Appendix 8-2 Correspondence with Ohio Department of Natural Resources and U.S. Fish & Wildlife Service

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



September 28, 2022

Project Code: 2022-0078635

Dear Mr. Abbott:

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).

<u>Federally Threatened and Endangered Species</u>: Due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees ≥3 inches diameter at breast height between October 1 and March 31) to avoid impacts to the endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*), 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.

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.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

Patrice Ashfield

Field Office Supervisor

United States Department of the Interior



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Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

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October 28, 2022

Matt Abbott Jacobs 2 Crowne Point Court Cincinnati, OH 45241

Re: 22-0957; Route A Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project

Project: The proposed project involves the construction of a new approximately 9.5-mile 345 kV transmission line with a proposed right-of-way (ROW) width of 150 feet.

Location: The proposed project is located in York, Pike, and Fulton Townships, Fulton 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 specified project area:

Kirtland's Snake (Clonophis kirtlandii), state threatened

The review was performed on the specified project area as well as an additional one-mile radius. Records searched date from 1980. The species listed above is recorded within the footprint 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 entire state of Ohio is within the range of the Indiana bat (Myotis sodalis), a state endangered and federally endangered species, the northern long-eared bat (Myotis septentrionalis), a state endangered and federally threatened species, the little brown bat (Myotis lucifugus), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH \geq 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen. Wyza@dnr.ohio.gov).

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 rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact this species.

The project is within the range of the greater redhorse (*Moxostoma valenciennesi*), a state threatened fish. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact this species.

The Kirtland's snake (*Clonophis kirtlandii*), a state threatened species, is known from Fulton Pond Wildlife Area, and has the potential to be present in the project area. This secretive species prefers grasslands, wet meadows and other wetlands. The DOW recommends that an approved herpetologist conducts a habitat suitability survey to determine if suitable habitat is present within the project area, and if project activities will impact suitable habitat and/or Kirtland's snakes. If suitable habitat is determined to be present; the DOW recommends that 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 Blanding's turtle (*Emydoidea blandingii*), a state threatened species. This species inhabits marshes, ponds, lakes, streams, wet meadows, and swampy forests. Although essentially aquatic, the Blanding's turtle will travel over land as it moves from

one wetland to the next. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the blue-spotted salamander (*Ambystoma laterale*), a state endangered species. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. In the Oak Openings area west of Toledo, lark sparrows occupy open grass and shrubby fields along sandy beach ridges. These summer residents normally migrate out of Ohio shortly after their young fledge or leave the nest. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

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

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

The <u>local floodplain administrator</u> 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



Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Fax: (614) 267-4764

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

October 28, 2022

Matt Abbott Jacobs 2 Crowne Point Court Cincinnati, OH 45241

Re: 22-0959; Route C Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation

Project: The proposed project involves the construction of a new approximately 9.5-mile 345 kV transmission line with a proposed right-of-way (ROW) width of 150 feet.

Location: The proposed project is located in Swan Creek and York Townships, Fulton 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:

Yellow False Indigo (*Baptisia tinctoria*), P Sweet-fern (*Comptonia peregrina*), E Hairy Pinweed (*Lechea mucronata*), P Plains Puccoon (*Lithospermum caroliniense*), T Wild Lupine (*Lupinus perennis*), P Mountain Phlox (*Phlox latifolia*), E Racemed Milkwort (*Polygala polygama*), T Greater Redhorse (*Moxostoma valenciennesi*), T Eastern Box Turtle (*Terrapene carolina*), SC Creek Heelsplitter (*Lasmigona compressa*), SC

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.

The review was performed on the specified project area as well as an additional one-mile radius. Records searched date from 1980. Of the species listed above, only the Greater Redhorse is recorded within the footprint of the 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 entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (Myotis septentrionalis), a state endangered and federally threatened species, the little brown bat (Myotis lucifugus), a state endangered species, and the tricolored bat (*Perimvotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH \geq 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen. Wyza@dnr.ohio.gov).

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The project is within the range of the rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel. This project must not have an impact on native mussels. This applies to both listed and non-listed species, as all species of mussel are protected in Ohio. Per the Ohio Mussel Survey Protocol (2022), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. Therefore,

if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the Ohio Mussel Survey Protocol. If there is no in-water work proposed, impacts to mussels are not likely.

The project is within the range of the greater redhorse (*Moxostoma valenciennesi*), a state threatened fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species.

The project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet meadows and other wetlands. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

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Mike Pettegrew Environmental Services Administrator Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

Patrice Ashfield

Field Office Supervisor

Appendix 8-3A Wetland and Waterbody Delineation Report for the Preferred Route

Wetland and Waterbody Delineation Report

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project – Preferred Route Fulton County, Ohio

Prepared for



February 2023



Jacobs Engineering Group Inc. 2 Crowne Point Court, Suite 100 Cincinnati, OH 45241

Contents

1	Intro	duction	1-1
2		ground Information	
	2.1	Annual Precipitation	
	2.2	Drainage Basins	
	2.3	Traditional Navigable Waters	2-2
3	Wetla	and and Waterbody Delineation	3-1
	3.1	Desktop Review	
	3.2	Field Survey Methodology	
		3.2.1 Wetland Delineation	
		3.2.2 Stream Assessment	3-4
4	Field	Survey Results	4-1
	4.1	Wetlands	4-1
		4.1.1 Wetland ORAM Results	4-1
	4.2	Streams	4-2
		4.2.1 QHEI Results	4-2
		4.2.2 HHEI Results	4-3
	4.3	Ponds/Open Water	4-3
5	Conc	·lusion	5-1
6	Refe	rences	6-1

Tables

2-1	Recent Precipitation Data
2-2	12-Digit Hydrologic Unit Codes Crossed by the Project
3-1	Soil Map Units
3-2	Mapped National Wetland Inventory Features
4-1	Delineated Wetland Table
4-2	Delineated Stream Table
4-3	Delineated Pond Table
4-4	Wetland Summary Table
4-5	QHEI Stream Summary Table
4-6	HHEI Stream Summary Table

Appendices

Α	Figures
	1 Overview Map
	2-1 to 2-2 Soils, NDH, NWI, FEMA Map
	3-1 to 3-22 Delineated Features Map
В	USACE Wetland Determination Field Data Forms
С	OEPA ORAM Data Forms
D	QHEI Stream Data Forms
E	HHEI Stream Data Forms
F	Jacobs Open Water/Pond Data Forms

Acronyms and Abbreviations

ATSI American Transmission Systems, Incorporated

CWA Clean Water Act

EPA Environmental Protection Agency
ESB environmental survey boundary

FAC facultative

FACU facultative upland FACW facultative wetland

GNSS global navigation satellite system

HHEI Headwater Habitat Evaluation Index

HUC Hydrologic Unit Code

Jacobs Engineering Group Inc.

kV kilovolt

NHD National Hydrography Dataset

NRCS Natural Resource Conservation Service

NWI National Wetland Inventory

OBL obligate wetland

OEPA Ohio Environmental Protection Agency

OHWM ordinary high water mark

ORAM Ohio Rapid Assessment Method

PEM palustrine emergent
PFO palustrine forested

Project Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project

PUB palustrine unconsolidated bottom

QHEI Qualitative Habitat Evaluation Index

ROW right-of-way

TNW traditionally navigable water

UPL upland

USACE United States Army Corps of Engineers
USDA United States Department of Agriculture
USFWS United States Fish and Wildlife Service

USGS United States Geological Survey

1 Introduction

This wetland and waterbody delineation report (Report) summarizes the results of the wetland and waterbody delineation surveys conducted on the Dowling-Fulton 345-kilovolt (kV) Transmission Line Tap to Melbourne Substation Project (Project) in Fulton County, Ohio by Jacobs Engineering Group Inc. (Jacobs), for American Transmission Systems, Incorporated (ATSI), a wholly-owned subsidiary of FirstEnergy Corporation. ATSI has proposed a Preferred and Alternate route as part of the Project submitted to the Ohio Power Siting Board. This Report includes the results of the surveys conducted along the Preferred route, which consists of appoximatley 9.5 miles of new 345 kV transmission line right-of-way (ROW). The Preferred Route alignment crosses the townships of York, Pike, and Fulton, Ohio (Figure 1). The 350-foot-wide environmental survey boundary (ESB) included the proposed 150-foot right-of-way (ROW) plus a 100-foot buffer on each side. This Report contains the following components:

- Figure 1 in Appendix A provides an overview map of the ESB overlain on ArcGIS Online USA topographic maps.
- Figures 2-1 to 2-22 in Appendix A show U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil map units, the location of National Wetland Inventory (NWI) polygons, national hydrography dataset (NHD) streams, and Federal Emergency Management Agency (FEMA) 100-year floodplain and floodway information. Table 2-1 summarizes recent precipitation data and Table 2-2 lists the 12-digit hydrologic unit codes crossed by the Project. Table 3-1 lists the soils types identified within the ESB and Table 3-2 lists the NWI wetland types identified within the ESB.
- Figures 3-1 to 3-22 in Appendix A provide the location of all features mapped during the delineation by Jacobs biologists. This includes all wetlands, data points, and waterbodies. Tables 4-1 (wetlands) and 4-2 (streams) follow the text, providing detailed information for all delineated features within the ESB. Tables 4-3 (wetlands), 4-4 (QHEI streams), and 4-5 (HHEI streams) are within the text, providing a summary of information for all delineated features within the ESB.
- U.S. Army Corps of Engineers (USACE) wetland determination field data forms are in Appendix B.
- Ohio Rapid Assessment Method for Wetlands (ORAM) two-page forms are in Appendix C.
- Qualitative Habitat Evaluation Index (QHEI) Stream Forms are in Appendix D.
- Headwater Habitat Evaluation Index (HHEI) Stream Forms are in Appendix E.
- Jacobs Open Water/Pond Data Forms are in Appendix F.

2 Background Information

The Project area consists of the Preferred route which begins at a tie-in with the existing Dowling-Fulton transmission line and ends at the proposed Melbourne Substation. The Preferred Route alignment crosses the townships of York, Pike, and Fulton, Ohio (Figure 1).

Review of the USGS 7.5-minute topographic maps indicates that the ESB is within two USGS 7.5-minute topographic quadrangles: Delta and Swanton. Additional review of the USGS 7.5-minute topographic maps of the area indicates that ditches and streams drain the ESB, including Swan Creek, Bad Creek, and unnamed tributaries of these waterways. Topographic relief is generally flat, with a few sloped areas associated with waterbodies. The project area ranges from 696 to 779 feet above sea level (Figure 1).

Land use and natural communities observed within the ESB include agricultural, industrial, maintained lawn, old field, park, residential, road, railroad, scrub/shrub, and upland forested.

2.1 Annual Precipitation

Precipiation history for Wauseon, Ohio was reviewed prior to completing environmental surveys to determine if climatic conditions were normal at the time of the surveys. Rainfall recorded in Wauseon ranged from above average to below average prior to and during the surveys conducted in fall 2022 (Table 2-1; USDA, 2022), suggesting that climatic conditions were approximately normal for the region and time of year. This was taken into consideration during the delineation.

TABLE 2-1: Recent Precipitation Data

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project

Precipitation Data	Jul	Aug	Sep	Oct	Nov	Dec	Total
2022 Monthly Sum ^{1,3}	3.22	5.82	1.51	1.10	2.21	1.95	15.81
Normal Precipitation ^{2,3}	2.25-3.92	2.28-4.48	1.90-3.76	1.76-3.10	1.86-3.51	1.57-2.91	11.62- 21.68
Monthly climatic condition	Average	Above average	Below average	Below average	Average	Average	Average

¹Monthly weather summary from weather station WAUSEON WATER PLANT, OH

2.2 Drainage Basins

The Project is within the Lower Maumee watershed, corresponding to 8-digit Hydrologic Unit Code (HUC) 04100009. More specifically it is within the four 12-digit HUCs outlined in Table 2-2 (USGS, 2020).

TABLE 2-2: 12-Digit Hydrologic Unit Codes Crossed by the Project Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project

HUC 12-Digit Code	HUC 12-Digit Name
04100009 04 02	North Turkeyfoot Creek
04100009 03 02	Lower Bad Creek
04100009 07 02	Fewless Creek-Swan Creek

²USDA WETS Station Climate Data 1971-2000 (USDA 2022)

³Displayed in inches

04100009 07 01

Ai Creek

Source: USGS 2020

2.3 Traditional Navigable Waters

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

3 Wetland and Waterbody Delineation

3.1 Desktop Review

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

- Aerial photo-based maps (ArcGIS Online, World Imagery Map, 2018)
- Topographic maps (ArcGIS Online, USA Topo Maps, 2019)
- NRCS Web Soil Survey (USDA-NRCS, 2021)
- NWI shapefile (USFWS, 2020)
- National Hydrography Dataset (NHD) (USGS, 2020)

According to the NRCS soil survey of Fulton County (USDA-NRCS, 2021), the ESB consists of 26 soil map units (Figures 2-1 to 2-22). Of these, seven units are listed as nonhydric, 13 are predominantly nonhydric, and six are predominantly hydric (Table 3-1). Hydric or predominantly hydric soils comprise 54 percent of the ESB.

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

TABLE 3-1: Soil Map Units

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Preferred Route

Soil type	Soil type description	Hydric status	Acres (ac) within ESB
BrB	Boyer loamy sand, 1 to 6 percent slopes	Nonhydric	2.6
ВуА	Brady sandy loam, 0 to 3 percent slopes	Predominantly Nonydric	0.4
СоВ	Colonie fine sand, 1 to 6 percent slopes	Predominantly Nonydric	10.0
CoC	Colonie fine sand, 6 to 12 percent slopes	Predominantly Nonydric	0.7
DmA	Digby Ioam, 0 to 3 percent slopes	Predominantly Nonydric	4.9
Gf	Gilford fine sandy loam	Predominantly Hydric	17.2
GnB2	Glynwood loam, 2 to 6 percent slopes, eroded	Predominantly Nonydric	0.6
GnD2	Glynwood loam, 12 to 18 percent slopes, eroded	Nonhydric	2.9
GoC3	Glynwood clay loam, 6 to 12 percent slopes, severely eroded	Nonhydric	4.0
HkA	Haskins loam, 0 to 3 percent slopes	Predominantly Nonydric	45.3
HoA	Hoytville clay loam, 0 to 1 percent slopes	Predominantly Hydric	90.3
Mf	Mermill loam	Predominantly Hydric	77.0
Мо	Millgrove loam	Predominantly Hydric	7.2
NnA	Nappanee loam, 0 to 2 percent slopes	Predominantly Nonydric	37.5
NnB	Nappanee loam, 2 to 6 percent slopes	Nonhydric	5.2
OaB	Oakville fine sand, 0 to 6 percent slopes	Predominantly Nonydric	0.0
OtB	Ottokee fine sand, 0 to 6 percent slopes	Predominantly Nonydric	8.8
RbB	Rawson sandy loam, 2 to 6 percent slopes	Predominantly Nonydric	0.2
RnA	Rimer loamy fine sand, 0 to 3 percent slopes	Predominantly Nonydric	26.4
SdB	Seward loamy fine sand, 2 to 6 percent slopes	Predominantly Nonydric	9.3
So	Sloan silty clay loam, frequently flooded	Predominantly Hydric	17.7

TdA	Tedrow loamy fine sand, 0 to 3 percent slopes	Predominantly Nonydric	15.3
TuB	Tuscola fine sandy loam, 3 to 8 percent slopes	Nonhydric	0.6
Uo	Udorthents, loamy	Nonhydric	7.1
W	Water	Nonhydric	5.4
Wf	Wauseon fine sandy loam	Predominantly Hydric	9.1

NWI data were obtained from the USFWS for review of potential wetlands that may occur within the ESB. The NWI data (USFWS, 2020) identify the type of wetland or open water present at a location using the USFWS classification system (Cowardin et al., 1979). The NWI data indicated that there are 19 NWI features within the ESB (Figure 2-1 to 2-22; USFWS, 2020). This included scrubshrub/forested complexes, pond, lake, and riverine NWI wetland types (Table 3-2). The presence of an NWI feature is not a definitive indicator that a wetland or waterbody is present. The information on NWI maps is obtained largely from aerial interpretation, may be outdated, and is only sporadically field-checked.

TABLE 3-2: Mapped National Wetland Inventory Features

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project- Preferred Route

Wetland Type	Description	Count of Mapped Features	Acres (ac) within ESB
L1UBHx	Lacustrine limnetic unconsolidated bottom, permanently flooded, excavated	2	1.2
PFO1/SS1C	Palustrine forested, broad-leaved deciduous, and palustrine scrub-shrub, broad-leaved deciduous, seasonally flooded	2	1.7
PUBGx	Palustrine unconsolidated bottom, intermittently exposed, excavated	4	5.9
R2UBH	Riverine lower perennial unconsolidated bottom, permanently flooded	1	0.5
R4SB3C	Riverine intermittent streambed, cobble-gravel, seasonally flooded	1	0.2
R4SBC	Riverine intermittent streambed, seasonally flooded	8	9.6
R5UBH	Riverine unknown perennial unconsolidated bottom, permanently flooded	1	0.3

As shown on the FEMA floodplain panels (Figures 2-1 to 2-22), floodplains associated with Bad Creek and Swan Creek cross the ESB (FEMA, 2019).

3.2 Field Survey Methodology

In September, October, and December of 2022, Jacobs biologists surveyed the ESB by walking the area and evaluating for wetlands and other waters of the U.S. The boundaries of each wetland and waterbody within the ESB were delineated and recorded using handheld global navigation satellite system (GNSS) receivers. For waterbodies identified within the Project area, the ordinary high-water mark (OHWM) was used as the jurisdictional boundary.

Wetland data were recorded on USACE Northcentral and Northeast Regional Supplement wetland determination data forms, stream data were recorded on Qualitative Habitat Evaluation Index (QHEI) forms and Headwater Habitat Evaluation Index (HHEI) forms, and pond data were recorded on Jacobs pond/open water forms. All other land use, habitat, and other supplemental data were collected in a digital geodatabase during the environmental survey.

3.2.1 Wetland Delineation

Wetland boundaries were field-delineated according to using the routine onsite methodology described in the Technical Report Y-87-1 *Corps of Engineers Wetlands Delineation Manual* and subsequent guidance documents (Environmental Laboratory, 1987) and according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0) (USACE, 2012). Wetland delineation data were recorded on the USACE Regional Supplement wetland determination data forms. Representative wetland and upland data points were recorded during the wetland delineation to determine the presence/absence of wetlands and/or to document upland conditions within the Project area. Upland data points were determined not to be within wetlands because they did not have positive indicators of one or more of the three wetland criteria: hydrophytic vegetation, wetland hydrology, and hydric soils.

3.2.1.1 Soils

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

3.2.1.2 Hydrology

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

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

3.2.1.3 Vegetation

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

Wetland quality was evaluated using the Ohio Environmental Protection Agency (OEPA) Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack 2001). Categorization was conducted in accordance with the latest quantitative score calibration (OEPA, 2000). Wetlands are scored based on hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. Each of these subject areas is further divided into subcategories under ORAM v5.0 resulting in a score that describes the wetland using a range from 0 (low quality and high disturbance) to 100 (high quality and low disturbance). Wetlands scored from 0 to 29.9 are grouped into "Category 1", 30 to 59.9 are "Category 2" and 60 to 100 are "Category 3". Transitional zones exist between Categories 1 and 2 from 30 to 34.9 and between Categories 2 and 3 from 60 to 64.9. However, according to the OEPA, if the wetland score falls into the transitional range, it must be given the higher Category unless scientific data can prove it should be in a lower category (Mack, 2001).

3.2.2 Stream Assessment

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

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

4 Field Survey Results

Jacobs biologists surveyed the Project area by walking the ESB and evaluating for wetlands and other waters of the U.S. The Preferred route crossed four wetlands, 11 streams, and five ponds; these features are displayed and identified on the Wetlands and Waterbodies Delineation Map (Figures 3-1 to 3-22). Jacobs defaults to the USACE and OEPA for the final determination of hydrologic connectivity and jurisdiction

4.1 Wetlands

Four wetlands, ranging in size from 0.05 to 3.31 acres, were delineated within the ESB. Two of the wetlands were identified as palustrine emergent (PEM) wetlands and two were identified as palustrine forested (PFO) wetlands. These wetlands are depicted in Figures 3-1 to 3-22. The reported wetland acreage only corresponds to areas delineated within the ESB, as some wetlands extended beyond the survey boundary.

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

TABLE 4-1: Delineated Wetland Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Prerered Route

Wetland ID	Loca	Location		Area (ac)	ODAM Score Catagory	
wettand ib	Latitude	Longitude	Type ¹	within ESB	ORAM Score, Category	
Wetland DFN-01	41.59574	-84.01331	PFO	3.31	29, Category 1	
Wetland DFN-02	41.59549	-84.01673	PEM	0.05	24, Category 1	
Wetland DFN-03	41.59488	-84.01826	PFO	0.07	34.5, Category 2	
Wetland DFN-04	41.57143	-84.05502	PEM	0.60	12.5, Category 1	
		Total Wetland	4.03			

¹Cowardin et al. 1979.

4.1.1 Wetland ORAM Results

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

Three Category 1 wetlands were identified within the ESB, including two PEM wetlands and one PFO wetland. These wetlands were classified as Category 1 wetlands based on ORAM scores ranging from 12.5 to 29. Generally, the Category 1 wetlands scored low due to factors such as narrow buffer width, moderate to high intensity surrounding land use, moderate hydrology, poor to fair habitat development, habitat alteration, low quality vegetation communities, lack of horizontal interspersion, presence of invasive species, and minimal microtopography.

One Category 2 wetland was identified within the ESB as a PFO wetland with an ORAM score of 34.5. This Category 2 wetland exhibited much of the same characteristics as a Category 1 wetland with the exception of a greater buffer width, recovery from habitat alteration, and no invasive species cover.

TABLE 4.1.1: Wetland Summary Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Preferred Route

Motlond Tune	C	RAM Categor	Number of	Acreage		
Wetland Type	Category 1	Category 2	Category 3	Wetlands	within ESB	
PEM	2	0	0	2	0.65	
PFO	1	1	0	2	3.38	
Totals	3	1	0	4	4.03	

4.2 Streams

Eleven streams were identified, totaling 22,281 linear feet within the ESB. Of the 11 streams, five were identified as ephemeral streams, four were intermittent streams, and two were perennial streams. Two streams were assessed using the QHEI methodology (drainage area greater than one square mile) and nine streams were assessed using the HHEI methodology (drainage area less than one square mile).

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

TABLE 4-2: Delineated Stream Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Preferred Route

Stream ID	Loc	ation	Flow Regime ¹	Length (ft) within	Average OHWM
Stream ib	Latitude	Longitude	r iow Regime	ESB	Width (ft)
Stream DFN-01	41.59948	-83.92022	Ephemeral	2,806	2
Stream DFN-02	41.59919	-83.92658	Intermittent	628	4
Stream DFN-03	41.57434	-83.96970	Intermittent	405	7
Stream DFN-04	41.59942	-83.94043	Ephemeral	5,222	2
Stream DFN-05	41.59901	-83.95346	Intermittent	1,149	6
Stream DFN-06	41.59766	-83.96963	Ephemeral	2,799	2
Stream DFN-07	41.59781	-83.97269	Perennial	589	7
Stream DFN-08	41.59739	-83.98687	Ephemeral	6,997	2
Stream DFN-09	41.59733	-84.00818	Intermittent	949	6
Stream DFN-10	41.59504	-84.01893	Perennial	370	40
Stream DFN-11	41.59079	-84.03934	Ephemeral	367	5
			Total Stream Length (ft)	22,281	

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

4.2.1 QHEI Results

Two streams, totaling 959 linear feet within the ESB, were evaluated using QHEI methodology. One was classified as a Fair Warmwater stream and one was classified as a Good Warmwater stream. The completed QHEI forms are included in Appendix D and Table 4-5 provides a summary of streams identified within the ESB that were assessed using the QHEI.

TABLE 4-5: QHEI Stream Summary Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Preferred Route

Flow		QHEI Narrative Category						
Regime	Very Poor	Poor	Fair	Good	Excellent	Number of Streams	(feet)	
Regime	Warmwater	Warmwater	Warmwater	Warmwater	Warmwater	Streams	within ESB	
Perennial	0	0	1	1	0	2	959	
Total	0	0	1	1	0	2	959	

4.2.2 HHEI Results

Nine headwater streams, totaling 21,322 linear feet within the ESB, were evaluated using the HHEI methodology. Six of the streams were categorized as Modified Class I, two were categorized as Modified Class II, and one was categorized as Class II. Of the nine streams, five were ephemeral and four were intermittent streams. Completed HHEI forms are provided in Appendix E and Table 4-6 provides a summary of streams identified within the ESB that were assessed using the HHEI.

TABLE 4-6: HHEI Stream Summary Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Preferred Route

Flow Regime ¹	HHEI Class						Number of	Length (feet)
	Modified Class I	Class I	Modified Class II	Class II	Modified Class III	Class III	Streams	within ESB
Ephemeral	5	0	0	0	0	0	5	18,191
Intermittent	1	0	2	1	0	0	4	3,131
Perennial	0	0	0	0	0	0	0	0
Total	6	0	2	1	0	0	9	21,322

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

4.3 Ponds/Open Water

Five ponds totaling 7.27 acres were identified within the ESB and can be found on Figures 3-1 to 3-22. Detailed information for each delineated pond within the ESB is provided in Table 4-3. Representative photographs and more detailed information on pond conditions can be found in Appendix F.

TABLE 4-3: Delineated Pond Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation

Project-Preferred Route

Pond ID	Loca	ation	Area (ac) within ESB	
FORG ID	Latitude	Longitude	Area (ac) WITHIII LSD	
Pond DFN-01	41.59541	-84.01178	1.38	
Pond DFN-02	41.59521	-84.01552	1.15	
Pond DFN-03	41.59072	-84.03541	0.7	
Pond DFN-04	41.59054	-84.04005	3.15	
Pond DFN-05	41.59021	-84.05079	0.89	
	7.27			

5 Conclusion

Jacobs conducted an environmental survey of the Preferred Route of the Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project in September, October, and December 2022. Four wetlands, 11 streams, and five ponds were delineated within the environmental survey boundary. The four wetlands totaled 4.03 acres within the ESB and were identified as two PEM wetlands and two PFO wetlands. Of the four wetlands, three were identified as Category 1 wetlands and one was a Category 2 wetland. No Category 3 wetlands were identified within the ESB.

The 11 streams totaled 22,281 linear feet within the ESB and included five ephemeral streams, four intermittent streams, and two perennial streams. Two streams were assessed using the QHEI methodology (drainage area greater than 1 mi²) and nine streams were assessed using the HHEI methodology (drainage area less than 1 mi²). Additionally, five ponds were identified totaling approximatley 7.27 acres within the ESB.

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

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

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

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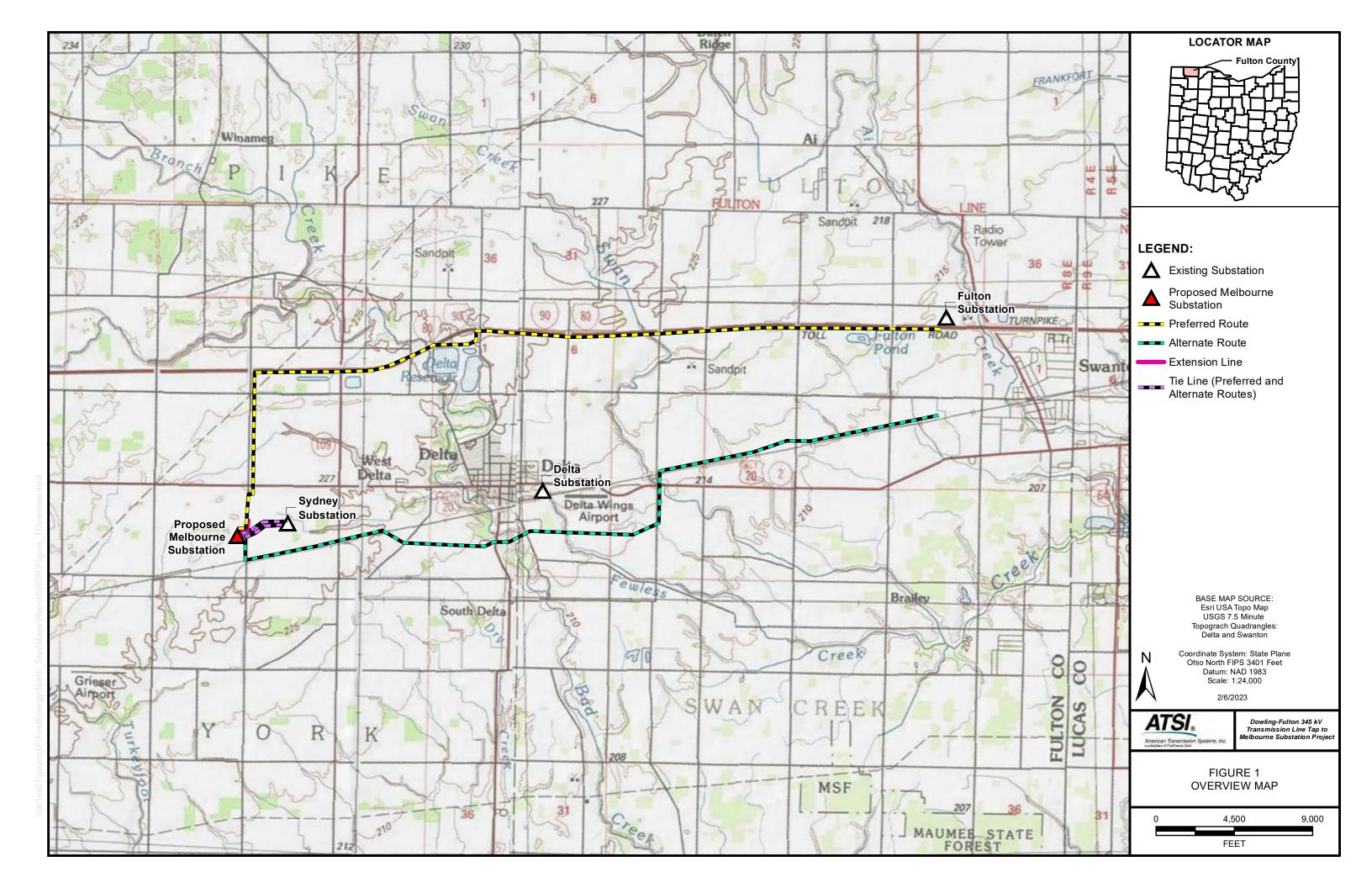
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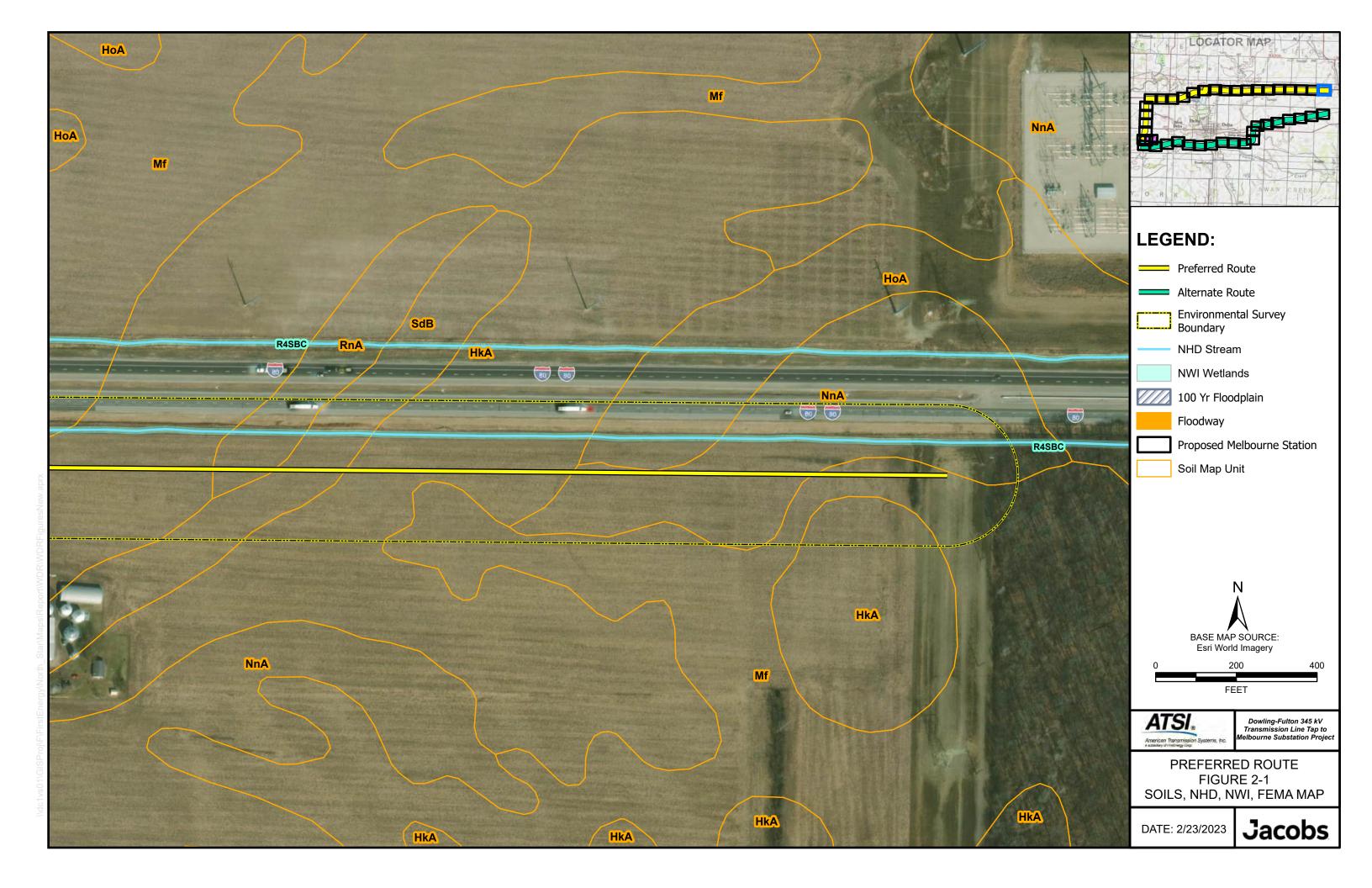
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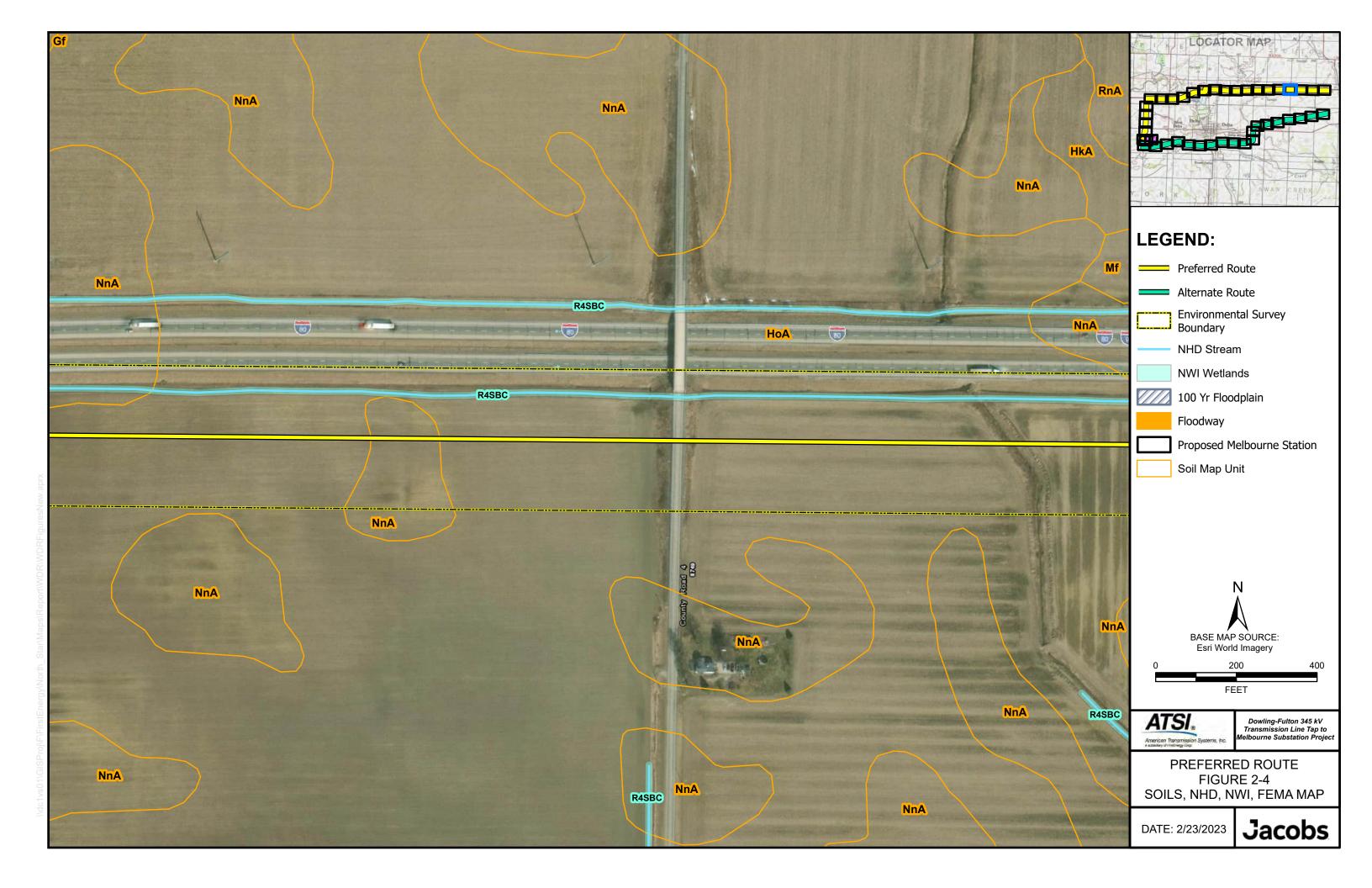






