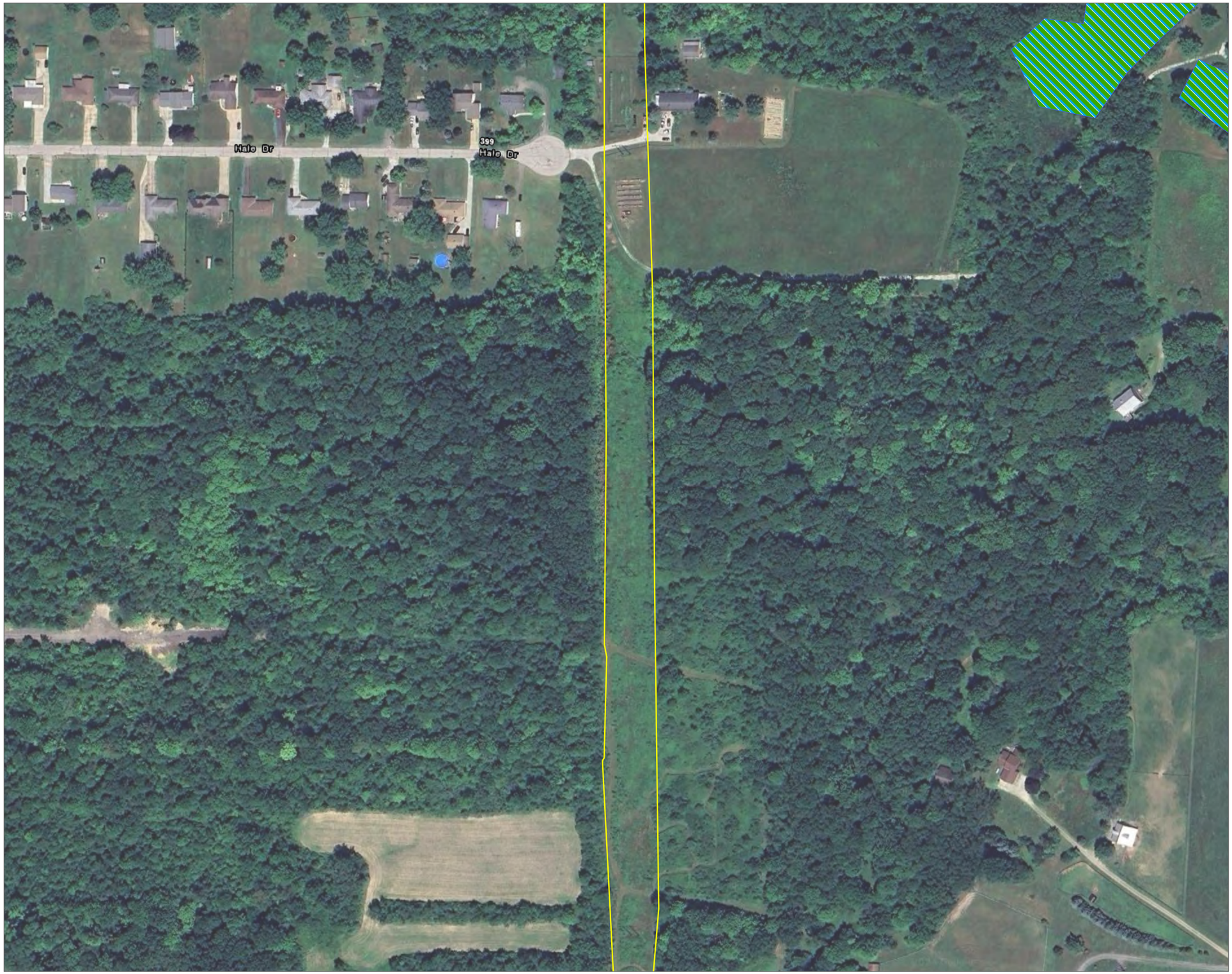
TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 4 (PAGE 6 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:44:01 PM; File Path: T:\PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig04_Hydro



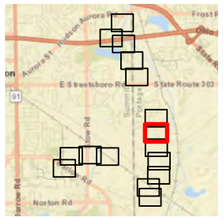
PROJECT STUDY AREA

NATIONAL HYDROGRAPHY DATASET (NHD) STREAM

NATIONAL WETLANDS INVENTORY (NWI) FEATURE

100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'

0 200 400 FEET

PROJECT:
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 4
(PAGE 7 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:49:07 PM; File Path: T:\PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APPX\WDRv2.aprx; Layout Name: Fig04_Hydro

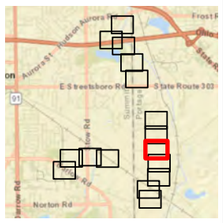
PROJECT STUDY AREA

NATIONAL HYDROGRAPHY DATASET (NHD) STREAM

NATIONAL WETLANDS INVENTORY (NWI) FEATURE

100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'

0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

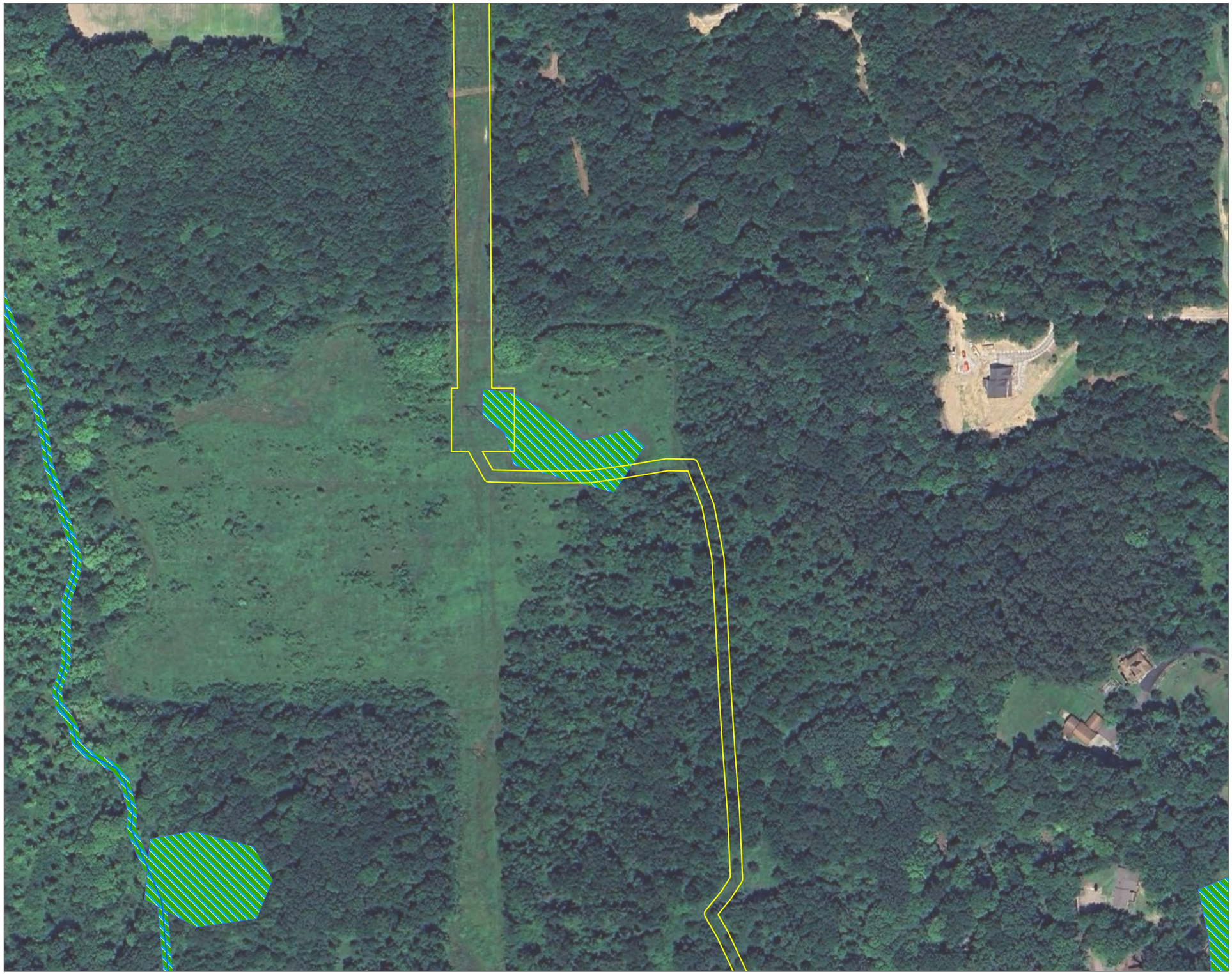
DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 4
(PAGE 8 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

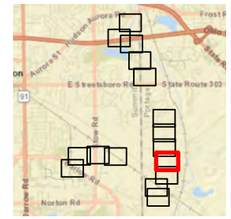
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 1:49:07 PM - File Path: T:\1-PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APRX\MDR\v2.aprx Layout Name: Fig04_Hydro



PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'

0 200 400 FEET

PROJECT:
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

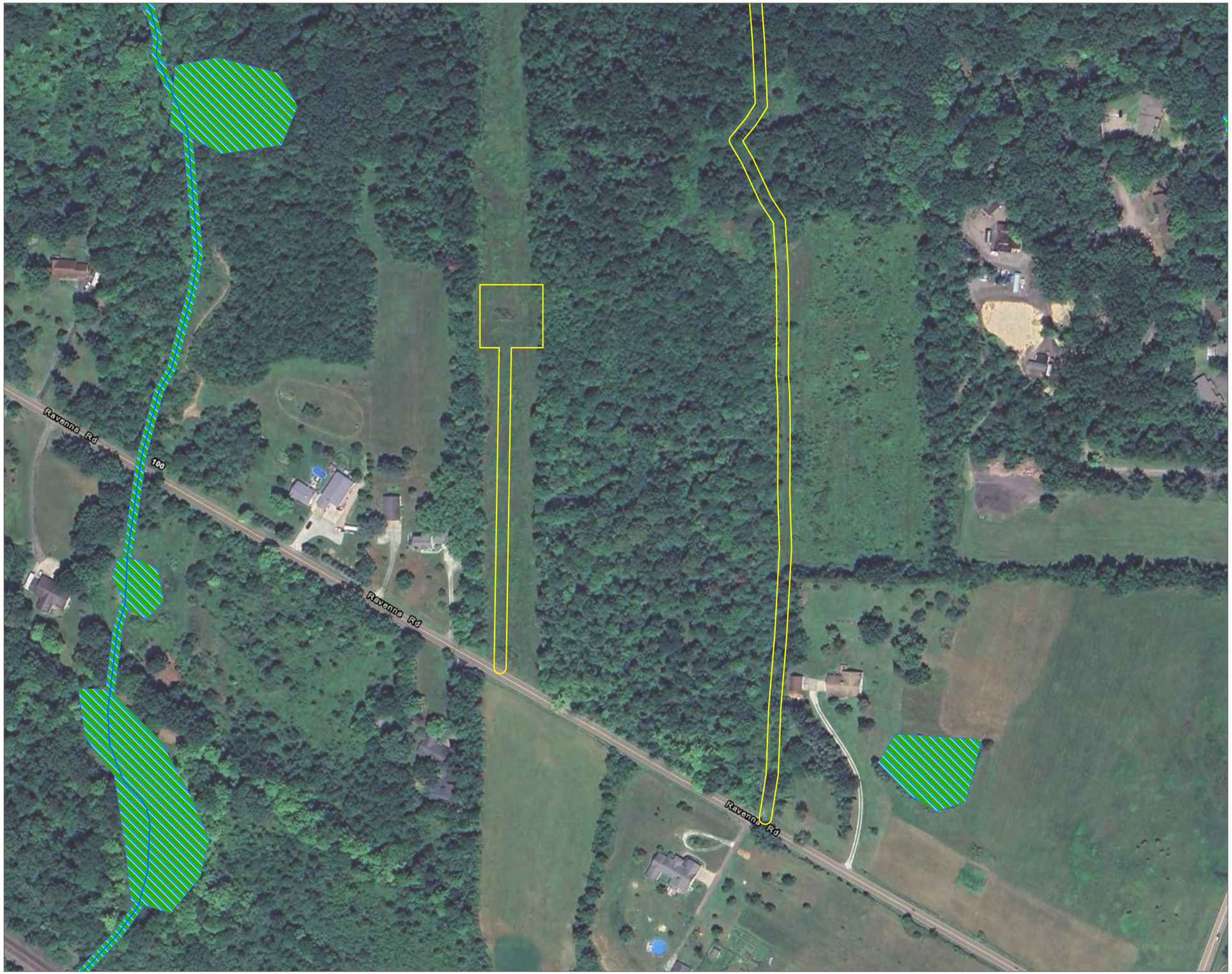
DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 4
(PAGE 9 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

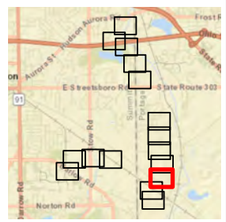
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 11:49:07 PM; File Path: T:\1_PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig04_Hydro



PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

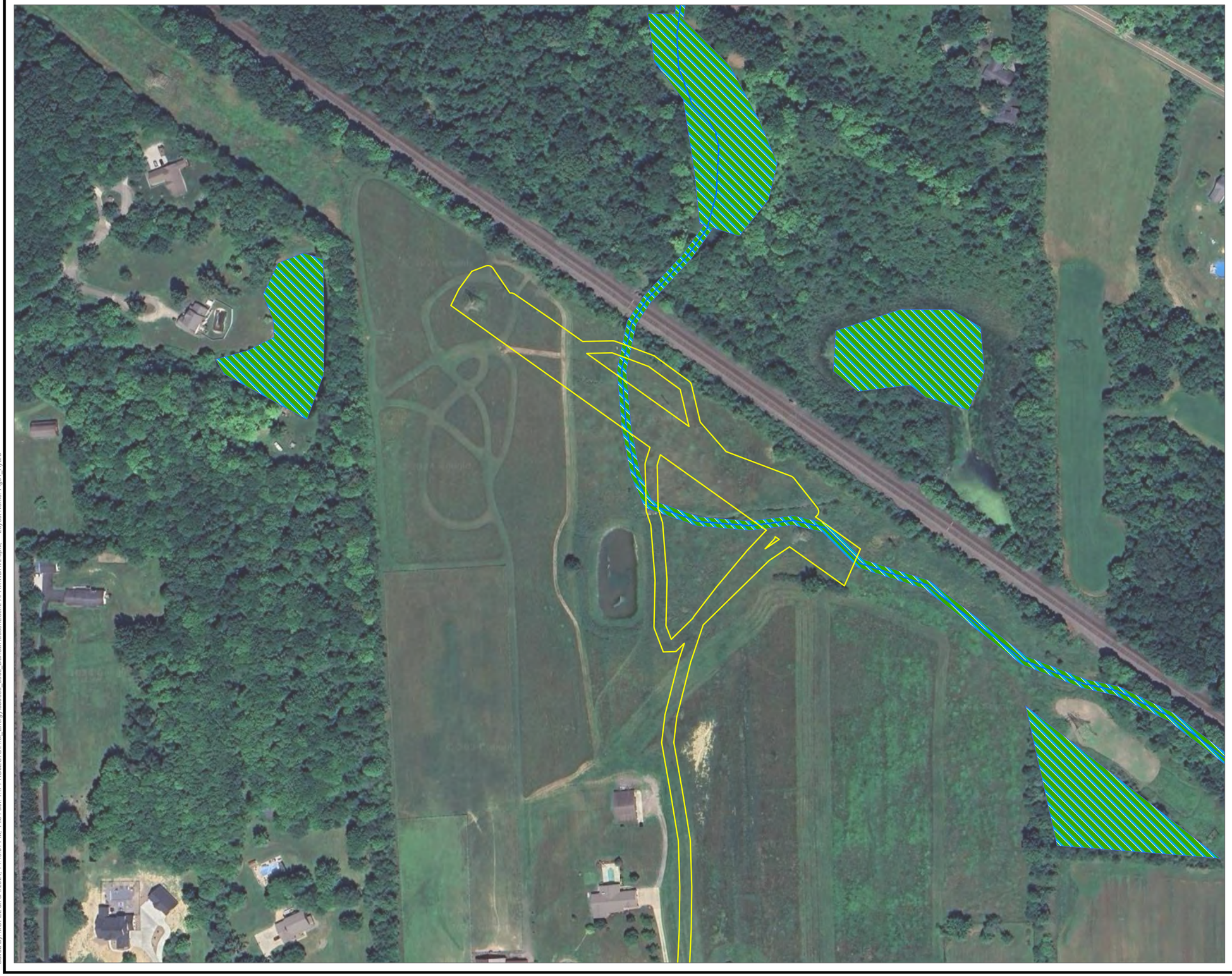
TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		**FIGURE 4 (PAGE 10 OF 16)**
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

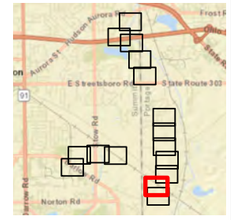
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:44:01 PM; File Path: T:\1_PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig04_Hydro



- PROJECT STUDY AREA
- NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
- NATIONAL WETLANDS INVENTORY (NWI) FEATURE
- 100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'

0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 4
(PAGE 11 OF 16)

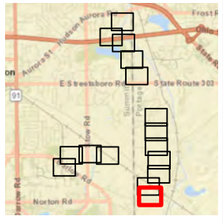
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:43:01 PM; File Path: T:\1 PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig04_Hydro

PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'

0 200 400 FEET

PROJECT:
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

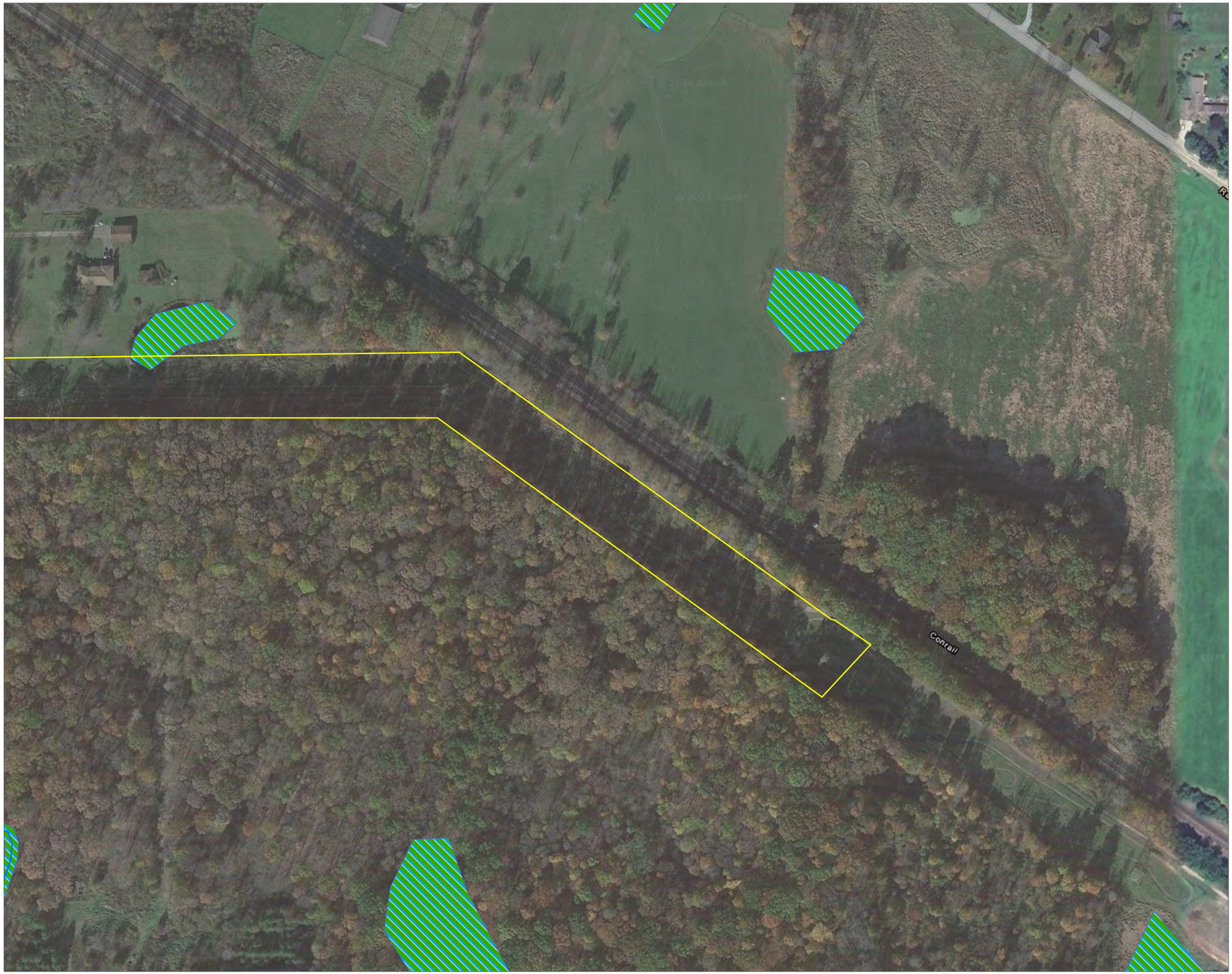
DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 4
(PAGE 12 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

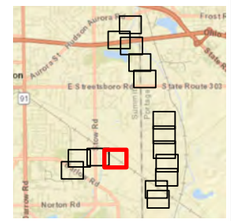
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet. Map Rotation: 0
Saved By: MOPEL on 3/4/2024, 1:49:07 PM - File Path: T:\1-PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\3-APRX\WDRv2.aprx - Layout Name: Fig04_Hydro



PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'

0 200 400 FEET

PROJECT:
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

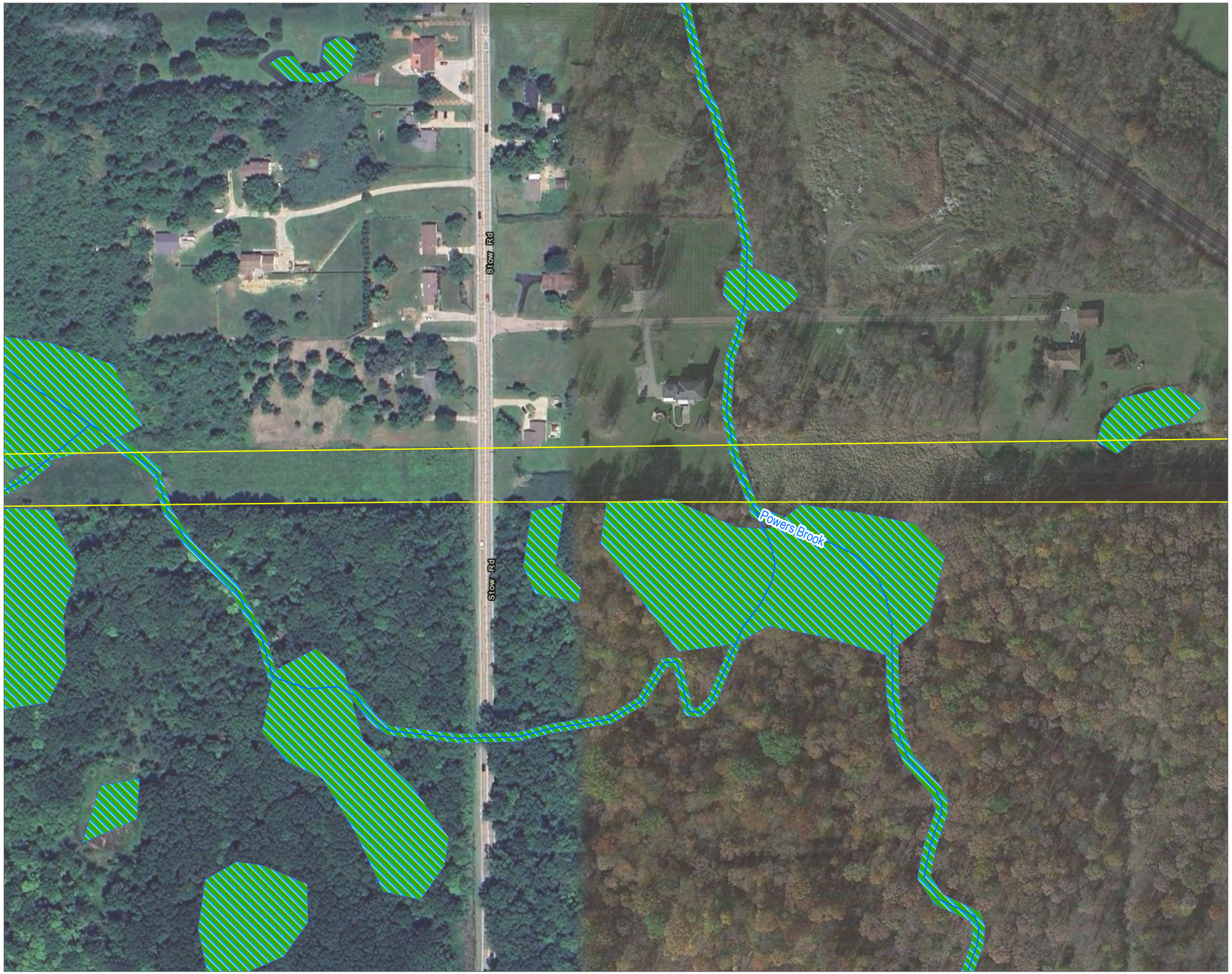
DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 4
(PAGE 13 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

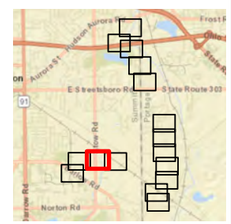
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 14:49:07 PM; File Path: T:\PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APPX\WDRv2.aprx; Layout Name: Fig04_Hydro



PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



N

1:2,400
1" = 200'

