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Case Number: 17-328-GA-BLN

File Date: 4/4/2017

Section: 1 of 3

Number of Pages: 200

Description of Document: Letter of Notification



155 East Broad Street 20th Floor Columbus, Ohio, 43215

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April 4, 2017

PUCO

Ms. Barcy McNeal PUCO Docketing Division 180 East Broad Street, 11th Floor Columbus, OH 43215-3716

Re: 17 No.328-GA-BLN, Duke Energy Ohio, Inc.'s Letter of Notification for the Line D000B Natural Gas Pipeline Replacement Project

Dear Ms. McNeal:

In accordance with Ohio Administrative Code Rules 4906-5-02 and 4906-11-01, Duke Energy Ohio, Inc., submits the attached Letter of Notification, for expedited approval. A check in the amount of \$2,000 for expedited processing is included. The requested start date of construction is May 5, 2017.

As required by the rules, Duke Energy Ohio has sent a copy of the Letter of Notification to officials. Please find attached copies of cover letters that have been forwarded to the Cincinnati Public Library, the Mayor of Cincinnati, and the offices of the Hamilton County Commissioners.

Respectfully submitted,

Jeanne W. Kingery Associate General Counsel

This is to certify that the images appearing are an accurate and complete reproduction of a cide file document delivered in the regular course of busines. Technician _____ Date Processed APR 0.4 2017

April 4, 2017

The Public Library of Cincinnati and Hamilton County 800 Vine Street Cincinnati, Ohio 45202

Via electronic mail

Letter of Notification Line D000B Natural Gas Pipeline Replacement Project

Dear Sir or Madam:

Please find attached a link to an electronic copy of a Letter of Notification that Duke Energy Ohio, Inc. has submitted to the Ohio Power Siting Board regarding the planned construction of an approximately 3.3-mile replacement of a natural gas pipeline. The Letter of Notification submittal is required in accordance with Chapter 4906 of the Ohio Administrative Code (OAC). The north-western terminus of the Project begins southeast of Duke Energy Ohio's natural gas distribution center at the Cincinnati's East End Facility property. The pipeline will run in a south-southeast direction and will be bound by U.S. 52 to the east and the Ohio River to the southwest. The replacement pipeline will terminate near, and northwest of, the confluences of the Little Miami and Ohio Rivers.

In accordance with OAC 4906-1-01 Appendix A, we are required to prepare this Letter of Notification for the Ohio Power Siting Board and in compliance with OAC 4906-11-01(D)(4), we are hereby proving you with an electronic copy.

Cordially, Duke Energy Ohio, Inc.

April 4, 2017

Mayor John Cranley Mayor of City of Cincinnati, Ohio 801 Plum St. Cincinnati, Ohio 45202

Via electronic mail

Letter of Notification Line D000B Natural Gas Pipeline Replacement Project

Dear Mayor Cranley:

Please find attached a link to an electronic copy of a Letter of Notification that Duke Energy Ohio, Inc. has submitted to the Ohio Power Siting Board regarding the planned construction of an approximately 3.3-mile replacement of a natural gas pipeline. The Letter of Notification submittal is required in accordance with Chapter 4906 of the Ohio Administrative Code (OAC). The north-western terminus of the Project begins southeast of Duke Energy Ohio's natural gas distribution center at the Cincinnati's East End Facility property. The pipeline will run in a south-southeast direction and will be bound by U.S. 52 to the east and the Ohio River to the southwest. The replacement pipeline will terminate near, and northwest of, the confluences of the Little Miami and Ohio Rivers.

In accordance with OAC 4906-1-01 Appendix A, we are required to prepare this Letter of Notification for the Ohio Power Siting Board and in compliance with OAC 4906-11-01(D)(4), we are hereby proving you with an electronic copy.

Cordially, Duke Energy Ohio, Inc.

April 4, 2017

Matthew Shad Zoning Administrator 801 Plum St. Cincinnati, Ohio 45202

Via electronic mail

Letter of Notification Line D000B Natural Gas Pipeline Replacement Project

Dear Mr. Shad:

Please find attached a link to an electronic copy of a Letter of Notification that Duke Energy Ohio, Inc. has submitted to the Ohio Power Siting Board regarding the planned construction of an approximately 3.3-mile replacement of a natural gas pipeline. The Letter of Notification submittal is required in accordance with Chapter 4906 of the Ohio Administrative Code (OAC). The north-western terminus of the Project begins southeast of Duke Energy Ohio's natural gas distribution center at the Cincinnati's East End Facility property. The pipeline will run in a south-southeast direction and will be bound by U.S. 52 to the east and the Ohio River to the southwest. The replacement pipeline will terminate near, and northwest of, the confluences of the Little Miami and Ohio Rivers.

In accordance with OAC 4906-1-01 Appendix A, we are required to prepare this Letter of Notification for the Ohio Power Siting Board and in compliance with OAC 4906-11-01(D)(4), we are hereby proving you with an electronic copy.

Cordially, Duke Energy Ohio, Inc.

April 4, 2017

Todd Portune President Hamilton County, Ohio Commissioners 138 E. Court St., 603 Cincinnati, Ohio 45223

Via electronic mail

Letter of Notification Line D000B Natural Gas Pipeline Replacement Project

Dear Mr. Portune:

Please find attached a link to an electronic copy of a Letter of Notification that Duke Energy Ohio, Inc. has submitted to the Ohio Power Siting Board regarding the planned construction of an approximately 3.3-mile replacement of a natural gas pipeline. The Letter of Notification submittal is required in accordance with Chapter 4906 of the Ohio Administrative Code (OAC). The north-western terminus of the Project begins southeast of Duke Energy Ohio's natural gas distribution center at the Cincinnati's East End Facility property. The pipeline will run in a south-southeast direction and will be bound by U.S. 52 to the east and the Ohio River to the southwest. The replacement pipeline will terminate near, and northwest of, the confluences of the Little Miami and Ohio Rivers.

In accordance with OAC 4906-1-01 Appendix A, we are required to prepare this Letter of Notification for the Ohio Power Siting Board and in compliance with OAC 4906-11-01(D)(4), we are hereby proving you with an electronic copy.

Cordially, Duke Energy Ohio, Inc.

April 4, 2017

Denise Driehaus Vice President Hamilton County, Ohio Commissioners 138 E. Court St., 603 Cincinnati, Ohio 45223

Via electronic mail

Letter of Notification Line D000B Natural Gas Pipeline Replacement Project

Dear Ms. Driehaus:

Please find attached a link to an electronic copy of a Letter of Notification that Duke Energy Ohio, Inc. has submitted to the Ohio Power Siting Board regarding the planned construction of an approximately 3.3-mile replacement of a natural gas pipeline. The Letter of Notification submittal is required in accordance with Chapter 4906 of the Ohio Administrative Code (OAC). The north-western terminus of the Project begins southeast of Duke Energy Ohio's natural gas distribution center at the Cincinnati's East End Facility property. The pipeline will run in a south-southeast direction and will be bound by U.S. 52 to the east and the Ohio River to the southwest. The replacement pipeline will terminate near, and northwest of, the confluences of the Little Miami and Ohio Rivers.

In accordance with OAC 4906-1-01 Appendix A, we are required to prepare this Letter of Notification for the Ohio Power Siting Board and in compliance with OAC 4906-11-01(D)(4), we are hereby proving you with an electronic copy.

Cordially, Duke Energy Ohio, Inc.

April 4, 2017

Chris Monzel Hamilton County, Ohio Commissioners 138 E. Court St., 603 Cincinnati, Ohio 45223

Via electronic mail

Letter of Notification Line D000B Natural Gas Pipeline Replacement Project

Dear Mr. Monzel:

Please find attached a link to an electronic copy of a Letter of Notification that Duke Energy Ohio, Inc. has submitted to the Ohio Power Siting Board regarding the planned construction of an approximately 3.3-mile replacement of a natural gas pipeline. The Letter of Notification submittal is required in accordance with Chapter 4906 of the Ohio Administrative Code (OAC). The north-western terminus of the Project begins southeast of Duke Energy Ohio's natural gas distribution center at the Cincinnati's East End Facility property. The pipeline will run in a south-southeast direction and will be bound by U.S. 52 to the east and the Ohio River to the southwest. The replacement pipeline will terminate near, and northwest of, the confluences of the Little Miami and Ohio Rivers.

In accordance with OAC 4906-1-01 Appendix A, we are required to prepare this Letter of Notification for the Ohio Power Siting Board and in compliance with OAC 4906-11-01(D)(4), we are hereby proving you with an electronic copy.

Cordially, Duke Energy Ohio, Inc.

LETTER OF NOTIFICATION FOR THE

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LINE D000B NATURAL GAS PIPELINE REPLACEMENT PROJECT

17 PUCO Case Number 16-328-GA-BLN

Submitted pursuant to O.A.C. 4906-6

Duke Energy Ohio, Inc.

April 4, 2017



TABLE OF CONTENTS

Page

LINE D000B NATURAL GAS PIPELINE REPLACEMENT PROJECT	1
4906-6-05 APPLICATION REQUIREMENTS	1
4906-06-05(B)(1)(a): Name of the Project and Applicant's Reference Number	
4906-06-05(B)(1)(b): Brief Description of the Project	
4906-06-05(B)(1)(c): Why the Project Meets the Requirements for a Letter of	
Notification	2
4906-06-05(B)(2): Statement of Need for the Proposed Facility	2
4906-06-05(B)(3): Location of the Project	
4906-06-05(B)(4): Alternatives Considered	3
4906-06-05(B)(5): Description of Public Information Program	4
4906-06-05(B)(6): Anticipated Construction Schedule and Proposed In-Service	
Date	5
4906-06-05(B)(7): Project Area Map with Aerial Image	5
4906-06-05(B)(8): Property Owner List	5
4906-06-05(B)(9): Technical Features	6
4906-06-05(B)(9)(a): Operating Characteristics, Required Structures, and Right-	
of-Way and/or Land Requirements	
4906-06-05(B)(9)(b): Electric and Magnetic Fields	
4906-06-05(B)(9)(c): Estimated Capital Cost of the Project	
4906-06-05(B)(10): Social and Ecological Impacts of the Project	
4906-06-05(B)(10)(a): Land Use	
4906-06-05(B)(10)(b): Agricultural Land	
4906-06-05(B)(10)(c): Archeological and Cultural Resources	8
906-06-05(B)(10)(d): Local, State, and Federal Governmental Agencies Which	
Have Requirements That Must be Met by the Project	
4906-06-05(B)(10)(e): Federal and State Designated Species	
4906-06-05(B)(10)(f): Areas of Ecological Concern	17
4906-06-05(B)(10)(g): Any Unusual Conditions Resulting in Significant	
Environmental, Social, Health, or Safety Impacts	18

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LIST OF ATTACHMENTS

Attachment

Figures1
Landowners of Permanent and Temporary Easements2
Landowner Notification Letter
Ohio Historic Preservation Office (OHPO) Agency Coordination Response Letter4
Wetland and Waterbody Delineation Report
Preliminary Jurisdictional Determination
Agency Coordination Letter and Threateaned and Endangered Species Habitat Assessment
Report
Running Buffalo Clover Survey Report
U.S. Fish & Wildlife Service (USFWS) Agency Coordination Response Letter
Ohio Department of Natural Resources (ODNR) Agency Coordination Response Letter

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-ii-

This Letter of Notification (LON) has been prepared by Duke Energy Ohio, Inc., (Duke Energy Ohio) in accordance with the procedures set forth in Ohio Administrative Code (O.A.C.) Chapter 4906-6 Accelerated Certificate Application Requirements of the Rules and Regulations of the Ohio Power Siting Board (OPSB or Board).