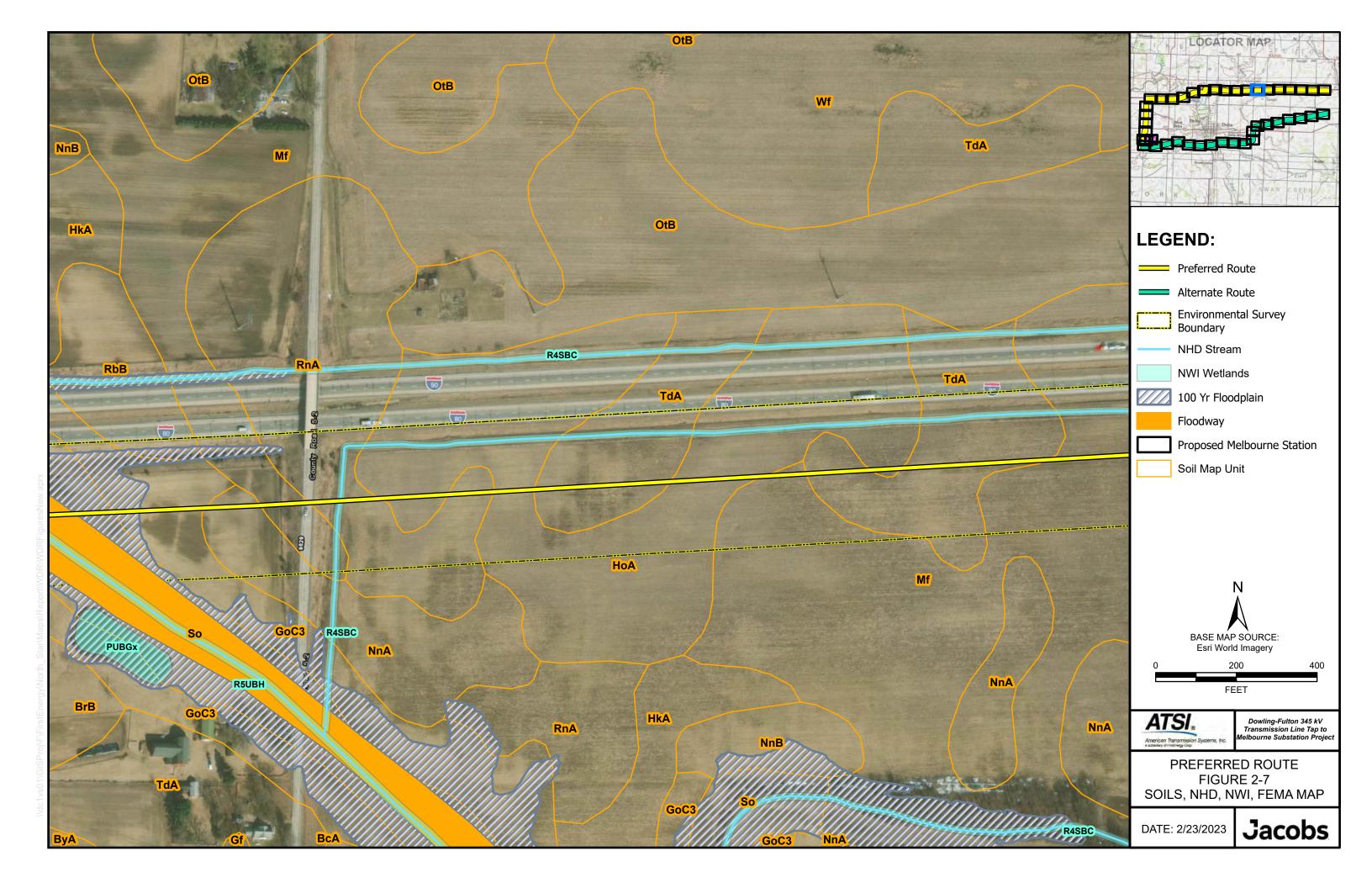


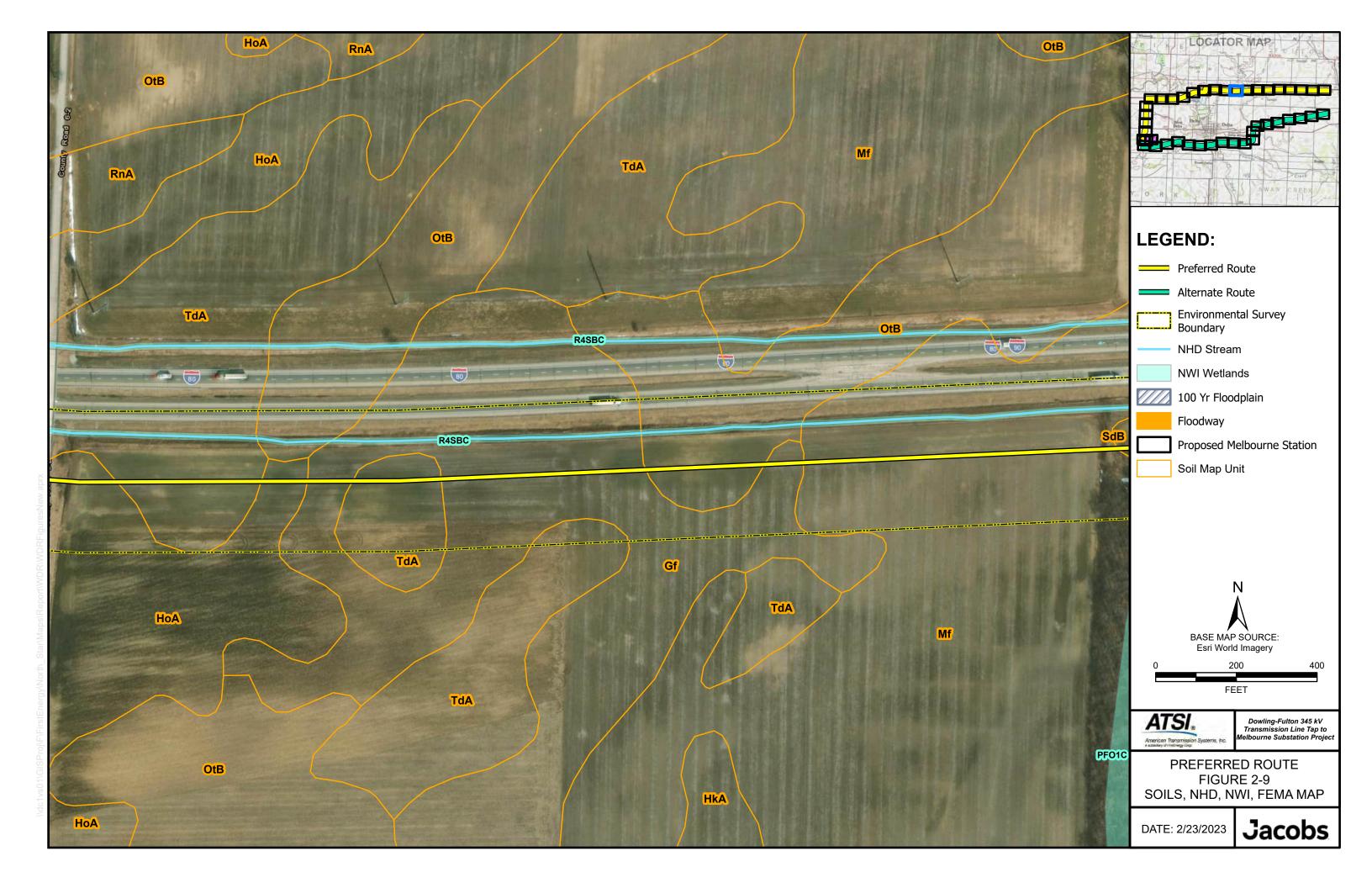








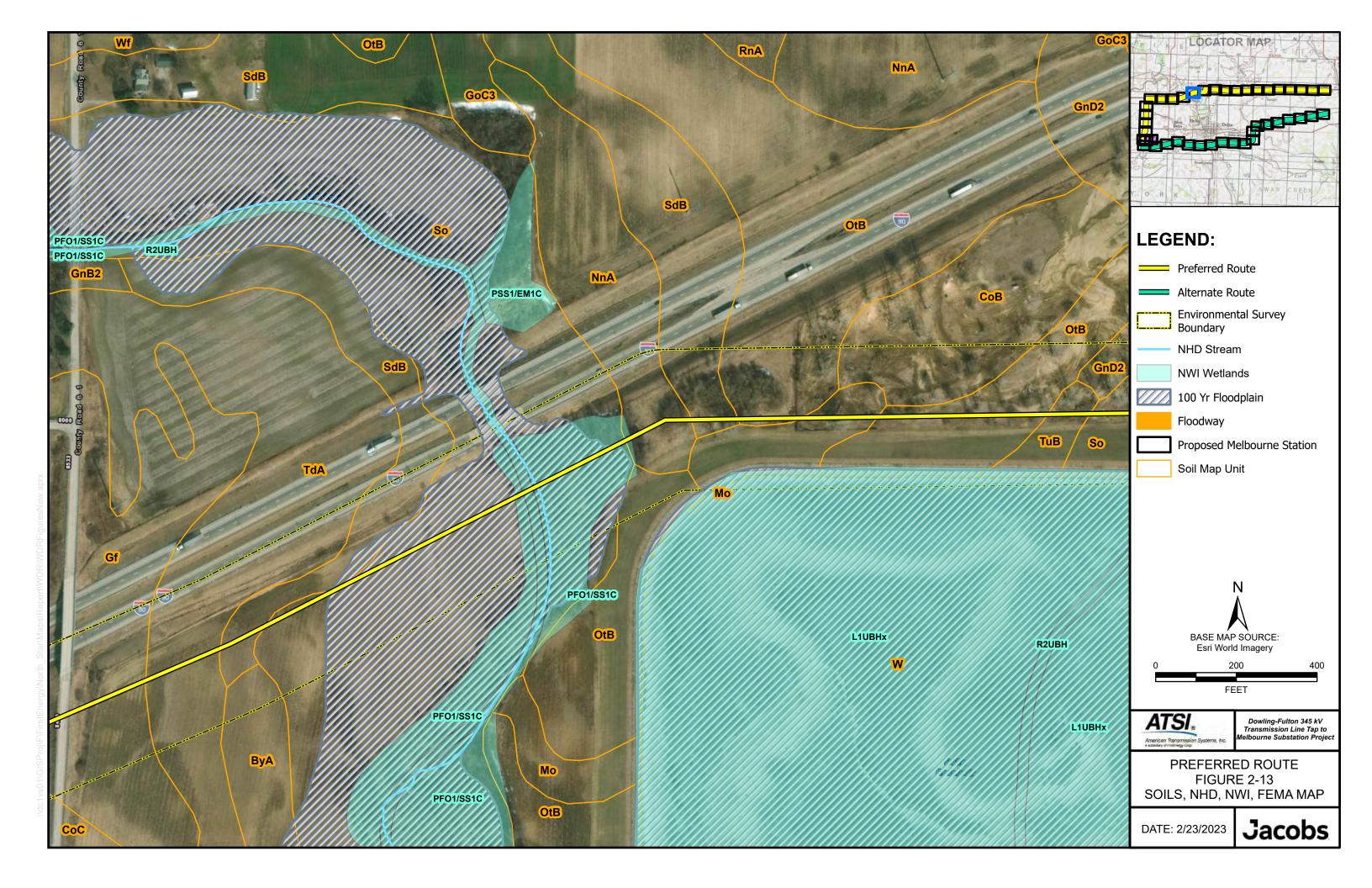


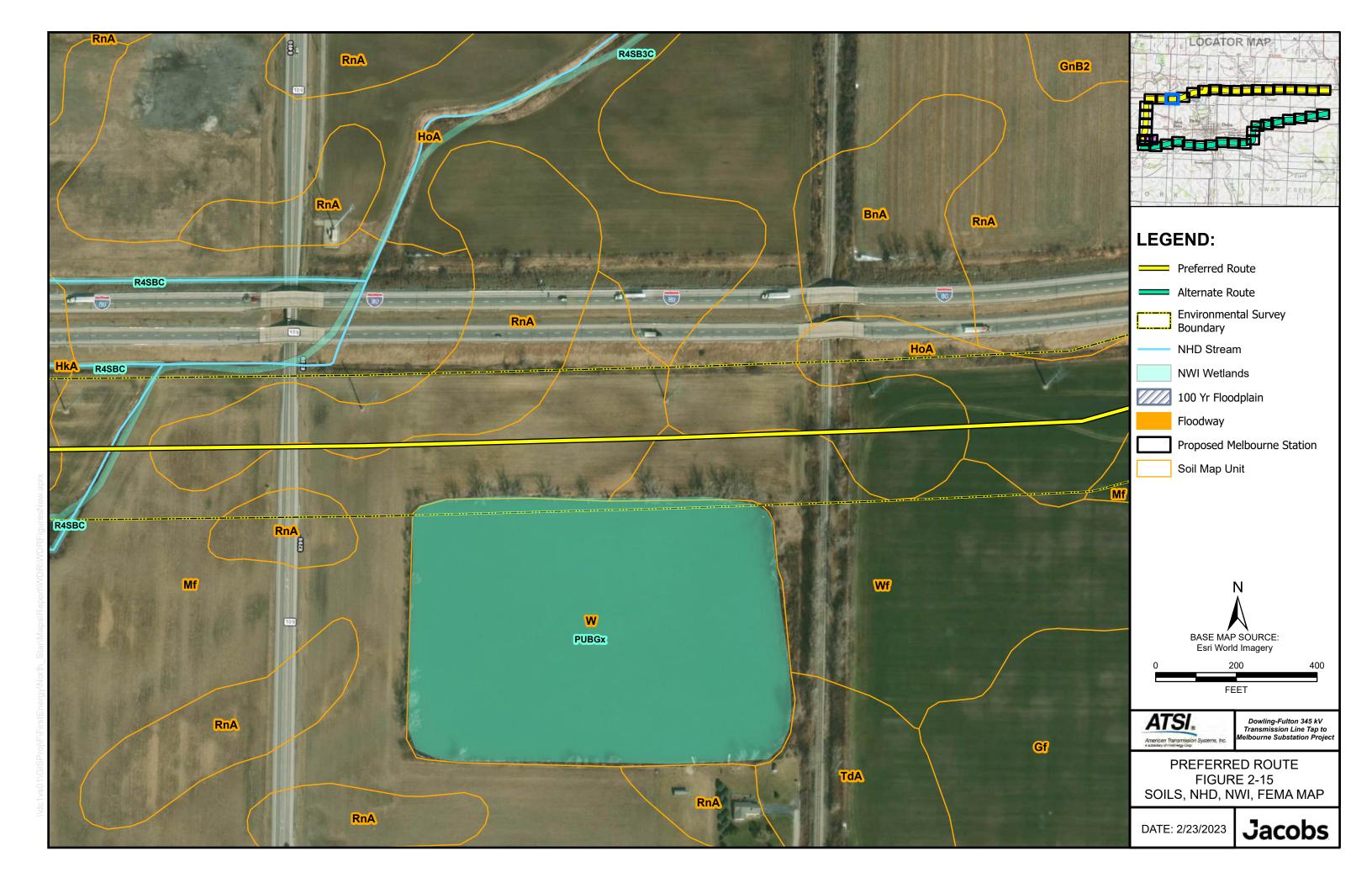




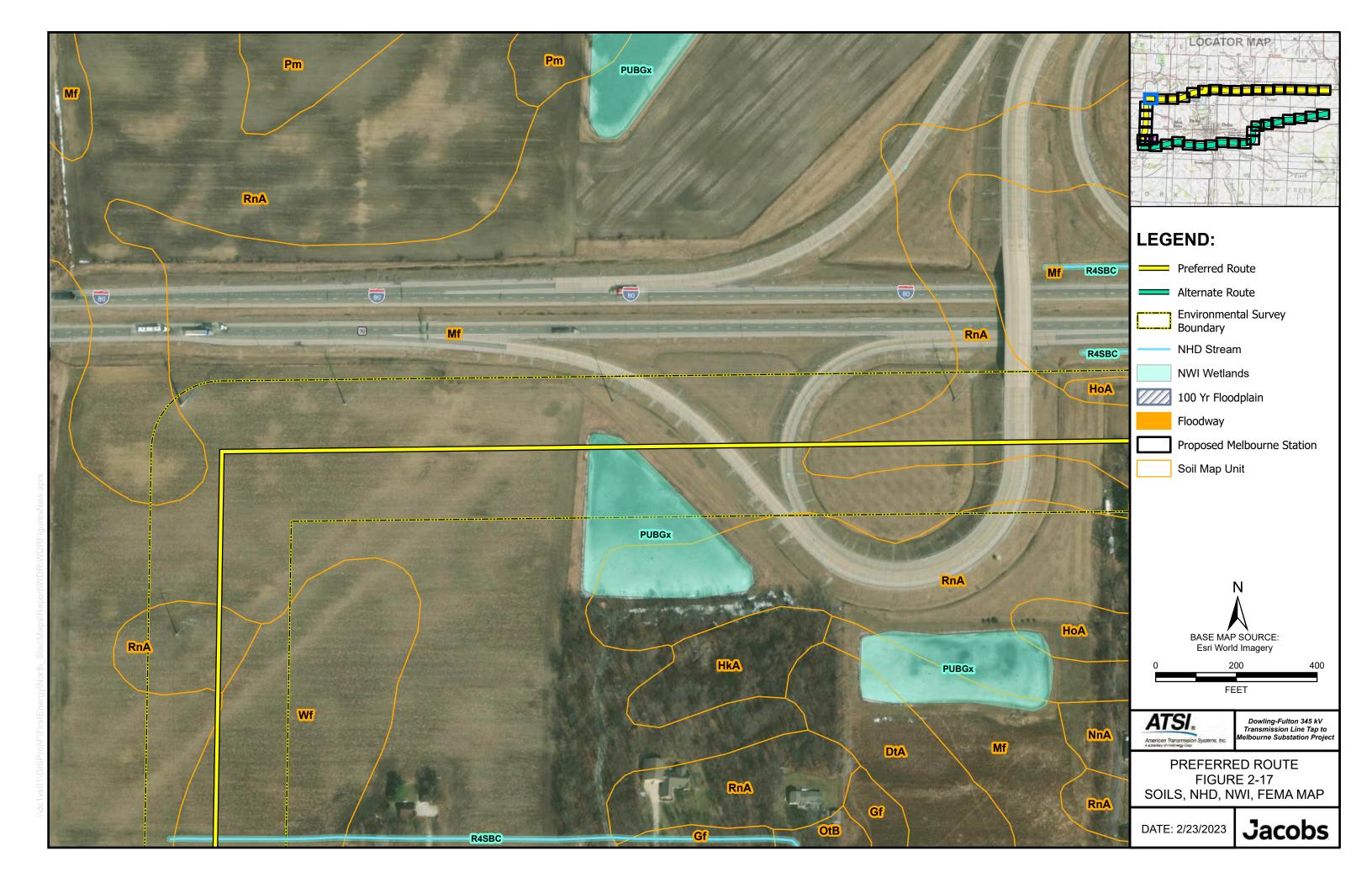




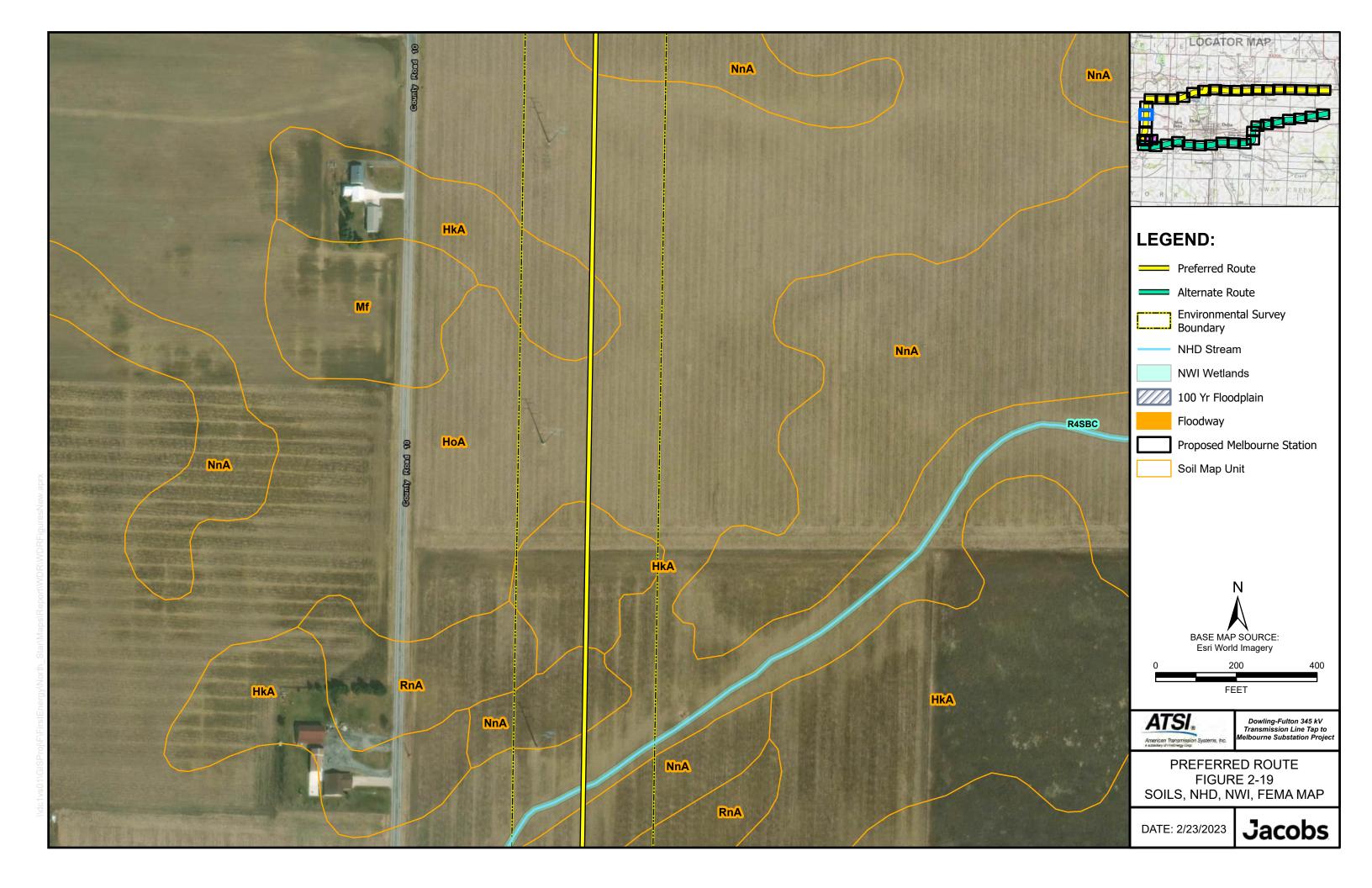




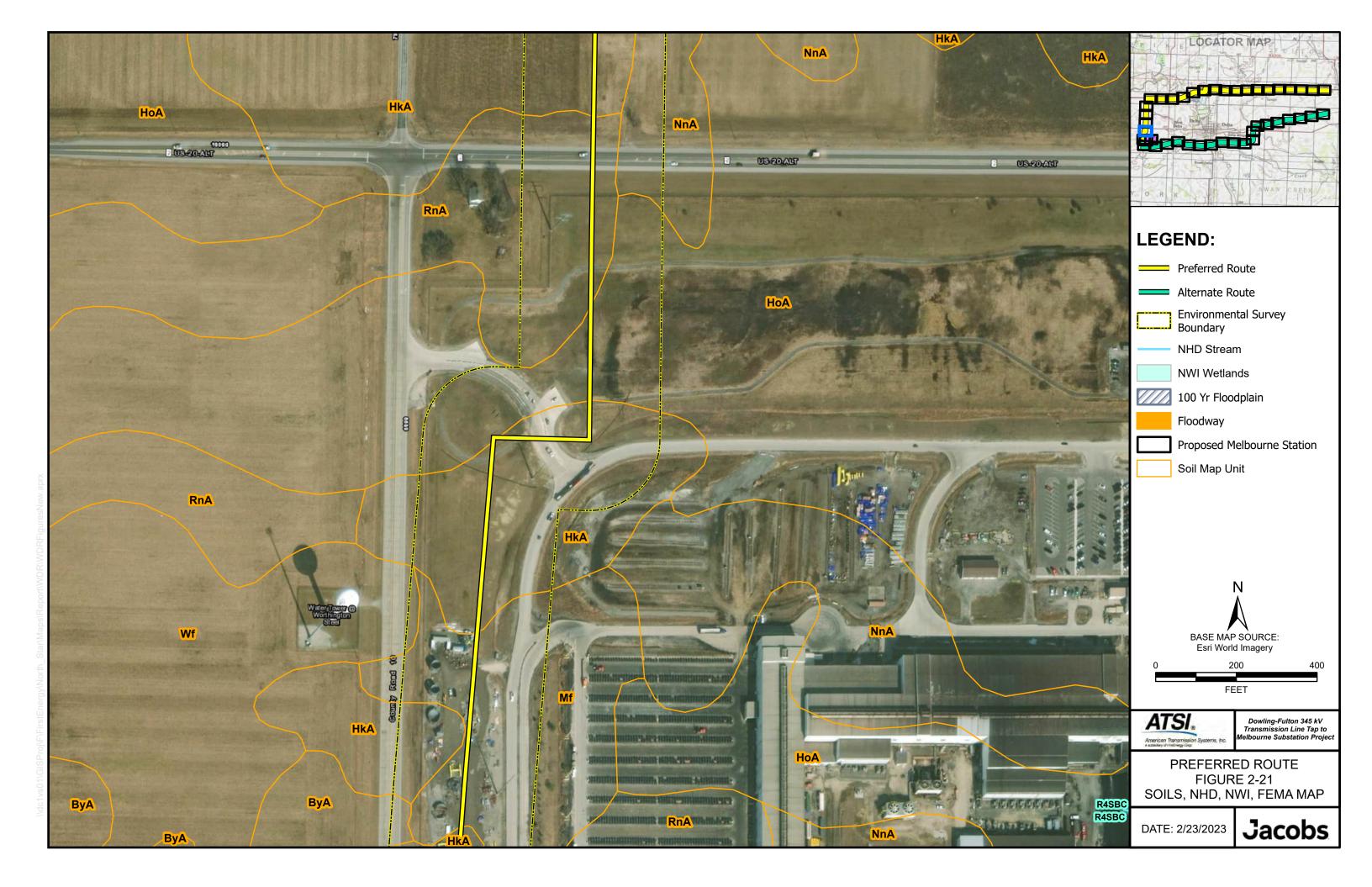


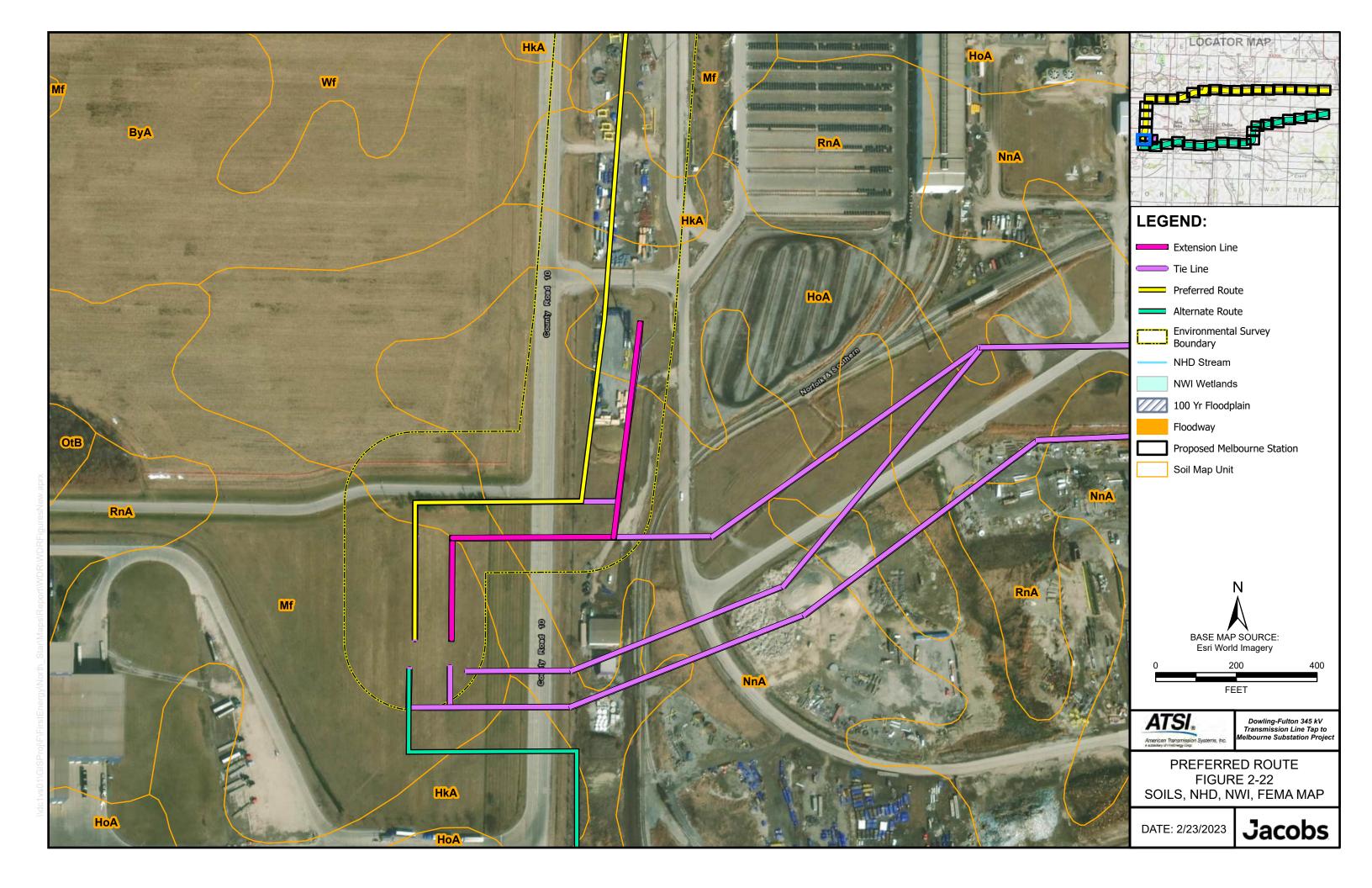










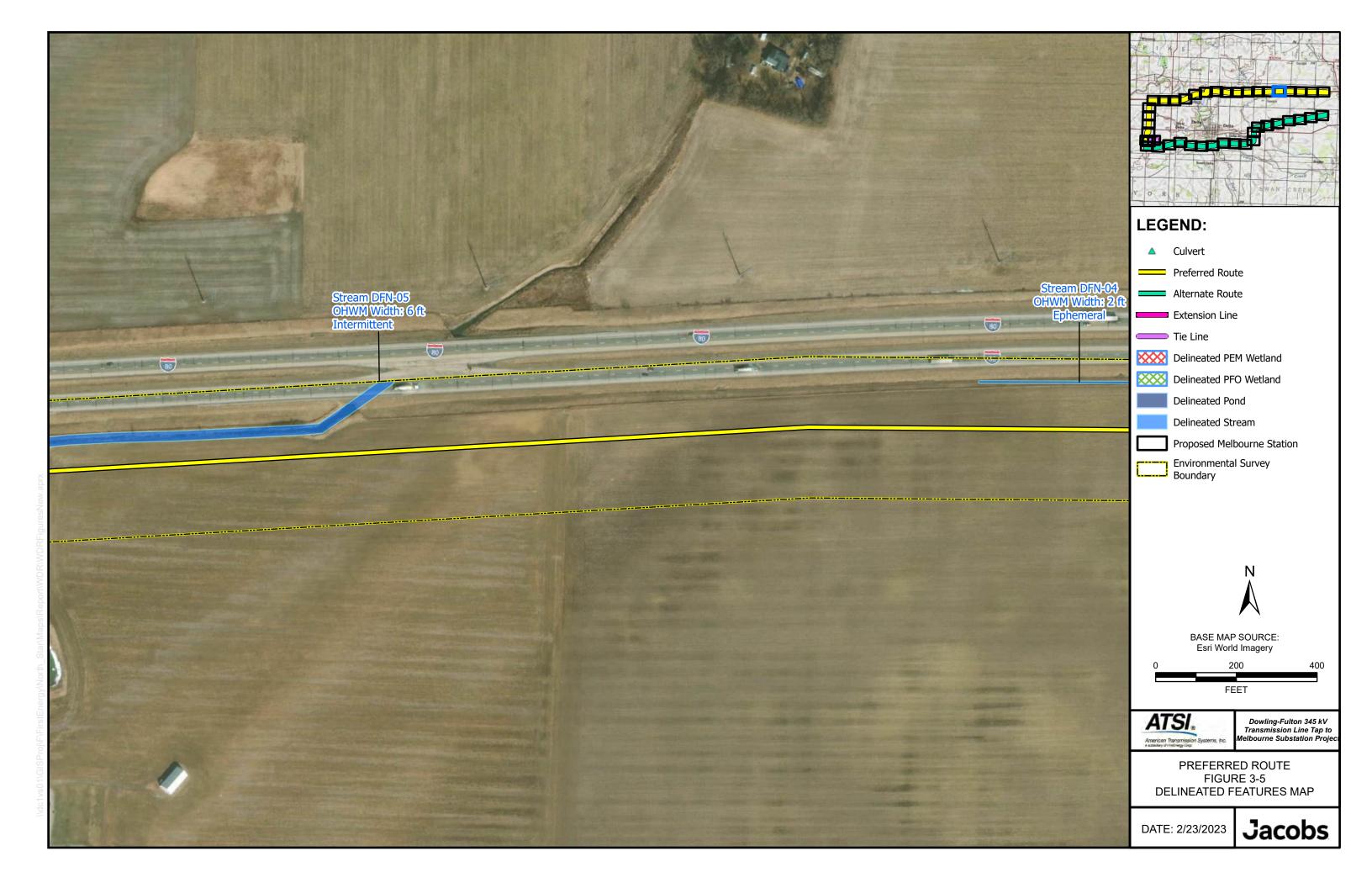










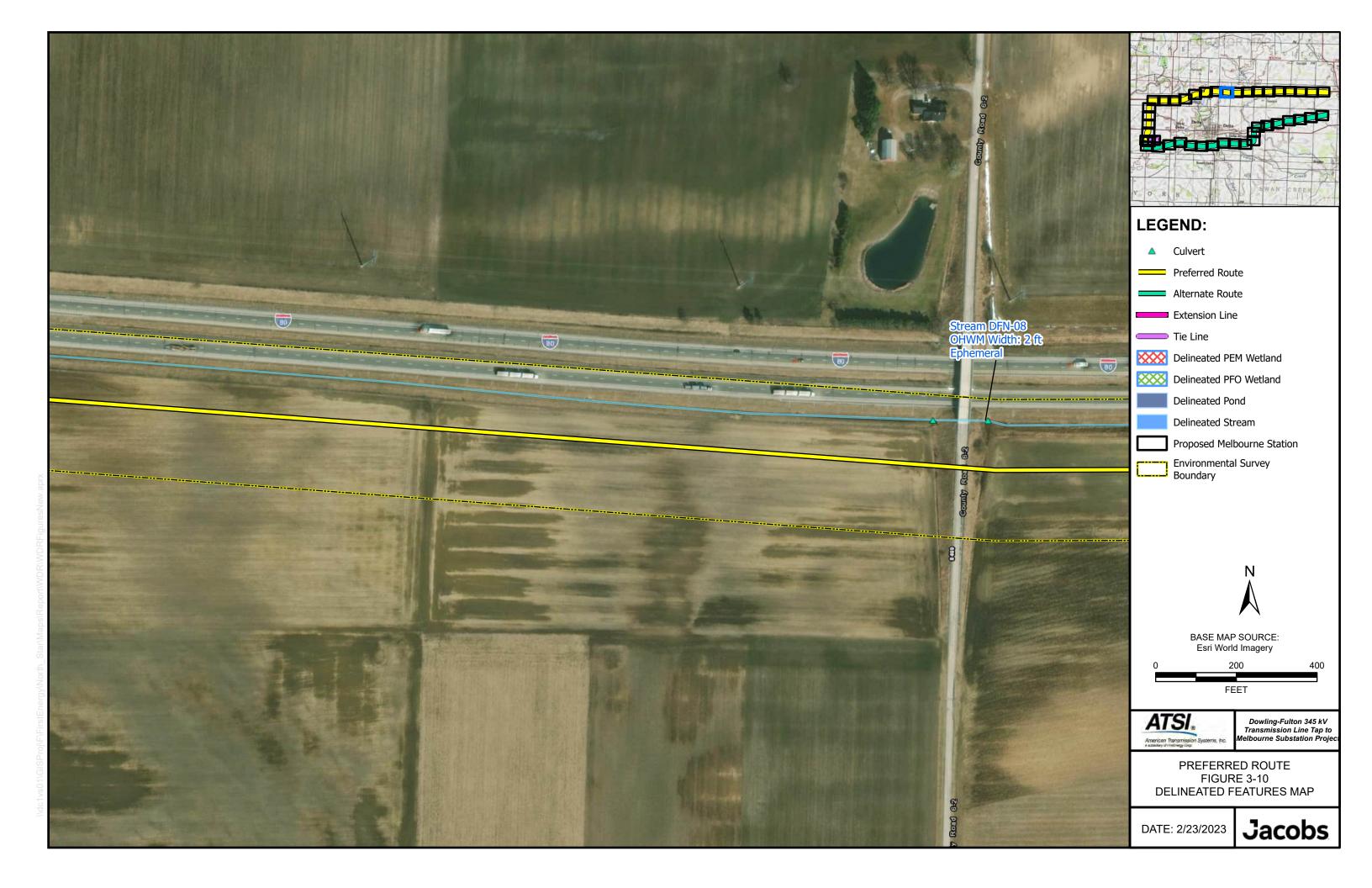










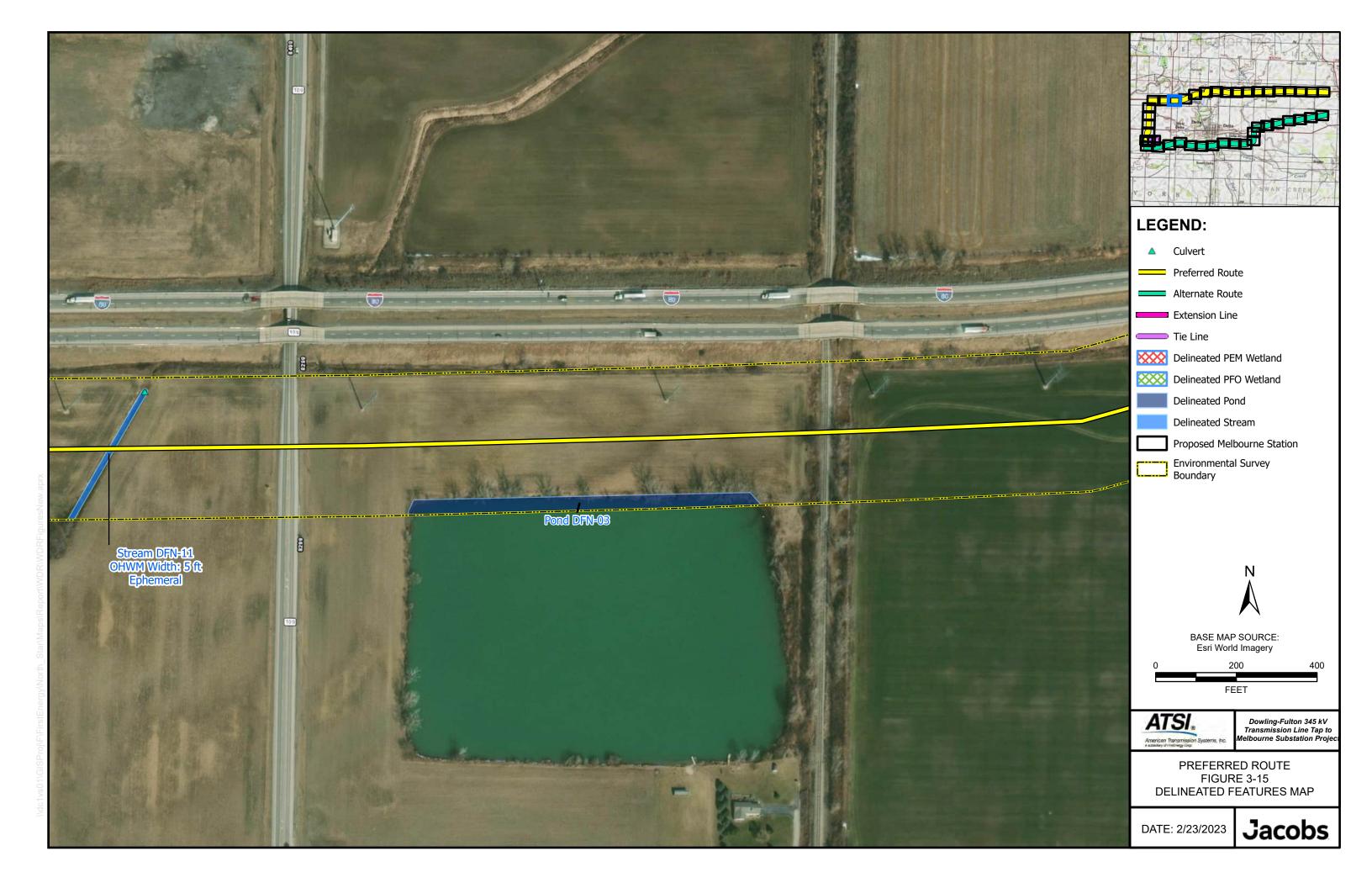




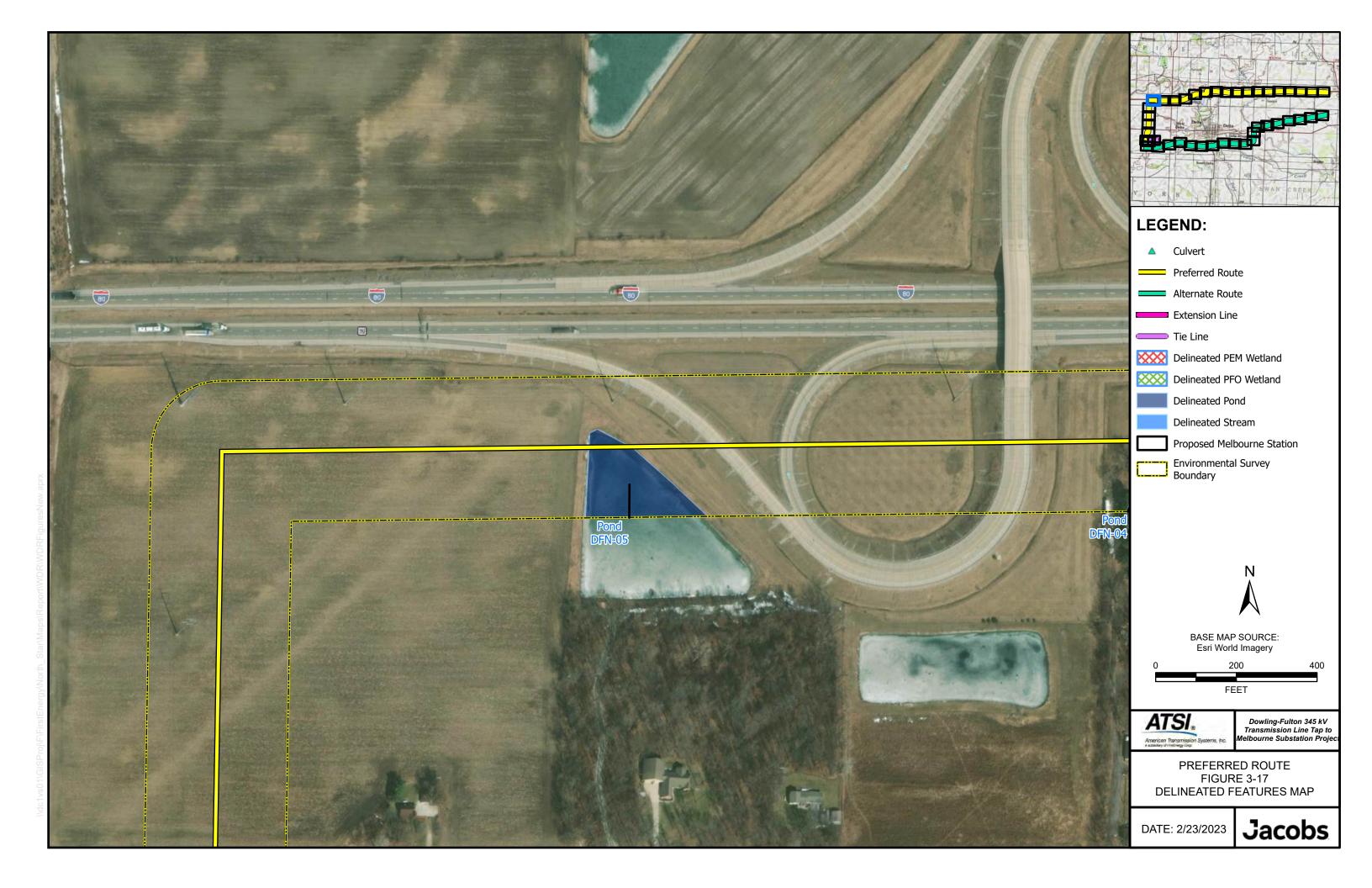








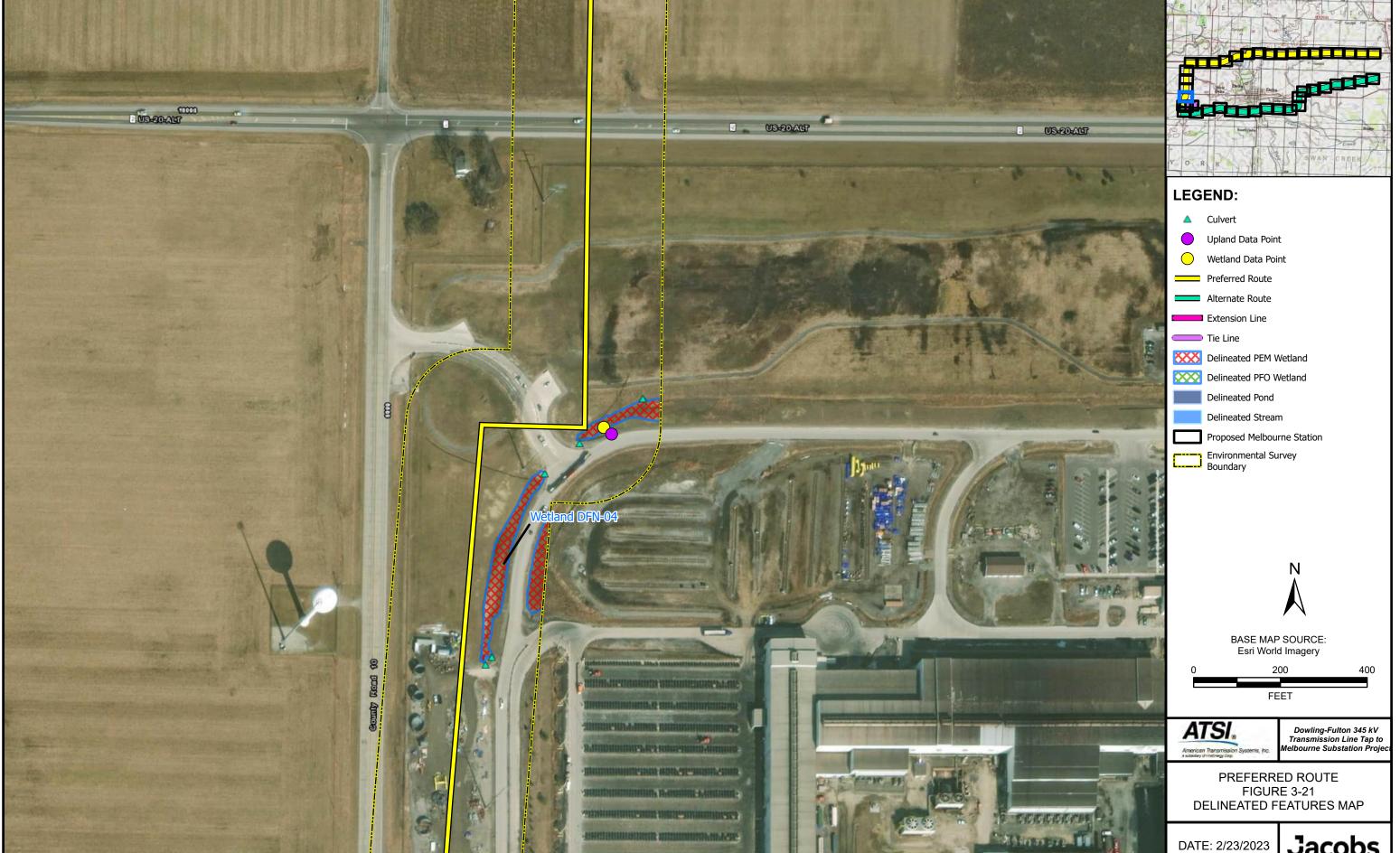




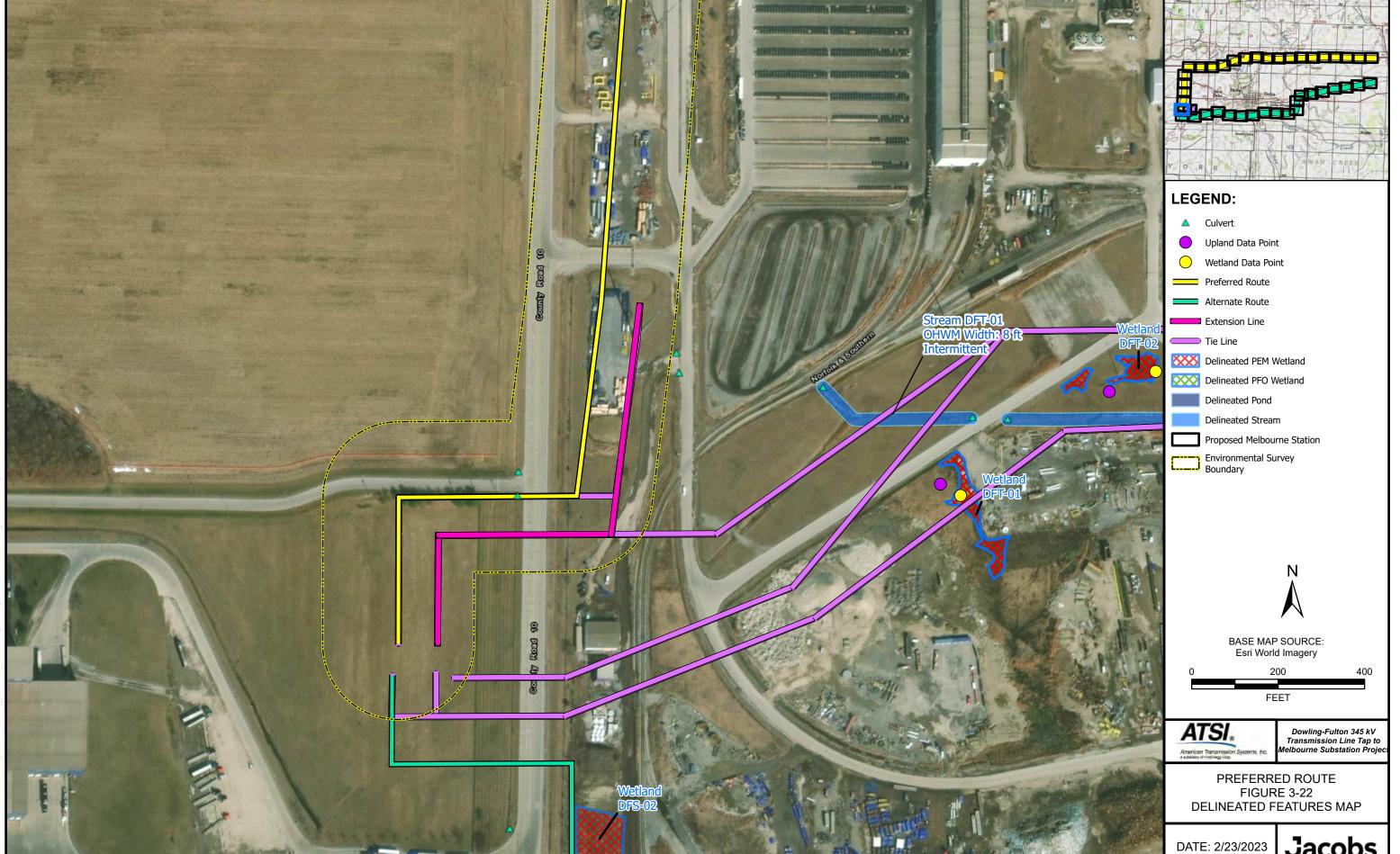








Jacobs



Jacobs



Applicant/Owner: FirstEnergy State: OH Sampling Point: Wetland DFN-01 Investigator(s): MJA Section, Township, Range: S1T7NR7E Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-2 Subregion (LRR or MLRA): LRR K Lat: 41.59574 Long: -84.01331 Datum: NAD 83 Soil Map Unit Name: Millgrove-Mermill (s6036) NWI classification: None Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No Soil Present? Yes X No Fit yes, optional Wetland? Yes X No Wetland Hydrology Present? Yes X No Fit yes, optional Wetland Site ID: Wetland DFN-01 Remarks: (Explain alternative procedures here or in a separate report.) PFO wetland downslope from reservoir, in stream floodplain HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)						
Investigator(s): MJA Section, Township, Range: \$1 T 7 N R 7 E Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-2 Subregion (LRR or MLRA): LRR K Lat: 41.59574 Long: -84.01331 Datum: NAD 83 Soil Map Unit Name: Millgrove-Mermill (s6036) NWI classification: None Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation Soil Or Hydrology Instituted? Are "Normal Circumstances" present? Yes X No Are Vegetation Or Hydrology Instituted? Is the Sampled Area within a Wetland? Yes X No (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 X No (If yes, optional Wetland? Yes X No (If yes, optional Wetland Site ID: Wetland DFN-01 Remarks: (Explain alternative procedures here or in a separate report.) PFO wetland downslope from reservoir, in stream floodplain HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)						
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Subregion (LRR or MLRA): LRR K Lat: 41.59574 Long: -84.01331 Datum: NAD 83 Soil Map Unit Name: Millgrove-Mermill (s6036) NWI classification: None Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No Are Vegetation 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 X No If yes Sampled Area within a Wetland? Yes X No If yes, optional Wetland Site ID: Wetland DFN-01 Remarks: (Explain alternative procedures here or in a separate report.) PFO wetland downslope from reservoir, in stream floodplain Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)						
Soil Map Unit Name: Millgrove-Mermill (s6036) Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No (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 X No Wetland Hydrology Present? Yes X No If yes, optional Wetland? Yes X No If yes, optional Wetland Site ID: Wetland DFN-01 Remarks: (Explain alternative procedures here or in a separate report.) PFO wetland downslope from reservoir, in stream floodplain Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)						
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? YesX 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? YesX 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?						
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?						
Hydrophytic Vegetation Present? Yes X No						
Hydric Soil Present? Yes X No						
PFO wetland downslope from reservoir, in stream floodplain HYDROLOGY Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)						
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)						
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6)						
Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10)						
High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16)						
Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2)						
Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)						
X Sediment Deposits (B2) X Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)						
Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)						
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)X Geomorphic Position (D2)						
Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3)						
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)						
<u>X</u> Sparsely Vegetated Concave Surface (B8) FAC-Neutral Test (D5)						
Field Observations:						
Surface Water Present? Yes No X Depth (inches):						
Water Table Present? Yes No X Depth (inches):						
Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), il available:						
Remarks:						

•	6.			Sampling Point: Wetland DFN-0		
Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:		
1. Populus deltoides	60	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:5 (A)		
2 3				Total Number of Dominant Species Across All Strata: 5 (B)		
				Percent of Dominant Species		
j		-		That Are OBL, FACW, or FAC:100% (A/B)		
5	· ——			Prevalence Index worksheet:		
				Total % Cover of: Multiply by:		
	60	= Total Cov	er	OBL species 85 x 1 = 85		
Sapling/Shrub Stratum (Plot size: 15)				FACW species 75 x 2 = 150		
Fraxinus pennsylvanica	30	Yes	FACW	FAC species60 x 3 =180		
Cornus alba	15	Yes	FACW	FACU species x 4 =		
				UPL species x 5 = Column Totals: 220 (A) 415 (B)		
				Column Totals:(A)(B)		
				Prevalence Index = B/A = 1.89		
s <u>.</u>				Hydrophytic Vegetation Indicators:		
·				1 - Rapid Test for Hydrophytic Vegetation		
		= Total Cov		X 2 - Dominance Test is >50%		
Herb Stratum (Plot size:5)				X 3 - Prevalence Index is ≤3.0 ¹		
Eragrostis hypnoides	40	Yes	OBL	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)		
2. Typha latifolia	15	No	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)		
3. Scirpus atrovirens	30	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must		
L. Carex cristatella	15	No	FACW	be present, unless disturbed or problematic.		
5. Symphyotrichum novae-angliae	10	No	FACW	Definitions of Vegetation Strata:		
5. Lysimachia nummularia 7.	5	No	FACW	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
3				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
9				Herb – All herbaceous (non-woody) plants, regardless of		
10				size, and woody plants less than 3.28 ft tall.		
11				Woody vines – All woody vines greater than 3.28 ft in		
2		= Total Cov	er	height.		
Noody Vine Stratum (Plot size:30)						
l				Hydronbydia		
2				Hydrophytic Vegetation		
3				Present? Yes X No		
4		= Total Cov				

SOIL Sampling Point: Wetland DFN-01

	10YR 4/2 98	Color (moist) 7.5YR 4/6		PL PL	Texture Silty clay loam	Remarks
	10YK 4/2 98	7.5YR 4/6	2 C	PL	Silty clay loam	
- - - - - - -						
- - - - - -				- —— - —— - ——		
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-						
Type: C=Concent	tration D=Depletion R	– ————————————————————————————————————	S=Masked Sand (² Location: PI	=Pore Lining, M=Matrix.
lydric Soil Indica		W Troudoud Matrix, We	- Maokoa Garia (Jiumo.		Problematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Belov	v Surface (S8) (L l	RR R,		(A10) (LRR K, L, MLRA 149B)
Histic Epipedo		MLRA 149B)				ie Redox (A16) (LRR K, L, R)
Black Histic (A Hydrogen Sulfi			ce (S9) (LRR R , l lineral (F1) (LRR			y Peat or Peat (S3) (LRR K, L, R) ce (S7) (LRR K, L, M)
Stratified Laye		Loamy Gleyed I		K, L)		Below Surface (S8) (LRR K, L)
	w Dark Surface (A11)	X Depleted Matrix				Surface (S9) (LRR K, L)
Thick Dark Sur	· ·	Redox Dark Sur			-	inese Masses (F12) (LRR K, L, R)
Sandy Mucky I		Depleted Dark S				Floodplain Soils (F19) (MLRA 149B
Sandy Gleyed Sandy Redox (Redox Depress	ions (F8)			dic (TA6) (MLRA 144A, 145, 149B) : Material (F21)
Stripped Matrix						w Dark Surface (TF12)
Dark Surface (S7) (LRR R, MLRA 14	9B)			Other (Expl	ain in Remarks)
Indicators of bydre	anhytic vogetation and	wetland hydrology mus	t he present link	es disturbed	or problematic	
Restrictive Layer		wettand frydrology mus	t be present, unit	33 disturbed	or problematic.	
Type:	()					
Depth (inches):		_			Hydric Soil Pres	sent? Yes X No
Remarks:						





Soil S





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Project/Site: Dowling-Fulton 345 kV Transmission Line Tap to Melbo Cit	y/County: Fulton County Sampling Date: 10/04/2022
Applicant/Owner: FirstEnergy	State: OH Sampling Point: Upland DFN-01,02
Investigator(s): MJA Se	ection, Township, Range: S 1 T 7N R 7E
Landform (hillslope, terrace, etc.): Toeslope Local	
	008 Long: -84.01673416699998 Datum: NAD 83
Soil Map Unit Name: Millgrove-Mermill (s6036)	NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation X, Soil , or Hydrology significantly dis	
Are Vegetation, Soil, or Hydrology naturally proble	ematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing s	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes NoX	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes No X
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Upland DFN-01,02
Remarks: (Explain alternative procedures here or in a separate report.) Upland data point situated in mowed field, downslope of resevoir.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Lea	
High Water Table (A2) Aquatic Fauna (B1) Seturation (A2) Mad Denseits (B1)	
Saturation (A3) Marl Deposits (B1: Water Marks (B1) Hydrogen Sulfide	
	neres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Oxidized Knizospi Drift Deposits (B3) Presence of Redu	
	ction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surface	
Inundation Visible on Aerial Imagery (B7) Other (Explain in F	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _X _ Depth (inches):	
Water Table Present? Yes No _X _ Depth (inches):	
Saturation Present? Yes NoX _ Depth (inches):	Wetland Hydrology Present? Yes X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos,	nrevious inspections) if available:
Describe recorded Data (stream gauge, monitoring well, acrial priotos,	previous inspections), il available.
Remarks:	

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				Percent of Deminant Species
5				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	-	= Total Co	ver	OBL species 0 x 1 = 0.0
Sapling/Shrub Stratum (Plot size: 15)				FACW species X Z =
1				AC Species X 3 =
2				X 4 =
3				UPL species
4				Column Totals. (A) (B)
5				Prevalence Index = B/A = 4.0
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:5)		•		3 - Prevalence Index is ≤3.0 ¹
1. Schedonorus arundinaceus	70	Yes	FACU	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
2. Poa pratensis	40	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Plantago lanceolata	10	No	FACU	¹ Indicators of hydric soil and wetland hydrology must
4. Trifolium pratense	40		FACU	be present, unless disturbed or problematic.
5. Cichorium intybus		No	FACU	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				size, and woody plants less than 3.26 it tan.
12.				Woody vines – All woody vines greater than 3.28 ft in height.
		= Total Co	ver	norgin.
Woody Vine Stratum (Plot size: 30)				
1				
				Hydrophytic
2			-	Vegetation Present? Yes No X
3	-		- ——	155 155
4		= Total Co	ver.	
Remarks: (Include photo numbers here or on a separate	sheet)	_ 10tal C0	vei	
Tromano. (modace photo numbers here of on a separate	Siloct.)			

Sampling Point: Upland DFN-01,02

SOIL Sampling Point: Upland DFN-01,02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth Matrix (inches) Color (moist) %	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture	Remarks		
0 - 6 10YR 4/2 90	5YR 4/6	10 (Concer	PL,M	Fine sandy loam			
<u> </u>								
	· 							
-								
<u> </u>								
<u> </u>								
<u> </u>								
¹ Type: C=Concentration, D=Depletion, RN Hydric Soil Indicators:	/I=Reduced Matrix, MS	S=Masked S	and Grai	ins.		: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :		
Histosol (A1)	Polyvalue Belov	v Surface (S	88) (I RR	R		luck (A10) (LRR K, L, MLRA 149B)		
Histic Epipedon (A2)	MLRA 149B		(=::::	,		Prairie Redox (A16) (LRR K, L, R)		
Black Histic (A3)	Thin Dark Surfa	ice (S9) (LR	R R, ML	RA 149B)		lucky Peat or Peat (S3) (LRR K, L, R)		
Hydrogen Sulfide (A4)	Loamy Mucky N	/lineral (F1)	(LRR K,	L)	Dark S	urface (S7) (LRR K, L, M)		
Stratified Layers (A5)	Loamy Gleyed	Matrix (F2)			Polyva	lue Below Surface (S8) (LRR K, L)		
Depleted Below Dark Surface (A11)	X Depleted Matrix	(F3)			Thin D	ark Surface (S9) (LRR K, L)		
Thick Dark Surface (A12)	Redox Dark Su	rface (F6)			Iron-Ma	anganese Masses (F12) (LRR K, L, R)		
Sandy Mucky Mineral (S1)	Depleted Dark	Surface (F7))		Piedmo	ont Floodplain Soils (F19) (MLRA 149B)		
Sandy Gleyed Matrix (S4)	Redox Depress	ions (F8)			Mesic	Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Redox (S5)					Red Pa	arent Material (F21)		
Stripped Matrix (S6)					Very S	hallow Dark Surface (TF12)		
Dark Surface (S7) (LRR R, MLRA 149	9B)				Other (Explain in Remarks)		
³ Indicators of hydrophytic vegetation and v	etland hydrology mus	t be present	t, unless	disturbed	or problematic			
Restrictive Layer (if observed): X								
Type: Compacted	-					v		
Depth (inches): 6.0 Remarks:	-				Hydric Soil	Present? Yes X No No		
Remarks.								





Soil

Project/Site: Dowling-Fulton 345 kV Transmission Line Tap to Melbo City	//County: Fulton County Sampling Date: 10/04/2022
Applicant/Owner: FirstEnergy	State: OH Sampling Point: Wetland DFN-02
Investigator(s): MJA Sec	ction, Township, Range: S 1 T 7N R 7E
Landform (hillslope, terrace, etc.): Depression Local r	
	025 Long: -84.01673133499997 Datum: NAD 83
Soil Map Unit Name: Millgrove-Mermill (s6036)	NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrology significantly dist	
Are Vegetation, Soil, or Hydrology naturally problem	
	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? YesX No Hydric Soil Present? YesX No	Is the Sampled Area within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland DFN-02
Remarks: (Explain alternative procedures here or in a separate report.)	il you, optional violatia one ib.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Lea	
High Water Table (A2) Aquatic Fauna (B1)	
Saturation (A3) Marl Deposits (B15	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide C	Odor (C1) Crayfish Burrows (C8)
	eres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduc	
Algal Mat or Crust (B4) Recent Iron Reduc	
Iron Deposits (B5) Thin Muck Surface	
Inundation Visible on Aerial Imagery (B7) Other (Explain in R Sparsely Vegetated Concave Surface (B8)	emarks) Microtopographic Relief (D4) × FAC-Neutral Test (D5)
Field Observations:	A PAC-Neutral Test (D3)
Surface Water Present? Yes No _X _ Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), ii available:
Damadia	
Remarks:	

EGETATION – Use scientific names of plants				Sampling Point: Wetland DFI
ree Stratum (Plot size:30)		Dominant Species?	Status	Dominance Test worksheet: Number of Dominant Species
<u> </u>				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:(A
				Prevalence Index worksheet:
-				Total % Cover of: Multiply by:
		= Total Cov	er	OBL species $\frac{100}{70}$ x 1 = $\frac{100.0}{140.0}$
apling/Shrub Stratum (Plot size: 15)				FACW species 70
Acer negundo		Yes	FAC	FACU species 0 x 4 = 0.0
				UPL species 0 x 5 = 0.0
				Column Totals: 195 (A) 315.0 (
				Prevalence Index = B/A = 1.61538462
				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
				X 2 - Dominance Test is >50%
Control (District	5	= Total Cov	er	X 3 - Prevalence Index is ≤3.0¹
l <u>erb Stratum</u> (Plot size:5)Carex vulpinoidea	45	Yes	OBL	4 - Morphological Adaptations ¹ (Provide support data in Remarks or on a separate sheet)
. Cyperus esculentus	30	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
. Setaria pumila	20	No	FAC	¹ Indicators of hydric soil and wetland hydrology mus
. Bidens frondosa	20	No	FACW	be present, unless disturbed or problematic.
Lysimachia nummularia	20	No	FACW	Definitions of Vegetation Strata:
Eragrostis hypnoides	55	Yes	OBL	Tree – Woody plants 3 in. (7.6 cm) or more in diame 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.
 0				Herb – All herbaceous (non-woody) plants, regardless of
1				size, and woody plants less than 3.28 ft tall.
2.				Woody vines – All woody vines greater than 3.28 ft in height.
	190	= Total Cov	er	norgin.
Voody Vine Stratum (Plot size: 30)				
				Hydrophytic Vegetation
				Present? Yes X No
. <u> </u>				
·		= Total Cov	er	

SOIL Sampling Point: Wetland DFN-02

Profile Desc	ription: (Describe t	o the dep	th needed to docur	nent the i	ndicator o	or confirm	n the absence	of indicators.)
Depth	Matrix			x Feature:	<u>s</u>	2		
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0 - 8	10YR 3/2	90	5YR 4/6	10	Concer	PL,M	Fine sandy loam	
							· 	
-								
							· 	
-								
-								
							· 	
-								
-								
							· 	
	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ins.		: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indicators	for Problematic Hydric Soils ³ :
Histosol	(A1)		Polyvalue Belov	v Surface	(S8) (LRR	R,	2 cm N	Muck (A10) (LRR K, L, MLRA 149B)
Histic Ep	pipedon (A2)		MLRA 149B)	1			Coast	Prairie Redox (A16) (LRR K, L, R)
Black His	stic (A3)		Thin Dark Surfa	ce (S9) (L	RR R, ML	.RA 149B) 5 cm N	flucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		Loamy Mucky N			L)		Surface (S7) (LRR K, L, M)
Stratified	l Layers (A5)		Loamy Gleyed I		(1)			llue Below Surface (S8) (LRR K, L)
	l Below Dark Surface	(A11)	Depleted Matrix					ark Surface (S9) (LRR K, L)
	rk Surface (A12)		X Redox Dark Su	, ,				anganese Masses (F12) (LRR K, L, R)
	lucky Mineral (S1)		Depleted Dark S		7)			ont Floodplain Soils (F19) (MLRA 149B)
	leyed Matrix (S4)		Redox Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B)
-	edox (S5)							arent Material (F21)
	Matrix (S6)							shallow Dark Surface (TF12)
Dark Sur	face (S7) (LRR R, M	LRA 149E	3)				Other	(Explain in Remarks)
3								
	hydrophytic vegetati		tland hydrology mus	t be prese	ent, unless	disturbed	or problemation	D
	ayer (if observed):	X						
Type: Co	mpacted							
Depth (inc	ches): <u>8.0</u>						Hydric Soil	Present? Yes X No
Remarks:								







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Project/Site: Dowling-Fulton 3	45 kV Transmissio	on Line Tap to Melbo City/C	County: Fulton County		Sampling Date: 10/04/2022		
Applicant/Owner: FirstEnergy					Sampling Point: Wetland DFN-03		
Investigator(s): MJA		Section	on Township Range		9 <u></u>		
					Slone (%). 0-1		
Landform (hillslope, terrace, et	SR K	41 59488050700003	R	01826187099994	Slope (70) Datum: NAD 83		
Subregion (LRR or MLRA): LF		_ Lat: _+1.00+00000700000					
Soil Map Unit Name: Millgrove					ation: PFO1/SS1C		
Are climatic / hydrologic condit	ions on the site typ	pical for this time of year? Y	'es X No	(If no, explain in Re	emarks.)		
Are Vegetation, Soil	, or Hydrology	y significantly distur	bed? Are "Norma	al Circumstances" p	resent? Yes X No		
Are Vegetation, Soil	, or Hydrology	y naturally problema	atic? (If needed,	explain any answer	rs in Remarks.)		
SUMMARY OF FINDIN	GS – Attach si	ite map showing san	npling point location	ons, transects	, important features, etc.		
Hydrophytic Vegetation Prese	ent? Yes	X No	Is the Sampled Area				
Hydric Soil Present?		X No	within a Wetland?	Yes X	No		
Wetland Hydrology Present?			If yes, optional Wetlan	d Site ID: Wetland I	DFN-03		
Remarks: (Explain alternative		or in a separate report.)	, , ,				
HYDROLOGY							
Wetland Hydrology Indicate	ors:			Secondary Indica	tors (minimum of two required)		
Primary Indicators (minimum	of one is required;	check all that apply)		Surface Soil (Cracks (B6)		
Surface Water (A1)		Water-Stained Leave	es (B9)	Drainage Pat	terns (B10)		
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Li			
Saturation (A3)		Marl Deposits (B15)			Vater Table (C2)		
Water Marks (B1)		Hydrogen Sulfide Od		Crayfish Burr			
Sediment Deposits (B2)		Oxidized Rhizospher					
Drift Deposits (B3)		Presence of Reduced		Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)		Recent Iron Reduction					
Iron Deposits (B5) Inundation Visible on Ae	rial Imagary (P7)	Thin Muck Surface (0	·	Shallow Aquitard (D3) Microtopographic Relief (D4)			
X Sparsely Vegetated Con	,	Other (Explain in Rer	ilaiks)	X FAC-Neutral			
Field Observations:	Save Surface (Bo)			A PAC-INEULIAI	1651 (D3)		
Surface Water Present?	Ves No	X Depth (inches):					
Water Table Present?		X Depth (inches):					
Saturation Present?		X Depth (inches):	Wetland	Hydrology Presen	t? Yes X No		
(includes capillary fringe)					1. 100 <u>X</u> 110		
Describe Recorded Data (stre	eam gauge, monito	oring well, aerial photos, pre	evious inspections), if ava	ailable:			
Remarks:							
rtomanto.							

	6.			Sampling Point: Wetland DFN-
Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1 Ulmus americana	60	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
2.				
3				Total Number of Dominant Species Across All Strata: 4 (B)
1				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 1.0 (A/E
S				
7.				Prevalence Index worksheet:
		= Total Cov	er	OBL species 0 x 1 = 0.0
Sapling/Shrub Stratum (Plot size: 15)		10141 001	O.	FACW species155
Fraxinus pennsylvanica	25	Yes	FACW	FAC species 35 x 3 = 105.0
2				FACU species0 x 4 =0.0
				UPL species 0 x 5 = 0.0
3				Column Totals:190 (A)415.0 (B)
ls				Prevalence Index = B/A = 2.18421053
)				Hydrophytic Vegetation Indicators:
S				1 - Rapid Test for Hydrophytic Vegetation
·				X 2 - Dominance Test is >50%
	25	= Total Cov	er	X 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5) Carex grayi	45	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supportine data in Remarks or on a separate sheet)
2. Toxicodendron radicans	35	Yes	FAC	Problematic Hydrophytic Vegetation¹ (Explain)
Lysimachia nummularia		No	FACW	¹ Indicators of hydric soil and wetland hydrology must
4. Fraxinus pennsylvanica	5	No	FACW	be present, unless disturbed or problematic.
<u> </u>				Definitions of Vegetation Strata:
5				
5				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
7				Sapling/shrub – Woody plants less than 3 in. DBH
9.				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.
11				Woody vines – All woody vines greater than 3.28 ft in
12		T-4-1-0		height.
20	105	= Total Cov	er	
Noody Vine Stratum (Plot size:30)				
l		-		Hydrophytic
<u>2.</u>			·	Vegetation
				Present? Yes^_ No
3				
3 4		= Total Cov		

SOIL Sampling Point: Wetland DFN-03

Profile Desc	ription: (Describe t	o the dept				r confirm	n the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture	Remarks
0 - 16	10YR 3/1	98	10YR 5/4	2	Concer	M	Silty clay loam	Remarks
0 10	101K 3/1	90	101K 5/4		Concer	IVI	Silly clay loan	
-								
·								
-								
-								
-								
-								
-								
-								
¹ Type: C=Co	oncentration, D=Depl	etion, RM=I	Reduced Matrix, MS	S=Masked	Sand Gra	ins.	² Location	: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:							for Problematic Hydric Soils ³ :
Histosol		-	Polyvalue Belov		(S8) (LRR	R,		Muck (A10) (LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149B)			D.A. 4.40D		Prairie Redox (A16) (LRR K, L, R)
Black His	stic (A3) n Sulfide (A4)	=	Thin Dark Surfa Loamy Mucky N				•	Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L, M)
	Layers (A5)	_	Loamy Gleyed I			L)		alue Below Surface (S8) (LRR K, L)
	l Below Dark Surface	(A11)	Depleted Matrix		,			Park Surface (S9) (LRR K, L)
-	rk Surface (A12)		X Redox Dark Su					anganese Masses (F12) (LRR K, L, R)
	lucky Mineral (S1)	=	Depleted Dark \$		7)			ont Floodplain Soils (F19) (MLRA 149B)
-	leyed Matrix (S4)	-	Redox Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B)
-	edox (S5) Matrix (S6)							arent Material (F21) Shallow Dark Surface (TF12)
	face (S7) (LRR R, M	LRA 149B	1					(Explain in Remarks)
	(- :) (=: : : : ; : : :							(,
	hydrophytic vegetati	on and wet	and hydrology mus	t be prese	nt, unless	disturbed	or problemation	c.
Restrictive L	.ayer (if observed):							
Type:								
Depth (inc	ches):						Hydric Soil	Present? Yes X No No
Remarks:								









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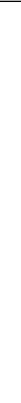
Project/Site: Dowling-Fulton 345 kV Transmission Line Ta	p to Melbo City/County: Ful	ton County	Sampling Date: 10/04/2022		
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: Upland DFN-03		
Investigator(s): MJA	Section, Townsh	ip, Range: S2T7NR7E			
Landform (hillslope, terrace, etc.): Floodplain			Slope (%): 0-1		
Subregion (LRR or MLRA): LRR K Lat: 41					
Soil Map Unit Name: Millgrove-Mermill (s6036)		NWI classific	Datum 4: PFO1/SS1C		
Are climatic / hydrologic conditions on the site typical for the					
Are Vegetation, Soil, or Hydrology		Are "Normal Circumstances" p			
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	ers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map	showing sampling po	oint locations, transects	, important features, etc.		
Hydrophytic Vegetation Present? Yes	No X Is the Sa	mpled Area	V		
Hydric Soil Present? Yes		Wetland? Yes	No ^X		
Wetland Hydrology Present? Yes	No X If yes, op	ional Wetland Site ID: Upland [DFN-03		
Upland data point taken in woodlot.					
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)		
Primary Indicators (minimum of one is required; check al	that apply)	Surface Soil	Cracks (B6)		
Surface Water (A1) Wa	ter-Stained Leaves (B9)	Drainage Pa	tterns (B10)		
High Water Table (A2) Aq	uatic Fauna (B13)	Moss Trim Lines (B16)			
	rl Deposits (B15)	Dry-Season Water Table (C2)			
	drogen Sulfide Odor (C1)	Crayfish Bur	` '		
	idized Rhizospheres on Living		isible on Aerial Imagery (C9)		
<u> </u>	esence of Reduced Iron (C4) cent Iron Reduction in Tilled	·	tressed Plants (D1)		
	in Muck Surface (C7)	Solis (Co) Geomorphic Shallow Aqu	Position (D2)		
_ ` ` ` ` `	ner (Explain in Remarks)		aphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	ior (Explain in Romano)	FAC-Neutral	• • • •		
Field Observations:			(/		
Surface Water Present? Yes No _X _ D	epth (inches):				
Water Table Present? Yes No _X D					
Saturation Present? Yes No _X _D	epth (inches):	Wetland Hydrology Preser	nt? Yes No X		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well	agrial photos, provious inspe	vetions) if available:			
Describe Necorded Data (Stream gauge, monitoring wen	aeriai priotos, previous irispe	ctions), ii avallable.			
Remarks:					

GETATION – Use scientific names of plants	·.			Sampling Point: Upland DFN-0
ree Stratum (Plot size:30)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
Juglans nigra	30	Yes	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)
Populus deltoides	40	Yes	FAC	
				Total Number of Dominant Species Across All Strata: 6 (B)
				Percent of Dominant Species
				That Are OBL, FACW, or FAC: 0.5 (A/E
				Prevalence Index worksheet:
	· ·	= Total Cov	er	
apling/Shrub Stratum (Plot size: 15)		10101 001	OI .	FACW species 50 x 2 = 100.0
Ulmus americana	50	Yes	FACW	FAC species 65 x 3 = 195.0
5				FACU species120 x 4 =480.0
				UPL species
				Column Totals:235 (A)775.0 (B
				Prevalence Index = B/A = 3.29787234
				· ·
				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
	50	= Total Cov	er	3 - Prevalence Index is ≤3.0 ¹
erb Stratum (Plot size: 5)		NI.	EAGU	4 - Morphological Adaptations ¹ (Provide supporting
Ageratina altissima	10	No	FACU	data in Remarks or on a separate sheet)
Solidago canadensis	20	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
Toxicodendron radicans	20	Yes	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Parthenocissus quinquefolia	50	Yes	FACU	, ,
Persicaria virginiana	5	No	FAC	Definitions of Vegetation Strata:
Juglans nigra	10	No	FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diamete 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.
l				Woody vines – All woody vines greater than 3.28 ft in
2				height.
	115	= Total Cov	er	
oody Vine Stratum (Plot size:)				
		-		Hydrophytic Vegetation
				Present? Yes No X
			 er	

SOIL Sampling Point: Upland DFN-03

Depth (inches) Matrix Redox Features 0 - 16 10YR 3/1 100 Silty clay loam
0 16 101K 3/1 100 Sity day toam
<u> </u>
•
-
<u> </u>
-
<u> </u>
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L, M)
Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L)
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L)
Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R) Redox Dark Surface (F5) Redox Dark Surface (F6)
Sandy Mucky Mineral (S1)
Sandy Redox (S5) Red Parent Material (F21)
Stripped Matrix (S6) Very Shallow Dark Surface (TF12)
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)
3
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed):
Type:
Depth (inches): No _ X
Remarks:
Nemarks.