0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

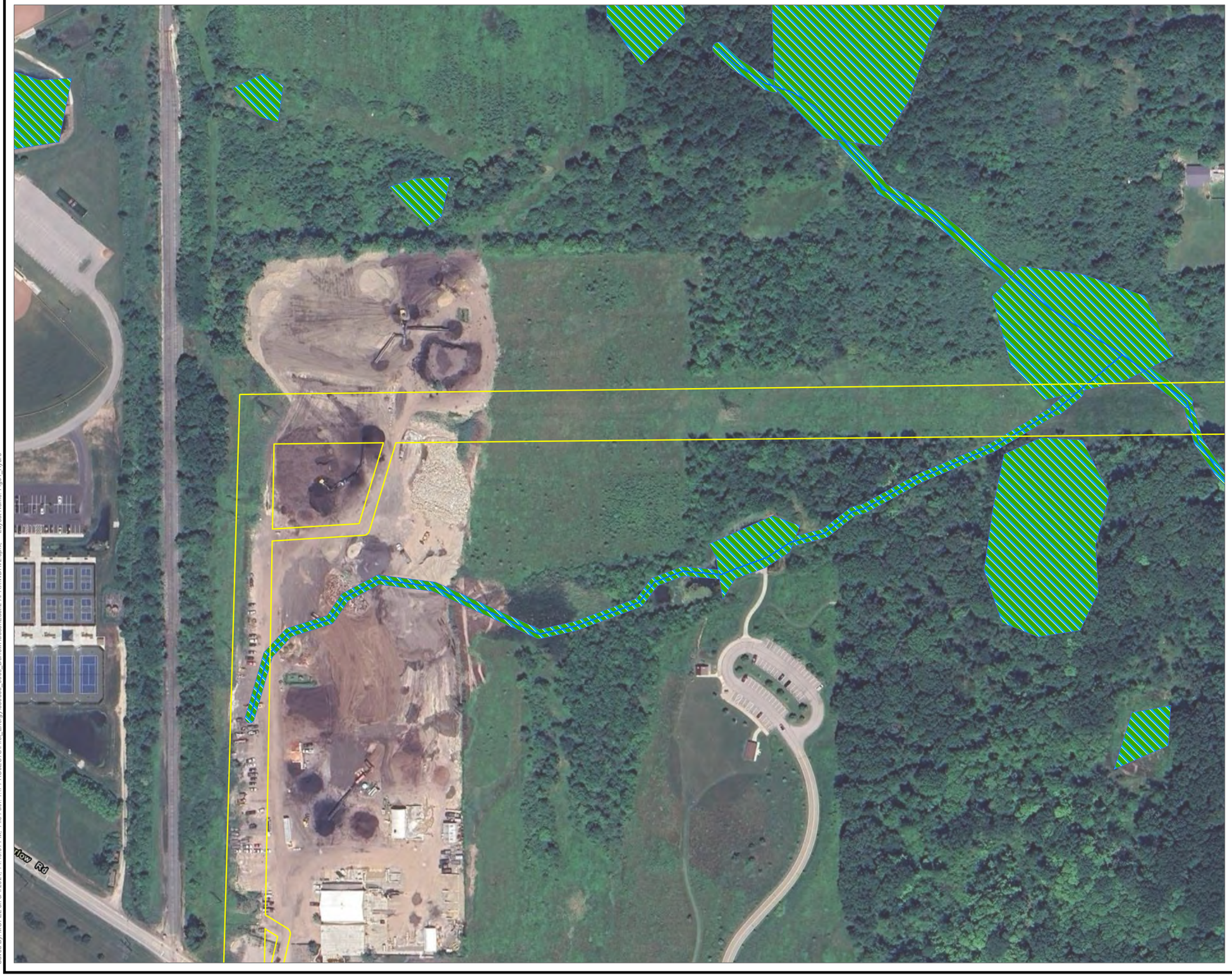
TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 4 (PAGE 14 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

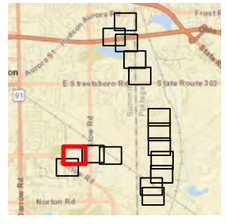
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Stored By: AMOPEL on 3/4/2024, 1:49:01 PM; File Path: T:\1 PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig04_Hydro



PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	FIGURE 4 (PAGE 15 OF 16)	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet. Map Rotation: 0
Saved By: MOPEL on 3/4/2024, 1:45:07 PM. File Path: T:\1-PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\3-APRX\WDRv2.aprx. Layout Name: Fig04_Hydro

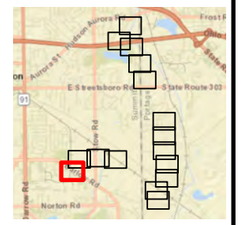
PROJECT STUDY AREA

NATIONAL HYDROGRAPHY DATASET (NHD) STREAM

NATIONAL WETLANDS INVENTORY (NWI) FEATURE

100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 4
(PAGE 16 OF 16)

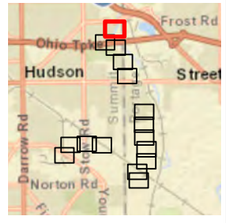
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 1:49:07 PM; File Path: T:\1_PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APPX\WDRv2.aprx; Layout Name: Fig04_Hydro

PROJECT STUDY AREA
EXISTING STRUCTURE TO REMAIN
PROPOSED STRUCTURE
STRUCTURE TO BE REMOVED
STRUCTURE TO BE REPLACED
CROSS BRACE REPLACEMENT
GUYING AND ANCHOR REPLACEMENT
CULVERT
NON-JURISDICTIONAL DRAINAGE
INTERMITTENT STREAM
PERENNIAL STREAM
POND
PEM WETLAND
PFO WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	FIGURE 5 (PAGE 1 OF 16)	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

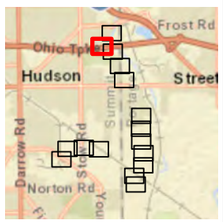
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:49:57 PM File Path: T:\1-PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\MDR\v2.aprx Layout Name: Fig05_Delineation

PROJECT STUDY AREA
EXISTING STRUCTURE TO REMAIN
PROPOSED STRUCTURE
STRUCTURE TO BE REMOVED
STRUCTURE TO BE REPLACED
CROSS BRACE REPLACEMENT
GUYING AND ANCHOR REPLACEMENT
CULVERT
NON-JURISDICTIONAL DRAINAGE
INTERMITTENT STREAM
PERENNIAL STREAM
POND
PEM WETLAND
PFO WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

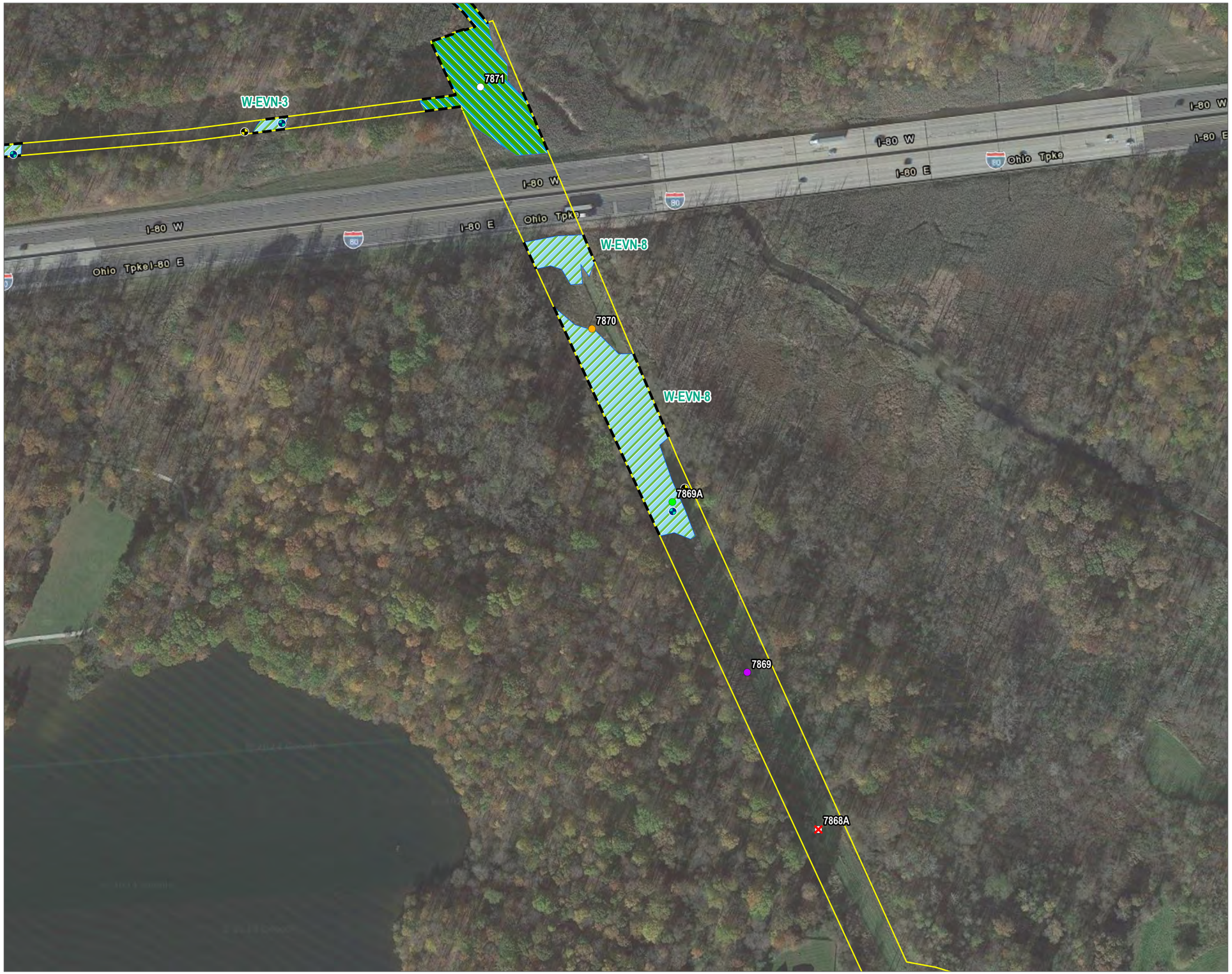
TITLE:
DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 5 (PAGE 2 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

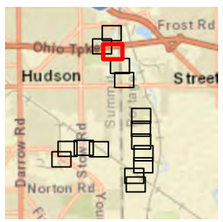
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024, 1:45:01 PM; File Path: T:\1-PROJECTS\First Energy\550808_0000_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig05_Delineation



PROJECT STUDY AREA
EXISTING STRUCTURE TO REMAIN
PROPOSED STRUCTURE
STRUCTURE TO BE REMOVED
STRUCTURE TO BE REPLACED
CROSS BRACE REPLACEMENT
GUYING AND ANCHOR REPLACEMENT
CULVERT
NON-JURISDICTIONAL DRAINAGE
INTERMITTENT STREAM
PERENNIAL STREAM
POND
PEM WETLAND
PFO WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 5 (PAGE 3 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

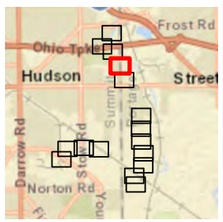
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By AMOPEL on 3/4/2024, 1:49:01 PM; File Path: T:\1 PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig05_Delineation

PROJECT STUDY AREA
EXISTING STRUCTURE TO REMAIN
PROPOSED STRUCTURE
STRUCTURE TO BE REMOVED
STRUCTURE TO BE REPLACED
CROSS BRACE REPLACEMENT
GUYING AND ANCHOR REPLACEMENT
CULVERT
NON-JURISDICTIONAL DRAINAGE
INTERMITTENT STREAM
PERENNIAL STREAM
POND
PEM WETLAND
PFO WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST 138 KV PROJECT - ROW ASSURANCE PROGRAM SUMMIT & PORTAGE COUNTIES, OH

TITLE:
DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 5 (PAGE 4 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

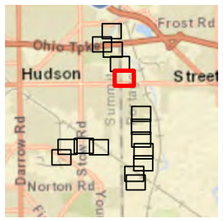
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:43:01 PM; File Path: 3:\PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig05_Delineation

PROJECT STUDY AREA
EXISTING STRUCTURE TO REMAIN
PROPOSED STRUCTURE
STRUCTURE TO BE REMOVED
STRUCTURE TO BE REPLACED
CROSS BRACE REPLACEMENT
GUYING AND ANCHOR REPLACEMENT
CULVERT
NON-JURISDICTIONAL DRAINAGE
INTERMITTENT STREAM
PERENNIAL STREAM
POND
PEM WETLAND
PFO WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
DELINEATED RESOURCES MAP

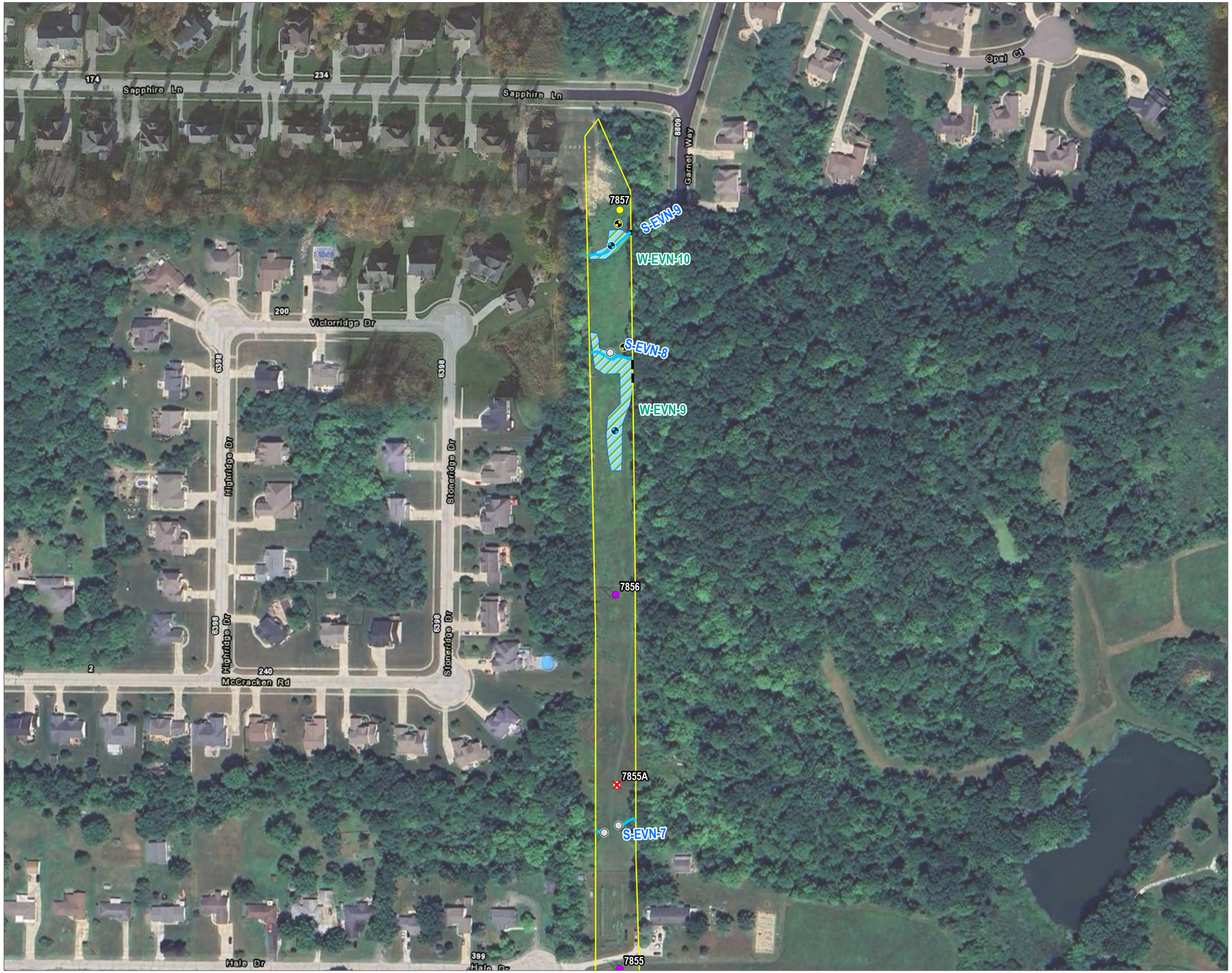
DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 5
(PAGE 5 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

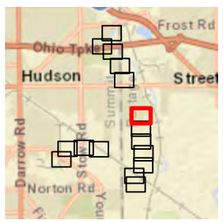
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet. Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 14:49:57 PM - File Path: T:\1-PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx - Layout Name: Fig05_Delineation



PROJECT STUDY AREA
EXISTING STRUCTURE TO REMAIN
PROPOSED STRUCTURE
STRUCTURE TO BE REMOVED
STRUCTURE TO BE REPLACED
CROSS BRACE REPLACEMENT
GUYING AND ANCHOR REPLACEMENT
CULVERT
NON-JURISDICTIONAL DRAINAGE
INTERMITTENT STREAM
PERENNIAL STREAM
POND
PEM WETLAND
PFO WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

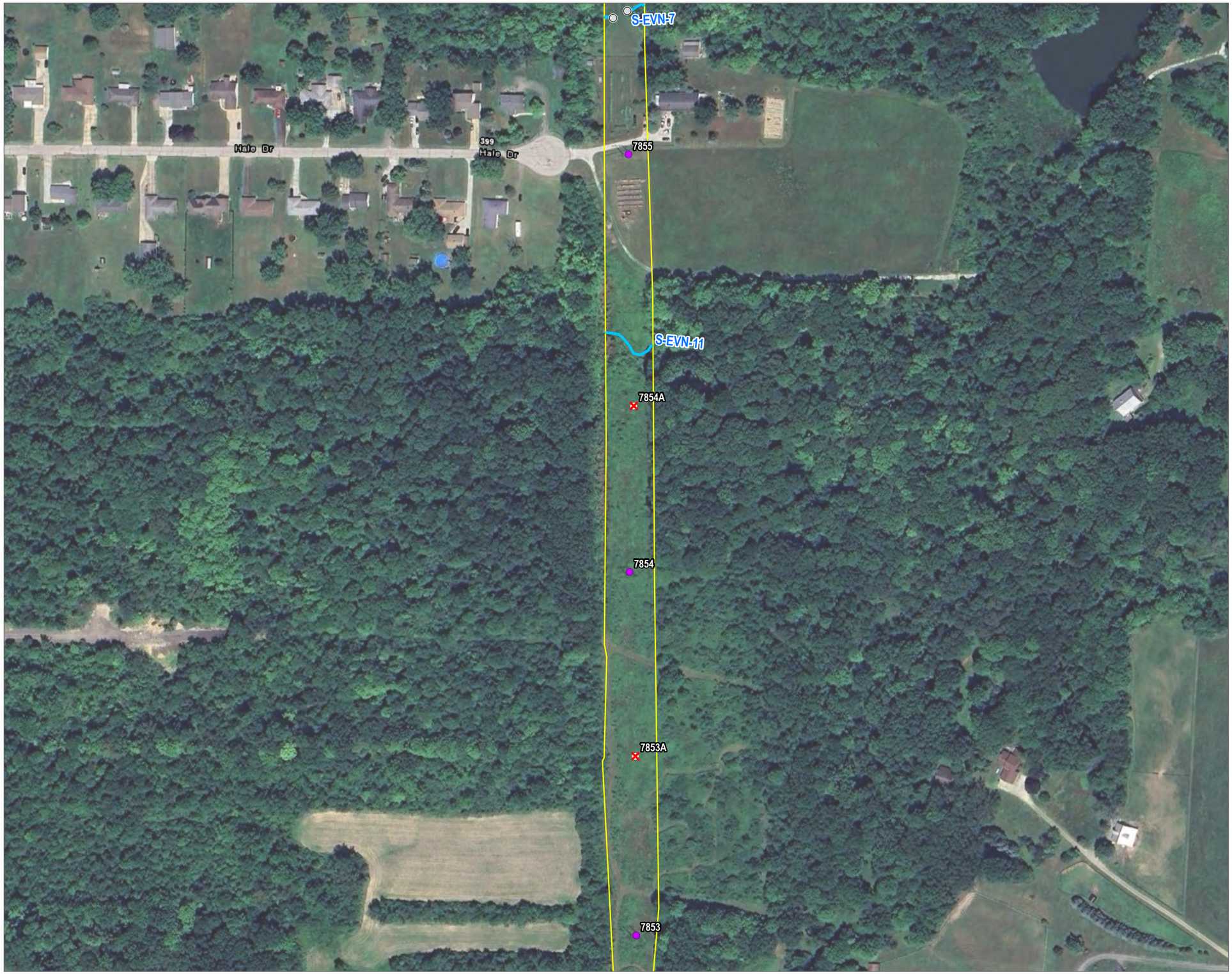
TITLE: DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	FIGURE 5 (PAGE 6 OF 16)	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

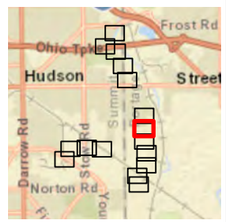
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:44:00 PM; File Path: T:\PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig05_Delineation



PROJECT STUDY AREA
EXISTING STRUCTURE TO REMAIN
PROPOSED STRUCTURE
STRUCTURE TO BE REMOVED
STRUCTURE TO BE REPLACED
CROSS BRACE REPLACEMENT
GUYING AND ANCHOR REPLACEMENT
CULVERT
NON-JURISDICTIONAL DRAINAGE
INTERMITTENT STREAM
PERENNIAL STREAM
POND
PEM WETLAND
PFO WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST 138 KV PROJECT - ROW ASSURANCE PROGRAM SUMMIT & PORTAGE COUNTIES, OH

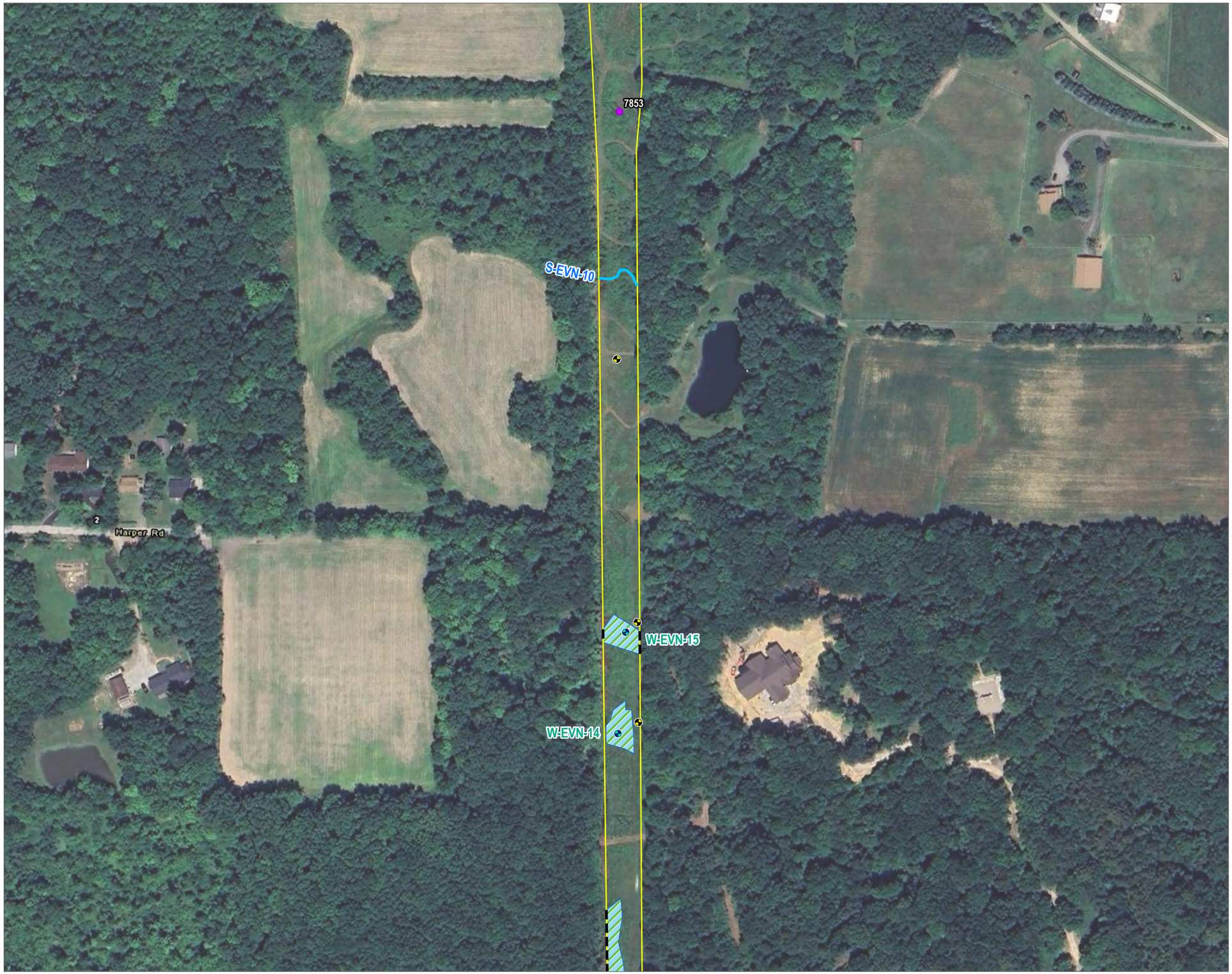
TITLE: DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	FIGURE 5 (PAGE 7 OF 16)	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

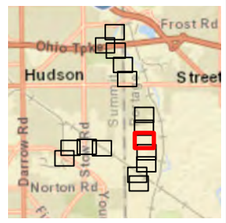
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:44:01 PM; File Path: T:\1_PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig05_Delineation



PROJECT STUDY AREA
EXISTING STRUCTURE TO REMAIN
PROPOSED STRUCTURE
STRUCTURE TO BE REMOVED
STRUCTURE TO BE REPLACED
CROSS BRACE REPLACEMENT
GUYING AND ANCHOR REPLACEMENT
CULVERT
NON-JURISDICTIONAL DRAINAGE
INTERMITTENT STREAM
PERENNIAL STREAM
POND
PEM WETLAND
PFO WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
DELINEATED RESOURCES MAP

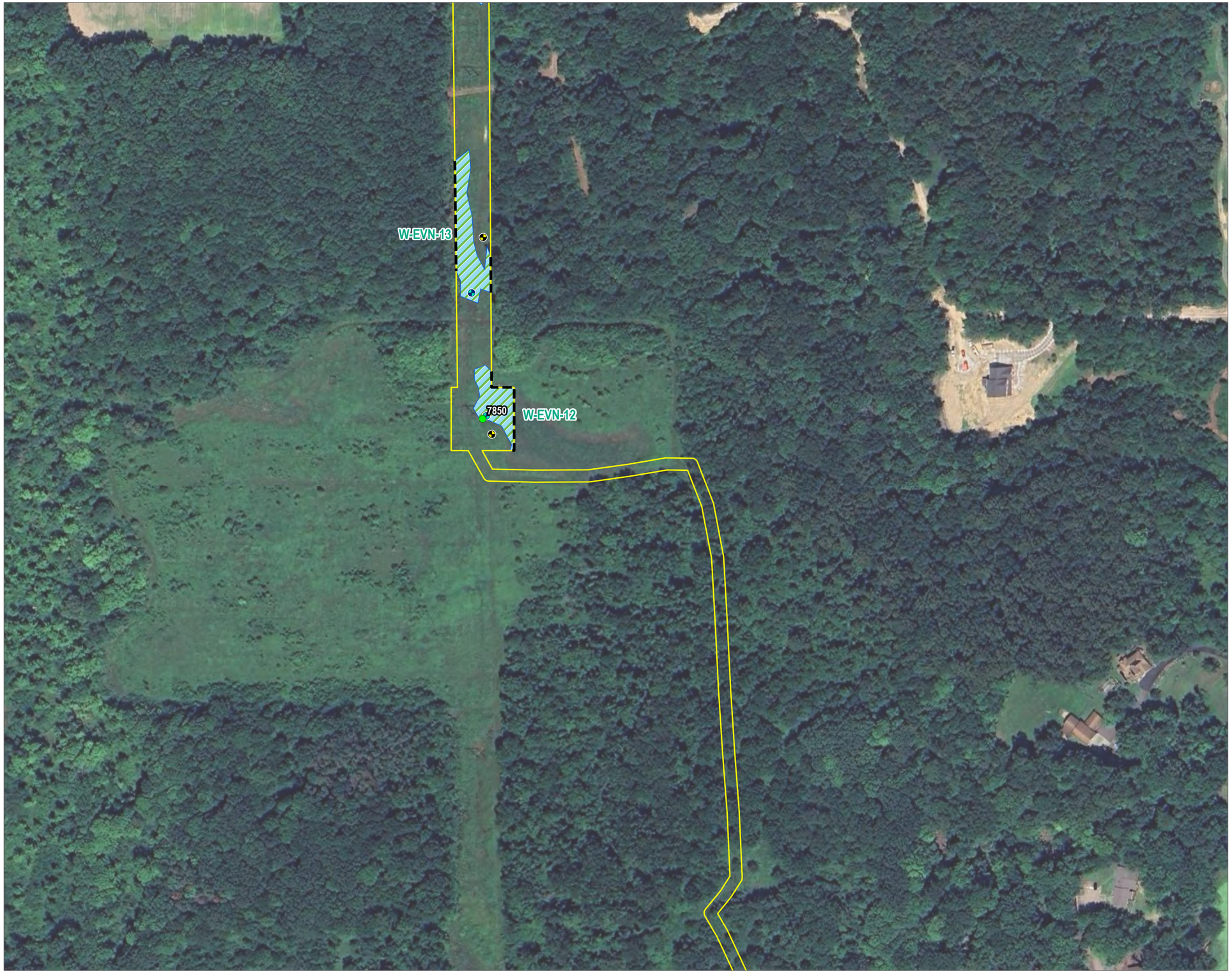
DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 5
(PAGE 8 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