4906-6-05 APPLICATION REQUIREMENTS

4906-06-05(B)(1)(a): Name of the Project and Applicant's Reference Number

Duke Energy Ohio is proposing to construct a natural gas pipeline identified as the Line D000B Pipeline Replacement Project (the Project) in Cincinnati's East End, Hamilton County, Ohio. The internal project reference number is 8075968.

4906-06-05(B)(1)(b): Brief Description of the Project

Duke Energy Ohio proposes to replace approximately 17,466 feet (3.31 miles) of existing single 20- and 24-inch spiral welded, coated steel, natural gas pipeline originally installed in 1948 with new 20- and 24-inch diameter, corrosion protected steel pipe. The pipeline easement is at maximum 50 feet in width, with up to another 20 to 50 feet of additional temporary workspace where required and available. Approximately 2.54 miles or 13,394 feet of the replacement pipeline is proposed to be co-located within the existing pipeline right-of-way (ROW), while the remaining 0.77 mile (4,072 feet) of replacement pipeline will be located within new D000B pipeline ROW. The entire length of the proposed new D000B pipeline ROW will be located in previously disturbed areas including existing road rights-of-way and the asphalt parking lots of Rivertowne Marina, Cameo Nightclub, and Cincinnati Interiors LTD. The new pipeline will have a normal

operating pressure of approximately 200 pounds per square inch gage ("psig"). The north-western terminus of the Project begins southeast of Duke Energy Ohio's natural gas distribution center at the Cincinnati's East End Facility property. The pipeline will run in a south-southeast direction and will be bound by U.S. 52 to the east and the Ohio River to the southwest. The replacement pipeline will terminate near, and northwest of, the confluences of the Little Miami and Ohio Rivers. Access to the replacement pipeline workspace will be accomplished through the use of existing public and private roads, and the Duke Energy Ohio ROW. The existing pipeline is proposed to be abandoned in-place once the Project is in operation.

<u>4906-06-05(B)(1)(c): Why the Project Meets the Requirements for a Letter of Notification</u>

The project qualifies as a Letter of Notification filing because it meets the criteria of O.A.C. Rule 4906-1-01, Appendix B, that provides for (1) new construction, extension, relocation, upgrade, or replacement (except with a like facility) of gas pipelines or pipeline segments (b) greater than one mile in length but not greater than five miles in length. This project is a replacement project, involving the installation of a 20- and 24- inch diameter pipe having an approximate length of 3.31 miles.

4906-06-05(B)(2): Statement of Need for the Proposed Facility

The Project is needed to replace the aging single 20- and 24-inch diameter, coated steel, natural gas pipeline that was constructed in 1948, which supplies various distribution pipelines and subsequent end users in the Project area. The Project is

designed to assist in continuing to meet supply and demand, while ultimately maintaining the safety and integrity of the pipeline system.

4906-06-05(B)(3): Location of the Project

The location of this Project is illustrated on Figures 1 and 2 in Attachment 1. Figure 1 shows the general Project vicinity illustrated on a U.S. Geological Survey (USGS) quadrangle map. Figures 2 and 3 illustrate the proposed replacement pipeline and the existing pipeline that is proposed to be abandoned in-place overlain on an aerial base map.

4906-06-05(B)(4): Alternatives Considered

As stated in Section 4906-06-05(B)(1)(b), above, Duke Energy Ohio proposes to replace approximately 17,466 feet (3.31 miles) of existing single 20- and 24-inch, coated steel, spiral welded, natural gas pipeline with new 20- and 24-inch diameter, corrosion protected, steel pipe. Given that the project's purpose is to replace an existing pipeline, Duke Energy Ohio's primary siting objective was to locate the proposed replacement pipeline within the existing pipeline easement, to the extent practical. As a result of land use changes along the existing pipeline easement since the original pipeline was installed, and to further reduce potential land-use impacts of the Project, Duke Energy Ohio proposes to deviate from the existing easement at two separate locations as shown on Figures 2 and 3.

The first proposed deviation from the existing pipeline easement begins at the intersection of U.S. 52 and Wilmer Avenue and continues south-southeast to the

intersection of Gassaway and Anchorage Roads. The proposed replacement pipeline is planned to be installed within U.S. 52 and Gassaway Road ROW as to avoid interfering with continued operations at the Martin Marietta Materials aggregate mining operation at the Kellogg Avenue Yard and the Peddlers Flea Market on Anchorage Road.

The second proposed deviation from the existing pipeline easement begins at the intersection of U.S. 52 and Anchorage Road and continues south to a location approximately 250 feet north of where the existing easement crosses Stites Road. The proposed replacement pipeline is planned to be installed within a new easement, offset 15 feet to the west of U.S. 52 road ROW, so as to avoid interfering with operations at the Cameo night club building and the adjoining swimming pool. The replacement pipeline will parallel the west side of U.S. 52 for approximately 1,100 feet in a south-southeast direction. At the Rivertowne Marina driveway, the replacement pipeline begins paralleling the west side of the driveway in a southerly direction for approximately 360 feet, and then continues west-southwest paralleling the north side of the driveway for an additional approximately 470 feet, before returning to the existing D000B easement. This change will serve to further minimize potential construction impacts at the Rivertowne Marina.

4906-06-05(B)(5): Description of Public Information Program

All affected property owners were contacted in October 2016 so that Company personnel could brief them on the Project. In addition, the Company had numerous individual contacts with the few property owners from whom new easements were necessary.

Within seven days following the filing of this Letter of Notification, affected property owners and tenants will be notified, as required by O.A.C. 4906-6-08(B). In addition, the Company is holding an informational meeting in late April 2017, in order to ensure that neighbors are fully informed about the Project and to allow them to ask any questions they may have.

4906-06-05(B)(6): Anticipated Construction Schedule and Proposed In-Service Date

Construction is anticipated to begin on May 8, 2017. The Project is anticipated to be completed and in-service by October 7, 2017.

4906-06-05(B)(7): Project Area Map with Aerial Image

Project area maps with an aerial image at 1:7,200 scale, showing roads and major watercourses, are included as Figures 2 and 3 in Attachment 1.

4906-06-05(B)(8): Property Owner List

A list of the affected properties for which Duke Energy Ohio has obtained easements, options, and/or land use agreements is given in Attachment 2. Easements have been obtained from all affected property owners.

4906-06-05(B)(9): Technical Features

4906-06-05(B)(9)(a): Operating Characteristics, Required Structures, and Right-of-

Way and/or Land Requirements

The following information summarizes the operating characteristics and construction

specifications for the proposed replacement 20- and 24-inch diameter pipeline:

- *Pipe Material:* 20-inch diameter ERW steel, X60, and 24-inch diameter ERW steel, X60
- Normal Operating Pressure: 200 psi
- *Pipe Wall Thickness and Yield Strength:* 0.375 inch thickness with a yield strength of 60,000 psi
- Coating Type: Externally coated with 14-16 Mils of Fusion Bonded Epoxy (FBE)
- Cathodic Protection: Rectifiers
- *Structures:* No additional structures will be required for the new pipeline.
- **ROW and/or Land Requirement:** The pipeline easement is at maximum 50 feet in width, with up to another 20 to 50 feet of additional temporary workspace where required. All additional workspaces were considered and evaluated for ecological and cultural resources.

4906-06-05(B)(9)(b): Electric and Magnetic Fields

This Project involves the construction of a natural gas pipeline; therefore, this section

is not applicable.

4906-06-05(B)(9)(c): Estimated Capital Cost of the Project

The capital cost of this Project is estimated to be approximately \$11,000,000.

4906-06-05(B)(10): Social and Ecological Impacts of the Project

4906-06-05(B)(10)(a): Land Use

The proposed Project is located in Cincinnati's East End, southeast Hamilton County, Ohio. Historically a manufacturing district, current land use in the vicinity of the proposed project varies considerably and includes Schmidt Sports Complex and the Turkey Ridge Recreational Area, the Ohio River trail, Riverview East Academy School, a variety of commercial and industrial businesses along U.S. 52 including Kinder Morgan Queen City Terminal and Martin Marietta Materials aggregate mining operation at the Kellogg Avenue Yard, Kellogg Avenue Park, and several marinas near the southern terminus of the Project. Seven (7) single-family residences and one (1) multi-family residence are located within 100 feet of the proposed pipeline replacement centerline. Four (4) of the single-family residences are located on the north side of U.S. 52, near its intersection with Tennyson Street, while the remaining three (3) residences are located near the intersection of Gassaway and Anchorage Roads. The one (1) multi-family residence is located south-southwest of the intersection of U.S. 52 and Wilmer Avenue. No new residences are located within 100 feet of the two proposed pipeline replacement route deviations discussed in the Alternatives Considered section (4906-06-05(B)(4)) of this Letter of Notification. Forested land cover along the Project length is generally limited to the fragmented woodlot between Schmidt Sports Complex and the Turkey Ridge Recreational Area, and the forested tract at the south-eastern end of the Project near the confluence of the Little Miami and Ohio Rivers.

-7-

4906-06-05(B)(10)(b): Agricultural Land

The proposed Project does not cross any land that is currently used for agricultural purposes and is not located within any Agricultural District lands as defined by Chapter 929 of the Ohio Revised Code.

4906-06-05(B)(10)(c): Archeological and Cultural Resources

On June 1-3 and July 18-20, 2016, Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) conducted a Phase I archaeological survey of the Project. The Phase I report is provided under separate cover. The Area of Potential Effect (APE) encompasses an area that is approximately 3.4 miles long and 100 feet wide, totaling approximately 41 acres in size. Data was compiled for resources identified pursuant to evaluating them according to their National Register of Historic Places (NRHP) eligibility status. Field investigations included visual inspection of the APE, shovel test probes, and backhoe trenching to test portions of the project area that were determined to have a high potential for intact buried historic archaeological sites based on archival research. A total of three historic archaeological sites were identified as a result of this Phase I survey – 33Ha860, 33Ha861, and 33Ha866. Specific site locations are given in the Phase I Report and are not provided in the following discussion.

Site 33Ha860 was identified in Humbert Avenue based on the 1929 Sanborn Fire Insurance Map as a Dance Pavilion. Based on the historic mapping, this site was not in existence for an extended period of time and was likely destroyed in the flood of 1937. Cultural material recovered from this site indicated that a wooden structure was once in

this location that was constructed on concrete piers. Based on the limited amount of cultural material recovered and no cultural features encountered within the area tested, the portion of Site 33Ha860 within the proposed ROW is not recommended NRHP eligible. Portions of the site outside the ROW were not assessed. Duke Energy Ohio proposes to protect portions of Site 33Ha860 that are located outside of the proposed ROW. Construction impacts will be restricted to the proposed pipeline corridor which will be approximately 25 feet from the edge of Site 33Ha860. The project will not impact portions of the site located outside of the ROW. Due to the proximity of the proposed pipeline centerline to areas untested outside of the ROW, Site 33Ha860 will be protected by orange construction fencing along the edge of the proposed ROW, and silt fence and orange construction fence will be placed along the northern and southern edge of the proposed ROW beginning 15 meters (50 feet) west and terminating 15 meters (50 feet) east of the site boundary to protect Site 33Ha860. As such, no further work was recommended by Amec Foster Wheeler on Site 33Ha860.