Project/Site: Dowling-Fulton 3	45 kV Transmissior	n Line Tap to Melbo City/C	county: Fulton County		Sampling Date: 09/07/2022
Applicant/Owner: FirstEnergy			,		Sampling Point: Wetland DFN-04
Investigator(s): JBL		Section	on, Township, Range: S		
					Slone (%)· 1
Landform (hillslope, terrace, etc Subregion (LRR or MLRA): LF	RR K	Lat. 41.57143	84.	.05502	Glope (70)
Soil Map Unit Name: Nappane					
Are climatic / hydrologic condition	ions on the site typi	ical for this time of year? Y	es X No	(If no, explain in Re	emarks.)
Are Vegetation, Soil	, or Hydrology	significantly distur	bed? Are "Norma	ıl Circumstances" pı	resent? Yes X No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? (If needed,	explain any answer	s in Remarks.)
SUMMARY OF FINDING	GS – Attach si	te map showing san	npling point location	ons, transects,	important features, etc.
Hydrophytic Vegetation Prese	ent? Yes	X No	Is the Sampled Area		
		X No	within a Wetland?	Yes X	_ No
Wetland Hydrology Present?		X No	If yes, optional Wetlan	d Site ID: Wetland [DFN-04
Remarks: (Explain alternative			,,		
Wetland W-JBL-090722-01 al	ong access road or	n North Star property			
HYDROLOGY					
Wetland Hydrology Indicato				Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum	of one is required;			X Surface Soil (` '
Surface Water (A1)		Water-Stained Leave	s (B9)	Drainage Patt	
X High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lir	
X Saturation (A3)		Marl Deposits (B15)	(2.1)		Vater Table (C2)
Water Marks (B1)		Hydrogen Sulfide Od		Crayfish Burro	
Sediment Deposits (B2)		X Oxidized Rhizosphere			sible on Aerial Imagery (C9) ressed Plants (D1)
Drift Deposits (B3) Algal Mat or Crust (B4)		Presence of Reduced Recent Iron Reductio		X Geomorphic F	
Iron Deposits (B5)		Thin Muck Surface (C		Shallow Aquit	` '
Inundation Visible on Aer	rial Imagery (B7)	Other (Explain in Rer	•	Microtopograp	
Sparsely Vegetated Cond	• • • •	Other (Explain in red	namo)	X FAC-Neutral	
Field Observations:	()				(/
Surface Water Present?	Yes No	X Depth (inches):			
Water Table Present?		Depth (inches):	1		
Saturation Present?		Depth (inches):	0 Wetland	Hydrology Present	? Yes <u>X</u> No
(includes capillary fringe) Describe Recorded Data (stre	eam gauge, monitor	ring well, aerial photos, pre	vious inspections), if av	ailable:	
Booding Hoodidad Bala (oliv	sam gaago, momo	ing won, donar priotoc, pro	viede inepeedene), ii div	anabio.	
Remarks:					
Mulitple primary and secondar	ry hydrology indicat	tors present. Wetland exte	nds outside survey area		

				Sampling Point: Wetland DFN-
Tree Stratum (Plot size:)		Dominant I	Status	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
i				That Are OBL, FACW, or FAC:100% (A/B
				Prevalence Index worksheet:
				Total % Cover of: Multiply by:
45		= Total Cove	r	OBL species 0 x 1 = 0.0 FACW species 100 x 2 = 200.0
Sapling/Shrub Stratum (Plot size: 15)				FACW species 100 x 2 = 200.0 FAC species 0 x 3 = 0.0
:				FACU species 0 x 4 = 0.0
				UPL species 0 x 5 = 0.0
				Column Totals:100 (A)200.0 (B)
·				Prevalence Index = B/A = 2.00
				Hydrophytic Vegetation Indicators: X 1 - Rapid Test for Hydrophytic Vegetation
				X 2 - Dominance Test is >50%
		= Total Cove	r	$\frac{X}{X}$ 3 - Prevalence Index is $\leq 3.0^1$
lerb Stratum (Plot size:5)Phragmites australis	90	Yes	FACW	4 - Morphological Adaptations ¹ (Provide supportin data in Remarks or on a separate sheet)
Eleocharis compressa	10	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
· <u> </u>				Definitions of Vegetation Strata:
i i				Tree – Woody plants 3 in. (7.6 cm) or more in diamete
-				at breast height (DBH), regardless of height.
i				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
 0				Herb – All herbaceous (non-woody) plants, regardless of
1				size, and woody plants less than 3.28 ft tall.
2				Woody vines – All woody vines greater than 3.28 ft in height.
	100	= Total Cove	r	norgan.
Voody Vine Stratum (Plot size:)				
l				Hydrophytic Vegetation
;				Hydrophytic Vegetation Present? Yes X No
				Vegetation

SOIL Sampling Point: Wetland DFN-04

Profile Desc	ription: (Describe t	o the depth				r confirm	the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	<u></u> %	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture	Remarks
			•					Remarks
0 - 19	10YR 5/1	95	10YR 4/4	5	Concer	PL,M	Clay loam	
-								
-								
-								
								
-								
-								
			.					
-								
-								
	ncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ins.		: PL=Pore Lining, M=Matrix.
Hydric Soil I						_		for Problematic Hydric Soils ³ :
Histosol		_	Polyvalue Belov		(S8) (LRR	. R ,		Muck (A10) (LRR K, L, MLRA 149B)
Black His	ipedon (A2)		MLRA 149B) Thin Dark Surfa		RR R MI	RA 149R		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)	_	Loamy Mucky N					Surface (S7) (LRR K, L, M)
	Layers (A5)	_	Loamy Gleyed			,		alue Below Surface (S8) (LRR K, L)
	Below Dark Surface	(A11) <u> </u>	X_ Depleted Matrix					ark Surface (S9) (LRR K, L)
	rk Surface (A12)	_	Redox Dark Su	, ,	- \			anganese Masses (F12) (LRR K, L, R)
	ucky Mineral (S1) leyed Matrix (S4)	- ,	Depleted Dark Street X Redox Depress		7)			ont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B)
-	edox (S5)		Nedox Depress	ions (Fo)				arent Material (F21)
-	Matrix (S6)							Shallow Dark Surface (TF12)
	face (S7) (LRR R, M	LRA 149B)						(Explain in Remarks)
•								
	hydrophytic vegetati	on and wetl	and hydrology mus	t be prese	ent, unless	disturbed	or problematio	0.
	.ayer (if observed):							
Type:	shoo):						Hudria Cail	Present? Yes X No No
	:hes):						nyuric 30ii	riesent: res // No
Remarks:								
hydric soils in	dicators present							











Soil

Project/Site: Dowling-Fulton 345 kV Transmission	Line Tap to Melbo City/County: Fulto	n County	Sampling Date: 09/07/2022				
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: Upland DFN-04				
Investigator(s): JBL	gator(s): JBL Section, Township, Range: S 15 T 7N R 7E						
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave,	convex, none): Convex	Slope (%): 5				
Subregion (LRR or MLRA): LRR K							
Soil Map Unit Name: Nappanee-Hoytville (s6028)		NWI classific	ation: NA				
Are climatic / hydrologic conditions on the site typic	cal for this time of year? Yes X I	No (If no, explain in R	emarks.)				
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" r	oresent? Yes X No				
Are Vegetation, Soil, or Hydrology		(If needed, explain any answe	<u> </u>				
SUMMARY OF FINDINGS – Attach sit	e map showing sampling poi	nt locations, transects	, important features, etc.				
Hydric Soil Present? Yes	No X Is the Sam within a W No X If yes, optic						
Upland 01 between wetland and road on North St	tar property						
HYDROLOGY Wetland Hydrology Indicators:		Secondary Indies	itors (minimum of two required)				
Wetland Hydrology Indicators:	about all that apply)						
Primary Indicators (minimum of one is required; of Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil					
Surface Water (A1) High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10) Moss Trim Lines (B16)					
Saturation (A3)	Marl Deposits (B15)	Moss Triff Lines (BTo) Dry-Season Water Table (C2)					
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)					
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	_ ` ` ` ` `					
Drift Deposits (B3)	Presence of Reduced Iron (C4)		tressed Plants (D1)				
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled So						
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aqui					
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopogra	` '				
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral					
Field Observations:		<u> </u>					
Surface Water Present? Yes No	X Depth (inches):						
	X Depth (inches):						
	X Depth (inches):	Wetland Hydrology Presen	t? Yes No _X_				
Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, previous inspec	tions), if available:					
Remarks:							
None present							
None present							

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)
2				Total Number of Dominant
3				Species Across All Strata: 3 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cove		OBL species0 x 1 =0.0
Sapling/Shrub Stratum (Plot size: 15)		_ 10(a) 0070		FACW species 0 x 2 =0.0
				FAC species 0 x 3 = 0.0
1				FACU species60
2				UPL species40 x 5 =160.0
3				Column Totals:100 (A)400.0 (B)
4 5.				Prevalence Index = B/A = 4.0
•				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
5		_ = Total Cove	er	3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5 1. Daucus carota	40	Yes	UPL	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Melilotus officinalis	40	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Poa pratensis	20	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
				at breast height (DBH), regardless of height.
7				Sapling/shrub – Woody plants less than 3 in. DBH
				and greater than or equal to 3.28 ft (1 m) tall.
9				Herb – All herbaceous (non-woody) plants, regardless of
10				size, and woody plants less than 3.28 ft tall.
11		·		Woody vines – All woody vines greater than 3.28 ft in
12				height.
	100	_ = Total Cove	er	
Woody Vine Stratum (Plot size: 30)				
1		· ·		Hydrophytic
2				Vegetation
3				Present? Yes No X
4				
		_ = Total Cove	er	
Remarks: (Include photo numbers here or on a separate	sheet.)			
No hydrophytic vegetation indicators present				

Sampling Point: Upland DFN-04

SOIL Sampling Point: Upland DFN-04

	ription: (Describe t	o the depth				r confirm	the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	<u></u> %	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture	Remarks
			Color (Moist)	70	Туре	LOC		Shovel refusal at 6 inches
0 - 6	10YR 3/4					-	Sandy loam	Shover refusal at 0 friches
-								
-								
-								
-								
-								
	-							
-								
-								
-								
	-							
	oncentration, D=Depl	etion, RM=R	Reduced Matrix, M	S=Masked	Sand Gra	ins.		n: PL=Pore Lining, M=Matrix.
Hydric Soil I						_		for Problematic Hydric Soils ³ :
Histosol		_	_ Polyvalue Belo		(S8) (LRR	. R,		Muck (A10) (LRR K, L, MLRA 149B)
Black Hi	oipedon (A2)		MLRA 149B Thin Dark Surfa	•	RRR MI	RA 149R		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)	_	Loamy Mucky I					Surface (S7) (LRR K, L, M)
	Layers (A5)	_	Loamy Gleyed			,		alue Below Surface (S8) (LRR K, L)
	l Below Dark Surface	e (A11)	_ Depleted Matrix	x (F3)				Park Surface (S9) (LRR K, L)
	ark Surface (A12)	_	_ Redox Dark Su	, ,	_,			langanese Masses (F12) (LRR K, L, R)
	lucky Mineral (S1)	_	_ Depleted Dark		7)			ont Floodplain Soils (F19) (MLRA 149B)
-	leyed Matrix (S4) edox (S5)	_	_ Redox Depress	sions (Fo)				Spodic (TA6) (MLRA 144A, 145, 149B) arent Material (F21)
-	Matrix (S6)							Shallow Dark Surface (TF12)
	face (S7) (LRR R, M	LRA 149B)						(Explain in Remarks)
	hydrophytic vegetati	on and wetla	and hydrology mus	st be prese	nt, unless	disturbed	or problemation	C
	ayer (if observed):							
Type:								5 10 V
	ches):						Hydric Soil	Present? Yes No _X
Remarks:								
shovel refusa	al at 6 inches. No hyd	dric soil indic	ators present					









Soil



Site: Wetland DFN-01 Rater(s): MJA Date: 2022-12-20 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) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts) Metric 2. Upland buffers and surrounding land use. 2a. Calculate average buffer width. Select only one and assign score. Do not double check. subtotal max 14 pts. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrubland, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3) HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1) Metric 3. Hydrology. max 30 pts. 3a. Sources of Water. Score all that apply. subtotal 3b. Connectivity. Score all that apply. High pH groundwater (5) 100 year floodplain (1) Other groundwater (3) Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1) Precipitation (1) Seasonal/Intermittent surface water (3) Part of riparian or upland corridor (1) Perennial surface water (lake or stream) (5) 3d. Duration inundation/saturation. Score one or dbl check. 3c. Maximum water depth. Select only one and assign score. Semi- to permanently inundated/saturated (4) >0.7 (27.6in) (3) Regularly inundated/saturated (3) 0.4 to 0.7m (15.7 to 27.6in) (2) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) Check all disturbances observed Recovered (7) ditch point source (nonstormwater) filling/grading Recovering (3) tile Recent or no recovery (1) dike road bed/RR track dredging weir other____Wetland is dirtbike park. Soil moved around to stormwater input Metric 4. Habitat Alteration and Development. subtotal 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Check all disturbances observed Recovered (6) shrub/sapling removal mowing Recovering (3) grazing herbaceous/aquatic bed removal Recent or no recovery (1) clearcutting sedimentation selective cutting dredging woody debris removal farming toxic pollutants nutrient enrichment subtotal this page

Rater(s): MJA Site: Wetland DFN-01 Date: 2022-12-20 21.0 subtotal first page Metric 5. Special Wetlands. Check all that apply and score as indicated. subtotal max 10 pts. 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) 29.0 Metric 6. Plant communities, interspersion, microtopography. 6a. Wetland Vegetation Communities. **Vegetation Community Cover Scale** subtotal Absent or comprises <0.1ha (0.2471 acres) contiguous area Score all present using 0 to 3 scale. Aquatic bed Present and either comprises small part of wetland's Emergent vegetation and is of moderate quality, or comprises a Shrub significant part but is of low quality 2 Present and either comprises significant part of wetland's Forest Mudflats vegetation and is of moderate quality or comprises a small Open water part and is of high quality Other 3 Present and comprises significant part, or more, of wetland's 6b. horizontal (plan view) Interspersion. vegetation and is of high quality Select only one. High (5) Narrative Description of Vegetation Quality Moderately high(4) Low spp diversity and/or predominance of nonnative or Moderate (3) disturbance tolerant native species Moderately low (2) mod Native spp are dominant component of the vegetation, Low (1) although nonnative and/or disturbance tolerant native spp None (0) can also be present, and species diversity moderate to 6c. Coverage of invasive plants. Refer moderately high, but generally w/o presence of rare to Table 1 ORAM long form for list. Add threatened or endangered spp or deduct points for coverage A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually Extensive >75% cover (-5) Moderate 25-75% cover (-3) absent, and high spp diversity and often, but not always, Sparse 5-25% cover (-1) the presence of rare, threatened, or endangered spp Nearly absent <5% cover (0) Absent (1) **Mudflat and Open Water Class Quality** 6d. Microtopography. 0 Absent < 0.1ha (0.247 acres) Score all present using 0 to 3 scale. Low 0.1 to <1ha (0.247 to 2.47 acres) Vegetated hummucks/tussucks 2 Moderate 1 to <4ha (2.47 to 9.88 acres) Coarse woody debris >15cm (6in) 3 High 4ha (9.88 acres) or more Standing dead >25cm (10in) dbh Amphibian breeding pools Microtopography Cover Scale Absent Present very small amounts or if more common of marginal quality Present in moderate amounts, but not of highest 2 quality or in small amounts of highest quality 3 Present in moderate or greater amounts and of highest quality GRAND TOTAL (max 100 pts)

ORAM v. 5.0 Field F	Form Quantitative Rating			
Site: Wetlan	nd DFN-02	Rater(s): MJA	Date:	
O O subtotal	Metric 1. Wetland A Select one size class and assign sco >50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to 10 to <25 acres (4 to <10.) 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1 0.1 to <0.3 acres (0.04 to < x <0.1 acres (0.04ha) (0 pts)</th <th>ore. (s) 20.2ha) (5 pts) 1ha) (4 pts) (a) (3 pts) (.2ha) (2pts) <0.12ha) (1 pt)</th> <th></th> <th></th>	ore. (s) 20.2ha) (5 pts) 1ha) (4 pts) (a) (3 pts) (.2ha) (2pts) <0.12ha) (1 pt)		
5 5	Metric 2. Upland bu	uffers and surroundi	ng land use.	
max 14 pts. subtotal	2a. Calculate average buffer width. WIDE. Buffers average 50 MEDIUM. Buffers average X NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth of X LOW. Old field (>10 years X MODERATELY HIGH. Re	Select only one and assign score. Dom (164ft) or more around wetland per e 25m to <50m (82 to <164ft) around v ge 10m to <25m (32ft to <82ft) around v ge 10m to <25m (32ft) around wetland e. Select one or double check and avor older forest, prairie, savannah, wildlis), shrubland, young second growth for esidential, fenced pasture, park, conseppen pasture, row cropping, mining, co	o not double check. rimeter (7) vetland perimeter (4) d wetland perimeter (1) d perimeter (0) erage. ife area, etc. (7) rest. (5) rvation tillage, new fallow field. (3)	
10 15	Metric 3. Hydrology		()	
max 30 pts. subtotal	3a. Sources of Water. Score all tha High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (la 3c. Maximum water depth. Select of >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrology None or none apparent (12) X Recovered (7) Recovering (3) Recent or no recovery (1)	ace water (3) ake or stream) (5) 3d. E only one and assign score. a) (2) gic regime. Score one or double check	Connectivity. Score all that apply. 100 year floodplain (1) Between stream/lake and other human part of wetland/upland (e.g. forest), or part of riparian or upland corridor (1) Duration inundation/saturation. Score one Semi- to permanently inundated/saturated (3) Regularly inundated/saturated (2) X Seasonally inundated (2) X Seasonally saturated in upper 30cm and average. point source (nonstormwater) filling/grading road bed/RR track dredging other Downslope of reservoir	complex (1) or dbl check. urated (4)
7 22	Metric 4. Habitat A	Iteration and Develo	pment.	
max 20 pts. subtotal	4a. Substrate disturbance. Score of None or none apparent (4) X Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select on Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) 4c. Habitat alteration. Score one or	lly one and assign score.		
22	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging farming nutrient enrichment	

Site: Wetland DFN-02 Rat	er(s): MJA		Date:
22 subtotal first page			
0 22 Metric 5. Special Wetl	ands.		
Check all that apply and score as indicated Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetla Lake Erie coastal/tributary wetla Lake Plain Sand Prairies (Oak C Relict Wet Prairies (10) Known occurrence state/federal Significant migratory songbird/w Category 1 Wetland. See Ques	nd-unrestricted hydro nd-restricted hydro Openings) (10) threatened or enda ater fowl habitat or	angered species (10)	
2 24 Metric 6. Plant commu	unities, int	erspersion, microto	opography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.		Community Cover Scale	
Score all present using 0 to 3 scale. O Aquatic bed 1 Emergent	<u>0</u> 1	Absent or comprises <0.1ha (0.24) Present and either comprises sm vegetation and is of moderate of	all part of wetland's
0 Shrub		significant part but is of low qua	
0 Forest	2	Present and either comprises sign	
0 Mudflats		vegetation and is of moderate of	uality or comprises a small
Open water		part and is of high quality	
0 Other	3	Present and comprises significan	
6b. horizontal (plan view) Interspersion.		vegetation and is of high quality	
Select only one.	Namativa D	and the second s	
High (5) Moderately high(4)		escription of Vegetation Quality	nance of nannative or
Moderately high(4) Moderate (3)	low	Low spp diversity and/or predomi disturbance tolerant native spec	
Moderate (3) Moderately low (2)	mod	Native spp are dominant compon	
Low (1)	mod	although nonnative and/or distu	
X None (0)		can also be present, and specie	
6c. Coverage of invasive plants. Refer		moderately high, but generally	•
to Table 1 ORAM long form for list. Add		threatened or endangered spp	•
or deduct points for coverage	high	A predominance of native species	
Extensive >75% cover (-5)		and/or disturbance tolerant nation	ve spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversity a	and often, but not always,
Sparse 5-25% cover (-1)		the presence of rare, threatened	d, or endangered spp
Nearly absent <5% cover (0)			
X Absent (1)		d Open Water Class Quality	
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	
0 Vegetated hummucks/tussucks	n) 2 3	Moderate 1 to <4ha (2.47 to 9.88	acres)
O Coarse woody debris >15cm (6ii O Standing dead >25cm (10in) dbl	/	High 4ha (9.88 acres) or more	
0 Standing dead >25cm (10in) dbf 0 Amphibian breeding pools		raphy Cover Scale	
7 Triphiblan breeding pools	0	Absent	
	1	Present very small amounts or if	more common
	•	of marginal quality	
	2	Present in moderate amounts, but	t not of highest
		quality or in small amounts of h	_
	3	Present in moderate or greater ar	
		and of highest quality	
24 GRAND TOTAL (max 100 pts)			

ORAM v. 5.0 Field Form Q	uantitative Rating			
Site: Wetland DF	FN-03	Rater(s): MJA		Date:
	tric 1. Wetland A tone size class and assign scor >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <2) 10 to <25 acres (4 to <10.1) 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1. 0.1 to <0.3 acres (0.04 to <	ne. 0.2ha) (5 pts) ha) (4 pts)) (3 pts) 2ha) (2pts)		
8 8 Me	 tric 2. Upland bu	ffers and surround	ding land use.	
2b. Ir	WIDE. Buffers average 500 X MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers a ntensity of surrounding land use. VERY LOW. 2nd growth of X LOW. Old field (>10 years) X MODERATELY HIGH. Res	Select only one and assign score. m (164ft) or more around wetland 25m to <50m (82 to <164ft) around e 10m to <25m (32ft to <82ft) around average <10m (<32ft) around wetland Select one or double check and r older forest, prairie, savannah, w , shrubland, young second growth sidential, fenced pasture, park, cor ben pasture, row cropping, mining,	perimeter (7) Id wetland perimeter (4) Id wetland perimeter (1) Id wetland perimeter (1) Id perimeter (0) Id average. Id life area, etc. (7) If orest. (5) Inservation tillage, new fallo	ow field. (3)
12.5 20.5 Me	tric 3. Hydrology	·	、 ,	
ac. N	Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surfar Perennial surface water (lawaimum water depth. Select or >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) < < 0.4m (<15.7in) (1)	apply. 3b ce water (3) ke or stream) (5) 3d sly one and assign score. (2) c regime. Score one or double ch	Part of wetland/ul X Part of riparian or Duration inundation/sate Semi- to permane Regularly inundat X Seasonally inundat X Seasonally saturated and average.	in (1) lake and other human use (1) pland (e.g. forest), complex (1) rupland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) sed/saturated (3) ated (2) ated in upper 30cm (12in) (1) ustormwater)
10 30.5 Me	etric 4. Habitat Al	teration and Devel	opment.	
max 20 pts. subtotal 4a. S	Substrate disturbance. Score on None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) X Poor (1) Habitat alteration. Score one or compared to the second of the second	e or double check and average.		
30.5	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed mowing grazing clearcutting x selective cutting woody debris removal toxic pollutants	shrub/sapling ren herbaceous/aqua sedimentation dredging farming nutrient enrichme	tic bed removal

subtotal this page

Site: Wetland DFN-03	Rater(s): MJA	Date:
30.5		
subtotal first page		
0 30.5 Metric 5. Special V	Vetlands.	
max 10 pts. subtotal Check all that apply and score as in		
Bog (10)		
Fen (10) Old growth forest (10)		
Mature forested wetland (5)	
	wetland-unrestricted hydrology (10)	
Lake Plain Sand Prairies	v wetland-restricted hydrology (5) (Oak Openings) (10)	
Relict Wet Prairies (10)		
	ederal threatened or endangered species (10)	
	pbird/water fowl habitat or usage (10) Question 1 Qualitative Rating (-10)	
	3(-,	
4 34.5 Metric 6. Plant cor	nmunities, interspersion,	microtopography.
max 20 pts. subtotal 6a. Wetland Vegetation Communiti		
Score all present using 0 to 3 scale.		es <0.1ha (0.2471 acres) contiguous area
0 Aquatic bed 1 Emergent		comprises small part of wetland's of moderate quality, or comprises a
0 Shrub		ut is of low quality
1 Forest		comprises significant part of wetland's
0 Mudflats 0 Open water	vegetation and is part and is of hig	s of moderate quality or comprises a small th quality
0 Other		rises significant part, or more, of wetland's
6b. horizontal (plan view) Interspers	sion. vegetation and is	s of high quality
Select only one. High (5)	Narrative Description of Vegeta	ation Quality
Moderately high(4)		and/or predominance of nonnative or
Moderate (3)		ant native species
Moderately low (2) Low (1)		ninant component of the vegetation, ve and/or disturbance tolerant native spp
X None (0)	-	ent, and species diversity moderate to
6c. Coverage of invasive plants. R		but generally w/o presence of rare
to Table 1 ORAM long form for list. or deduct points for coverage		dangered spp f native species, with nonnative spp
Extensive >75% cover (-5		ce tolerant native spp absent or virtually
Moderate 25-75% cover (· · · · · · · · · · · · · · · · · · ·	spp diversity and often, but not always,
Sparse 5-25% cover (-1) Nearly absent <5% cover		rare, threatened, or endangered spp
X Absent (1)	Mudflat and Open Water Class	Quality
6d. Microtopography.	0 Absent <0.1ha (0.	
Score all present using 0 to 3 scale. O Vegetated hummucks/tus		0.247 to 2.47 acres) na (2.47 to 9.88 acres)
1 Coarse woody debris >15		· · · · · · · · · · · · · · · · · · ·
0 Standing dead >25cm (10		
0 Amphibian breeding pools	Microtopography Cover Scale 0 Absent	
		amounts or if more common
	of marginal quali	ty
		te amounts, but not of highest
		Il amounts of highest quality te or greater amounts
0.4.5	and of highest a	=
34.5 GRAND TOTAL (max 100 pts)	

ORAM v. 5.0 Field I	Form Quantitative Rating			
Site: Wetlar	nd DFN-04	Rater(s): JBL		Date:
2 2 subtotal	Metric 1. Wetland Select one size class and assign so >50 acres (>20.2ha) (6 p 25 to <50 acres (10.1 to < 10 to <25 acres (4 to <10 3 to <10 acres (1.2 to <4 × 0.3 to <3 acres (0.12 to < 0.1 to <0.3 acres (0.04 to <0.1 acres (0.04ha) (0 pti	core. (cs) <20.2ha) (5 pts) (.1ha) (4 pts) (na) (3 pts) (1.2ha) (2pts) (-0.12ha) (1 pt)		
1 3	Metric 2. Upland b	uffers and surround	ling land use.	
max 14 pts. subtotal	WIDE. Buffers average 5 MEDIUM. Buffers average 5 NARROW. Buffers average 5 VERY NARROW. Buffer 2b. Intensity of surrounding land us VERY LOW. 2nd growth LOW. Old field (>10 yea MODERATELY HIGH. R	Select only one and assign score. 50m (164ft) or more around wetland pge 25m to <50m (82 to <164ft) around age 10m to <25m (32ft to <82ft) around severage <10m (<32ft) around wetland se. Select one or double check and or older forest, prairie, savannah, will rs), shrubland, young second growth desidential, fenced pasture, park, con open pasture, row cropping, mining,	perimeter (7) d wetland perimeter (4) und wetland perimeter (1) and perimeter (0) average. Idlife area, etc. (7) forest. (5) servation tillage, new fallo	ow field. (3)
6 9	Metric 3. Hydrolog	y.		
max 30 pts. subtotal	3a. Sources of Water. Score all th High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent sur Perennial surface water (3c. Maximum water depth. Select >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6i X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrolo None or none apparent (1) Recovered (7) Recovering (3) X Recent or no recovery (1)	face water (3) lake or stream) (5) 3d. only one and assign score. n) (2) gic regime. Score one or double che Check all disturbances observe ditch tile	Part of wetland/up Part of riparian or Duration inundation/satu Semi- to permane X Regularly inundat Seasonally inundat X Seasonally satura eck and average.	in (1) lake and other human use (1) pland (e.g. forest), complex (1) rupland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3) ated (2) ated in upper 30cm (12in) (1)
5.5 14.5	Metric 4. Habitat A	Alteration and Develo	opment.	
max 20 pts. subtotal	4a. Substrate disturbance. Score of None or none apparent (4) Recovered (3) X Recovering (2) X Recent or no recovery (1) 4b. Habitat development. Select of Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) X Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one of Recovered (6)	nly one and assign score.	d shrub/sapling rem	noval
14.5	x Recovering (3) x Recent or no recovery (1)	grazing	herbaceous/aqua x sedimentation dredging farming nutrient enrichme	tic bed removal

subtotal this page

 $W\text{-}JBL\text{-}090722\text{-}01 \quad \text{Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation}$

Site: Wetland DFN-04	Rater(s): JBL	Date:
14.5 subtotal first page 14.5 Metric 5. Special V		
Lake Erie coastal/tributar Lake Plain Sand Prairies Relict Wet Prairies (10) Known occurrence state/ Significant migratory son	(5) y wetland-unrestricted hydrolo y wetland-restricted hydrology	ered species (10) age (10)
-2 12.5 Metric 6. Plant cor	nmunities, inter	spersion, microtopography.
max 20 pts. subtotal 6a. Wetland Vegetation Communit		nmunity Cover Scale
Score all present using 0 to 3 scale		bsent or comprises <0.1ha (0.2471 acres) contiguous area
0 Aquatic bed	1 P	resent and either comprises small part of wetland's
1 Emergent		vegetation and is of moderate quality, or comprises a
0 Shrub 0 Forest	2 P	significant part but is of low quality resent and either comprises significant part of wetland's
0 Forest 0 Mudflats	2	vegetation and is of moderate quality or comprises a small
0 Open water		part and is of high quality
0 Other	3 P	resent and comprises significant part, or more, of wetland's
6b. horizontal (plan view) Intersper	sion.	vegetation and is of high quality
Select only one. High (5)	Narrativo Dose	ription of Vegetation Quality
Moderately high(4)		ow spp diversity and/or predominance of nonnative or
Moderate (3)		disturbance tolerant native species
Moderately low (2)	mod N	ative spp are dominant component of the vegetation,
x Low (1)		although nonnative and/or disturbance tolerant native spp
None (0) 6c. Coverage of invasive plants. F	efer	can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare
to Table 1 ORAM long form for list.		threatened or endangered spp
or deduct points for coverage		predominance of native species, with nonnative spp
X Extensive >75% cover (-	<i>'</i>	and/or disturbance tolerant native spp absent or virtually
Moderate 25-75% cover	-3)	absent, and high spp diversity and often, but not always,
Sparse 5-25% cover (-1) Nearly absent <5% cover	(0)	the presence of rare, threatened, or endangered spp
Absent (1)		pen Water Class Quality
6d. Microtopography.		bsent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale		ow 0.1 to <1ha (0.247 to 2.47 acres)
0 Vegetated hummucks/tus 0 Coarse woody debris >15		1 to <4ha (2.47 to 9.88 acres) ligh 4ha (9.88 acres) or more
0 Standing dead >25cm (1)	- (- /	ight that (0.00 doled) of more
1 Amphibian breeding pool		hy Cover Scale
	0 A	bsent
	1 P	resent very small amounts or if more common
	2 P	of marginal quality resent in moderate amounts, but not of highest
	²	quality or in small amounts of highest quality
	3 P	resent in moderate or greater amounts
10.5		and of highest quality
12.5 GRAND TOTAL (max 100 pts	(1)	





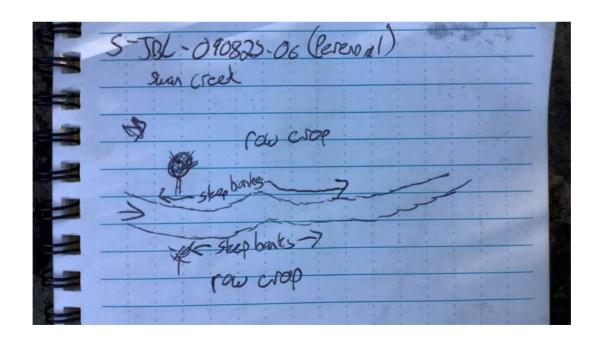
Qualitative Habitat Evaluation Index and Use Assessment Field Sheet



Stream & Location: Stream DFN-07	Dowling-Fulton T-Line Tap to Melbourne Substation	<i>RM:</i> 39.7
S-JBL-090822-06	Scorers Full Name & Affiliation	
	STORET #: Lat./Long.: 41.56370	/ -83.94712 Office verified location ×
1] SUBSTRATE Check OWLY Two substructions or note ever	trate TYPE BOXES; rv type present Check	ONE (Or 2 & average)
BEST TYPES □□ BLDR /SLABS [10] □□ BOULDER [9] □□ COBBLE [8] □□ GRAVEL [7] □□ SAND [6] □□ BEDROCK [5] NUMBER OF BEST TYPES: □ 4 or	OTHER TYPES POOL RIFFLE HARDPAN [4] DETRITUS [3]	MODERATE [-1] NORMAL [0] NONE [1]
quality; 2-Mode quality; 3-Highest quality in moderate or gre diameter log that is stable, well developed reaction under the under the control of the contro	nce 0 to 3: 0 -Absent; 1 -Very small amounts or if more complete amounts, but not of highest quality or in small amounts after amounts (e.g., very large boulders in deep or fast wat contive in deep / fast water, or deep, well-defined, function OPOLS > 70cm [2] OXBOWS, BACKWATOROTHERS [1] AQUATIC MACROPHOBOULDERS [1] LOGS OR WOODY D	ts of highest er, large al pools. ☐ EXTENSIVE >75% [11] Check ONE (Or 2 & average)
3] CHANNEL MORPHOLOGY Check SINUOSITY DEVELOPMENT HIGH [4]	CHANNELIZATION CHANNELIZATION NONE [6] RECOVERED [4] RECOVERING [3] RECENT OR NO RECOVERY [1] CHANNELIZATION STABILITY HIGH [3] MODERATE [3] LOW [1]	Channel Maximum 20
River right looking downstream RIPAR EROSION NONE / LITTLE [3] MODERATE [2] RIPAR NODERATE [3] NARROW	ATE 10-50m [3]	LITY R CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0] LD [1] UNING / CONSTRUCTION [0]
Check ONE (<i>ONLY!</i>) Check ONI □ > 1m [6] □ POOL WIDTH □ 0.7-<1m [4] □ POOL WIDTH	IVIN QUALITY NEL WIDTH CURRENT VELOCIT Check ALL that apply RIFFLE WIDTH [2] TORRENTIAL [-1] SLOW [1] RIFFLE WIDTH [1] VERY FAST [1] INTERS MODERATE [1] EDDIES Indicate for reach - pools and	Primary Contact Secondary Contact [circle one and comment on back] Primary Contact Secondary Contact Primary Contact Primary Contact Secondary Contact Secondary Contact Primary Contact Secondary Contact Primary Contact Secondary Contact Primary Contact Secondary Contact Secondary Contact Primary Contact Secondary Contact Primary Contact Secondary Contact Primary Contact Secondary Contact Primary
of riffle-obligate species: RIFFLE DEPTH RUN DI □ BEST AREAS > 10cm [2] □ MAXIMUM	Best areas must be large enough to suppor Check ONE (Or 2 & average). EPTH RIFFLE / RUN SUBSTRATE RI > 50cm [2] STABLE (e.g., Cobble, Boulder) [2] < 50cm [1] MOD. STABLE (e.g., Large Gravel) [1] UNSTABLE (e.g., Fine Gravel, Sand) [0]	t a population NO RIFFLE [metric=0]
DRAINAGE AREA 📉 MOD	Y LOW - LOW [2-4]	%GLIDE: 35 Gradient 10 Maximum 10

A] SAMPLED REACH	Comment RE: Reach consistency/Is	reach typical of steam?, Recreation	on/Observed - Inferred, Other/	Sampling observations, Concerns, Ac	cess directions, etc.
Check ALL that apply	multiple reaches of the stream prese	ent throughout the survey areas. E	ach reach was determined to h	ave the same flow regime and similar	stream characteristics as
METHOD STAGE	the other reaches.				
BOAT					
□ 0.5 Km □ 0.2 Km □ 0.15 Km □ 0.15 Km □ 0.12 Km □ 0.12 Km □ OTHER □ 07HER □ 00 □ 20 < 40 cm □ 40 < 70 cm □ 20 < 70 cm □ 2	☐ INVASIVE MACROPHYTES ☐ EXCESS TURBIDITY ☐ DISCOLORATION ☐ FOAM / SCUM	DJ MAINTENANCE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG - SUCCESSION - OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED RELOCATED / CUTOFFS	Circle some & COMMENT	ETISSUES WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPs - CONSTRUCTION - SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE FALSE BANK / MANURE / LAGOON	FJ MEASUREMENTS x width 7 x depth 6 max. depth x bankfull width bankfull x depth
CANOPY 1st	□ NUISANCE ODOR □ SLUDGE DEPOSITS □ CSOs/SSOs/OUTFALLS	MOVING - BEDLOAD - STABLE ARMOURED / SLUMPS ISLANDS / SCOURED IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE		WASH H20 / TILE / H20 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	W/D ratio bankfull max. depth floodprone x ² width entrench. ratio Legacy Tree:

Stream Drawing: Stream DFN-07





Upstream



Downstream



Substrate



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet



Stream & Location: Stream DFN-10	<i>RM:</i> 18.2	Date: 9/8/22
S-JBL-090822-04 Scorers Full Name & Affiliation:	JBL	Jacobs
River Code: 04100009 03 02 STORET #: Lat./Long.: 41.55176	/ -83.98	877 Office verified Iocation
1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present Check C	NE (Or 2 & a	verage)
BEST TYPES	SILT	QUALITY HEAVY [-2] MODERATE [-1] NORMAL [0] FREE [1] EXTENSIVE [-2]
NUMBER OF BEST TYPES: ☐ 4 or more [2] sludge from point-sources) ☐ LACUSTURINE [0] ☐ SHALE [-1] ☐ COAL FINES [-2]		MODERATE [-1] NORMAL [0] NONE [1]
2] ///STREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more commo quality; 2-Moderate amounts, but not of highest quality or in small amounts quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional UNDERCUT BANKS [1] 0 POOLS > 70cm [2] 0 OXBOWS, BACKWATE OVERHANGING VEGETATION [1] 1 ROOTWADS [1] 1 AQUATIC MACROPHYTO BANLOWS (IN SLOW WATER) [1] 0 BOULDERS [1] 0 LOGS OR WOODY DEED ROOTMATS [1]	of highest, large pools. RS [1] RS [1] X	AMOUNT heck ONE (<i>Or 2 & average</i>) EXTENSIVE >75% [11] MODERATE 25-75% [7] SPARSE 5-<25% [3] NEARLY ABSENT <5% [1]
Comments		Maximum 20
3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average) SINUOSITY DEVELOPMENT CHANNELIZATION STABILITY		
HIGH [4]		Channel
Comments		Maximum 10.5
4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (OR River right looking downstream RIPARIAN WIDTH FLOOD PLAIN QUALITY ROOMS WIDE > 50m [4] FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW FIELD REAVY / SEVERE [1] VERY NARROW < 5m [1] FOREST, SWAMP [3] RESIDENTIAL, PARK, NEW FIELD PENCED PASTURE [1] OPEN PASTURE, ROWCROP [0]	TY R CC	DNSERVATION TILLAGE [1] RBAN OR INDUSTRIAL [0] NING / CONSTRUCTION [0] predominant land use(s)
Comments	past 1001	m riparian. <i>Riparian</i> Maximum 10
5] POOL / GLIDE AND RIFFLE / RUN QUALITY MAXIMUM DEPTH Check ONE (ONLY!)	TIAL [-1] FENT [-2]	Recreation Potential Primary Contact Secondary Contact (circle one and comment on back)
□ < 0.2m [0] Indicate for reach - pools and rif		Current Maximum 12
Indicate for functional riffles; Best areas must be large enough to support a of riffle-obligate species: Check ONE (Or 2 & average). RIFFLE DEPTH RUN DEPTH RIFFLE / RUN SUBSTRATE RIFF	• •	ON NO RIFFLE [metric=0]
□ BEST AREAS > 10cm [2] □ MAXIMUM > 50cm [2] □ STABLE (e.g., Cobble, Boulder) [2] □ BEST AREAS 5-10cm [1] □ MAXIMUM < 50cm [1] □ MOD. STABLE (e.g., Large Gravel) [1] □ UNSTABLE (e.g., Fine Gravel, Sand) [0] Comments	□ NOI □ LOV ⊠ MOI	NE [2]
6] GRADIENT (5.3 ft/mi)	%GLIDE:(40 Gradient 8

Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc. AI SAMPLED REACH Check ALL that apply **METHOD STAGE** 1st -sample pass- 2nd BOAT ☐ HIGH **WADE** □ UP ☐ L. LINE **X** NORMAL □ ☐ OTHER ☐ LOW **DISTANCE** □ DRY 0.5 Km **CLARITY BIAESTHETICS** El ISSUES F] MEASUREMENTS D] MAINTENANCE Circle some & COMMENT 0.2 Km 1st --sample pass-- 2nd PUBLIC / *PRIVATE / BOTH / NA **■ NUISANCE ALGAE** WWTP / CSO / NPDES / INDUSTRY x width 25 0.15 Km □ < 20 cm ACTIVE / HISTORIC / BOTH / NA INVASIVE MACROPHYTES HARDENED / URBAN / DIRT&GRIME x depth 8 0.12 Km **×** 20-<40 cm YOUNG - SUCCESSION - OLD CONTAMINATED / LANDFILL **□** EXCESS TURBIDITY OTHER max, depth 24 ☐ 40-70 cm SPRAY / SNAG / REMOVED BMPs - CONSTRUCTION - SEDIMENT ☐ DISCOLORATION x bankfull width 40 □ > 70 cm/ CTB MODIFIED / DIPPED OUT / NA LOGGING / IRRIGATION / COOLING FOAM / SCUM LEVEED / ONE SIDED BANK / EROSION / SURFACE bankfull x depth ☐ SECCHI DEPTH☐ meters OIL SHEEN RELOCATED / CUTOFFS FALSE BANK / MANURE / LAGOON W/D ratio ☐ TRASH / LITTER **CANOPY** MOVING - BEDLOAD - STABLE WASH H20 / TILE / H20 TABLE bankfull max. depth NUISANCE ODOR ARMOURED / SLUMPS pass ACID / MINE / QUARRY / FLOW floodprone x² width ☐ SLUDGE DEPOSITS ISLANDS / SCOURED NATURAL / WETLAND / STAGNANT

entrench. ratio

Legacy Tree:

PARK / GOLF / LAWN / HOME

ATMOSPHERE / DATA PAUCITY

IMPOUNDED / DESICCATED

FLOOD CONTROL / DRAINAGE

Stream Drawing, Stream DFN-10

C] RECREATION

☐ CSOs/SSOs/OUTFALLS

POOL: № >100ft2 № >3ft

AREA DEPTH

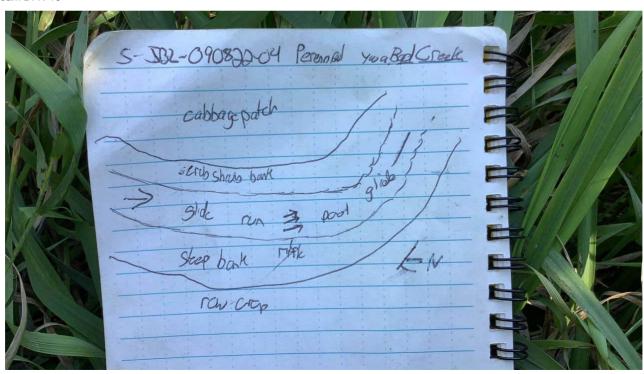
2nd_

☐ 55%-<85%

□ 30%-<55%

☐ 10%-<30%

<10%- CLOSED





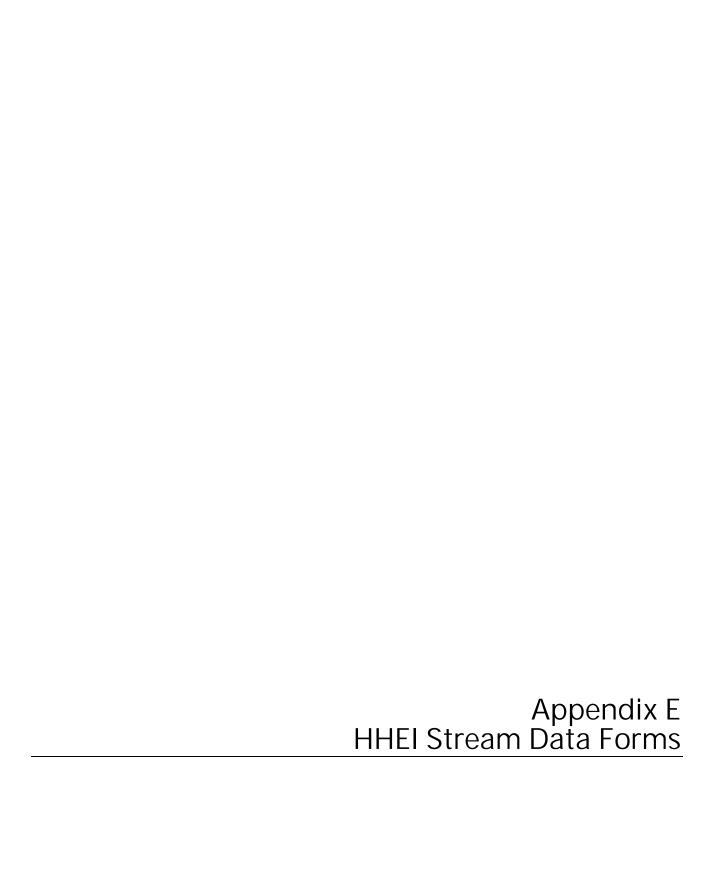
Upstream



Downstream



Substrate



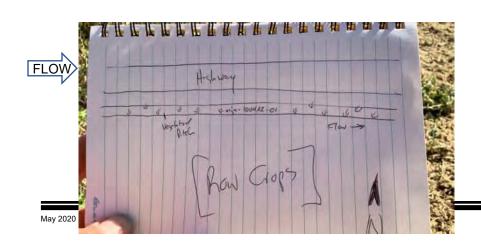
|--|

SITE NAME/LOCATION_Stream DFN-01 Dowling-Fulton 345 kV Transn	nission Line Tap to Melbourne Substation	
SITE NUMBER		6
LENGTH OF STREAM REACH (ft) LAT 41.59948	LONG <u>-83.92022</u> RIVER MILE	
DATE 10/04/2022 SCORER MJA COMMENTS	egetated roadside ditch with NHD designation.	
NOTE: Complete All Items On This Form - Refer to "Headwa	ter Habitat Evaluation Index Field Manual" for Inst	ructions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHA	NINEL TRECOVERED TRECOVERING TRECENT OF NO	
MONE/NATURAL CHA	NINE NECOVERED X NECOVERING NICEGENI ON NO	JILCOVERT
1. SUBSTRATE (Estimate percent of every type present). Ch (Max of 32). Add total number of significant substrate types fo TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]		HHEI Metric Points Substrate Max = 40
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	(B) TOTAL NUMBER OF SUBSTRATE TYPES:	A + B
2. Maximum Pool Depth (<i>Measure the <u>maximum</u> pool depth</i> time of evaluation. Avoid plunge pools from road culverts or st		Pool Depth
> 30 centimeters [20 pts]	5 cm - 10 cm [15 pts]	Max = 30
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	< 5 cm [5pts] NO WATER OR MOIST CHANNEL [0pts]	0
COMMENTS	MAXIMUM POOL DEPTH (inches):	
BANK FULL WIDTH (Measured as the average of 3 - 4 measured)	III/OAIIIIOIII I GGE BEI III (IIIciico).	Bankfull
> 4.0 meters (> 13') [30 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	≤ 1.0 m (≤ 3' 3") [5 pts]	Max=30
\[\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		5
> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	AVERAGE BANKFULL WIDTH (feet): 2	5
COMMENTS This information	must also be completed	5
COMMENTS This information RIPARIAN ZONE AND FLOODPLAIN QUALITY * 1	must also be completed IOTE: River Left (L) and Right (R) as looking downstream ★	5
COMMENTS This information RIPARIAN ZONE AND FLOODPLAIN QUALITY * N RIPARIAN WIDTH FLOODPLA	must also be completed IOTE: River Left (L) and Right (R) as looking downstream★ IN QUALITY (Most Predominant per Bank)	5
This information RIPARIAN ZONE AND FLOODPLAIN QUALITY * N RIPARIAN WIDTH FLOODPLA L R (Per Bank) L R	must also be completed IOTE: River Left (L) and Right (R) as looking downstream ★	5
This information RIPARIAN ZONE AND FLOODPLAIN QUALITY * N RIPARIAN WIDTH FLOODPLA L R (Per Bank) L R Wide >10m Mature For Moderate 5-10m Immature R	must also be completed IOTE: River Left (L) and Right (R) as looking downstream ★ IN QUALITY (Most Predominant per Bank) L R est, Wetland	
This information RIPARIAN ZONE AND FLOODPLAIN QUALITY * N RIPARIAN WIDTH FLOODPLAIN L R (Per Bank) L R Wide >10m Mature For Moderate 5-10m Immature II Narrow <5m Residentia	must also be completed IOTE: River Left (L) and Right (R) as looking downstream ★ IN QUALITY (Most Predominant per Bank) L R est, Wetland	
This information RIPARIAN ZONE AND FLOODPLAIN QUALITY * N RIPARIAN WIDTH FLOODPLAIN L R (Per Bank) L R Wide >10m Mature For Moderate 5-10m Immature I Narrow <5m Residentia	must also be completed IOTE: River Left (L) and Right (R) as looking downstream ★ IN QUALITY (Most Predominant per Bank) L R est, Wetland	
This information RIPARIAN ZONE AND FLOODPLAIN QUALITY * N RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Mature For Immature II Narrow <5m Residentia X X None Fenced Pa	must also be completed IOTE: River Left (L) and Right (R) as looking downstream ★ IN QUALITY (Most Predominant per Bank) L R est, Wetland	
This information RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m Narrow <5m Residentia X None COMMENTS Highway along left bank	must also be completed IOTE: River Left (L) and Right (R) as looking downstream ★ IN QUALITY (Most Predominant per Bank) L R est, Wetland	op -
This information RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH CPer Bank) RIPARIAN WIDTH L R Wide >10m Mature For Moderate 5-10m Mature For Moderate 5-10m Residentia X X None COMMENTS Highway along left bank FLOW REGIME (At Time of Evaluation) (Check ONL Stream Flowing Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of charms	must also be completed IOTE: River Left (L) and Right (R) as looking downstream ★ IN QUALITY (Most Predominant per Bank) L R est, Wetland Grorest, Shrub or Old Field Grorest, Shrub or	op -
This information RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) Wide >10m Mature For Moderate 5-10m Narrow <5m Residentia None COMMENTS Highway along left bank FLOW REGIME (At Time of Evaluation) (Check ONL Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of charms None 1.0	must also be completed IOTE: River Left (L) and Right (R) as looking downstream ★ IN QUALITY (Most Predominant per Bank) L R est, Wetland Grorest, Shrub or Old Field Grorest, Shrub or	op -
This information RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH CPer Bank) RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RECODPLAIN Mature For Information RIPARIAN ZONE AND FLOODPLAIN RECOMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of characteristics This information This information RIPARIAN ZONE AND FLOODPLAIN RECOMPLAIN RECOMPLAIN Mature For Information Narrow <5m	must also be completed IOTE: River Left (L) and Right (R) as looking downstream ★ IN QUALITY (Most Predominant per Bank) L R est, Wetland Grorest, Shrub or Old Field Grorest, Shrub or	op -

QHEI PERFORMED? ☐ Yes ☒ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Ai Creek Distance from Evaluated Stream Distance from Evaluated Stream
☐ EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Swanton, OH NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Fulton County Township/City: Fulton Township
MISCELLANEOUS Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/26/22 Quantity: 0.01
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) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Yes If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) 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:
Comments regarding blology.