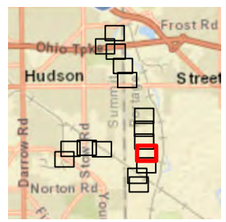
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 1:49:07 PM - File Path: T:\1-PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APRX\MDR\v2.aprx Layout Name: Fig05_Delineation



- PROJECT STUDY AREA
- EXISTING STRUCTURE TO REMAIN
- PROPOSED STRUCTURE
- STRUCTURE TO BE REMOVED
- STRUCTURE TO BE REPLACED
- CROSS BRACE REPLACEMENT
- GUYING AND ANCHOR REPLACEMENT
- CULVERT
- NON-JURISDICTIONAL DRAINAGE
- INTERMITTENT STREAM
- PERENNIAL STREAM
- POND
- PEM WETLAND
- PFO WETLAND
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 5 (PAGE 9 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

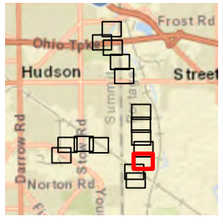
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:43:01 PM; File Path: T:\1-PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig05_Delineation

PROJECT STUDY AREA
EXISTING STRUCTURE TO REMAIN
PROPOSED STRUCTURE
STRUCTURE TO BE REMOVED
STRUCTURE TO BE REPLACED
CROSS BRACE REPLACEMENT
GUYING AND ANCHOR REPLACEMENT
CULVERT
NON-JURISDICTIONAL DRAINAGE
INTERMITTENT STREAM
PERENNIAL STREAM
POND
PEM WETLAND
PFO WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE: DELINEATED RESOURCES MAP

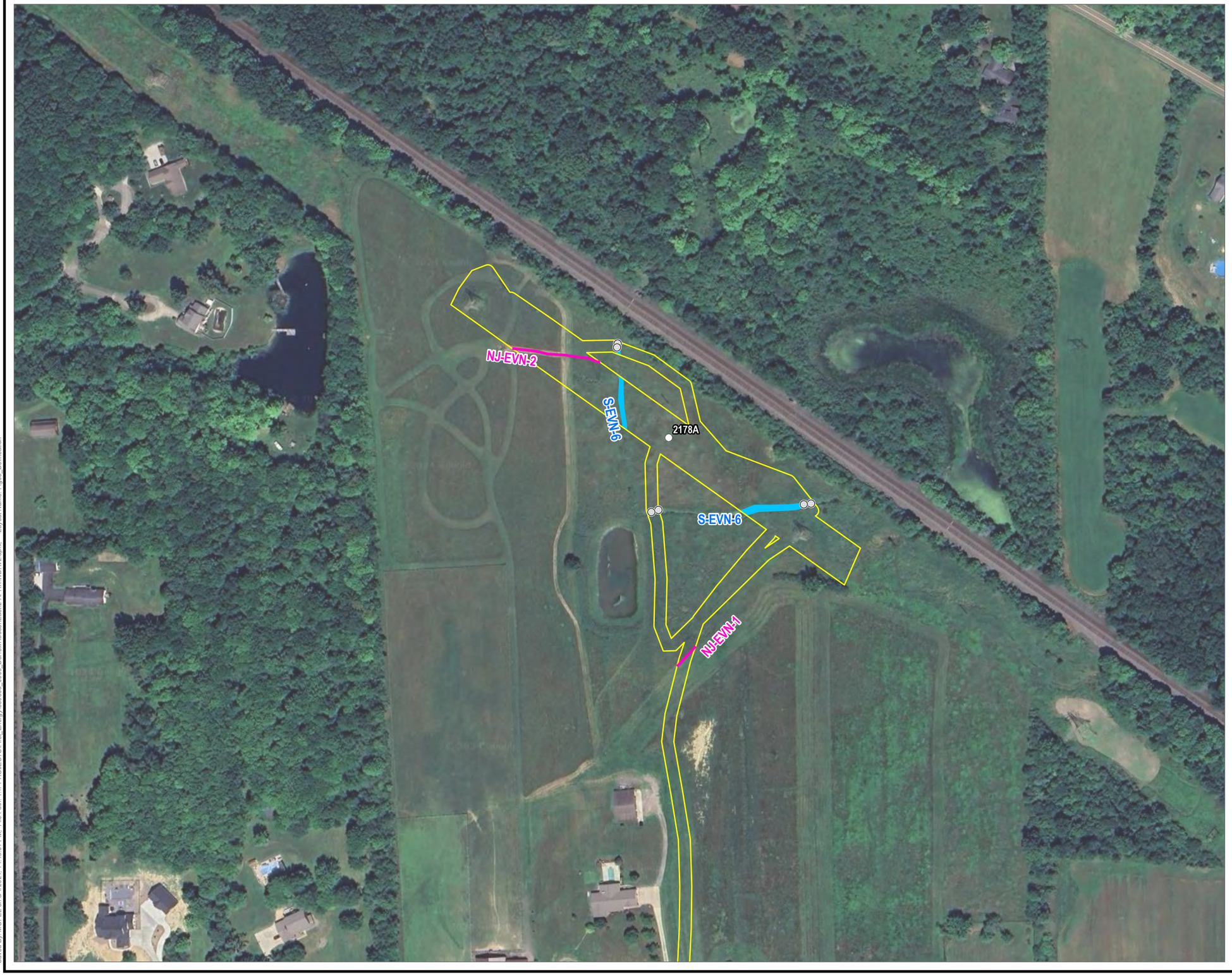
DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 5
(PAGE 10 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

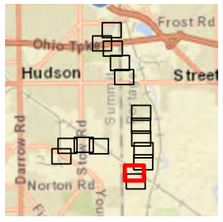
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 1:45:07 PM - File Path: T:\1-PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx - Layout Name: Fig05_Delineation



PROJECT STUDY AREA
EXISTING STRUCTURE TO REMAIN
PROPOSED STRUCTURE
STRUCTURE TO BE REMOVED
STRUCTURE TO BE REPLACED
CROSS BRACE REPLACEMENT
GUYING AND ANCHOR REPLACEMENT
CULVERT
NON-JURISDICTIONAL DRAINAGE
INTERMITTENT STREAM
PERENNIAL STREAM
POND
PEM WETLAND
PFO WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST 138 KV PROJECT - ROW ASSURANCE PROGRAM SUMMIT & PORTAGE COUNTIES, OH

TITLE:
DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 5 (PAGE 11 OF 16)

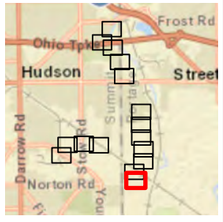
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By MOPEL on 3/4/2024 1:44:01 PM; File Path: T:\PROJECTS\Final_Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx Layout Name: Fig05_Delineation

- PROJECT STUDY AREA
- EXISTING STRUCTURE TO REMAIN
- PROPOSED STRUCTURE
- STRUCTURE TO BE REMOVED
- STRUCTURE TO BE REPLACED
- CROSS BRACE REPLACEMENT
- GUYING AND ANCHOR REPLACEMENT
- CULVERT
- NON-JURISDICTIONAL DRAINAGE
- INTERMITTENT STREAM
- PERENNIAL STREAM
- POND
- PEM WETLAND
- PFO WETLAND
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'

0 200 400 FEET

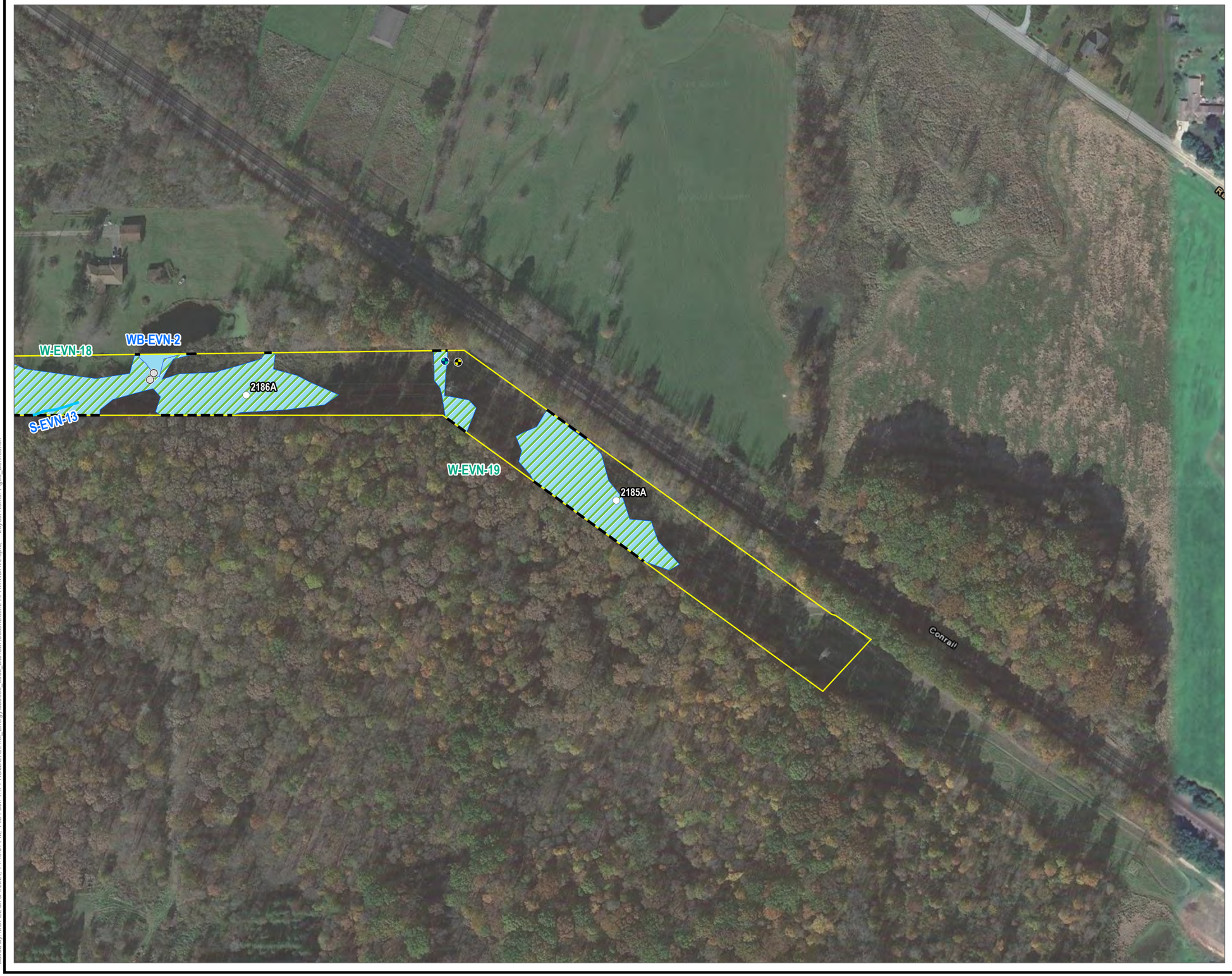
PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE: DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	FIGURE 5 (PAGE 12 OF 16)	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

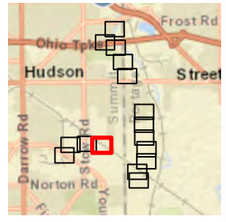
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx



- PROJECT STUDY AREA
- EXISTING STRUCTURE TO REMAIN
- PROPOSED STRUCTURE
- STRUCTURE TO BE REMOVED
- STRUCTURE TO BE REPLACED
- CROSS BRACE REPLACEMENT
- GUYING AND ANCHOR REPLACEMENT
- CULVERT
- NON-JURISDICTIONAL DRAINAGE
- INTERMITTENT STREAM
- PERENNIAL STREAM
- POND
- PEM WETLAND
- PFO WETLAND
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

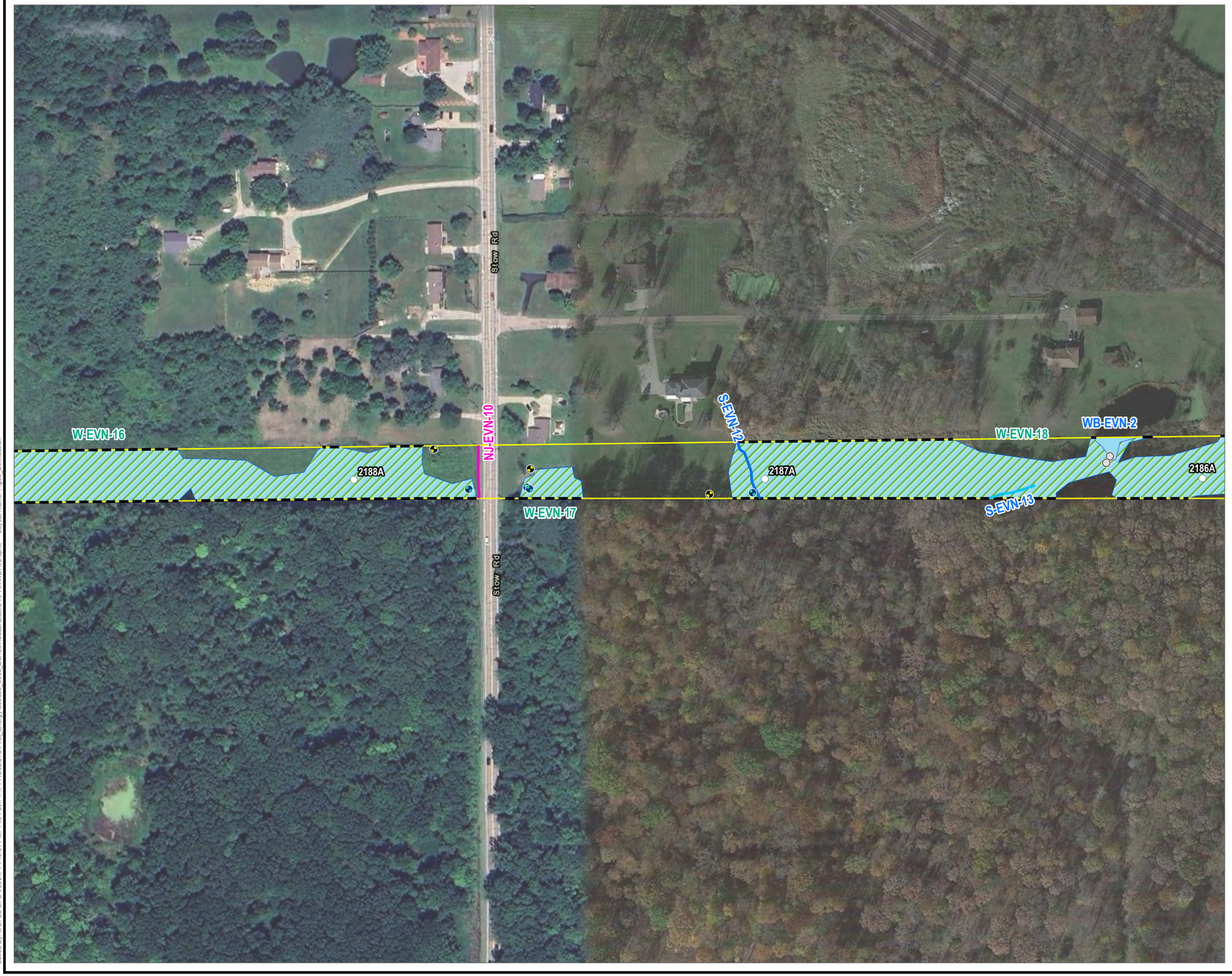
TITLE: DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		FIGURE 5 (PAGE 13 OF 16)
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

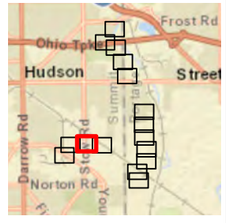
FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Stored By: MOPEL on 3/4/2024 1:49:07 PM File Path: T:\PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx Layout Name: Fig05_Delineation



PROJECT STUDY AREA
EXISTING STRUCTURE TO REMAIN
PROPOSED STRUCTURE
STRUCTURE TO BE REMOVED
STRUCTURE TO BE REPLACED
CROSS BRACE REPLACEMENT
GUYING AND ANCHOR REPLACEMENT
CULVERT
NON-JURISDICTIONAL DRAINAGE
INTERMITTENT STREAM
PERENNIAL STREAM
POND
PEM WETLAND
PFO WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'
0 200 400 FEET

PROJECT
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 5
(PAGE 14 OF 16)

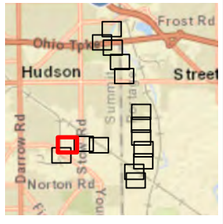
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet Map Rotation: 0
Stored By: MOPEL on 3/4/2024 14:49:01 PM File Path: T:\1-PROJECTS\First Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx Layout Name: Fig05_Delineation

- PROJECT STUDY AREA
- EXISTING STRUCTURE TO REMAIN
- PROPOSED STRUCTURE
- STRUCTURE TO BE REMOVED
- STRUCTURE TO BE REPLACED
- CROSS BRACE REPLACEMENT
- GUYING AND ANCHOR REPLACEMENT
- CULVERT
- NON-JURISDICTIONAL DRAINAGE
- INTERMITTENT STREAM
- PERENNIAL STREAM
- POND
- PEM WETLAND
- PFO WETLAND
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN	**FIGURE 5 (PAGE 15 OF 16)**	
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

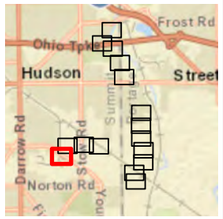
TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet. Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:45:07 PM. File Path: T:\1-PROJECTS\FirstEnergy\550808_0009_DarrowHudsonEast\3-APRX\WDRv2.aprx. Layout Name: Fig05_Delineation

- PROJECT STUDY AREA
- EXISTING STRUCTURE TO REMAIN
- PROPOSED STRUCTURE
- STRUCTURE TO BE REMOVED
- STRUCTURE TO BE REPLACED
- CROSS BRACE REPLACEMENT
- GUYING AND ANCHOR REPLACEMENT
- CULVERT
- NON-JURISDICTIONAL DRAINAGE
- INTERMITTENT STREAM
- PERENNIAL STREAM
- POND
- PEM WETLAND
- PFO WETLAND
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 21-26, 2024.



1:2,400
1" = 200'

0 200 400 FEET

PROJECT: FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
DELINEATED RESOURCES MAP

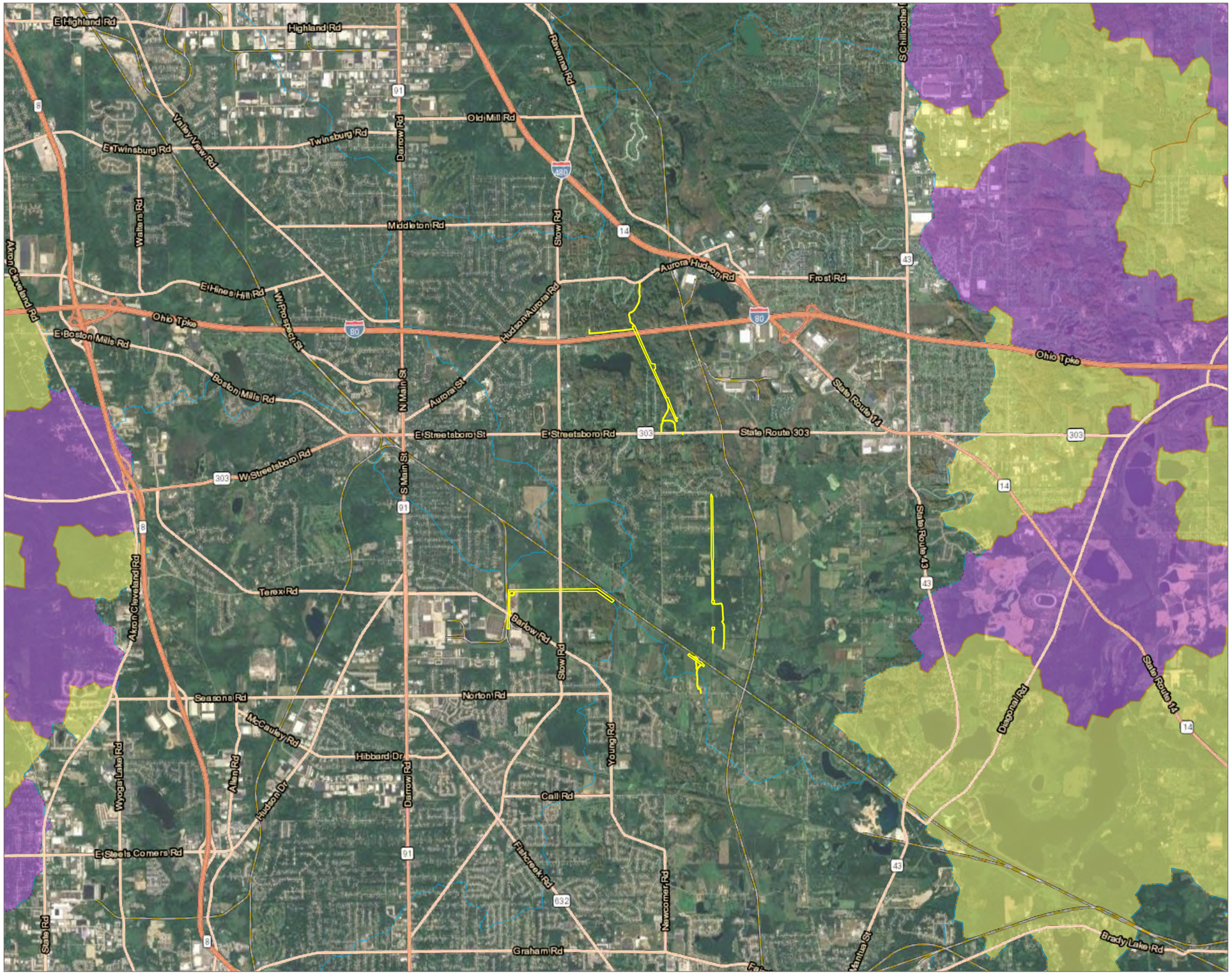
DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		
DATE:	MARCH 2024		

FIGURE 5
(PAGE 16 OF 16)

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 - 11:49:07 PM; File Path: T:\PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\2-APRX\WDRv2.aprx; Layout Name: Fig05_Delineation



PROJECT:
FIRSTENERGY - DARROW-HUDSON EAST
138 KV PROJECT - ROW ASSURANCE PROGRAM
SUMMIT & PORTAGE COUNTIES, OH

TITLE:
NATIONWIDE PERMITS STREAM ELIGIBILITY MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	550808.0009
CHECKED BY:	E. GIVEN		
APPROVED BY:	B. FALKINBURG		**FIGURE 6**
DATE:	MARCH 2024		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet; Map Rotation: 0
Saved By: MOPEL on 3/4/2024 1:43:24 PM; File Path: T:\PROJECTS\First_Energy\550808_0009_DarrowHudsonEast\3-APRX\WDRv2.aprx; Layout Name: Fig06_NWP

Appendix B

Photographic Record

PHOTOGRAPHIC RECORD

Darrow-Hudson East 138kV Project
ROW Assurance Program Project

Client Name:	**Site Location:**	**Project No.**
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 1.
Photo Date: 02/21/2024
Description: Photo of Wetland W-EVN-1, facing north.

Photo No. 2.
Photo Date: 02/21/2024
Description: Photo of Wetland W-EVN-1, facing east.

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 3. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-1, facing south.	

Photo No. 4. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-1, facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 5. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-2, facing north.	

Photo No. 6. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-2, facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 7. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-2, facing south.	

Photo No. 8. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-2, facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 9. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-3 facing north.	

Photo No. 10. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-3 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 11. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-3 facing south.	

Photo No. 12. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-3 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 13. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-4 facing north.	

Photo No. 14. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-4 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 15. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-4 facing south.	

Photo No. 16. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-4 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 17. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-5 facing north.	

Photo No. 18. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-5 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 19. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-5 facing south.	

Photo No. 20. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-5 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 21. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-6 facing north.	

Photo No. 22. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-6 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 23. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-6 facing south.	

Photo No. 24. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-6 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 25. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-7 facing north.	

Photo No. 26. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-7 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 27. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-7 facing south.	

Photo No. 28. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-7 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 29. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-8 facing north.	

Photo No. 30. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-8 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 31. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-8 facing south.	

Photo No. 32. **Photo Date:** 02/21/2024 **Description:** Photo of Wetland W-EVN-8 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 33. **Photo Date:** 02/22/2024 **Description:** Photo of Wetland W-EVN-9 facing north.	

Photo No. 34. **Photo Date:** 02/22/2024 **Description:** Photo of Wetland W-EVN-9 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 35. **Photo Date:** 02/22/2024 **Description:** Photo of Wetland W-EVN-9 facing south.	

Photo No. 36. **Photo Date:** 02/22/2024 **Description:** Photo of Wetland W-EVN-9 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 37. **Photo Date:** 02/22/2024 **Description:** Photo of Wetland W-EVN-10 facing north.	

Photo No. 38. **Photo Date:** 02/22/2024 **Description:** Photo of Wetland W-EVN-10 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 39. **Photo Date:** 02/22/2024 **Description:** Photo of Wetland W-EVN-10 facing south.	

Photo No. 40. **Photo Date:** 02/22/2024 **Description:** Photo of Wetland W-EVN-10 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 41. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-11 facing north.	

Photo No. 42. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-11 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 43. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-11 facing south.	

Photo No. 44. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-11 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 45. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-12 facing north.	

Photo No. 46. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-12 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 47. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-12 facing south.	

Photo No. 48. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-12 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 49. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-13 facing north.	

Photo No. 50. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-13 facing east, showing existing gravel access road.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 51. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-13 facing south.	

Photo No. 52. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-13 facing west, showing existing gravel access road.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 53. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-14 facing north.	

Photo No. 54. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-14 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 55. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-14 facing south.	

Photo No. 56. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-14 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 57. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-15 facing north.	

Photo No. 58. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-15 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 59. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-15 facing south.	

Photo No. 60. **Photo Date:** 02/23/2024 **Description:** Photo of Wetland W-EVN-15 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 61. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-16 facing north.	

Photo No. 62. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-16 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 63. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-16 facing south.	