Site 33Ha861 was located in a side lot along Humbert Avenue. Cultural materials recovered from this site included kitchen, architectural and personal refuse. Sanborn Fire Insurance Maps from 1904, 1917, 1922, 1929 and 1950 all indicate a domestic residence in this lot. In fact, archival research indicates a house was located on this lot before Sanborn Fire Insurance Maps were available. The cultural material recovered indicates that the dwelling was built and occupied by the late nineteenth century. Based on the results of Amec Foster Wheeler's Phase I survey and artifact analysis, Site 33Ha861 is the yard of a historic residence dating from the nineteenth century. The presence of a

variety of historic cultural material coupled with historic research suggests that an African American family may have lived in this home initially but preliminary deed research indicates the house has changed hands many times over the years. Due to the depth that the artifacts were recovered and the high frequency of domestic debris recovered; truncated features may exist. Site 33Ha861 could not be assigned to a specific individual living at this house with the information at hand. Site 33Ha861 is recommended as potentially eligible for the NRHP. Additional Phase II work would be recommended on Site 33Ha861, if the site were not planned to be avoided and protected. The area surveyed within the boundary of Site 33Ha861, will be protected during construction. Construction impacts will be restricted to the proposed pipeline corridor which will be approximately 25 feet from the edge of Site 33Ha861. No ground disturbance, spoil piles, or the placement of construction equipment will occur outside of the proposed ROW within Humbert Avenue during construction. Also, during construction, silt fence and orange construction fence will be placed along the northern and southern edge of the proposed ROW beginning 15 meters (50 feet) west and terminating 15 meters (50 feet) east of the site boundary to protect Site 33Ha861.

Site 33Ha866 was also located along Humbert Avenue. Site 33Ha866 was identified on the 1929 Sanborn Fire Insurance Map as a Lunch Room west of Site 33Ha860 (the Dance Hall Pavilion). Based on the historic mapping, this site was not in existence for an extended period of time and was likely destroyed in the flood of 1937. Cultural material recovered from this site indicated that a wooden structure was once in this location that was likely constructed on concrete piers. Based on the limited amount of cultural

material recovered and no cultural features encountered within the area tested, the portion of Site 33Ha866 within the proposed ROW is not recommended NRHP eligible. Site 33Ha866 is proposed to be protected outside of the proposed ROW. Construction impacts will be restricted to the proposed pipeline corridor which will be approximately 25 feet from the edge of Site 33Ha861. The proposed replacement pipeline route will not impact the site outside of the proposed ROW. Due to the proximity of the pipeline route to areas untested outside of the ROW, Site 33Ha866 will be protected by orange construction fencing along the edge of the proposed ROW, and silt fence and orange construction fence will be placed along the northern and southern edge of the proposed ROW beginning 15 meters (50 feet) west and terminating 15 meters (50 feet) east of the site boundary to protect Site 33Ha866. As such, no further work is recommended on Site 33Ha866. As such, no further work was recommended by Amec Foster Wheeler on Site 33Ha866.

The viewsheds of potential historic structures will not be permanently affected by this Project since the Project components will be underground and potential construction impacts will be temporary in nature. In addition, three architectural surveys (1988, 1989, and 2004) have been completed within the proposed Project area. As such, no architectural viewshed survey work was completed for the Project.

On September 7, 2016, the completed Ohio Historic Preservation Office (OHPO) Section 106 review form and the Phase I archaeological survey report were transmitted to the OHPO for review and concurrence that no additional archaeological investigations are required for the Project as proposed. A Project response letter, dated October 3,

2016, was received from the OHPO and is included as Attachment 4. The OHPO concurred with the findings of the Phase I report, dated August 25, 2016, and affirmed that the Project will not affect historic properties provided the recommended avoidance and protection measures are implemented with respect to site 33 HA 861. The OHPO stated that no further coordination is required unless the Project changes or additional archaeological remains are discovered during the course of the Project.

Following receipt of the OHPO response letter, minor adjustments were made to the proposed replacement pipeline centerline that resulted in the need to conduct additional archaeological survey on areas that were not previously included in the June and July 2016 surveys. The results of the additional archaeological survey will be provided to the OHPO and OPSB once it is received.

<u>906-06-05(B)(10)(d): Local, State, and Federal Governmental Agencies That Have</u> <u>Requirements That Must be Met by the Project</u>

The following governmental agencies have requirements that must be met at various times by this Project:

	TABLE 1.HAVE PROJECT APPLICABLE REQUIREMENTS,ZATIONS OR PERMITS
AGENCY	DOCUMENT TO BE SUBMITTED
U.S. Army Corps of Engineers -	Jurisdictional Determination Request and Wetland &
Huntington District	Waterbody Delineation Report
U.S. Fish & Wildlife Service	Rare, Threatened, and Endangered Species Consultation
Ohio Department of Natural Resources	Rare, Threatened, and Endangered Species Consultation
Ohio Historic Preservation Office	Section 106 Coordination
Obio Environmental Protection Agency	NOI for General
Ohio Environmental Protection Agency	Construction Stormwater Permit
City of Cincinnati	Excavation and Fill and Floodplain Development Permit
	MSD Water Withdrawal and Discharge Authorization for
	Hydrostatic testing
	Stormwater Pollution Prevention Plan
	Phase I Environmental Site
	Assessment (ESA) (not required but recommended)

4906-06-05(B)(10)(e): Federal and State Designated Species

In May 2016, Civil & Environmental Consultants, Inc. (CEC), on behalf of Duke Energy Ohio, conducted a threatened and endangered species habitat assessment of the Project area for federally listed species known to occur within Hamilton County, Ohio. According to the USFWS's County Distribution List of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species for Hamilton County, Ohio, the following species were identified as occurring, or potentially occurring in the Project area: the Indiana bat (*Myotis sodalis*, endangered), northern long-eared bat (*Myotis septentrionalis*, threatened), fanshell mussel (*Cyprogenia stegaria* (=C. irrorata), endangered), pink

mucket pearlymussel (Lampsilis abrupta, endangered), rayed bean mussel (Villosa fabalis, endangered), sheepnose mussel (Plethobasus cyphyus, endangered), snuffbox mussel (Epioblasma triquetra, endangered), and the running buffalo clover (Trifolium stoloniferum, endangered).

In addition to reviewing the USFWS's County Distribution List, the ODNR Division of Wildlife's County Distribution List of State Listed Wildlife Species was consulted for Federally-listed endangered or threatened species as occurring, or potentially occurring, in Hamilton County. The ODNR's County Distribution List identified the Indiana bat, northern long-eared bat, the running buffalo clover, as well as the five mussel species that were noted by the USFWS. The ODNR also identified purple cat's paw mussel (*Epioblasma obliquata obliquata*, endangered), northern riffleshell mussel (*Epioblasma torulosa rangiana*, endangered), clubshell mussel (*Pleurobema clava*, endangered), and the rabbitsfoot mussel (*Quadrula cylindrica cylindrica*, threatened).

The Project area was evaluated by a team of two biologists from Civil & Environmental Consultants, Inc., on May 16, 18, and 19, 2016, to document existing vegetation communities, hydrologic conditions, and other habitat characteristics. Each type of habitat present within the Project area was qualitatively evaluated for its potential to be suitable habitat for the running buffalo clover, Indiana bat, northern long-eared bat, and the aforementioned mussel species. The habitat assessment revealed potentially suitable habitat for the running buffalo clover, Indiana bat, and the northern long-eared bat. Potentially suitable freshwater mussel habitat was not identified, based on the absence of streams and lakes within the Project area. The Threatened and Endangered

Species Habitat Assessment Report and Running Buffalo Clover Report are included as Attachments 7 and 8, respectively.

Running Buffalo Clover

The running buffalo clover (RBC) habitat survey revealed approximately 5.06 acres or about 6 percent of the total Project area met the habitat considerations as potential RBC habitat. The remaining areas within the Project study corridor do not provide suitable habitat conditions for the RBC based on one or more of the following habitat considerations: extent of disturbance, solar exposure, soil saturation, and/or a dense understory. CEC subsequently conducted a RBC survey on the potential habitat that was identified in the Project area. No RBC individuals or populations were observed during the survey. The survey was conducted following standard methods and guidelines for endangered plant surveys, as approved by the USFWS, which included a species-specific survey within the potentially suitable habitat during the flowering period, using a known local population, to allow for positive identification of the species.

Indiana and Northern Long-Eared Bats

Living or dead trees with shedding or peeling bark or cavities may serve as roosting trees for the Indiana bat and/or northern long-eared bat. The field review that was completed by CEC identified 17 potential roost trees (PRT) for the Indiana and/or northern long-eared bats within the variable width limit of disturbance for the Project. Ten of those PRTs were located within pre-existing Duke Energy Ohio easements are

-15-

were removed, between October 1 and March 31, as part of ordinary right-of-way maintenance. The other seven PRTs will not be removed.

Duke Energy Ohio submitted written requests for findings to the USFWS and the ODNR regarding any adverse effect to any federally listed, threatened, or endangered species in the Project area. The USFWS and ODNR response letters are included as Attachments 9 and 10, respectively. In a letter response, dated October 26, 2016, the USFWS identified the Indiana bat, northern long-eared bat, and the running buffalo clover as being within the range of the Project. The USFWS recommended that removal of any trees \geq 3 inches diameter breast height (dbh) only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. The USFWS affirmed that no significant impacts are expected to the running buffalo clover as a result of the Project, based on the findings of the presence/absence survey that was conducted within the areas of suitable habitat within the Project area.

The ODNR also responded with records and comments in a letter, dated December 15, 2016. The ODNR Natural Heritage Database identified 11 records within a one-mile radius of the Project area. None of these 11 records are anticipated to be adversely affected by the Project. In addition to these 11 records, the ODNR identified the Indiana bat as occurring within the range of the Project. The ODNR reported that if suitable habitat occurs within the Project area and trees must be cut, the ODNR recommends the cutting occur between October 1 and March 31. The ODNR also reported that the Project is within the range of several other protected species. However, based on the project

location, absence of in-water work in streams, and the types of habitat that are crossed by the Project, the Project is not likely to impact these species.

4906-06-05(B)(10)(f): Areas of Ecological Concern

There are no national and state forests or parks, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, refuges, management areas, and sanctuaries in the Project area. The Project crosses three City of Cincinnatiowned parks including Schmidt Sports Complex, Turkey Ridge Recreation Area, and Kellogg Recreation Area. The proposed replacement pipeline is located within the existing Duke Energy Ohio easement at each of these three locations. The full extent of the Project area is located within the Federal Emergency Management Agency (FEMA) 100-year floodplain.