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location







Upstream Downstream



Substrate

29

Protection Agency	Title ocore (sum of metrics 11210)
SITE NAME/LOCATION Stream DFN-02 Dowling-Fulton 345 kV Transr	nission Line Tap to Melbourne Substation
SITE NUMBER S-JBL-091522-05 RIVER BASIN 04100009	
LENGTH OF STREAM REACH (ft) LAT 41.59919244333	
DATE 09/15/2022 SCORER JBL COMMENTS L	nt stream 5 on ODNR parcel. Channelized.
NOTE: Complete All Items On This Form - Refer to "Headwa	ter Habitat Evaluation Index Field Manual" for Instructions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHA	NNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY
 SUBSTRATE (Estimate percent of every type present). Ch (Max of 32). Add total number of significant substrate types fo 	
TYPE PERCENT TYPE	PERCENT Metric
☐ ☐ BLDR SLABS [16 pts]	LEAF PACK/WOODY DEBRIS [3 pts]
BEDROCK [16 pts]	FINE DETRITUS [3 pts] Substrate Max = 40
COBBLE (65-256 mm)[12 pts]	CLAY or HARDPAN [0 pt] MUCK [0 pts]
SAND (<2 mm) [6 pts] 10	ARTIFICIAL [3 pts]
Total of Percentages of	
Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	TOTAL NUMBER OF SUBSTRATE TYPES: 3
2. Maximum Pool Depth (<i>Measure the <u>maximum</u> pool depth</i>	
time of evaluation. Avoid plunge pools from road culverts or si	
> 30 centimeters [20 pts]	5 cm - 10 cm [15 pts] < 5 cm [5pts]
> 10 - 22.5 cm [25 pts]	NO WATER OR MOIST CHANNEL [0pts]
COMMENTS	MAXIMUM POOL DEPTH (inches):
3. BANK FULL WIDTH (Measured as the average of 3 - 4 mea	
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] Width < 1.0 m (< 3' 3")[5 pts] Max=30
> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	≤ 1.0 m (≤ 3' 3") [5 pts] Max=30
0011151170	_1
COMMENTS	AVERAGE BANKFULL WIDTH (feet):
	<u>must</u> also be completed NOTE: River Left (L) and Right (R) as looking downstream★
	NN QUALITY (Most Predominant per Bank)
L R (Per Bank) L R	L R
	rest, Wetland XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
	Forest, Shrub or Old Field Urban or Industrial I, Park, New Field Open Pasture, Row Crop
None Fenced Pa	==
COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONL	
Stream FlowingSubsurface flow with isolated pools (interstitial)	Moist Channel, isolated pools, no flow (intermittent) Dry channel, no water (ephemeral)
COMMENTS	
SINUOSITY (Number of bends per 61 m (200 ft) of cha	annel) (Check ONLY one box):
☐ None ☐ 1.0 ☐ 0.5 ☐ 1.5	☐ 2.0 ☐ 3.0 ☐ 2.5
	□ 2.5 □ >3
STREAM GRADIENT ESTIMATE	
STREAM GRADIENT ESTIMATE X Flat (0.5 ft/100 ft)	ft) Moderate to Severe Severe (10 ft/100 ft)

QHEI PERFORMED? ☐ Yes ☒ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Ai Creek Distance from Evaluated Stream Provided to the first and the stream of the st
☐ 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: Swanton, OH NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Fulton County Township/City: Fulton Township
MISCELLANEOUS Base Flow Conditions? (Y/N): Yes Date of last precipitation: 09/11/2022 Quantity: 0.25
Photo-documentation Notes: Elevated Turbidity? (Y/N): No Canopy (% open): 20 Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results): Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Yes If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) 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





May 2020 Revision Page 2



Upstream



Substrate



Downstream

33
OO

SITE NAME/LOCATION Stream DFN-03 Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation SITE NUMBER S-JBL-091522-04 RIVER BASIN 04100009 RIVER CODE DRAINAGE AREA (mi²) 0.001 LENGTH OF STREAM REACH (ft) LAT 41.59914769656704 LONG -83.93771172280776 RIVER MILE DATE 09/15/2022 SCORER JBL COMMENTS Channelized stream 4, intermittent NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B PERCENT TYPE BLDR SLABS [16 pts] SILT [3 pt] 70 BUDLDER (>256 mm)[16 pts] SILT [3 pt] 70 BUDLDER (>256 mm)[12 pts] SILT [3 pt] 70 BUDLDER (>256 mm)[12 pts] SILT [3 pt] 70 BUDLDER (>256 mm)[12 pts] SILT [3 pt] SILT [3 pt] 80 COBBLE (65-256 mm)[12 pts] SILT [3 pt] SILT [3 pt] 80 COBBLE (65-256 mm)[12 pts] SILT [3 pt] SILT [3 pt] 80 COBBLE (65-256 mm)[12 pts] SILT [3 pts] 80 Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) ATTENDATE TYPES: 0 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the Pool De
LENGTH OF STREAM REACH (ft) LAT 41.59914769656704 LONG -83.93771172280776 RIVER MILE DATE 09/15/2022 SCORER JBL COMMENTS Channelized stream 4, intermittent NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER. 1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE SILT [3 pt] PERCENT TYPE BLDR SLABS [16 pts] SILT [3 pt] SILT [3 pt] SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. HHE Metri Point Substrate TYPE DOMEN. GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] SOURCE (CAS modern) [6 pts] SOURCE (C
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER. 1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE BULDER (>256 mm)[16 pts] SILT [3 pt] BEDROCK [16 pts] SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. HHE Metri Point Substrate Substrate PACK/WOODY DEBRIS [3 pts] GRAVEL (2-64 mm)[9 pts] SILT [3 pt] GRAVEL (2-64 mm)[9 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 2
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER. 1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE BLDR SLABS [16 pts] SILT [3 pt] PERCENT BEDROCK [16 pts] SILT [3 pt] SUBSTRATE [3 pts] COBBLE (65-256 mm)[12 pts] SAND (<2 mm) [9 pts] MUCK [0 pts] ARTIFICIAL [3 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock ONLY two MOST PREDOMINATE SUBSTRATE TYPES: A+B
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pts]
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT SILT [3 pt] BULDER SLABS [16 pts] BOULDER (>256 mm)[16 pts] BEDROCK [16 pts] COBBLE (65-256 mm)[12 pts] GRAVEL (2-64 mm)[9 pts] GRAVEL (2-64 mm)[9 pts] Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 1. SUBSTRATE TYPES percently TYPE SILT [3 pt] CLEAF PACK/WOODY DEBRIS [3 pts] 70 Substrate Max = 4 Metri Point Substrate Metri Point Substrate Max = 4 B SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: A + B
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE BLDR SLABS [16 pts] BOULDER (>256 mm)[16 pts] BEDROCK [16 pts] COBBLE (65-256 mm)[12 pts] GRAVEL (2-64 mm)[9 pts] GRAVEL (2-64 mm)[9 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: HHE Metri 70 30 Substra FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts] TOTAL NUMBER OF SUBSTRATE TYPES: A + B
(Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock BEDROCK [16 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock MAX = 4 BERCENT TOULL SILT [3 pt] LEAF PACK/WOODY DEBRIS [3 pts] LEAF PACK/WOODY DEBRIS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts] BEDROCK [16 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock Bldr Slabs, Boulder, Cobble, Bedrock TOTAL NUMBER OF SUBSTRATE TYPES: BHE Metri Point Substra Max = 4 8 A + B
Bldr Slabs, Boulder, Cobble, Bedrock (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 2 A + B
Maximum Bool Donth / Massure the maximum pool donth within the 61 mater (200 fact) evaluation reach at the
2. Maximum Pool Depth (<i>Measure the <u>maximum</u> pool depth within the 61 meter (200 feet)</i> evaluation reach at the pool De time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <i>ONLY</i> one box): Max = :
> 30 centimeters [20 pts] 5 cm - 10 cm [15 pts]
COMMENTS MAXIMUM POOL DEPTH (inches):
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check <i>ONLY</i> one box): Bankfu
> 4.0 meters (> 13') [30 pts]
> 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]
COMMENTS AVERAGE BANKFULL WIDTH (feet):
This information <u>must</u> also be completed
RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★
RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R L R
☐ ☐ Wide >10m ☐ ☐ Mature Forest, Wetland ☐ ☐ Conservation Tillage
Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial
X X Narrow <5m
COMMENTS
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):
Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS Moist Channel, isolated pools, no flow (intermittent) Dry channel, no water (ephemeral)
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):
□ None □ 1.0 □ 2.0 □ 3.0
☐ 0.5 ☐ 1.5 ☐ 2.5 ☐ >3 STREAM GRADIENT ESTIMATE

QHEI PERFORMED? ☐ Yes ☒ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Ai Creek Distance from Evaluated Stream >2 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: Swanton, OH NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Fulton County Township/City: Fulton Township
MISCELLANEOUS
Base Flow Conditions? (Y/N): Yes Date of last precipitation: 09/11/2022 Quantity: 0.25
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) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Yes If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) 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





May 2020 Revision Page 2



Upstream



Substrate



Downstream

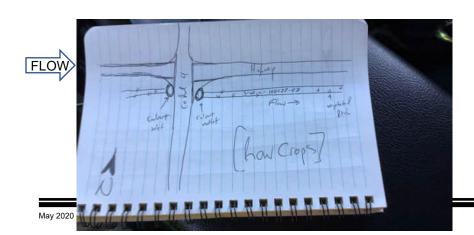
10

SITE NAME/LOCATION Stream DFN-04 Dowling-Fulton 345 k	V Transmission Line Tap to Melbourne Substation	
	RIVER CODE DRAINAGE AREA (mi²) 0.41	
LENGTH OF STREAM REACH (ft) LAT 41.5994	2186216667 LONG <u>-83.94043312999999</u> RIVER MILE	
DATE 10/04/2022 SCORER MJA COMM	IENTS Vegetated roadside ditch with NHD designation.	
NOTE: Complete All Items On This Form - Refer to "H	Headwater Habitat Evaluation Index Field Manual" for Instruction	ons
STREAM CHANNEL MODIFICATIONS: TO NOME (MATH	JRAL CHANNEL ☐ RECOVERED X RECOVERING ☐ RECENT OR NO REC	NOVEDV
NONE / NATO	TRAL CHANNEL RECOVERED RECOVERING RECENT OR NO REC	OVERT
(Max of 32). Add total number of significant substrate TYPE □ □ BLDR SLABS [16 pts] □ BOULDER (>256 mm)[16 pts] □ BEDROCK [16 pts] □ COBBLE (65-256 mm)[12 pts] □ GRAVEL (2-64 mm)[9 pts] □ SAND (<2 mm) [6 pts] Total of Percentages of	TYPE SILT [3 pt] LEAF PACK/WOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] Subs	HEI stric ints strate c = 40
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPE	`' 2	
time of evaluation. Avoid plunge pools from road culve > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	rerts or storm water pipes) (Check ONLY one box): 5 cm - 10 cm [15 pts] < 5 cm [5pts] NO WATER OR MOIST CHANNEL [0pts]	Depth
COMMENTS	MAXIMUM POOL DEPTH (inches):	
3. BANK FULL WIDTH (Measured as the average of 3	INFORMATION TO CE DEL TIT (MONES).	nkfull
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts]	3 - 4 measurements) (Check <i>ONLY</i> one box):	dth
3. BANK FULL WIDTH (Measured as the average of 3	3 - 4 measurements) (Check <i>ONLY</i> one box): □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] □ ≤ 1.0 m (≤ 3' 3")[5 pts] Max	
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	3 - 4 measurements) (Check <i>ONLY</i> one box):	dth
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	3 - 4 measurements) (Check <i>ONL</i> Y one box): □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] □ ≤ 1.0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (feet): 2	dth
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This info	3 - 4 measurements) (Check <i>ONLY</i> one box): □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] □ ≤ 1.0 m (≤ 3' 3") [5 pts] Solution (Signature of the state of the s	dth
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This info RIPARIAN ZONE AND FLOODPLAIN QUALI' RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Ma Moderate 5-10m Narrow <5m RE	3 - 4 measurements) (Check <i>ONL</i> Y one box):	dth
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This info RIPARIAN ZONE AND FLOODPLAIN QUALI RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Ma Moderate 5-10m Narrow <5m None COMMENTS Highway on left bank	Ban Win Max 3 - 4 measurements) (Check ONLY one box):	dth
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	3 - 4 measurements (Check ONLY one box): 3 - 4 measurements > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	dth
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	3 - 4 measurements (Check ONLY one box): 3 - 4 measurements > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	dth

QHEI PERFORMED? ☐ Yes ☒ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Ai Creek Distance from Evaluated Stream Provided to the first and the stream of the st
☐ 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: Swanton, OH NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Fulton County Township/City: Fulton Township
MISCELLANEOUS Base Flow Conditions? (Y/N): Yes Date of last precipitation: 09/26/2022 Quantity: 0.01
Photo-documentation Notes:
Elevated Turbidity? (Y/N): No Canopy (% open):
Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results):
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Yes If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) 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







Upstream Downstream



Substrate

54

SITE NAME/LOCATION Stream DFN-05 Dowling-Fulton 345 kV	Transmission Line Tap to Melbourne Substation	
	RIVER CODE DRAINAGE AREA (mi²) 0.4	12
LENGTH OF STREAM REACH (ft) LAT 41.59667	<u>/542983334</u> LONG <u>-83.95979918099998</u> RIVER MILE	
DATE 09/15/2022 SCORER JBL COMME	ENTS Channelized. Comes off of turnpike property and flows south	1
NOTE: Complete All Items On This Form - Refer to "He	eadwater Habitat Evaluation Index Field Manual" for Inst	ructions
STREAM CHANNEL MODIFICATIONS: TO NOVE (MATUR	RAL CHANNEL RECOVERED X RECOVERING RECENT OR N	IO DECOVERY
NONE / NATUR	VAL CHANNEL RECOVERED X RECOVERING RECENT OR IN	IO RECOVERT
(Max of 32). Add total number of significant substrate to TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts]	port). Check ONLY two predominant substrate TYPE boxes. ypes found (Max of 8). Final metric score is sum of boxes A & B TYPE SILT [3 pt] LEAF PACK/WOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt]	HHEI Metric Points Substrate Max = 40
GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]	MUCK [0 pts] ☐ ARTIFICIAL [3 pts]	9
Total of Percentages of	A) C (B) 2	A + B
2. Maximum Pool Depth (<i>Measure the maximum pool</i> time of evaluation. Avoid plunge pools from road culve	depth within the 61 meter (200 feet) evaluation reach at the rts or storm water pipes) (Check ONLY one box):	Pool Depth
> 30 centimeters [20 pts]	5 cm - 10 cm [15 pts]	Max = 30
> 22.5 - 30 cm [30 pts] × > 10 - 22.5 cm [25 pts]	< 5 cm [5pts] NO WATER OR MOIST CHANNEL [0pts]	25
~ 10 - 22:3 dili [20 pt3]		
COMMENTS	MAXIMUM POOL DEPTH (inches): 4	
COMMENTS	MAXIMUM POOL DEPTH (inches): 4	Pankfull
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts]	- 4 measurements) (Check ONLY one box):	Bankfull Width
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	IMPACIMIONI 1 GGE BEI 111 (INGIGG).	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts]	- 4 measurements) (Check <i>ONLY</i> one box): □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] □ ≤ 1.0 m (≤ 3' 3")[5 pts]	Width
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	- 4 measurements) (Check <i>ONLY</i> one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS TOB approx 25 feet This infor	- 4 measurements) (Check <i>ONL</i> Y one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS TOB approx 25 feet This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT	- 4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS TOB approx 25 feet This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT	- 4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): one of the completed of the complete of th	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS TOB approx 25 feet This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R	- 4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS TOB approx 25 feet This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Mat Moderate 5-10m Moderate 5-10m	- 4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): AVERAGE BANKFULL WIDTH (feet): 6	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS TOB approx 25 feet This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Mat Moderate 5-10m Mat Narrow <5m Res	- 4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 6 mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★ ODPLAIN QUALITY (Most Predominant per Bank) L R ture Forest, Wetland Conservation Tillage mature Forest, Shrub or Old Field Urban or Industrial sidential, Park, New Field X X Open Pasture, Row Cr	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS TOB approx 25 feet This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10 Mat Moderate 5-10m Moderate 5-10m None Fer	- 4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): AVERAGE BANKFULL WIDTH (feet): 6	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS TOB approx 25 feet This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Mat Moderate 5-10m Mix Narrow <5m None COMMENTS COMMENTS	- 4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (feet): 6 mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★ ODPLAIN QUALITY (Most Predominant per Bank) L R ture Forest, Wetland Conservation Tillage mature Forest, Shrub or Old Field Urban or Industrial sidential, Park, New Field Qpen Pasture, Row Cr	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS TOB approx 25 feet This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH FLO (Per Bank) L R Wide >10m Mat Moderate 5-10m Mat Moderate 5-10m Res None Fer COMMENTS FLOW REGIME (At Time of Evaluation) (Che Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS	- 4 measurements) (Check ONLY one box):	Width Max=30 20
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS TOB approx 25 feet This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Moderate 5-10m Moderate 5-10m Moderate 5-10m None COMMENTS FLOW REGIME (At Time of Evaluation) (Che Stream Flowing Subsurface flow with isolated pools (interstitial)	- 4 measurements) (Check ONLY one box):	Width Max=30 20
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS TOB approx 25 feet This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Mat Moderate 5-10m Moderate 5-10m None COMMENTS FLOW REGIME (At Time of Evaluation) (Che Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft	- 4 measurements) (Check ONLY one box):	Width Max=30

QHEI PERFORMED? ☐ Yes ☒ No QHEI Score (If Yes,	Attach Completed QHEI form)
☐ CWH Name:	
☐ EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHEE	D AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Swanton, OH NRCS Soil Map Page	e: NRCS Soil Map Stream Order:
County: Fulton County Township/City: Fulto	•
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Yes Date of last precipitation: 09/11/2022	Quantity: 0.25
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) Dissolved Oxygen (mg/l) pH (S.U	J.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Yes If not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS	
(Record all observations below)	
Fish Observed? (Y/N) 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





May 2020 Revision Page 2



Upstream



Substrate



Downstream

Protection Agency

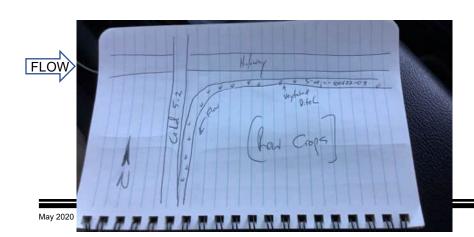
10

Protection Agency	HHEI Score (sum of metrics 1+2+3)			
SITE NAME/I OCATION Stream DFN-06 Dowling-Fulto	on 345 kV Transmission Line Tap to Melbourne Substation			
	009 RIVER CODE DRAINAGE AREA (mi²) 0.13	3		
	41.597663616666665 LONG -83.96962606183334 RIVER MILE			
	COMMENTS Vegetated roadside ditch with NHD designation.			
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions				
STREAM CHANNEL MODIFICATIONS:	IE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO	DECOVERY		
THEAM CHANNEL MODII ICATIONS.	RECOVERING RECOVERED X RECOVERING RECENT OR NO	RECOVERY		
	SILT [3 pt] 50 LEAF PACK/WOODY DEBRIS [3 pts] ———— FINE DETRITUS [3 pts] ————	HHEI Metric Points Substrate Max = 40 5		
SCORE OF TWO MOST PREDOMINATE SUBSTRAT	TE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 2	A+B		
	num pool depth within the 61 meter (200 feet) evaluation reach at the oad culverts or storm water pipes) (Check ONLY one box): 5 cm - 10 cm [15 pts]	Pool Depth Max = 30		
COMMENTS	MAXIMUM POOL DEPTH (inches):			
COMMENTS		Bankfull		
COMMENTS 3. BANK FULL WIDTH (Measured as the aver > 4.0 meters (> 13') [30 pts]	maximum POOL DEPTH (inches): O rage of 3 - 4 measurements) (Check ONLY one box): 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width		
COMMENTS 3. BANK FULL WIDTH (Measured as the aver	maximum POOL DEPTH (inches): O rage of 3 - 4 measurements) (Check ONLY one box):	Width Max=30		
COMMENTS 3. BANK FULL WIDTH (Measured as the aver > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	maximum POOL DEPTH (inches): O rage of 3 - 4 measurements) (Check ONLY one box): 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width		
COMMENTS 3. BANK FULL WIDTH (Measured as the aver > 4.0 meters (> 13') [30 pts]	MAXIMUM POOL DEPTH (inches): orage of 3 - 4 measurements) (Check <i>ONLY</i> one box): orage of 3 - 4 measurements) (Check <i>ONLY</i> one box): orage of 3 - 4 measurements) (Check <i>ONLY</i> one box): orage of 3 - 4 measurements) (5 pts] orage of 3 - 4 measurements) (5 pts]	Width Max=30		
COMMENTS 3. BANK FULL WIDTH (Measured as the aver > 4.0 meters (> 13') [30 pts]	MAXIMUM POOL DEPTH (inches): Tage of 3 - 4 measurements) (Check <i>ONLY</i> one box):	Width Max=30		
COMMENTS 3. BANK FULL WIDTH (Measured as the aver > 4.0 meters (> 13') [30 pts]	MAXIMUM POOL DEPTH (inches): Tage of 3 - 4 measurements) (Check ONLY one box):	Width Max=30		
COMMENTS	MAXIMUM POOL DEPTH (inches): rage of 3 - 4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] × ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 2 This information must also be completed QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ FLOODPLAIN QUALITY (Most Predominant per Bank) R	Width Max=30		
COMMENTS SANK FULL WIDTH (Measured as the aver > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	MAXIMUM POOL DEPTH (inches): Tage of 3 - 4 measurements)	Width Max=30		
COMMENTS SANK FULL WIDTH (Measured as the aver > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	MAXIMUM POOL DEPTH (inches): Tage of 3 - 4 measurements)	Width Max=30		
COMMENTS SANK FULL WIDTH (Measured as the aver > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	MAXIMUM POOL DEPTH (inches): Tage of 3 - 4 measurements)	Width Max=30		
COMMENTS 3. BANK FULL WIDTH (Measured as the aver > 4.0 meters (> 13') [30 pts]	MAXIMUM POOL DEPTH (inches): Tage of 3 - 4 measurements)	Width Max=30		

QHEI PERFORMED? ☐ Yes ☒ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Swan Creek Distance from Evaluated Stream 0.07 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: Swanton, OH NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Fulton County Township/City: Fulton Township
MISCELLANEOUS Base Flow Conditions? (Y/N): Yes Date of last precipitation: 09/26/2022 Quantity: 0.01
Photo-documentation Notes:
Elevated Turbidity? (Y/N): No Canopy (% open): Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results):
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Yes If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) 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







Upstream Downstream



Substrate

|--|

SITE NAME/LOCATION Stream DFN-08 Dowling-Fulton 345 kV	Transmission Line Tap to Melbourne Substation	
SITE NUMBER S-JFW-100422-02 RIVER BASIN 04100009	RIVER CODE DRAINAGE AREA (mi²) 0.1	8
LENGTH OF STREAM REACH (ft) LAT 41.595901	136166667 LONG <u>-83.98945078916668</u> RIVER MILE	
DATE 10/04/2022 SCORER JFW COMME	NTS Do not have access to ODOT parcel, done remotely. Constructed roadside ditc	n with NHD
NOTE: Complete All Items On This Form - Refer to "He	adwater Habitat Evaluation Index Field Manual" for Inst	ructions
STREAM CHANNEL MODIFICATIONS: TO NOVE (NATUR	AL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR N	
NONE / NATURA	AL CHANNEL RECOVERED RECOVERING X RECENT OR N	URECOVERY
(Max of 32). Add total number of significant substrate ty	nt). Check ONLY two predominant substrate TYPE boxes. Prese found (Max of 8). Final metric score is sum of boxes A & B YPE SILT [3 pt] LEAF PACK/WOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts]	HHEI Metric Points Substrate Max = 40
Total of Percentages of	ARTIFICIAL [5 pts]	
Bldr Slabs, Boulder, Cobble, Bedrock 0 (A SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES	` 2	A + B
	depth within the 61 meter (200 feet) evaluation reach at the	Pool Depth
time of evaluation. Avoid plunge pools from road culver	ts or storm water pipes) (Check ONLY one box):	Max = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]	5 cm - 10 cm [15 pts] < 5 cm [5pts]	0
> 10 - 22.5 cm [25 pts]	NO WATER OR MOIST CHANNEL [0pts]	
COMMENTS	MAXIMUM POOL DEPTH (inches): 0	
3. BANK FULL WIDTH (Measured as the average of 3 -	4 massurements) (Check OM Vone hov):	Bankfull
	4 measurements) (Check ONL / One box).	Dankiun
> 4.0 meters (> 13') [30 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width
		Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] x ≤ 1.0 m (≤ 3' 3") [5 pts]	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inform	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] x ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet):	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inform RIPARIAN ZONE AND FLOODPLAIN QUALITY	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] × ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): attion must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inform RIPARIAN ZONE AND FLOODPLAIN QUALITY	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] x ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet):	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inform RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH L R (Per Bank) L R	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 2 mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream★ DDPLAIN QUALITY (Most Predominant per Bank)	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inform RIPARIAN ZONE AND FLOODPLAIN QUALITY	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] X ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): AVERAGE BANKFULL WIDTH (feet): The mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★ COPLAIN QUALITY (Most Predominant per Bank) L R Urban or Industrial	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] X ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): AVERAGE BANKFULL WIDTH (feet): The mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★ ODPLAIN QUALITY (Most Predominant per Bank) L R Urban or Industrial idential, Park, New Field Open Pasture, Row Creen.	Width Max=30
	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] X ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): AVERAGE BANKFULL WIDTH (feet): The mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★ COPLAIN QUALITY (Most Predominant per Bank) L R Urban or Industrial	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] X ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): AVERAGE BANKFULL WIDTH (feet): The mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★ ODPLAIN QUALITY (Most Predominant per Bank) L R Urban or Industrial idential, Park, New Field Open Pasture, Row Creen.	Width Max=30
	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] X ≤ 1.0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (feet): AVERAGE BANKFULL WIDTH (feet): 2 mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★ ODPLAIN QUALITY (Most Predominant per Bank) L R ure Forest, Wetland nature Forest, Shrub or Old Field urban or Industrial open Pasture, Row Credominant per Bank) ced Pasture Open Pasture, Row Credominant per Bank Conservation Tillage Urban or Industrial Open Pasture, Row Credominant per Bank Open Pasture, Row Credomin	Width Max=30
	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 2 mation must also be completed ★ NOTE: River Left (L) and Right (R) as looking downstream ★ ODPLAIN QUALITY (Most Predominant per Bank) L R	Width Max=30
	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] × ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 2 mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★ ODPLAIN QUALITY (Most Predominant per Bank) L R	Width Max=30
	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] × ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 2 mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★ ODPLAIN QUALITY (Most Predominant per Bank) L R	Width Max=30
	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 2 Mation must also be completed Y ★ NOTE: River Left (L) and Right (R) as looking downstream ★ ODPLAIN QUALITY (Most Predominant per Bank) L R	Width Max=30 5

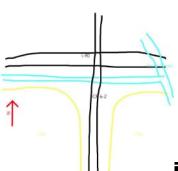
ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
☐ CWH Name: Distance from Evaluated Stream
☐ EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Swanton, OH NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Fulton County Township/City: Fulton Township
MISCELLANEOUS
Base Flow Conditions? (Y/N): Yes Date of last precipitation: 09/25/2022 Quantity: 0.01
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) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Yes If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) 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 <u>must</u> be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





May 2020 Revision



Upstream



Substrate



Downstream

hio Ohio Environmental Protection Agency

Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

SITE NAME/LOCATION Stream DFN-09 Dowling-Fulton 345 kV	/ Transmission Line Tap to Melbourne Substation	
SITE NUMBER S-JFW-100422-01 RIVER BASIN 04100009	RIVER CODE DRAINAGE AREA (mi²) 0.21	<u> </u>
LENGTH OF STREAM REACH (ft) LAT 41.59733	333895 LONG -84.00817855816668 RIVER MILE	
DATE 10/04/2022 SCORER JFW COMME	ENTS Culverted upstream and downstream	
NOTE: Complete All Items On This Form - Refer to "H	leadwater Habitat Evaluation Index Field Manual" for Instr	uctions
STREAM CHANNEL MODIFICATIONS: IT NONE / NATH	RAL CHANNEL RECOVERED RECOVERING RECENT OR NO) DECOVEDY
NONE / NATO	THE CHANNEL IN RECOVERED THE RECOVERING THE RECEIVED ON NO	RECOVERT
(Max of 32). Add total number of significant substrate to the significant	types found (Max of 8). Final metric score is sum of boxes A & B TYPE SILT [3 pt] LEAF PACK/WOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [6 pt]	HHEI Metric Points Substrate Max = 40
COBBLE (65-256 mm)[12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]	X □ CLAY or HARDPAN [0 pt] 50 □ □ MUCK [0 pts]	6
Total of Percentages of	A) 2 (B) 2	A + B
	I depth within the 61 meter (200 feet) evaluation reach at the	Pool Depth
time of evaluation. Avoid plunge pools from road culve > 30 centimeters [20 pts]	erts or storm water pipes) (Check <i>ONLY</i> one box): 5 cm - 10 cm [15 pts]	Max = 30
> 22.5 - 30 cm [30 pts]	<pre>5 cm [5pts]</pre>	20
> 10 - 22.5 cm [25 pts]	NO WATER OR MOIST CHANNEL [0pts] MAXIMUM POOL DEPTH (inches): 12	
COMMENTS		
COMMENTS	(
3. BANK FULL WIDTH (Measured as the average of 3	- 4 measurements) (Check ONLY one box):	Bankfull Width
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	(Bankfull Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts]	- 4 measurements) (Check <i>ONLY</i> one box): - 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	-4 measurements) (Check <i>ONLY</i> one box): □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] □ ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inform	- 4 measurements) (Check <i>ONLY</i> one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT	-4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): AVERAGE BANKFULL WIDTH (feet): 6	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Wide >10m Ma Wide >10m None Rec	-4 measurements) (Check ONLY one box): □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] □ ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 6 rmation must also be completed TY ★ NOTE: River Left (L) and Right (R) as looking downstream ★	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Wide >10m Ma Moderate 5-10m None None Fer COMMENTS	- 4 measurements) (Check ONLY one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Wide >10m Ma Moderate 5-10m None None Fer COMMENTS	- 4 measurements) (Check ONLY one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This infor RIPARIAN ZONE AND FLOODPLAIN QUALIT RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Wide >10m Ma Wide >10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation) (Chemical Company Com	-4 measurements) (Check ONLY one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	- 4 measurements) (Check ONLY one box):	Width Max=30 20

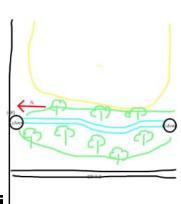
ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score	e (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Bad Creek	Distance from Evaluated Stream 0.67 mile
	Distance from Evaluated Stream
LI EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING	THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Delta, OH	NRCS Soil Map Page:NRCS Soil Map Stream Order:
County: Fulton County	Township/City: Pike Township
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Yes Date of last precipit	ation: 09/25/2022 Quantity: 0.01
Photo-documentation Notes:	
Elevated Turbidity? (Y/N): NO Canopy (% open):	30
Were samples collected for water chemistry? (Y/N): \underline{No}	Lab Sample # or ID (attach results):
Field Measures: Temp (°C) Dissolved Oxygen (mg	g/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) $\frac{Y}{Y}$	Yes If not, explain:
Additional comments/description of pollution impacts:	
BIOLOGICA	AL OBSERVATIONS
(Record a	Il observations below)
Fish Observed? (Y/N) Species observed (if known	n):
Frogs or Tadpoles Observed? (Y/N) Species obser	ved (if known):
Salamanders Observed? (Y/N) Species observed (i	f known):
Aquatic Macroinvertebrates Observed? (Y/N) Speci	es 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





May 2020 Revision



Upstream



Substrate



Downstream

hio Ohio Environmenta Protection Agency

Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

25

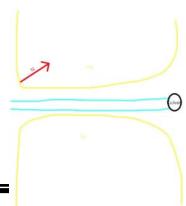
Protection Agency	
SITE NAME/LOCATION Stream DFN-11 Dowling-Fulton 345 kV	
	RIVER CODE DRAINAGE AREA (mi²) 0.65
	777683334 LONG -84.03934342633332 RIVER MILE
DATE 10/03/2022 SCORER MJA COMME	NTS Vegetated channelized stream with NHD designation.
NOTE: Complete All Items On This Form - Refer to "He	eadwater Habitat Evaluation Index Field Manual" for Instructions
STREAM CHANNEL MODIFICATIONS: NONE / NATUR	AL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
(Max of 32). Add total number of significant substrate ty TYPE BLDR SLABS [16 pts] BOULDER (>256 mm)[16 pts] BEDROCK [16 pts] BEDROCK [16 pts]	htt). Check ONLY two predominant substrate TYPE boxes. If pes found (Max of 8). Final metric score is sum of boxes A & B If per
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES	
2. Maximum Pool Depth (Measure the maximum pool of time of evaluation. Avoid plunge pools from road culver > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	depth within the 61 meter (200 feet) evaluation reach at the rts or storm water pipes) (Check ONLY one box): 5 cm - 10 cm [15 pts] < 5 cm [5pts] NO WATER OR MOIST CHANNEL [0pts]
COMMENTS	MAXIMUM POOL DEPTH (inches):
3. BANK FULL WIDTH (Measured as the average of 3 - > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] Width Max=30
COMMENTS	AVERAGE BANKFULL WIDTH (feet): 5
	mation <u>must</u> also be completed
	Y ★ NOTE: River Left (L) and Right (R) as looking downstream★
L R (Per Bank) L R ☐ Wide >10m ☐ Mate ☐ Moderate 5-10m ☐ Imm ☒ ☒ Narrow <5m	ODPLAIN QUALITY (Most Predominant per Bank) L R ure Forest, Wetland
Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS	ck ONLY one box): Moist Channel, isolated pools, no flow (intermittent) Dry channel, no water (ephemeral)
SINUOSITY (Number of bends per 61 m (200 ft) None) of channel) (Check ONLY one box): 2.0
STREAM GRADIENT ESTIMATE X Flat (0.5 ft/100 ft)	(2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)
	_

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

DOWNSTREAM DESIGNATED USE(S)		0.04 !!				
☑ WWH Name: Bad Creek	Di	stance from Evaluated Stream 0.84 mile				
☐ CWH Name:	CWH Name: Distance from Evaluated Stream					
EWH Name:	Di	stance from Evaluated Stream				
MAPPING: ATTACH COPIES OF MAPS, INCLUDI	ING THE <u>entire</u> watershed are	A. CLEARLY MARK THE SITE LOCATION.				
USGS Quadrangle Name: Delta, OH	NRCS Soil Map Page:	NRCS Soil Map Stream Order:				
County: Fulton County						
MISCELLANEOUS						
Base Flow Conditions? (Y/N): Yes Date of last pred	cipitation: 09/26/2022	Quantity: 0.01				
Photo-documentation Notes:						
ElevatedTurbidity?(Y/N): NO Canopy (% oper	n): <u>100</u>					
Were samples collected for water chemistry? (Y/N): $\frac{N}{N}$		ttach results):				
Field Measures: Temp (°C) Dissolved Oxygen	(mg/l) pH (S.U.)	Conductivity (umhos/cm)				
Is the sampling reach representative of the stream (Y/N)	Yes If not, explain:					
Additional comments/description of pollution impacts:						
	GICAL OBSERVATIONS rd all observations below)					
•	•					
Fish Observed? (Y/N) Species observed (if kn						
Frogs or Tadpoles Observed? (Y/N) Species ob						
Salamanders Observed? (Y/N) Species observe	ed (if known):					
Aquatic Macroinvertebrates Observed? (Y/N) Sp	pecies observed (if known):					
Comments Regarding Biology:						

Vegetated channelized NHD between ag fields.





May 2020 Revision



Upstream



Substrate



Downstream





POND DATA SHEET

FEATURE ID Pond DFN-01 ASSOCIATED FEATURES:				
Survey Type: Wetland and waterbodies delineation				
DATE: 12/20/2022	CLIENT/PROJECT NAME:		Dowling-Fulton 345 kV Transmi	ssion Line Tap to Melbourne Substation
INVESTIGATORS: MJA		ROUTE:		
STATE/COUNTY:			Is this a Mapped NWI Feature?: yes	PUBGx
	\	NATERBODY C	IARACTERISTICS	
WATERBODY TYPE:	Freshwater pond			
AVG. DEPTH:	5			
Avg. Width (Water Surface):	250			
APPROXIMATE SIZE:	5 ha			
		QUALITATIVE	ATTRIBUTES	
AVERAGE WATER APPEARANCE:	Slightly turbid			
PRIMARY SUBSTRATE (IF OBSERVED):	Organic material - le	eaves and mud	ck	
POTENTIAL HABITAT FOR:	Waterfowl, fish, amp	phibians, reptil	es	
SURROUNDING LAND USE:	Forested wetland or	n east side. ~5	feet of trees and scrub bordered b	y grass on west
WETLAND FRINGE (IF PRESENT):				
COMMENTS				





S Substrate





E N



POND DATA SHEET

		OND DA	TA OTTEET		
FEATURE ID Pond DFN-02	Pond DFN-02 ASSOCIATED FEATURES:				
Survey Type: Wetland and waterbodies delineation					
DATE: 12/20/2022	CLIENT/PROJECT NAME:		Dowling-Fulton 345 kV Tra	ansmission Line Tap to Melbourne Substation	
INVESTIGATORS: MJA		ROUTE:			
STATE/COUNTY:			Is this a Mapped NWI Feature?: yes	L1UBHx	
	l	WATERBODY CH	IARACTERISTICS		
WATERBODY TYPE:	Reservoir				
AVG. DEPTH:	>3 ft				
AVG. WIDTH (WATER SURFACE):	1,200 ft at crossing				
APPROXIMATE SIZE:	50 acres				
		QUALITATIVE	ATTRIBUTES		
AVERAGE WATER APPEARANCE:	Clear				
PRIMARY SUBSTRATE (IF OBSERVED):	Silt and riprap				
POTENTIAL HABITAT FOR:	Waterfowl, fish, am	phibians			
Surrounding Land Use: Agriculture, secondary forest					
WETLAND FRINGE (IF PRESENT):	N/A				
COMMENTS					





S SE





SW Substrate



POND DATA SHEET

TOND DATA SHEET					
FEATURE ID Pond DFN-03	TURE ID Pond DFN-03 ASSOCIATED FEATURES:				
Survey Type: Wetland and waterbodies delineation					
DATE: 10/03/2022	CLIENT/PROJECT NAME:	FirstEnergy Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation			
INVESTIGATORS: MJA		ROUTE:			
STATE/COUNTY: OH	Fulton		IS THIS A MAPP	ped NWI FEATURE?: yes	PUBGx
	١	NATERBODY CH	IARACTERIST	rics	
WATERBODY TYPE:	Artificial freshwater	pond			
AVG. DEPTH:	>3 ft				
AVG. WIDTH (WATER SURFACE):	650				
APPROXIMATE SIZE:	14 acres				
		QUALITATIVE	ATTRIBUTES	S	
AVERAGE WATER APPEARANCE:	Murky, greenish bro	own			
PRIMARY SUBSTRATE (IF OBSERVED):	Artificial, silt				
POTENTIAL HABITAT FOR:	Frogs waterfowl				
SURROUNDING LAND USE:	Row crops				
WETLAND FRINGE (IF PRESENT):	N/A				
COMMENTS					





SE SW



Substrate



POND DATA SHEET

FEATURE ID Pond DFN-04 ASSOCIATED FEATURES:					
Survey Type: Wetland and waterbodies delineation					
DATE: 10/03/2022	CLIENT/PROJECT NAME:		Dowling-Fulton 345 kV Transr	mission Line Tap to Melbourne Substation	
INVESTIGATORS: MJA		R оите:			
STATE/COUNTY:			Is this a Mapped NWI Feature?: yes	PUBGx	
	١	WATERBODY C	HARACTERISTICS		
WATERBODY TYPE:	Artificial freshwater	pond			
AVG. DEPTH:	>3 ft				
Avg. Width (Water Surface):	175 ft				
APPROXIMATE SIZE:	8 acres				
		QUALITATIVE	ATTRIBUTES		
AVERAGE WATER APPEARANCE:	Slightly murky; teal	color			
PRIMARY SUBSTRATE (IF OBSERVED):	Silt, with riprap alon	ng banks			
POTENTIAL HABITAT FOR:	Waterfowl, fish, amp	phibians			
Surrounding Land Use: Row crops. Trailer park on west end					
WETLAND FRINGE (IF PRESENT):	N/A				
COMMENTS					





W S





S Substrate



POND DATA SHEET

FEATURE ID Pond DFN-05 ASSOCIATED FEATURES:					
Survey Type: Wetland and waterbodies delineation					
DATE: 10/03/2022	CLIENT/PROJECT NAME:	FirstEnergy	/	Dowling-Fulton 345 kV Transmiss	sion Line Tap to Melbourne Substation
INVESTIGATORS: MJA		ROUTE:			
STATE/COUNTY: OH	Fulton		IS THIS A MAPP	ed NWI FEATURE?: yes	PUBGx
	١	WATERBODY CH	IARACTERIST	rics	
WATERBODY TYPE:	Artificial freshwater	pond			
AVG. DEPTH:	>3 ft				
AVG. WIDTH (WATER SURFACE):	100 ft				
APPROXIMATE SIZE:	2.5 acres				
	•	QUALITATIVE	ATTRIBUTES	5	
AVERAGE WATER APPEARANCE:	Clear blue green				
PRIMARY SUBSTRATE (IF OBSERVED):	Artificial and organi	С			
POTENTIAL HABITAT FOR:	Frogs, waterfowl				
SURROUNDING LAND USE:	Mowed lawn				
WETLAND FRINGE (IF PRESENT):	N/A				
COMMENTS					





Substrate



W

Appendix 8-3B Wetland and Waterbody Delineation Report for the Alternate Route

Wetland and Waterbody Delineation Report

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project – Alternate Route Fulton County, Ohio

Prepared for



February 2023



Jacobs Engineering Group Inc. 2 Crowne Point Court, Suite 100 Cincinnati, OH 45241

Contents

1	Intro	duction	1-1
2	Backs 2.1 2.2 2.3	ground InformationAnnual Precipitation	2-1 2-1
3	Wetla 3.1 3.2	and and Waterbody Delineation Desktop Review Field Survey Methodology 3.2.1 Wetland Delineation 3.2.2 Stream Assessment	3-1 3-2 3-3
4	Field 4.1 4.2 4.3	Survey Results	4-1 4-2 4-2 4-3
5	Conc	lusion	5-1
6	Refer	rences	6-1

Tables

- 2-1 Recent Precipitation Data
- 2-2 12-Digit Hydrologic Unit Codes Crossed by the Project
- 3-1 Soil Map Units
- 3-2 Mapped National Wetland Inventory Features
- 4-1 Delineated Wetland Table
- 4-2 Delineated Stream Table
- 4-3 Delineated Pond Table
- 4-4 Wetland Summary Table
- 4-5 QHEI Stream Summary Table
- 4-6 HHEI Stream Summary Table

Appendices

- A Figures
 - 1 Overview Map
 - 2-1 to 2-2 Soils, NDH, NWI, FEMA Map
 - 3-1 to 3-22 Delineated Features Map
- B USACE Wetland Determination Field Data Forms
- C OEPA ORAM Data Forms
- D QHEI Stream Data Forms
- E HHEI Stream Data Forms
- F Jacobs Open Water/Pond Data Forms

Acronyms and Abbreviations

ATSI American Transmission Systems, Incorporated

CWA Clean Water Act

EPA Environmental Protection Agency
ESB environmental survey boundary

FAC facultative

FACU facultative upland FACW facultative wetland

GNSS global navigation satellite system

HHEI Headwater Habitat Evaluation Index

HUC Hydrologic Unit Code

Jacobs Engineering Group Inc.

kV kilovolt

NHD National Hydrography Dataset

NRCS Natural Resource Conservation Service

NWI National Wetland Inventory

OBL obligate wetland

OEPA Ohio Environmental Protection Agency

OHWM ordinary high water mark

ORAM Ohio Rapid Assessment Method

PEM palustrine emergent
PFO palustrine forested

Project Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project

QHEI Qualitative Habitat Evaluation Index

ROW right-of-way

TNW traditionally navigable water

UPL upland

USACE United States Army Corps of Engineers
USDA United States Department of Agriculture
USFWS United States Fish and Wildlife Service

USGS United States Geological Survey

1 Introduction

This wetland and waterbody delineation report (Report) summarizes the results of the wetland and waterbody delineation surveys conducted on the Dowling-Fulton 345 kilovolt (kV) Transmission Line Tap to Melbourne Substation Project (Project) in Fulton County, Ohio by Jacobs Engineering Group Inc. (Jacobs), for American Transmission Systems, Incorporated (ATSI), a wholly-owned subsidiary of FirstEnergy Corporation. ATSI has proposed a Preferred and Alternate route as part of the Project submitted to the Ohio Power Siting Board. This Report includes the results of the surveys conducted along the Alternate route, which consists of approximately 8.6 miles of new 345 kV transmission line right-of-way (ROW). The Alternate Route alignment crosses the Village of Delta and the townships of York and Swan Creek, Ohio (Figure 1). The 350-foot-wide environmental survey boundary (ESB) included the proposed 150-foot right-of-way (ROW) plus a 100-foot buffer on each side. This Report contains the following components:

- Figure 1 in Appendix A provides an overview map of the ESB overlain on ArcGIS Online USA topographic maps.
- Figures 2-1 to 2-19 in Appendix A show U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil map units, the location of National Wetland Inventory (NWI) polygons, national hydrography dataset (NHD) streams, and Federal Emergency Management Agency (FEMA) 100-year floodplain and floodway information. Table 2-1 summarizes recent precipitation data and Table 2-2 lists the 12-digit hydrologic unit codes crossed by the Project. Table 3-1 lists the soils types identified within the ESB and Table 3-2 lists the NWI wetland types identified within the ESB.
- Figures 3-1 to 3-19 in Appendix A provide the location of all features mapped during the delineation by Jacobs biologists. This includes all wetlands, data points, and waterbodies. Tables 4-1 (wetlands) and 4-2 (streams) follow the text, providing detailed information for all delineated features within the ESB. Tables 4-3 (wetlands), 4-4 (QHEI streams), and 4-5 (HHEI streams) are within the text, providing a summary of information for all delineated features within the ESB.
- U.S. Army Corps of Engineers (USACE) wetland determination field data forms are in Appendix B.
- Ohio Rapid Assessment Method for Wetlands (ORAM) two-page forms are in Appendix C.
- Qualitative Habitat Evaluation Index (QHEI) Stream Forms are in Appendix D.
- Headwater Habitat Evaluation Index (HHEI) Stream Forms are in Appendix E.
- Jacobs Open Water/Pond Data Forms are in Appendix F.

2 Background Information

The Project area consists of the Alternate route (Figure 1) which begins at a tie-in with the exising Dowling-Fulton transmission line and ends at the proposed Melbourne Substation. The Alternate Route alignment crosses the Village of Delta and the townships of York and Swan Creek, Ohio (Figure 1).

Review of the USGS 7.5-minute topographic maps indicates that the ESB is within two USGS 7.5minute topographic quadrangles: Delta and Swanton. Additional review of the USGS 7.5-minute topographic maps of the area indicates that ditches and streams drain the ESB, including Swan Creek, Fewless Creek, Bad Creek, and unnamed tributaries of these waterways. Topographic relief is generally flat, with a few sloped areas associated with waterbodies. The project area ranges from 681 to 769 feet above sea level (Figure 1).

Land use and natural communities observed within the ESB include agricultural, industrial, maintained lawn, old field, park, residential, road, railroad, scrub/shrub, and upland forested.

2.1 Annual Precipitation

Precipiation history for Wauseon, Ohio was reviewed prior to completing environmental surveys to determine if climatic conditions were normal at the time of the surveys. Rainfall recorded in Wauseon ranged from above average to below average prior to and during the surveys conducted in fall 2022 (Table 2-1; USDA, 2022), suggesting that climatic conditions were approximately normal for the region and time of year. This was taken into consideration during the delineation.

TABLE 2-1: Recent Precipitation Data Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project

Precipitation Data	Jul	Aug	Sep	Oct	Nov	Dec	Total
2022 Monthly Sum ^{1,3}	3.22	5.82	1.51	1.10	2.21	1.95	15.81
Normal Precipitation ^{2,3}	2.25-3.92	2.28-4.48	1.90-3.76	1.76-3.10	1.86-3.51	1.57-2.91	11.62- 21.68
Monthly climatic condition	Average	Above average	Below average	Below average	Average	Average	Average

¹Monthly weather summary from weather station WAUSEON WATER PLANT, OH

2.2 Drainage Basins

The Project is within the Lower Maumee watershed, corresponding to 8-digit Hydrologic Unit Code (HUC) 04100009. More specifically it is within the five 12-digit HUCs outlined in Table 2-2 (USGS, 2020).

TABLE 2-2: 12-Digit Hydrologic Unit Codes Crossed by the Project

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project							
HUC 12-Digit Code	HUC 12-Digit Name						

HUC 12-Digit Code	HUC 12-Digit Name
04100009 04 02	North Turkeyfoot Creek
04100009 03 02	Lower Bad Creek
04100009 04 03	Dry Creek-Maumee River
04100009 07 02	Fewless Creek-Swan Creek

²USDA WETS Station Climate Data 1971-2000 (USDA 2022)

³Displayed in inches

04100009 07 01

Ai Creek

Source: USGS 2020

2.3 Traditional Navigable Waters

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

3 Wetland and Waterbody Delineation

3.1 Desktop Review

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

- Aerial photo-based maps (ArcGIS Online, World Imagery Map, 2018)
- Topographic maps (ArcGIS Online, USA Topo Maps, 2019)
- NRCS Web Soil Survey (USDA-NRCS, 2021)
- NWI shapefile (USFWS, 2020)
- National Hydrography Dataset (NHD) (USGS, 2020)

According to the NRCS soil survey of Fulton County (USDA-NRCS, 2021), the ESB consists of 22 soil map units (Figures 2-1 to 2-19). Of these, three units are listed as nonhydric, 12 are predominantly nonhydric, and seven are predominantly hydric (Table 3-1). Hydric or predominantly hydric soils comprise 54 percent of the ESB.

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

TABLE 3-1: Soil Map Units

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Alternate Route

Soil type	Soil type description	Hydric status	Acres (ac) within ESB
ВуА	Brady sandy loam, 0 to 3 percent slopes	Predominantly Nonydric	6.7
Cn	Colwood loam	Predominantly Hydric	2.1
DmA	Digby loam, 0 to 3 percent slopes	Predominantly Nonydric	15.1
DtA	Dixboro fine sandy loam, 0 to 3 percent slopes	Predominantly Nonydric	2.2
Gf	Gilford fine sandy loam	Predominantly Hydric	3.4
GoC3	Glynwood clay loam, 6 to 12 percent slopes, severely eroded	Nonhydric	2.5
HkA	Haskins loam, 0 to 3 percent slopes	Predominantly Nonydric	51.7
HoA	Hoytville clay loam, 0 to 1 percent slopes	Predominantly Hydric	121.3
Mf	Mermill loam	Predominantly Hydric	44.9
Mo	Millgrove loam	Predominantly Hydric	17.5
NnA	Nappanee loam, 0 to 2 percent slopes	Predominantly Nonydric	74.7
NnB	Nappanee Ioam, 2 to 6 percent slopes	Nonhydric	2.6
OtB	Ottokee fine sand, 0 to 6 percent slopes	Predominantly Nonydric	0.7
PeB	Perrin sandy loam, 2 to 6 percent slopes	Predominantly Nonydric	0.0
RbB	Rawson sandy loam, 2 to 6 percent slopes	Predominantly Nonydric	2.2

RnA	Rimer loamy fine sand, 0 to 3 percent slopes	Predominantly Nonydric	5.4
SdB	Seward loamy fine sand, 2 to 6 percent slopes	Predominantly Nonydric	1.4
Sh	Shoals silt loam, frequently flooded	Predominantly Nonydric	1.7
So	Sloan silty clay loam, frequently flooded	Predominantly Hydric	7.6
TdA	Tedrow loamy fine sand, 0 to 3 percent slopes	Predominantly Nonydric	2.3
Uo	Udorthents, loamy	Nonhydric	0.3
Wf	Wauseon fine sandy loam	Predominantly Hydric	3.0

NWI data were obtained from the USFWS for review of potential wetlands that may occur within the ESB. The NWI data (USFWS, 2020) identify the type of wetland or open water present at a location using the USFWS classification system (Cowardin et al., 1979). The NWI data indicated that there are nine NWI features within the ESB (Figure 2-1 to 2-19; USFWS, 2020). This included pond and riverine NWI wetland types (Table 3-2, follows text). The presence of an NWI feature is not a definitive indicator that a wetland or waterbody is present. The information on NWI maps is obtained largely from aerial interpretation, may be outdated, and is only sporadically field-checked.

TABLE 3-2: Mapped National Wetland Inventory Features

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Alternate Route

Wetland Type	Description	Count of Mapped Features	Acres (ac) within ESB
PUBGx	Palustrine unconsolidated bottom, intermittently exposed, excavated	1	0.09
R2UBH	Riverine lower perennial unconsolidated bottom, permanently flooded	1	0.23
R4SBC	Riverine intermittent streambed, seasonally flooded	5	3.18
R5UBH	Riverine unknown perennial unconsolidated bottom, permanently flooded	2	0.44

As shown on the FEMA floodplain panels (Figures 2-1 to 2-19), floodplains associated with Bad Creek, Fewless Creek, Swan Creek, and an unnamed tributary to Ai Creek cross the ESB (FEMA, 2019).

3.2 Field Survey Methodology

In September, October, and December of 2022, Jacobs biologists surveyed the ESB by walking the area and evaluating for wetlands and other waters of the U.S. The boundaries of each wetland and waterbody within the ESB were delineated and recorded using handheld global navigation satellite system (GNSS) receivers. For waterbodies identified within the Project area, the ordinary high-water mark (OHWM) was used as the jurisdictional boundary.

Wetland data were recorded on USACE Northcentral and Northeast Regional Supplement wetland determination data forms, stream data were recorded on Qualitative Habitat Evaluation Index (QHEI) forms and Headwater Habitat Evaluation Index (HHEI) forms, and pond data were recorded on Jacobs pond/open water forms. All other land use, habitat, and other supplemental data were collected in a digital geodatabase during the environmental survey.

3.2.1 Wetland Delineation

Wetland boundaries were field-delineated according to using the routine onsite methodology described in the Technical Report Y-87-1 *Corps of Engineers Wetlands Delineation Manual* and subsequent guidance documents (Environmental Laboratory, 1987) and according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0) (USACE, 2012). Wetland delineation data were recorded on the USACE Regional Supplement wetland determination data forms. Representative wetland and upland data points were recorded during the wetland delineation to determine the presence/absence of wetlands and/or to document upland conditions within the Project area. Upland data points were determined not to be within wetlands because they did not have positive indicators of one or more of the three wetland criteria: hydrophytic vegetation, wetland hydrology, and hydric soils.

3.2.1.1 Soils

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

3.2.1.2 Hydrology

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

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

3.2.1.3 Vegetation

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

Wetland quality was evaluated using the Ohio Environmental Protection Agency (OEPA) Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack 2001). Categorization was conducted in accordance with the latest quantitative score calibration (OEPA, 2000). Wetlands are scored based on hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. Each of these subject areas is further divided into subcategories under ORAM v5.0 resulting in a score that describes the wetland using a range from 0 (low quality and high disturbance) to 100 (high quality and low disturbance). Wetlands scored from 0 to 29.9 are grouped into "Category 1", 30 to 59.9 are "Category 2" and 60 to 100 are "Category 3". Transitional zones exist between Categories 1 and 2 from 30 to 34.9 and between Categories 2 and 3 from 60 to 64.9. However, according to the OEPA, if the wetland score falls into the transitional range, it must be given the higher Category unless scientific data can prove it should be in a lower category (Mack, 2001).

3.2.2 Stream Assessment

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

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

4 Field Survey Results

Jacobs biologists surveyed the Project area by walking the ESB and evaluating for wetlands and other waters of the U.S. The Alternate route crossed two wetlands, seven streams, and two ponds; these features are displayed and identified on the Wetlands and Waterbodies Delineation Map (Figures 3-1 to 3-19). Jacobs defaults to the USACE and OEPA for the final determination of hydrologic connectivity and jurisdiction

4.1 Wetlands

Two wetlands totaling 3.49 acres were delineated within the ESB. One of the wetlands was identified as a palustrine emergent (PEM) wetland and one was identified as a palustrine forested (PFO) wetland. These wetlands are depicted in Figures 3-1 to 3-19. The reported wetland acreage only corresponds to areas delineated within the ESB, as some wetlands extended beyond the survey boundary.

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

TABLE 4-1: Delineated Wetland Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation ProjectAlternate Route

Wetland ID	Location		Wetland	Area (ac)	ORAM Score,
Wettand ID	Latitude	Longitude	Type ¹	within ESB	Category
Wetland DFS-01	41.56484	-84.03522	PFO	2.67	27.5, Category 1
Wetland DFS-02	41.56349	-84.05551	PEM	0.82	15.5, Category 1
	Total Wetland Area (

¹Cowardin et al. 1979.

4.1.1 Wetland ORAM Results

The two wetlands identified within the ESB were Category 1 wetlands. No Category 2 or 3 wetlands were identified with the ESB. Both of the wetlands were classified as Category 1 wetlands based on ORAM scores of 15.5 and 27.5. Generally, these wetlands scored low due to factors such as narrow buffers, high intensity surrounding land use, weak hydrology, poor habitat development, low horizontal interspersion, and presence of invasive species. Table 4-4 provides summary information regarding wetlands identified within the ESB, and completed ORAM forms are included in Appendix C.

TABLE 4-4: Wetland Summary Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation ProjectAlternate Route

Titoriate Negto									
Motlond Tune	C	RAM Categor	Number of	Acreage					
Wetland Type	Category 1	Category 2	Category 3	Wetlands	within ESB				
PEM	1	0	0	1	0.82				
PFO	1	0	0	1	2.67				
Totals	2	0	0	2	3.49				

4.2 Streams

Seven streams were identified, totaling 7,317 linear feet within the ESB. Of the seven streams, one was identified as an ephemeral stream, three were intermittent streams, and three were perennial streams. Three streams were assessed using the QHEI methodology (drainage area greater than one square mile) and four streams were assessed using the HHEI methodology (drainage area less than one square mile).

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

TABLE 4-2: Delineated Stream Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Alternate Route

	Loca	ation		Length	Average	Average		
Stream ID	Latitude	Longitude	Flow Regime ¹	(ft) within ESB	OHWM Width (ft)	TOB Width (ft)	HHEI/QHEI Score	Category/ Designation
Stream DFS-01	41.58378	-83.92121	Intermittent	4,854	5	20	HHEI 45	Modified Class II
Stream DFS-02	41.56819	-83.94551	Intermittent	600	7	20	HHEI 33	Modified Class II
Stream DFS-03	41.56370	-83.94712	Perennial	350	7	25	QHEI 55.5	Good Warmwater
Stream DFS-04	41.56763	-83.97011	Intermittent	722	7	15	HHEI 55	Modified Class II
Stream DFS-05	41.55694	-83.95311	Perennial	367	20	20	QHEI 46.5	Fair Warmwater
Stream DFS-06	41.56532	-83.99924	Perennial	377	40	40	QHEI 47.5	Fair Warmwater
Stream DFS-07	41.55988	-84.05294	Ephemeral	47	4	30	HHEI 49	Modified Class II
Total Stream Length (ft)								

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

4.2.1 QHEI Results

Three streams, totaling 1,094 linear feet within the ESB, were evaluated using QHEI methodology. Two were classified as Fair Warmwater streams and one was classified as a Good Warmwater stream. The completed QHEI forms are included in Appendix D and Table 4-4 provides a summary of streams identified within the ESB that were assessed using the QHEI.

TABLE 4-4: QHEI Stream Summary Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Alternate Route

		QHEI	Number of	Longth (foot)			
Flow Regime	Very Poor	Poor	Fair	Good	Excellent	Number of Streams	Length (feet) within ESB
	Warmwater	Warmwater	Warmwater	Warmwater	Warmwater	311641113	WILLIIILOD
Perennial	0	0	2	1	0	3	1,094
Total	0	0	2	1	0	3	1,094

4.2.2 HHEI Results

Four headwater streams, totaling 6,223 linear feet within the ESB, were evaluated using the HHEI methodology. All four streams were categorized as Modified Class II stream. Of the four streams, one was an ephemeral stream and three were intermittent streams. Completed HHEI forms are provided in Appendix E and Table 4-6 provides a summary of streams identified within the ESB that were assessed using the HHEI.