Photo No. 64. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-16 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 65. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-17 facing north.	

Photo No. 66. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-17 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 67. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-17 facing south.	

Photo No. 68. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-17 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 69. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-18 facing north.	

Photo No. 70. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-18 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 71. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-18 facing south.	

Photo No. 72. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-18 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 73. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-19 facing north.	

Photo No. 74. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-19 facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 75. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-19 facing south.	

Photo No. 76. **Photo Date:** 02/26/2024 **Description:** Photo of Wetland W-EVN-19 facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 77. **Photo Date:** 02/21/2024 **Description:** Photo of Stream S-EVN-1 facing upstream.	

Photo No. 78. **Photo Date:** 02/21/2024 **Description:** Photo of Stream S-EVN-1 facing downstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 79. **Photo Date:** 02/21/2024 **Description:** Photo of Stream S-EVN-1 showing the observed substrate.	

Photo No. 80. **Photo Date:** 02/21/2024 **Description:** Photo of Stream S-EVN-2 facing upstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 81. **Photo Date:** 02/21/2024 **Description:** Photo of Stream S-EVN-2 facing downstream.	

Photo No. 82. **Photo Date:** 02/21/2024 **Description:** Photo of Stream S-EVN-2 showing observed the substrate.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 83. **Photo Date:** 02/21/2024 **Description:** Photo of Stream S-EVN-3 facing upstream.	

Photo No. 84. **Photo Date:** 02/26/2024 **Description:** Photo of Stream S-EVN-3 facing downstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 85. **Photo Date:** 02/21/2024 **Description:** Photo of Stream S-EVN-3 showing observed the substrate.	

Photo No. 86. **Photo Date:** 02/21/2024 **Description:** Photo of Stream S-EVN-4 facing downstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 87. **Photo Date:** 02/21/2024 **Description:** Photo of Stream S-EVN-4 facing upstream.	

Photo No. 88. **Photo Date:** 02/21/2024 **Description:** Photo of Stream S-EVN-4 showing observed the substrate.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 89. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-5 facing upstream.	

Photo No. 90. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-5 facing downstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 91. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-5 showing observed the substrate.	

Photo No. 92. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-6 facing upstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 93. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-6 facing downstream.	

Photo No. 94. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-6 showing observed the substrate.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 95. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-7 facing upstream.	

Photo No. 96. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-7 facing downstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 97. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-7 showing observed the substrate.	

Photo No. 98. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-8 facing upstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 99. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-8 facing downstream.	

Photo No. 100. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-8 showing observed the substrate.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 101. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-9 facing upstream.	

Photo No. 102. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-9 facing downstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 103. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-9 showing observed the substrate.	

Photo No. 104. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-10 facing upstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 105. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-10 facing downstream.	

Photo No. 106. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-10 showing observed the substrate.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 107. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-11 facing upstream.	

Photo No. 108. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-11 facing downstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 109. **Photo Date:** 02/22/2024 **Description:** Photo of Stream S-EVN-11 showing observed the substrate.	

Photo No. 110. **Photo Date:** 02/26/2024 **Description:** Photo of Stream S-EVN-12 facing upstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 111. **Photo Date:** 02/26/2024 **Description:** Photo of Stream S-EVN-12 facing downstream.	

Photo No. 112. **Photo Date:** 02/26/2024 **Description:** Photo of Stream S-EVN-12 showing observed the substrate.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 113. **Photo Date:** 02/26/2024 **Description:** Photo of Stream S-EVN-13 facing upstream.	

Photo No. 114. **Photo Date:** 02/26/2024 **Description:** Photo of Stream S-EVN-13 facing downstream.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 115. **Photo Date:** 02/26/2024 **Description:** Photo of Stream S-EVN-13 showing observed the substrate.	

Photo No. 116. **Photo Date:** 02/22/2024 **Description:** Photo of Waterbody WB-EVN-1, facing north.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 117. **Photo Date:** 02/26/2024 **Description:** Photo of Waterbody WB-EVN-2, facing east.	

Photo No. 118. **Photo Date:** 02/26/2024 **Description:** Photo of Waterbody WB-EVN-2, facing north.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 119. **Photo Date:** 02/21/2024 **Description:** Photo showing existing access road from Hudson Aurora Road, facing south.	

Photo No. 120. **Photo Date:** 02/21/2024 **Description:** Photo showing existing access road from Hudson Aurora Road, facing north.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 121. **Photo Date:** 02/22/2024 **Description:** Representative photo of the Project Study Area, facing north.	

Photo No. 122. **Photo Date:** 02/22/2024 **Description:** Representative photo of the Project Study Area, facing south.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 123. **Photo Date:** 02/22/2024 **Description:** Photo showing existing access road from OH-303, facing north.	

Photo No. 124. **Photo Date:** 02/22/2024 **Description:** Photo showing existing access road from OH-303, facing south.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 125. **Photo Date:** 02/23/2024 **Description:** Photo showing existing access road from Ravenna Road, facing north.	

Photo No. 126. **Photo Date:** 02/23/2024 **Description:** Photo showing existing access road from OH-303, facing south.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 127. **Photo Date:** 02/22/2024 **Description:** Representative photo of the Project Study Area, facing west.	

Photo No. 128. **Photo Date:** 02/22/2024 **Description:** Representative photo of the Project Study Area, facing southeast.	

Client Name:	Site Location:	Project No.
FirstEnergy	City of Hudson, Summit County, Ohio and City of Streetsboro, Portage County, Ohio	550808.0009.0000

Photo No. 129. **Photo Date:** 02/22/2024 **Description:** Representative photo of the Project Study Area, facing east.	

Photo No. 130. **Photo Date:** 02/22/2024 **Description:** Representative photo of the Project Study Area, facing north.	

Appendix C

Data Forms

USACE Wetland Determination Data Forms – Northcentral and Northeast Region

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138 kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-01_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.259239 Long: -81.3956605 Datum: WGS84
Soil Map Unit Name: Orrville silt loam NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes ✘ No _____

If yes, optional Wetland Site ID: W-EVN-01

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✘ Surface Water (A1)
- _ High Water Table (A2)
- _ Saturation (A3)
- _ Water Marks (B1)
- _ Sediment Deposits (B2)
- _ Drift Deposits (B3)
- _ Algal Mat or Crust (B4)
- _ Iron Deposits (B5)
- _ Inundation Visible on Aerial Imagery (B7)
- _ Sparsely Vegetated Concave Surface (B8)
- _ Water-Stained Leaves (B9)
- _ Aquatic Fauna (B13)
- _ Marl Deposits (B15)
- _ Hydrogen Sulfide Odor (C1)
- _ Oxidized Rhizospheres along Living Roots (C3)
- _ Presence of Reduced Iron (C4)
- _ Recent Iron Reduction in Tilled Soils (C6)
- _ Thin Muck Surface (C7)
- _ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- _ Surface Soil Cracks (B6)
- _ Drainage Patterns (B10)
- _ Moss Trim Lines (B16)
- _ Dry-Season Water Table (C2)
- _ Crayfish Burrows (C8)
- _ Saturation Visible on Aerial Imagery (C9)
- _ Stunted or Stressed Plants (D1)
- _ Geomorphic Position (D2)
- _ Shallow Aquitard (D3)
- ✘ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✘ No _____ Depth (inches): 2
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-01_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Salix nigra*	15	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Typha angustifolia*	25	Yes	OBL
2. *Juncus effusus*	25	Yes	OBL
3. *Mimulus ringens*	15	No	OBL
4. *Phragmites australis*	15	No	FACW
5. *Lysimachia nummularia*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
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
Column Totals:	100 (A)		120 (B)

Prevalence Index = B/A = 1.2

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 6	2.5Y 4/1	90	10YR 5/6	10	C	M	Silty Clay Loam	
6 to 20	2.5Y 4/2	80	10YR 5/8	20	C	M/PL	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): _____

Hydric Soil Present? Yes ✘ **No** _____

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: DARROW-HUDSON EAST 138 KV PROJECT City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FE State: OH Sampling Point: W-EVN-01_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2592244 Long: -81.3955892 Datum: WGS84
Soil Map Unit Name: Orrville silt loam NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of two of three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-01_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Salix nigra*	10	Yes	OBL
2. *Cornus amomum*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Poa pratensis*	70	Yes	FACU
2. *Plantago lanceolata*	15	No	FACU
3. *Phragmites australis*	10	No	FACW
4. *Daucus carota*	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	5	x 5 =	25
Column Totals:	120 (A)		415 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 5	2.5Y 5/3	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Gravel

Depth (inches): 5

Hydric Soil Present? Yes _____ **No** ✘

Remarks:

The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project | City/County: Hudson, Summit County | Sampling Date: 2024-2-21
Applicant/Owner: FE | State: OH | Sampling Point: W-EVN-02_PFO-1
Investigator(s): Erin Van Nort | Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R | Lat: 41.2560361 | Long: -81.3975351 | Datum: WGS84
Soil Map Unit Name: Canadice silty clay loam | NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No ____
Hydric Soil Present? Yes ✘ No ____
Wetland Hydrology Present? Yes ✘ No ____

Is the Sampled Area within a Wetland? Yes ✘ No ____
If yes, optional Wetland Site ID: W-EVN-02

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PFO. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:
Primary Indicators (minimum of one is required; check all that apply)
- ✘ Surface Water (A1)
- ___ High Water Table (A2)
- ✘ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ✘ No ____ Depth (inches): 3
Water Table Present? Yes ____ No ✘ Depth (inches): ____
Saturation Present? Yes ✘ No ____ Depth (inches): 2
(includes capillary fringe)

Wetland Hydrology Present? Yes ✘ No ____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-02_PFO-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus bicolor*	30	Yes	FACW
2. *Fraxinus pennsylvanica*	15	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	45	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Poa pratensis*	25	Yes	FACU
2. *Phalaris arundinacea*	20	Yes	FACW
3. *Onoclea sensibilis*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	75	x 2 =	150
FAC species	0	x 3 =	0
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	100 (A)		250 (B)

Prevalence Index = B/A = 2.5

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

✘ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 7	10YR 3/1	90	7.5YR 5/8	10	C	PL	Silty Clay Loam	
7 to 20	10YR 4/1	90	10YR 6/8	10	C	M/PL	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ✘ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): _____

Hydric Soil Present? Yes ✘ **No** _____

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-02_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2556701833 Long: -81.39746925 Datum: WGS84
Soil Map Unit Name: Trumbull silt loam, 0 to 2 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-02_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	35	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	35	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Rosa multiflora*	20	Yes	FACU
2. *Lindera benzoin*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Symphyotrichum ericoides*	15	Yes	FACU
2. *Plantago lanceolata*	14	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	29	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	84	x 4 =	336
UPL species	0	x 5 =	0
Column Totals:	94 (A)		356 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 16	10YR 5/2	100					Silty Clay Loam	
16 to 20	10YR 5/2	50	10YR 6/8	10	D	M	Silty Clay	
16 to 20	10YR 5/1	40					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): _____

Hydric Soil Present? Yes _____ **No** ✘

Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project | City/County: Hudson, Summit County | Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy | State: OH | Sampling Point: W-EVN-03_PEM-1
Investigator(s): Erin Van Nort, Emma Given | Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R | Lat: 41.2544052 | Long: -81.3982374667 | Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes | NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes ✘ No _____

If yes, optional Wetland Site ID: W-EVN-03

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ✘ Surface Water (A1)
- _ High Water Table (A2)
- ✘ Saturation (A3)
- _ Water Marks (B1)
- _ Sediment Deposits (B2)
- _ Drift Deposits (B3)
- _ Algal Mat or Crust (B4)
- _ Iron Deposits (B5)
- _ Inundation Visible on Aerial Imagery (B7)
- _ Sparsely Vegetated Concave Surface (B8)
- _ Water-Stained Leaves (B9)
- _ Aquatic Fauna (B13)
- _ Marl Deposits (B15)
- _ Hydrogen Sulfide Odor (C1)
- ✘ Oxidized Rhizospheres along Living Roots (C3)
- _ Presence of Reduced Iron (C4)
- _ Recent Iron Reduction in Tilled Soils (C6)
- _ Thin Muck Surface (C7)
- _ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- _ Surface Soil Cracks (B6)
- _ Drainage Patterns (B10)
- _ Moss Trim Lines (B16)
- _ Dry-Season Water Table (C2)
- _ Crayfish Burrows (C8)
- _ Saturation Visible on Aerial Imagery (C9)
- _ Stunted or Stressed Plants (D1)
- _ Geomorphic Position (D2)
- _ Shallow Aquitard (D3)
- _ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ✘ No _____ Depth (inches): 1
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes ✘ No _____ Depth (inches): 12

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-03_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Typha angustifolia*	75	Yes	OBL
2. *Phragmites australis*	20	Yes	FACW
3. *Apocynum cannabinum*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	20	x 2 =	40
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		130 (B)

Prevalence Index = B/A = 1.3

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 6	10YR 2/1	80	10YR 6/8	20	C	PL	Silty Clay Loam	
6 to 20	N 2.5/	95	10YR 6/8	5	D	PL	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✘ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project | City/County: Hudson, Summit County | Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy | State: OH | Sampling Point: W-EVN-03_UPL-1
Investigator(s): Erin Van Nort, Emma Given | Section, Township, Range: NA
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): None | Slope (%): 1 to 3
Subregion (LRR or MLRA): MLRA 139 of LRR R | Lat: 41.2544082044 | Long: -81.3985573903 | Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes | NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-03_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus americana*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Rubus allegheniensis*	30	Yes	FACU
2. *Solidago altissima*	20	Yes	FACU
3. *Symphyotrichum ericoides*	15	No	FACU
4. *Apocynum cannabinum*	15	No	FAC
5. *Solidago canadensis*	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	95 (A)		365 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 6	2.5Y 4/2	100					Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Fill

Depth (inches): 6

Hydric Soil Present? Yes _____ **No** ✘

Remarks:

The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FE State: OH Sampling Point: W-EVN-04_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 3
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2542302 Long: -81.4004834 Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes ✘ No _____

If yes, optional Wetland Site ID: W-EVN-04

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ✘ High Water Table (A2)
- ✘ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✘	Depth (inches):	_____
Water Table Present?	Yes ✘	No _____	Depth (inches):	5
Saturation Present? (includes capillary fringe)	Yes ✘	No _____	Depth (inches):	7

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-04_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Cornus amomum*	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	75	Yes	FACW
2. *Typha angustifolia*	15	No	OBL
3. *Onoclea sensibilis*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		185 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 4	10YR 4/2	100					Silty Clay Loam	
4 to 18	10YR 5/2	80	10YR 6/6	20	C	M/PL	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Gravel
Depth (inches): 18

Hydric Soil Present? Yes ✘ **No** __

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project | City/County: Hudson, Summit County | Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy | State: OH | Sampling Point: W-EVN-04_UPL-1
Investigator(s): Erin Van Nort, Emma Given | Section, Township, Range: NA
Landform (hillslope, terrace, etc): Flat | Local relief (concave, convex, none): None | Slope (%): 1 to 3
Subregion (LRR or MLRA): MLRA 139 of LRR R | Lat: 41.2562234 | Long: -81.4026713 | Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 2 to 6 percent slopes | NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION – Use scientific names of plants. Sampling Point: W-EVN-04_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fagus grandifolia*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Fagus grandifolia*	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Solidago canadensis*	30	Yes	FACU
2. *Symphyotrichum pilosum*	20	Yes	FACU
3. *Apocynum cannabinum*	15	Yes	FAC
4. *Rosa multiflora*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	95 (A)		365 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 6	10YR 4/2	100					Silt Loam	
6 to 20	10YR 4/1	40	10YR 6/6	25	C	M/PL	Silty Clay Loam	
6 to 20	10YR 6/2	35					Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): _____

Hydric Soil Present? Yes _____ **No** ✘

Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-05_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2540512333 Long: -81.4031894333 Datum: WGS84
Soil Map Unit Name: Orrville silt loam NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No ____
Hydric Soil Present? Yes ✘ No ____
Wetland Hydrology Present? Yes ✘ No ____

Is the Sampled Area within a Wetland? Yes ✘ No ____
If yes, optional Wetland Site ID: W-EVN-05

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✘ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✘ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ____ No ✘ Depth (inches): ____
Water Table Present? Yes ____ No ✘ Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ✘ No ____ Depth (inches): 12

Wetland Hydrology Present? Yes ✘ No ____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-05_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	30	Yes	FACW
2. *Juncus effusus*	20	Yes	OBL
3. *Solidago gigantea*	20	Yes	FACW
4. *Euthamia graminifolia*	15	No	FAC
5. *Symphyotrichum lateriflorum*	15	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	50	x 2 =	100
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		210 (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✘ **No** __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 8	2.5Y 3/2	95	10YR 5/6	5	C	M	Silty Clay Loam	
8 to 20	10YR 5/1	75	10YR 6/8	25	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ✘ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-05_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1 to 3
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2540183333 Long: -81.4037058833 Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-05_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)				
1.	*Andropogon virginicus*	25	Yes	FACU
2.	*Poa compressa*	25	Yes	FACU
3.	*Rubus caesius*	20	Yes	FACU
4.	*Solidago altissima*	20	Yes	FACU
5.	*Cornus florida*	10	No	FACU
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	100	= Total Cover		

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 8	2.5Y 4/3	100					Silty Clay Loam	
8 to 20	2.5Y 5/3	80	2.5Y 6/6	20	D	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): _____

Hydric Soil Present? Yes _____ **No** ✘

Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-06_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2539707167 Long: -81.4046122333 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes ✘ No _____

If yes, optional Wetland Site ID: W-EVN-06

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✘ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✘ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes ✘ No _____ Depth (inches): 12

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-06_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	35	Yes	FACW
2. *Juncus effusus*	25	Yes	OBL
3. *Solidago gigantea*	20	Yes	FACW
4. *Cornus alba*	15	No	FACW
5. *Symphyotrichum lanceolatum*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	75	x 2 =	150
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		175 (B)

Prevalence Index = B/A = 1.8

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 6	2.5Y 4/2	95	2.5Y 5/6	5	C	M	Silty Clay Loam	
6 to 20	10YR 5/1	75	10YR 6/8	25	D	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-06_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Terrace Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2539319667 Long: -81.40496355 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 2 to 6 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-06_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Poa pratensis*	80	Yes	FACU
2. *Poa annua*	10	No	FACU
3. *Trifolium repens*	5	No	FACU
4. *Taraxacum officinale*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 4	10YR 4/3	100					Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: fill

Depth (inches): 4

Hydric Soil Present? Yes _____ **No** ✘

Remarks:

The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-07_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2492088333 Long: -81.3930910667 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 12 to 25 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No ____
Hydric Soil Present? Yes ✘ No ____
Wetland Hydrology Present? Yes ✘ No ____

Is the Sampled Area within a Wetland? Yes ✘ No ____
If yes, optional Wetland Site ID: W-EVN-07

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:
Primary Indicators (minimum of one is required; check all that apply)
- ✘ Surface Water (A1)
- ___ High Water Table (A2)
- ✘ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ✘ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ✘ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ✘ No ____ Depth (inches): 1
Water Table Present? Yes ____ No ✘ Depth (inches): ____
Saturation Present? Yes ✘ No ____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ✘ No ____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION ─ Use scientific names of plants. Sampling Point: W-EVN-07_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Cornus amomum*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phragmites australis*	40	Yes	FACW
2. *Typha angustifolia*	25	Yes	OBL
3. *Persicaria perfoliata*	15	No	FAC
4. *Symplocarpus foetidus*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	55	x 2 =	110
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		185 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree ─ Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub ─ Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb ─ All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines ─ All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✘ **No** __

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

The criterion for hydrophytic vegetation is met.

SOIL Sampling Point: W-EVN-07_PEM-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 20	10BG 4/1	95	10YR 6/8	5	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✘ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ✘ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Not present

Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:

The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-07_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1 to 3
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2493121667 Long: -81.3935367333 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 12 to 25 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-07_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Poa compressa*	35	Yes	FACU
2. *Solidago altissima*	20	Yes	FACU
3. *Symphyotrichum ericoides*	20	Yes	FACU
4. *Daucus carota*	15	No	UPL
5. *Phleum pratense*	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	15	x 5 =	75
Column Totals:	100 (A)		415 (B)

Prevalence Index = B/A = 4.2

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 8	10YR 4/3	100					Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Fill

Depth (inches): 8

Hydric Soil Present? Yes _____ **No** ✘

Remarks:

The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FE State: OH Sampling Point: W-EVN-08_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 10
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2521836 Long: -81.395302 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes ✘ No _____

If yes, optional Wetland Site ID: W-EVN-08

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- _____ Surface Water (A1)
- ✘ High Water Table (A2)
- ✘ Saturation (A3)
- _____ Water Marks (B1)
- _____ Sediment Deposits (B2)
- _____ Drift Deposits (B3)
- _____ Algal Mat or Crust (B4)
- _____ Iron Deposits (B5)
- _____ Inundation Visible on Aerial Imagery (B7)
- _____ Sparsely Vegetated Concave Surface (B8)
- _____ Water-Stained Leaves (B9)
- _____ Aquatic Fauna (B13)
- _____ Marl Deposits (B15)
- _____ Hydrogen Sulfide Odor (C1)
- ✘ Oxidized Rhizospheres along Living Roots (C3)
- _____ Presence of Reduced Iron (C4)
- _____ Recent Iron Reduction in Tilled Soils (C6)
- _____ Thin Muck Surface (C7)
- _____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- _____ Surface Soil Cracks (B6)
- _____ Drainage Patterns (B10)
- _____ Moss Trim Lines (B16)
- _____ Dry-Season Water Table (C2)
- _____ Crayfish Burrows (C8)
- _____ Saturation Visible on Aerial Imagery (C9)
- _____ Stunted or Stressed Plants (D1)
- _____ Geomorphic Position (D2)
- _____ Shallow Aquitard (D3)
- _____ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✘	Depth (inches): _____	
Water Table Present?	Yes ✘	No _____	Depth (inches): 2	
Saturation Present? (includes capillary fringe)	Yes ✘	No _____	Depth (inches): 6	

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-08_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Cornus amomum*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	75	Yes	FACW
2. *Typha angustifolia*	15	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	95	x 2 =	190
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		205 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 18	10YR 4/2	85	10YR 4/6	15	C	M/PL	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Gravel

Depth (inches): 18

Hydric Soil Present? Yes ✘ **No** __

Remarks:

The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-08_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 10 to 20
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.252306 Long: -81.395239 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of two of three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-08_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fagus grandifolia*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Frangula alnus*	5	Yes	FAC
2. *Fagus grandifolia*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Poa annua*	60	Yes	FACU
2. *Phalaris arundinacea*	20	Yes	FACW
3. *Apocynum androsaemifolium*	15	No	UPL
4. *Trifolium repens*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	5	x 3 =	15
FACU species	75	x 4 =	300
UPL species	15	x 5 =	75
Column Totals:	115 (A)		430 (B)

Prevalence Index = B/A = 3.7

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 6	10YR 3/1	100					Silty Clay Loam	
6 to 18	10YR 3/2	60	10YR 5/6	40	C	M/PL	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✘ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: fill
Depth (inches): 18

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Streetsboro, Portage County Sampling Date: 2024-2-22
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-09_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): Concave Slope (%): 1 to 3
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2292500333 Long: -81.3825735333 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 2 to 6 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes ✘ No _____

If yes, optional Wetland Site ID: W-EVN-09

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- ✘ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- ✘ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- ✘ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes ✘ No _____ Depth (inches): 2

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-09_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Dichanthelium clandestinum*	35	Yes	FACW
2. *Glyceria striata*	20	Yes	OBL
3. *Apocynum cannabinum*	20	Yes	FAC
4. *Juncus effusus*	15	No	OBL
5. *Onoclea sensibilis*	10	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	45	x 2 =	90
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		185 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 6	10YR 5/2	80	10YR 6/8	20	C	PL	Silty Clay Loam	
6 to 20	10YR 6/1	75	10YR 6/8	20	D	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Streetsboro, Portage County Sampling Date: 2024-2-22
Applicant/Owner: FE State: OH Sampling Point: W-EVN-09_UPL-1
Investigator(s): Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Foot slope Local relief (concave, convex, none): None Slope (%): 1 to 10
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.229689 Long: -81.382486 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 12 to 18 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of two of three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-09_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Malus sp.*	10	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Poa pratensis*	30	Yes	FACU
2. *Rosa multiflora*	30	Yes	FACU
3. *Solidago canadensis*	20	Yes	FACU
4. *Blephilia hirsuta*	15	No	FACU
5. *Onoclea sensibilis*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	100 (A)		390 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 8	10YR 4/3	100					Silty Clay Loam	
8 to 15	10YR 4/1	70	10YR 6/6	30	C	M/PL	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: fill
Depth (inches): 15

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project | City/County: Streetsboro, Portage County | Sampling Date: 2024-2-22
Applicant/Owner: FirstEnergy | State: OH | Sampling Point: W-EVN-10_PEM-1
Investigator(s): Erin Van Nort, Emma Given | Section, Township, Range: NA
Landform (hillslope, terrace, etc): Channel | Local relief (concave, convex, none): None | Slope (%): 1 to 3
Subregion (LRR or MLRA): MLRA 139 of LRR R | Lat: 41.2302653833 | Long: -81.3825663167 | Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 2 to 6 percent slopes | NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes ✘ No _____
If yes, optional Wetland Site ID: W-EVN-10

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ✘ Surface Water (A1)
- _ High Water Table (A2)
- ✘ Saturation (A3)
- _ Water Marks (B1)
- _ Sediment Deposits (B2)
- _ Drift Deposits (B3)
- _ Algal Mat or Crust (B4)
- _ Iron Deposits (B5)
- _ Inundation Visible on Aerial Imagery (B7)
- _ Sparsely Vegetated Concave Surface (B8)
- _ Water-Stained Leaves (B9)
- _ Aquatic Fauna (B13)
- _ Marl Deposits (B15)
- _ Hydrogen Sulfide Odor (C1)
- _ Oxidized Rhizospheres along Living Roots (C3)
- _ Presence of Reduced Iron (C4)
- _ Recent Iron Reduction in Tilled Soils (C6)
- _ Thin Muck Surface (C7)
- _ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- _ Surface Soil Cracks (B6)
- _ Drainage Patterns (B10)
- _ Moss Trim Lines (B16)
- _ Dry-Season Water Table (C2)
- _ Crayfish Burrows (C8)
- _ Saturation Visible on Aerial Imagery (C9)
- _ Stunted or Stressed Plants (D1)
- _ Geomorphic Position (D2)
- _ Shallow Aquitard (D3)
- _ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ✘ No _____ Depth (inches): 1
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes ✘ No _____ Depth (inches): 12

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-10_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Phragmites australis*	80	Yes	FACW
2. *Onoclea sensibilis*	15	No	FACW
3. *Symphyotrichum lateriflorum*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	95	x 2 =	190
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		205 (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 6	10YR 5/2	90	10YR 5/6	10	C	M	Silty Clay Loam	
6 to 20	10YR 6/2	85	10YR 6/8	15	D	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): _____

Hydric Soil Present? Yes ✘ **No** _____

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Streetsboro, Portage County Sampling Date: 2024-2-22
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-10_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1 to 3
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2303883333 Long: -81.3825181833 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 2 to 6 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-10_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Rubus allegheniensis*	20	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Solidago canadensis*	20	Yes	FACU
2. *Solidago altissima*	20	Yes	FACU
3. *Poa annua*	15	Yes	FACU
4. *Daucus carota*	10	No	UPL
5. *Tsuga canadensis*	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	10	x 5 =	50
Column Totals:	95 (A)		390 (B)