In May 2016, CEC conducted a wetland and waterbody delineation and assessment within a 200-foot wide study corridor for the Project. Six wetlands within the study area, totaling approximately 3.27 acres, were identified and delineated. These six wetlands varied considerably in quality and consisted of two different vegetation community types: emergent and forested (Attachment 5). No streams or open water aquatic resources were identified within the study corridor. Construction of the Project is proposed to temporarily impact the emergent portion of Wetland 2, totaling approximately 0.07 acre. The remaining five wetlands are proposed to be avoided by the project through limiting the Project workspace at the south-eastern end of the Project route.

-17-

<u>4906-06-05(B)(10)(g): Any Unusual Conditions Resulting in Significant Environmental.</u> <u>Social, Health, or Safety Impacts</u>

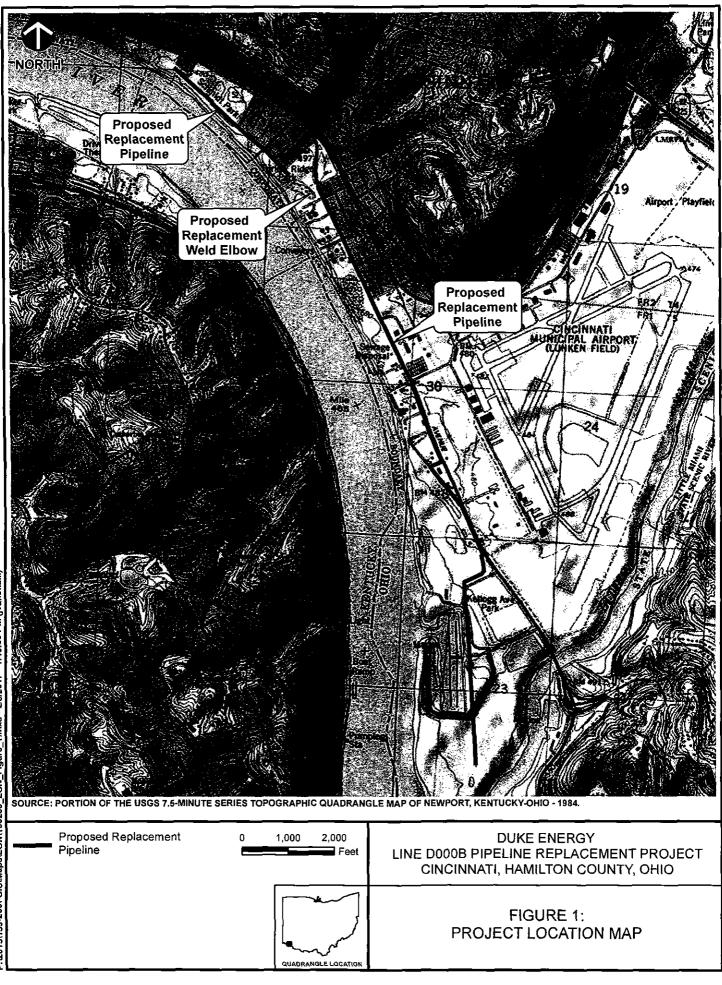
A Phase I Environmental Site Assessment (ESA) was completed for the Project in September 2016. The report findings are reflective of the historic and current land uses in this urban area. The report indicated that there are no known unusual conditions or circumstances associated with this Project that will result in significant environmental, social, health, or safety impacts.

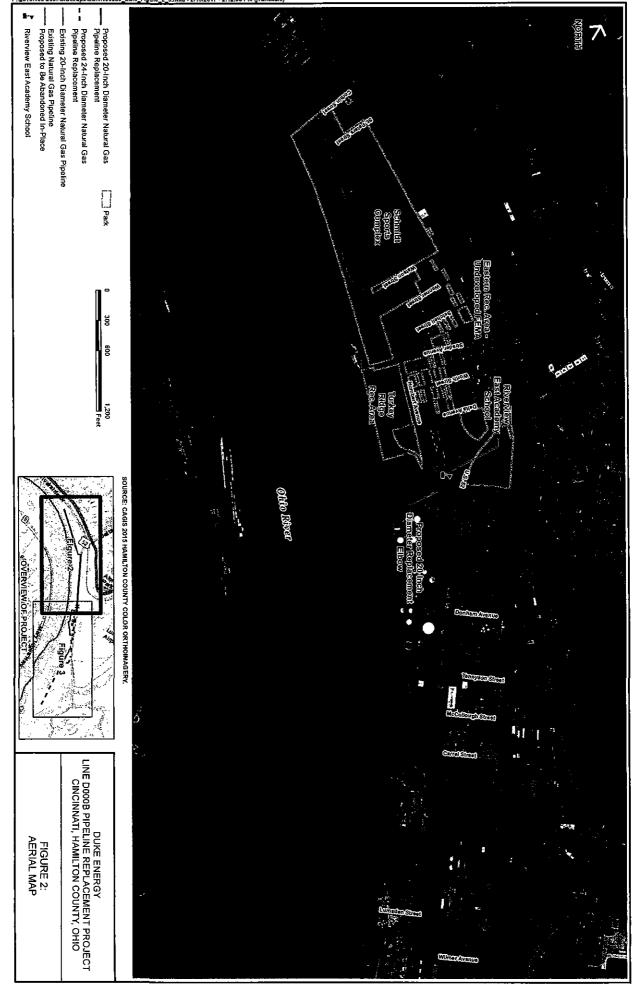
ATTACHMENT 1

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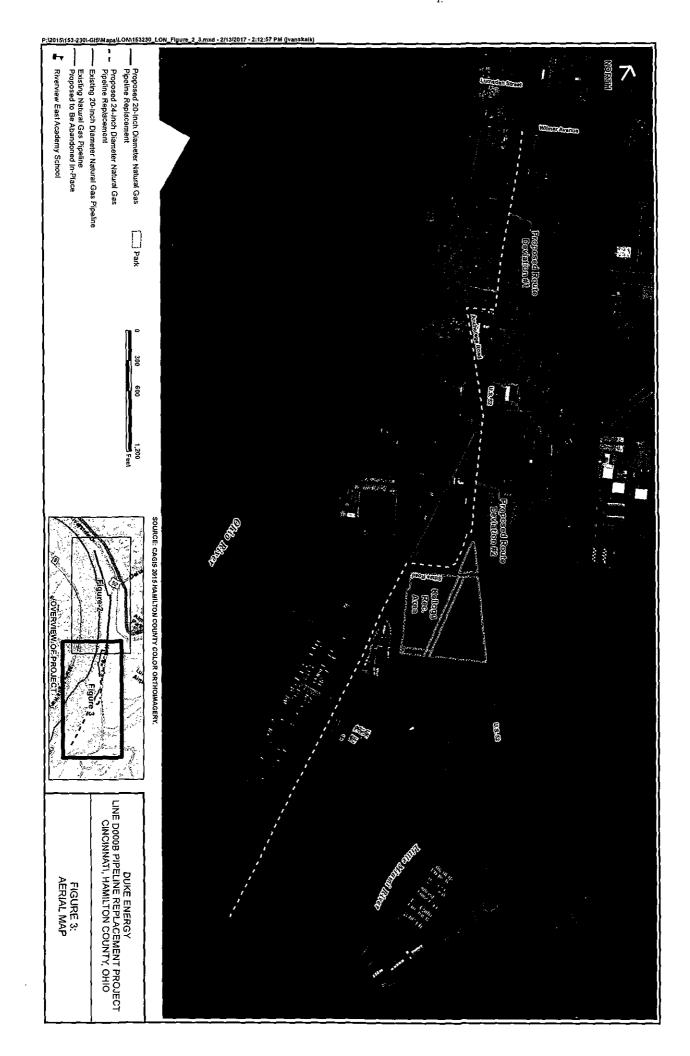
FIGURES





4.5

P:\2015\153-230\-GIS\Haps\LON\153230_LON_Figure_2_3.mxd + 2/13/2017 + 2:12:08 PM (jvanskalk)



ATTACHMENT 2

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LANDOWNERS OF PERMANENT AND TEMPORARY EASEMENTS

			Owner /	Owner Addresses	
Parcel ID	Owner	Physica	Physical Address	Mailing Address	ddress
001100030001	MANLLC	2057 BEECHMONT AVE	CINCINNATI OH 45230	2057 BEECHMONT AVE	CINCINNATI OH 45230
001200020030	SMM INVESTMENTS LLC	3504 NINE MILE RD	CINCINNATI OH 45255	3504 NINE MILE RD	CINCINNATI OH 45255
001200020034	KELLOGG PROPERTIES	4505 KELLOGG AVE	CINCINNATI OH 45226	4505 KELLOGG AVE	CINCINNATI OH 45226
001200020036	KANE PAUL W TR	602 MAIN ST	CINCINNATI OH 45202-2521	PO BOX 8040	FORT WAYNE IN 46898
001200040002	UNITED DAIRY FARMERS INC	3955 MONTGOMER Y RD	CINCINNATI OH 45212	3955 MONTGOMERY RD	CINCINNATI OH 45212
001200040007	BILTER PROPERTIES LLC	4343 KELLOGG AVE	CINCINNATI OH 45226-1554	4343 KELLOGG AVE	CINCINNATI OH 45226
001200040008	BILTER PROPERTIES LLC	4343 KELLOGG AVE	CINCINNATI OH 45226-1554	4343 KELLOGG AVE	CINCINNATI OH 45226
001200040013	GEORGETON PETER T	6591 KENTUCKY VIEW	CINCINNATI OH 45230	6591 KENTUCKY VIEW	CINCINNATI OH 45230
001200040015	STEFANI GREGORY DANIEL	5381 WOOSTER PIKE	CINCINNATI OH 45226	5381 WOOSTER PIKE	CINCINNATI OH 45226
001200040023	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
001200040029	BILTER PROPERTIES LLC	4343 KELLOGG AVE	CINCINNATI OH 45226-1554	4343 KELLOGG AVE	CINCINNATI OH 45226
001200040032	GEORGETON PETER T	6591 KENTUCKY VIEW	CINCINNATI OH 45230	6591 KENTUCKY VIEW	CINCINNATI OH 45230
001300010103	GOTHAM INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
001300050017	SCHNEIDER BYRON J & HELEN	2971 OLD LINE LN	HAMILTON OH 45011	2971 OLD LINE LN	HAMILTON OH 45011
001300050018	SCHNEIDER BYRON J & HELEN	2971 OLD LINE LN	HAMILTON OH 45011	2971 OLD LINE LN	HAMILTON OH 45011
001300050019	SCHNEIDER BYRON J & HELEN	2971 OLD LINE LN	HAMILTON OH 45011	2971 OLD LINE LN	HAMILTON OH 45011
001300050045	ELBINC	4167 KELLOGG AVE	CINCINNATI OH 45226	4167 KELLOGG AVE	CINCINNATI OH 45226
001300050046	ELBINC	4167 KELLOGG AVE	CINCINNATI OH 45226	4167 KELLOGG AVE	CINCINNATI OH 45226
001300050047	4241 KELLOGG AVE LLC	9242 WEST RD	CLEVES OH 45002-9722	9242 WEST RD	CLEVES OH 450029722
001300050049	BOARD OF HAMILTON COUNTY COMMRS	1600 GEST ST	CINCINNATI OH 45204	1600 GEST ST	CINCINNATI OH 45204
001300050050	BOARD OF HAMILTON COUNTY COMMRS	1600 GEST ST	CINCINNATI OH 45204	1600 GEST ST	CINCINNATI OH 45204
001300050051	BOARD OF HAMILTON COUNTY COMMRS	1600 GEST ST	CINCINNATI OH 45204	1600 GEST ST	CINCINNATI OH 45204
001300050052	GUINN PRENTICE L	UN DUDD RD	AMELIA OH 45102	167 JUDD RD	AMELIA OH 45102
001300050068	BOARD OF HAMILTON COUNTY COMMARS	1600 GEST ST	CINCINNATI OH 45204	1600 GEST ST	CINCINNATI OH 45204
001300050071	ERNST JEROME L	4167 KELLOGG AVE	CINCINNATI OH 45226	4167 KELLOGG AVE	CINCINNATI OH 45226
001200020038	MARTIN MARIETTA MATERIALS INC	9277 CENTRE POINTE DR	WEST CHESTER OH 45069	PO BOX 8040	FORT WAYNE IN 46898
001100030005	ANCHORAGE ROAD PROPERTIES LLC	6178 WOODLARK DR	CINCINNATI OH 45230	6178 WOODLARK DR	CINCINNATI OH 45230
001100030011	HAWKSTONE ASSOCIATES INC	9171 DRY FORK RD	HARRISON OH 45030	9171 DRY FORK RD	HARRISON OH 45030
001200020002	KRONE PAUL W TR	602 MAIN ST	CINCINNATI OH 45202-2521	PO BOX 8040	FORT WAYNE IN 46898
001200020003	KRONE PAUL W TR	602 MAIN ST	CINCINNATI OH 45202-2521	PO BOX 8040	FORT WAYNE IN 46898
001200020004	KRONE PAUL W TR	602 MAIN ST	CINCINNATI OH 45202-2521	PO BOX 8040	FORT WAYNE IN 46898
001300010013	GOTHAM INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
001300010014	GOTHAM INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
001300010015	GOTHAM INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
001300010016	GOTHAM INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210