TABLE 4-6: HHEI Stream Summary Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Alternate Route

Flow		HHEI Class				HHEI Class		Longth (foot)
Flow Regime ¹	Modified Class I	Class I	Modified Class II	Class II	Modified Class III	Class III	Number of Streams	Length (feet) within ESB
Ephemeral	0	0	1	0	0	0	1	47
Intermittent	0	0	3	0	0	0	3	6,176
Perennial	0	0	0	0	0	0	0	0
Total	0	0	4	0	0	0	4	6,223

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

4.3 Ponds/Open Water

Three ponds totaling 0.46 acres were identified within the ESB and can be found on Figures 3-1 to 3-19. Detailed information for each delineated pond within the ESB is provided in Table 4-3. Representative photographs and more detailed information on pond conditions can be found in Appendix F.

TABLE 4-3: Delineated Pond Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation

Project-Alternate Route

Troject Afternate Route			
Pond ID	Location		Area (ac) within ESB
	Latitude	Longitude	Area (ac) within L3b
Pond DFS-01	41.58094	-83.94170	0.10
Pond DFS-02	41.56358	-84.03825	0.19
Pond DFS-03	41.56388	-84.03927	0.17
Total Pond Area (ac)			0.46

5 Conclusion

Jacobs conducted an environmental survey of the Alternate Route of the Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project in September, October, and December 2022. Two wetlands, seven streams, and two ponds were delineated within the environmental survey boundary. The two wetlands totaled 3.49 acres within the ESB and were identified as a PEM wetland and a PFO wetland. Both of the wetlands were Category 1 wetlands. No Category 2 or 3 wetlands were identified within the ESB.

The seven streams totaled 7,317 linear feet within the ESB and included one ephemeral stream, three intermittent streams, and three perennial streams. Three streams were assessed using the QHEI methodology (drainage area greater than 1 mi²) and four streams were assessed using the HHEI methodology (drainage area less than 1 mi²). Additionally, three ponds were identified totaling 0.46 acres within the ESB.

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

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

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

6 References

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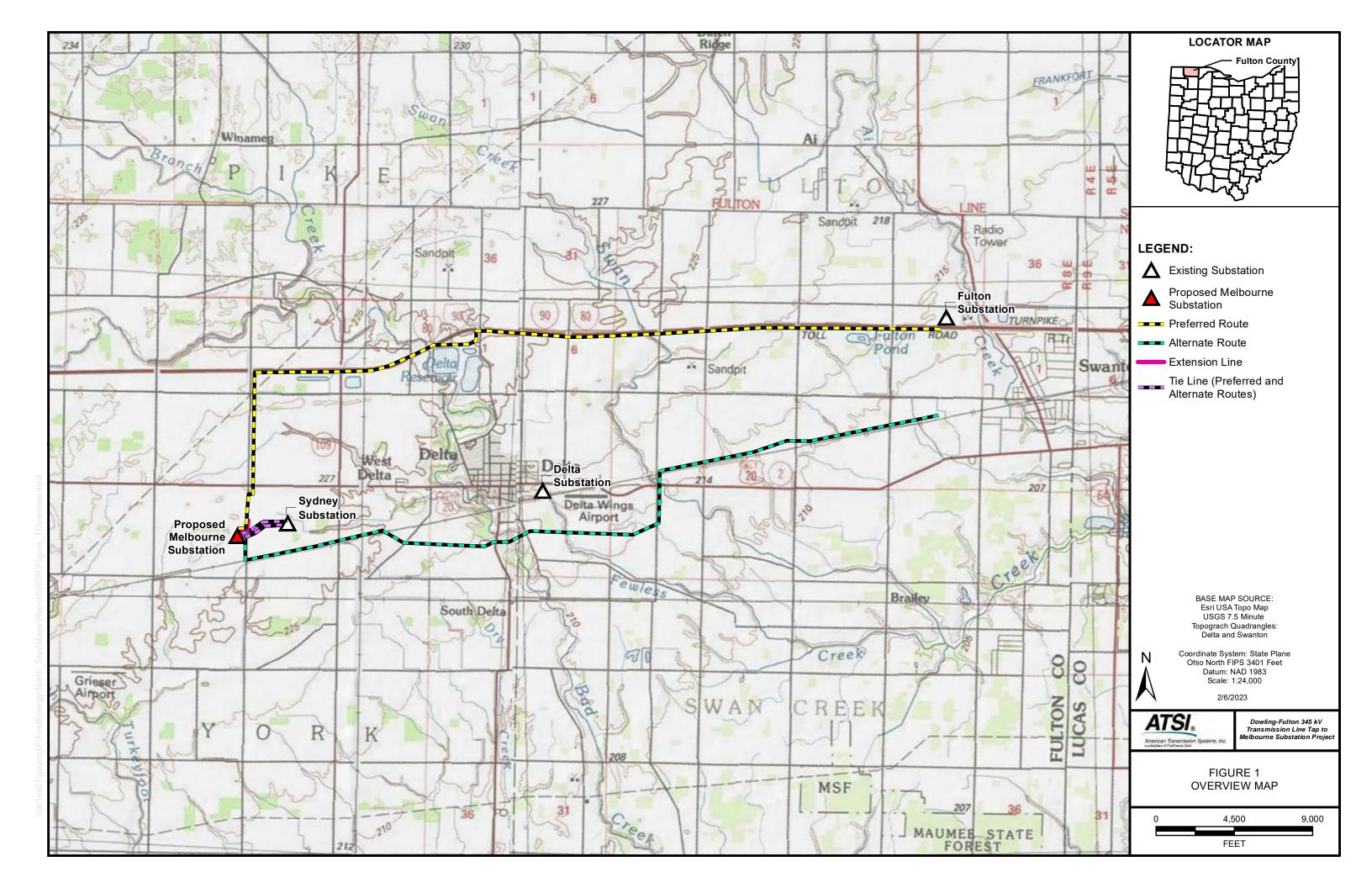
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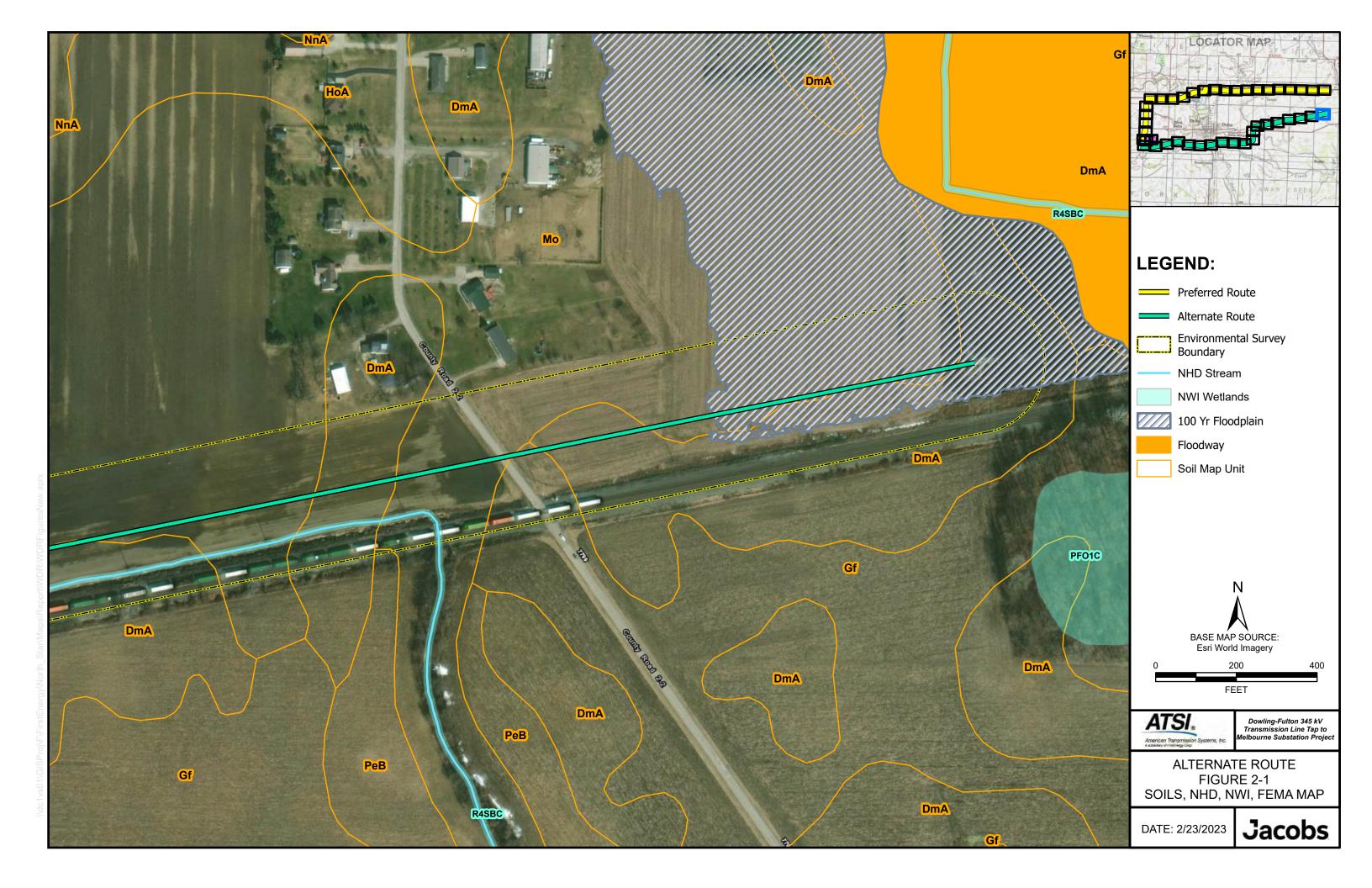
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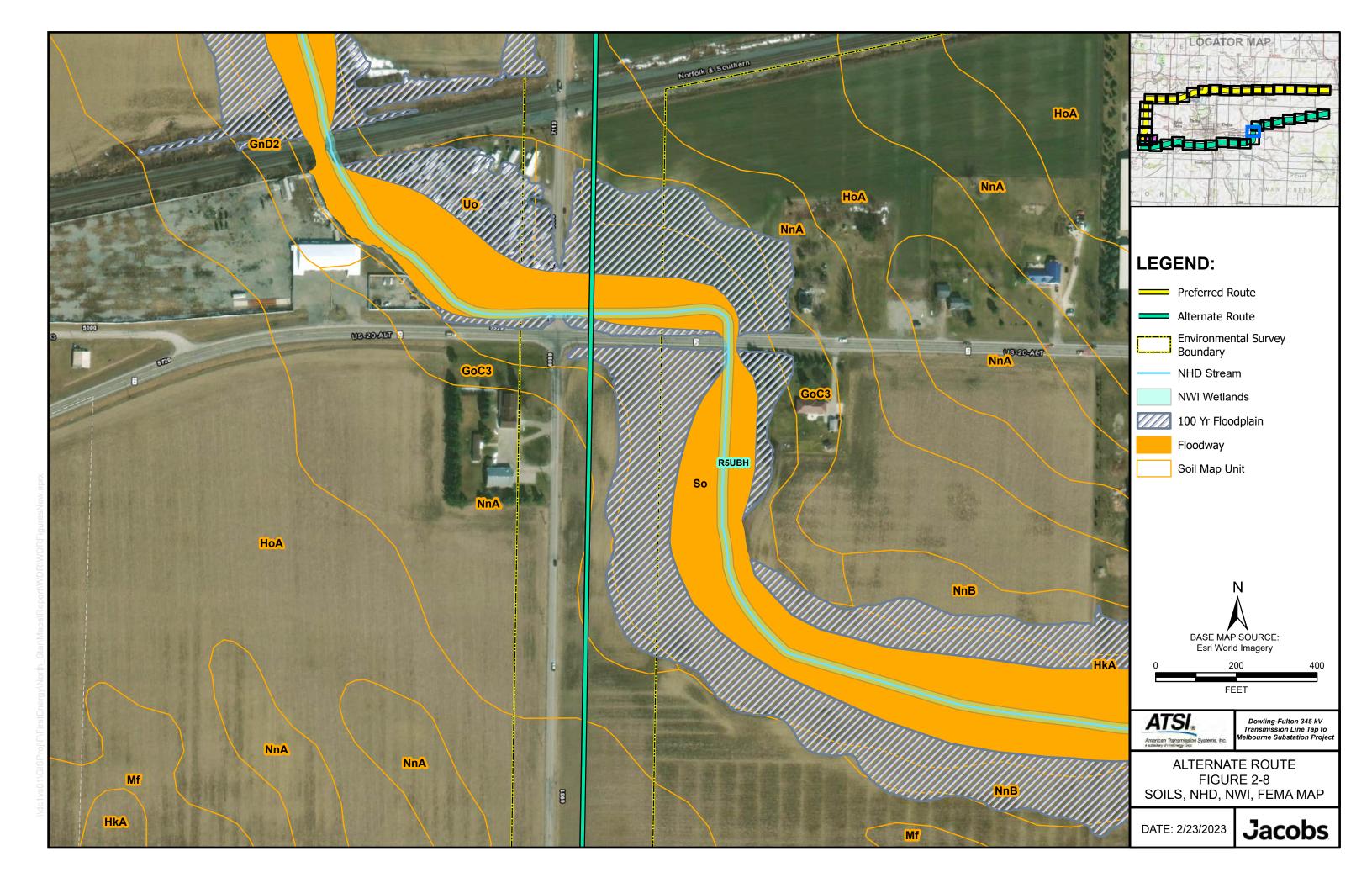




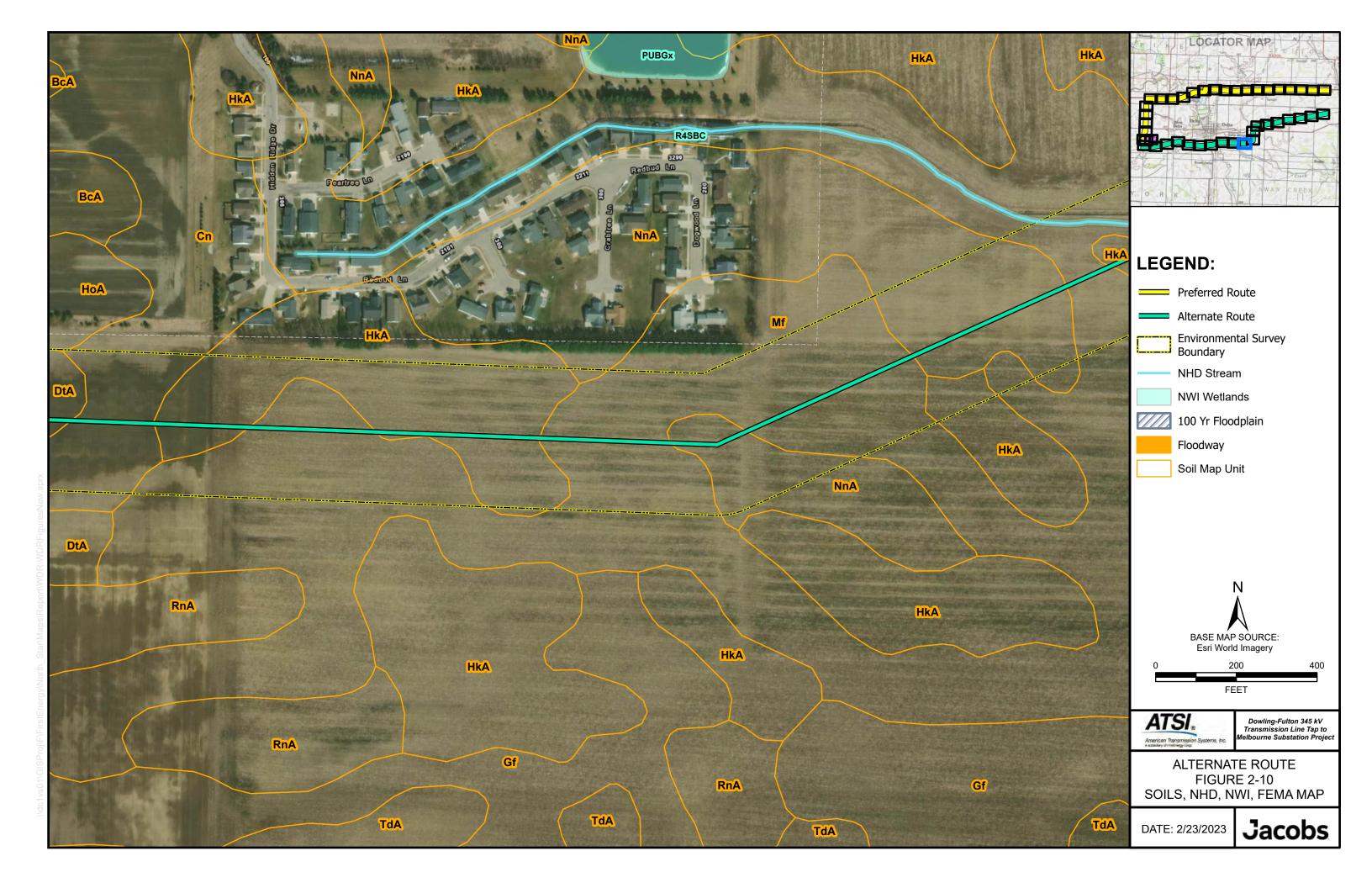


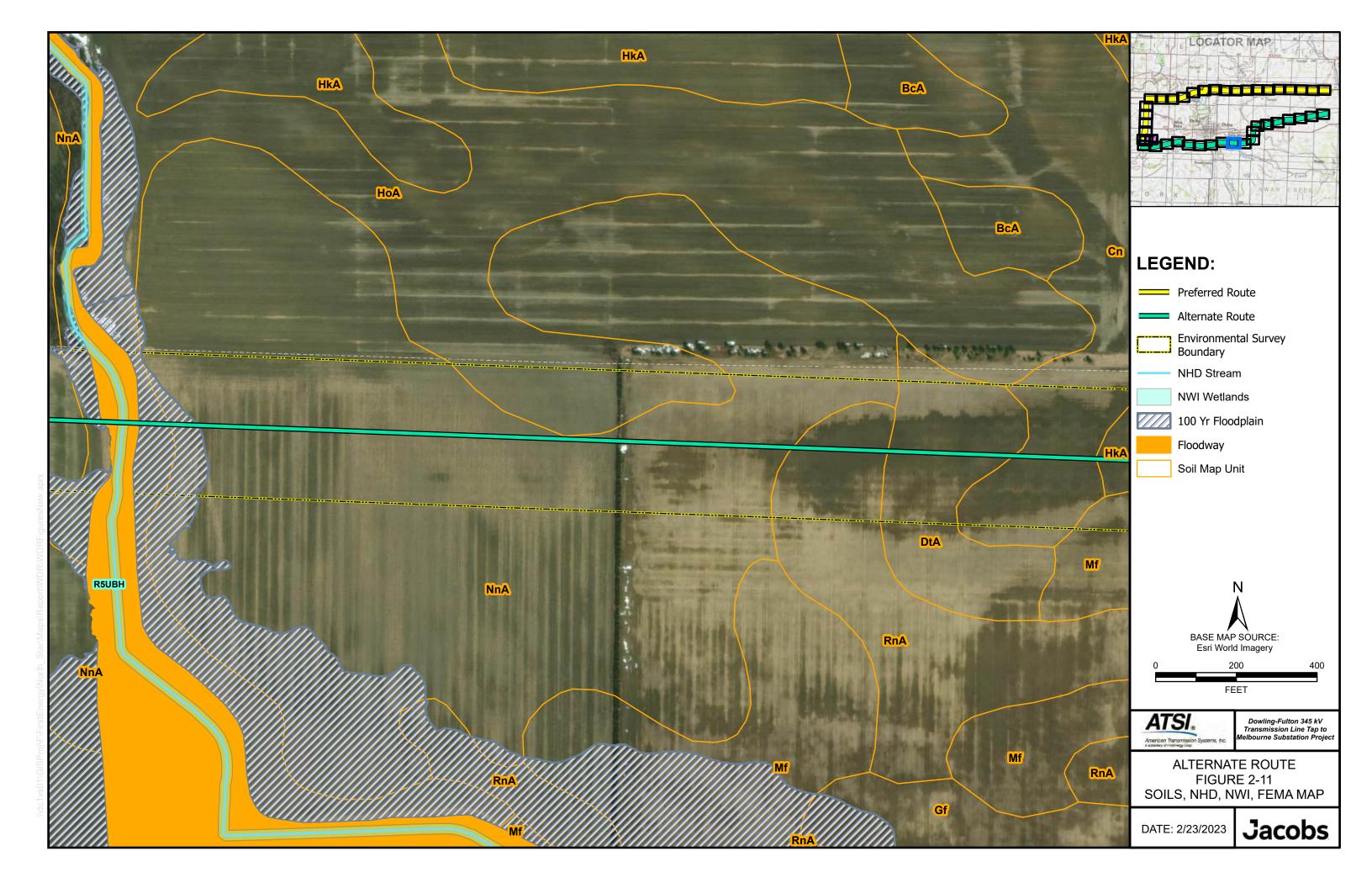


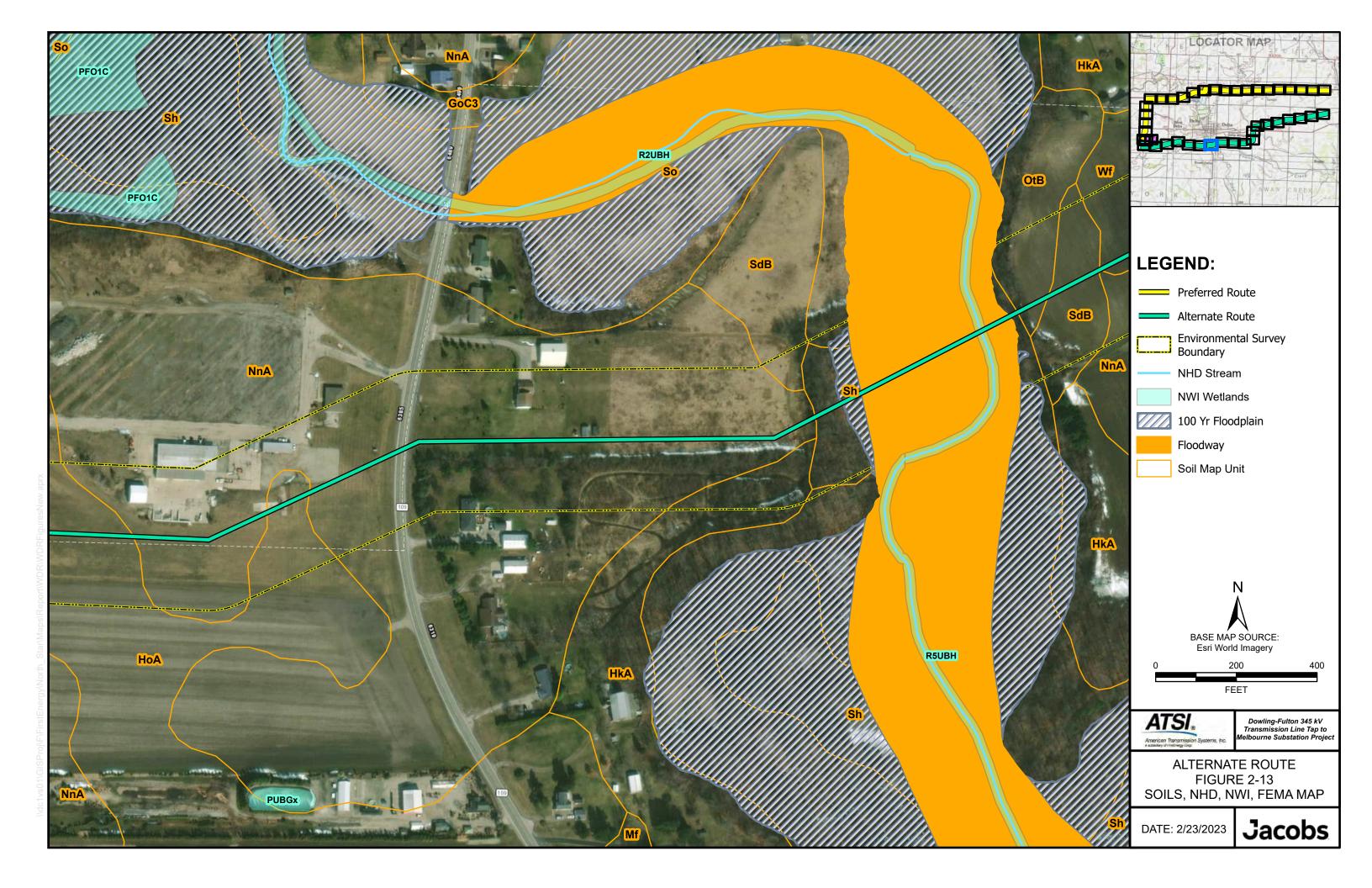


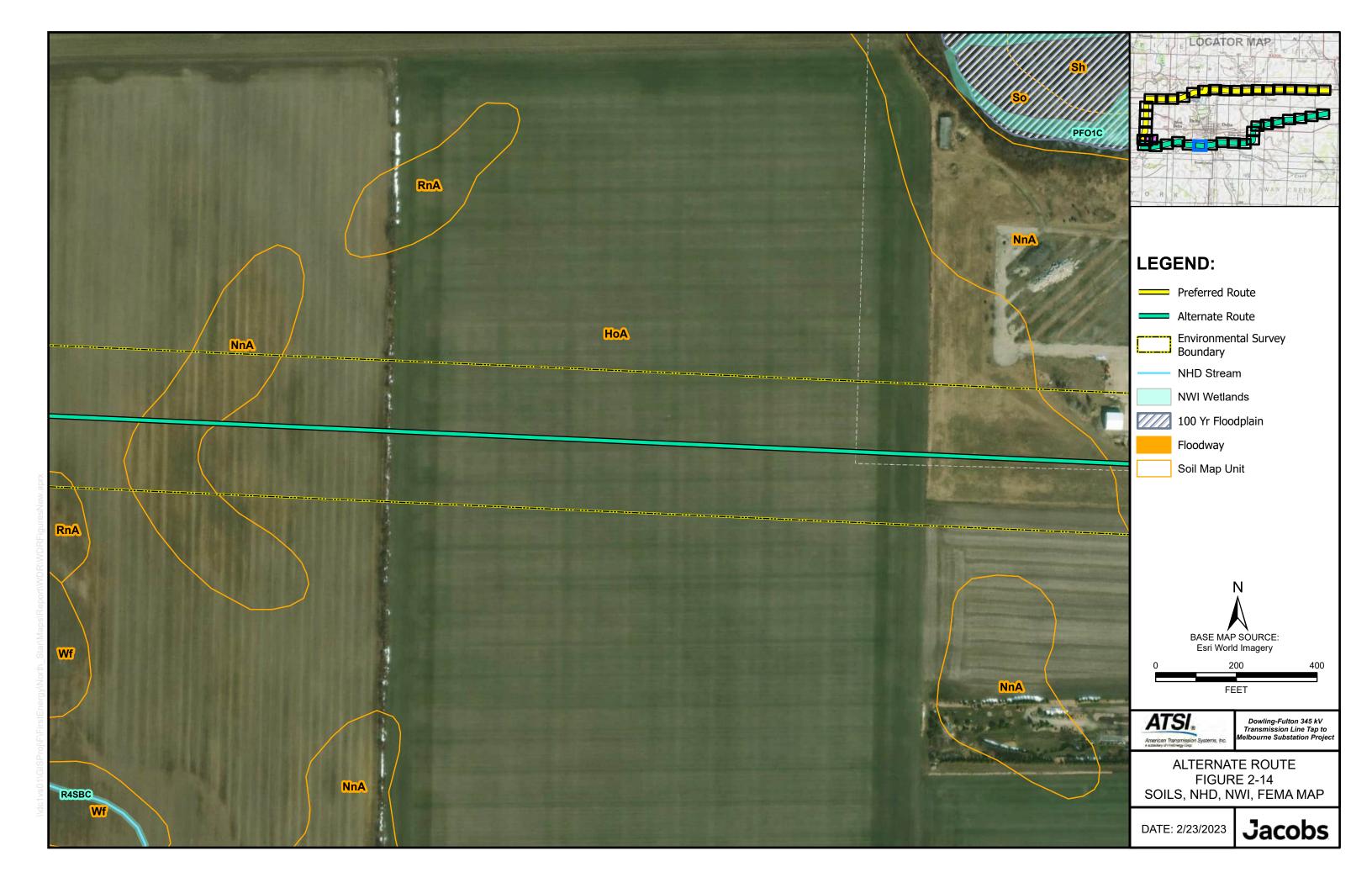








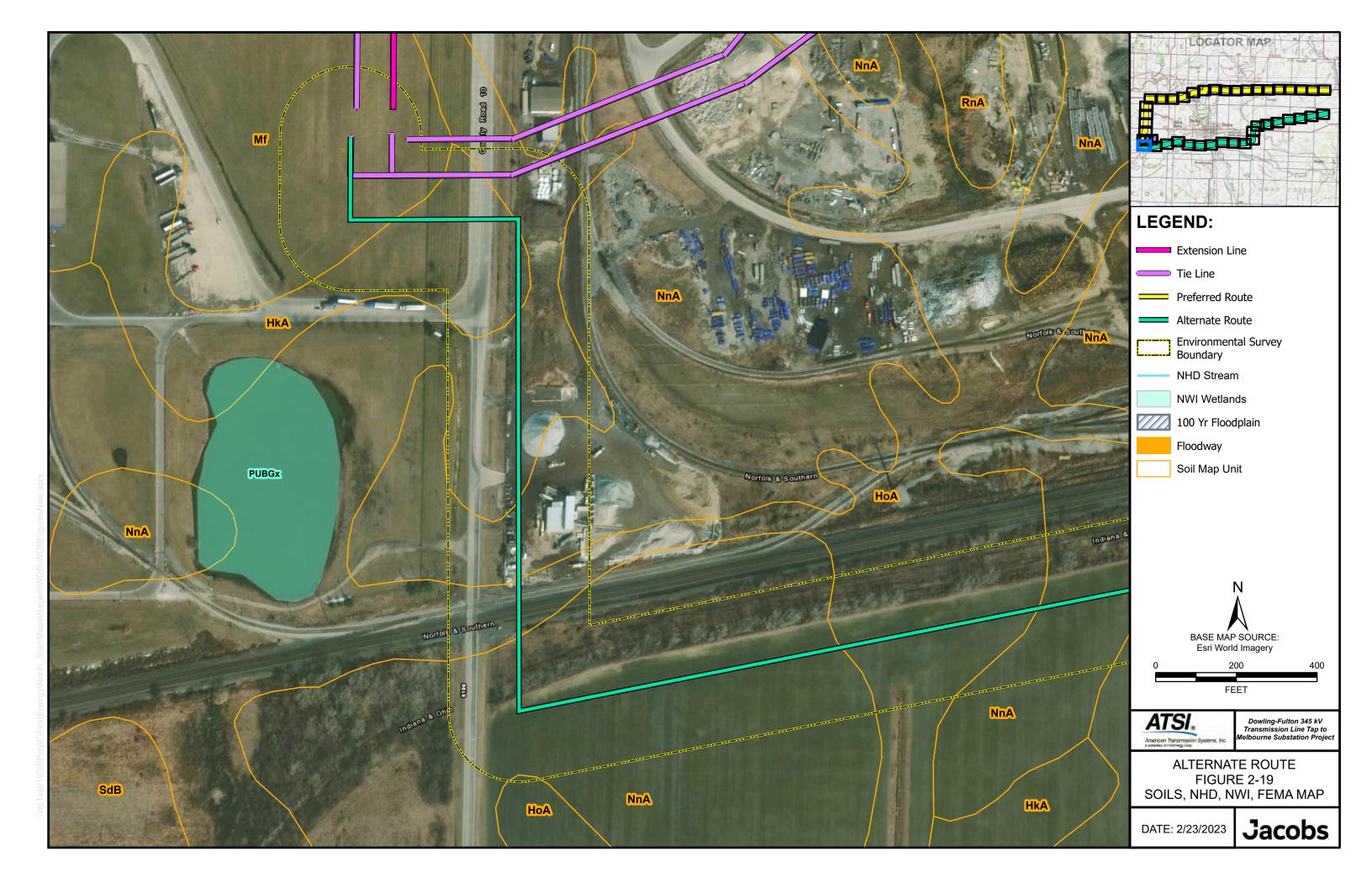


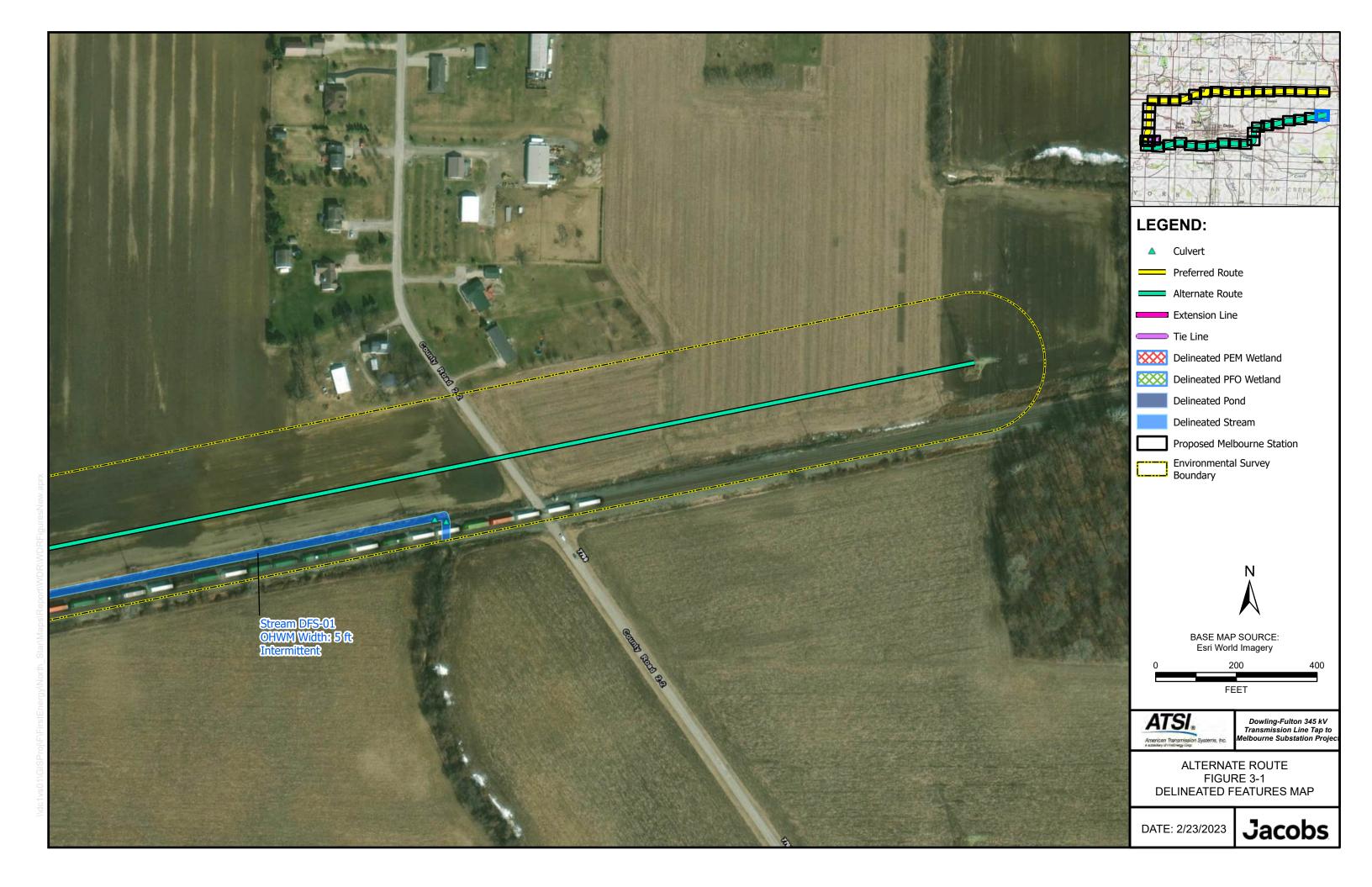


















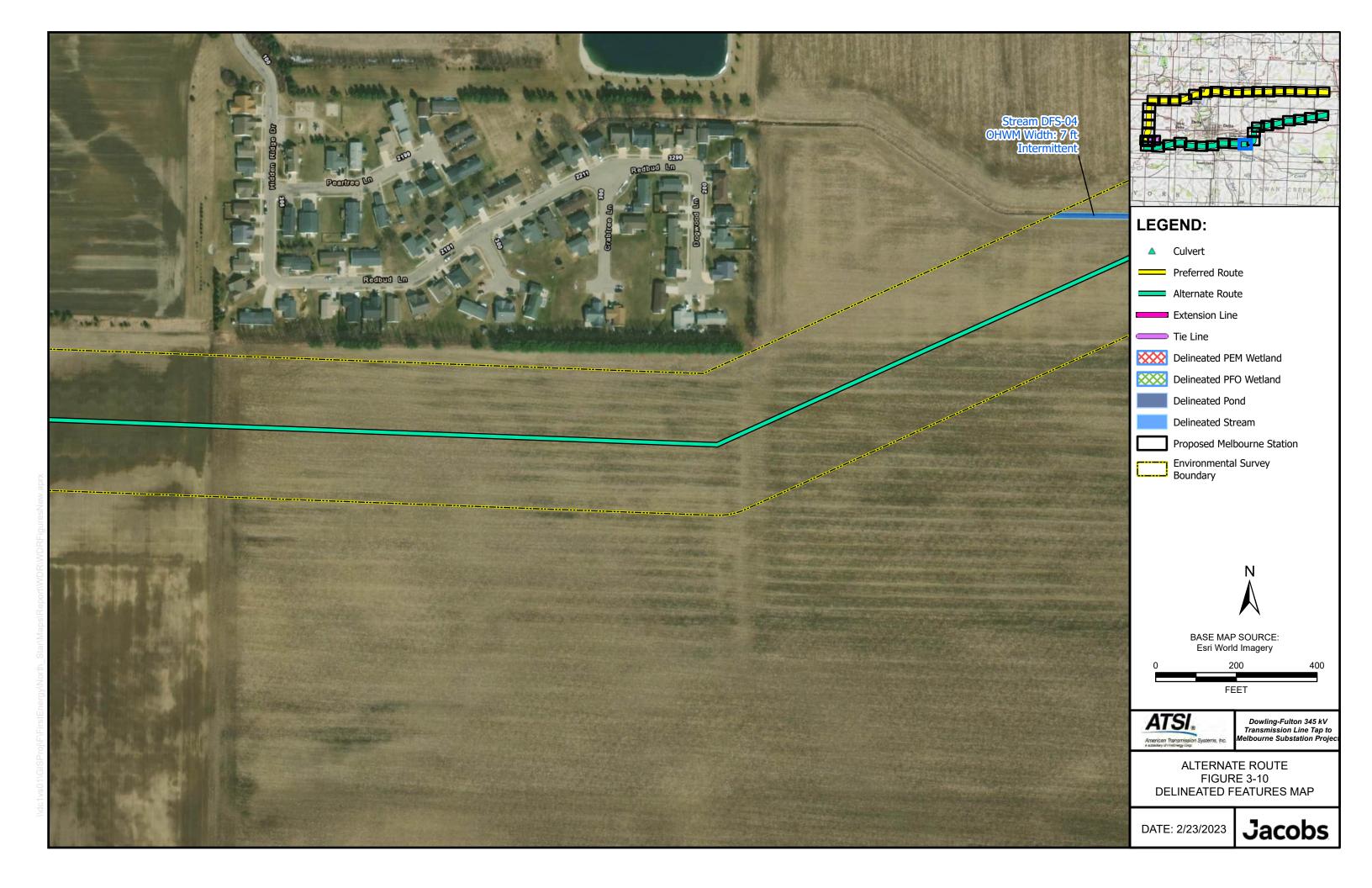








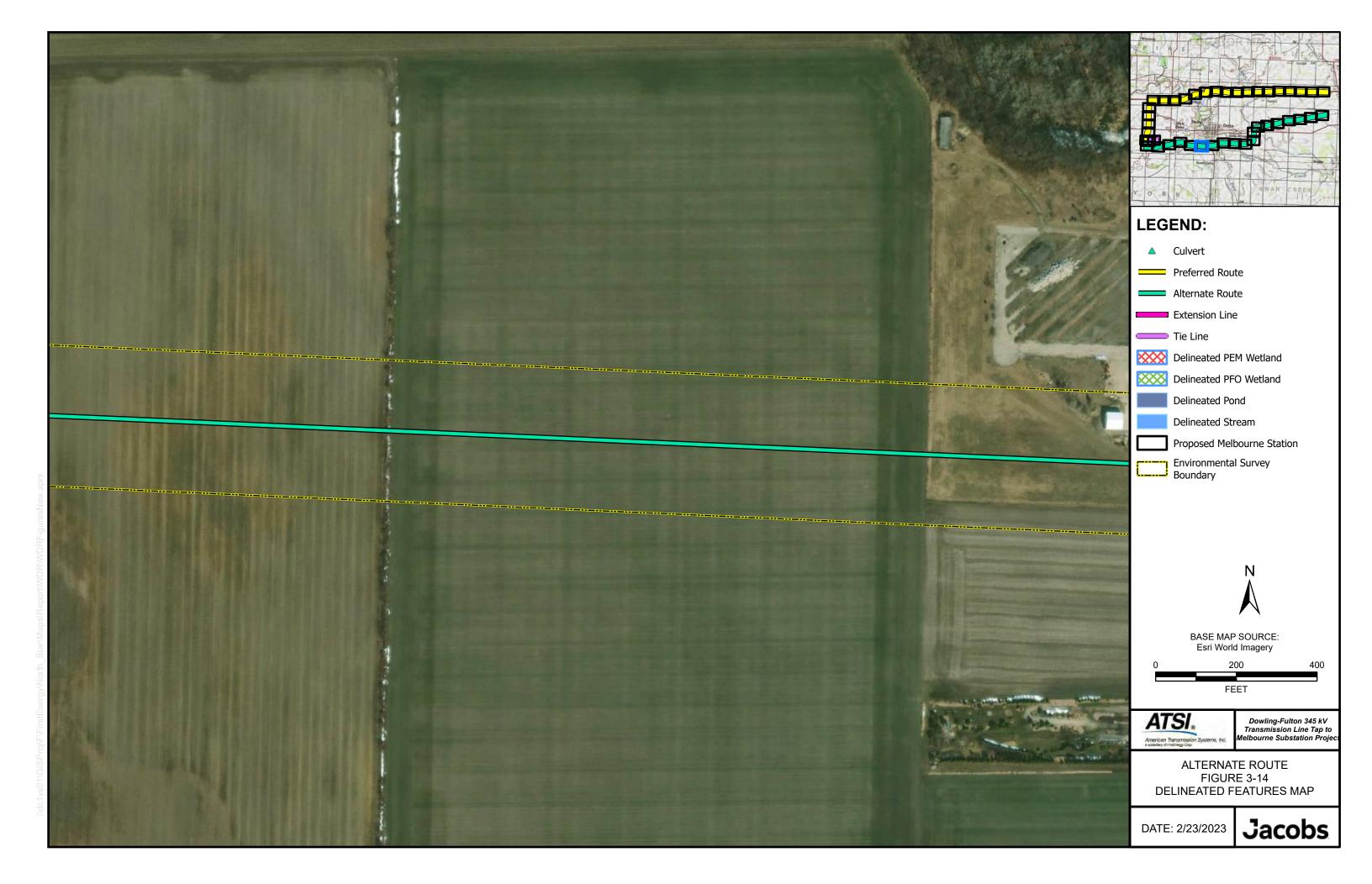






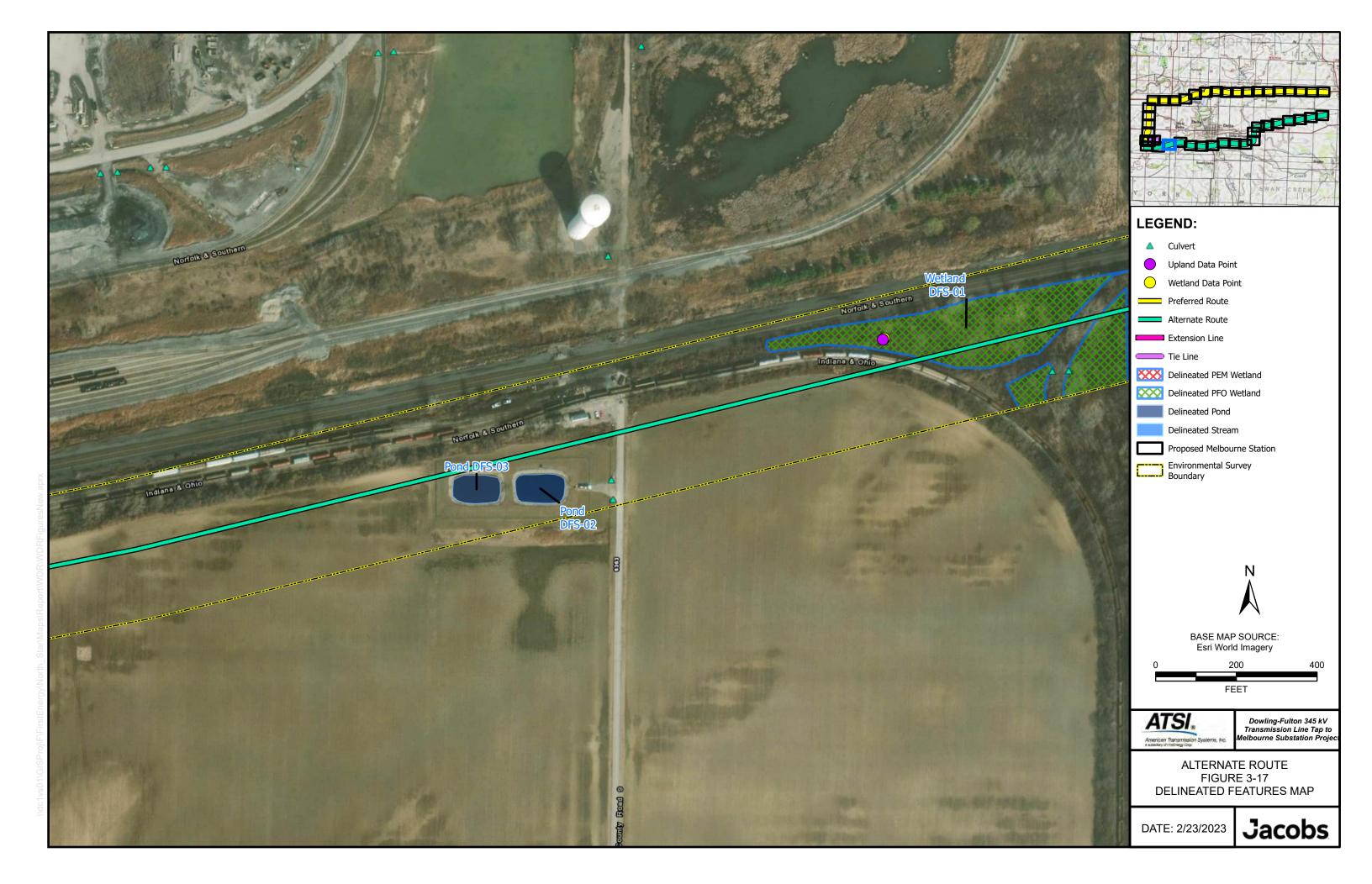




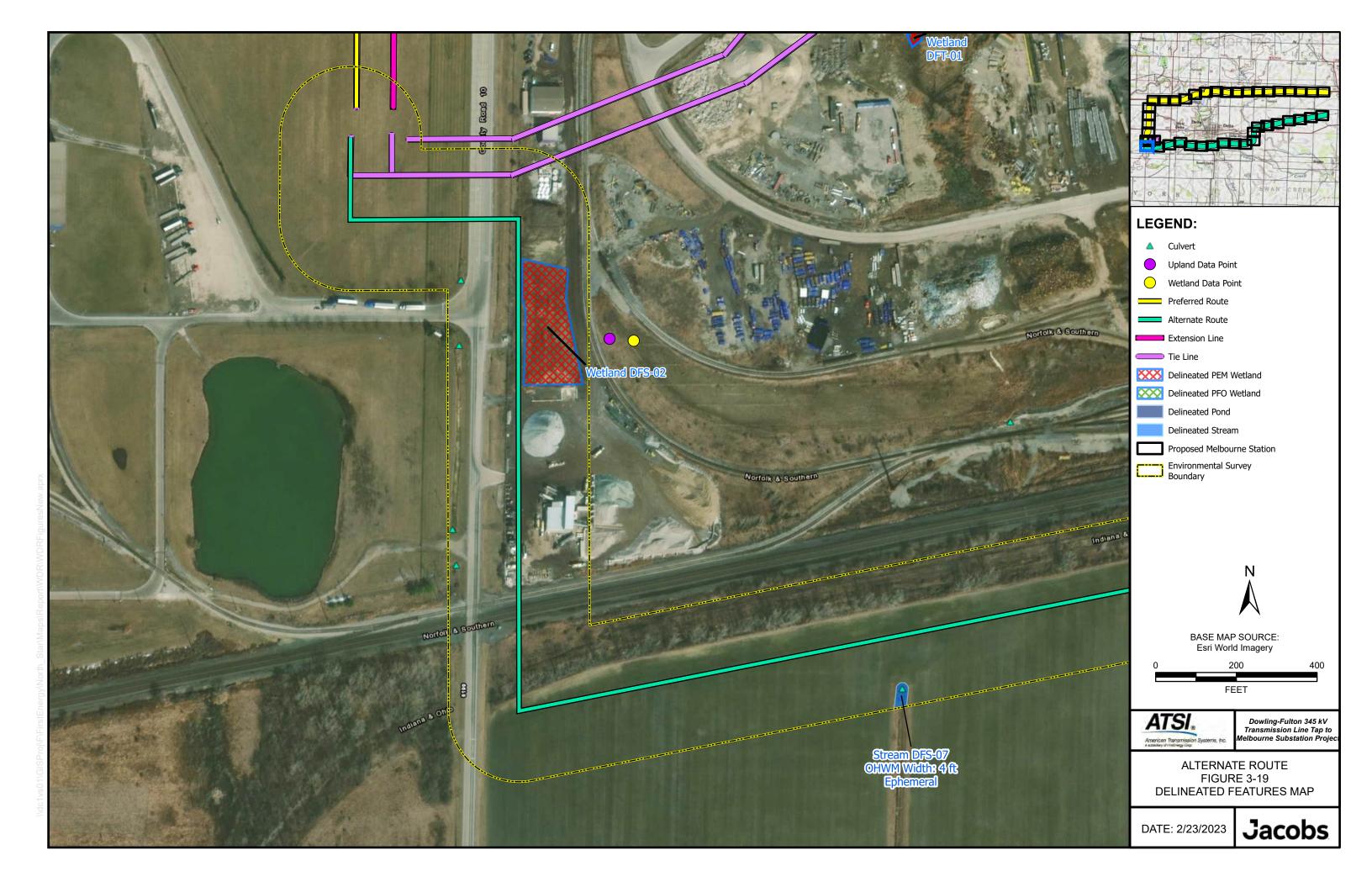














WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Dowling-Fulton 345 kV Transmission Line Tap to Melbo City/	County: Fulton County Sampling Date: 12/20/2022
Applicant/Owner: FirstEnergy	State: OH Sampling Point: Wetland DFS-01
Investigator(s): MJA Sect	tion, Township, Range: S 14 T 7N R 7E
Landform (hillslope, terrace, etc.): Lowland Local re	
Subregion (LRR or MLRA): LRR K Lat: 41.56484	
Soil Map Unit Name: Millgrove-Mermill (s6036)	NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly distu	
Are Vegetation, Soil, or Hydrology naturally problem	
SUMMARY OF FINDINGS – Attach site map showing sar	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No	Is the Sampled Area within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: Wetland DFS-01
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leav	es (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Oo	
	res on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduce	
Algal Mat or Crust (B4) Recent Iron Reducti	
Iron Deposits (B5) Thin Muck Surface (
Inundation Visible on Aerial Imagery (B7) Other (Explain in Re Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	- TAO-Noutal Test (DO)
Surface Water Present? Yes No _X _ Depth (inches):	
Water Table Present? Yes No _X Depth (inches):	
Saturation Present? Yes No _X Depth (inches):	Wetland Hydrology Present? Yes X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pr	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pr	evious inspections), il avaliable:
Remarks:	
Tomans.	

VEGETATION – Use scientific names of plants.

•	S.			Sampling Point: Wetland DFS-0		
Tree Stratum (Plot size:30)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:		
1. Ulmus americana	20	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:5 (A)		
Acer rubrum	15	Yes	FAC	(1)		
3				Total Number of Dominant Species Across All Strata: 5 (B)		
i				Percent of Dominant Species		
5			·	That Are OBL, FACW, or FAC: 100% (A/B		
S			·			
7.			·	Prevalence Index worksheet:		
		= Total Cov	/er	OBL species 85 x 1 = 85.0		
Sapling/Shrub Stratum (Plot size: 15)				FACW species80		
Acer rubrum	15	No	FAC	FAC species 10 x 3 = 30.0		
Cornus amomum		Yes	FACW	FACU species0 x 4 =0.0		
Salix nigra	30	Yes	OBL	UPL species x 5 =0.0		
				Column Totals:175 (A)275.0 (B)		
l		· ·	·	Prevalence Index = B/A = 1.57		
5				Hydrophytic Vegetation Indicators:		
5				1 - Rapid Test for Hydrophytic Vegetation		
7				X 2 - Dominance Test is >50%		
List Otation (Blatein	100	= Total Cov	er er	X 3 - Prevalence Index is ≤3.0¹		
Herb Stratum (Plot size: 5	5	No	FACW	4 - Morphological Adaptations (Provide supporting		
1. Eupatorium perfoliatum 2. Carex crinita		Yes	OBL	data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)		
<u> </u>						
3				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
4				Definitions of Vegetation Strata:		
5						
j			· ——	Tree – Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.		
7			· ——	Sapling/shrub – Woody plants less than 3 in. DBH		
3			· ——	and greater than or equal to 3.28 ft (1 m) tall.		
9			·	Herb – All herbaceous (non-woody) plants, regardless of		
10				size, and woody plants less than 3.28 ft tall.		
l1				Woody vines – All woody vines greater than 3.28 ft in		
12			·	height.		
22	60	= Total Cov	er er			
Noody Vine Stratum (Plot size: 30)						
I. Vitis riparia	10	Yes	FAC	Hydrophytic		
2			· ——	Vegetation		
3			· ——	Present? Yes X No		
4			·			
ł		= Total Cov				

SOIL Sampling Point: Wetland DFS-01

Profile Desc	ription: (Describe t	o the dept	th needed to docur	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix		Redo	x Features	<u> </u>	. 2		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0 - 16	10YR 3/2	97	7.5YR 4/6	3	С	M	Silty loam	
-								
-							-	
-								
	-							
-								
-								
								<u> </u>
-								
¹ Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location	: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indicators	for Problematic Hydric Soils ³ :
Histosol	(A1)		Polyvalue Belov	v Surface	(S8) (LRF	RR,	2 cm N	Muck (A10) (LRR K, L, MLRA 149B)
Histic Ep	pipedon (A2)		MLRA 149B))			Coast	Prairie Redox (A16) (LRR K, L, R)
Black Hi	stic (A3)		Thin Dark Surfa	ice (S9) (L	.RR R, ML	RA 149B) 5 cm N	Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		Loamy Mucky N			, L)		Surface (S7) (LRR K, L, M)
	I Layers (A5)		Loamy Gleyed I)			llue Below Surface (S8) (LRR K, L)
	l Below Dark Surface	(A11)	X Depleted Matrix					ark Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Su		_\			anganese Masses (F12) (LRR K, L, R)
	lucky Mineral (S1)		Depleted Dark S		7)			ont Floodplain Soils (F19) (MLRA 149B)
	leyed Matrix (S4)		Redox Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B)
-	edox (S5)							arent Material (F21)
	Matrix (S6)	L D A 440D	• •					Shallow Dark Surface (TF12)
Dark Sui	face (S7) (LRR R, M	LKA 1496	•)				Other ((Explain in Remarks)
³ Indicators of	hydrophytic vegetati	on and we	tland hydrology mus	t he nrese	nt unless	disturbed	or problematic	
	-ayer (if observed):	on and we	dand flydrology fflus	it be prese	int, unicoo	distarbed	Т	
	ayer (ii observeu).							
Type:	. I \						Usadala Osii	Date 2 2010 - Value - V
Depth (inc	cnes):						Hyaric Soil	Present? Yes <u>X</u> No
Remarks:								





Soil E





S W



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Dowling-Fulton 345 kV Transmission Line Tap to Melbo City/	/County: Fulton County	_ Sampling Date: 12/20/2022
Applicant/Owner: FirstEnergy	State: OH	Sampling Point: Upland DFS-01
Investigator(s): MJA Sec		
Landform (hillslope, terrace, etc.): Shoulder slope Local re		Slope (%): 5-10
Subregion (LRR or MLRA): LRR K Lat: 41.56483		
Soil Map Unit Name: Millgrove-Mermill (s6036)	NWI classif	ication: NA
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in	Remarks.)
Are Vegetation, SoilX, or Hydrology significantly distu	urbed? Are "Normal Circumstances"	present? Yes X No
Are Vegetation, Soil, or Hydrology naturally problem	matic? (If needed, explain any answ	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Yes X No Yes No X	Is the Sampled Area within a Wetland? Yes	
Wetland Hydrology Present? Yes No X Remarks: (Explain alternative procedures here or in a separate report.)	If yes, optional Wetland Site ID: Upland	DFS-01
HYDROLOGY		
Wetland Hydrology Indicators:		cators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface So	
Surface Water (A1) Water-Stained Leav		atterns (B10)
High Water Table (A2) Aquatic Fauna (B13		
Saturation (A3) Marl Deposits (B15)	-	n Water Table (C2)
Water Marks (B1) Hydrogen Sulfide O		,
Sediment Deposits (B2) Oxidized Rhizosphe Drift Deposits (B3) Presence of Reduce		Visible on Aerial Imagery (C9) Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Iron Reduct		c Position (D2)
Iron Deposits (B5) Thin Muck Surface	· / — ·	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Re		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutra	
Field Observations:		
Surface Water Present? Yes NoX _ Depth (inches):		
Water Table Present? Yes No _X _ Depth (inches):		
Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe)	Wetland Hydrology Prese	ent? Yes No _X
Describe Recorded Data (stream gauge, monitoring well, aerial photos, processes and processes are processes as a second processes are processed as a second processes are processes as a second processes are processed as a second processes are processes as a second processes are proc	revious inspections), if available:	
Remarks:		

VEGETATION – Use scientific names of plants.