Prevalence Index = B/A = 4.1

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 10	10YR 4/2	100					Silty Clay Loam	
10 to 20	10YR 4/4	90	10YR 4/6	10	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): _____

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

Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project | City/County: Streetsboro, Portage County | Sampling Date: 2024-2-23
Applicant/Owner: FE | State: OH | Sampling Point: W-EVN-11_PEM-1
Investigator(s): Erin Van Nort, Emma Given | Section, Township, Range: NA
Landform (hillslope, terrace, etc): Flat | Local relief (concave, convex, none): Concave | Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R | Lat: 41.210073 | Long: -81.382704 | Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes | NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes ✘ No _____
If yes, optional Wetland Site ID: W-EVN-11

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:
Primary Indicators (minimum of one is required; check all that apply)

- ✘ Surface Water (A1)
- ✘ High Water Table (A2)
- ✘ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ✘ No _____ Depth (inches): 1
Water Table Present? Yes ✘ No _____ Depth (inches): 3
Saturation Present? (includes capillary fringe) Yes ✘ No _____ Depth (inches): 5

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-11_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Cornus amomum*	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	75	Yes	FACW
2. *Symphyotrichum novae-angliae*	10	No	FACW
3. *Juncus effusus*	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		190 (B)

Prevalence Index = B/A = 1.9

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 7	2.5Y 5/2	100					Clay Loam	
7 to 20	10Y 2.5/1	60	2.5Y 7/6	40	C	M/PL	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✘ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Streetsboro, Portage County Sampling Date: 2024-2-23
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-11_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.210641 Long: -81.382663 Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-11_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Rosa multiflora*	50	Yes	FACU
2. *Phalaris arundinacea*	10	No	FACW
3. *Solidago canadensis*	10	No	FACU
4. *Juncus effusus*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	75 (A)		265 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 7	2.5Y 5/3	100					Clay Loam	
7 to 20	2.5Y 5/2	50	2.5Y 5/6	50	C	M/PL	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): _____

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

Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Streetsboro, Portage County Sampling Date: 2024-2-23
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-12_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2157679667 Long: -81.38255665 Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes NWI Classification: PUBG
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No ____
Hydric Soil Present? Yes ✘ No ____
Wetland Hydrology Present? Yes ✘ No ____

Is the Sampled Area within a Wetland? Yes ✘ No ____

If yes, optional Wetland Site ID: W-EVN-12

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ✘ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ✘ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ✘ No ____ Depth (inches): 1
Water Table Present? Yes ____ No ✘ Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ____ No ✘ Depth (inches): ____

Wetland Hydrology Present? Yes ✘ No ____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-12_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	70	Yes	FACW
2. *Apocynum cannabinum*	15	No	FAC
3. *Solidago gigantea*	15	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		215 (B)

Prevalence Index = B/A = 2.2

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 6	10YR 2/1	90	10YR 6/8	10	C	PL	Silty Clay Loam	
6 to 20	N 5/	90	10YR 6/8	10	C	PL	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- X Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

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

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Streetsboro, Portage County Sampling Date: 2024-2-23
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-12_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Low Hill Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2156631 Long: -81.3825162167 Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of two of three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-12_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Rubus allegheniensis*	25	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Solidago canadensis*	20	Yes	FACU
2. *Solidago altissima*	15	Yes	FACU
3. *Symphyotrichum ericoides*	15	Yes	FACU
4. *Daucus carota*	10	No	UPL
5. *Dipsacus fullonum*	10	No	FACU
6. *Phalaris arundinacea*	10	No	FACW
7.			
8.			
9.			
10.			
11.			
12.			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	10	x 5 =	50
Column Totals:	105 (A)		410 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 10	2.5Y 5/2	100					Silty Clay Loam	
10 to 16	2.5Y 5/1	75	2.5Y 6/6	25	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Fill
Depth (inches): 16

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Streetsboro, Portage County Sampling Date: 2024-2-23
Applicant/Owner: FE State: OH Sampling Point: W-EVN-13_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 10
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2164679 Long: -81.3826546 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 2 to 6 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes ✘ No _____

If yes, optional Wetland Site ID: W-EVN-13

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✘ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✘ No _____ Depth (inches): 2
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION – Use scientific names of plants. Sampling Point: W-EVN-13_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	80	Yes	FACW
2. *Glyceria striata*	10	No	OBL
3. *Rosa multiflora*	5	No	FACU
4. *Solidago gigantea*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 18	10YR 4/1	90	10YR 5/6	10	C	M/PL	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Gravel

Depth (inches): 18

Hydric Soil Present? Yes ✘ **No** ___

Remarks:

The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project | City/County: Streetsboro, Portage County | Sampling Date: 2024-2-23
Applicant/Owner: FE | State: OH | Sampling Point: W-EVN-13_UPL-1
Investigator(s): Erin Van Nort, Emma Given | Section, Township, Range: NA
Landform (hillslope, terrace, etc): Flat | Local relief (concave, convex, none): None | Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R | Lat: 41.2164647 | Long: -81.3826552 | Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 2 to 6 percent slopes, eroded | NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-13_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris*	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Poa pratensis*	70	Yes	FACU
2. *Trifolium repens*	10	No	FACU
3. *Glechoma hederacea*	10	No	FACU
4. *Cardamine hirsuta*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	100 (A)		390 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 7	10YR 2/2	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Gravel

Depth (inches): 7

Hydric Soil Present? Yes _____ **No** ✘

Remarks:

The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Streetsboro, Portage County Sampling Date: 2024-2-23
Applicant/Owner: FE State: OH Sampling Point: W-EVN-14_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2182082167 Long: -81.3826587 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 2 to 6 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes ✘ No _____

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ✘ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- ✘ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ✘ No _____ Depth (inches): 1
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-14_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Rubus hispidus*	25	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Juncus effusus*	25	Yes	OBL
2. *Carex vulpinoidea*	20	Yes	OBL
3. *Symphyotrichum lateriflorum*	20	Yes	FAC
4. *Solidago gigantea*	15	No	FACW
5. *Phalaris arundinacea*	10	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	50	x 2 =	100
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	115 (A)		205 (B)

Prevalence Index = B/A = 1.8

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✘ **No** __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 8	10YR 4/2	95	10YR 6/6	5	C	M	Silty Clay Loam	
8 to 16	10YR 6/1	65	10YR 6/8	35	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Fill
Depth (inches): 16

Hydric Soil Present? Yes ✘ **No** __

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138 kV Project City/County: Streetsboro, Portage County Sampling Date: 2024-2-23
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-14_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2182752 Long: -81.3825101 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 2 to 6 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of two of three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-14_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Poa pratensis*	80	Yes	FACU
2. *Poa annua*	10	No	FACU
3. *Rubus allegheniensis*	5	No	FACU
4. *Pycnanthemum virginianum*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals:	110 (A)		430 (B)

Prevalence Index = B/A = 3.9

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 8	10YR 4/2	100					Clay Loam	
8 to 18	10YR 4/1	70	10YR 5/6	30	C	M/PL	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Gravel
Depth (inches): 18

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Streetsboro, Portage County Sampling Date: 2024-2-23
Applicant/Owner: FE State: OH Sampling Point: W-EVN-15_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 10
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.218791 Long: -81.382606 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 2 to 6 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes ✘ No _____

If yes, optional Wetland Site ID: W-EVN-15

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✘ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ✘ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ✘ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes ✘ No _____ Depth (inches): 3

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-15_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	70	Yes	FACW
2. *Juncus effusus*	20	Yes	OBL
3. *Solidago gigantea*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		180 (B)

Prevalence Index = B/A = 1.8

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 5	10YR 5/1	95	10YR 6/8	5	C	PL	Clay Loam	
5 to 20	10YR 4/2	80	10YR 6/2	20	C	M/PL	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
No soil comments.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Streetsboro, Portage County Sampling Date: 2024-2-23
Applicant/Owner: FE State: OH Sampling Point: W-EVN-15_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Hilltop Local relief (concave, convex, none): None Slope (%): 1 to 10
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2190683 Long: -81.3827333 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 2 to 6 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: [redacted]

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-15_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Poa pratensis*	80	Yes	FACU
2. *Rosa multiflora*	10	No	FACU
3. *Solidago canadensis*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	110	x 4 =	440
UPL species	0	x 5 =	0
Column Totals:	110 (A)		440 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 5	10YR 4/3	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Gravel

Depth (inches): 5

Hydric Soil Present? Yes _____ **No** ✘

Remarks:

The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-26
Applicant/Owner: FE State: OH Sampling Point: W-EVN-16_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 3
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.21778 Long: -81.411724 Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 0 to 2 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes ✘ No _____
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes ✘ No _____

If yes, optional Wetland Site ID: W-EVN-16

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- ✘ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION – Use scientific names of plants. Sampling Point: W-EVN-16_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Cornus amomum*	15	Yes	FACW
2. *Frangula alnus*	10	Yes	FAC
3. *Fagus grandifolia*	5	No	FACU
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Solidago gigantea*	15	Yes	FACW
3. *Juncus effusus*	15	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	70	x 2 =	140
FAC species	10	x 3 =	30
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	100 (A)		205 (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

✘ 3 - Prevalence Index is ≤3.0[1]

_ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No _

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 5	10YR 4/1	95	10YR 5/6	5	C	PL	Clay Loam	
5 to 20	10YR 5/1	70	10YR 5/6	30	C	M/PL	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): _____

Hydric Soil Present? Yes ✘ **No** _____

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-26
Applicant/Owner: FE State: OH Sampling Point: W-EVN-16_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.217775 Long: -81.411718 Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 0 to 2 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No ✘
Hydric Soil Present? Yes ✘ No ____
Wetland Hydrology Present? Yes ____ No ✘

Is the Sampled Area within a Wetland? Yes ____ No ✘

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of two of three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ____ No ✘ Depth (inches): ____
Water Table Present? Yes ____ No ✘ Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ____ No ✘ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION – Use scientific names of plants. Sampling Point: W-EVN-16_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Frangula alnus*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Poa pratensis*	20	Yes	FACU
2. *Artemisia vulgaris*	20	Yes	UPL
3. *Dipsacus laciniatus*	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	30	x 4 =	120
UPL species	20	x 5 =	100
Column Totals:	65 (A)		265 (B)

Prevalence Index = B/A = 4.1

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _____ **No** ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 7	10YR 4/2	85	10YR 5/6	15	C	M/PL	Clay Loam	
7 to 20	10YR 7/1	70	10YR 6/8	30	C	M/PL	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-26
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-17_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.21755185 Long: -81.4109900167 Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 0 to 2 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No ____
Hydric Soil Present? Yes ✘ No ____
Wetland Hydrology Present? Yes ✘ No ____

Is the Sampled Area within a Wetland? Yes ✘ No ____

If yes, optional Wetland Site ID: W-EVN-17

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✘ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✘ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ____ No ✘ Depth (inches): ____
Water Table Present? Yes ____ No ✘ Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ✘ No ____ Depth (inches): 6

Wetland Hydrology Present? Yes ✘ No ____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-17_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Phragmites australis*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	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
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✘ **No** __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 12	10YR 2/1	90	10YR 6/8	10	C	M	Silty Clay Loam	
12 to 20	10YR 6/1	80	10YR 6/8	20	D	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✘ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-26
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-17_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2176565167 Long: -81.4109729333 Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 0 to 2 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No ✘
Hydric Soil Present? Yes ✘ No ____
Wetland Hydrology Present? Yes ____ No ✘

Is the Sampled Area within a Wetland? Yes ____ No ✘

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of two of three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ____ No ✘ Depth (inches): ____
Water Table Present? Yes ____ No ✘ Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ____ No ✘ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-17_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Poa pratensis*	100	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** __ **No** ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 12	10YR 4/2	80	10YR 6/6	20	C	M	Silty Clay Loam	
12 to 20	10YR 5/1	85	10YR 6/6	15	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-26
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-18_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.217645 Long: -81.408486 Datum: WGS84
Soil Map Unit Name: Trumbull silt loam, 0 to 2 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No ____
Hydric Soil Present? Yes ✘ No ____
Wetland Hydrology Present? Yes ✘ No ____

Is the Sampled Area within a Wetland? Yes ✘ No ____

If yes, optional Wetland Site ID: W-EVN-18

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✘ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ✘ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✘ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✘ Depth (inches): ____
Water Table Present? Yes ____ No ✘ Depth (inches): ____
Saturation Present? Yes ✘ No ____ Depth (inches): 3
(includes capillary fringe)

Wetland Hydrology Present? Yes ✘ No ____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-18_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	70	Yes	FACW
2. *Typha angustifolia*	20	Yes	OBL
3. *Rosa multiflora*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	70	x 2 =	140
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✘ **No** __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 5	10YR 3/1	90	10YR 4/6	10	C	PL	Clay Loam	
5 to 20	10YR 3/2	80	10YR 4/6	20	C	M/PL	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✘ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project | City/County: Hudson, Summit County | Sampling Date: 2024-2-26
Applicant/Owner: FE | State: OH | Sampling Point: W-EVN-18_UPL-1
Investigator(s): Erin Van Nort, Emma Given | Section, Township, Range: NA
Landform (hillslope, terrace, etc): Flat | Local relief (concave, convex, none): None | Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R | Lat: 41.217509 | Long: -81.409653 | Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes | NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✘
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes _____ No ✘

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes _____ No ✘ Depth (inches): _____
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes _____ No ✘ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-18_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Poa pratensis*	80	Yes	FACU
2. *Glechoma hederacea*	10	No	FACU
3. *Cardamine hirsuta*	5	No	FACU
4. *Plantago lanceolata*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	115 (A)		430 (B)

Prevalence Index = B/A = 3.7

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 7	10YR 4/3	90	10YR 5/6	10	C	M/PL	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: fill

Depth (inches): 7

Hydric Soil Present? Yes _____ **No** ✘

Remarks:

The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-26
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-19_PEM-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2177397 Long: -81.4043714 Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No ____
Hydric Soil Present? Yes ✘ No ____
Wetland Hydrology Present? Yes ✘ No ____

Is the Sampled Area within a Wetland? Yes ✘ No ____
If yes, optional Wetland Site ID: W-EVN-19

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:
Primary Indicators (minimum of one is required; check all that apply)
- ✘ Surface Water (A1)
- ___ High Water Table (A2)
- ✘ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ✘ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✘ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ✘ No ____ Depth (inches): 1
Water Table Present? Yes ____ No ✘ Depth (inches): ____
Saturation Present? Yes ✘ No ____ Depth (inches): 2
(includes capillary fringe)

Wetland Hydrology Present? Yes ✘ No ____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: W-EVN-19_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	60	Yes	FACW
2. *Typha angustifolia*	25	Yes	OBL
3. *Solidago gigantea*	10	No	FACW
4. *Apocynum cannabinum*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	70	x 2 =	140
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		180 (B)

Prevalence Index = B/A = 1.8

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✘ **No** __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 8	10YR 2/1	90	10YR 6/6	10	C	PL	Silty Clay Loam	
8 to 20	10YR 6/1	80	10YR 6/6	20	D	M/PL	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ✘ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-26
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EVN-19_UPL-1
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.217733 Long: -81.404274 Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No ✘
Hydric Soil Present? Yes ____ No ✘
Wetland Hydrology Present? Yes ____ No ✘

Is the Sampled Area within a Wetland? Yes ____ No ✘

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ____ No ✘ Depth (inches): ____
Water Table Present? Yes ____ No ✘ Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ____ No ✘ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION – Use scientific names of plants. Sampling Point: W-EVN-19_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)				
1.	*Poa compressa*	65	Yes	FACU
2.	*Rubus caesius*	25	Yes	FACU
3.	*Fragaria virginiana*	10	No	FACU
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _____ **No** ✘

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

The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 8	2.5Y 5/2	100					Silty Clay Loam	
8 to 20	2.5Y 6/3	100					Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ___ **No** ✘

Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Hudson, Summit County Sampling Date: 2024-2-21
Applicant/Owner: FirstEnergy State: OH Sampling Point: ROP-EVN-01
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Terrace Local relief (concave, convex, none): None Slope (%): 1 to 3
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2541192584 Long: -81.4021209162 Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No ____
Hydric Soil Present? Yes ✘ No ____
Wetland Hydrology Present? Yes ____ No ✘

Is the Sampled Area within a Wetland? Yes ____ No ✘

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of the wetland hydrology parameter, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ____ No ✘ Depth (inches): ____
Water Table Present? Yes ____ No ✘ Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ____ No ✘ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION — Use scientific names of plants. Sampling Point: ROP-EVN-01

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Cornus alba*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1. *Cornus alba*	35	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	35	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	25	Yes	FACW
2. *Apocynum cannabinum*	15	Yes	FAC
3. *Onoclea sensibilis*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		205 (B)

Prevalence Index = B/A = 2.2

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✘ **No** __

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

The criterion for hydrophytic vegetation is met.

SOIL Sampling Point: ROP-EVN-01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 6	2.5Y 4/1	100					Silty Clay Loam	
6 to 20	10YR 5/2	85	10YR 6/8	15	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project City/County: Streetsboro, Portage County Sampling Date: 2024-2-23
Applicant/Owner: FirstEnergy State: OH Sampling Point: ROP-EVN-02
Investigator(s): Erin Van Nort, Emma Given Section, Township, Range: NA
Landform (hillslope, terrace, etc): Back slope Local relief (concave, convex, none): None Slope (%): 1 to 3
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.2203322333 Long: -81.3826438333 Datum: WGS84
Soil Map Unit Name: Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No _____ (If no, explain in Remarks.)
Are Vegetation _____ , Soil _____ , or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No _____
Are Vegetation _____ , Soil _____ , or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✘ No _____
Hydric Soil Present? Yes _____ No ✘
Wetland Hydrology Present? Yes ✘ No _____

Is the Sampled Area within a Wetland? Yes _____ No ✘

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the absence of the hydric soil parameter, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✘ Surface Water (A1)
- _____ High Water Table (A2)
- ✘ Saturation (A3)
- _____ Water Marks (B1)
- _____ Sediment Deposits (B2)
- _____ Drift Deposits (B3)
- _____ Algal Mat or Crust (B4)
- _____ Iron Deposits (B5)
- _____ Inundation Visible on Aerial Imagery (B7)
- _____ Sparsely Vegetated Concave Surface (B8)
- _____ Water-Stained Leaves (B9)
- _____ Aquatic Fauna (B13)
- _____ Marl Deposits (B15)
- _____ Hydrogen Sulfide Odor (C1)
- _____ Oxidized Rhizospheres along Living Roots (C3)
- _____ Presence of Reduced Iron (C4)
- _____ Recent Iron Reduction in Tilled Soils (C6)
- _____ Thin Muck Surface (C7)
- _____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- _____ Surface Soil Cracks (B6)
- _____ Drainage Patterns (B10)
- _____ Moss Trim Lines (B16)
- _____ Dry-Season Water Table (C2)
- _____ Crayfish Burrows (C8)
- _____ Saturation Visible on Aerial Imagery (C9)
- _____ Stunted or Stressed Plants (D1)
- _____ Geomorphic Position (D2)
- _____ Shallow Aquitard (D3)
- _____ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✘ No _____ Depth (inches): 1
Water Table Present? Yes _____ No ✘ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes ✘ No _____ Depth (inches): 12

Wetland Hydrology Present? Yes ✘ No _____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: ROP-EVN-02

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Phalaris arundinacea*	45	Yes	FACW
2. *Juncus effusus*	30	Yes	OBL
3. *Symphyotrichum lateriflorum*	15	No	FAC
4. *Epilobium coloratum*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	45	x 2 =	90
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		175 (B)

Prevalence Index = B/A = 1.8

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

SOIL Sampling Point: ROP-EVN-02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 13	10YR 4/2	100					Silty Clay Loam	
13 to 20	10YR 5/2	85	10YR 6/6	15	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): _____

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

Remarks:
The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Darrow-Hudson East 138kV Project | City/County: Hudson, Summit County | Sampling Date: 2024-2-26
Applicant/Owner: FirstEnergy | State: OH | Sampling Point: ROP-EVN-3
Investigator(s): Erin Van Nort, Emma Given | Section, Township, Range: NA
Landform (hillslope, terrace, etc): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R | Lat: 41.2148809 | Long: -81.4205109 | Datum: WGS84
Soil Map Unit Name: Mahoning silt loam, 2 to 6 percent slopes | NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✘	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✘
Hydric Soil Present?	Yes ____	No ✘	
Wetland Hydrology Present?	Yes ✘	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of the hydric soil parameter, this area is an upland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✘ Surface Water (A1)
- ✘ High Water Table (A2)
- ✘ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✘	No ____	Depth (inches): 1
Water Table Present?	Yes ✘	No ____	Depth (inches): 3
Saturation Present? (includes capillary fringe)	Yes ✘	No ____	Depth (inches): 2

Wetland Hydrology Present? Yes ✘ No ____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION — Use scientific names of plants. Sampling Point: ROP-EVN-3

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)			
1. *Phragmites australis*	85	Yes	FACW
2. *Dipsacus laciniatus*	10	No	FACU
3. *Rumex crispus*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	5	x 3 =	15
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	100 (A)		225 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree — Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines — All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✘ No __

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

The criterion for hydrophytic vegetation is met.

SOIL Sampling Point: ROP-EVN-3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 5	10YR 4/3	100					Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Gravel,fill

Depth (inches): 5

Hydric Soil Present? Yes _____ **No** ✘

Remarks:

The criterion for hydric soil is not met.

OEPA ORAM Field Forms

Background Information

Name: Erin Van Nort
Date: 02/21/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-1
Vegetation Communit(ies): PEM
HGM Class(es): Depression (I)
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.259267 -81.39568
USGS Quad Name	Twinsburg
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/21/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-1	
Wetland Size (acres, hectares):	~9-acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 38	**Category:** 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-21

RESOURCE ID: W-EVN-01
TYPE: PEM
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

3 (max 6 pts.) | 3 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [X] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

9 (max 14 pts.) | 12 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [X] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

13 (max 30 pts.) | 25 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [X] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [X] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [X] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [X] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

9 (max 20 pts.) | 34 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [X] Moderately good (4)
- [ ] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [X] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

34
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-21

34
subtotal first page

0 (max 10 pts.) | 34 (subtotal)

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4 (max 20 pts.) | 38 (subtotal)

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [1] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [X] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

Invasives present:
hybrid cattail,narrow-leaved cattail,phragmites,reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [X] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [1] Coarse woody debris >15cm (6in)
- [1] Standing dead >25cm (10in) dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

38 **Modified Category 2**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	38	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/21/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-2
Vegetation Communit(ies): PFO
HGM Class(es): Depression (I)
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.256029 -81.397537
USGS Quad Name	Twinsburg
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/21/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-2	
Wetland Size (acres, hectares):	~9-acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 49	**Category:** 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-21

RESOURCE ID: W-EVN-02
TYPE: PFO
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

3	3
max 6 pts.	subtotal

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [X] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

12	15
max 14 pts.	subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [X] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

16	31
max 30 pts.	subtotal

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [X] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [X] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [X] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [ ] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [X] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [X] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

9	40
max 20 pts.	subtotal

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [X] Moderately good (4)
- [ ] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [ ] clearcutting
- [X] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [X] dredging
- [ ] farming
- [ ] nutrient enrichment

40
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-21

40 subtotal first page

0 max 10 pts. | **40** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

9 max 20 pts. | **49** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [1] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [X] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

Invasives present: phragmites,reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [X] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [2] Coarse woody debris >15cm (6in)
- [1] Standing dead >25cm (10in) dbh
- [2] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

49 **Modified Category 2**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use	12	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	9	
	TOTAL SCORE	49	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/21/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-3
Vegetation Communit(ies): PEM
HGM Class(es): Depression (I)
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.254384 -81.398396
USGS Quad Name	Twinsburg
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/21/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-3	
Wetland Size (acres, hectares):	~0.3-acre

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 20 **Category:**	1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-21

RESOURCE ID: W-EVN-03
TYPE: PEM
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

1	1
max 6 pts.	subtotal

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [X] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

7	8
max 14 pts.	subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [X] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [ ] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

7	15
max 30 pts.	subtotal

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [X] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [X] filling/grading
- [X] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

8	23
max 20 pts.	subtotal

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [X] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [X] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [X] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

23
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-21

23 subtotal first page

0 max 10 pts. | **23** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-3 max 20 pts. | **20** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [X] Low (1)
- [ ] None (0)

Invasives present:
hybrid cattail,narrow-leaved cattail,phragmites

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [X] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [ ] Coarse woody debris >15cm (6in)
- [ ] Standing dead >25cm (10in) dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

20 **Category 1**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 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	7	
	Metric 3. Hydrology	7	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-3	
	TOTAL SCORE	20	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/21/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-4
Vegetation Communit(ies): PEM
HGM Class(es): Depression (I)
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.25428 -81.400257
USGS Quad Name	Twinsburg
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/21/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-4	
Wetland Size (acres, hectares):	~0.26-acre

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 23	**Category:** 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	**Rater(s):** Erin Van Nort, Emma Given	**Date:** 2024-02-21

RESOURCE ID: W-EVN-04
TYPE: PEM
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

1 (max 6 pts.) | 1 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [X] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

5 (max 14 pts.) | 6 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [X] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

9 (max 30 pts.) | 15 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [X] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [X] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [X] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

7 (max 20 pts.) | 22 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [X] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [X] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [X] dredging
- [ ] farming
- [ ] nutrient enrichment

22
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-21

22
subtotal first page

0 (max 10 pts.) | 22 (subtotal)

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1 (max 20 pts.) | 23 (subtotal)

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [0] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [X] None (0)

Invasives present:
narrow-leaved cattail

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [X] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [1] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [0] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

23 **Category 1**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 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	5	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	23	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/21/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-5
Vegetation Communit(ies): PEM
HGM Class(es): Depression (I)
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.254029 -81.403217
USGS Quad Name	Twinsburg
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/21/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-5	
Wetland Size (acres, hectares):	~0.26-acre

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 22.5 **Category:**	1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-21

RESOURCE ID: W-EVN-05
TYPE: PEM
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

1 (max 6 pts.) | 1 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [X] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

4 (max 14 pts.) | 5 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [X] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [ ] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

10 (max 30 pts.) | 15 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [X] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (2ft .6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [X] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [X] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [X] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

7.5 (max 20 pts.) | 22.5 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [X] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [X] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [X] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

22.5
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-21

22.5 subtotal first page

0 max 10 pts. | **22.5** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0 max 20 pts. | **22.5** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [X] None (0)

Invasives present: narrow-leaved cattail,reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [X] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [0] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [0] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.247 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

22.5 **Category 1**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 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	4	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	7.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	22.5	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/21/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-6
Vegetation Communit(ies): PEM
HGM Class(es): Depression (I)
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.253975 -81.404532
USGS Quad Name	Twinsburg
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/21/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-6	
Wetland Size (acres, hectares):	~0.24-acre

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 22.5	**Category:** 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	**Rater(s):** Erin Van Nort, Emma Given	**Date:** 2024-02-21

RESOURCE ID: W-EVN-06
TYPE: PEM
Continues Offsite? _yes_

1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [X] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

4	5
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 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [X] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [ ] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

10	15
max 30 pts.	subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [X] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [X] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [X] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other: _____

7.5	22.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [X] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [X] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [X] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

22.5
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-21

22.5 subtotal first page

0 / 22.5 Metric 5. Special Wetlands.

max 10 pts. / subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0 / 22.5 Metric 6. Plant communities, interspersion, microtopography.

max 20 pts. / subtotal

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [X] None (0)

Invasives present:
reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [X] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [0] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [0] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

22.5 **Category 1**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 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	4	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	7.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	22.5	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/21/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, Ohio 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-7
Vegetation Communit(ies): PEM, PSS
HGM Class(es): Depression (I)
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.249103 -81.39332
USGS Quad Name	Hudson
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/21/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-7	
Wetland Size (acres, hectares):	~0.79-acre

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

If wetland score falls into gray zone, we elevate score to category 2.