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LANDOWNERS OF PERMANENT & TEMPORARY EASEMENTS

2/16/2017

1 of 5

Disto	Q		Owner Addresses	ddresses	
LarcettD	Owler	Physica	Physical Address	Mailing	Mailing Address
10010001000	GOTHAM INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
001300010018	GOTHAM INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
001300010019	GOTHAM INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
001300010020	GOTHAM INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
001300010021	GOTHAM INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
001300010025	GOTHAM INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
10001000500	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010002	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010003	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010004	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010005	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010006	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010007	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010008	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010009	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010010	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
110010006200	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010012	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010013	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010014	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010015	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010016	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010017	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010018	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010019	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010020	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010021	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010022	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010023	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010024	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010025	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
970010006700	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010027	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010028	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900010029	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704

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LANDOWNERS OF PERMANENT & TEMPORARY EASEMENTS

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2/16/2017

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Parcal ID	Очинат				
		Physic	Physical Address	Mailing	Mailing Address
002900010030	CINCINNATI CITY OF	SO1 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900020024	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900020025	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900020026	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900020027	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900020028	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900020029	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900020030	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900020031	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900020032	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900020033	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900020034	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900020117	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900030003	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002800010002	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNAT1 OH 452025704
002800010003	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010004	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010007	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010008	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010009	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010010	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
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002800010012	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010013	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010014	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010061	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010062	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010063	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010064	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010065	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010066	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010067	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010068	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010069	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010070	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	SOI PLUM ST	CINCINNATI OH 452025704

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LANDOWNERS OF PERMANENT & TEMPORARY EASEMENTS

2/16/2017

3 of 5

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Parcel ID	Owner				
		Physical Address	Address	Mailing Address	Address
002800010071	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010121	OHIO RIVER LAUNCH CLUB	7609 TRAILWIND DR	CINCINNATI OH 45242	449 FAJRVIEW PL	CINCINNATI OH 45219
002800010122	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010156	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800020035	BYWATER DEVELOPMENT LP	200 WALNUT HILL AVE	HILLSBORO TX 76645	200 WALNUT HILL AVE	HILLSBORO TX 76645
003100010001	DUKE ENERGY OHIO INC C/O TAX DEPARTMENT	550 TRYON ST	CHARLOTTE NC 28201	PO BOX 1321	CHARLOTTE NC 28202
003100010002	DUKE ENERGY OHIO INC C/O TAX DEPARTMENT	550 TRYON ST	CHARLOTTE NC 28201	PO BOX 1321	CHARLOTTE NC 28202
002800020163	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100010100	DUKE ENERGY OHIO INC C/O TAX DEPARTMENT	550 TRYON ST	CHARLOTTE NC 28201	PO BOX 1321	CHARLOTTE NC 28202
002800030184	CINCINNATI BOARD OF EDUCATION	PO BOX 5384	CINCINNATI OH 45201-5384	PO BOX 5384	CINCINNATI OH 452015384
002800030201	CINCINNATI BOARD OF EDUCATION	PO BOX 5384	CINCINNATI OH 45201-5384	PO BOX 5384	CINCINNATI OH 452015384
002800030237	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800030238	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
000700010002	TOWNE PROPERTIES ASSET MANAGEMENT COMPANY	1055 ST PAUL PL	CINCINNATI OH 45202	1055 ST PAUL PL	CINCINNATI OH 45202
003100010103	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020004	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020056	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010005	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100010016	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010001	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020026	CINCINNATI CITY OF	S MULT 108	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020057	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020048	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020052	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020003	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020050	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020049	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020054	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020051	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020027	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900020119	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
003100020001	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020028	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900020001	LIQUID TRANSFER TERMINALS OHIO INC	6001-21 ARGYLE FOREST BL V	JACKSONVILLE FL 32244	6001-21 ARGYLE FOREST BLV	JACKSONVILLE FL 32244
002800030255	CINCINNATI BOARD OF EDUCATION	PO BOX 5384	CINCINNATI OH 45201-5384	PO BOX 5384	CINCINNATI OH 452015384

LANDOWNERS OF PERMANENT & TEMPORARY EASEMENTS

2/16/2017

4 of 5

			Owner Addresses	ddresses	
Parcel ID	Owner	Physical	Physical Address	Mailing Address	Address
002800030256	CINCINNATI BOARD OF EDUCATION	PO BOX 5384	CINCINNATI OH 45201-5384	PO BOX 5384	CINCINNATI OH 452015384
000700010003	TOWNE PROPERTIES ASSET MANAGEMENT COMPANY	1055 ST PAUL PL	CINCINNATI OH 45202	1055 ST PAUL PL	CINCINNATI OH 45202
000700010004	TOWNE PROPERTIES ASSET MANAGEMENT COMPANY	1055 ST PAUL PL	CINCINNATI OH 45202	1055 ST PAUL PL	CINCINNATI OH 45202
900020001100	4601 KELLOGG LLC	4601 KELLOGG AVE	CINCINNATI OH 45226	4601 KELLOGG AVE	CINCINNATI OH 45226
001100030017	WOODSEDGE PROPERTIES II LLC	1139 FEHL LN	CINCINNATI OH 45230	1139 FEHL LN	CINCINNATI OH 45230
001100030018	4601 KELLOGG LLC	4581 KELLOGG AVE	CINCINNATI OH 45226	4581 KELLOGG AVE	CINCINNATI OH 45226
001100030019	KELLOGG PROPERTIES LLC	420 UNITED CT	LEXINGTON KY 40509	420 UNITED CT	LEXINGTON KY 40509
001100030021	BECK ROBERT R & JUDITH R	4213 WEST FORK RD	CINCINNATI OH 45247	4213 WEST FORK RD	CINCINNATI OH 45247
001100030022	KELLOGG GROUP LLC	4601 KELLOGG AVE	CINCINNATI OH 45226	4601 KELLOGG AVE	CINCINNATI OH 45226
001100030023	KELLOGG GROUP LLC	4601 KELLOGG AVE	CINCINNATI OH 45226	4601 KELLOGG AVE	CINCINNATI OH 45226
001200020001	MARTIN MARIETTA MATERIALS	9277 CENTRE POINTE DR	WEST CHESTER OH 45069	PO BOX 8040	FORT WAYNE IN 46898
001200040038	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002900030007	GOTHAM INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
002900030012	QUEEN CITY TERMINALS INC	3806 KELLOGG AVE	CINCINNATI OH 45226	PO BOX 4372	HOUSTON TX 77210
003100020106	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
001300050048	4241 KELLOGG AVE LLC	9242 WEST RD	CLEVES OH 45002-9722	9242 WEST RD	CLEVES OH 450029722
003100010022	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
810010001000	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
002800010006	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100010021	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020002	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100020053	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
001100030013	HAWKSTONE ASSOCIATES INC	9171 DRY FORK RD	HARRISON OH 45030	9171 DRY FORK RD	HARRISON OH 45030
001100030020	HAWKSTONE ASSOCIATES INC	9171 DRY FORK RD	HARRISON OH 45030	9171 DRY FORK RD	HARRISON OH 45030
003100010015	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
020010001200	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704
003100010017	CINCINNATI CITY OF	801 PLUM ST	CINCINNATI OH 45202-5704	801 PLUM ST	CINCINNATI OH 452025704

1. .

LANDOWNERS OF PERMANENT & TEMPORARY EASEMENTS

,

2/16/2017

ATTACHMENT 3

4...

LANDOWNER NOTIFICATION LETTER



Duke Energy 139 East Fourth Street Cincinnati, OH 45202

1. .

April XX, 2017

<Mailing Name> <Mailing Address 1> <Mailing Address 2> <Mailing City>,< Mailing State> < Zip >

Important information on a Duke Energy Ohio natural gas distribution line project in your area: East End Replacement Project

Dear Property Owner or Tenant:

Duke Energy is investing in a safe and reliable energy future for our 400,000 natural gas customers in Ohio. As part of our modernization efforts, we have proposed a natural gas replacement pipeline to increase the reliability of the natural gas delivery system in southwestern Ohio.

Natural gas has been available in the Cincinnati area since 1837, when our predecessor company, Cincinnati Gas Light and Coke Company, went into business to illuminate the downtown streets. Statistics show that natural gas pipelines are the safest mode of energy transportation; providing you with safe, reliable natural gas is a responsibility we at Duke Energy take very seriously. This pipeline will help ensure natural gas reliability for decades to come in Hamilton County.

Project details

The East End Replacement Project runs south-southeast, between U.S. Route 52 and the Ohio River, starting near Corbin Street and ending near the confluence of the Little Miami and Ohio Rivers. Duke Energy Ohio is proposing to replace approximately 18,200 feet of an existing natural gas main along this route, in order to mitigate risks associated with the age of the pipeline and to proactively increase the safety and reliability of the system. The existing natural gas main is a 20- and 24-inch spiral-welded, coated steel main that was installed in 1948. It will be replaced with new, corrosion-protected steel main of the same sizes, with a normal operating pressure of approximately 200 pounds per square inch gage. Approximately 13,303 feet of the replacement line is proposed to be located within the existing pipeline right of way. The remaining 3,857 feet is expected to be within existing roadway easement or new pipeline right of way. A map of the replacement project area is included with this letter.