			Sampling Point: Upland DFS-0		
Absolute			Dominance Test worksheet:		
10	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)		
			Total Number of Dominant Species Across All Strata: 6 (B)		
			Percent of Dominant Species		
			That Are OBL, FACW, or FAC:60% (A/B)		
			Prevalence Index worksheet:		
			Total % Cover of: Multiply by:		
10	= Total Cov	er	OBL species x 1 =		
			FACW species 20 $x = 40$		
10	Yes	FAC	X 3 =		
20	Yes	FACW	raco species x 4 =		
			UPL species x 5 = Column Totals: 140 (A) 455 (B)		
			Column Totals:140 (A)455 (B)		
			Prevalence Index = B/A = 3.25		
			Hydrophytic Vegetation Indicators:		
			1 - Rapid Test for Hydrophytic Vegetation		
	= Total Cov	er	X 2 - Dominance Test is >50%		
	10101 001	OI .	3 - Prevalence Index is ≤3.0 ¹		
45	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
30	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)		
5	No	FACU	¹ Indicators of hydric soil and wetland hydrology must		
20	Yes	FACU	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		
	= Total Cov	er	height.		
			Hydrophytic Vegetation		
	-		Present? Yes^ No		
			Present? TesNo		
		% Cover Species? 10 Yes 10 = Total Cov 10 Yes 20 Yes 30 = Total Cov 45 Yes 30 Yes 5 No 20 Yes	% Cover Species? Status 10 Yes FAC 10 = Total Cover 10 Yes FAC 20 Yes FACW 30 = Total Cover 45 Yes FAC 30 Yes FACU 5 No FACU 20 Yes FACU		

SOIL Sampling Point: Upland DFS-01

Profile Desc	ription: (Describe t	o the depth	needed to docum	nent the i	ndicator o	r confirm	the absence	of indicators.)
Depth	Matrix			x Features	<u>.</u>	•		
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 16	10YR 3/3	100					Sandy loam	
_								
-								
-								
-					·			
-								
¹ Type: C=Co	ncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ins.	² Location	n: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indicators	for Problematic Hydric Soils ³ :
Histosol	(A1)	_	Polyvalue Belov	w Surface	(S8) (LRR	R,	2 cm I	Muck (A10) (LRR K, L, MLRA 149B)
Histic Ep	ipedon (A2)		MLRA 149B))			Coast	Prairie Redox (A16) (LRR K, L, R)
Black His	stic (A3)	_	Thin Dark Surfa	ice (S9) (L	RR R, ML	RA 149B)	5 cm l	Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)	_	Loamy Mucky N			L)		Surface (S7) (LRR K, L, M)
	Layers (A5)	_	Loamy Gleyed I)		-	alue Below Surface (S8) (LRR K, L)
	Below Dark Surface	(A11) _	Depleted Matrix					Dark Surface (S9) (LRR K, L)
	rk Surface (A12)	_	Redox Dark Su	, ,				Manganese Masses (F12) (LRR K, L, R)
	ucky Mineral (S1)	_	Depleted Dark \$		7)			nont Floodplain Soils (F19) (MLRA 149B)
-	leyed Matrix (S4)	_	Redox Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B)
	edox (S5)							Parent Material (F21)
	Matrix (S6)	L D A 440D)						Shallow Dark Surface (TF12)
Dark Sur	face (S7) (LRR R, M	LRA 149B)					Other	(Explain in Remarks)
³ Indicators of	hydrophytic vegetati	on and wetl	and hydrology mus	t ha nraca	nt unless	disturbed	or problemati	6
	ayer (if observed):	on and well	and flydrology mus	it be blese	iii, uiiiess	uistuibeu	l probleman	C.
	ayer (ii observeu).							
Type:							l	
	hes):						Hydric Soi	I Present? Yes No _X
Remarks:								





Soil E

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Dowling-Fulton 3	45 kV Transmissior	Line Tap to Melbo City/C	county: Fulton County		Sampling Date: 09/07/2022
Applicant/Owner: FirstEnergy		,			Sampling Point: Wetland DFS-02
• • • • • • • • • • • • • • • • • • • •		Section			_
Landform (hillslope, terrace, et					Slone (%): 2
Subregion (LRR or MLRA): LF	s.). <u> </u>	1 at. 41.56349	84	.05551	Glope (70)
Soil Map Unit Name: Nappane					
Are climatic / hydrologic condit	ions on the site typi	cal for this time of year? Y	'es X No	(If no, explain in Re	emarks.)
Are Vegetation, Soil	, or Hydrology	significantly distur	bed? Are "Norma	al Circumstances" pi	resent? Yes X No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? (If needed,	explain any answer	s in Remarks.)
SUMMARY OF FINDING	GS – Attach si	te map showing san	npling point locati	ons, transects,	important features, etc.
Hydrophytic Vegetation Prese	ent? Yes	X No	Is the Sampled Area		
		X No	within a Wetland?	YesX	No
Wetland Hydrology Present?		X No	If yes, optional Wetlan	d Site ID: Wetland I	DFS-02
Remarks: (Explain alternative			n you, optional trotain	<u> </u>	
Lowland area between railroa active earthwork	d tracks. Mulitple w	etland areas connected via	a culverts under the RR	tracks. Western po	rtion of wetland disturbed by
HYDROLOGY					
Wetland Hydrology Indicate	ors:			Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum	of one is required;	check all that apply)		X Surface Soil 0	Cracks (B6)
Surface Water (A1)		Water-Stained Leave	s (B9)	Drainage Pat	terns (B10)
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lir	
X Saturation (A3)		Marl Deposits (B15)		Dry-Season V	Vater Table (C2)
Water Marks (B1)		Hydrogen Sulfide Od		Crayfish Burre	
Sediment Deposits (B2)		Oxidized Rhizosphere	• , ,		sible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			ressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reductio		X Geomorphic F	` '
Iron Deposits (B5)	-: (DZ)	Thin Muck Surface (C	·	Shallow Aquit	
Inundation Visible on Aer		Other (Explain in Rer	narks)	Microtopograp	
Sparsely Vegetated Con-	zave Surface (Bo)			X FAC-Neutral	Test (D5)
Surface Water Present?	Van Na	Y Donth (inches)			
		X Depth (inches): X Depth (inches):			
Water Table Present? Saturation Present?		Depth (inches):	11 Wetland	Uvdvolomy Dvocom	NO VON V NO
(includes capillary fringe)				Hydrology Present	? Yes <u>X</u> No
Describe Recorded Data (stre	∍am gauge, monitor	ring well, aerial photos, pre	vious inspections), if av	ailable:	
Remarks:					
saturation and multiple second	darv hvdrologv indic	cators present. Primary so	urce of hydrology is pre	cipatation.	
· ·	, , 0,	,	,	•	

VEGETATION – Use scientific names of plants.

2 Total Number of Dominant Species Across All Strata: (4 Percent of Dominant Species	A) 3) A/B)
3	,
3	,
4.	₩B)
5	∜B)
6 Prevalence Index worksheet:	
Total % Cover of: Multiply by:	
= Total Cover ORI species 50 v 1 = 50.0	
Sapling/Shrub Stratum (Plot size: 15) FAC appeies 30 x 2 = 90.0	
1 FAC species x 3 = 90.0	
2 UPL species x 4 = UPL species x 5 =0.0	
3	(B)
4	(5)
5 Prevalence Index = B/A = 1.83	
6 Hydrophytic Vegetation Indicators:	
7 1 - Rapid Test for Hydrophytic Vegetation	
= Total Cover	
Herb Stratum (Plot size:5)	
1. Typha X glauca 50 Yes OBL 4 - Morphological Adaptations 1 (Provide suppodata in Remarks or on a separate sheet)	rting
2. Echinochloa crus-galli 30 Yes FAC Problematic Hydrophytic Vegetation¹ (Explain)	
3. Phragmites australis 20 No FACW Indicators of hydric soil and wetland hydrology mu	st
4. Juncus torreyi 15 No FACW be present, unless disturbed or problematic.	,
5. Definitions of Vegetation Strata:	
<u> </u>	-4
6 Tree – Woody plants 3 in. (7.6 cm) or more in diam at breast height (DBH), regardless of height.	etei
7. Sapling/shrub – Woody plants less than 3 in. DBH	ı
and greater than or equal to 3.28 ft (1 m) tall.	
9. Herb – All herbaceous (non-woody) plants, regardless of	f
10 size, and woody plants less than 3.28 ft tall.	
11 Woody vines – All woody vines greater than 3.28 ft in	
12 height.	
= Total Cover	
Woody Vine Stratum (Plot size:)	
1	
2. Hydrophytic Vegetation	
3 Yegetation Present? Yes X No	
4.	
= Total Cover	
Remarks: (Include photo numbers here or on a separate sheet.)	
hydrophytic vegetation present as dominance test is greather than 50% and PI is less than 3	

Sampling Point: Wetland DFS-02

SOIL Sampling Point: Wetland DFS-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth	Matrix			K Features	<u>s</u> ,	2					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>		Rem	arks	<u>.</u>
0 - 18	10YR 4/2	80	10YR 4/6	20	С	M	Sandy clay				
							·				,
							·				
-											
							·				
_											·
							·				
-											
-											
-						-	· ——				-
											_
-											
							· 				
											_
-											
1			- Dadwaad Matrix MC				21 4:	. DI -D	1 i.u.i.u. u. N	1-11-4-	·
Hydric Soil I		etion, Rivi	Reduced Matrix, MS	=iviasked	Sand Gra	ains.	Indicators	: PL=Pore			
•			Daharaha Daha	06	(00) (I DE					-	
Histosol			Polyvalue Below		(58) (LRF	KΚ,		luck (A10)			
	ipedon (A2)		MLRA 149B)		DD D MI	DA 440B		Prairie Red			
Black His	n Sulfide (A4)		Thin Dark Surfa Loamy Mucky M					fucky Feat furface (S7)			RR K, L, R)
	Layers (A5)		Loamy Gleyed N			, ∟)		lue Below S		-	
	Below Dark Surface	(Δ11)	X Depleted Matrix		,			ark Surface			
	rk Surface (A12)	(Д11)	Redox Dark Sur								
	ucky Mineral (S1)		Depleted Dark S		7)		Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)				
	leyed Matrix (S4)		Redox Depressi		')		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
	edox (S5)			(. 0)				arent Mater			., , ,
-	Matrix (S6)							hallow Darl			2)
	face (S7) (LRR R, M	LRA 149E	3)					Explain in I			-/
	(, (,		-,					(.,	
³ Indicators of	hydrophytic vegetati	on and we	tland hydrology mus	t be prese	ent, unless	disturbed	l or problemation).			
	ayer (if observed):		, 0,				1				
Type:	• , ,										
Depth (inc	hos):						Hydric Soil	Drosont?	Vos	X	No
	1165)						Hydric 30ii	rieseiit:	162	<u> </u>	140
Remarks:											
hydric soil ind	icator present as dep	oleted mat	rix								





Ε





W



Soil

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Dowling-Fulton 345 kV Transmission	n Line Tap to Melbo City/County: F	ulton County	Sampling Date: 09/07/2022
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: Upland DFS-02
Investigator(s): JBL			
Landform (hillslope, terrace, etc.): Hillside	Local relief (conca	ve, convex, none):	Slope (%):
Subregion (LRR or MLRA): LRR K	Lat: 41.56350	Long: -84.05573	Datum: NAD 83
Soil Map Unit Name: Nappanee-Hoytville (s6028	3)	NWI class	ification: NA
Are climatic / hydrologic conditions on the site typ	ical for this time of year? Yes X	_ No (If no, explain ir	n Remarks.)
Are Vegetation, Soil, or Hydrology			s" present? Yes X No
Are Vegetation, Soil, or Hydrology		(If needed, explain any ans	
SUMMARY OF FINDINGS – Attach si	te map showing sampling p	ooint locations, transec	ts, important features, etc.
Hydric Soil Present? Yes _	No X within a	ampled Area a Wetland? Yes ptional Wetland Site ID: Upland	
Remarks: (Explain alternative procedures here	No^ If yes, o	ptional Wetland Site ID:	
LIVEROLOGY.			
HYDROLOGY			
Wetland Hydrology Indicators:			icators (minimum of two required)
Primary Indicators (minimum of one is required;			oil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)		Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)		Lines (B16)
Saturation (A3)	Marl Deposits (B15)		on Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)Oxidized Rhizospheres on Livi		Surrows (C8)
Sediment Deposits (B2) Drift Deposits (B3)	Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4		Visible on Aerial Imagery (C9) Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled		nic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	• • • • •	quitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		graphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Calor (Explain in Nomano)		ral Test (D5)
Field Observations:			14. 166. (56)
	X Depth (inches):		
	X Depth (inches):		
	X Depth (inches):	Wetland Hydrology Pres	sent? Yes No _X
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, previous insp	pections), if available:	
Domestic			
Remarks: None			
None			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:		
1				Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)		
2				Total Number of Dominant		
3				Species Across All Strata: 2 (B)		
4				Percent of Dominant Species		
5				That Are OBL, FACW, or FAC:0% (A/B)		
6				Barrelon - Indonesia la de		
7				Prevalence Index worksheet:		
		= Total Cov		Total % Cover of: OBL species 0 x 1 = 0.0		
Cardinar/Charle Charters (Diatains 15		_ = 10tal C0V	CI	FACW species 10 x 2 = 20.0		
Sapling/Shrub Stratum (Plot size: 15)				FAC species 0 x 3 =0.0		
1				FACU species 90 x 4 = 360.0		
2				UPL species0 x 5 =0.0		
3			·	Column Totals: 100 (A) 380.0 (B)		
4				Prevalence Index = R/A = 3.80		
5				Prevalence Index = B/A = 3.80		
6		· -		Hydrophytic Vegetation Indicators:		
7				1 - Rapid Test for Hydrophytic Vegetation		
		_ = Total Cov	er	2 - Dominance Test is >50%		
Herb Stratum (Plot size:5				3 - Prevalence Index is ≤3.0 ¹		
1. Solidago altissima	45	Yes	FACU	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)		
2. Dipsacus laciniatus	45	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)		
3Eupatorium perfoliatum	10	No	FACW	¹ Indicators of hydric soil and wetland hydrology must		
4				be present, unless disturbed or problematic.		
5				Definitions of Vegetation Strata:		
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter		
7				at breast height (DBH), regardless of height.		
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
9		· -				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
11				Woody vines – All woody vines greater than 3.28 ft in		
12		· -		height.		
	100	_ = Total Cov	er			
Woody Vine Stratum (Plot size:)						
1						
2				Hydrophytic		
3				Vegetation Present? Yes No X		
4						
		_ = Total Cov	er			
Remarks: (Include photo numbers here or on a separate	sheet.)					
hydrophytic vegetation indicators not present						

Sampling Point: Upland DFS-02

SOIL Sampling Point: Upland DFS-02

Profile Desc	ription: (Describe t	o the dep				or confirn	n the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Features %	Type ¹	Loc ²	Texture	Remarks
0 - 17	10YR 3/3	99	10YR 4/4	1	С	M	Sandy loam	Remarks
0 17	10113/3		101K 4/4			IVI	Sandy loann	
-								
-								
-								
-								
Type: C=Co	ncentration, D=Depl	etion, RM	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
Histosol			Polyvalue Below	v Surface	(S8) (I R F	2 R		fuck (A10) (LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149B)		(00) (LI (I	· iv,		Prairie Redox (A16) (LRR K, L, R)
Black His			Thin Dark Surfa					flucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4) l Layers (A5)		Loamy Mucky N Loamy Gleyed I			, L)		turface (S7) (LRR K, L, M) lue Below Surface (S8) (LRR K, L)
	l Layers (A5) I Below Dark Surface	(A11)	Depleted Matrix		,		-	ark Surface (S9) (LRR K, L)
	rk Surface (A12)	,	Redox Dark Sui					anganese Masses (F12) (LRR K, L, R)
	lucky Mineral (S1)		Depleted Dark S		7)			ont Floodplain Soils (F19) (MLRA 149B)
	leyed Matrix (S4) edox (S5)		Redox Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B) arent Material (F21)
-	Matrix (S6)							hallow Dark Surface (TF12)
	face (S7) (LRR R, M	LRA 149E	3)					(Explain in Remarks)
31,				4 h		المام الم		
	hydrophytic vegetati ayer (if observed):	on and we	etiand nydrology mus	t be prese	nt, uniess	alsturbed	or problematic).
Type:	, (0.000. 100.).							
• • • • • • • • • • • • • • • • • • • •	ches):						Hydric Soil	Present? Yes No _X
Remarks:	,							<u> </u>
no hydric soil	indicators observed							











Site: Wetland DFS-01		DFS-01	Rater(s): MJA	Date: 12/20/2022
3.0	3.0	Metri	c 1. Wetland Area (size).	
max 6 pts.	subtotal		e size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)	
2.0	5.0	 Metri	c 2. Upland buffers and surrounding land	d use.
max 14 pts.	subtotal	2a. Calc	ulate average buffer width. Select only one and assign score. Do not double WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perim NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (9) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (9) sity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. LOW. Old field (>10 years), shrubland, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	check. neter (4) rimeter (1) 0) (7) e, new fallow field. (3)
6.5	11.5	Metri	c 3. Hydrology.	
max 30 pts.	subtotal	3a. Sour	ces of Water. Score all that apply. High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) mum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) <	Score all that apply. ar floodplain (1) be stream/lake and other human use (1) wetland/upland (e.g. forest), complex (1) riparian or upland corridor (1) Idation/saturation. Score one or dbl check. to permanently inundated/saturated (4) arly inundated/saturated (3) nally inundated (2) nally saturated in upper 30cm (12in) (1)
[T		х	Recovering (3) Recent or no recovery (1) tile dike weir stormwater input filling/g dike x road be dredgir stormwater input other_	ource (nonstormwater) grading ed/RR track ng
11.0	22.5	Metr	ic 4. Habitat Alteration and Development.	
max 20 pts.	subtotal	x	trate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) at development. Select only one and assign score. Excellent (7)	
		x 4c. Habit	Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) at alteration. Score one or double check and average.	
0.0	22.5	х	Recovering (3) Recent or no recovery (1) Recent or no recovery (1) grazing	

Site: Wetland DFS-0	01	Rater(s): MJA	ater(s): MJA		
22.5					
0.0 22.5 Met	ric 5. Special W	etlands.			
max 10 pts. subtotal Check	all that apply and score as inc Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary Lake Erie coastal/tributary Lake Plain Sand Prairies (10) Known occurrence state/fe Significant migratory songl Category 1 Wetland. See	icated. wetland-unrestricted hydrogometland-restricted hydrogometland-restricted hydrogometland (10) deral threatened or endagometland-water fowl habitat or understand (10)	ngered species (10) usage (10)		
5.0 27.5 Met	ric 6. Plant com	nmunities, inte	erspersion, microto	pography.	
	etland Vegetation Communitie	s. <u>Vegetation C</u>	Community Cover Scale		
	all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24		
0	Aquatic bed Emergent	1	Present and either comprises sma vegetation and is of moderate q	uality, or comprises a	
1	Shrub		significant part but is of low qua		
1	Forest Mudflats	2	Present and either comprises sign vegetation and is of moderate q		
0	Open water		part and is of high quality	uality of comprises a small	
0	Other	_ 3	Present and comprises significant	t part, or more, of wetland's	
6b. ho	rizontal (plan view) Interspers	on.	vegetation and is of high quality		
Select o	only one.				
	High (5)		scription of Vegetation Quality		
H	Moderately high(4) Moderate (3)	low	Low spp diversity and/or predoming disturbance tolerant native spec		
	Moderately low (2)	mod	Native spp are dominant component		
X	Low (1)		although nonnative and/or distu	rbance tolerant native spp	
	None (0)		can also be present, and specie	· · · · · · · · · · · · · · · · · · ·	
	verage of invasive plants. Re		moderately high, but generally w	v/o presence of rare	
	e 1 ORAM long form for list. In a points for coverage	high	threatened or endangered spp A predominance of native species	with nonnative spp	
01 4040	Extensive >75% cover (-5)	-	and/or disturbance tolerant nativ		
	Moderate 25-75% cover (-		absent, and high spp diversity a		
X	Sparse 5-25% cover (-1)		the presence of rare, threatened	d, or endangered spp	
_	Nearly absent <5% cover (Absent (1)	,	Onen Water Class Ovelity		
6d Mid	Absent (1) crotopography.	<u>Mudilat and</u> 0	Open Water Class Quality Absent <0.1ha (0.247 acres)		
	all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	res)	
0	Vegetated hummucks/tuss	ucks 2	Moderate 1 to <4ha (2.47 to 9.88	acres)	
1	Coarse woody debris >150		High 4ha (9.88 acres) or more		
1	Standing dead >25cm (10i				
0	Amphibian breeding pools	Microtopogr 0	Absent		
		1	Present very small amounts or if	more common	
			of marginal quality		
		2	Present in moderate amounts, bu	=	
			quality or in small amounts of hi		
		3	Present in moderate or greater ar and of highest quality	nounts	
27.5 GRAND TO	TAL (max 100 pts)		and or nightest quality		

ORAM v. 5.0 Field Form Quantitative Rating						
Site: Wetland	DFS-02	Rater(s): JBL		Date:		
3.0 3.0 max 6 pts. subtotal	10 to <25 acres (4 × 3 to <10 acres (1.2 0.3 to <3 acres (0.	sign score. a) (6 pts) 0.1 to <20.2ha) (5 pts) to <10.1ha) (4 pts) to <4ha) (3 pts) 12 to <1.2ha) (2pts) 0.04 to <0.12ha) (1 pt)				
1.0 4.0	Metric 2. Uplan	d buffers and surrou	unding land use.			
max 14 pts. subtotal	WIDE. Buffers avenue MEDIUM. Buffers NARROW. Buffers VERY NARROW. 2b. Intensity of surrounding VERY LOW. 2nd LOW. Old field (>	width. Select only one and assign so erage 50m (164ft) or more around wet average 25m to <50m (82 to <164ft) a s average 10m to <25m (32ft to <82ft Buffers average <10m (<32ft) around and use. Select one or double check growth or older forest, prairie, savanna 10 years), shrubland, young second gr GH. Residential, fenced pasture, park astrial, open pasture, row cropping, mi	land perimeter (7) around wetland perimeter (4)) around wetland perimeter (1) wetland perimeter (0) and average. ah, wildlife area, etc. (7) rowth forest. (5) a, conservation tillage, new fallo	w field. (3)		
8.0 12.0	Metric 3. Hydro	ology.				
max 30 pts. subtotal	3a. Sources of Water. Scor High pH groundwa Other groundwater × Precipitation (1) Seasonal/Intermitt Perennial surface 3c. Maximum water depth. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 t × <0.4m (<15.7in) (1 3e. Modifications to natural I None or none appa Recovered (7) × Recovering (3) × Recent or no recovered	e all that apply. ter (5) (3) ent surface water (3) water (lake or stream) (5) Select only one and assign score. o 27.6in) (2)) nydrologic regime. Score one or doub arent (12) Check all disturbances observery (1) weir stormwater input	Part of wetland/up Part of riparian or 3d. Duration inundation/satu Semi- to permane X Regularly inundati Seasonally inundati X Seasonally satura le check and average. served X point source (none filling/grading road bed/RR track dredging other	n (1) ake and other human use (1) aland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl chec antly inundated/saturated (4) ed/saturated (3) ated (2) ted in upper 30cm (12in) (1) stormwater)		
4.5 16.5	Metric 4. Habit	at Alteration and Dev	velopment.			
max 20 pts. subtotal	4a. Substrate disturbance. None or none apparaments of the strength of the st	Score one or double check and average arent (4) very (1) elect only one and assign score. 4) e one or double check and average. arent (9) Check all disturbances obtaining grazing	ge.			
16.5	L. Trecent of no tecor	selective cutting woody debris remova x toxic pollutants	x dredging	nt		

16.5 subtotal this page

Site: Wetland DFS-02	Rater(s): JBL	Date:
16.5 subtotal first page		
0.0 16.5 Metric 5. Special W	letlands.	
max 10 pts. subtotal Check all that apply and score as income Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (! Lake Erie coastal/tributary Lake Erie coastal/tributary Lake Plain Sand Prairies (Relict Wet Prairies (10) Known occurrence state/fe Significant migratory song Category 1 Wetland. See	dicated. 5) wetland-unrestricted hydrowetland-restricted hydrowetland-restricted hydrowetland (10) Oak Openings) (10) ederal threatened or endamonth of the state of the s	ngered species (10) usage (10)
-1.0 15.5 Metric 6. Plant con	nmunities, inte	erspersion, microtopography.
max 20 pts. subtotal 6a. Wetland Vegetation Communitie		Community Cover Scale
Score all present using 0 to 3 scale. O Aquatic bed Emergent O Shrub	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
 o Forest o Mudflats o Open water 	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
o Other 6b. horizontal (plan view) Interspers	3 ion	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
Select only one.		vegetation and is or night quanty
High (5)	Narrative De	scription of Vegetation Quality
Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
x Moderately low (2) Low (1) None (0)	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
 Coverage of invasive plants. Ret to Table 1 ORAM long form for list. 		moderately high, but generally w/o presence of rare threatened or endangered spp
or deduct points for coverage X Extensive >75% cover (-5) Moderate 25-75% cover (-1) Sparse 5-25% cover (-1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
Nearly absent <5% cover Absent (1)		Open Water Class Quality
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
o Vegetated hummucks/tus		Moderate 1 to <4ha (2.47 to 9.88 acres)
Coarse woody debris >150		High 4ha (9.88 acres) or more
o Standing dead >25cm (10 1 Amphibian breeding pools		aphy 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
15.5 GRAND TOTAL (max 100 pts)		and or nightest quality





Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

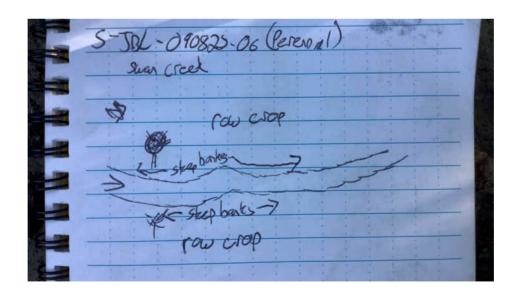
QHEI Score: 55.5

Stream & Location: Stream DFS-03	Dowling-Fulton T-Lir	ne Tap to Melbourne	Substation	RM: 36.9	Date: 9/8/22	
S-JBL-090822-06	Scc	orers Full Name	& Affiliation: <u>၂</u>	IBL		Jacobs
River Code: 04100009 07 02	TORET #:	Lat./ Long - — — (NAD 83 - decimal	41.56370	/ -83.947	12 Offic	ce verified Iocation
□ BOULDER [9] □ COBBLE [8] □ GRAVEL [7] □ SAND [6] □ BEDROCK [5] NUMBER OF BEST TYPES: □ 4 or	ry type present OTHER TYPES HARDPAN [4] DETRITUS [3] MUCK [2] SILT [2] ARTIFICIAL [0] (Score natural su	40 10 H/ bstrates; ignore RI point-sources) LA	ORIGIN MESTONE [1] LLS [1] ETLANDS [0]	SILT	rerage) QUALITY □ HEAVY [-2] ☑ MODERATE [-1] ☑ NORMAL [0] □ FREE [1] □ EXTENSIVE [-2] ☑ MODERATE [-1] ☑ NORMAL [0]	Substrate 13 Maximum 20
2] INSTREAM COVER Indicate prese quality; 2-Mod quality; 3-Highest quality in moderate or grediameter log that is stable, well developed to undercut banks [1] 2	erate amounts, but not eater amounts (e.g., ve ootwad in deep / fast very pools > 70ci	of highest quality or in the property of highest quality of highest qu	in small amounts o leep or fast water.	of highest large Chools.	AMOUNT neck ONE (Or 2 & at EXTENSIVE >75% MODERATE 25-75% SPARSE 5-<25% [: NEARLY ABSENT < COVE Maximum	[11] [6 [7] [8] [5% [1]
3] CHANNEL MORPHOLOGY Check SINUOSITY DEVELOPMENT HIGH [4] EXCELLENT [7]	CHANNELIZATION NONE [6]	ATION S	STABILITY HIGH [3]			
□ MODERATE [3] □ GOOD [5] □ LOW [2] □ FAIR [3] □ NONE [1] □ POOR [1] Comments	RECOVERED [4] RECOVERING [3] RECENT OR NO] X	MODERATE [2] LOW [1]		Chanr Maximu	140
EROSION WIDE > NONE / LITTLE [3] MODER MODERATE [2] NARRO HEAVY / SEVERE [1] VERY N NONE [6]	IAN WIDTH	• .	PLAIN QUALIT P [3] FIELD [2] ARK, NEW FIELD [RE [1]	Y R COI	NSERVATION TILLA BAN OR INDUSTRI IING / CONSTRUCT redominant land use n riparian. Riparia	AL [0] TON [0]
Comments					Maximu	
Check ONE (<i>ONLY!</i>) Check ON ☐ > 1m [6] ☑ POOL WIDT! ☐ 0.7-<1m [4] ☐ POOL WIDT!	UN QUALITY INEL WIDTH E (Or 2 & average) I > RIFFLE WIDTH [2] I = RIFFLE WIDTH [1] I < RIFFLE WIDTH [0]	Check A TORRENTIAL [- VERY FAST [1] FAST [1] MODERATE [1]	☐ INTERSTITI	AL [-1] (c	Recreation Pote Primary Conta Secondary Conta circle one and comment of Poor Curre Maximu	tact x h back)
Indicate for functional riffles; of riffle-obligate species: RIFFLE DEPTH RUN D BEST AREAS > 10cm [2] MAXIMUM	Check C EPTH RIFF > 50cm [2] □ STABI	DNE (<i>Or 2 & average</i>) LE / RUN SUBS LE (e.g., Cobble, Bo	ΓRATE RIFF ulder) [2]		ON ☐NO RIFFLE	[metric=0]
□ BEST AREAS 5-10cm [1] □ MAXIMUM □ BEST AREAS < 5cm [metric=0] Comments	< 50cm [1] ⊠ MOD. ⊠ UNSTA	STABLE (e.g., Large ABLE (e.g., Fine Grav		□ LOW ☑ MOD □ EXT	V [1] DERATE [0] RiffI ENSIVE [-1] Maximu	
DRAINAGE AREA X MO	Y LOW - LOW [2-4] DERATE [6-10] H - VERY HIGH [10-6]	%P(=	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	35 Gradie 5 Maximu	nt 10

A] SAMPLED REACH Check ALL that apply		**	·	Sampling observations, Concerns, Acc ave the same flow regime and similar	
METHOD STAGE BOAT 1st -sample pass- 2nd	the other reaches.	on the survey dread. E	asiri cadi was asisimiliea to ii		onean onaradiensiles as
□ 0.5 Km □ 0.2 Km □ 0.15 Km □ 0.15 Km □ 0.12 Km □ 0.12 Km □ 0.12 Km □ 0.70 cm □ 40-70 cm □ 40-70 cm □ SECCHI DEPTH □ SECCHI DEPTH □ > 85%-OPEN □ 30%-<55% □ 30%-<55%	INVASIVE MACROPHYTES EXCESS TURBIDITY DISCOLORATION FOAM / SCUM OIL SHEEN TRASH / LITTER NUISANCE ODOR	D] MAINTENANCE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG - SUCCESSION - OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED RELOCATED / CUTOFFS MOVING - BEDLOAD - STABLE ARMOURED / SLUMPS ISLANDS / SCOURED IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE	Circle some & COMMENT	E] ISSUES WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPS - CONSTRUCTION - SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE FALSE BANK / MANURE / LAGOON WASH H20 / TILE / H20 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME	F] MEASUREMENTS \overline{\pi} width 7 \overline{\pi} depth 6 max. depth \overline{\pi} bankfull width bankfull \overline{\pi} depth W/D ratio bankfull max. depth floodprone x ² width entrench. ratio
☐ 10%-<30% <i>C] RECR</i>	EATION AREA DEPTH POOL: □>100ft2□>3ft	1 EGGS GONTROE / DRAINAGE		ATMOSPHERE / DATA PAUCITY	Legacy Tree:

Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/Observed - Inferred, Other/Sampling observations, Concerns, Access directions, etc.

Stream Drawing: Stream DFS-03





Upstream





Substrate



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

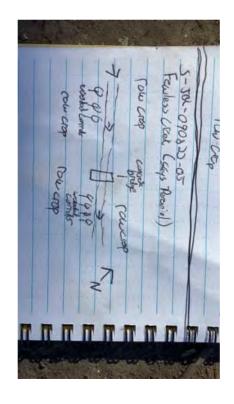
1	
QHEI Score:	46.5
WITE SCORE.	

Stream & Location: Stream DFS-0	5	RM:	Date: 1662652800000
S-JBL-090822-05		Name & Affiliation: JBL	Jacobs
River Code:	STORET #: Lat.	/ Long.: 41.55693847933 / -83.	95310956549 Office verified location
1] SUBSTRATE Check ONLYTWO sestimate % or note BEST TYPES BEST TYPES BEDR /SLABS [10] BOULDER [9] COBBLE [8] GRAVEL [7] SAND [6] BEDROCK [5] NUMBER OF BEST TYPES: Comments	every type present OTHER TYPES HARDPAN [4] DETRITUS [3] MUCK [2] SILT [2] ARTIFICIAL [0] (Score natural substrates: igno	_ ULIMESTONE [1] NOTILLS [1] WETLANDS [0] HARDBAN [0]	QUALITY HEAVY [-2] MODERATE [-1] NORMAL [0] FREE [1] EXTENSIVE [-2] MODERATE [-1] MODERATE [-1] NONE [1]
2] INSTREAM COVER Indicate pre quality; 2-N quality; 3-Highest quality in moderate or diameter log that is stable, well develope UNDERCUT BANKS [1] 2 OVERHANGING VEGETATION [1] 5 SHALLOWS (IN SLOW WATER) ROOTMATS [1] Comments	greater amounts, but not of highest que greater amounts (e.g., very large boulded rootwad in deep / fast water, or deep \frac{0}{0} POOLS > 70cm [2] \frac{0}{0} \	uality or in small amounts of highest ders in deep or fast water, large o, well-defined, functional pools. OXBOWS, BACKWATERS [1] AQUATIC MACROPHYTES [1]	AMOUNT Check ONE (<i>Or 2 & average</i>) EXTENSIVE >75% [11] MODERATE 25-75% [7] SPARSE 5-<25% [3] NEARLY ABSENT <5% [1] Cover Maximum 20
3] CHANNEL MORPHOLOGY CHANNEL MO	T CHANNELIZATION	STABILITY HIGH [3] MODERATE [2] LOW [1]	Channel Maximum 20
EROSION WIDE NONE / LITTLE [3] MOD	ARIAN WIDTH	OOD PLAIN QUALITY SWAMP [3] OR OLD FIELD [2] ITIAL, PARK, NEW FIELD [1] PASTURE [1] Indica	CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0] MINING / CONSTRUCTION [0] te predominant land use(s) 00m riparian. Riparian Maximum
Check ONE (ONLY!) Check □ > 1m [6] ☑ POOL WII □ 0.7-<1m [4]	ANNEL WIDTH ONE (Or 2 & average) OTH > RIFFLE WIDTH [2] OTH = RIFFLE WIDTH [1] OTH < RIFFLE WIDTH [0] FAST [1]	IRRENT VELOCITY Check ALL that apply NTIAL [-1] SLOW [1] AST [1] INTERSTITIAL [-1] INTERMITTENT [-2] ATE [1] DEDDIES [1] te for reach - pools and riffles.	Recreation Potential Primary Contact Secondary Contact (circle one and comment on back) Pool / Current Maximum 12
of riffle-obligate species: RIFFLE DEPTH RUN □ BEST AREAS > 10cm [2] □ MAXIM	Check ONE (Or 2 & a Check ONE (Or 2 & a Check ONE) DEPTH RIFFLE / RUN S UM > 50cm [2] STABLE (e.g., Cob UM < 50cm [1] MOD. STABLE (e.g., F	SUBSTRATE RIFFLE / RU bble, Boulder) [2]	<u> </u>
DRAINAGE AREA 🗵	/ERY LOW - LOW [2-4] //ODERATE [6-10] HIGH - VERY HIGH [10-6]	%POOL: 20 %GLID %RUN: %RIFFL	

A] SAMPLED REACH Check ALL that apply	Comment RE: Reach consistency/	s reach typical of steam?, Recreation	on/Observed - Inferred, Other/	Sampling observations, Concerns, Ac	cess directions, etc.
METHOD STAGE BOAT 1st-sample pass-2nd HIGH UP L. LINE UP NORMAL LOW DISTANCE DRY UN UN UN UN UN UN UN					
0.5 Km	INVASIVE MACROPHYTES EXCESS TURBIDITY DISCOLORATION FOAM / SCUM OIL SHEEN TRASH / LITTER NUISANCE ODOR	D] MAINTENANCE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG - SUCCESSION - OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED RELOCATED / CUTOFFS MOVING - BEDLOAD - STABLE ARMOURED / SLUMPS ISLANDS / SCOURED IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE	Circle some & COMMENT	E] ISSUES WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPs - CONSTRUCTION - SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE FALSE BANK / MANURE / LAGOON WASH H20 / TILE / H20 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	F) MEASUREMENTS x width 9 x depth max. depth 4 x bankfull width 20 bankfull x depth 6 W/D ratio bankfull max. depth floodprone x² width entrench. ratio
☐ 10%-<30% <i>C] RECR</i> ☐ <10%- CLOSED	EATION AREA DEPTH POOL: □>100ft²□>3ft			ATTION TELL / DATA FAORIT	Legacy Tree:

Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/Observed - Inferred, Other/Sampling observations, Concerns, Access directions, etc.

Stream Drawing: Stream DFS-05









Downstream



Substrate



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 47.5

Stream & Location: Stream DFS-06	RM:	13.6	Date: 9/8/22
S-JBL-090822-04 Scorers Full Name & Affiliation:	JBL		Jacobs
River Code: 04100009 03 02 STORET #: Lat./ Long.: 41.55176	/ -8	33.98877	Office verified location ⊠
1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present BEST TYPES POOL RIFFLE OTHER TYPES BEST TYPES POOL RIFFLE OTHER TYPES BEST TYPES POOL RIFFLE OTHER TYPES BEST TYPES POOL RIFFLE ORIGIN LIMESTONE [1] LIMESTONE [1] LIMESTONE [1] LIMESTONE [1] MUCK [2] WETLANDS [0] GRAVEL [7] 0 10 MUCK [2] WETLANDS [0] GRAVEL [7] 0 10 ARTIFICIAL [0] SANDSTONE [0] BEDROCK [5] (Score natural substrates; ignore RIP/RAP [0] NUMBER OF BEST TYPES: 4 or more [2] sludge from point-sources) Comments Check O ORIGIN LIMESTONE [1] LIMESTONE [1] WETLANDS [0] SANDSTONE [0] SANDSTONE [0] NUMBER OF BEST TYPES: 4 or more [2] sludge from point-sources) COAL FINES [-2]	SIL	т 🖺	Age) QUALITY HEAVY [-2] MODERATE [-1] NORMAL [0] FREE [1] EXTENSIVE [-2] MODERATE [-1] NORMAL [0] NONE [1]
2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common quality; 2-Moderate amounts, but not of highest quality or in small amounts quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional 0 UNDERCUT BANKS [1] 0 POOLS > 70cm [2] 0 OXBOWS, BACKWATE OVERHANGING VEGETATION [1] 1 ROOTWADS [1] 1 AQUATIC MACROPHY SHALLOWS (IN SLOW WATER) [1] 0 BOULDERS [1] 0 LOGS OR WOODY DEED COMMENTS	of higher, large pools. RS [1]	Checles Checles Checles Checles Checker Checke	AMOUNT k ONE (Or 2 & average) TENSIVE >75% [11] DERATE 25-75% [7] ARSE 5-<25% [3] ARLY ABSENT <5% [1] Cover Maximum 20 9
3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average) SINUOSITY DEVELOPMENT CHANNELIZATION STABILITY HIGH [4] EXCELLENT [7] NONE [6] HIGH [3] MODERATE [3] GOOD [5] RECOVERED [4] MODERATE [2] LOW [2] FAIR [3] RECOVERING [3] LOW [1] NONE [1] POOR [1] RECENT OR NO RECOVERY [1] Comments			Channel Maximum 20
4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (OR River right looking downstream RIPARIAN WIDTH EROSION WIDE > 50m [4] FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW FIELD PROVED HEAVY / SEVERE [1] VERY NARROW < 5m [1] FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW FIELD PROVED PASTURE [1] OPEN PASTURE, ROWCROP [0] Comments	TY	R CONS URBA MINING	ERVATION TILLAGE [1] N OR INDUSTRIAL [0] G / CONSTRUCTION [0] ominant land use(s)
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] <0.2cm [0] Comments CHANNEL WIDTH Check ONE (Or 2 & average) Check ALL that apply TORRENTIAL [-1] Very FAST [1] INTERSITE MODERATE [1] Indicate for reach - pools and rift Comments	ΓΙΑL [-1] ΤΕΝΤ [-:]	P Se	creation Potential Primary Contact Condary Contact e one and comment on back) Pool / Current Maximum 12
□ BEST AREAS > 10cm [2] □ MAXIMUM > 50cm [2] □ STABLE (e.g., Cobble, Boulder) [2] □ BEST AREAS 5-10cm [1] □ MAXIMUM < 50cm [1] □ MOD. STABLE (e.g., Large Gravel) [1] □ UNSTABLE (e.g., Fine Gravel, Sand) [0] Comments	 F LE / F [[RUN EM NONE [LOW [1	□NO RIFFLE [metric=0] IBEDDEDNESS 2]
6] GRADIENT (5.3 ft/mi)	%GLI RIFF%	\succ	Maximum 8

Stream Drawing: Stream DFS-06

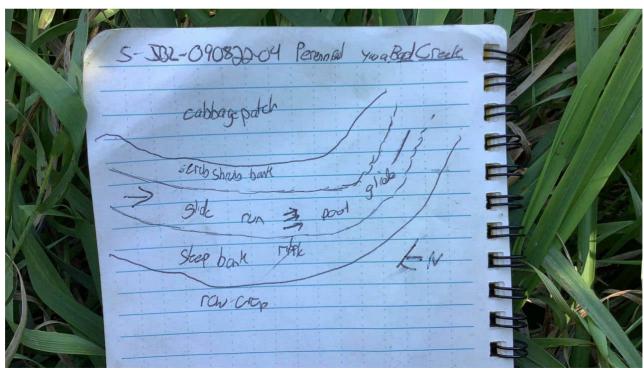
☐ 10%-<30%

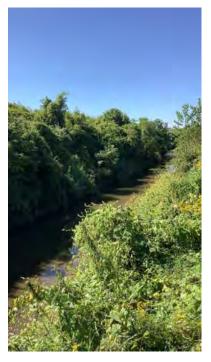
<10%- CLOSED

C1 RECREATION

AREA DEPTH

POOL: № >100ft² № >3ft





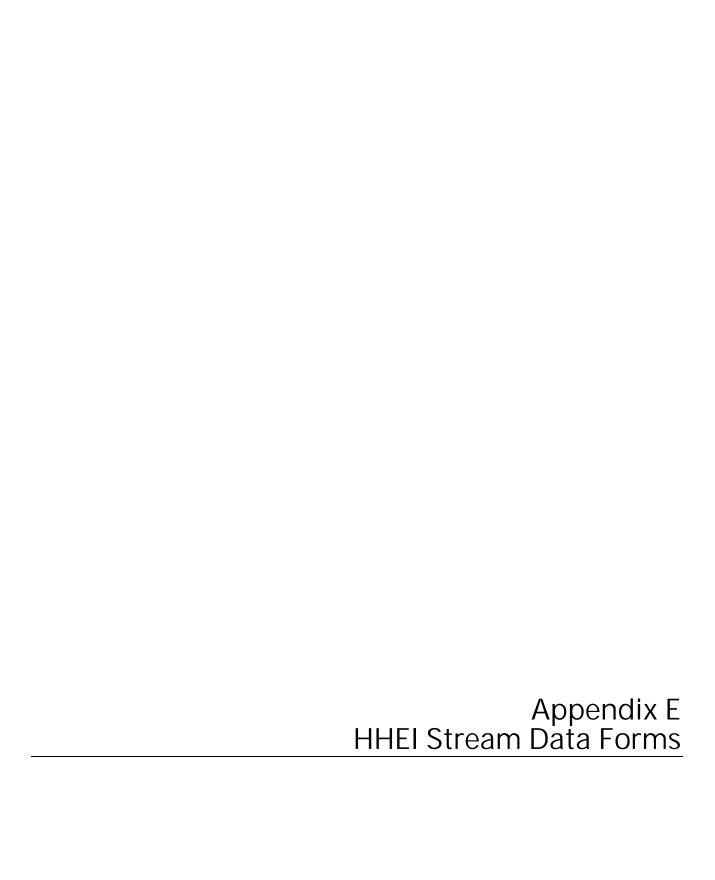
Upstream



Downstream



Substrate



hio Ohio Environmental Protection Agency

Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

45

Protection Agency	HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Stream DFS-01 Dowling-Fulton 345 kV Transr	nission Line Tap to Melbourne Substation	
SITE NUMBER S-JBL-091422-01 RIVER BASIN 04100009	RIVER CODE DRAINAGE AREA (mi²) 1.2	25
LENGTH OF STREAM REACH (ft) LAT 41.58378		
DATE 09/14/2022 SCORER JBL COMMENTS C	channelized along RR tracks. Flows under the RR tracks to the south outside of the	survey area
NOTE: Complete All Items On This Form - Refer to "Headwa	ter Habitat Evaluation Index Field Manual" for Inst	ructions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHA	NNEL ☐ RECOVERED X RECOVERING ☐ RECENT OR N	O RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Che (Max of 32). Add total number of significant substrate types fo TYPE		HHEI Metric Points Substrate Max = 40
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	TOTAL NUMBER OF SUBSTRATE TYPES: 4	A + B
2. Maximum Pool Depth (Measure the maximum pool depth time of evaluation. Avoid plunge pools from road culverts or st > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	orm water pipes) (Check ONLY one box): 5 cm - 10 cm [15 pts] < 5 cm [5pts] NO WATER OR MOIST CHANNEL [0pts]	Pool Depth Max = 30
COMMENTS	MAXIMUM POOL DEPTH (inches): 3	
	(mence).	Bankfull
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measured as the 3 - 4 meas the 3 - 4 measured as the 3 - 4 measured as the 3 - 4 measured	surements) (Check <i>ONLY</i> one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Bankfull Width
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measured as the 3 - 4 measured as t	surements) (Check ONLY one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measured as the 3 - 4 meas the 3 - 4 measured as the 3 - 4 measured as the 3 - 4 measured	surements) (Check <i>ONLY</i> one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measured as t	Surements (Check <i>ONLY</i> one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measured as t	surements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): must also be completed NOTE: River Left (L) and Right (R) as looking downstream ★	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measured as t	Surements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (feet): must also be completed NOTE: River Left (L) and Right (R) as looking downstream ★ NIN QUALITY (Most Predominant per Bank) L R rest, Wetland Forest, Shrub or Old Field Type Conservation Tillage Forest, Shrub or Old Field Type Conservation Tillage Type Conservation Type Conservation Type Conservation Type Conservation Type Conservation Type Conservation Typ	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measured as	Surements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (feet): MUSTE: River Left (L) and Right (R) as looking downstream ★ NOTE: River Left (L) and Right (R) as looking	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measured as	surements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): Must also be completed NOTE: River Left (L) and Right (R) as looking downstream ★ AIN QUALITY (Most Predominant per Bank) L R L R L R L R L R L R L R L	Width Max=30
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measured as t	surements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (feet): Must also be completed NOTE: River Left (L) and Right (R) as looking downstream ★ AIN QUALITY (Most Predominant per Bank) L R L R L R L R Conservation Tillage Forest, Shrub or Old Field L Park, New Field L Park, New Field Dyen Pasture, Row Crusture Mining or Construction Y one box): Moist Channel, isolated pools, no flow (intermitter Dry channel, no water (ephemeral) Annel) (Check ONLY one box): 2.0 3.0 2.5 3.0	Width Max=30 20 op

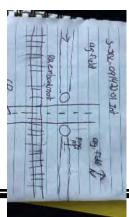
ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score (If Yes, Att	tach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Ai Creek	Distance from Evaluated Stream >2 miles
☐ CWH Name:	Distance from Evaluated Stream
☐ EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED A	REA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Swanton, OH NRCS Soil Map Page:	NRCS Soil Map Stream Order:
County: Fulton County Township/City: Swan	Creek Township
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Yes Date of last precipitation: 9/11/22	Quantity: 0.25
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) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Yes If not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS (Record all observations below)	
Fish Observed? (Y/N) 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





May 2020 Revision Page 2



Upstream



Substrate



Downstream

Protection Agency

Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

33
3 3

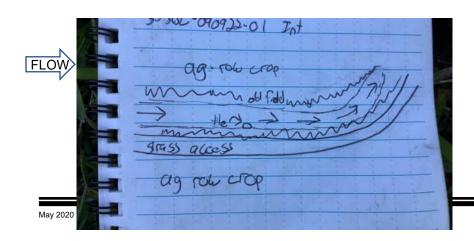
Protection Agency	1,
SITE NAME/LOCATION Stream DFS-02 Dowling-Fulton 345 kg	
	RIVER CODE DRAINAGE AREA (mi²) 0.91
· , ,	8867733333 LONG -83.94551137750001 RIVER MILE
DATE 09/09/2022 SCORER JBL COMM	IENTS Channelized in ag field
NOTE: Complete All Items On This Form - Refer to "H	Headwater Habitat Evaluation Index Field Manual" for Instructions
STREAM CHANNEL MODIFICATIONS: NONE / NATU	JRAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY
	HHEI TYPE SILT [3 pt] LEAF PACK/WOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts] ARTIFICIAL [3 pts] BYPE PERCENT 60 40 Substrate Max = 40 8
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPE	(A) 6 TOTAL NUMBER OF SUBSTRATE TYPES: 2
2. Maximum Pool Depth (Measure the maximum pool time of evaluation. Avoid plunge pools from road culv > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	ol depth within the 61 meter (200 feet) evaluation reach at the verts or storm water pipes) (Check ONLY one box): 5 cm - 10 cm [15 pts] 5 cm - 5 cm [5pts] NO WATER OR MOIST CHANNEL [0pts]
COMMENTS	MAXIMUM POOL DEPTH (inches):
3. BANK FULL WIDTH (Measured as the average of 3	3 - 4 measurements) (Check ONLY one box): Bankfull
> 4.0 meters (> 13') [30 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	≤ 1.0 m (≤ 3' 3") [5 pts] Max=30
COMMENTS	AVERAGE BANKFULL WIDTH (feet): 7
	ormation <u>must</u> also be completed
RIPARIAN ZONE AND FLOODPLAIN QUALI	ITY ★ NOTE: River Left (L) and Right (R) as looking downstream★
(D D I-)	OODPLAIN QUALITY (Most Predominant per Bank)
☐ Wide >10m ☐ Max ☐ Moderate 5-10m ☐ Im X X Narrow <5m	ature Forest, Wetland Conservation Tillage Urban or Industrial esidential, Park, New Field Open Pasture, Row Crop Mining or Construction
FLOW REGIME (At Time of Evaluation) (Ch Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS	meck ONLY one box): X Moist Channel, isolated pools, no flow (intermittent) Dry channel, no water (ephemeral)
SINUOSITY (Number of bends per 61 m (200 None	ft) of channel) (Check ONLY one box): 2.0
STREAM GRADIENT ESTIMATE X Flat (0.5 ft/100 ft)	te (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)
	ic (2 V 100 I)

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: Swan Creek Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream
☐ EWH Name:
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Swanton, OH NRCS Soil Map Page:NRCS Soil Map Stream Order:
County: Fulton County Township/City: Swan Creek Township
MISCELLANEOUS
Base Flow Conditions? (Y/N): Yes Date of last precipitation: 09/04/2022 Quantity: 0.49
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) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Yes If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS
(Record all observations below)
Fish Observed? (Y/N) 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





Upstream



Substrate



Downstream

hio Ohio Environmental Protection Agency

Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

55

SITE NAME/LOCATION Stream DFS-04 Dowling-Fulton 345 I	kV Transmission Line Tap to Melbourne Substation	
	RIVER CODE DRAINAGE AREA (mi²) 0.8	1
LENGTH OF STREAM REACH (ft) LAT 41.567	626917666665 LONG -83.97011389766668 RIVER MILE	
DATE 09/14/2022 SCORER JBL COMM	MENTS Channelized S-JBL-091422-02. Goes under co rd 5-2	
NOTE: Complete All Items On This Form - Refer to "	'Headwater Habitat Evaluation Index Field Manual" for Instr	ructions
STREAM CHANNEL MODIFICATIONS: THOUSE (MAT	TURAL CHANNEL ☐ RECOVERED X RECOVERING ☐ RECENT OR NO	
NONE / NAT	URAL CHANNEL RECOVERED RECENT OR NO	RECOVERY
	esent). Check ONLY two predominant substrate TYPE boxes. te types found (Max of 8). Final metric score is sum of boxes A & B TYPE SILT [3 pt] LEAF PACK/WOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts] 10	HHEI Metric Points Substrate Max = 40
Bldr Slabs, Boulder, Cobble, Bedrock 0 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYP	(A) (B) (B) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C	A + B
 Maximum Pool Depth (Measure the <u>maximum</u> po time of evaluation. Avoid plunge pools from road cul 		Pool Depth
> 30 centimeters [20 pts]	5 cm - 10 cm [15 pts]	Max = 30
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	< 5 cm [5pts] NO WATER OR MOIST CHANNEL [0pts]	25
	<u> </u>	
COMMENIS	MAXIMIM POOL DEPTH (inches): " T	
COMMENTS	MAXIMONT GGE BET TT (IIIGIIGS).	Pankfull
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts]	3 - 4 measurements) (Check ONLY one box):	Bankfull Width
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	MAXIMONT GGE BET TT (IIIGIIGS).	
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts]	f 3 - 4 measurements) (Check <i>ONLY</i> one box):	Width
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	f 3 - 4 measurements) (Check <i>ONLY</i> one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inf	3 - 4 measurements) (Check <i>ONLY</i> one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inf	3 - 4 measurements) (Check <i>ONLY</i> one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inf RIPARIAN ZONE AND FLOODPLAIN QUAL	f 3 - 4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inf RIPARIAN ZONE AND FLOODPLAIN QUAL RIPARIAN WIDTH L R (Per Bank) L R	f3 - 4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 7 formation must also be completed LITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ LOODPLAIN QUALITY (Most Predominant per Bank) L R	Width Max=30
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inf RIPARIAN ZONE AND FLOODPLAIN QUAL RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Moderate 5-10m	Formation must also be completed LITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ LOODPLAIN QUALITY (Most Predominant per Bank) L R Mature Forest, Wetland Conservation Tillage mmature Forest, Shrub or Old Field Urban or Industrial	Width Max=30
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inf RIPARIAN ZONE AND FLOODPLAIN QUAL RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Moderate 5-10m Norrow <5m	The state of the	Width Max=30
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inf RIPARIAN ZONE AND FLOODPLAIN QUAL RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Moderate 5-10m Moderate 5-10m None None	Tormation must also be completed LITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ LOODPLAIN QUALITY (Most Predominant per Bank) L R Mature Forest, Wetland Conservation Tillage mmature Forest, Shrub or Old Field Urban or Industrial	Width Max=30
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts]	Formation must also be completed LITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ LOODPLAIN QUALITY (Most Predominant per Bank) L R Mature Forest, Wetland	Width Max=30
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts]	### Tools Check ONLY one box): 3 - 4 measurements (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 7 Formation must also be completed LITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ LOODPLAIN QUALITY (Most Predominant per Bank) L R	Width Max=30
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inf RIPARIAN ZONE AND FLOODPLAIN QUAL RIPARIAN WIDTH (Per Bank) New Comments New Comments	### Conservation Tillage ### Conservation Tillage ### Mature Forest, Wetland ### Mature Forest, Shrub or Old Field ### Residential, Park, New Field ### Fenced Pasture Moist Channel, isolated pools, no flow (intermitten Dry channel, no water (ephemeral) Check ONLY one box): Moist Channel, no water (ephemeral) Check ONLY one box): Check ONLY one box): Check ONLY one box): Conservation Tillage Conservation Till	Width Max=30
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inf RIPARIAN ZONE AND FLOODPLAIN QUAL RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Moderate 5-10m Moderate 5-10m None None COMMENTS FLOW REGIME (At Time of Evaluation) Stream Flowing Subsurface flow with isolated pools (interstitial COMMENTS) intermittent	### Topic Check ONLY one box):	Width Max=30
3. BANK FULL WIDTH (Measured as the average of > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This inf RIPARIAN ZONE AND FLOODPLAIN QUAL RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Moderate 5-10m Moderate 5-10m X Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation) Stream Flowing Subsurface flow with isolated pools (interstitiated COMMENTS) SINUOSITY (Number of bends per 61 m (200) None 1.0	### Conservation Tillage ### Conservation Tillage ### Mature Forest, Wetland ### mmature Forest, Shrub or Old Field ### Residential, Park, New Field ### Fenced Pasture Moist Channel, isolated pools, no flow (intermitten Dry channel, no water (ephemeral) Moist Channel Check ONLY one box): Description Check ONLY one box Check ONLY	Width Max=30