Final score : 30.5	**Category:**	2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-21

RESOURCE ID: W-EVN-07
TYPE: PEM, PSS
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

2 (max 6 pts.) | 2 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [X] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

5 (max 14 pts.) | 7 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [X] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

16 (max 30 pts.) | 23 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [X] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [X] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [X] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [X] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [X] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [X] stormwater input
- [ ] point source (nonstormwater)
- [X] filling/grading
- [X] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

8.5 (max 20 pts.) | 31.5 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [X] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [X] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [X] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

31.5
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-21

31.5 subtotal first page

0 max 10 pts. | **31.5** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-1 max 20 pts. | **30.5** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [0] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [X] Low (1)
- [ ] None (0)

Invasives present:
narrow-leaved cattail,phragmites

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [X] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [1] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [1] Standing dead >25cm (10in) dbh
- [0] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.24/1 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

30.5 **Category 2**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 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	5	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	8.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	30.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/21/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-8
Vegetation Communit(ies): PEM, PFO
HGM Class(es): Depression (I)
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.252622 -81.395594
USGS Quad Name	Twinsburg
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/21/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-8	
Wetland Size (acres, hectares):	~8.64-acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 44	**Category:** 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-21

RESOURCE ID: W-EVN-08
TYPE: PEM, PFO
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

3 (max 6 pts.) | 3 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [X] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

8 (max 14 pts.) | 11 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [X] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

20 (max 30 pts.) | 31 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [X] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [X] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [X] Semi to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [X] Recovered (7)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [X] filling/grading
- [X] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

10 (max 20 pts.) | 41 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [X] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [X] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [X] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [X] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [X] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

41
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-21

41
subtotal first page

0 (max 10 pts.) | 41 (subtotal)

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

3 (max 20 pts.) | 44 (subtotal)

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [0] Shrub
- [1] Forest
- [ ] Mudflats
- [0] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [X] Low (1)
- [ ] None (0)

Invasives present:
European buckthorn,narrow-leaved cattail,phragmites,reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [X] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [1] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [1] Standing dead >25cm (10in) dbh
- [1] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

44 **Modified Category 2**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	20	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	44	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/22/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-9
Vegetation Communit(ies): PEM
HGM Class(es): Riverine
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.229582 -81.382605
USGS Quad Name	Hudson
County	Portage
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/22/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-9	
Wetland Size (acres, hectares):	~0.33-acre

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 28.5 **Category:**	1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-22

RESOURCE ID: W-EVN-09
TYPE: PEM
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

1 (max 6 pts.) | 1 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [X] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

4 (max 14 pts.) | 5 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [X] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [ ] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

15 (max 30 pts.) | 20 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [X] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [X] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [X] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi to permanently inundated/saturated (4)
- [X] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [X] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [X] filling/grading
- [ ] road bed/RR track
- [X] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

7.5 (max 20 pts.) | 27.5 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [X] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [X] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [X] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

27.5
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-22

27.5 subtotal first page

0 / 27.5 Metric 5. Special Wetlands.

max 10 pts. / subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1 / 28.5 Metric 6. Plant communities, interspersion, microtopography.

max 20 pts. / subtotal

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [2] Emergent
- [0] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion. Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [X] None (0)

Invasives present: phragmites,reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [X] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography. Score all present using 0 to 3 scale.

- [0] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [0] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

28.5 Category 1

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 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	4	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	7.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	28.5	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/22/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-10
Vegetation Communit(ies): PEM
HGM Class(es): Riverine
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.230247 -81.382564
USGS Quad Name	Hudson
County	Portage
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/22/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-10	
Wetland Size (acres, hectares):	~0.07-acre

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 20.5 **Category:**	1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-22

RESOURCE ID: W-EVN-10
TYPE: PEM
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

0	0
max 6 pts.	subtotal

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [X] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

4	4
max 14 pts.	subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [X] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [ ] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

14	18
max 30 pts.	subtotal

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [X] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [X] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [X] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [X] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [X] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [X] stormwater input
- [ ] point source (nonstormwater)
- [X] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

6.5	24.5
max 20 pts.	subtotal

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [X] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [ ] Poor to fair (2)
- [X] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [X] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [X] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

24.5
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-22

24.5 subtotal first page

0 / 24.5 Metric 5. Special Wetlands.

max 10 pts. / subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-4 / 20.5 Metric 6. Plant communities, interspersion, microtopography.

max 20 pts. / subtotal

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [X] None (0)

Invasives present: phragmites

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [X] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [0] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [0] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.247 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

20.5 **Category 1**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	6.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	20.5	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/23/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-11
Vegetation Communit(ies): PEM
HGM Class(es): Depression
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.21189 -81.382458
USGS Quad Name	Hudson
County	Portage
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/23/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-11	
Wetland Size (acres, hectares):	~2.54-acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 25	**Category:** 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-23

RESOURCE ID: W-EVN-11
TYPE: PEM
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

2 (max 6 pts.) | 2 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [X] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

6 (max 14 pts.) | 8 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [X] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

7 (max 30 pts.) | 15 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [X] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [X] filling/grading
- [X] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

8 (max 20 pts.) | 23 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [X] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [X] clearcutting
- [ ] selective cutting
- [X] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [X] dredging
- [ ] farming
- [ ] nutrient enrichment

23
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-23

23
subtotal first page

0 (max 10 pts.) | 23 (subtotal)

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 (max 20 pts.) | 25 (subtotal)

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [X] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

Invasives present:
reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [X] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [ ] Coarse woody debris >15cm (6in)
- [1] Standing dead >25cm (10in) dbh
- [1] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

25 **Category 1**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 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	6	
	Metric 3. Hydrology	7	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	25	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/23/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-12
Vegetation Communit(ies): PEM
HGM Class(es): Depression
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.215887 -81.382487
USGS Quad Name	Hudson
County	Portage
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/23/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-12	
Wetland Size (acres, hectares):	~1.00-acre

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 26.5 **Category:**	1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-23

RESOURCE ID: W-EVN-12
TYPE: PEM
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

1 (max 6 pts.) | 1 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [X] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

11 (max 14 pts.) | 12 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [X] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

12 (max 30 pts.) | 24 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [X] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [X] Recovered (7)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [X] filling/grading
- [X] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

6.5 (max 20 pts.) | 30.5 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [X] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [ ] Poor to fair (2)
- [X] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [X] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

30.5
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-23

30.5 subtotal first page

Metric 5. Special Wetlands.

0 max 10 pts. | **30.5** subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

Metric 6. Plant communities, interspersion, microtopography.

-4 max 20 pts. | **26.5** subtotal

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [X] None (0)

Invasives present:
reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [X] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [0] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [0] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2 :71 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

26.5 **Category 1**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 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	11	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	6.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	26.5	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/23/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-13
Vegetation Communit(ies): PEM, PFO
HGM Class(es): Depression
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.216856 -81.382741
USGS Quad Name	Hudson
County	Portage
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/23/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-13	
Wetland Size (acres, hectares):	~1.68-acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 27	**Category:** 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-23

RESOURCE ID: W-EVN-13
TYPE: PEM, PFO
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

2 (max 6 pts) | 2 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [X] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

12 (max 14 pts) | 14 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [X] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

9 (max 30 pts) | 23 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7m (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [X] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [X] filling/grading
- [X] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

7 (max 20 pts.) | 30 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [X] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [X] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [X] dredging
- [ ] farming
- [ ] nutrient enrichment

30
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-23

30
subtotal first page

0 (max 10 pts.) | 30 (subtotal)

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-3 (max 20 pts.) | 27 (subtotal)

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [X] Low (1)
- [ ] None (0)

Invasives present:
reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [X] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [ ] Coarse woody debris >15cm (6in)
- [ ] Standing dead >25cm (10in) dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

27 **Category 1**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 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	12	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-3	
	TOTAL SCORE	27	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/23/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-14
Vegetation Communit(ies): PEM
HGM Class(es): Depression
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.218241 -81.382625
USGS Quad Name	Hudson
County	Portage
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/23/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-14	
Wetland Size (acres, hectares):	0.099

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 29.5	**Category:** 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	**Rater(s):** Erin Van Nort, Emma Given	**Date:** 2024-02-23

RESOURCE ID: W-EVN-14
TYPE: PEM
Continues Offsite? no

Metric 1. Wetland Area (size).

0 (max 6 pts.) | 0 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [X] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

12 (max 14 pts.) | 12 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [X] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

10 (max 30 pts.) | 22 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7m (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [X] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [X] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [X] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

7.5 (max 20 pts.) | 29.5 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [X] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [X] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [X] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

29.5
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-23

29.5 subtotal first page

0 / 29.5 Metric 5. Special Wetlands.

max 10 pts. / subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

0 / 29.5 Metric 6. Plant communities, interspersion, microtopography.

max 20 pts. / subtotal

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [X] None (0)

Invasives present:
reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [X] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [0] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [0] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.~471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

29.5 Category 1

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	12	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	7.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	29.5	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/23/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-15
Vegetation Communit(ies): PEM, PFO
HGM Class(es): Depression
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.218764 -81.382605
USGS Quad Name	Hudson
County	Portage
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020502
Site Visit	02/23/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-15	
Wetland Size (acres, hectares):	~0.24-acre

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 29	**Category:** 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-23

RESOURCE ID: W-EVN-15
TYPE: PEM, PFO
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

1 (max 6 pts) | 1 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [X] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

12 (max 14 pts) | 13 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [X] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

8 (max 30 pts) | 21 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [X] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [X] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

7 (max 20 pts) | 28 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [X] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [X] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [X] dredging
- [ ] farming
- [ ] nutrient enrichment

28
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-23

28
subtotal first page

0 (max 10 pts.) | 28 (subtotal)

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1 (max 20 pts.) | 29 (subtotal)

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [X] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

Invasives present:
reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [X] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [ ] Coarse woody debris >15cm (6in)
- [ ] Standing dead >25cm (10in) dbh
- [1] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

29 **Category 1**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 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	12	
	Metric 3. Hydrology	8	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	29	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/26/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH, 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-16
Vegetation Communit(ies): PEM, PFO, PSS
HGM Class(es): Depression
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.217705 -81.416339
USGS Quad Name	Hudson
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020401
Site Visit	02/26/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-16	
Wetland Size (acres, hectares):	~13.10-acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 37	**Category:** 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-26

RESOURCE ID: W-EVN-16
TYPE: PEM, PFO, PSS
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

4 (max 6 pts) | 4 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [X] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

8 (max 14 pts) | 12 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [X] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

9 (max 30 pts) | 21 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [X] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [X] road bed/RR track
- [X] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

9 (max 20 pts.) | 30 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [X] Moderately good (4)
- [ ] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [X] clearcutting
- [ ] selective cutting
- [X] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

30
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-26

30
subtotal first page

Metric 5. Special Wetlands.

0 (max 10 pts.) | 30 (subtotal)

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

Metric 6. Plant communities, interspersion, microtopography.

7 (max 20 pts.) | 37 (subtotal)

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [X] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

Invasives present:
hybrid cattail,narrow-leaved cattail,reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [X] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [1] Coarse woody debris >15cm (6in)
- [2] Standing dead >25cm (10in) dbh
- [2] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

37 **Modified Category 2**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	4	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	7	
	TOTAL SCORE	37	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/26/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-17
Vegetation Communit(ies): PEM, PFO, PSS
HGM Class(es): Depression
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.217568 -81.410878
USGS Quad Name	Hudson
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020401
Site Visit	02/26/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-17	
Wetland Size (acres, hectares):	~0.26-acre

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 23	**Category:** 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-26

RESOURCE ID: W-EVN-17
TYPE: PEM, PFO, PSS
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

2 (max 6 pts) | 2 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [X] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

4 (max 14 pts) | 6 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [X] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [ ] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

7 (max 30 pts) | 13 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [X] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [X] filling/grading
- [X] road bed/RR track
- [X] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

8 (max 20 pts.) | 21 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [X] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [X] clearcutting
- [ ] selective cutting
- [X] woody debris removal
- [ ] toxic pollutants
- [X] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [X] dredging
- [ ] farming
- [ ] nutrient enrichment

21
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-26

21
subtotal first page

0 (max 10 pts.) | 21 (subtotal)

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 (max 20 pts.) | 23 (subtotal)

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [X] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

Invasives present:
phragmites

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [X] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [1] Coarse woody debris >15cm (6in)
- [ ] Standing dead >25cm (10in) dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

23 **Category 1**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 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	7	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	23	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/26/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-18
Vegetation Communit(ies): PEM, POW, PFO
HGM Class(es): Depression
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.217665 -81.408207
USGS Quad Name	Hudson
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020401
Site Visit	02/26/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-18	
Wetland Size (acres, hectares):	~8.94-acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 45	**Category:** 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-26

RESOURCE ID: W-EVN-18
TYPE: PEM, PFO, PSS
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

3 (max 6 pts) | 3 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [X] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

9 (max 14 pts) | 12 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [X] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [ ] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

17 (max 30 pts) | 29 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [X] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [X] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [X] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [ ] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [X] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [X] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

8 (max 20 pts) | 37 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [X] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [X] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [X] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [X] dredging
- [ ] farming
- [ ] nutrient enrichment

37
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Emma Given, Erin Van Nort	Date: 2024-02-26

37
subtotal first page

0 (max 10 pts.) | 37 (subtotal)

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

8 (max 20 pts.) | 45 (subtotal)

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [1] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [X] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

Invasives present: hybrid cattail,narrow-leaved cattail,reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [X] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [1] Coarse woody debris >15cm (6in)
- [2] Standing dead >25cm (10in) dbh
- [2] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

45 **Category 2**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	17	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	8	
	TOTAL SCORE	45	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Background Information

Name: Erin Van Nort
Date: 02/26/2024
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113
Phone Number: 216-347-3342
e-mail address: evannort@trccompanies.com
Name of Wetland: W-EVN-19
Vegetation Communit(ies): PEM, PFO
HGM Class(es): Depression
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.21723 -81.40345
USGS Quad Name	Hudson
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	041100020401
Site Visit	02/26/2024
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-19	
Wetland Size (acres, hectares):	~2.28-acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 41.5	**Category:** 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland*. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	(NO) Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-26

RESOURCE ID: W-EVN-19
TYPE: PFO, PEM
Continues Offsite? _yes_

Metric 1. Wetland Area (size).

2 (max 6 pts.) | 2 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [X] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

5 (max 14 pts.) | 7 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [X] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [X] LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- [X] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [ ] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

18.5 (max 30 pts.) | 25.5 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [X] Precipitation (1)
- [X] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [X] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [X] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one/dbl check avg.

- [ ] Semi- to permanently inundated/saturated (4)
- [X] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [X] None or none apparent (12)
- [X] Recovered (7)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [X] road bed/RR track
- [ ] dredging
- [ ] other: _____

Metric 4. Habitat Alteration and Development.

11 (max 20 pts.) | 36.5 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [X] None or none apparent (4)
- [X] Recovered (3)
- [ ] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [X] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [X] Recovered (6)
- [X] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [X] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [X] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

36.5
subtotal this page

last revised 1 February 2001 jjm

Site: FirstEnergy, Darrow-Hudson East ...	Rater(s): Erin Van Nort, Emma Given	Date: 2024-02-26

36.5 subtotal first page

Metric 5. Special Wetlands.

0 max 10 pts. | **36.5** subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

Metric 6. Plant communities, interspersion, microtopography.

5 max 20 pts. | **41.5** subtotal

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [0] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other: _____

6b. Horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high (4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [X] Low (1)
- [ ] None (0)

Invasives present: narrow-leaved cattail,reed canary grass

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [X] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [0] Vegetated hummucks/tussucks
- [1] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [1] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

41.5 **Modified Category 2**

End of Quantitative Rating. Complete Categorization Worksheets.

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 Endangered 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.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 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.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 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
	Question 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	5	
	Metric 3. Hydrology	18.5	
	Metric 4. Habitat	11	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	41.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
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 wetland?	(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, the wetland should be assigned to that 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 a 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 undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	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 hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written 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.

Stream Forms

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **27**

SITE NAME/LOCATION S-EVN-01, FirstEnergy - Darrow-Hudson East 138kV Project.

SITE NUMBER 1 RIVER CODE ___ RIVER BASIN ___ DRAINAGE AREA (mi^2) 0.004

LENGTH OF STREAM REACH (ft) 200 LAT. 41.2588878 LONG. -81.3957259 RIVER MILE ___

DATE 2024-02-21 SCORER EVN 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]**	___		SILT **[3 pts]**	15
	BOULDER (>256 mm) **[16 pts]**	___		LEAF PACK/WOODY DEBRIS **[3 pts]**	10
	BEDROCK **[16 pts]**	___	✓	FINE DETRITUS **[3 pts]**	25
	COBBLE (65-256 mm) **[12 pts]**	___		CLAY or HARDPAN **[0 pts]**	___
	GRAVEL (2-64 mm) **[9 pts]**	___	✓	MUCK **[0 pts]**	50
	SAND (<2 mm) **[6 pts]**	___		ARTIFICIAL **[3 pts]**	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 **(A)** **(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]**

COMMENTS___ **MAXIMUM POOL DEPTH (centimeters):** 6

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]**	> 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):** 0.7

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 Small channel flowing through wet woods into tinkers Creek

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: Tinkers Creek — Distance from Evaluated Stream 24 meters
☐ 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: Twinsburg — NRCS Soil Map Page: _ — NRCS Soil Map Stream Order _

County: Summit — Township / City: Hudson

MISCELLANEOUS

Base Flow Conditions? (Y/N): yes Date of last precipitation: 2024-02-17 Quantity: .14

Photo-documentation Notes: ____

Elevated Turbidity? (Y/N): no Canopy (% open): 75

Were samples collected for water chemistry? (Y/N): no Lab Sample # or ID (attach results): _

Field Measures: Temp (°C) 6.1 Dissolved Oxygen (mg/l) _ pH (S.U.) 7.52 Conductivity (µmhos/cm) _

Is the sampling reach representative of the stream (Y/N) yes If not, please explain:

Additional comments/description of pollution impacts:

BIOLOGICAL OBSERVATIONS N/A
(Record all observations below)

Fish Observed? (Y/N) _ Species observed (if known): _
Frogs or Tadpoles Observed? (Y/N) _ Species observed (if known): _
Salamanders Observed? (Y/N) _ Species observed (if known): _
Aquatic Macroinvertebrates Observed? (Y/N) _ Species observed (if known): _
Comments Regarding Biology:

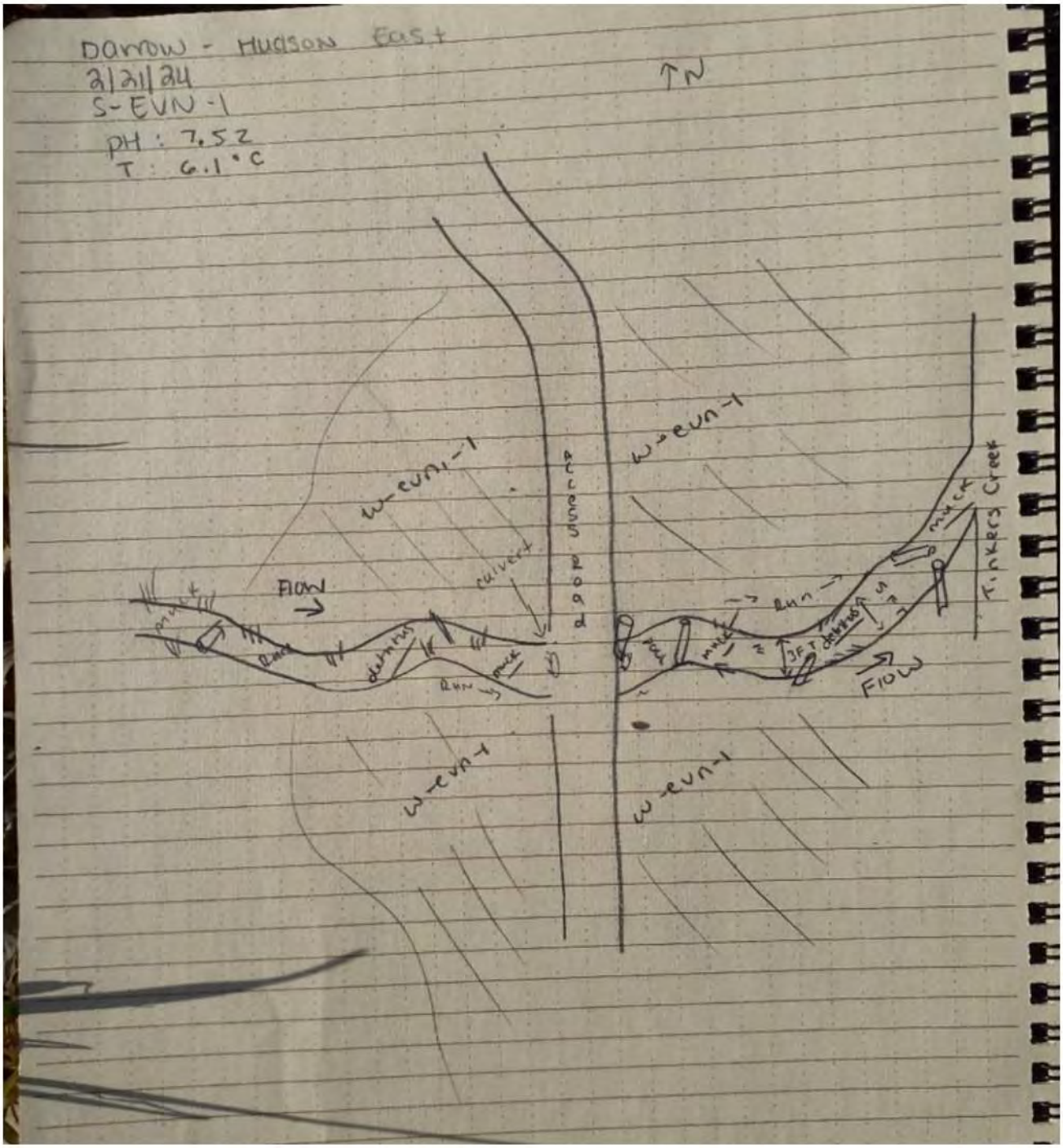
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: S-EVN-01



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 47.50

Stream & Location: S-EVN-2 (UNT to Tinkers Creek) north of I-80 in the City of Hudson, Ohio **RM:** 0.2 **Date:** 2 / 21 / 24

FE Darrow-Hudson East 138kV ROW Assurance Project **Scorers Full Name & Affiliation:** E. Given & E. Van Nort, TRC

River Code: ___-___-___ **STORET #:** _____ **Lat./ Long.:** (NAD 83 - decimal °) 41 . 256849 /8 1 . 397514 **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]	15	0
☐ BOULDER [9]			☐ DETRITUS [3]	20	0
☐ COBBLE [8]			☐ MUCK [2]		
☑ GRAVEL [7]	35	0	☑ SILT [2]	30	0
☐ 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]

SILT / EMBEDDEDNESS

QUALITY
- ☐ HEAVY [-2]
- ☑ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]
- ☐ EXTENSIVE [-2]
- ☑ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Comments

Substrate 8.00 *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]	____ POOLS > 70cm [2]	____ OXBOWS, BACKWATERS [1]
____ OVERHANGING VEGETATION [1]	1 ROOTWADS [1]	____ AQUATIC MACROPHYTES [1]
____ SHALLOWS (IN SLOW WATER) [1]	____ BOULDERS [1]	1 LOGS OR WOODY DEBRIS [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 6.00 *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 12.00 *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 9.50 *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 4.00 *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 0.00 *Maximum 8*

6] GRADIENT

(20.1 ft/mi)

DRAINAGE AREA

(4.83 mi²)

- ☐ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☑ HIGH - VERY HIGH [10-6]

%POOL: 25 **%GLIDE:** 0 **%RUN:** 75 **%RIFFLE:** 0

Gradient 8.00 *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

0.6 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 _____ cm

2nd _____ cm

Comment RE: Reach consistency/ Is reach typical of steam?, *Recreation/* Observed - Inferred, *Other/* Sampling observations, Concerns, Access directions, etc.

ph: 8.19; Temperature: 9.5 C; no fish observed

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

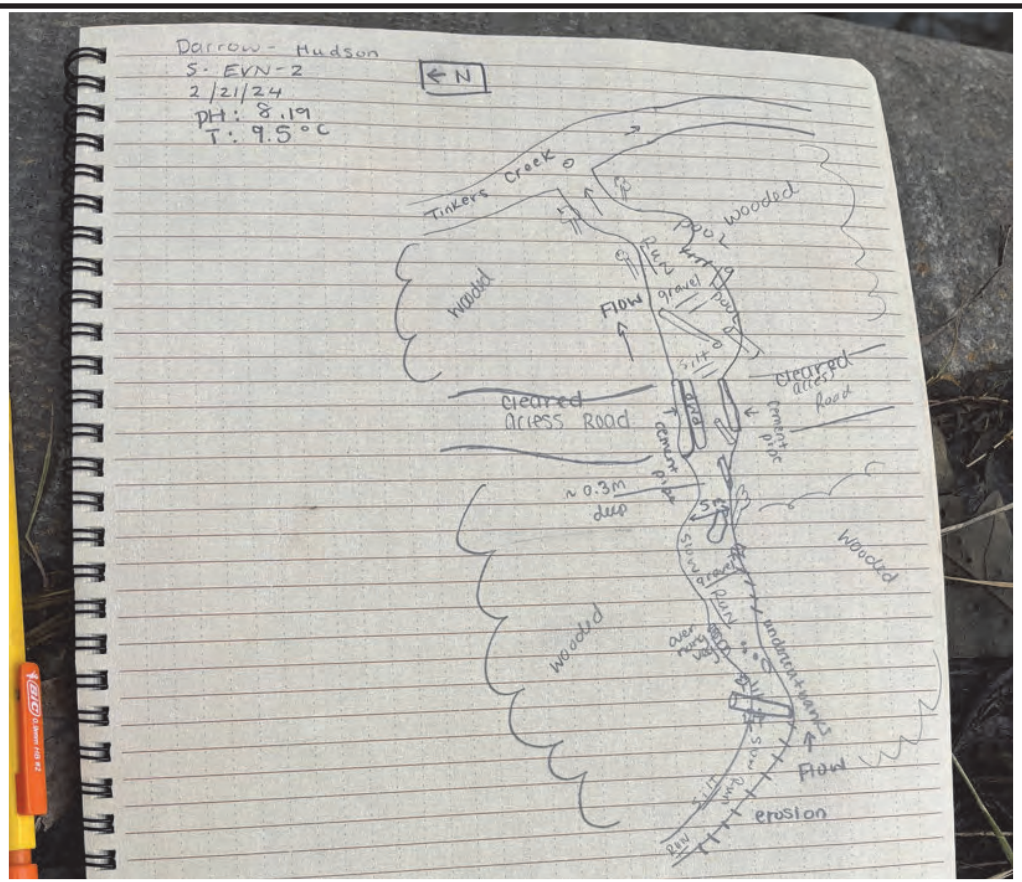
WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT&GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS

$\bar{x}$ width 4.5m
$\bar{x}$ depth 2m
max. depth 2.4m
$\bar{x}$ bankfull width 5.8
bankfull $\bar{x}$ depth
W/D ratio
bankfull max. depth
floodprone x_2 width
entrench. ratio

Legacy Tree:

Stream Drawing:



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 51.00

Stream & Location: S-EVN-3 (UNT to Tinkers Creek) north of I-80 in the City of Hudson, Ohio **RM:** _ _ _._ **Date:** 2 / 21 / 24

FE Darrow-Hudson East 138kV ROW Assurance Project **Scorers Full Name & Affiliation:** E. Given & E. Van Nort, TRC

River Code: _ _ _ - _ _ _ - _ _ _ **STORET #:** _ _ _ _ _ _ **Lat./ Long.:** (NAD 83 - decimal °) 41. 2540762 /8 1 . 4029179 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]	10		☐ ☐ DETRITUS [3]	10	
☑ ☐ COBBLE [8]	22		☐ ☐ MUCK [2]	18	
☐ ☐ GRAVEL [7]	10		☑ ☐ SILT [2]	30	
☐ ☐ 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]

SILT / EMBEDDEDNESS

QUALITY
- ☑ HEAVY [-2]
- ☐ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]
- ☐ EXTENSIVE [-2]
- ☑ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Comments

Substrate 8.00 *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]	POOLS > 70cm [2]	OXBOWS, BACKWATERS [1]
1 OVERHANGING VEGETATION [1]	ROOTWADS [1]	AQUATIC MACROPHYTES [1]
SHALLOWS (IN SLOW WATER) [1]	1 BOULDERS [1]	1 LOGS OR WOODY DEBRIS [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 9.00

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 12.00

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 9.00

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 Maximum 12 5.00

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 0.00

6] GRADIENT

(42.4 ft/mi) ☐ VERY LOW - LOW [2-4] ☐ MODERATE [6-10] ☑ HIGH - VERY HIGH [10-6]

DRAINAGE AREA (1.94 mi²)

%POOL: 0 %GLIDE: 0 %RUN: 100 %RIFFLE: 0

Gradient Maximum 10 8.00

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

0.6 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 _____ cm

2nd _____ cm

Comment RE: Reach consistency/ Is reach typical of steam?, *Recreation/* Observed - Inferred, *Other/* Sampling observations, Concerns, Access directions, etc.

ph: 7.88; Temperature: 11.8 C; No fish observed

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

PUBLIC / PRIVATE / BOTH / NA ✓

ACTIVE / HISTORIC / BOTH / NA

YOUNG-SUCCESSION-OLD ✓

SPRAY / SNAG / REMOVED

MODIFIED / DIPPED OUT / NA ✓

LEVEED / ONE SIDED

RELOCATED / CUTOFFS

MOVING-BEDLOAD-STABLE

ARMOURED / SLUMPS

ISLANDS / SCOURED

IMPOUNDED / DESICCATED

FLOOD CONTROL / DRAINAGE

Circle some & *COMMENT*

Channel within utility ROW, logged, primitive log bridge, decent substrate under silt.