A Letter of Notification to construct, operate, and maintain this facility is now pending before the Ohio Power Siting Board (OPSB) in Columbus, Ohio. Interested persons may participate in the process by filing comments in the docket, or by seeking permission to formally intervene in the case. You also may request notification of the filing documents in the case, by signing up with

the OPSB for electronic notice of filings, or by sending a letter to the OPSB to indicate your interest. The case may be found on the OPSB's website, identified as Case No. 17-328-GA-BLN. The OPSB can be reached by email at: <u>contactOPSB@puc.state.oh.us</u>, by phone, 866.270.6772, or by mail addressed to: The Ohio Power Siting Board, 180 East Broad Street, Columbus OH 43215.

A copy of the application is available for public inspection at the main office of Duke Energy Ohio, 139 E. Fourth Street, Cincinnati, Ohio, and at the offices of the OPSB, 180 East Broad Street, Columbus, Ohio 43215. It also is available on the Duke Energy Ohio website: <u>www.duke-energy.com/eastendreplacement</u>, and on the Ohio Power Siting Board's website: <u>www.opsb.ohio.gov</u>.

We will be holding an information session on this project. It will be held:

Wednesday, April 26, 2017 Duke Energy Operations Center, 4612 Kellogg Ave, Cincinnati, OH 45226 Information session will go from 6 p.m. - 7 p.m.

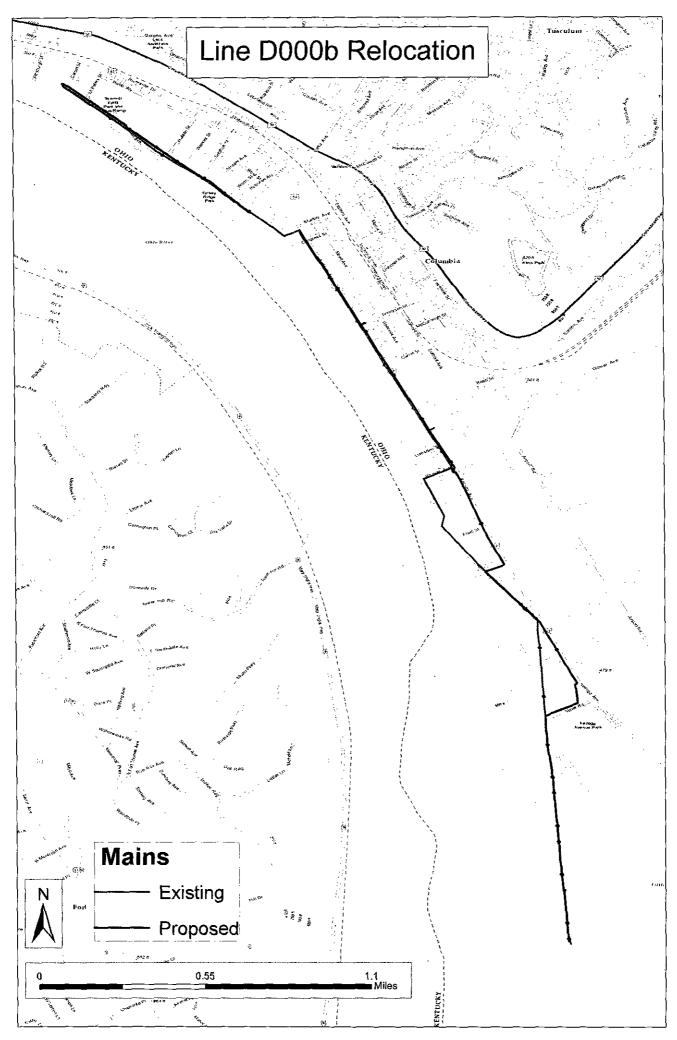
The format of this information session will be a presentation about the project with time for questions following the presentation. We look forward to seeing you there.

Please forward this information to any tenants that may be occupying properties referenced in this notification.

Thank you for working with us as we move forward with this important replacement project to meet your energy needs.

Sincerely,

Kelsey Pace Duke Energy Ohio Project Engineer



ATTACHMENT 4

4.1

OHIO HISTORIC PRESERVATION OFFICE (OHPO) AGENCY COORDINATION RESPONSE LETTER



In reply refer to 2016-HAM-35242-2

October 3, 2016

Henry S. McKelway, PhD Amcc Foster Wheeler 690 Commonwealth Center 11003 Bluegrass Parkway Louisville, KY 40299

Dear Dr. McKelway:

RE: Duke Energy D000B Line Replacement, Cincinnati, Hamilton County, Ohio

This is in response to the receipt, on September 8, 2016, of *Phase I Archaeological Survey for the Proposed Line D000BReplacement Project, City of Cincinnati, Hamilton County, Ohio.* The comments of the State Historic Preservation Office are submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Subsurface testing, surface collection and intensive visual inspection of the project area resulted in the identification of three previously unrecorded archaeological sites. Site 33 HA 860 is a small artifact scatter associated with a $19^{th}/20^{th}$ century dancehall. Site 33 HA 866 is a small artifact scatter associated with a $19^{th}/20^{th}$ century lunch counter. The portions of these sites in the construction corridor appear to have limited potential for in situ artifacts or archaeological features. Site 33 HA 861 is a $19^{th}/20^{th}$ century artifact scatter. I concur with the opinion that additional testing or avoidance is needed at 33 HA 861. Provided that site 33 HA 861 is avoided and protected, I concur with the opinion that this project will not affect historic properties. No further coordination is required unless the project changes or additional archaeological remains are discovered during the course of the project. In such a situation, this office should be contacted as per 36 CFR 800.13.

If you have any questions, please contact me at (614) 298-2000, or by email at nyoung@ohiohistory.org.

Sincerely, athen of young

Nathan J. Young, Project Reviews Manager Resource Protection and Review

ATTACHMENT 5

4 + +

WETLAND AND WATERBODY DELINATION REPORT

Civil & Environmental Consultants, Inc.

August 25, 2016

Mr. Steve Lane, CPESC, AICP, PMP Senior Environmental Scientist/Planner Duke Energy Corporation 139 East Fourth Street, Room EM740 Cincinnati, OH 45202

Dear Steve:

Subject:

Wetland and Waterbody Delineation Report Line D000B Pipeline Replacement Project Cincinnati, Hamilton County, Ohio CEC Project 153-230

Civil & Environmental Consultants, Inc. (CEC) is pleased to present the attached wetland and waterbody delineation report for the Duke Energy Corporation (Duke Energy) Line D000B Natural Gas Pipeline Replacement Project, located in Cincinnati, Hamilton County, Ohio. CEC's services were provided in accordance with the Master Consulting Services Agreement, effective June 1, 2015, between Duke Energy and CEC, and our revised proposal dated February 1, 2016. We appreciate the opportunity to be of service to Duke Energy on this project. Please call us if you have any questions regarding the attached report.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Dustin M. Giesler Staff Scientist

Kseph A. Van Skaik Project Manager

Attachment - Wetland and Waterbody Delineation Report

P:\2015\153-230\-Final Documents\WWD\153-230 FINAL Line D000B WWD Report.docx

WETLAND AND WATERBODY DELINEATION REPORT

LINE D000B PIPELINE REPLACEMENT PROJECT CINCINNATI, HAMILTON COUNTY, OHIO

PREPARED FOR: DUKE ENERGY CORPORATION 139 EAST FOURTH STREET CINCINNATI, OHIO 45202

PREPARED BY: CIVIL & ENVIRONMENTAL CONSULTANTS, INC. CINCINNATI, OHIO

CEC Project 153-230

August 25, 2016

Civil & Environmental Consultants, Inc.

5899 Montclair Boulevard | Cincinnati, OH 45150 | p: 513-985-0226 f: 513-985-0228 | www.cecinc.com

TABLE OF CONTENTS

3.

Page

1.0 INTRODUCTION
1.1 GENERAL INFORMATION1
1.2 ROUTE DESCRIPTION1
1.3 METHODOLOGY2
1.3.1 Wetlands
1.3.2 Streams
1.3.3 Open Water Bodies7
2.0 FINDINGS
2.1 HYDROLOGY
2.2 SOILS
2.3 NATIONAL AND STATE WETLAND INVENTORY MAPS9
2.3.1 NATIONAL WETLAND INVENTORY MAP9
2.3.2 OHIO WETLAND INVENTORY MAP10
2.4 VEGETATION
2.5 WETLANDS10
2.6 STREAMS14
2.7 OPEN WATER BODIES14
3.0 CONCLUSIONS
4.0 LEVEL OF CARE
5.0 REFERENCES 17

LIST OF FIGURES

Figure

Project Location Map	1
USDA Soils Map	
National (NWI) and Ohio (OWI) Wetland Inventories Map	
Wetland and Waterbody Delineation and Photograph Location Map	

LIST OF APPENDICES

4.1

Appendix

Site PhotographsA	L
Wetland Determination Data FormsE	
Ohio EPA ORAM Data FormsC	1

1.0 INTRODUCTION

1.1 GENERAL INFORMATION

This report presents the findings of a wetland and waterbody delineation conducted by Civil & Environmental Consultants, Inc. (CEC) for the Duke Energy Corporation (Duke Energy) within the Line D000B Pipeline Replacement study corridor, located in Cincinnati's East End, Hamilton County, Ohio. CEC understands that Duke is proposing to replace approximately 3.45 miles (18,200 feet) of a single existing 20- and 24-inch spiral welded bare steel high pressure natural gas pipeline with a new 24-inch corrosion protected steel pipe. The variable width Project study corridor, averaging 200-foot wide, is approximately 3.45 miles in length and totals approximately 84.2 acres and was extended beyond the pipeline easement and associated workspace. The pipeline easement is at maximum 50 feet in width, with another 20 to 50 feet of additional temporary workspace where available.

Civil & Environmental Consultants, Inc. (CEC) conducted the field reconnaissance portion of the jurisdictional waters delineation on May 16, 18 and 19, 2016.

1.2 ROUTE DESCRIPTION

The northern terminus of the project begins southeast of Duke Energy's natural gas distribution center in the East End, and is bound by Riverside Drive to the north, Schmidt Park and the Ohio River Trail to the east and southeast, and the Ohio River to the south. The replacement pipeline route proceeds in a southeast direction across Schmidt Park, following Duke's existing ROW in the vicinity of Humbert Avenue and the Ohio River Trail. The route leaves Schmidt Park beginning near the southern terminus of Wenner Street, and continues paralleling the Ohio River Trail for approximately 475 feet. Near the intersection of Strader and Humbert Streets, the replacement pipeline route departs from the Ohio River Trail and is collocated with Humbert Street for approximately 630 feet, until the convergence of Humbert Street and Delta Avenue. The route continues in a southeast direction, crossing onto Riverview East Academy property, a Cincinnati Public School, and then subsequently crosses and parallels the Ohio River Trail for

approximately 470 feet before arriving at the western terminus of Congress Avenue. From Congress Avenue, the route follows the south side of the road in an east-northeast direction for approximately 200 feet to the intersection of Congress and Kellogg Avenues. The replacement pipeline then turns south-southeast and is collocated with the west side of Kellogg Avenue for approximately 1.2 miles (6,270 feet). Approximately 150 feet south of the Martin Marietta Materials Kellogg Yard property, the replacement pipeline route departs from Kellogg Avenue ROW and veers west-southwest paralleling the south side of an existing private drive for approximately 275 feet, and then continues following the private drive in a southeast direction for an additional 1,150 feet. The replacement route subsequently departs from Kellogg Avenue for approximately 1,260 feet. The replacement route subsequently departs from Kellogg Avenue ROW and travels in a south-southwest direction, collocated with existing private roads for an additional 1,060 feet. From this location, the replacement pipeline route rejoins the existing Duke pipeline ROW and continues due south for approximately 3,800 feet to the southern interconnect location, near the Little Miami and Ohio Rivers confluence.