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score	(If Yes, Attach Completed QHEI form)
☐ CWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING T	HE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Delta, OH	NRCS Soil Map Page:NRCS Soil Map Stream Order:
County: Fulton County	Township/City: Swan Creek Township
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Yes Date of last precipitation	tion: 09/11/2022 Quantity: 0.25
Photo-documentation Notes:	
Elevated Turbidity? (Y/N): No Canopy (% open): 1	00
Were samples collected for water chemistry? (Y/N): No	Lab Sample # or ID (attach results):
Field Measures: Temp (°C) Dissolved Oxygen (mg/	l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Ye	S If not, explain:
Additional comments/description of pollution impacts:	
	L OBSERVATIONS observations below)
Fish Observed? (Y/N) Species observed (if known)	:
	ed (if known):
Salamanders Observed? (Y/N) Species observed (if	known):
Aquatic Macroinvertebrates Observed? (Y/N) Species	s 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





May 2020 Revision Page 2



Upstream



Substrate



Downstream

hio Ohio Environmental Protection Agency

Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

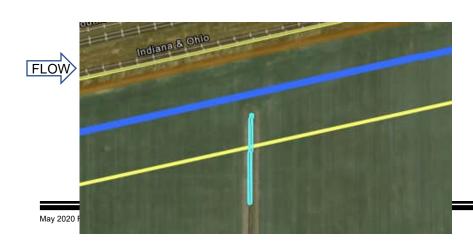
SITE NAME/LOCATION_Stream DFS-07 Dowling-Fulton 345 k	V Transmission Line Tap to Melbourne Substation	
	RIVER CODE DRAINAGE AREA (mi²) 0.30	<u> </u>
LENGTH OF STREAM REACH (ft) LAT 41.5598	37547783334 LONG <u>-84.05293839666668</u> RIVER MILE	
DATE 09/06/2022 SCORER JBL COMM		
NOTE: Complete All Items On This Form - Refer to "h	Headwater Habitat Evaluation Index Field Manual" for Instru	uctions
·		
STREAM CHANNEL MODIFICATIONS: NONE / NATU	JRAL CHANNEL ☐ RECOVERED ☐ RECENT OR NO	RECOVERY
(Max of 32). Add total number of significant substrate TYPE	X SILT [3 pt] 60 30 X LEAF PACK/WOODY DEBRIS [3 pts] 30 FINE DETRITUS [3 pts] 10 CLAY or HARDPAN [0 pt] 10 MUCK [0 pts]	HHEI Metric Points Substrate Max = 40
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPE	TOTAL NUMBER OF SUBSTRATE TIPES.	
 Maximum Pool Depth (Measure the <u>maximum</u> pool time of evaluation. Avoid plunge pools from road culv 		Pool Depth Max = 30
> 30 centimeters [20 pts]	5 cm - 10 cm [15 pts]	
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	< 5 cm [5pts] NO WATER OR MOIST CHANNEL [0pts]	25
COMMENTS	MAXIMUM POOL DEPTH (inches):	
	MAXIMOM FOOL BEFITT (IIICHES).	
2 DANIK FULL WIDTH (Management on the greeners of t	2 Amazaumamanta) (Chack ONI Vana havi)	Danlefull
3. BANK FULL WIDTH (Measured as the average of 3		Bankfull Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	3 - 4 measurements) (Check <i>ONLY</i> one box):	
> 4.0 meters (> 13') [30 pts]	× > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts]	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts]	× > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts]	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	× > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This info	× > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts]	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This info RIPARIAN ZONE AND FLOODPLAIN QUALI RIPARIAN WIDTH FLOOD	X > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 4	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This info RIPARIAN ZONE AND FLOODPLAIN QUALI RIPARIAN WIDTH L R (Per Bank) L R	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 4 Ormation must also be completed ITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ OODPLAIN QUALITY (Most Predominant per Bank) L R	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This info RIPARIAN ZONE AND FLOODPLAIN QUALI RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Ma	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 4 Dermation must also be completed ITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ OODPLAIN QUALITY (Most Predominant per Bank) L R lature Forest, Wetland Conservation Tillage	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This info RIPARIAN ZONE AND FLOODPLAIN QUALI RIPARIAN WIDTH FLOODPLAIN QUALI CPER Bank LR Wide > 10m Main Moderate 5-10m Im Moderate 5	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 4 Ormation must also be completed ITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ OODPLAIN QUALITY (Most Predominant per Bank) L R	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This info RIPARIAN ZONE AND FLOODPLAIN QUALI RIPARIAN WIDTH FL L R (Per Bank) L R Wide >10m Ma Moderate 5-10m Im Narrow <5m	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 4 Dermation must also be completed ITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ CODPLAIN QUALITY (Most Predominant per Bank) L R Lature Forest, Wetland Conservation Tillage Inmature Forest, Shrub or Old Field Urban or Industrial	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This info RIPARIAN ZONE AND FLOODPLAIN QUALI RIPARIAN WIDTH FLOODPLAIN QUALI CPER Bank LR RESERTED Mide > 10 m Mide > 10 m Mide > 10 m RESERTED RESERTED	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 4 Dermation must also be completed ITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ CODPLAIN QUALITY (Most Predominant per Bank) L R Lature Forest, Wetland Inmature Forest, Shrub or Old Field Immature Forest, Shrub or Old Field	Width Max=30
	X > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]	Width Max=30
	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] < 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 4 Ormation must also be completed ITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ OODPLAIN QUALITY (Most Predominant per Bank) L R	Width Max=30
	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] < 1.0 m (≤ 3' 3")[5 pts] AVERAGE BANKFULL WIDTH (feet): 4 Ormation must also be completed ITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★ OODPLAIN QUALITY (Most Predominant per Bank) L R	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	NOTE: River Left (L) and Right (R) as looking downstream ★	Width Max=30

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: North Turkeyfoot Creek Distance from Evaluated Stream >2 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: Delta, OH NRCS Soil Map Page: NRCS Soil Map Stream Order: County: Fulton County Township/City: York Township
County: Township/City: Township/City:
MISCELLANEOUS Base Flow Conditions? (Y/N): No Date of last precipitation: 09/04/2022 Quantity: 0.49
Photo-documentation Notes:
Elevated Turbidity? (Y/N): No Canopy (% open): Were samples collected for water chemistry? (Y/N): No Lab Sample # or ID (attach results):
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Yes If not, explain:
——————————————————————————————————————
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) 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 <u>must</u> be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





Upstream



Substrate



Downstream





POND DATA SHEET FEATURE ID Pond DFS-01 **ASSOCIATED FEATURES:** Survey Type: Wetland and waterbodies delineation CLIENT/PROJECT NAME: FirstEnergy DATE: 09/14/2022 Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation **INVESTIGATORS: ROUTE:** Is this a Mapped NWI Feature?: yes STATE/COUNTY: OH Fulton **PUBGx WATERBODY CHARACTERISTICS** WATERBODY TYPE: Residential pond 1 ft AVG. DEPTH: AVG. WIDTH (WATER SURFACE): 60 ft 1/4 acre **APPROXIMATE SIZE: QUALITATIVE ATTRIBUTES AVERAGE WATER APPEARANCE:** Clear PRIMARY SUBSTRATE (IF Silt OBSERVED): **POTENTIAL HABITAT FOR:** Fish, amphibians, insects **SURROUNDING LAND USE:** Mowed lawn None WETLAND FRINGE (IF PRESENT): **COMMENTS**











POND DATA SHEET FEATURE ID Pond DFS-02 **ASSOCIATED FEATURES:** Survey Type: Wetland and waterbodies delineation CLIENT/PROJECT NAME: FirstEnergy DATE: 09/06/2022 Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation **ROUTE: INVESTIGATORS:** STATE/COUNTY: OH IS THIS A MAPPED NWI FEATURE?: no Fulton **WATERBODY CHARACTERISTICS** WATERBODY TYPE: Sewage treatment 10 AVG. DEPTH: AVG. WIDTH (WATER SURFACE): 50 0.25 **APPROXIMATE SIZE: QUALITATIVE ATTRIBUTES AVERAGE WATER APPEARANCE:** Cloudy PRIMARY SUBSTRATE (IF OBSERVED): **POTENTIAL HABITAT FOR: SURROUNDING LAND USE:** WETLAND FRINGE (IF PRESENT): **COMMENTS**





POND DATA SHEET FEATURE ID Pond DFS-03 **ASSOCIATED FEATURES:** Survey Type: Wetland and waterbodies delineation CLIENT/PROJECT NAME: FirstEnergy DATE: 09/06/2022 Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation **ROUTE: INVESTIGATORS:** STATE/COUNTY: OH IS THIS A MAPPED NWI FEATURE?: no Fulton **WATERBODY CHARACTERISTICS** WATERBODY TYPE: Sewage treatment pond 10 AVG. DEPTH: AVG. WIDTH (WATER SURFACE): 50 .2 acre **APPROXIMATE SIZE: QUALITATIVE ATTRIBUTES AVERAGE WATER APPEARANCE:** Cloudy PRIMARY SUBSTRATE (IF OBSERVED): **POTENTIAL HABITAT FOR: SURROUNDING LAND USE:** WETLAND FRINGE (IF PRESENT): **COMMENTS**



Appendix 8-3C Wetland and Waterbody Delineation Report for the Proposed Melbourne Substation and 345 kV Tie Lines (Melbourne Substation to Sydney Substation)

Wetland and Waterbody Delineation Report

Dowling-Fulton 345 kV Transmission Line Tap to

Melbourne Substation Project –

Proposed Melbourne Substation and 345 kV Tie Lines

(Melbourne Substation to Sydney Substation)

Fulton County, Ohio

Prepared for



February 2023



Jacobs Engineering Group Inc. 2 Crowne Point Court, Suite 100 Cincinnati, OH 45241

Contents

1	Introd	duction	1-1					
2	Backo	ground Information	2-1					
	2.1	Annual Precipitation						
	2.2	Drainage Basins	2-1					
	2.3	Traditional Navigable Waters	2-1					
3	Wetla	and and Waterbody Delineation	3-1					
	3.1	Desktop Review						
	3.2	Field Survey Methodology	3-1					
		3.2.1 Wetland Delineation	3-2					
		3.2.2 Stream Assessment	3-3					
4	Field	Survey Results	4-1					
	4.1	Wetlands	4-1					
		4.1.1 Wetland ORAM Results	4-1					
	4.2	Streams	4-2					
	4.3	Ponds/Open Water	4-2					
5	Concl	lusion	5-1					
6	Refere	rences	6-1					
Table	s							
2-1 3-1		nt Precipitation Data Map Units						
4-1	Delineated Wetland Table							
4.1.1	Wetland ORAM Summary Table							
4-2	Delineated Stream Table							
4-3 Wetland Summary Table								

Appendices

Α	Figures	
	1	Overview Map
	2-1 to 2-2	Soils, NHD, NWI, FEMA Map
	3-1 to 3-2	Delineated Features Map
В	USACE Wetl	and Determination Field Data Forms
C	OEPA ORAM	Data Forms
D	HHFI Stream	Data Forms

Acronyms and Abbreviations

ATSI American Transmission Systems, Incorporated

CWA Clean Water Act

EPA Environmental Protection Agency
ESB environmental survey boundary

FAC facultative

FACU facultative upland FACW facultative wetland

GNSS global navigation satellite system

HHEI Headwater Habitat Evaluation Index

HUC Hydrologic Unit Code

Jacobs Engineering Group Inc.

kV kilovolt

NHD National Hydrography Dataset

NRCS Natural Resource Conservation Service

NWI National Wetland Inventory

OBL obligate wetland

OEPA Ohio Environmental Protection Agency

OHWM ordinary high water mark

ORAM Ohio Rapid Assessment Method

PEM palustrine emergent
PFO palustrine forested

Project Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project

PUB palustrine unconsolidated bottom

ROW right-of-way

TNW traditionally navigable water

UPL upland

USACE United States Army Corps of Engineers
USDA United States Department of Agriculture
USFWS United States Fish and Wildlife Service

USGS United States Geological Survey

1 Introduction

This wetland and waterbody delineation report (Report) summarizes the results of the wetland and waterbody delineation surveys conducted on the Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project (Project) in Fulton County, Ohio by Jacobs Engineering Group Inc. (Jacobs), for American Transmission Systems, Incorporated (ATSI), a wholly-owned subsidiary of FirstEnergy Corporation. ATSI has proposed to construct the proposed Melbourne Substation, 345kV Tie Lines from Melbourne Substation to Sydney Substation, and the extension line from Fulton-North Star Steel 345kV transmission line to Melbourne Substationas part of the Project. This Report specifically includes the survey results for the tie-lines, the extension line, and the proposed Melbourne Substation. The proposed tie-lines and extension line consist of new 345 kV transmission lines, each approximately 0.5 mile long. The Project components are within York Township, Ohio and are shown on Figure 1, Appendix A. The environmental survey boundary (ESB) includes the proposed Melbourne Substation area and a 570-foot-wide survey corridor consisting of two proposed parallel 150-foot right-of-way (ROW) plus a 100-foot buffer on each side. This Report contains the following components:

- Figure 1 in Appendix A provides an overview map of the ESB overlain on ArcGIS Online USA topographic maps.
- Figures 2-1 to 2-2 in Appendix A show U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil map units, the location of National Wetland Inventory (NWI) polygons, national hydrography dataset (NHD) streams, and Federal Emergency Management Agency (FEMA) 100-year floodplain and floodway information. Table 2-1 summarizes recent precipitation data and Table 2-2 lists the 12-digit hydrologic unit codes crossed by the Project. Table 3-1 lists the soils types identified within the ESB and Table 3-2 lists the NWI wetland types identified within the ESB.
- Figures 3-1 to 3-2 in Appendix A provide the location of all features mapped during the delineation by Jacobs biologists. This includes all wetlands, data points, and waterbodies. Tables 4-1 (wetlands) and 4-2 (streams) follow the text, providing detailed information for all delineated features within the ESB.
- U.S. Army Corps of Engineers (USACE) wetland determination field data forms are in Appendix B.
- Ohio Rapid Assessment Method for Wetlands (ORAM) two-page forms are in Appendix C.
- Headwater Habitat Evaluation Index (HHEI) Stream Forms are in Appendix D.

2 Background Information

The ESB consists of the tie-lines, extension line, and proposed substation (Figure 1) which are located in York Township, Fulton County, Ohio. The tie lines begin at the proposed Melbourne Substation and end at the existing Sydney Substation located on the North Star Steel property.

Review of the USGS 7.5-minute topographic maps indicates that the ESB is within the Delta, OH USGS 7.5-minute topographic quadrangle. Additional review of the USGS 7.5-minute topographic maps of the area indicates that unnamed tributaries to Bad Creek drain the ESB. Topographic relief is generally flat, with elevation ranging from 741 to 763 feet above sea level (Figure 1).

Land use and natural communities observed within the ESB include industrial, maintained lawn, and road.

2.1 Annual Precipitation

Precipiation history for Wauseon, Ohio was reviewed prior to completing environmental survey to determine if climatic conditions were normal at the time of the surveys. Rainfall recorded in Wauseon ranged from above average to below average prior to and during the surveys conducted in early January 2023 (Table 2-1; USDA, 2022), suggesting that climatic conditions were approximately normal for the region and time of year. This was taken into consideration during the delineation.

TABLE 2-1: Recent Precipitation Data

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project- Proposed 345kV Tie Lines

Precipitation Data	Jul	Aug	Sep	Oct	Nov	Dec	Total
2022 Monthly Sum ^{1,3}	3.22	5.82	1.51	1.10	2.21	1.95	15.81
Normal Precipitation ^{2,3}	2.25-3.92	2.28-4.48	1.90-3.76	1.76-3.10	1.86-3.51	1.57-2.91	11.62- 21.68
Monthly climatic condition	Average	Above average	Below average	Below average	Average	Average	Average

¹Monthly weather summary from weather station WAUSEON WATER PLANT, OH

2.2 Drainage Basins

The Project is within the Lower Maumee watershed, corresponding to 8-digit Hydrologic Unit Code (HUC) 04100009. More specifically it is within Lower Bad Creek drainage area, 12-digit HUC 04100009-0302.

2.3 Traditional Navigable Waters

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

²USDA WETS Station Climate Data 1971-2000 (USDA 2022)

³Displayed in inches

3 Wetland and Waterbody Delineation

3.1 Desktop Review

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

- Aerial photo-based maps (ArcGIS Online, World Imagery Map, 2018)
- Topographic maps (ArcGIS Online, USA Topo Maps, 2019)
- NRCS Web Soil Survey (USDA-NRCS, 2021)
- NWI shapefile (USFWS, 2020)
- National Hydrography Dataset (NHD) (USGS, 2020)

According to the NRCS soil survey of Fulton County (USDA-NRCS, 2021), the ESB consists of five soil map units (Figures 2-1 to 2-2). Of these, three units are listed as predominantly nonhydric and two are predominantly hydric (Table 3-1). Hydric or predominantly hydric soils comprise 58 percent of the ESB.

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

TABLE 3-1: Soil Map Units

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project- Proposed 345kV Tie Lines

Soil type	Soil type description	Hydric status	Acres (ac) within ESB
HkA	Haskins loam, 0 to 3 percent slopes	Predominantly Nonydric	1.9
HoA	Hoytville clay loam, 0 to 1 percent slopes	Predominantly Hydric	24.1
Mf	Mermill loam	Predominantly Hydric	5.1
NnA	Nappanee loam, 0 to 2 percent slopes	Predominantly Nonydric	17.3
RnA	Rimer loamy fine sand, 0 to 3 percent slopes	Predominantly Nonydric	2.2

NWI data were obtained from the USFWS for review of potential wetlands that may occur within the ESB. The NWI data (USFWS, 2020) identify the type of wetland or open water present at a location using the USFWS classification system (Cowardin et al., 1979). The NWI data indicated that there are no NWI features within the ESB (Figure 2-1 to 2-2; USFWS, 2020). The presence of an NWI feature is not a definitive indicator that a wetland or waterbody is present. The information on NWI maps is obtained largely from aerial interpretation, may be outdated, and is only sporadically field-checked.

As shown on the FEMA floodplain panels (Figures 2-1 to 2-2), there are no floodplains within the ESB (FEMA, 2019).

3.2 Field Survey Methodology

On January 9, 2023, Jacobs biologists surveyed the ESB by walking the area and evaluating for wetlands and other waters of the U.S. The boundaries of each wetland and waterbody within the ESB were delineated and recorded using handheld global navigation satellite system (GNSS) receivers. For

waterbodies identified within the Project area, the ordinary high-water mark (OHWM) was used as the jurisdictional boundary.

Wetland data were recorded on USACE Northcentral and Northeast Regional Supplement wetland determination data forms and stream data were recorded on Headwater Habitat Evaluation Index (HHEI) forms. All other land use, habitat, and other supplemental data were collected in a digital geodatabase during the environmental survey.

3.2.1 Wetland Delineation

Wetland boundaries were field-delineated according to using the routine onsite methodology described in the Technical Report Y-87-1 *Corps of Engineers Wetlands Delineation Manual* and subsequent guidance documents (Environmental Laboratory, 1987) and according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0) (USACE, 2012). Wetland delineation data were recorded on the USACE Regional Supplement wetland determination data forms. Representative wetland and upland data points were recorded during the wetland delineation to determine the presence/absence of wetlands and/or to document upland conditions within the Project area. Upland data points were determined not to be within wetlands because they did not have positive indicators of one or more of the three wetland criteria: hydrophytic vegetation, wetland hydrology, and hydric soils.

3.2.1.1 Soils

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

3.2.1.2 Hydrology

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

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

3.2.1.3 Vegetation

Dominant vegetation was visually assessed for each stratum (tree, sapling/shrub, herb, and woody vine) and an indicator status (obligate wetland [OBL], facultative wetland [FACW], facultative [FAC],

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

Wetland quality was evaluated using the Ohio Environmental Protection Agency (OEPA) Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack 2001). Categorization was conducted in accordance with the latest quantitative score calibration (OEPA, 2000). Wetlands are scored based on hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. Each of these subject areas is further divided into subcategories under ORAM v5.0 resulting in a score that describes the wetland using a range from 0 (low quality and high disturbance) to 100 (high quality and low disturbance). Wetlands scored from 0 to 29.9 are grouped into "Category 1", 30 to 59.9 are "Category 2" and 60 to 100 are "Category 3". Transitional zones exist between Categories 1 and 2 from 30 to 34.9 and between Categories 2 and 3 from 60 to 64.9. However, according to the OEPA, if the wetland score falls into the transitional range, it must be given the higher Category unless scientific data can prove it should be in a lower category (Mack, 2001).

3.2.2 Stream Assessment

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

During the field survey, functional stream assessments were conducted using the methods described in *Field Methods for Evaluating Primary Headwater Streams in Ohio* (OEPA, 2020). The HHEI is appropriate for first-order and second-order headwater streams (drainage areas less than one square mile).

4 Field Survey Results

Jacobs biologists identified four wetlands and one stream within the ESB. The features are displayed and identified on the Wetlands and Waterbodies Delineation Map (Figures 3-1 to 3-2). Jacobs defaults to the USACE and OEPA for the final determination of hydrologic connectivity and jurisdiction.

4.1 Wetlands

Four wetlands, ranging in size from 0.16 to 1.15 acres, were delineated within the ESB. Three of the wetlands were identified as palustrine emergent (PEM) wetlands and one was identified as a PEM/palustrine forested (PFO) wetland complex. These wetlands are depicted in Figures 3-1 to 3-2. The reported wetland acreage only corresponds to areas delineated within the ESB, as some wetlands extended beyond the survey boundary.

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

TABLE 4-1: Delineated Wetland Table Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Proposed 345kV Tie Lines & Melbourne Station

Wetland ID	Location		Wetland	Area (ac)	ORAM Score,	
wettand ib	Latitude	Longitude	Type ¹	within ESB	Category	
Wetland DFT-01	41.56589	-84.05320	PEM	0.21	16.5, Category 1	
Wetland DFT-02	41.56687	-84.05185	PEM	0.16	21.5, Category 1	
Wetland DFT-03	41.56684	-84.05069	PEM	0.62	17, Category 1	
Wetland DFT-04	41.56621	-84.04972	84.04972 PEM	0.84	28, Category 1	
Wettand Di 1-04	41.56634	-84.05017	PFO	1.15	26, Category 1	
	Total Wetland Area (ac)			2.98		

¹Cowardin et al. 1979.

4.1.1 Wetland ORAM Results

All four wetlands identified within the ESB were classified as Category 1 wetlands. No Category 2 or 3 wetlands were identified. These wetlands were classified as Category 1 wetlands based on ORAM scores ranging from 16.5 to 28. Generally, the Category 1 wetlands scored low due to factors such as small size, narrow buffer width, high intensity surrounding land use, modifications to hydrology and substrate, and presence of invasive species. Completed ORAM forms are included in Appendix C.

TABLE 4.1.1: Wetland ORAM Summary Table Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project-Proposed 345kV Tie Lines & Melbourne Station

Wetland Tun		ORAM Categor	Number of	Acreage within		
Wetland Type		Category 2	Category 3	Wetlands	Addedndum ESC	
PEM	4	0	0	4	2.98	

4.2 Streams

One intermittent stream was identified, totaling 1,607 linear feet within the ESB. This stream is shown in Figures 3-1 to 3-2; the completed HHEI form and representative photos are provided in Appendix D. Detailed information for the delineated stream is provided in Table 4-2.

TABLE 4-2: Delineated Stream Table

Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project- Proposed 345kV Tie Lines

& Melbourne Station

	Loc	cation		Length	Average	Average		
Stream ID	Latitude	Longitude	Flow Regime ¹	(ft) within ESB	OHWM Width (ft)	TOB Width (ft)	HHEI/QHEI Score	Category/ Designation
Stream DFT-01	41.56655	-84.05242	Intermittent	1,607	8	30	54	Modified Class II
Total Stream Length (ft)			1,607					

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

4.3 Ponds/Open Water

No ponds were identified within the ESB.

5 Conclusion

Jacobs conducted an environmental survey of the proposed 345kV tie-lines, and the Melbourne Substation, of the Dowling-Fulton 345 kV Transmission Line Tap to Melbourne Substation Project on January 9, 2023. Four wetlands and one stream were delineated within the environmental survey boundary. The four wetlands totaled 2.98 acres within the ESB and were identified as three PEM wetlands and one PEM/PFO wetland complex. All four wetlands were identified as Category 1 wetlands. No Category 2 or 3 wetlands were identified within the ESB. The one intermittent stream, totalling 1,607 linear feet within the ESB, was assessed using the HHEI methodology (drainage area less than 1 mi²).

Jacobs defaults to the USACE and OEPA for the final determination of hydrologic connectivity and jurisdiction. Further coordination is recommended prior to the submittal of any permit or construction activities.

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

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

6 References

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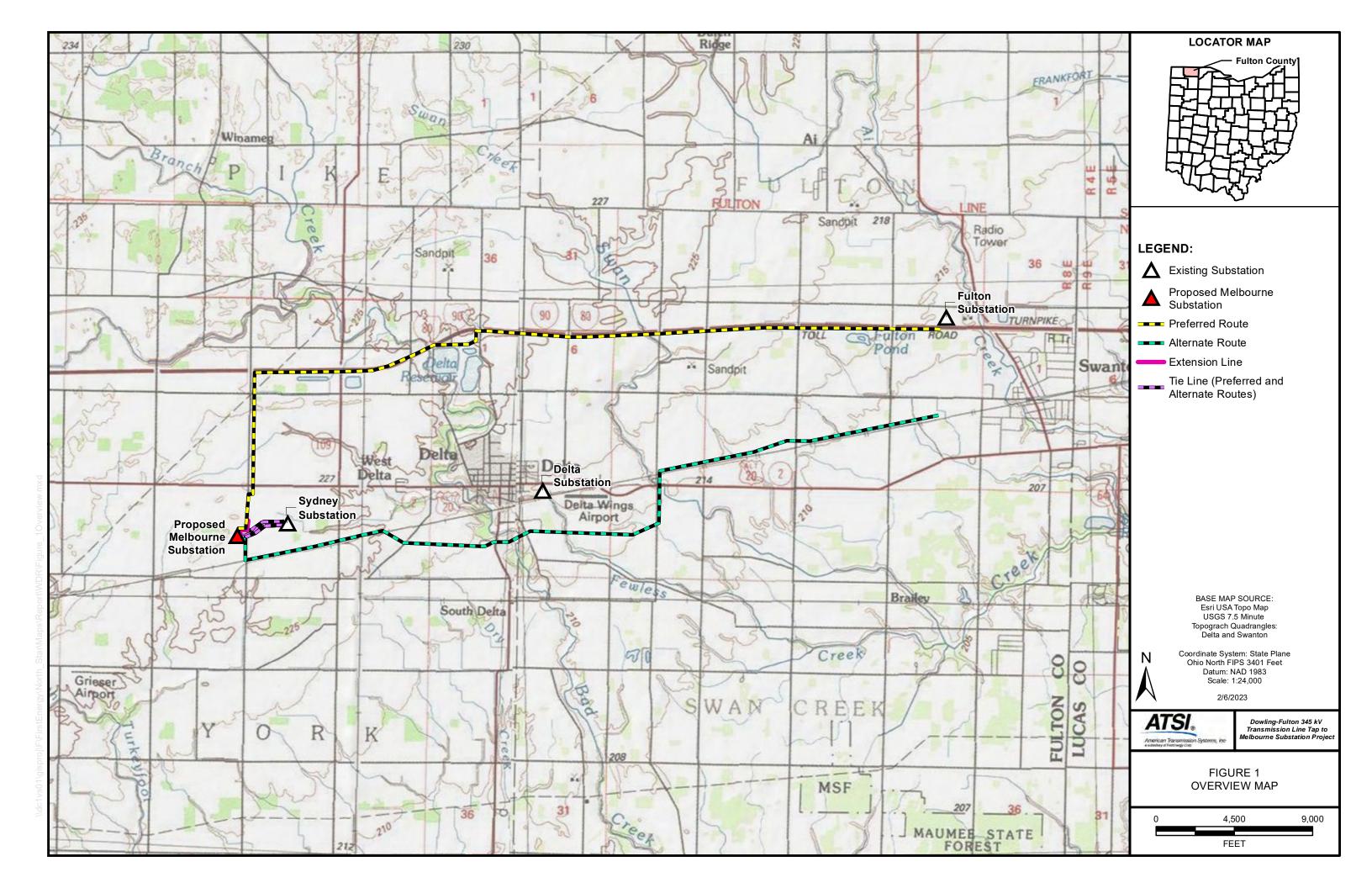
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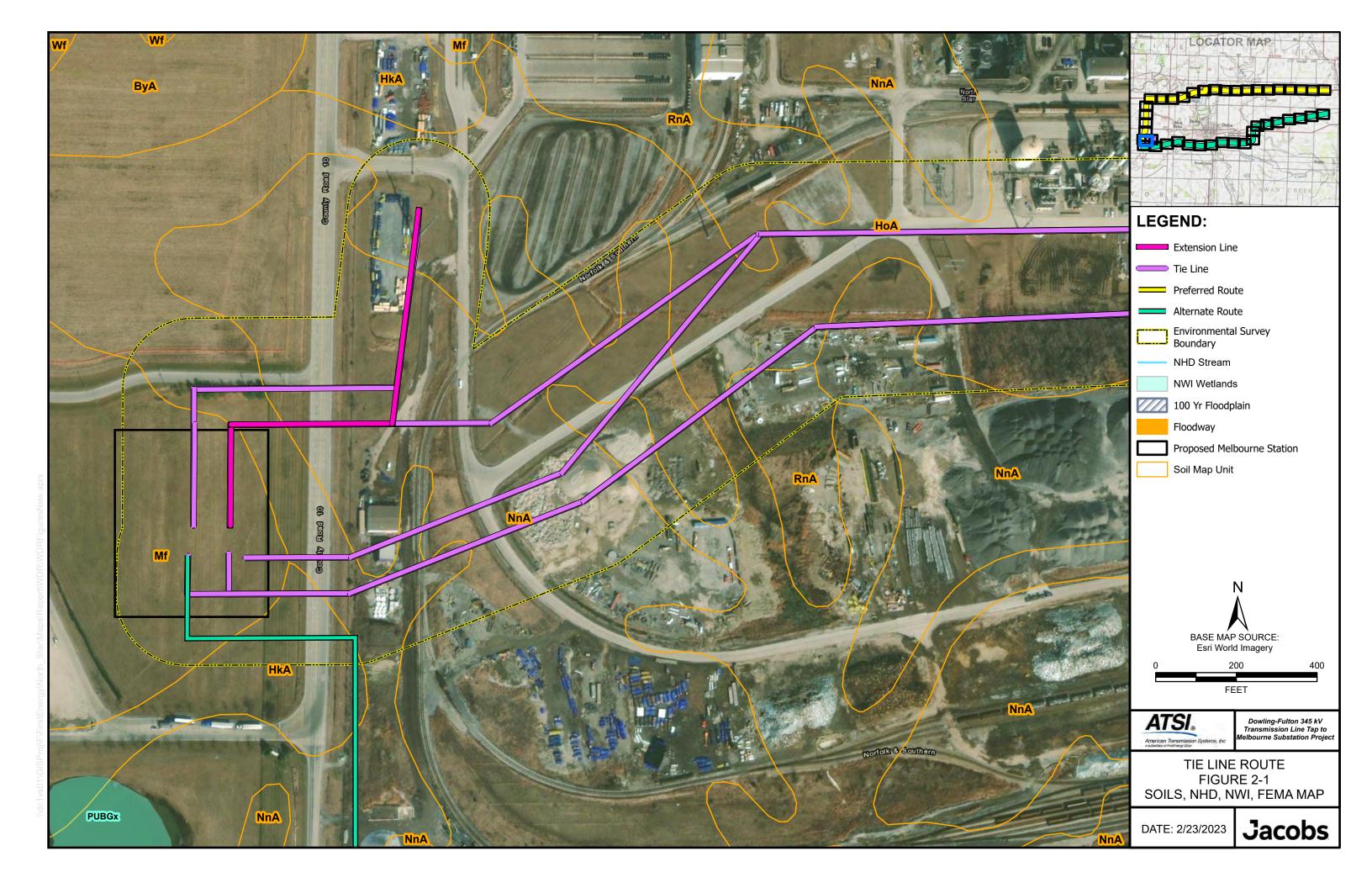
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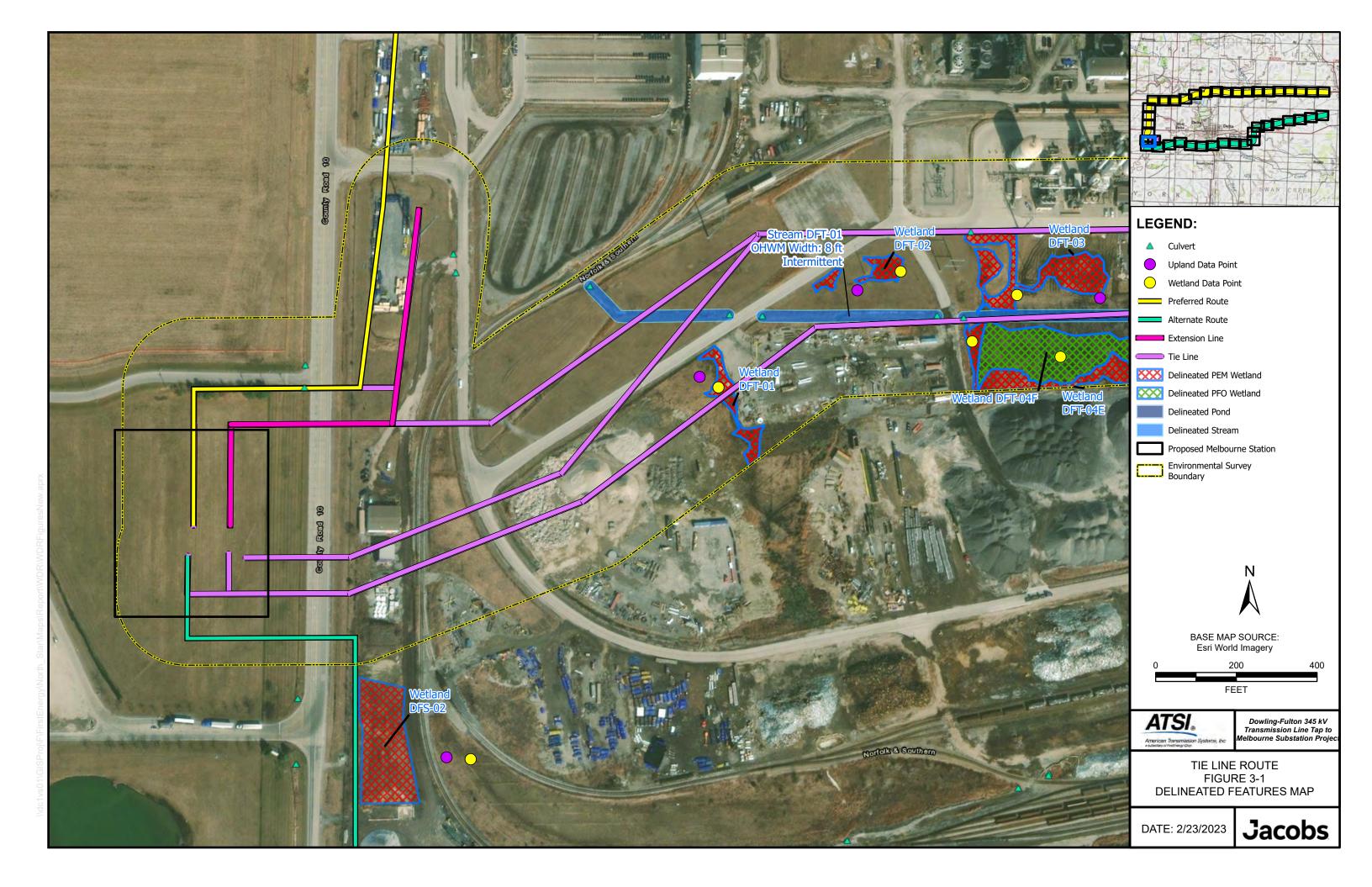
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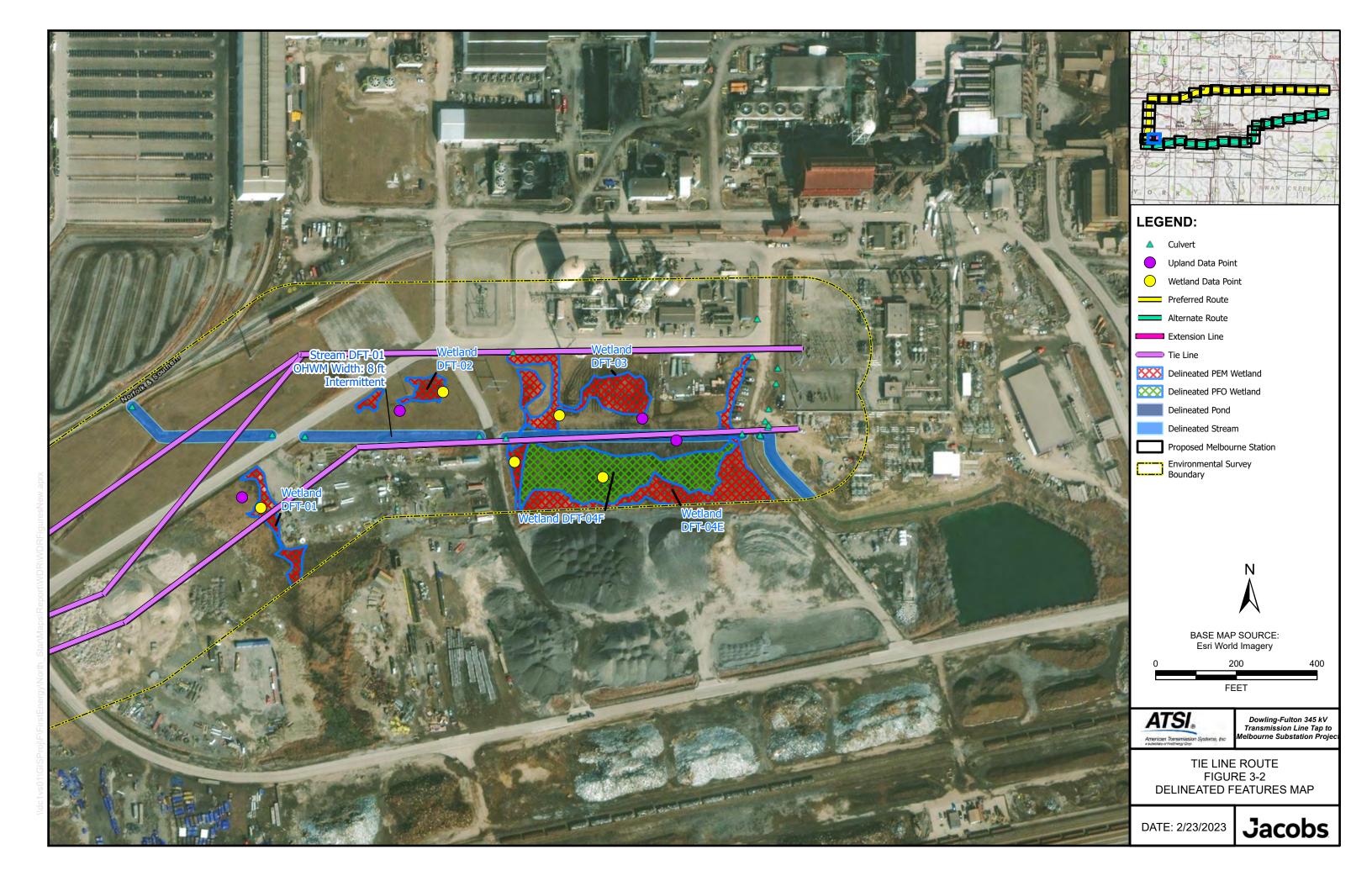


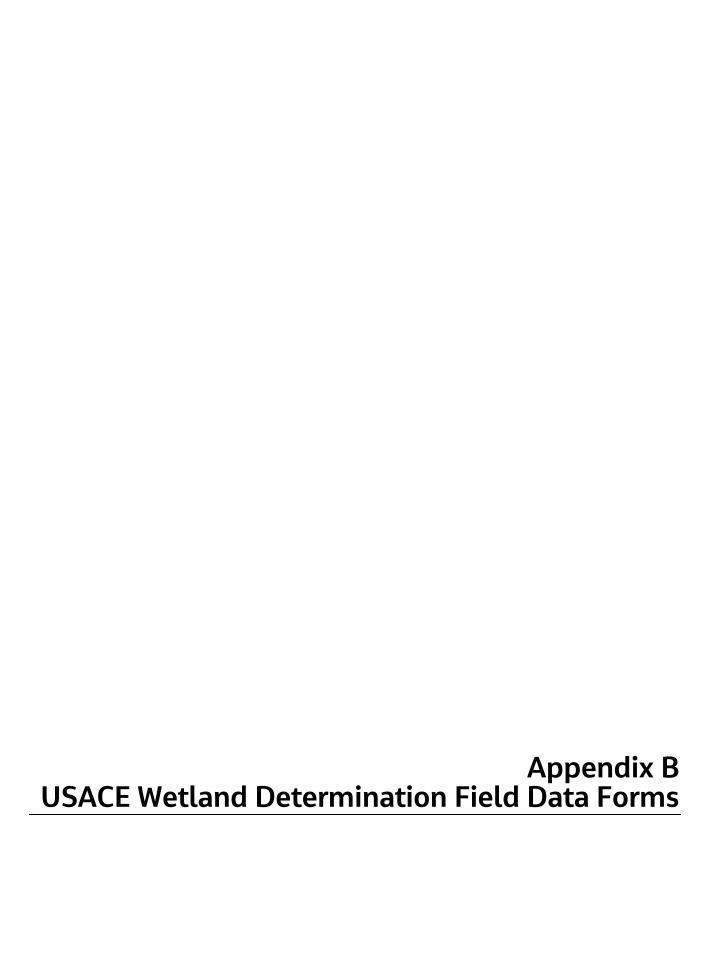








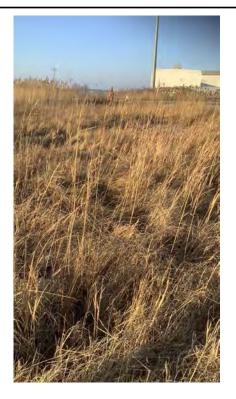




Project/Site:		City/C	County:		Sampling Date:			
Applicant/Owner:				State:	Sampling Point:			
Investigator(s):		Section	on, Township	, Range:				
					Slope (%):			
					Datum:			
					fication:			
Are climatic / hydrologic condi								
Are Vegetation, Soil					'present? Yes No			
Are Vegetation, Soil	, or Hydrology	naturally problemate	atic? ((If needed, explain any answ	ers in Remarks.)			
SUMMARY OF FINDIN	GS – Attach sit	e map showing san	npling poi	nt locations, transect	s, important features, etc.			
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?	Yes	No No No	Is the Sam within a We					
HYDROLOGY								
Wetland Hydrology Indicat	ors:			Secondary Indic	cators (minimum of two required)			
Primary Indicators (minimum	of one is required; of	check all that apply)		Surface So	il Cracks (B6)			
Surface Water (A1)		es (B9)	Drainage P	atterns (B10)				
High Water Table (A2)		Aquatic Fauna (B13)			Lines (B16)			
Saturation (A3)		Marl Deposits (B15)		Dry-Season Water Table (C2)				
Water Marks (B1)		Hydrogen Sulfide Od		Crayfish Burrows (C8)				
Sediment Deposits (B2)		Oxidized Rhizospher						
Drift Deposits (B3)		Presence of ReducedRecent Iron Reduction		Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4) Iron Deposits (B5)		Thin Muck Surface (0		Soils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)				
Inundation Visible on Ae	rial Imagery (B7)	Other (Explain in Rer			raphic Relief (D4)			
Sparsely Vegetated Con		Outer (Explain in reel	namo)	FAC-Neutra				
Field Observations:								
Surface Water Present?	Yes No _	Depth (inches):						
Water Table Present?	Yes No _	Depth (inches):						
Saturation Present?	Yes No _	Depth (inches):		Wetland Hydrology Prese	ent? Yes No			
(includes capillary fringe) Describe Recorded Data (str	eam gauge, monitor	ing well, aerial photos, pre	 vious inspect	ions), if available:				
Remarks:								

	Absolute	Dominant Indicator	Sampling Point:			
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:			
I			Number of Dominant Species That Are OBL, FACW, or FAC:(A)			
			Total Number of Dominant Species Across All Strata: (B)			
			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)			
			Prevalence Index worksheet:			
			Total % Cover of: Multiply by:			
		= Total Cover	OBL species x 1 =			
apling/Shrub Stratum (Plot size:	_)		FACW species x 2 =			
			FAC species x 3 =			
			FACU species x 4 =			
			UPL species x 5 =			
			Column Totals: (A) (B)			
			Prevalence Index = B/A =			
			Hydrophytic Vegetation Indicators:			
			1 - Rapid Test for Hydrophytic Vegetation			
-			2 - Dominance Test is >50%			
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹			
erb Stratum (Plot size:)			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			
0			size, and woody plants less than 3.28 ft tall.			
1 2			Woody vines – All woody vines greater than 3.28 ft in			
£		= Total Cover	height.			
Voody Vine Stratum (Plot size:)		- Total Gover				
			Hydrophytic			
			Vegetation Present? Yes No			
l			Present? Yes No			
·						
		= Total Cover				

SOIL									Sampling I	Point:	
Profile Desc	cription: (Describe t	to the dept				or confirm	the absence of	of indicato	ors.)		
Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remarks	•	
<u>(IIICIICS)</u>	Color (moist)		Color (moist)	70	Туре	LUC	Texture		Remarks	·	
			-	-							
-											
-											
-											
¹Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore	Lining, M=M	atrix.	
Hydric Soil		-	·				Indicators for Problematic Hydric Soils ³ :				
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,	2 cm M	uck (A10) ((LRR K, L, N	ILRA 149B)	
	pipedon (A2)		MLRA 149B						ox (A16) (LR		
Black Hi	stic (A3) en Sulfide (A4)	-	Thin Dark Surfa Loamy Mucky N			-		-	or Peat (S3) (LRR K, L, I	(LRR K, L, R)	
	d Layers (A5)	-	Loamy Gleyed			, L)			Surface (S8)	•	
	d Below Dark Surface	e (A11)	Depleted Matrix						(S9) (LRR /		
	ark Surface (A12)		Redox Dark Su		Iron-Manganese Masses (F12) (LRR K, L, R)						
	lucky Mineral (S1)	-	Depleted Dark		7)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
	Gleyed Matrix (S4)	-	Redox Depress	ions (F8)				Mesic Spodic (TA6) (MLRA 144A, 145, 149B) _ Red Parent Material (F21)			
	Redox (S5) Matrix (S6)									=12)	
	rface (S7) (LRR R, N	ILRA 149B)				Very Shallow Dark Surface (TF12) Other (Explain in Remarks)				
								•	,		
	f hydrophytic vegetat	ion and wet	tland hydrology mus	st be prese	nt, unless	disturbed of	or problematic.				
	Layer (if observed):										
,. <u> </u>	ches):						Hydric Soil F	Dragont?	Voo	No	
Remarks:	cries)						nyuric Soil i	rieseiit?	165		
Remarks.											











Project/Site:		City/C	County:		Sampling Date:			
Applicant/Owner:				State:	Sampling Point:			
Investigator(s):		Section	on, Township	, Range:				
					Slope (%):			
					Datum:			
					fication:			
Are climatic / hydrologic condi								
Are Vegetation, Soil					'present? Yes No			
Are Vegetation, Soil	, or Hydrology	naturally problemate	atic? ((If needed, explain any answ	ers in Remarks.)			
SUMMARY OF FINDIN	GS – Attach sit	e map showing san	npling poi	nt locations, transect	s, important features, etc.			
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?	Yes	No No No	Is the Sam within a We					
HYDROLOGY								
Wetland Hydrology Indicat	ors:			Secondary India	cators (minimum of two required)			
Primary Indicators (minimum	of one is required; of	check all that apply)		Surface So	il Cracks (B6)			
Surface Water (A1)		es (B9)	Drainage P	atterns (B10)				
High Water Table (A2)		Aquatic Fauna (B13)			Lines (B16)			
Saturation (A3)		Marl Deposits (B15)		Dry-Season Water Table (C2)				
Water Marks (B1)		Hydrogen Sulfide Od		Crayfish Burrows (C8)				
Sediment Deposits (B2)		Oxidized Rhizospher						
Drift Deposits (B3)		Presence of ReducedRecent Iron Reduction		Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4) Iron Deposits (B5)		Thin Muck Surface (0		Soils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)				
Inundation Visible on Ae	rial Imagery (B7)	Other (Explain in Rer			raphic Relief (D4)			
Sparsely Vegetated Con		Outer (Explain in reel	namo)	FAC-Neutra				
Field Observations:								
Surface Water Present?	Yes No _	Depth (inches):						
Water Table Present?	Yes No _	Depth (inches):						
Saturation Present?	Yes No _	Depth (inches):		Wetland Hydrology Prese	ent? Yes No			
(includes capillary fringe) Describe Recorded Data (str	eam gauge, monitor	ing well, aerial photos, pre	 vious inspect	ions), if available:				
Remarks:								

	Absolute	Dominant Indicator	Sampling Point:			
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:			
I			Number of Dominant Species That Are OBL, FACW, or FAC:(A)			
			Total Number of Dominant Species Across All Strata: (B)			
			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)			
			Prevalence Index worksheet:			
			Total % Cover of: Multiply by:			
		= Total Cover	OBL species x 1 =			
apling/Shrub Stratum (Plot size:	_)		FACW species x 2 =			
			FAC species x 3 =			
			FACU species x 4 =			
			UPL species x 5 =			
			Column Totals: (A) (B)			
			Prevalence Index = B/A =			
			Hydrophytic Vegetation Indicators:			
			1 - Rapid Test for Hydrophytic Vegetation			
-			2 - Dominance Test is >50%			
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹			
erb Stratum (Plot size:)			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			
0			size, and woody plants less than 3.28 ft tall.			
1 2			Woody vines – All woody vines greater than 3.28 ft in			
£		= Total Cover	height.			
Voody Vine Stratum (Plot size:)		- Total Gover				
			Hydrophytic			
			Vegetation Present? Yes No			
l			Present? Yes No			
·						
		= Total Cover				

SOIL									Sampling I	Point:	
Profile Desc	cription: (Describe t	to the dept				or confirm	the absence of	of indicato	ors.)		
Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remarks	•	
<u>(IIICIICS)</u>	Color (moist)		Color (moist)	70	Туре	LUC	Texture		Remarks	·	
			-	-							
-											
-											
-											
¹Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore	Lining, M=M	atrix.	
Hydric Soil		-	·				Indicators for Problematic Hydric Soils ³ :				
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,	2 cm M	uck (A10) ((LRR K, L, N	ILRA 149B)	
	pipedon (A2)		MLRA 149B						ox (A16) (LR		
Black Hi	stic (A3) en Sulfide (A4)	-	Thin Dark Surfa Loamy Mucky N			-		-	or Peat (S3) (LRR K, L, I	(LRR K, L, R)	
	d Layers (A5)	-	Loamy Gleyed			, L)			Surface (S8)	•	
	d Below Dark Surface	e (A11)	Depleted Matrix						(S9) (LRR)		
	ark Surface (A12)		Redox Dark Su		Iron-Manganese Masses (F12) (LRR K, L, R)						
	lucky Mineral (S1)	-	Depleted Dark		7)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
	Gleyed Matrix (S4)	-	Redox Depress	ions (F8)				Mesic Spodic (TA6) (MLRA 144A, 145, 149B) _ Red Parent Material (F21)			
	Redox (S5) Matrix (S6)									=12)	
	rface (S7) (LRR R, N	ILRA 149B)				Very Shallow Dark Surface (TF12) Other (Explain in Remarks)				
								•	,		
	f hydrophytic vegetat	ion and wet	tland hydrology mus	st be prese	nt, unless	disturbed of	or problematic.				
	Layer (if observed):										
,. <u> </u>	ches):						Hydric Soil F	Dragont?	Voo	No	
Remarks:	cries)						nyuric Soil i	rieseiit?	165		
Remarks.											







Project/Site:		City/C	County:		Sampling Date:			
Applicant/Owner:				State:	Sampling Point:			
Investigator(s):		Section	on, Township	, Range:				
					Slope (%):			
					Datum:			
					fication:			
Are climatic / hydrologic condi								
Are Vegetation, Soil					'present? Yes No			
Are Vegetation, Soil	, or Hydrology	naturally problemate	atic? ((If needed, explain any answ	ers in Remarks.)			
SUMMARY OF FINDIN	GS – Attach sit	e map showing san	npling poi	nt locations, transect	s, important features, etc.			
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?	Yes	No No No	Is the Sam within a We					
HYDROLOGY								
Wetland Hydrology Indicat	ors:			Secondary India	cators (minimum of two required)			
Primary Indicators (minimum	of one is required; of	check all that apply)		Surface So	il Cracks (B6)			
Surface Water (A1)		es (B9)	Drainage P	atterns (B10)				
High Water Table (A2)		Aquatic Fauna (B13)			Lines (B16)			
Saturation (A3)		Marl Deposits (B15)		Dry-Season Water Table (C2)				
Water Marks (B1)		Hydrogen Sulfide Od		Crayfish Burrows (C8)				
Sediment Deposits (B2)		Oxidized Rhizospher						
Drift Deposits (B3)		Presence of ReducedRecent Iron Reduction		Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4) Iron Deposits (B5)		Thin Muck Surface (0		Soils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)				
Inundation Visible on Ae	rial Imagery (B7)	Other (Explain in Rer			raphic Relief (D4)			
Sparsely Vegetated Con		Outer (Explain in reel	namo)	FAC-Neutra				
Field Observations:								
Surface Water Present?	Yes No _	Depth (inches):						
Water Table Present?	Yes No _	Depth (inches):						
Saturation Present?	Yes No _	Depth (inches):		Wetland Hydrology Prese	ent? Yes No			
(includes capillary fringe) Describe Recorded Data (str	eam gauge, monitor	ing well, aerial photos, pre	 vious inspect	ions), if available:				
Remarks:								

	Absolute	Dominant Indicator	Sampling Point:			
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:			
I			Number of Dominant Species That Are OBL, FACW, or FAC:(A)			
			Total Number of Dominant Species Across All Strata: (B)			
			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)			
			Prevalence Index worksheet:			
			Total % Cover of: Multiply by:			
		= Total Cover	OBL species x 1 =			
apling/Shrub Stratum (Plot size:	_)		FACW species x 2 =			
			FAC species x 3 =			
			FACU species x 4 =			
			UPL species x 5 =			
			Column Totals: (A) (B)			
			Prevalence Index = B/A =			
			Hydrophytic Vegetation Indicators:			
			1 - Rapid Test for Hydrophytic Vegetation			
-			2 - Dominance Test is >50%			
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹			
erb Stratum (Plot size:)			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			
0			size, and woody plants less than 3.28 ft tall.			
1 2			Woody vines – All woody vines greater than 3.28 ft in			
£		= Total Cover	height.			
Voody Vine Stratum (Plot size:)		- Total Gover				
			Hydrophytic			
			Vegetation Present? Yes No			
l			Present? Yes No			
·						
		= Total Cover				

SOIL									Sampling I	Point:	
Profile Desc	cription: (Describe t	to the dept				or confirm	the absence of	of indicato	ors.)		
Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remarks	•	
<u>(IIICIICS)</u>	Color (moist)		Color (moist)	70	Туре	LUC	Texture		Remarks	·	
			-	-							
-											
-											
-											
¹Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore	Lining, M=M	atrix.	
Hydric Soil		-	·				Indicators for Problematic Hydric Soils ³ :				
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,	2 cm M	uck (A10) ((LRR K, L, N	ILRA 149B)	
	pipedon (A2)		MLRA 149B						ox (A16) (LR		
Black Hi	stic (A3) en Sulfide (A4)	-	Thin Dark Surfa Loamy Mucky N			-		-	or Peat (S3) (LRR K, L, I	(LRR K, L, R)	
	d Layers (A5)	-	Loamy Gleyed			, L)			Surface (S8)	•	
	d Below Dark Surface	e (A11)	Depleted Matrix						(S9) (LRR /		
	ark Surface (A12)		Redox Dark Su		Iron-Manganese Masses (F12) (LRR K, L, R)						
	lucky Mineral (S1)	-	Depleted Dark		7)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
	Gleyed Matrix (S4)	-	Redox Depress	ions (F8)				Mesic Spodic (TA6) (MLRA 144A, 145, 149B) _ Red Parent Material (F21)			
	Redox (S5) Matrix (S6)									=12)	
	rface (S7) (LRR R, N	ILRA 149B)				Very Shallow Dark Surface (TF12) Other (Explain in Remarks)				
								•	,		
	f hydrophytic vegetat	ion and wet	tland hydrology mus	st be prese	nt, unless	disturbed of	or problematic.				
	Layer (if observed):										
,. <u> </u>	ches):						Hydric Soil F	Dragont?	Vaa	No	
Remarks:	cries)						nyuric Soil i	rieseiit?	165		
Remarks.											