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 4.2m

$\bar{x}$ depth 0.20m

max. depth 0.5m

$\bar{x}$ bankfull width

bankfull x depth

W/D ratio

bankfull max. depth

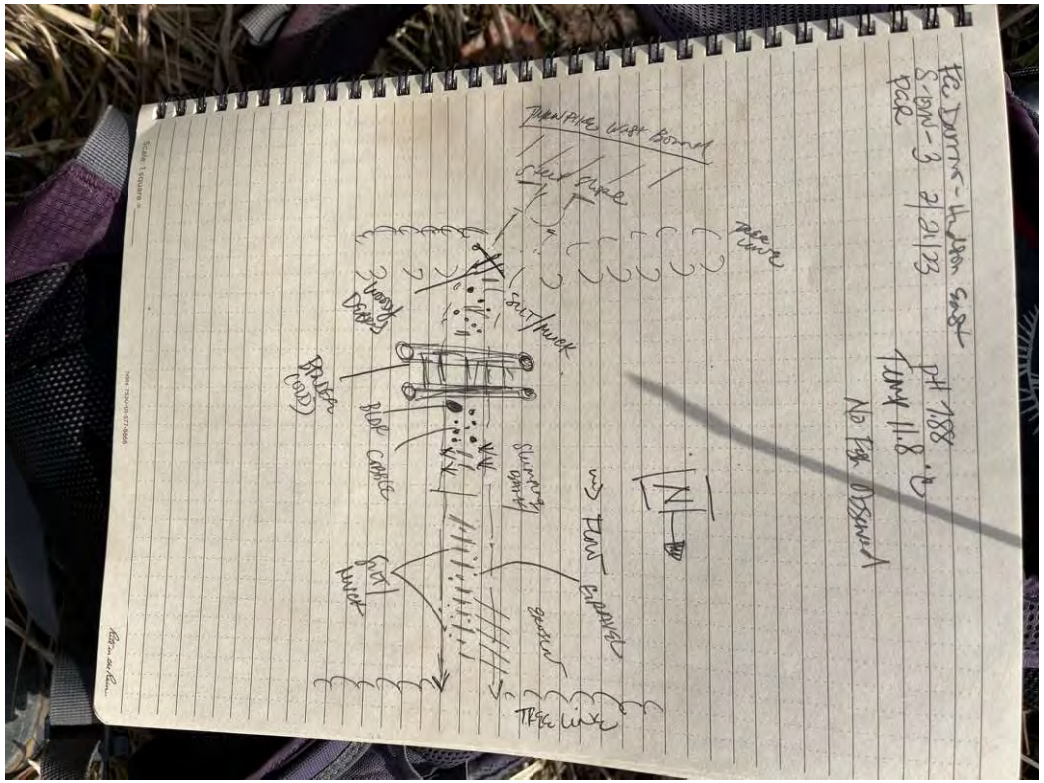
floodprone x2 width

entrench. ratio

Legacy Tree:

none

Stream Drawing:



Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **22**

SITE NAME/LOCATION S-EVN-04. FirstEnergy - Darrow-Hudson East 138kV Project.

SITE NUMBER 4 RIVER CODE ___ RIVER BASIN ___ DRAINAGE AREA (mi^2) <0.001

LENGTH OF STREAM REACH (ft) 200 LAT. 41.2492792 LONG. -81.392975 RIVER MILE ___

DATE 2024-02-21 SCORER EVN 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]**	___		SILT **[3 pts]**	___
	BOULDER (>256 mm) **[16 pts]**	___		LEAF PACK/WOODY DEBRIS **[3 pts]**	30
	BEDROCK **[16 pts]**	___		FINE DETRITUS **[3 pts]**	___
	COBBLE (65-256 mm) **[12 pts]**	___		CLAY or HARDPAN **[0 pts]**	___
✓	GRAVEL (2-64 mm) **[9 pts]**	30	✓	MUCK **[0 pts]**	40
	SAND (<2 mm) **[6 pts]**	___		ARTIFICIAL **[3 pts]**	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 **(A)** **(B)**

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 **TOTAL NUMBER OF SUBSTRATE TYPES:** 3

HHEI Metric Points

Substrate Max = 40

12

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 Only pool after culvert **MAXIMUM POOL DEPTH (centimeters):** 4

Pool Depth Max = 30

5

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):** 0.3

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 small stream draining wetland complex

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: Tinkers Creek — Distance from Evaluated Stream 300 meters

☐ 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: Hudson — NRCS Soil Map Page: _ — NRCS Soil Map Stream Order _

County: Summit — Township / City: Hudson

MISCELLANEOUS

Base Flow Conditions? (Y/N): yes Date of last precipitation: 2024-02-17 Quantity: .14

Photo-documentation Notes: ____

Elevated Turbidity? (Y/N): no Canopy (% open): 50

Were samples collected for water chemistry? (Y/N): no Lab Sample # or ID (attach results): _

Field Measures: Temp (°C) 9.6 Dissolved Oxygen (mg/l) _ pH (S.U.) 8.13 Conductivity (µmhos/cm) _

Is the sampling reach representative of the stream (Y/N) yes If not, please explain:

Additional comments/description of pollution impacts:

BIOLOGICAL OBSERVATIONS
(Record all observations below) N/A

Fish Observed? (Y/N) _ Species observed (if known): _

Frogs or Tadpoles Observed? (Y/N) _ Species observed (if known): _

Salamanders Observed? (Y/N) _ Species observed (if known): _

Aquatic Macroinvertebrates Observed? (Y/N) _ Species observed (if known): _

Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: S-EVN-04

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **57**

SITE NAME/LOCATION S-EVN-05, FirstEnergy - Darrow-Hudson East 138kV Project.

SITE NUMBER ___ RIVER CODE ___ RIVER BASIN ___ DRAINAGE AREA (mi^2) 0.037

LENGTH OF STREAM REACH (ft) 200 LAT. 41.2467693 LONG. -81.3920614 RIVER MILE ___

DATE 2024-02-22 SCORER EVN COMMENTS Small tributary running through woods into ROW, decent substrate, human impacts evident (litter

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]**	___		SILT **[3 pts]**	10
	BOULDER (>256 mm) **[16 pts]**	10		LEAF PACK/WOODY DEBRIS **[3 pts]**	15
	BEDROCK **[16 pts]**	___		FINE DETRITUS **[3 pts]**	___
✓	COBBLE (65-256 mm) **[12 pts]**	30		CLAY or HARDPAN **[0 pts]**	___
✓	GRAVEL (2-64 mm) **[9 pts]**	25		MUCK **[0 pts]**	___
	SAND (<2 mm) **[6 pts]**	10		ARTIFICIAL **[3 pts]**	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 40 **(A)**

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21

(B) **TOTAL NUMBER OF SUBSTRATE TYPES:** 6

HHEI Metric Points

Substrate Max = 40

27

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): 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]**		> 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): 0.9

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: Tinkers Creek Distance from Evaluated Stream 0.29 mile

☐ 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: Hudson NRCS Soil Map Page: _ NRCS Soil Map Stream Order _

County: Summit and Portage Township / City: Hudson and Streetsboro

MISCELLANEOUS

Base Flow Conditions? (Y/N): yes Date of last precipitation: 2024-02-22 Quantity: .53

Photo-documentation Notes: ____

Elevated Turbidity? (Y/N): no Canopy (% open): 90

Were samples collected for water chemistry? (Y/N): no Lab Sample # or ID (attach results): _

Field Measures: Temp (°C) 6.3 Dissolved Oxygen (mg/l) _ pH (S.U.) 8.31 Conductivity (µmhos/cm) _

Is the sampling reach representative of the stream (Y/N) yes If not, please explain:

Additional comments/description of pollution impacts:

BIOLOGICAL OBSERVATIONS

(Record all observations below) N/A

Fish Observed? (Y/N) _ Species observed (if known): _

Frogs or Tadpoles Observed? (Y/N) _ Species observed (if known): _

Salamanders Observed? (Y/N) _ Species observed (if known): _

Aquatic Macroinvertebrates Observed? (Y/N) _ Species observed (if known): _

Comments Regarding Biology:

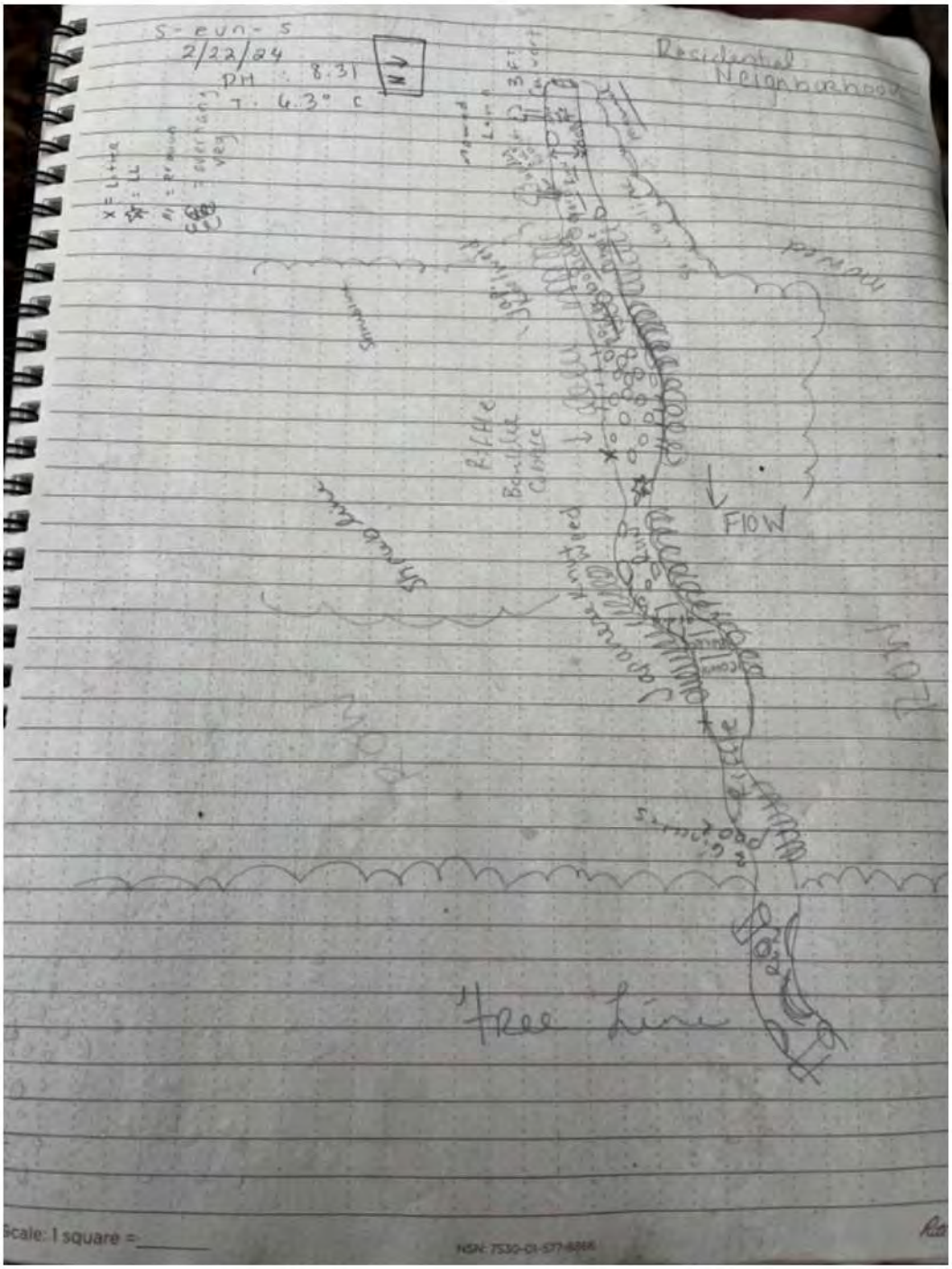
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: S-EVN-05



Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **32**

SITE NAME/LOCATION S-EVN-06, FirstEnergy - Darrow-Hudson East 138kV Project.

SITE NUMBER 6 RIVER CODE ___ RIVER BASIN ___ DRAINAGE AREA (mi^2) 0.954

LENGTH OF STREAM REACH (ft) 200 LAT. 41.2070494 LONG. -81.3849128 RIVER MILE ___

DATE 2024-02-22 SCORER EVN COMMENTS Small agricultural drainage through field

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]	___	✓	SILT [3 pts]	20
	BOULDER (>256 mm) [16 pts]	___		LEAF PACK/WOODY DEBRIS [3 pts]	___
	BEDROCK [16 pts]	___		FINE DETRITUS [3 pts]	___
	COBBLE (65-256 mm) [12 pts]	___	✓	CLAY or HARDPAN [0 pts]	70
	GRAVEL (2-64 mm) [9 pts]	5		MUCK [0 pts]	___
	SAND (<2 mm) [6 pts]	5		ARTIFICIAL [3 pts]	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 **(A)** **(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]

COMMENTS___ **MAXIMUM POOL DEPTH (centimeters):** 40

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]	> 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):** 0.8

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 L	RIPARIAN WIDTH R	(Per Bank)	FLOODPLAIN QUALITY L	FLOODPLAIN QUALITY 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	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: Tinkers Creek — Distance from Evaluated Stream 0.54 miles
☐ 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: Hudson — NRCS Soil Map Page: _ — NRCS Soil Map Stream Order _

County: Portage — Township / City: Streetsboro

MISCELLANEOUS

Base Flow Conditions? (Y/N): yes Date of last precipitation: 2024-02-22 Quantity: 0.53

Photo-documentation Notes: ____

Elevated Turbidity? (Y/N): no Canopy (% open): 100

Were samples collected for water chemistry? (Y/N): no Lab Sample # or ID (attach results): _

Field Measures: Temp (°C) 5.1 Dissolved Oxygen (mg/l) _ pH (S.U.) 8.33 Conductivity (µmhos/cm) _

Is the sampling reach representative of the stream (Y/N) yes If not, please explain:

Additional comments/description of pollution impacts:
Agriculture

BIOLOGICAL OBSERVATIONS N/A
(Record all observations below)

Fish Observed? (Y/N) _ Species observed (if known): _
Frogs or Tadpoles Observed? (Y/N) _ Species observed (if known): _
Salamanders Observed? (Y/N) _ Species observed (if known): _
Aquatic Macroinvertebrates Observed? (Y/N) _ Species observed (if known): _
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: S-EVN-06

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **35**

SITE NAME/LOCATION S-EVN-07, FirstEnergy - Darrow -Hudson East 138kV Project,

SITE NUMBER ___ RIVER CODE ___ RIVER BASIN ___ DRAINAGE AREA (mi^2) 0.083

LENGTH OF STREAM REACH (ft) 200 LAT. 41.2269405 LONG. -81.3826843 RIVER MILE ___

DATE 2024-02-22 SCORER EVN COMMENTS Small tributary to Tinkers Creek draining residential area. Runs through young forest, pipe culver

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]**	___		SILT **[3 pts]**	15
	BOULDER (>256 mm) **[16 pts]**	___		LEAF PACK/WOODY DEBRIS **[3 pts]**	15
	BEDROCK **[16 pts]**	___		FINE DETRITUS **[3 pts]**	___
	COBBLE (65-256 mm) **[12 pts]**	15		CLAY or HARDPAN **[0 pts]**	___
✓	GRAVEL (2-64 mm) **[9 pts]**	25		MUCK **[0 pts]**	20
	SAND (<2 mm) **[6 pts]**	10		ARTIFICIAL **[3 pts]**	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 15 **(A)** **(B)**

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 **TOTAL NUMBER OF SUBSTRATE TYPES:** 6

HHEI Metric Points

Substrate Max = 40

15

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):** 10

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]**	> 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):** 0.2

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: Tinkers Creek — Distance from Evaluated Stream 0.43 miles

☐ 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: Hudson — NRCS Soil Map Page: _ — NRCS Soil Map Stream Order _

County: Portage — Township / City: Streetsboro

MISCELLANEOUS

Base Flow Conditions? (Y/N): yes Date of last precipitation: 2024-02-22 Quantity: .53

Photo-documentation Notes: ____

Elevated Turbidity? (Y/N): no Canopy (% open): 100

Were samples collected for water chemistry? (Y/N): no Lab Sample # or ID (attach results): _

Field Measures: Temp (°C) 6.1 Dissolved Oxygen (mg/l) _ pH (S.U.) 8.13 Conductivity (µmhos/cm) _

Is the sampling reach representative of the stream (Y/N) yes If not, please explain:

Additional comments/description of pollution impacts:

BIOLOGICAL OBSERVATIONS

(Record all observations below) N/A

Fish Observed? (Y/N) _ Species observed (if known): _

Frogs or Tadpoles Observed? (Y/N) _ Species observed (if known): _

Salamanders Observed? (Y/N) _ Species observed (if known): _

Aquatic Macroinvertebrates Observed? (Y/N) _ Species observed (if known): _

Comments Regarding Biology:

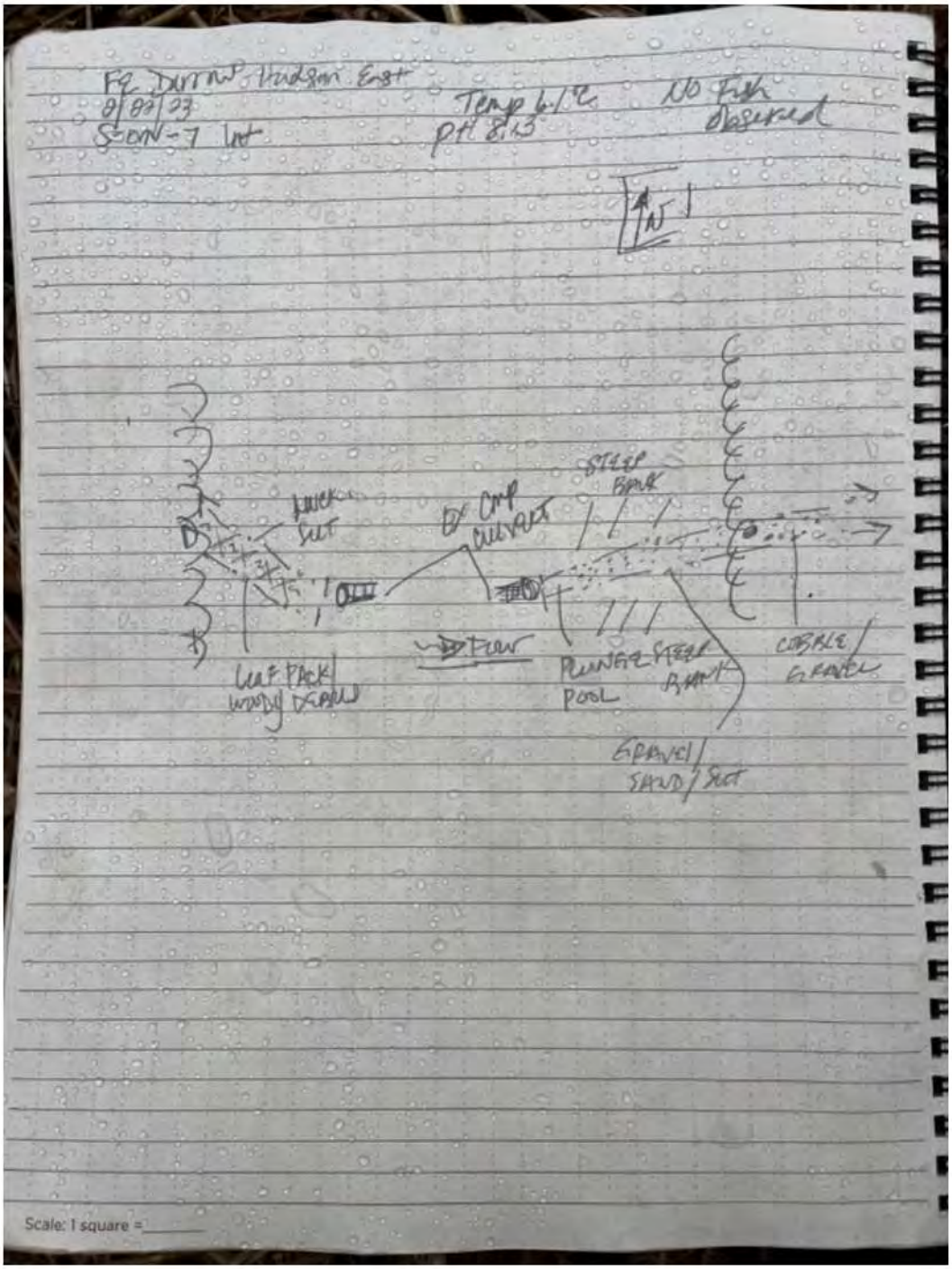
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: S-EVN-07



Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **25**

SITE NAME/LOCATION S-EVN-08, First Energy - Darrow-Hudson East 138kV Project.

SITE NUMBER 8 RIVER CODE ___ RIVER BASIN ___ DRAINAGE AREA (mi^2) 0.0667

LENGTH OF STREAM REACH (ft) 200 LAT. 41.229639 LONG. -81.382617 RIVER MILE ___

DATE 2024-02-22 SCORER EVN COMMENTS Small channel draining residential area. Runs through young forest and cleared ROW. Developr

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]**	___		SILT **[3 pts]**	10
	BOULDER (>256 mm) **[16 pts]**	15		LEAF PACK/WOODY DEBRIS **[3 pts]**	10
	BEDROCK **[16 pts]**	___		FINE DETRITUS **[3 pts]**	___
	COBBLE (65-256 mm) **[12 pts]**	15		CLAY or HARDPAN **[0 pts]**	___
✓	GRAVEL (2-64 mm) **[9 pts]**	30		✓ MUCK **[0 pts]**	20
	SAND (<2 mm) **[6 pts]**	___		ARTIFICIAL **[3 pts]**	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 30 **(A)**

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9

(B) **TOTAL NUMBER OF SUBSTRATE TYPES:** 6

HHEI Metric Points

Substrate Max = 40

15

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): 0.6

Pool Depth Max = 30

5

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): 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	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: Tinkers Creek — Distance from Evaluated Stream 0.38 miles
☐ 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: Hudson — NRCS Soil Map Page: _ — NRCS Soil Map Stream Order _

County: Portage — Township / City: Streetsboro

MISCELLANEOUS

Base Flow Conditions? (Y/N): yes Date of last precipitation: 2024-02-22 Quantity: 0.53

Photo-documentation Notes: ____

Elevated Turbidity? (Y/N): no Canopy (% open): 85

Were samples collected for water chemistry? (Y/N): yes Lab Sample # or ID (attach results): _

Field Measures: Temp (°C) 7.4 Dissolved Oxygen (mg/l) _ pH (S.U.) 8.18 Conductivity (µmhos/cm) _

Is the sampling reach representative of the stream (Y/N) yes If not, please explain:

Additional comments/description of pollution impacts:

BIOLOGICAL OBSERVATIONS
(Record all observations below) N/A

Fish Observed? (Y/N) _ Species observed (if known): _
Frogs or Tadpoles Observed? (Y/N) _ Species observed (if known): _
Salamanders Observed? (Y/N) _ Species observed (if known): _
Aquatic Macroinvertebrates Observed? (Y/N) _ Species observed (if known): _
Comments Regarding Biology:

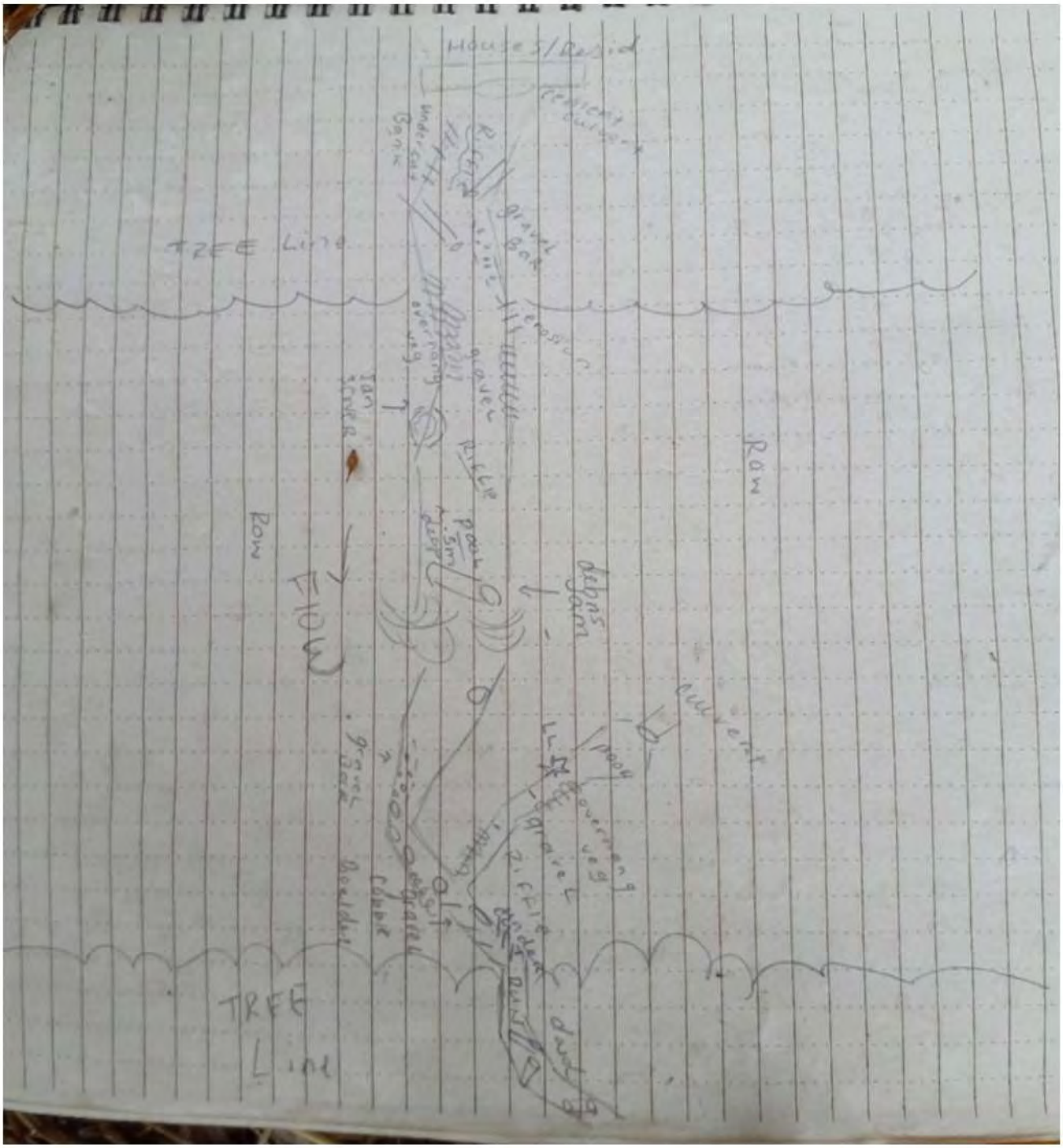
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: S-EVN-08



Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **37**

SITE NAME/LOCATION S-EVN-09, FirstEnergy - Darrow-Hudson East 138kV Project.