1.3 METHODOLOGY

This report identifies delineated wetlands, streams (ephemeral, intermittent, and perennial), and other potentially regulated waters within the Project study corridor. The methodology for conducting the wetland and waterbody delineation is presented below.

1.3.1 Wetlands

The wetland delineation was conducted using the routine on-site determination method described in the United States Army Corps of Engineers (USACE) 1987 Corps Manual (USACE Manual) and the USACE (2012) Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region Version 2.0 (Eastern Mountains and Piedmont Regional Supplement). The wetland boundaries, where present, were delineated using the routine onsite determination method described in the USACE Manual and Eastern Mountains and Piedmont Regional Supplement, supplemented by the National Wetland Plant List: 2016 Wetland Ratings (Lichvar 2016) and the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2013). CEC conducted the following scope of services to identify and delineate wetland boundaries within the Project study corridor:

1. <u>Office Data Review</u>: Prior to the site reconnaissance, a review was conducted of publicly available data resources, associated with topography and historically mapped soils and wetlands, in the vicinity of the Project study corridor, in order to identify potential wetland areas. General site topography was assessed using the U.S. Geological Survey (USGS) topographic quadrangle map of Newport Kentucky-Ohio (Figure 1). Soils information for Hamilton County, Ohio is available online from the Web Soil Survey through the USDA NRCS. Soils information in the vicinity of the Project study corridor is displayed on Figures 2 and 3.

NWI maps, prepared by the United States Fish and Wildlife Service, are based on high altitude infrared aerial photography and limited ground truthing. NWI designated areas depict wetlands and deep water habitats and are classified according to the system developed by Cowardin et al. (1979). Accordingly, NWI data reflect conditions during the specific year and season in which the aerial photography was acquired and all wetlands may not be indicated. Similarly, the Ohio Wetlands Inventory (OWI) is based on analysis of satellite data and is intended solely as an indicator of wetland sites for which field review should be conducted. The OWI was developed in cooperation with the Ohio Department of Natural Resources (ODNR), Division of Wildlife and the USDA NRCS to provide a statewide inventory of wetlands. The Ohio Wetland Inventory is useful in general planning and environmental analyses. The wetland areas shown do not necessarily meet the definition of a regulatory wetland. Mapped NWI and OWI wetlands in the vicinity of the Project study corridor are shown on Figures 4 and 5.

- 2. <u>Site Reconnaissance:</u> The site reconnaissance portion of the wetland and waterbody delineation was performed on May 16, 18 and 19, 2016. First, plant communities present within the Project area were identified. The dominant plant species within each community were identified and a determination was made on whether the plant community was dominated by hydrophytic (wetland) plants. If areas that appeared to be dominated by hydrophytic plants were identified within the Project area, a representative test site was located within the plant community and soils were sampled using a spade shovel to determine if hydric soil indicators were present. Lastly, the test site was inspected to determine if indicators of wetland hydrology (ponding, soil saturation, etc.) were present. If a test site was determined to be within a wetland, further testing was to be performed to locate the wetland/non-wetland boundary and a second test site was to be established outside the wetland boundary to document conditions in the non-wetland area. If found, the boundaries of areas having the three necessary criteria were to be marked in the field with vinyl flagging and subsequently located using a sub-meter accuracy Trimble Geo-XT Global Positioning System (GPS) unit.
- 3. <u>Data Collection</u>: CEC photographed the test site location and vegetation communities located within the Project study corridor. Representative photographs of these locations

are included in Appendix A. Regional Supplement wetland determination data forms for the onsite determination method were prepared for potential wetland areas that were observed within the Project area. The wetland determination data forms provide a record of the vegetation, soils, and hydrology observations used in making the wetland determinations. Completed wetland determination data forms are provided in Appendix B.

4. <u>Functional Assessment of Wetland Areas</u>: CEC conducted a functional assessment on the delineated wetlands that were identified within the Project study corridor using the Ohio Rapid Assessment Method (ORAM version 5.0) for wetlands (Mack 2001). The ORAM characterizes wetlands into one of three categories (Category 1, 2, or 3) based upon their functions, value, and overall quality. Category 1 wetlands typically have minimal functions and low quality, are often dominated by invasive species, and are often hydrologically isolated. Category 2 wetlands typically have moderate or intermediate functions and quality. Category 3 wetlands typically have superior functions and quality and may include wetlands which provide habitat for threatened and endangered species or contain unique habitats. Although the ORAM only lists three categories. These wetlands, some wetlands fall into "gray zones" that exist between the categories. These wetlands must be further assessed by using either another technique or professional judgment. Completed ORAM forms are provided in Appendix C.

1.3.2 Streams

In addition to the identification of wetlands, CEC identified streams within the Project study corridor that would likely be considered jurisdictional by the USACE and/or the Ohio Environmental Protection Agency (Ohio EPA). Using professional judgment and field indicators such as flow, substrate composition, embeddedness, defined bed and bank, vegetation, and benthic macroinvertebrates, CEC classified on-site stream segments into one of three stream types: ephemeral, intermittent, and perennial. The following descriptions are provided to clarify the different stream classifications.

• <u>Ephemeral Stream</u> – An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for this stream flow regime.

- <u>Intermittent Stream</u> An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. Typically these streams flow regularly during the spring and fall when ground water tables are elevated. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for this stream flow regime.
- <u>Perennial Stream</u> A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for this stream flow regime.

The uppermost limit of an ephemeral stream is determined at the point where the stream loses its defined "bed and bank" or ordinary high water mark (OHWM) and a predominance of upland vegetation occurs in the channel. Under natural, undisturbed conditions, streams generally originate as headwater ephemeral drainages along the tops of ridges, transition into intermittent stream systems, and eventually transition into perennial stream systems.

The interpreted limits of each stream segment within the Project study corridor, was recorded in the field using a Trimble GeoXT GPS unit. CEC also conducted a habitat evaluation of the on-site streams using the Ohio EPA Headwater Habitat Evaluation Index ([HHEI] Ohio EPA 2012) and/or Qualitative Habitat Evaluation Index ([QHEI] Ohio EPA 2006), depending upon the watershed size and/or predominant natural pool depths. For on-site primary headwater habitat (PHWH) streams (those with drainage areas equal to or less than one square mile or predominant natural pools that are equal to or less than 15.75 inches in depth), the HHEI classifies the streams into one of three categories: ephemeral (PHWH Class I), intermittent (PHWH Class II/III), or perennial (PHWH Class II/III). The stream receives a "Modified" designation from the HHEI assessment if the stream is recovering from historic stream channel modification or exhibits recent or no recovery from past modification.

For larger streams that exceed the maximum pool depths or drainage area criteria set forth by the HHEI methodology, the QHEI assessment classifies streams into general narrative ranges based on the total score and also provides a general indication on the aquatic life habitat use designation. The narrative ratings and corresponding QHEI scoring ranges are provided below in Table 1.

GENERAL NARRATIVE RANGES ASSIGNED TO QHEI SCORES							
Narrative Rating	QHEI S	QHEI Scoring Range					
	Headwaters	Larger Streams					
Excellent	≥70	<u></u> ≥75					
Good	55 to 69	60 to 74					
Fair	43 to 54	45 to 59					
Poor	30 to 42	30 to 44					
Very Poor	<30	<30					

Ohio Water Quality Standards (OAC 3745-1) are designed to provide a basis for protecting and restoring surface waters for a variety of uses, including protection and propagation of aquatic life. Aquatic life protection criteria consist of tiered aquatic life uses which are defined in OAC 3745-1-07. These include Warmwater Habitat (WWH), Exceptional Warmwater Habitat (EWH), Coldwater Habitat (CWH), Seasonal Salmonid Habitat (SSH) and Limited Resource Waters (LRW), which is linked with Modified Warm Water Habitats (MWH).

The WWH use designation defines the "typical" warmwater assemblage of aquatic organisms for Ohio rivers and streams. This use represents the principal restoration target for the majority of water resource management efforts in Ohio.

The EWH use designation is reserved for waters that support "unusual and exceptional" assemblages of aquatic organisms which are characterized by a high species diversity, particularly those which are intolerant and/or rare, threatened, endangered, or special status (i.e., declining species). This designation represents a protection goal for Ohio's water resources.

The MWH designation applies to highly modified habitats that support the semblance of a warmwater biological community, but where the community falls short of attaining the WWH biological criteria because of functional and structural alterations of the macro-habitat. Examples include streams that have been channelized, straightened and/or heavily impounded and streams that are experiencing heavy sedimentation. MWH habitats are commonly low in dissolved oxygen (DO), elevated in ammonia, and/or nutrient enriched.

The LRW use designation applies to small streams and other water courses which have been irretrievably altered to the extent that no appreciable assemblage of aquatic life can be supported. Such waterways generally include small streams in urbanized areas, those which lie in watersheds with extensive drainage modifications and those which completely lack water on a recurring basis.

4.

1.3.3 Open Water Bodies

The locations of ponds, lakes, or other open water bodies, where present within the Project area, were recorded using a Trimble Geo-XT GPS unit during the site reconnaissance.

2.0 FINDINGS

2.1 HYDROLOGY

The Project study corridor is situated in the Town of Newport – Ohio River [hydrologic unit code (HUC) 050902030201] and the Clough Creek - Little Miami River [hydrologic unit code (HUC) 050902021406] watersheds. Elevations within the Project study corridor are mapped to range from approximately 470 feet to 515 feet above mean sea level (AMSL). Drainage within the Project area is to the Little Miami and Ohio Rivers. The full extent of the Project study corridor is located within the Federal Emergency Management Agency (FEMA) 100-year floodplain (Figures 6-21).

2.2 SOILS

The NRCS (USDA 2013) identifies nine soil types within the Project study corridor (Table 2, Figures 2 and 3). None of the nine NRCS mapped soil types are classified as hydric. Two of the soil types, Genesee loam, occasionally flooded (Gn) and Huntington silt loam, occasionally flooded (Hu), are identified as non-hydric soils having hydric inclusions.