Project/Site:		City/C	County:		Sampling Date:			
Applicant/Owner:				State:	Sampling Point:			
Investigator(s):		Section	on, Township	, Range:				
					Slope (%):			
					Datum:			
					fication:			
Are climatic / hydrologic condi								
Are Vegetation, Soil					'present? Yes No			
Are Vegetation, Soil	, or Hydrology	naturally problemate	atic? ((If needed, explain any answ	ers in Remarks.)			
SUMMARY OF FINDIN	GS – Attach sit	e map showing san	npling poi	nt locations, transect	s, important features, etc.			
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?	Yes	No No No	Is the Sam within a We					
HYDROLOGY								
Wetland Hydrology Indicat	ors:			Secondary Indic	cators (minimum of two required)			
Primary Indicators (minimum	of one is required; of	check all that apply)		Surface So	il Cracks (B6)			
Surface Water (A1)		es (B9)	Drainage P	atterns (B10)				
High Water Table (A2)		Aquatic Fauna (B13)			Lines (B16)			
Saturation (A3)		Marl Deposits (B15)		Dry-Season Water Table (C2)				
Water Marks (B1)		Hydrogen Sulfide Od		Crayfish Burrows (C8)				
Sediment Deposits (B2)		Oxidized Rhizospher						
Drift Deposits (B3)		Presence of ReducedRecent Iron Reduction		Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4) Iron Deposits (B5)		Thin Muck Surface (0		Soils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)				
Inundation Visible on Ae	rial Imagery (B7)	Other (Explain in Rer			raphic Relief (D4)			
Sparsely Vegetated Con		Outer (Explain in reel	namo)	FAC-Neutra				
Field Observations:								
Surface Water Present?	Yes No _	Depth (inches):						
Water Table Present?	Yes No _	Depth (inches):						
Saturation Present?	Yes No _	Depth (inches):		Wetland Hydrology Prese	ent? Yes No			
(includes capillary fringe) Describe Recorded Data (str	eam gauge, monitor	ing well, aerial photos, pre	 vious inspect	ions), if available:				
Remarks:								

	Absolute	Dominant Indicator	Sampling Point:			
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:			
I			Number of Dominant Species That Are OBL, FACW, or FAC:(A)			
			Total Number of Dominant Species Across All Strata: (B)			
			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)			
			Prevalence Index worksheet:			
			Total % Cover of: Multiply by:			
		= Total Cover	OBL species x 1 =			
apling/Shrub Stratum (Plot size:	_)		FACW species x 2 =			
			FAC species x 3 =			
			FACU species x 4 =			
			UPL species x 5 =			
			Column Totals: (A) (B)			
			Prevalence Index = B/A =			
			Hydrophytic Vegetation Indicators:			
			1 - Rapid Test for Hydrophytic Vegetation			
-			2 - Dominance Test is >50%			
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹			
erb Stratum (Plot size:)			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			
0			size, and woody plants less than 3.28 ft tall.			
1 2			Woody vines – All woody vines greater than 3.28 ft in			
£		= Total Cover	height.			
Voody Vine Stratum (Plot size:)		- Total Gover				
			Hydrophytic			
			Vegetation Present? Yes No			
l			Present? Yes No			
·						
		= Total Cover				

SOIL									Sampling I	Point:	
Profile Desc	cription: (Describe t	to the dept				or confirm	the absence of	of indicato	ors.)		
Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remarks	•	
<u>(IIICIICS)</u>	Color (moist)		Color (moist)	70	Туре	LUC	Texture		Remarks	·	
			-	-							
-											
-											
-											
¹Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore	Lining, M=M	atrix.	
Hydric Soil		-	·				Indicators for Problematic Hydric Soils ³ :				
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,	2 cm M	uck (A10) ((LRR K, L, N	ILRA 149B)	
	pipedon (A2)		MLRA 149B						ox (A16) (LR		
Black Hi	stic (A3) en Sulfide (A4)	-	Thin Dark Surfa Loamy Mucky N			-		-	or Peat (S3) (LRR K, L, I	(LRR K, L, R)	
	d Layers (A5)	-	Loamy Gleyed			, L)			Surface (S8)	•	
	d Below Dark Surface	e (A11)	Depleted Matrix						(S9) (LRR /		
	ark Surface (A12)		Redox Dark Su		Iron-Manganese Masses (F12) (LRR K, L, R)						
	lucky Mineral (S1)	-	Depleted Dark		7)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
	Gleyed Matrix (S4)	-	Redox Depress	ions (F8)				Mesic Spodic (TA6) (MLRA 144A, 145, 149B) _ Red Parent Material (F21)			
	Redox (S5) Matrix (S6)									=12)	
	rface (S7) (LRR R, N	ILRA 149B)				Very Shallow Dark Surface (TF12) Other (Explain in Remarks)				
								•	,		
	f hydrophytic vegetat	ion and wet	tland hydrology mus	st be prese	nt, unless	disturbed of	or problematic.				
	Layer (if observed):										
,. <u> </u>	ches):						Hydric Soil F	Dragont?	Vaa	No	
Remarks:	cries)						nyuric Soil i	rieseiit?	165		
Remarks.											







Project/Site:		City/C	county:		Sampling Date:				
Applicant/Owner:				State:	State: Sampling Point:				
Investigator(s):		Section	on, Township	, Range:					
					Slope (%):				
					Datum:				
					cation:				
Are climatic / hydrologic condition									
Are Vegetation, Soil					present? Yes No				
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any answ	ers in Remarks.)				
SUMMARY OF FINDING	S – Attach site	map showing sam	npling poi	nt locations, transect	s, important features, etc.				
Hydrophytic Vegetation Preser	nt? Yes	No	Is the Sam	pled Area	<u> </u>				
Hydric Soil Present? Wetland Hydrology Present?		No No		nal Wetland Site ID:					
HYDROLOGY									
Wetland Hydrology Indicator				Secondary Indic	ators (minimum of two required)				
Primary Indicators (minimum c		eck all that apply)		Surface Soil Cracks (B6)					
Surface Water (A1)	_	Water-Stained Leave	s (B9)		atterns (B10)				
High Water Table (A2)	_	Aquatic Fauna (B13)		Moss Trim Lines (B16)					
Saturation (A3)	_	Marl Deposits (B15)		Dry-Season Water Table (C2)					
Water Marks (B1)		Hydrogen Sulfide Ode		Crayfish Burrows (C8)					
Sediment Deposits (B2)		Oxidized Rhizosphere							
Drift Deposits (B3)		Presence of Reduced		Stunted or Stressed Plants (D1)					
Algal Mat or Crust (B4)		Recent Iron Reductio							
Iron Deposits (B5) Inundation Visible on Aeria		Thin Muck Surface (C		Shallow Aquitard (D3) Microtopographic Relief (D4)					
Sparsely Vegetated Conc		Other (Explain in Ren	ilaiks)	Microtopogi					
Field Observations:	ave duriace (Bo)			170-100018	11 1031 (100)				
Surface Water Present?	Yes No	Depth (inches):							
Water Table Present?		Depth (inches):							
Saturation Present?		Depth (inches):		Wetland Hydrology Prese	nt? Yes No				
(includes capillary fringe) Describe Recorded Data (stream)	am gauge, monitorin	g well, aerial photos, pre	vious inspect	tions), if available:					
Remarks:									

	ants.	Daminant Indiantan	Sampling Point:
Tree Stratum (Plot size:)	Absolute <u>% Cover</u>	Dominant Indicator Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			
			Total Number of Dominant Species Across All Strata: (B)
-			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
i			(102)
·			Prevalence Index worksheet:
			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
apling/Shrub Stratum (Plot size:	_)		FACW species x 2 =
			FAC species x 3 =
·			FACU species x 4 =
-			UPL species x 5 =
			Column Totals: (A) (B)
			Prevalence Index = B/A =
			Hydrophytic Vegetation Indicators:
-			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
erb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
			Problematic Hydrophytic Vegetation ¹ (Explain)
l			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
0			size, and woody plants less than 3.28 ft tall.
1			Woody vines – All woody vines greater than 3.28 ft in
2			height.
		= Total Cover	
Voody Vine Stratum (Plot size:)			
			Hydrophytic
3			Vegetation Present? Yes No
l. <u> </u>			
		= Total Cover	

SOIL									Sampling	Point:	
Profile Desc	cription: (Describe t	o the dept				or confirm	the absence of	of indicato	ors.)		
Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remarks	•	
<u>(IIICIIC3)</u>	<u> </u>		COIOI (IIIOISI)		Турс	LOC	TOXIGIC		Romano	,	
			_								
-											
			_								
-											
_											
-											
¹Type: C=Co	oncentration, D=Depl	etion RM=	Reduced Matrix M	S=Masked	Sand Gra	ains	² I ocation:	PI =Pore	Lining, M=M	atrix	
Hydric Soil		<u> </u>					Indicators f				
Histosol	(A1)		Polyvalue Belov	w Surface	(S8) (LRF	RR,	2 cm M	uck (A10) ((LRR K, L, N	/ILRA 149B)	
	oipedon (A2)		MLRA 149B		Coast Prairie Redox (A16) (LRR K, L, R)						
Black Hi			Thin Dark Surfa	-							
	en Sulfide (A4)	•	Loamy Mucky N			, L)			(LRR K, L,	-	
	d Layers (A5) d Below Dark Surface	(A11)	Loamy Gleyed Depleted Matrix		,				Surface (S8) (S9) (LRR I		
	ark Surface (A12)	()	Redox Dark Su) (LRR K, L, R)	
	lucky Mineral (S1)		Depleted Dark	Surface (F	7)					9) (MLRA 149B)	
	Gleyed Matrix (S4)		Redox Depress	ions (F8)						I4A, 145, 149B)	
-	Redox (S5)						Red Parent Material (F21)				
	Matrix (S6)	II DA 140D					Very Shallow Dark Surface (TF12) Other (Explain in Remarks)				
Dark Su	rface (S7) (LRR R, M	ILKA 1430	')				Other (c	-хріаін III г	temarks)		
³ Indicators of	f hydrophytic vegetati	ion and we	tland hydrology mus	st be prese	nt, unless	disturbed of	or problematic.				
	Layer (if observed):										
,. 											
Depth (inc	ches):						Hydric Soil F	Present?	Yes	No	
Remarks:											











Project/Site:		City/C	county:		Sampling Date:				
Applicant/Owner:				State:	State: Sampling Point:				
Investigator(s):		Section	on, Township	, Range:					
					Slope (%):				
					Datum:				
					cation:				
Are climatic / hydrologic condition									
Are Vegetation, Soil					present? Yes No				
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any answ	ers in Remarks.)				
SUMMARY OF FINDING	S – Attach site	map showing sam	npling poi	nt locations, transect	s, important features, etc.				
Hydrophytic Vegetation Preser	nt? Yes	No	Is the Sam	pled Area	<u> </u>				
Hydric Soil Present? Wetland Hydrology Present?		No No		nal Wetland Site ID:					
HYDROLOGY									
Wetland Hydrology Indicator				Secondary Indic	ators (minimum of two required)				
Primary Indicators (minimum c		eck all that apply)		Surface Soil Cracks (B6)					
Surface Water (A1)	_	Water-Stained Leave	s (B9)		atterns (B10)				
High Water Table (A2)	_	Aquatic Fauna (B13)		Moss Trim Lines (B16)					
Saturation (A3)	_	Marl Deposits (B15)		Dry-Season Water Table (C2)					
Water Marks (B1)		Hydrogen Sulfide Ode		Crayfish Burrows (C8)					
Sediment Deposits (B2)		Oxidized Rhizosphere							
Drift Deposits (B3)		Presence of Reduced		Stunted or Stressed Plants (D1)					
Algal Mat or Crust (B4)		Recent Iron Reductio							
Iron Deposits (B5) Inundation Visible on Aeria		Thin Muck Surface (C		Shallow Aquitard (D3) Microtopographic Relief (D4)					
Sparsely Vegetated Conc		Other (Explain in Ren	ilaiks)	Microtopogi					
Field Observations:	ave duriace (Bo)			170-100018	11 1031 (100)				
Surface Water Present?	Yes No	Depth (inches):							
Water Table Present?		Depth (inches):							
Saturation Present?		Depth (inches):		Wetland Hydrology Prese	nt? Yes No				
(includes capillary fringe) Describe Recorded Data (stream)	am gauge, monitorin	g well, aerial photos, pre	vious inspect	tions), if available:					
Remarks:									

	ants.	Daminant Indiantan	Sampling Point:
Tree Stratum (Plot size:)	Absolute <u>% Cover</u>	Dominant Indicator Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			
			Total Number of Dominant Species Across All Strata: (B)
-			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
i			(102)
·			Prevalence Index worksheet:
			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
apling/Shrub Stratum (Plot size:	_)		FACW species x 2 =
			FAC species x 3 =
·			FACU species x 4 =
-			UPL species x 5 =
			Column Totals: (A) (B)
			Prevalence Index = B/A =
			Hydrophytic Vegetation Indicators:
-			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
erb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
			Problematic Hydrophytic Vegetation ¹ (Explain)
l			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
0			size, and woody plants less than 3.28 ft tall.
1			Woody vines – All woody vines greater than 3.28 ft in
2			height.
		= Total Cover	
Voody Vine Stratum (Plot size:)			
			Hydrophytic
3			Vegetation Present? Yes No
l. <u> </u>			
		= Total Cover	

SOIL									Sampling	Point:	
Profile Desc	cription: (Describe t	o the dept				or confirm	the absence of	of indicato	ors.)		
Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remarks	•	
<u>(IIICIIC3)</u>	<u> </u>		COIOI (IIIOISI)		Турс	LOC	TOXIGIC		Romano	,	
			_								
-											
			_								
-											
_											
-											
¹Type: C=Co	oncentration, D=Depl	etion RM=	Reduced Matrix M	S=Masked	Sand Gra	ains	² I ocation:	PI =Pore	Lining, M=M	atrix	
Hydric Soil		<u> </u>					Indicators f				
Histosol	(A1)		Polyvalue Belov	w Surface	(S8) (LRF	RR,	2 cm M	uck (A10) ((LRR K, L, N	/ILRA 149B)	
	oipedon (A2)		MLRA 149B		Coast Prairie Redox (A16) (LRR K, L, R)						
Black Hi			Thin Dark Surfa	-							
	en Sulfide (A4)	•	Loamy Mucky N			, L)			(LRR K, L,	-	
	d Layers (A5) d Below Dark Surface	(A11)	Loamy Gleyed Depleted Matrix		,				Surface (S8) (S9) (LRR I		
	ark Surface (A12)	()	Redox Dark Su) (LRR K, L, R)	
	lucky Mineral (S1)		Depleted Dark	Surface (F	7)					9) (MLRA 149B)	
	Gleyed Matrix (S4)		Redox Depress	ions (F8)						I4A, 145, 149B)	
-	Redox (S5)						Red Parent Material (F21)				
	Matrix (S6)	II DA 140D					Very Shallow Dark Surface (TF12) Other (Explain in Remarks)				
Dark Su	rface (S7) (LRR R, M	ILKA 1430	')				Other (c	-хріаін III г	temarks)		
³ Indicators of	f hydrophytic vegetati	ion and we	tland hydrology mus	st be prese	nt, unless	disturbed of	or problematic.				
	Layer (if observed):										
,. 											
Depth (inc	ches):						Hydric Soil F	Present?	Yes	No	
Remarks:											









Project/Site:		City/C	county:		Sampling Date:				
Applicant/Owner:				State:	State: Sampling Point:				
Investigator(s):		Section	on, Township	, Range:					
					Slope (%):				
					Datum:				
					cation:				
Are climatic / hydrologic condition									
Are Vegetation, Soil					present? Yes No				
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any answ	ers in Remarks.)				
SUMMARY OF FINDING	S – Attach site	map showing sam	npling poi	nt locations, transect	s, important features, etc.				
Hydrophytic Vegetation Preser	nt? Yes	No	Is the Sam	pled Area	<u> </u>				
Hydric Soil Present? Wetland Hydrology Present?		No No		nal Wetland Site ID:					
HYDROLOGY									
Wetland Hydrology Indicator				Secondary Indic	ators (minimum of two required)				
Primary Indicators (minimum c		eck all that apply)		Surface Soil Cracks (B6)					
Surface Water (A1)	_	Water-Stained Leave	s (B9)		atterns (B10)				
High Water Table (A2)	_	Aquatic Fauna (B13)		Moss Trim Lines (B16)					
Saturation (A3)	_	Marl Deposits (B15)		Dry-Season Water Table (C2)					
Water Marks (B1)		Hydrogen Sulfide Ode		Crayfish Burrows (C8)					
Sediment Deposits (B2)		Oxidized Rhizosphere							
Drift Deposits (B3)		Presence of Reduced		Stunted or Stressed Plants (D1)					
Algal Mat or Crust (B4)		Recent Iron Reductio							
Iron Deposits (B5) Inundation Visible on Aeria		Thin Muck Surface (C		Shallow Aquitard (D3) Microtopographic Relief (D4)					
Sparsely Vegetated Conc		Other (Explain in Ren	ilaiks)	Microtopogi					
Field Observations:	ave duriace (Bo)			170-100018	11 1031 (100)				
Surface Water Present?	Yes No	Depth (inches):							
Water Table Present?		Depth (inches):							
Saturation Present?		Depth (inches):		Wetland Hydrology Prese	nt? Yes No				
(includes capillary fringe) Describe Recorded Data (stream)	am gauge, monitorin	g well, aerial photos, pre	vious inspect	tions), if available:					
Remarks:									

	ants.	Daminant Indiantan	Sampling Point:
Tree Stratum (Plot size:)	Absolute <u>% Cover</u>	Dominant Indicator Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			
			Total Number of Dominant Species Across All Strata: (B)
-			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
i			(102)
·			Prevalence Index worksheet:
			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
apling/Shrub Stratum (Plot size:	_)		FACW species x 2 =
			FAC species x 3 =
·			FACU species x 4 =
-			UPL species x 5 =
			Column Totals: (A) (B)
			Prevalence Index = B/A =
			Hydrophytic Vegetation Indicators:
-			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
erb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
			Problematic Hydrophytic Vegetation ¹ (Explain)
l			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
0			size, and woody plants less than 3.28 ft tall.
1			Woody vines – All woody vines greater than 3.28 ft in
2			height.
		= Total Cover	
Voody Vine Stratum (Plot size:)			
			Hydrophytic
3			Vegetation Present? Yes No
l. <u> </u>			
		= Total Cover	

SOIL									Sampling	Point:	
Profile Desc	cription: (Describe t	o the dept				or confirm	the absence of	of indicato	ors.)		
Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remarks	•	
<u>(IIICIIC3)</u>	<u> </u>		COIOI (IIIOISI)		Турс	LOC	TOXIGIC		Romano	,	
			_								
-											
			_								
-											
_											
-											
¹Type: C=Co	oncentration, D=Depl	etion RM=	Reduced Matrix M	S=Masked	Sand Gra	ains	² I ocation:	PI =Pore	Lining, M=M	atrix	
Hydric Soil		<u> </u>					Indicators f				
Histosol	(A1)		Polyvalue Belov	w Surface	(S8) (LRF	RR,	2 cm M	uck (A10) ((LRR K, L, N	/ILRA 149B)	
	oipedon (A2)		MLRA 149B		Coast Prairie Redox (A16) (LRR K, L, R)						
Black Hi			Thin Dark Surfa	-							
	en Sulfide (A4)	•	Loamy Mucky N			, L)			(LRR K, L,	-	
	d Layers (A5) d Below Dark Surface	(A11)	Loamy Gleyed Depleted Matrix		,				Surface (S8) (S9) (LRR I		
	ark Surface (A12)	()	Redox Dark Su) (LRR K, L, R)	
	lucky Mineral (S1)		Depleted Dark	Surface (F	7)					9) (MLRA 149B)	
	Gleyed Matrix (S4)		Redox Depress	ions (F8)						I4A, 145, 149B)	
-	Redox (S5)						Red Parent Material (F21)				
	Matrix (S6)	II DA 140D					Very Shallow Dark Surface (TF12) Other (Explain in Remarks)				
Dark Su	rface (S7) (LRR R, M	ILKA 1430	')				Other (c	-хріаін III г	temarks)		
³ Indicators of	f hydrophytic vegetati	on and we	tland hydrology mus	st be prese	nt, unless	disturbed of	or problematic.				
	Layer (if observed):										
,. 											
Depth (inc	ches):						Hydric Soil F	Present?	Yes	No	
Remarks:											











WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):		Section	on, Township	, Range:	
					Slope (%):
					Datum:
					fication:
Are climatic / hydrologic condi					
Are Vegetation, Soil					'present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problemate	atic? ((If needed, explain any answ	ers in Remarks.)
SUMMARY OF FINDIN	GS – Attach sit	e map showing san	npling poi	nt locations, transect	s, important features, etc.
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?	Yes	No No No	Is the Sam within a We		
HYDROLOGY					
Wetland Hydrology Indicat	ors:			Secondary India	cators (minimum of two required)
Primary Indicators (minimum	of one is required; of	check all that apply)		Surface So	il Cracks (B6)
Surface Water (A1)		Water-Stained Leave	es (B9)	Drainage P	atterns (B10)
High Water Table (A2)		Aquatic Fauna (B13)			Lines (B16)
Saturation (A3)		Marl Deposits (B15)		Dry-Seasor	n Water Table (C2)
Water Marks (B1)		Hydrogen Sulfide Od		-	ırrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of ReducedRecent Iron Reduction			Stressed Plants (D1)
Algal Mat or Crust (B4) Iron Deposits (B5)		Thin Muck Surface (0		Shallow Aq	c Position (D2)
Inundation Visible on Ae	rial Imagery (B7)	Other (Explain in Rer			raphic Relief (D4)
Sparsely Vegetated Con		Outer (Explain in reel	namo)	FAC-Neutra	
Field Observations:					
Surface Water Present?	Yes No _	Depth (inches):			
Water Table Present?	Yes No _	Depth (inches):			
Saturation Present?	Yes No _	Depth (inches):		Wetland Hydrology Prese	ent? Yes No
(includes capillary fringe) Describe Recorded Data (str	eam gauge, monitor	ing well, aerial photos, pre	 vious inspect	ions), if available:	
Remarks:					

	Ants. Absolute	Dominant Indicator	Sampling Point:	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:	
I			Number of Dominant Species That Are OBL, FACW, or FAC:(A)	
			Total Number of Dominant Species Across All Strata: (B)	
			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)	
·			Prevalence Index worksheet:	
			Total % Cover of: Multiply by:	
		= Total Cover	OBL species x 1 =	
apling/Shrub Stratum (Plot size:	_)		FACW species x 2 =	
			FAC species x 3 =	
			FACU species x 4 =	
			UPL species x 5 =	
			Column Totals: (A) (B)	
			Prevalence Index = B/A =	
			Hydrophytic Vegetation Indicators:	
			1 - Rapid Test for Hydrophytic Vegetation	
-			2 - Dominance Test is >50%	
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹	
erb Stratum (Plot size:)			4 - Morphological Adaptations ¹ (Provide supporting	
			data in Remarks or on a separate sheet)	
			Problematic Hydrophytic Vegetation ¹ (Explain)	
-			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	
0			size, and woody plants less than 3.28 ft tall.	
1 2			Woody vines – All woody vines greater than 3.28 ft in	
£		= Total Cover	height.	
Voody Vine Stratum (Plot size:)		- Total Gover		
			Hydrophytic	
			Vegetation Present? Yes No	
·			Present? Yes No	
·				
		= Total Cover		

SOIL									Sampling I	Point:
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remarks	•
<u>(IIICIICS)</u>	Color (moist)		Color (moist)	70	Туре	LUC	Texture		Remarks	·
			-	-						
-										
-										
-										
¹Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore	Lining, M=M	atrix.
Hydric Soil		-	·				Indicators f			
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,	2 cm M	uck (A10) ((LRR K, L, N	ILRA 149B)
	pipedon (A2)		MLRA 149B	•					ox (A16) (LR	
Black Hi	stic (A3) en Sulfide (A4)	-	Thin Dark Surfa Loamy Mucky N			-		-	or Peat (S3) (LRR K, L, I	(LRR K, L, R)
	d Layers (A5)	-	Loamy Gleyed			, L)			Surface (S8)	•
	d Below Dark Surface	e (A11)	Depleted Matrix						(S9) (LRR /	
	ark Surface (A12)		Redox Dark Su	rface (F6)) (LRR K, L, R)
	lucky Mineral (S1)	-	Depleted Dark		7)					9) (MLRA 149B)
	Gleyed Matrix (S4)	-	Redox Depress	ions (F8)						I4A, 145, 149B)
	Redox (S5) Matrix (S6)							rent Materi Jallow Dark	lai (F∠1) ≀Surface (TF	=12)
	rface (S7) (LRR R, N	ILRA 149B)					Explain in F		12)
								•	,	
	f hydrophytic vegetat	ion and wet	tland hydrology mus	st be prese	nt, unless	disturbed of	or problematic.			
	Layer (if observed):									
,. <u> </u>	ches):						Hydric Soil F	Dragont?	Vaa	No
Remarks:	cries)						nyuric Soil i	rieseiit?	165	
Remarks.										

General Site Photos











WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):		Section	on, Township	, Range:	
					Slope (%):
					Datum:
					fication:
Are climatic / hydrologic condi					
Are Vegetation, Soil					'present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problemate	atic? ((If needed, explain any answ	ers in Remarks.)
SUMMARY OF FINDIN	GS – Attach sit	e map showing san	npling poi	nt locations, transect	s, important features, etc.
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?	Yes	No No No	Is the Sam within a We		
HYDROLOGY					
Wetland Hydrology Indicat	ors:			Secondary India	cators (minimum of two required)
Primary Indicators (minimum	of one is required; of	check all that apply)		Surface So	il Cracks (B6)
Surface Water (A1)		Water-Stained Leave	es (B9)	Drainage P	atterns (B10)
High Water Table (A2)		Aquatic Fauna (B13)			Lines (B16)
Saturation (A3)		Marl Deposits (B15)		Dry-Seasor	n Water Table (C2)
Water Marks (B1)		Hydrogen Sulfide Od		-	ırrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of ReducedRecent Iron Reduction			Stressed Plants (D1)
Algal Mat or Crust (B4) Iron Deposits (B5)		Thin Muck Surface (0		Shallow Aq	c Position (D2)
Inundation Visible on Ae	rial Imagery (B7)	Other (Explain in Rer			raphic Relief (D4)
Sparsely Vegetated Con		Outer (Explain in reel	namo)	FAC-Neutra	
Field Observations:					
Surface Water Present?	Yes No _	Depth (inches):			
Water Table Present?	Yes No _	Depth (inches):			
Saturation Present?	Yes No _	Depth (inches):		Wetland Hydrology Prese	ent? Yes No
(includes capillary fringe) Describe Recorded Data (str	eam gauge, monitor	ing well, aerial photos, pre	 vious inspect	ions), if available:	
Remarks:					

	Ants. Absolute	Dominant Indicator	Sampling Point:	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:	
I			Number of Dominant Species That Are OBL, FACW, or FAC:(A)	
			Total Number of Dominant Species Across All Strata: (B)	
			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)	
·			Prevalence Index worksheet:	
			Total % Cover of: Multiply by:	
		= Total Cover	OBL species x 1 =	
apling/Shrub Stratum (Plot size:	_)		FACW species x 2 =	
			FAC species x 3 =	
			FACU species x 4 =	
			UPL species x 5 =	
			Column Totals: (A) (B)	
			Prevalence Index = B/A =	
			Hydrophytic Vegetation Indicators:	
			1 - Rapid Test for Hydrophytic Vegetation	
-			2 - Dominance Test is >50%	
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹	
erb Stratum (Plot size:)			4 - Morphological Adaptations ¹ (Provide supporting	
			data in Remarks or on a separate sheet)	
			Problematic Hydrophytic Vegetation ¹ (Explain)	
-			be present, unless disturbed or problematic.	
			Definitions of Vegetation Strata:	
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			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	
0			size, and woody plants less than 3.28 ft tall.	
1 2			Woody vines – All woody vines greater than 3.28 ft in	
£		= Total Cover	height.	
Voody Vine Stratum (Plot size:)		- Total Gover		
			Hydrophytic	
			Vegetation Present? Yes No	
·			Present? Yes No	
·				
		= Total Cover		

SOIL									Sampling I	Point:
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remarks	•
<u>(IIICIICS)</u>	Color (moist)		Color (moist)	70	Туре	LUC	Texture		Remarks	·
			-	-						
-										
-										
-										
¹Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore	Lining, M=M	atrix.
Hydric Soil		-	·				Indicators f			
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,	2 cm M	uck (A10) ((LRR K, L, N	ILRA 149B)
	pipedon (A2)		MLRA 149B	•					ox (A16) (LR	
Black Hi	stic (A3) en Sulfide (A4)	-	Thin Dark Surfa Loamy Mucky N			-		-	or Peat (S3) (LRR K, L, I	(LRR K, L, R)
	d Layers (A5)	-	Loamy Gleyed			, L)			Surface (S8)	•
	d Below Dark Surface	e (A11)	Depleted Matrix						(S9) (LRR /	
	ark Surface (A12)		Redox Dark Su	rface (F6)) (LRR K, L, R)
	lucky Mineral (S1)	-	Depleted Dark		7)					9) (MLRA 149B)
	Gleyed Matrix (S4)	-	Redox Depress	ions (F8)						I4A, 145, 149B)
	Redox (S5) Matrix (S6)							rent Materi Jallow Dark	lai (F∠1) ≀Surface (TF	=12)
	rface (S7) (LRR R, N	ILRA 149B)					Explain in F		12)
								•	,	
	f hydrophytic vegetat	ion and wet	tland hydrology mus	st be prese	nt, unless	disturbed of	or problematic.			
	Layer (if observed):									
,. <u> </u>	ches):						Hydric Soil F	Dragont?	Vaa	No
Remarks:	cries)						nyuric Soil i	rieseiit?	165	
Remarks.										

General Site Photos



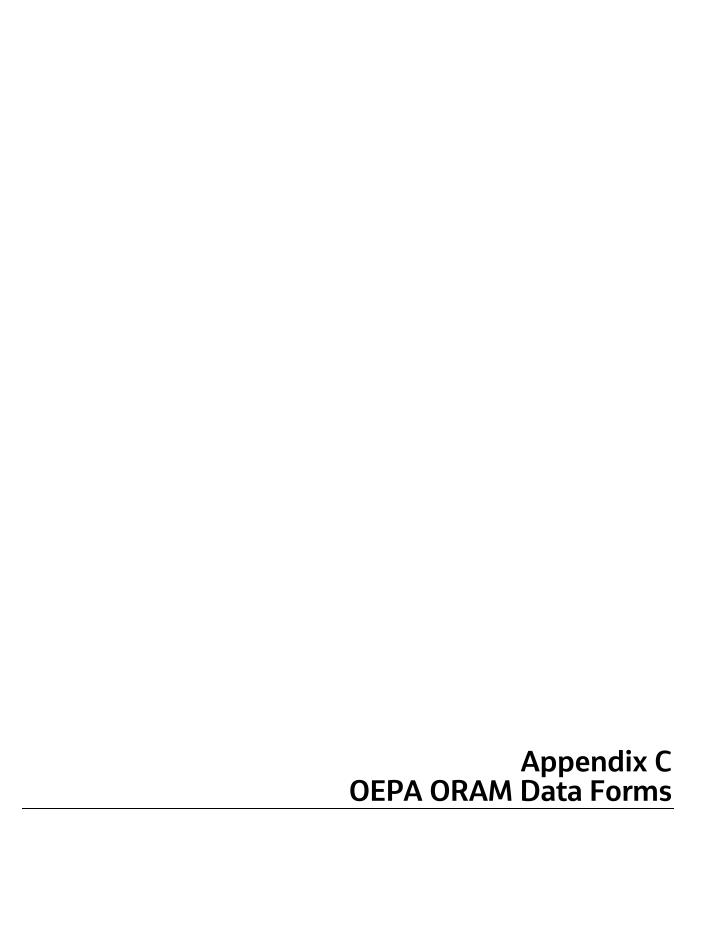






General Site Photos





Site: Wetland D	DFT-01	Rater(s): JBL		Date: 1/9/23
1.0 1.0 _M	etric 1. Wetland A	rea (size).		
max 6 pts. subtotal Sel	ect one size class and assign scor >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <2 10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1. x 0.1 to <0.3 acres (0.04 to < <0.1 acres (0.04ha) (0 pts)	0.2ha) (5 pts) ha) (4 pts)) (3 pts) 2ha) (2pts)		
2.0 3.0 _M	etric 2. Upland bu	ffers and surround	ing land use.	
max 14 pts. subtotal 2a.	Calculate average buffer width. S WIDE. Buffers average 50 MEDIUM. Buffers average X NARROW. Buffers average VERY NARROW. Buffers average VERY LOW. 2nd growth of LOW. Old field (>10 years) MODERATELY HIGH. Res	Select only one and assign score. In (164ft) or more around wetland program (164ft) around (164ft) around (164ft) around (164ft) around (164ft) around (164ft) around wetlated (164ft) around (1	Do not double check. erimeter (7) I wetland perimeter (4) nd wetland perimeter (1) nd perimeter (0) average. dlife area, etc. (7) forest. (5) servation tillage, new fallo	
7.0 10.0 M	etric 3. Hydrology			
max 30 pts. subtotal 3a.	Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (lal Maximum water depth. Select or >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) X <0.4m (<15.7in) (1)	apply. 3b. ce water (3) ke or stream) (5) 3d. ally one and assign score.	X Part of wetland/up Part of riparian or Duration inundation/satu Semi- to permane X Regularly inundat Seasonally inundat X Seasonally satura	in (1) lake and other human use (1) pland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) led/saturated (3)
	None or none apparent (12) Recovered (7) X Recovering (3) X Recent or no recovery (1)	X ditch tile dike weir stormwater input	point source (non X filling/grading X road bed/RR trac X dredging other_	´
5.5 15.5 _M	etric 4. Habitat Al	teration and Develo	opment.	
max 20 pts. subtotal 4a.	Substrate disturbance. Score on None or none apparent (4) Recovered (3) X Recovering (2) X Recent or no recovery (1) Habitat development. Select only Excellent (7) Very good (6)	e or double check and average.		
4c .	Good (5) Moderately good (4) Fair (3) X Poor to fair (2) Poor (1) Habitat alteration. Score one or or			
15.5	None or none apparent (9) Recovered (6) X Recovering (3) X Recent or no recovery (1)	Check all disturbances observed mowing grazing x clearcutting selective cutting woody debris removal x toxic pollutants	shrub/sapling rem herbaceous/aqua × sedimentation dredging farming nutrient enrichme	tic bed removal

Site: Wetland DFT-01	Rater(s): JBL	Date: 1/9/23	
15.5			
15.5			
subtotal first page			
0.0 15.5 Metric 5. Special W	etlands.		
max 10 pts. subtotal Check all that apply and score as indi	icated.		
Bog (10)			
Fen (10) Old growth forest (10)			
Mature forested wetland (5))		
Lake Erie coastal/tributary	•	•• ,	
Lake Erie coastal/tributary Lake Plain Sand Prairies (0	•	ogy (5)	
Relict Wet Prairies (10)	oun openinge) (10)		
Known occurrence state/fe			
Significant migratory songb Category 1 Wetland. See 0			
Category I Wettand. See C	Question i Qualitative Ra	uilg (-10)	
1.0 16.5 Metric 6. Plant com	munities, inte	erspersion, microto	nography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities	•	community Cover Scale	, pograpily:
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	71 acres) contiguous area
0 Aquatic bed	1	Present and either comprises sma	· ·
1 Emergent 0 Shrub		vegetation and is of moderate q significant part but is of low qua	•
0 Shrub 0 Forest	2	Present and either comprises sign	•
0 Mudflats		vegetation and is of moderate q	
Open water		part and is of high quality	
0 Other6b. horizontal (plan view) Interspersion	_ 3 on	Present and comprises significant vegetation and is of high quality	
Select only one.		T regeration and to or might quality	
High (5)	Narrative De	scription of Vegetation Quality	
Moderately high(4) Moderate (3)	low	Low spp diversity and/or predoming disturbance tolerant native spec	
Moderately low (2)	mod	Native spp are dominant compone	
x Low (1)		although nonnative and/or distu	
None (0) 6c. Coverage of invasive plants. Ref	for	can also be present, and specie moderately high, but generally v	•
to Table 1 ORAM long form for list. A		threatened or endangered spp	
or deduct points for coverage	high	A predominance of native species	
Extensive >75% cover (-5)		and/or disturbance tolerant nativ	
X Moderate 25-75% cover (-3 Sparse 5-25% cover (-1)	o)	absent, and high spp diversity a the presence of rare, threatened	
Nearly absent <5% cover (0)		, or or acceptance
Absent (1)		Open Water Class Quality	
6d. Microtopography. Score all present using 0 to 3 scale.	<u> </u>	Absent <0.1ha (0.247 acres) Low 0.1 to <1ha (0.247 to 2.47 ac	roc)
1 Vegetated hummucks/tussi		Moderate 1 to <4ha (2.47 to 9.88	
0 Coarse woody debris >15cr		High 4ha (9.88 acres) or more	
0 Standing dead >25cm (10in			
1 Amphibian breeding pools	<u>Microtopogra</u> 0	Absent	
	1	Present very small amounts or if r	more common
		of marginal quality	
	2	Present in moderate amounts, bu quality or in small amounts of hi	_
	3	Present in moderate or greater an	
40.5		and of highest quality	
16.5 GRAND TOTAL (max 100 pts)			

Site: Wet	tland [DFT-02	Rater(s): JBL		Date: 1/9/23
1 1	Пм	etric 1. Wetland A	rea (size).		
max 6 pts. sub		25 to <50 acres (>20.2ha) (6 pts)	e. 0.2ha) (5 pts) ha) (4 pts)) (3 pts) 2ha) (2pts)		
4 5	М	etric 2. Upland bu	ffers and surround	ing land use.	
max 14 pts. sub		WIDE. Buffers average 500 MEDIUM. Buffers average X NARROW. Buffers average VERY NARROW. Buffers average VERY LOW. 2nd growth of X LOW. Old field (>10 years) MODERATELY HIGH. Res	Select only one and assign score. Em (164ft) or more around wetland point of 25m to <50m (82 to <164ft) around at 10m to <25m (32ft to <82ft) around average <10m (<32ft) around wetlar select one or double check and a rolder forest, prairie, savannah, wild, shrubland, young second growth foodential, fenced pasture, park, consider pasture, row cropping, mining, compared to the select one or double check and a rolder forest, prairie, savannah, wild, shrubland, young second growth foodential, fenced pasture, park, consider pasture, row cropping, mining, consider to the selection of	erimeter (7) I wetland perimeter (4) nd wetland perimeter (1) nd perimeter (0) average. dlife area, etc. (7) forest. (5) servation tillage, new fallo	ow field. (3)
6.5 11	1.5 M	etric 3. Hydrology	•		
max 30 pts. sub	3a.	Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (lal Maximum water depth. Select or >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) X <0.4m (<15.7in) (1)	apply. 3b. ce water (3) ke or stream) (5) 3d. ally one and assign score.	Part of wetland/up Part of riparian or Duration inundation/satu Semi- to permane Regularly inundat X Seasonally inundat X Seasonally satura	in (1) lake and other human use (1) pland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) led/saturated (3)
7 46	, <u>-</u>	None or none apparent (12) Recovered (7) X Recovering (3) Recent or no recovery (1)	X ditch tile dike weir X stormwater input	point source (non x filling/grading x road bed/RR track dredging other	· I
		letric 4. Habitat Al Substrate disturbance. Score on	teration and Develo	pment.	
	4b.	None or none apparent (4) X Recovered (3) Recovering (2) X Recent or no recovery (1) Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) X Fair (3) Poor to fair (2) Poor (1)	one and assign score.		
	4c.	Habitat alteration. Score one or o	Check all disturbances observed		
	8.5 I this page	Recovered (6) X Recovering (3) X Recent or no recovery (1)	x mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	tic bed removal

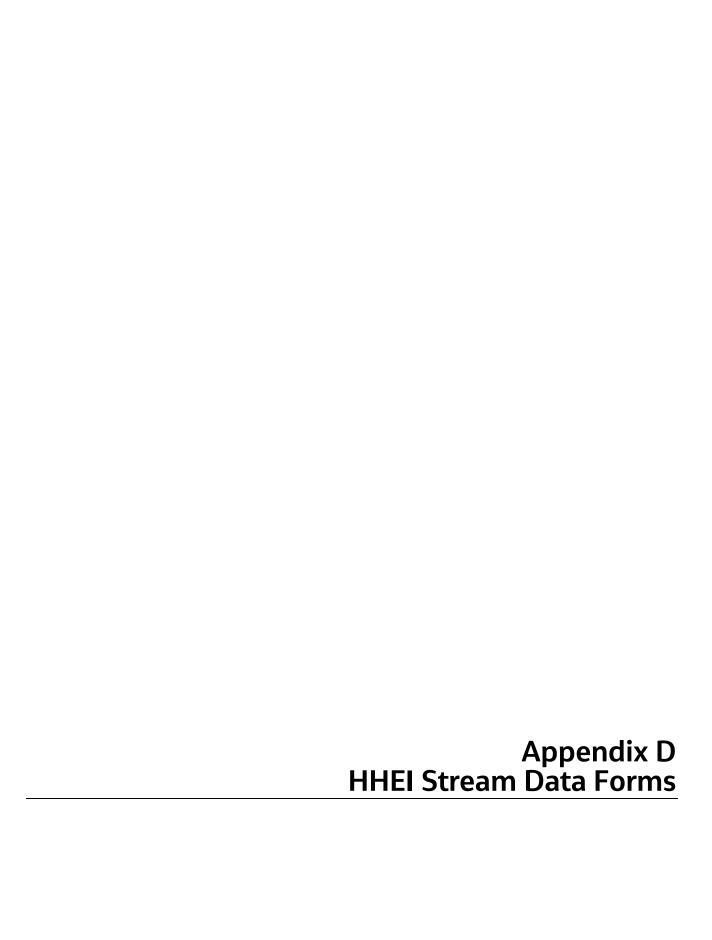
Site: Wetland DFT-02	Rater(s): JBL		Date: 1/9/23
18.5 subtotal first page 0 18.5 Metric 5. Special V			
Lake Erie coastal/tributar Lake Plain Sand Prairies Relict Wet Prairies (10) Known occurrence state/ Significant migratory son Category 1 Wetland. Se	(5) y wetland-unrestricted hydrol y wetland-restricted hydrolog	gered species (10) age (10)	
3 21.5 Metric 6. Plant cor	nmunities, inte	rspersion, microto	pography.
max 20 pts. subtotal 6a. Wetland Vegetation Communit		mmunity Cover Scale	
Score all present using 0 to 3 scale O Aquatic bed Emergent O Shrub		Absent or comprises <0.1ha (0.24 Present and either comprises sma vegetation and is of moderate q significant part but is of low qua	all part of wetland's uality, or comprises a
0 Forest 0 Mudflats 0 Open water		Present and either comprises sigr vegetation and is of moderate q part and is of high quality	nificant part of wetland's uality or comprises a small
0 Other 6b. horizontal (plan view) Intersper		Present and comprises significant vegetation and is of high quality	
Select only one.		regetation and to or mgn quality	
High (5)		cription of Vegetation Quality	
Moderately high(4) Moderate (3)	low	Low spp diversity and/or predoming disturbance tolerant native spec	
Moderately low (2) x Low (1) None (0)	mod I	Native spp are dominant compone although nonnative and/or distur- can also be present, and specie	rbance tolerant native spp
6c. Coverage of invasive plants. F		moderately high, but generally v	-
to Table 1 ORAM long form for list. or deduct points for coverage		threatened or endangered spp A predominance of native species	s, with nonnative spp
Extensive >75% cover (-5) Moderate 25-75% cover (-1) X Sparse 5-25% cover (-1)	5)	and/or disturbance tolerant natival absent, and high spp diversity a the presence of rare, threatened	nd often, but not always,
Nearly absent <5% cover			
Absent (1) 6d. Microtopography.		pen Water Class Quality Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale		Low 0.1 to <1ha (0.247 to 2.47 ac	res)
1 Vegetated hummucks/tus	ssucks 2	Moderate 1 to <4ha (2.47 to 9.88	
Ocarse woody debris >15	` ′	High 4ha (9.88 acres) or more	
0 Standing dead >25cm (1) 1 Amphibian breeding pool	•	phy Cover Scale	
Amphibian breeding poor		Absent	
		Present very small amounts or if r	more common
	2	of marginal quality Present in moderate amounts, bu	t not of highest
		quality or in small amounts of hi	ghest quality
[a. =]		Present in moderate or greater an and of highest quality	mounts
21.5 GRAND TOTAL (max 100 pts	<u> </u>		

Site: V	Vetlar	d DFT-03	Rater(s): JBL		Date: 1/9/23
2	2	Metric 1. Wetland A	area (size).		
max 6 pts.	subtotal	Select one size class and assign scc	re.) 20.2ha) (5 pts) ha) (4 pts) a) (3 pts) .2ha) (2pts) :0.12ha) (1 pt)		
1	3	Metric 2. Upland bu	ıffers and surroundi	ing land use.	
max 14 pts.	subtotal	2a. Calculate average buffer width. WIDE. Buffers average 50 MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years MODERATELY HIGH. Re	Select only one and assign score. Down (164ft) or more around wetland per 25m to <50m (82 to <164ft) around the 10m to <25m (32ft to <82ft) around average <10m (<32ft) around wetland	Do not double check. erimeter (7) wetland perimeter (4) nd wetland perimeter (1) nd perimeter (0) everage. dlife area, etc. (7) ervation tillage, new fallo	
8	11	Metric 3. Hydrology	/.		
max 30 pts.	subtotal	3a. Sources of Water. Score all tha High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (la 3c. Maximum water depth. Select o >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) X <0.4m (<15.7in) (1) 3e. Modifications to natural hydrolog None or none apparent (12 Recovered (7) X Recovering (3) X Recent or no recovery (1)	t apply. 3b. ace water (3) ke or stream) (5) 3d. nly one and assign score.) (2) ic regime. Score one or double chec	× Part of wetland/up × Part of riparian or Duration inundation/satu Semi- to permane × Regularly inundat Seasonally inund. × Seasonally satura ck and average.	in (1) lake and other human use (1) pland (e.g. forest), complex (1) rupland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3) ated (2) ated in upper 30cm (12in) (1)
		_	weir stormwater input	dredging other	
5	16	Metric 4. Habitat A	teration and Develo	pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score of None or none apparent (4) Recovered (3) Recovering (2) X Recent or no recovery (1) 4b. Habitat development. Select on 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	ne or double check and average. ly one and assign score.		
sı	16	None or none apparent (9) Recovered (6) X Recovering (3) X Recent or no recovery (1)	Check all disturbances observed X	× shrub/sapling rem herbaceous/aqua sedimentation dredging farming nutrient enrichme	itic bed removal

Site: Wetland DFT-03 Rate	r(s): JBL		Date: 1/9/23
16			
0 16 Metric 5. Special Wetla	nds.		
max 10 pts. subtotal Check all that apply and score as indicated.			
Bog (10)			
Fen (10) Old growth forest (10)			
Mature forested wetland (5)			
Lake Erie coastal/tributary wetland	d-unrestricted hyd	rology (10)	
Lake Erie coastal/tributary wetland	•	ogy (5)	
Lake Plain Sand Prairies (Oak Op Relict Wet Prairies (10)	enings) (10)		
Known occurrence state/federal th	reatened or enda	ngered species (10)	
Significant migratory songbird/wat			
Category 1 Wetland. See Questic	on 1 Qualitative Ra	ating (-10)	
1 17 Metric 6. Plant commun	nitios inte	arenersion microto	nogranhy
max 20 pts. subtotal 6a. Wetland Vegetation Communities.		Community Cover Scale	pograpity.
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	171 acres) contiguous area
0 Aquatic bed	1	Present and either comprises small	
1 Emergent		vegetation and is of moderate q	
0 Shrub 0 Forest	2	significant part but is of low qua Present and either comprises sign	•
0 Mudflats	_	vegetation and is of moderate q	
0 Open water		part and is of high quality	
0 Other	3	Present and comprises significant	
6b. horizontal (plan view) Interspersion. Select only one.		vegetation and is of high quality	
High (5)	Narrative De	escription of Vegetation Quality	
Moderately high(4)	low	Low spp diversity and/or predomin	
Moderate (3) Moderately low (2)	mod	Native spp are dominant component	
x Low (1)	mod	although nonnative and/or distu	•
None (0)		can also be present, and specie	•
6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add		moderately high, but generally w	v/o presence of rare
or deduct points for coverage	high	threatened or endangered spp A predominance of native species	s. with nonnative spp
Extensive >75% cover (-5)	J	and/or disturbance tolerant nativ	• • • • • • • • • • • • • • • • • • • •
X Moderate 25-75% cover (-3)		absent, and high spp diversity a	
Sparse 5-25% cover (-1) Nearly absent <5% cover (0)		the presence of rare, threatened	d, or endangered spp
Absent (1)	Mudflat and	Open Water Class Quality	
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac Moderate 1 to <4ha (2.47 to 9.88	
1 Vegetated hummucks/tussucks 0 Coarse woody debris >15cm (6in)		High 4ha (9.88 acres) or more	dcies)
0 Standing dead >25cm (10in) dbh			
1 Amphibian breeding pools		raphy Cover Scale	
	0 1	Absent Present very small amounts or if I	more common
	1	of marginal quality	nore commen
	2	Present in moderate amounts, bu	=
		quality or in small amounts of h	
	3	Present in moderate or greater ar and of highest quality	nounts
17 GRAND TOTAL (max 100 pts)		and of highest quality	

Site: Wetla	nd DFT-04	Rater(s): JBL	Date: 1/9/23
2 2	Metric 1. Wetland A	•	
max 6 pts. subtot	Select one size class and assign scc >50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to <2 10 to <25 acres (4 to <10.7 3 to <10 acres (1.2 to <4ha x 0.3 to <3 acres (0.12 to <1 0.1 to <0.3 acres (0.04 to < <1.2 to <0.1 acres (0.04 to <10.1 acres (0.04 to) acr) 20.2ha) (5 pts) Iha) (4 pts) a) (3 pts) .2ha) (2pts) <0.12ha) (1 pt)	
1 3	Metric 2. Upland bu	iffers and surrounding land use	
max 14 pts. subtot	2a. Calculate average buffer width. WIDE. Buffers average 50 MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years MODERATELY HIGH. Re	Select only one and assign score. Do not double check. Om (164ft) or more around wetland perimeter (7) a 25m to <50m (82 to <164ft) around wetland perimeter (4) be 10m to <25m (32ft to <82ft) around wetland perimeter (1) average <10m (<32ft) around wetland perimeter (0) as Select one or double check and average. Or older forest, prairie, savannah, wildlife area, etc. (7) be shrubland, young second growth forest. (5) sidential, fenced pasture, park, conservation tillage, new fall pen pasture, row cropping, mining, construction. (1))
12 15	Metric 3. Hydrology	/.	
max 30 pts. subtot	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) X Precipitation (1) X Seasonal/Intermittent surfation Perennial surface water (late of the surfation of the s	t apply. 3b. Connectivity. Score al 100 year floodpl x Between stream x Part of wetland/ x Part of riparian of stream of s	ain (1) //lake and other human use (1) upland (e.g. forest), complex (1) or upland corridor (1) turation. Score one or dbl check nently inundated/saturated (4) ated/saturated (3) dated (2) rated in upper 30cm (12in) (1)
7 22	Motric 4 Habitat Al		
max 20 pts. subtot	4a. Substrate disturbance. Score or None or none apparent (4) X Recovered (3) Recovering (2) X Recent or no recovery (1) 4b. Habitat development. Select on 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.	
22	None or none apparent (9) Recovered (6) X Recovering (3) X Recent or no recovery (1)	mowing X shrub/sapling re	atic bed removal

Site: We	tland	d DFT-04	Rater(s): JBL		Date: 1/9/23
	22 al first pag	ge			
0 2	22	Metric 5. Special W	/etlands.		
	ubtotal	Check all that apply and score as inc			
		Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5 Lake Erie coastal/tributary Lake Plain Sand Prairies (Relict Wet Prairies (10) Known occurrence state/fe Significant migratory song Category 1 Wetland. See	wetland-unrestricted hydrowetland-restricted hydrowetland-restricted hydroword (10) Oak Openings) (10) Ederal threatened or endatoird/water fowl habitat or i	ngered species (10) usage (10)	
[6]2	28	Metric 6. Plant con	nmunities, inte	erspersion, microto	pography.
max 20 pts. su	ubtotal	6a. Wetland Vegetation Communitie	•	Community Cover Scale	, p = 9. a.py.
max 20 pto.	abtotai	Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	171 acres) contiguous area
		0 Aquatic bed	1	Present and either comprises sm	
		1 Emergent		vegetation and is of moderate of	•
		1 Shrub 2 Forest	2	significant part but is of low qua Present and either comprises sig	•
		0 Mudflats	2	vegetation and is of moderate of	
		0 Open water		part and is of high quality	'
		0 Other	3	Present and comprises significan	
		6b. horizontal (plan view) Interspers	ion.	vegetation and is of high quality	1
		Select only one. High (5)	Narrativo Do	escription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predomi	nance of nonnative or
		Moderate (3)		disturbance tolerant native spec	
		X Moderately low (2)	mod	Native spp are dominant compon	•
		Low (1)		although nonnative and/or distu	• • • • • • • • • • • • • • • • • • • •
		None (0) 6c. Coverage of invasive plants. Re	for	can also be present, and species moderately high, but generally was	•
		to Table 1 ORAM long form for list.		threatened or endangered spp	
		or deduct points for coverage	high	A predominance of native species	
		Extensive >75% cover (-5)		and/or disturbance tolerant nati	
		X Moderate 25-75% cover (-	3)	absent, and high spp diversity a	
		Sparse 5-25% cover (-1) Nearly absent <5% cover	(0)	the presence of rare, threatened	a, or endangered spp
		Absent (1)	•	Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	
		Vegetated hummucks/tussCoarse woody debris >150		Moderate 1 to <4ha (2.47 to 9.88 High 4ha (9.88 acres) or more	acres)
		1 Standing dead >25cm (10)	(-)	Tright that (0.00 doles) of more	
		1 Amphibian breeding pools		raphy Cover Scale	
			0	Absent	
			1	Present very small amounts or if	more common
			2	of marginal quality Present in moderate amounts, but	t not of highest
			_	quality or in small amounts of h	_
			3	Present in moderate or greater ar	
22	D 4 4 1	D TOTAL / 400 - ()		and of highest quality	
28 c	KAN	D TOTAL (max 100 pts)			



hio Ohio Environmental Protection Agency

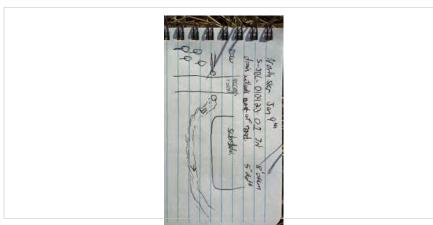
Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

54
O 1

Ohio Environmental Protection Agency	HHEI Score (sum of metrics 1+2+3)
DATE 01/09/2023 SCORER JBL COMM NOTE: Complete All Items On This Form - Refer to "H	RIVER CODE DRAINAGE AREA (mi²) LONG84.04875 RIVER MILE ENTS _Channelized along new station. Drains a series of wetlands west of the road deadwater Habitat Evaluation Index Field Manual" for Instructions RAL CHANNEL RECOVERED RECOVERING X RECENT OR NO RECOVERY
(Max of 32). Add total number of significant substrate TYPE	ent). Check ONLY two predominant substrate TYPE boxes. types found (Max of 8). Final metric score is sum of boxes A & B TYPE SILT [3 pt] LEAF PACK/WOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts] ARTIFICIAL [3 pts] A + B HHEI Metric Points Substrate Max = 40 9
2. Maximum Pool Depth (Measure the maximum pool time of evaluation. Avoid plunge pools from road culve > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] X > 10 - 22.5 cm [25 pts] COMMENTS	5 cm - 10 cm [15 pts]
3. BANK FULL WIDTH (Measured as the average of 3 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	
This info	rmation <u>must</u> also be completed
RIPARIAN WIDTH	TY * NOTE: River Left (L) and Right (R) as looking downstream * DODPLAIN QUALITY (Most Predominant per Bank) L R ature Forest, Wetland
FLOW REGIME (At Time of Evaluation) (Che Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 None 1.0	
0.5	2.5

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

	SE(S)
☑ WWH Name: ☑ CWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream
☐ EWH Name:	Distance from Evaluated Stream
	PS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
JSGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order:
County:	Township/City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Yes Date	e of last precipitation: 1/8/23 Quantity: 0.01
Photo-documentation Notes:	
Elevated Turbidity?(Y/N): No Cand	opy (% open): 1
Nere samples collected for water chemistry?	(Y/N): No Lab Sample # or ID (attach results):
Field Measures Temp (°C) Dissolv	red Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
s the sampling reach representative of the st	tream (Y/N) Yes If not, explain:
Additional comments/description of pollution	impacts:
Additional comments/description of pollution	impacts:
Additional comments/description of pollution	BIOLOGICAL OBSERVATIONS
Additional comments/description of pollution	
	BIOLOGICAL OBSERVATIONS
Fish Observed? (Y/N) Species obs	BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) Species obs Frogs or Tadpoles Observed? (Y/N)	BIOLOGICAL OBSERVATIONS (Record all observations below) served (if known):
Fish Observed? (Y/N) Species obs Frogs or Tadpoles Observed? (Y/N) Spec	BIOLOGICAL OBSERVATIONS (Record all observations below) served (if known): Species observed (if known):
Fish Observed? (Y/N) Species obs Frogs or Tadpoles Observed? (Y/N) Spec Salamanders Observed? (Y/N) Spec Aquatic Macroinvertebrates Observed? (Y/N)	BIOLOGICAL OBSERVATIONS (Record all observations below) served (if known): Species observed (if known): sies observed (if known): Species observed (if known):
Fish Observed? (Y/N) Species obs Frogs or Tadpoles Observed? (Y/N) Spec Salamanders Observed? (Y/N) Spec Aquatic Macroinvertebrates Observed? (Y/N)	BIOLOGICAL OBSERVATIONS (Record all observations below) served (if known): Species observed (if known):





May 2020 Revision Page 2



Upstream



Substrate



Downstream

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

3/7/2023 2:45:07 PM

in

Case No(s). 22-0248-EL-BTX

Summary: Application Application - Part 3 of 3 electronically filed by Ms. Devan K. Flahive on behalf of American Transmission Systems Incorporated