SITE NUMBER ___ RIVER CODE ___ RIVER BASIN ___ DRAINAGE AREA (mi^2) 0.072

LENGTH OF STREAM REACH (ft) 200 LAT. 41.230253 LONG. -81.38256 RIVER MILE ___

DATE 2024-02-22 SCORER EVN COMMENTS Small stream draining residential. Flows through young woods, into PEM wetland. Poor developm

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]**	___		SILT **[3 pts]**	20
	BOULDER (>256 mm) **[16 pts]**	5	✓	LEAF PACK/WOODY DEBRIS **[3 pts]**	35
	BEDROCK **[16 pts]**	___		FINE DETRITUS **[3 pts]**	___
	COBBLE (65-256 mm) **[12 pts]**	___		CLAY or HARDPAN **[0 pts]**	___
	GRAVEL (2-64 mm) **[9 pts]**	___	✓	MUCK **[0 pts]**	40
	SAND (<2 mm) **[6 pts]**	___		ARTIFICIAL **[3 pts]**	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 5 **(A)** **(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

25

COMMENTS___ **MAXIMUM POOL DEPTH (centimeters):** 16

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

5

COMMENTS___ **AVERAGE BANKFULL WIDTH (meters):** 0.3

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: Tinkers Creek — Distance from Evaluated Stream 0.38 miles
☐ 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: Hudson — NRCS Soil Map Page: _ — NRCS Soil Map Stream Order _

County: Portage — Township / City: Streetsboro

MISCELLANEOUS

Base Flow Conditions? (Y/N): yes Date of last precipitation: 2024-02-22 Quantity: .53

Photo-documentation Notes: ____

Elevated Turbidity? (Y/N): no Canopy (% open): 95

Were samples collected for water chemistry? (Y/N): no Lab Sample # or ID (attach results): _

Field Measures: Temp (°C) 5.6 Dissolved Oxygen (mg/l) _ pH (S.U.) 8.09 Conductivity (µmhos/cm) _

Is the sampling reach representative of the stream (Y/N) yes If not, please explain:

Additional comments/description of pollution impacts:
Residential litter

BIOLOGICAL OBSERVATIONS N/A
(Record all observations below)

Fish Observed? (Y/N) _ Species observed (if known): _
Frogs or Tadpoles Observed? (Y/N) _ Species observed (if known): _
Salamanders Observed? (Y/N) _ Species observed (if known): _
Aquatic Macroinvertebrates Observed? (Y/N) _ Species observed (if known): _
Comments Regarding Biology:

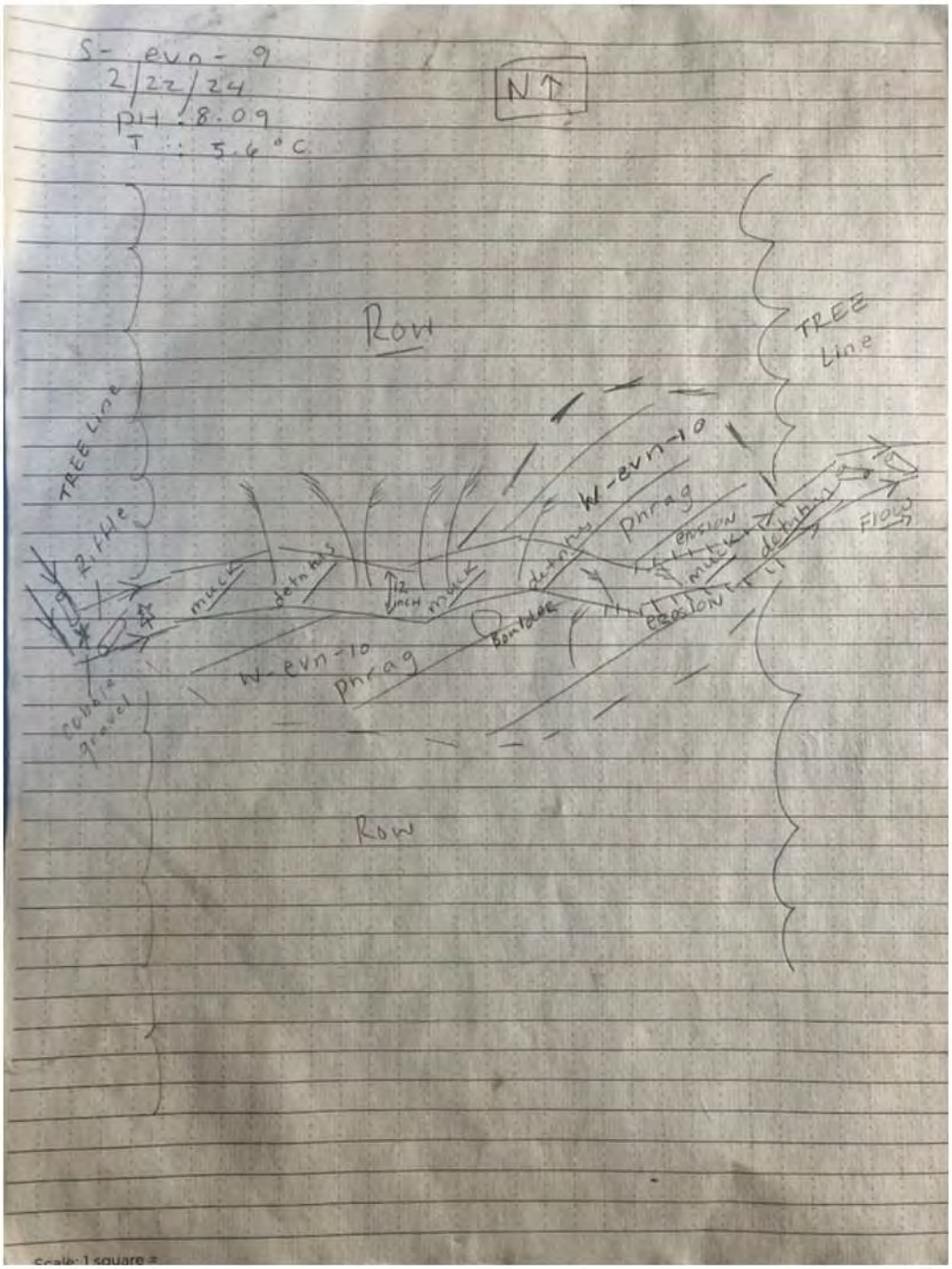
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: S-EVN-09



Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **56**

SITE NAME/LOCATION S-EVN-10, FirstEnergy - Darrow -Hudson East 138kV Project.

SITE NUMBER ___ RIVER CODE ___ RIVER BASIN ___ DRAINAGE AREA (mi^2) <0.001

LENGTH OF STREAM REACH (ft) 200 LAT. 41.220808 LONG. -81.382524 RIVER MILE ___

DATE 2024-02-23 SCORER EVN 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]**	___		SILT **[3 pts]**	20
	BOULDER (>256 mm) **[16 pts]**	10		LEAF PACK/WOODY DEBRIS **[3 pts]**	15
	BEDROCK **[16 pts]**	___		FINE DETRITUS **[3 pts]**	___
	COBBLE (65-256 mm) **[12 pts]**	15		CLAY or HARDPAN **[0 pts]**	___
✔	GRAVEL (2-64 mm) **[9 pts]**	20		MUCK **[0 pts]**	___
	SAND (<2 mm) **[6 pts]**	20		ARTIFICIAL **[3 pts]**	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 25 **(A)** **(B)**

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 **TOTAL NUMBER OF SUBSTRATE TYPES:** 6

HHEI Metric Points

Substrate Max = 40

21

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):** 25

Pool Depth Max = 30

30

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

	> 4.0 meters (> 13') **[30 pts]**		> 1.0 m - 1.5 m (> 3' 3" - 4' 8") **[15 pts]**
	> 3.0 m - 4.0 m (> 9' 7" - 13') **[25 pts]**	✔	≤ 1.0 m (≤3' 3") **[5 pts]**
	> 1.5 m - 3.0 m (> 9' 7" - 4' 8") **[20 pts]**		

COMMENTS___ **AVERAGE BANKFULL WIDTH (meters):** 0.85

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					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: Tinkers Creek Distance from Evaluated Stream 0.43-mile
☐ 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: Hudson NRCS Soil Map Page: _ NRCS Soil Map Stream Order _

County: Portage Township / City: Streetsboro

MISCELLANEOUS

Base Flow Conditions? (Y/N): yes Date of last precipitation: 2024-02-22 Quantity: .53

Photo-documentation Notes: ____

Elevated Turbidity? (Y/N): no Canopy (% open): 100

Were samples collected for water chemistry? (Y/N): no Lab Sample # or ID (attach results): _

Field Measures: Temp (°C) 10.7 Dissolved Oxygen (mg/l) _ pH (S.U.) 7.46 Conductivity (µmhos/cm) _

Is the sampling reach representative of the stream (Y/N) yes If not, please explain:

Additional comments/description of pollution impacts:

BIOLOGICAL OBSERVATIONS N/A
(Record all observations below)

Fish Observed? (Y/N) _ Species observed (if known): _
Frogs or Tadpoles Observed? (Y/N) _ Species observed (if known): _
Salamanders Observed? (Y/N) _ Species observed (if known): _
Aquatic Macroinvertebrates Observed? (Y/N) _ Species observed (if known): _
Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: S-EVN-10

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **58**

SITE NAME/LOCATION S-EVN-11, FirstEnergy - Darrow -Hudson East 138kV Project.

SITE NUMBER ___ RIVER CODE ___ RIVER BASIN ___ DRAINAGE AREA (mi^2) 0.0659

LENGTH OF STREAM REACH (ft) 200 LAT. 41.225032 LONG. -81.382509 RIVER MILE ___

DATE 2024-02-23 SCORER EVN 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]**	___		SILT **[3 pts]**	15
	BOULDER (>256 mm) **[16 pts]**	15		LEAF PACK/WOODY DEBRIS **[3 pts]**	___
	BEDROCK **[16 pts]**	___		FINE DETRITUS **[3 pts]**	___
✓	COBBLE (65-256 mm) **[12 pts]**	30		CLAY or HARDPAN **[0 pts]**	___
	GRAVEL (2-64 mm) **[9 pts]**	19		MUCK **[0 pts]**	___
✓	SAND (<2 mm) **[6 pts]**	21		ARTIFICIAL **[3 pts]**	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 45 **(A)** **(B)**

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 18 **TOTAL NUMBER OF SUBSTRATE TYPES:** 5

HHEI Metric Points

Substrate Max = 40

23

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):** 25

Pool Depth Max = 30

30

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

	> 4.0 meters (> 13') **[30 pts]**		> 1.0 m - 1.5 m (> 3' 3" - 4' 8") **[15 pts]**
	> 3.0 m - 4.0 m (> 9' 7" - 13') **[25 pts]**	✓	≤ 1.0 m (≤3' 3") **[5 pts]**
	> 1.5 m - 3.0 m (> 9' 7" - 4' 8") **[20 pts]**		

COMMENTS___ **AVERAGE BANKFULL WIDTH (meters):** 0.8

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: Tinkers Creek Distance from Evaluated Stream 0.45-mile

☐ 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: Hudson NRCS Soil Map Page: _ NRCS Soil Map Stream Order _

County: Portage Township / City: Streetsboro

MISCELLANEOUS

Base Flow Conditions? (Y/N): yes Date of last precipitation: 2024-02-22 Quantity: .53

Photo-documentation Notes: ____

Elevated Turbidity? (Y/N): no Canopy (% open): 80

Were samples collected for water chemistry? (Y/N): no Lab Sample # or ID (attach results): _

Field Measures: Temp (°C) 13.7 Dissolved Oxygen (mg/l) _ pH (S.U.) 7.57 Conductivity (µmhos/cm) _

Is the sampling reach representative of the stream (Y/N) yes If not, please explain:

Additional comments/description of pollution impacts:

BIOLOGICAL OBSERVATIONS
(Record all observations below) N/A

Fish Observed? (Y/N) _ Species observed (if known): _

Frogs or Tadpoles Observed? (Y/N) _ Species observed (if known): _

Salamanders Observed? (Y/N) _ Species observed (if known): _

Aquatic Macroinvertebrates Observed? (Y/N) _ Species observed (if known): _

Comments Regarding Biology:

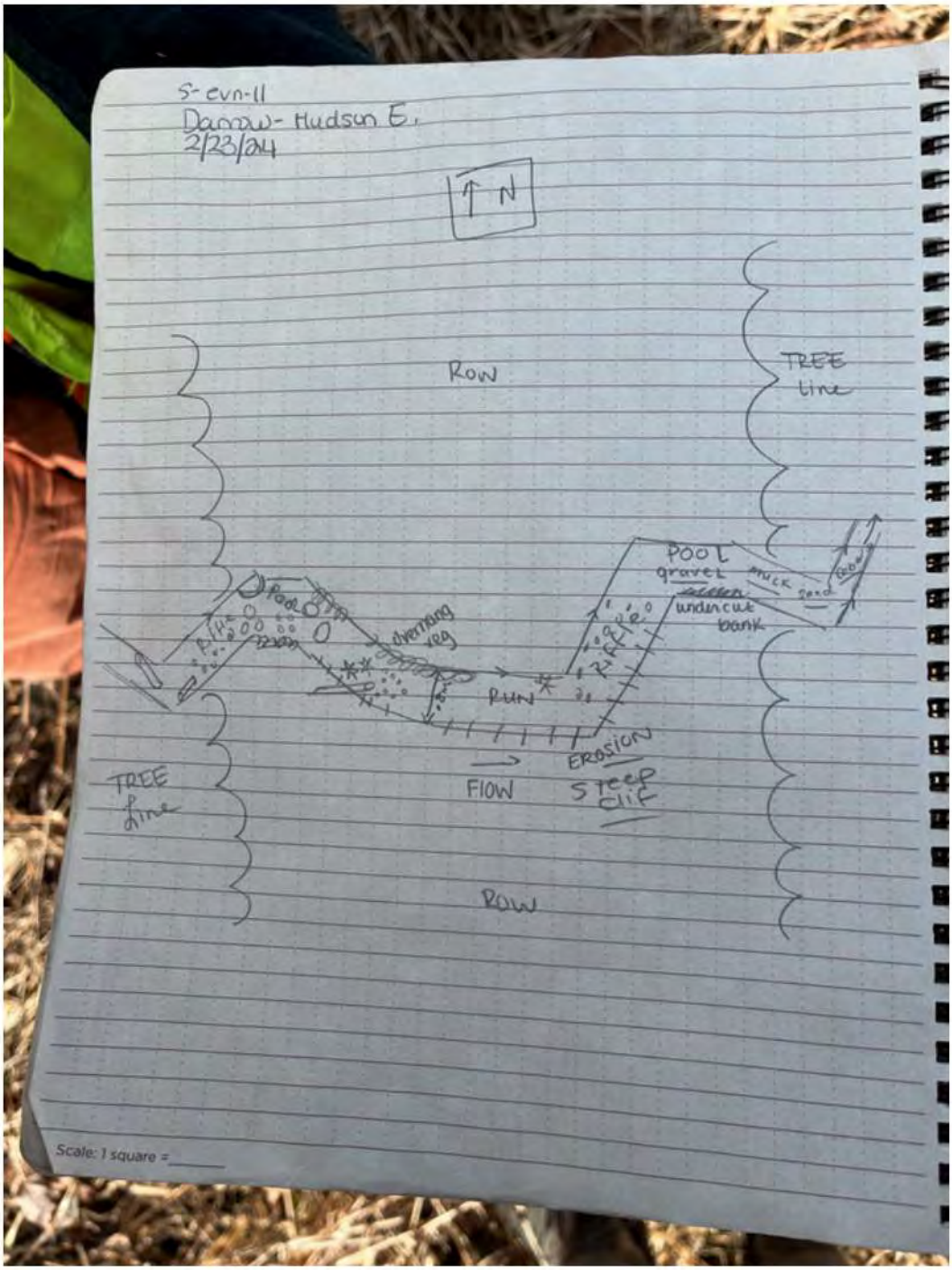
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: S-EVN-11



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 46.00

Stream & Location: S-EVN-12 (Powers Brook) east of Stow Road Fairfield Summit County **RM:** 5.1 **Date:** 2 / 26 / 24

FE Darrow-Hudson East 138kV ROW Assurance Program **Scorers Full Name & Affiliation:** E. Given & E. Van Nort, TRC

River Code: _ _ _ - _ _ _ - _ _ _ **STORET #:** _ _ _ _ _ _ **Lat./ Long.:** (NAD 83 - decimal °) 40 . 815569 /8 0 . 66986 **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]	5	
☐ ☐ COBBLE [8]			☑ ☐ MUCK [2]	30	
☐ ☐ GRAVEL [7]			☐ ☐ SILT [2]	15	
☐ ☑ SAND [6]	50		☐ ☐ 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 9.00 *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.

___ UNDERCUT BANKS [1]	___ POOLS > 70cm [2]	___ OXBOWS, BACKWATERS [1]
2 OVERHANGING VEGETATION [1]	1 ROOTWADS [1]	___ AQUATIC MACROPHYTES [1]
___ SHALLOWS (IN SLOW WATER) [1]	___ BOULDERS [1]	1 LOGS OR WOODY DEBRIS [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* 10.00

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* 9.00

4] BANK EROSION AND RIPARIAN ZONE

Check **ONE** in each category for ***EACH BANK*** (*Or 2 per bank & average*)

River right looking downstream

L	R	EROSION
☑	☑	NONE / LITTLE [3]
☐	☐	MODERATE [2]
☐	☐	HEAVY / SEVERE [1]

L	R	RIPARIAN WIDTH
☑	☑	WIDE > 50m [4]
☐	☐	MODERATE 10-50m [3]
☐	☐	NARROW 5-10m [2]
☐	☐	VERY NARROW < 5m [1]
☐	☐	NONE [0]

L	R	FLOOD PLAIN QUALITY
☐	☐	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* 9.00

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 *Maximum 12* 3.00

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* 0.00

6] GRADIENT

(8.95 ft/mi)

DRAINAGE AREA

(1.02 mi²)

- ☐ VERY LOW - LOW [2-4]
- ☑ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

%POOL: 15 **%GLIDE:** 0 **%RUN:** 85 **%RIFFLE:** 0

Gradient *Maximum 10* 6.00

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

0.6 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

pass: 1st _____ cm; 2nd _____ cm

Comment RE: Reach consistency/ Is reach typical of steam?, *Recreation/* Observed - Inferred, *Other/* Sampling observations, Concerns, Access directions, etc.

ph: 7.6; Temperature: 11.3 C. Litter and human debris observed in stream. Development improves up and downstream of ROW due to increased canopy coverage.

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
SNAG / 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

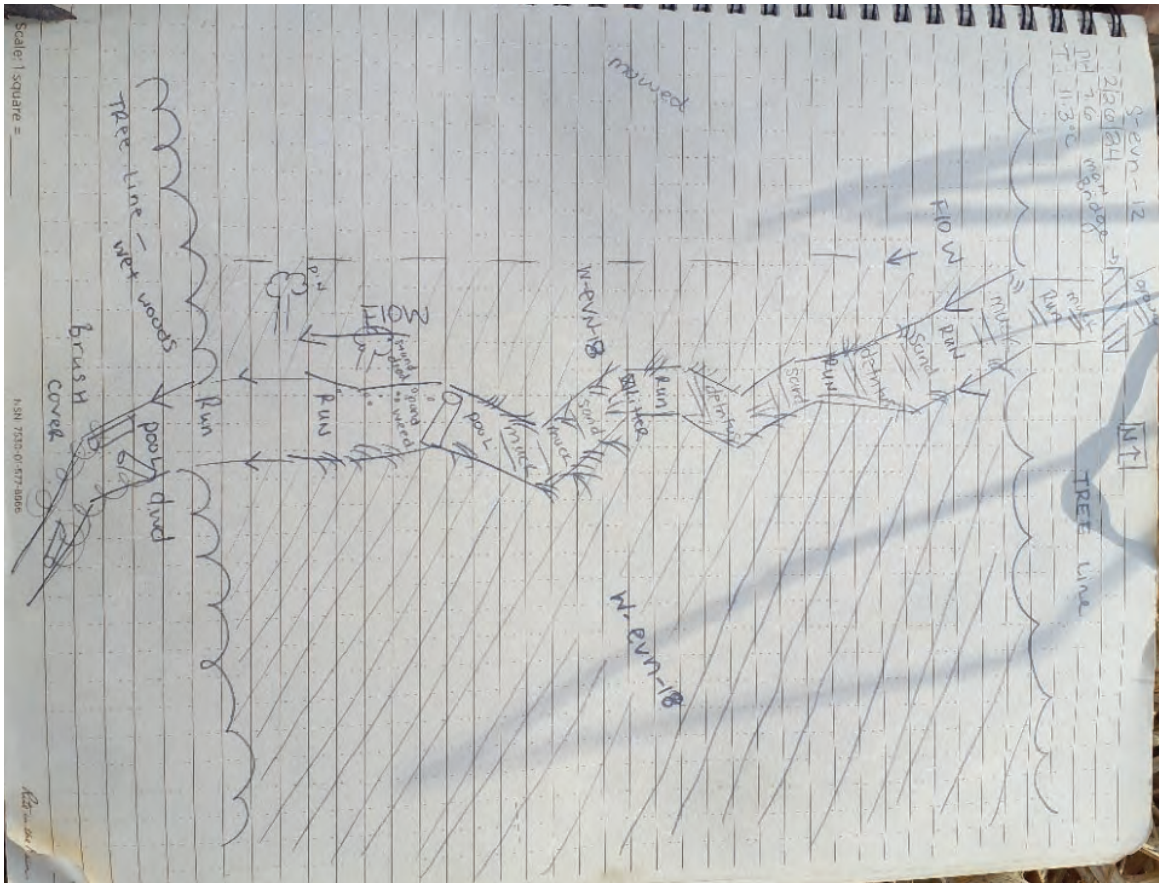
WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT&GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS

- $\bar{x}$ width 0.8m
- $\bar{x}$ depth 12cm
- max. depth 0.3m
- bankfull width
- bankfull x depth
- W/D ratio
- bankfull max. depth
- floodprone x2 width
- entrench. ratio

Legacy Tree:

Stream Drawing:



Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **16**

SITE NAME/LOCATION S-EVN-13, FirstEnergy - Darrow -Hudson East 138Kv Project,

SITE NUMBER ___ RIVER CODE ___ RIVER BASIN ___ DRAINAGE AREA (mi^2) 0001

LENGTH OF STREAM REACH (ft) 200 LAT. 41.2174717333 LONG. -81.4074234167 RIVER MILE ___

DATE 2024-02-26 SCORER EVN 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]**	___	✔	SILT **[3 pts]**	30
	BOULDER (>256 mm) **[16 pts]**	___		LEAF PACK/WOODY DEBRIS **[3 pts]**	25
	BEDROCK **[16 pts]**	___		FINE DETRITUS **[3 pts]**	___
	COBBLE (65-256 mm) **[12 pts]**	___	✔	CLAY or HARDPAN **[0 pts]**	45
	GRAVEL (2-64 mm) **[9 pts]**	___		MUCK **[0 pts]**	___
	SAND (<2 mm) **[6 pts]**	___		ARTIFICIAL **[3 pts]**	___

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 **(A)**

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3

(B) **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]**	> 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): 0.7

Pool Depth Max = 30

5

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): 0.3

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: Powers Brook Distance from Evaluated Stream 0.08-mile

☐ 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: Hudson NRCS Soil Map Page: _ NRCS Soil Map Stream Order _

County: Summit Township / City: Hudson

MISCELLANEOUS

Base Flow Conditions? (Y/N): yes Date of last precipitation: 2024-02-24 Quantity: .41

Photo-documentation Notes: ____

Elevated Turbidity? (Y/N): no Canopy (% open): 100

Were samples collected for water chemistry? (Y/N): no Lab Sample # or ID (attach results): _

Field Measures: Temp (°C) 13.7 Dissolved Oxygen (mg/l) _ pH (S.U.) 7.29 Conductivity (µmhos/cm) _

Is the sampling reach representative of the stream (Y/N) yes If not, please explain:

Additional comments/description of pollution impacts:

BIOLOGICAL OBSERVATIONS
(Record all observations below) N/A

Fish Observed? (Y/N) _ Species observed (if known): _

Frogs or Tadpoles Observed? (Y/N) _ Species observed (if known): _

Salamanders Observed? (Y/N) _ Species observed (if known): _

Aquatic Macroinvertebrates Observed? (Y/N) _ Species observed (if known): _

Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: S-EVN-13