TABLE 2 SOILS INFORMATION						
Soil Map Unit Symbol	Soil Mapping Unit Name	Drainage Class	NRCS Hydric Designation			
CNWXFF	Chagrin-Nelse-Wheeling complex, 2 to 75 percent slopes, frequently flooded	Well drained	Not hydric			
Gn	Genesee loam, occasionally flooded	Well drained	Hydric inclusions			
Hu	Huntington silt loam, occasionally flooded	Well drained	Hydric inclusions			
Pb	Pits, borrow	Not listed	Not hydric			
Pg	Pits, gravel	Not listed	Not hydric			
UMHXAO	Urban land-Molliac Udarents-Huntington complex, 0 to 2 percent slopes, occasionally flooded	Well drained	Not hydric			
UrUXC	Urban land-Udorthents complex, 0 to 12 percent slopes	Not listed	Not hydric			
UrUXCO	Urban land-Udorthents complex, 0 to 12 percent slopes, occasionally flooded	Not listed	Not hydric			
UUWXFF	Urban land-Udorthents-Wheeling complex, 2 to 75 percent slopes, frequently flooded	Well drained	Not hydric			

2.3 NATIONAL AND STATE WETLAND INVENTORY MAPS

2.3.1 NATIONAL WETLAND INVENTORY MAP

Two mapped NWI wetlands were identified within the Project study corridor at the southern terminus of the Project area at the time that this report was prepared (Figures 4 and 5). One of the two NWI designated areas is classified as palustrine (P), forested (FO), broad-leaved deciduous (1), seasonally flooded (C) wetland (PFO1C), and was identified as a palustrine forested wetland community during the site reconnaissance, as shown on Figures 20 and 21. The second NWI area is classified as a PFO1, temporarily flooded (A) wetland (PFO1A). This area did not meet the criteria to be designated as a wetland during the site reconnaissance, as shown on Figure 21.

2.3.2 OHIO WETLAND INVENTORY MAP

One mapped OWI wetland was identified within the Project study corridor at the southern terminus of the Project area at the time that this report was submitted (Figures 4 and 5). This OWI designated area is classified as a shallow marsh. The site reconnaissance revealed that this area does not meet the criteria to be considered a jurisdictional wetland. This OWI designated area is currently part of the Four Seasons Marina parking lot and Ohio River backwater area.

2.4 VEGETATION

The vegetation found within the wetland determination test sites have been detailed in the individual wetland determination data forms provided in Appendix B. Representative photographs the vegetation types found within the wetland determination test sites are included in Appendix A. Dominant plant species comprising these plant communities were identified and the USFWS wetland plant indicator status was determined according to Lichvar (2016). The USFWS has defined five wetland plant indicator categories, which include:

- Obligate Wetland (OBL has >99% probability of occurring in wetlands);
- Facultative Wetland (FACW has 66% to 99% chance of occurring in wetlands);
- Facultative (FAC has 33% to 66% chance of occurring in wetlands);
- Facultative Upland (FACU has 1 to 33% chance of occurring in wetlands); and,
- Upland (UPL has <1% chance of occurring in wetlands).

Plants classified as OBL, FACW, or FAC are considered to be wetland plants (hydrophytes) by the USFWS and USACE.

2.5 WETLANDS

Six wetlands (Wetlands 1, 2, 3, 4, 5, and 6) were identified and delineated within the Project study corridor (Figures 6 through 21). Descriptions of each wetland can be found in Table 2

Civil & Environmental Consultants, Inc.

below. All six wetlands are located entirely within the FEMA 100-year floodplains of the Ohio and Little Miami Rivers.

Twenty-seven (27) wetland determination sample points were evaluated by CEC within the Project study corridor using the on-site wetland determination method described above in Section 1.2.1. The wetland determination data forms for these 27 sites are provided in Appendix B. The location of these sample sites were recorded using a Trimble Geo-XT GPS unit and are shown on Figures 6 through 21. Representative photographs of the wetland determination sample point locations can be found in Appendix A.

	TABLE 3. WETLAND CHARACTERISTICS								
Wetland	USFWS	OR	RAM ⁴	Sample	Interpreted	Approximate Area within Project			
Identifier	Classification ^{1,2,3}	Score	Category	Point (SP) Location	Hydrological Status ⁵	Study Corridor (Acres)			
1	PEM	76.5	2	2,9	Connected/Adjacent	0.06			
	PFO	/0.3	3	1,3,5,6,7,8,9		1.74			
2	PEM	52.5	2	18	Connected/Adjacent	0.07			
2	PFO	22,5	2	17	Connected/Adjacent	0.58			
3	PEM	17.5	1	20	Connected/Adjacent	0.04			
4	PFO	43	2	22	Connected/Adjacent	0.42			
5	PFO	42.5	2	25	Connected/Adjacent	0.27			
6	PEM	18	1	26	Connected/Adjacent	0.09			
Total						3.27			

As interpreted from Classification of Wetlands and Deep Water Habitats of the United States. Cowardin, L. M., V. Carter, and F. C. Golet. 1979.

² Palustrine Emergent (PEM) Wetland

³ Palustrine Forested (PFO) Wetland

⁴Ohio Rapid Assessment for Wetlands (ORAM)

⁵ The determinations of hydrologically connected/adjacent and isolated wetlands outlined in this report are preliminary, based on the boundary delineations and have not been formally approved by the USACE.

<u>Wetland 1</u>, totaling approximately 1.8 acres within the study corridor, is located at the southern terminus of the Project area near the confluence of the Little Miami and Ohio Rivers (Figures 20 and 21). CEC classified this wetland as a palustrine (P), emergent (EM) and palustrine (P) forested (FO) wetland (PEM/PFO) (Cowardin 1979). The PEM portion of this wetland is an existing utility right-of-way (ROW) that crosses the wetland in a northwest to southeast

direction. The PEM wetland community comprises less than 3 percent (0.06 acre) of the total wetland area for Wetland 1 within the Project area. Based on an ORAM score of 76.5, this wetland was classified as a Category 3 wetland or high quality wetland (Appendix C). The forested vegetation community is dominated by silver maple (*Acer saccharinum*, FACW), cottonwood (*Populus deltoids*, FAC), and box elder (*Acer negundo*, FAC), while the emergent plant community is dominated by creeping jenny (*Lysimachia nummularia*, FACW) and false nettle (*Boehmeria cylindrica*, FACW). The soil profiles from the wetland determination sample point locations exhibited a depleted matrix or a redox dark surface. Positive wetland hydrology indicators included surface water, high water table, saturation, drift deposits, inundation and/or visible on aerial imagery, water marks, water-stained leaves, sparsely vegetated concave surface, drainage patterns, geomorphic position, stunted or stressed plants, microtopographic relief, and a positive FAC-neutral test.

Wetland 2, totaling approximately 0.65 acre within the study corridor, is located near the southern terminus of the Project area, adjacent to the east of Four Seasons Marina (Figures 19 and 20). CEC classified this wetland as a palustrine (P), emergent (EM) and palustrine (P) forested (FO) wetland (PEM/PFO) (Cowardin 1979). The PEM portion of this wetland, totaling 0.07 acre, is located within the existing, maintained Duke utility ROW. Based on an ORAM score of 52.5, this wetland was classified as a Category 2 wetland (Appendix C). The forested vegetation community is dominated by American sycamore (*Platanus occidentalis*, FACW), cottonwood, silver maple, and box elder, while the emergent plant community is dominated by Gray's sedge (*Carex grayi*, FACW), creeping jenny, and poison ivy (*Toxicodendren radicans*, FAC). The soil profiles from the two wetland determination sample point locations exhibited a depleted matrix and redox dark surface, respectively. Positive wetland hydrology indicators included sediment deposits, sparsely vegetated concave surface, drainage patterns, geomorphic position, and a positive FAC-neutral test.

Wetland 3, totaling 0.04 acre, is a PEM wetland located within a roadside ditch adjacent to the north of Stites Road. Based on an ORAM score of 17.5, this wetland was classified as a Category 1 wetland (Appendix C). The emergent vegetation is dominated by common threesquare (*Schoenoplectus pungens*, OBL), curly dock (*Rumex crispus*, FAC), common blue

violet (*Viola sororia*, FAC), and poison hemlock (*Conium maculatum*, FACW). The soil profile exhibited a redox dark surface. Positive wetland hydrology indicators included drainage patterns, geomorphic position, and a positive FAC-neutral test.

Wetland 4, totaling approximately 0.42 acre within the study corridor, is a PFO wetland located adjacent to the east of Kellogg Avenue, and is bound by Derrick Heat Treating Blasting Painting to the north and Bob's Used Auto Parts to the south. Based on an ORAM score of 43, this wetland was classified as a Category 2 wetland (Appendix C). The vegetation is dominated by silver maple. The soil profile exhibited a depleted matrix. Positive wetland hydrology indicators included surface water, high water table, saturation, water marks, inundation and saturation visible on aerial imagery, water-stained leaves, geomorphic position, microtopographic relief, and a positive FAC-neutral test.

Wetland 5, totaling approximately 0.27 acre within the study corridor, is a PFO wetland located adjacent to the east of Kellogg Avenue, and is bound by Kellogg Auto Parts to the north and the Little Miami Wastewater Treatment Plant to the south. Based on an ORAM score of 42.5, this wetland was classified as a Category 2 wetland (Appendix C). Similar to Wetland 4, the vegetation is dominated by silver maple. The soil profile exhibited a redox dark surface. Positive wetland hydrology indicators included surface water, high water table, saturation, water marks, inundation and saturation visible on aerial imagery, drainage patterns, geomorphic position, and a positive FAC-neutral test.

Wetland 6, totaling approximately 0.09 acre within the study corridor, is a PEM wetland located south-southwest of the intersection of Kellogg and Congress Avenues. Wetland 6 is located within the secondary containment berms that were constructed at the Kinder Morgan / Queen City Terminal. The vegetation is dominated by reed canarygrass (*Phalaris arundinacea*, FACW) and whitegrass (*Leersia virginica*, FACW). The soil profile exhibited a redox dark surface. Positive wetland hydrology indicators included saturation, water marks, inundation and saturation visible on aerial imagery, sparsely vegetated concave surface, drainage patterns, geomorphic position, microtopographic relief, and a positive FAC-neutral test.

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2.6 STREAMS

No streams were identified within the Project area (Figures 6 through 21). For much of the project length rainfall is directed into storm sewers hence the lack of stream channels.

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2.7 OPEN WATER BODIES

No open water bodies, including ponds and lakes, were identified in the Project area (Figures 6 through 21).

3

3.0 CONCLUSIONS

4.1

CEC identified approximately 3.27 acres of wetland within the Project study corridor. The locations of these wetlands are shown on Figures 6 through 21. No streams or open water bodies were identified within the study area.

4.0 LEVEL OF CARE

The wetland and stream delineation services performed by CEC were conducted in a manner consistent with the criteria contained in the USACE Manual and Eastern Mountains and Piedmont Regional Supplement and with the level of care and skill ordinarily exercised by members of the environmental consulting profession practicing contemporaneously under similar conditions in the locality of the project. It must be recognized that the jurisdictional waters delineation was based on field observations and CEC's professional interpretation of the criteria in the USACE Manual and Eastern Mountains and Piedmont Regional Supplement at the time of our fieldwork. Wetland and stream determinations may change subsequent to CEC's delineation based on changes in the regulatory criteria, seasonal variations in hydrology, alterations to drainage patterns and other human activities and/or land disturbances.

5.0 REFERENCES

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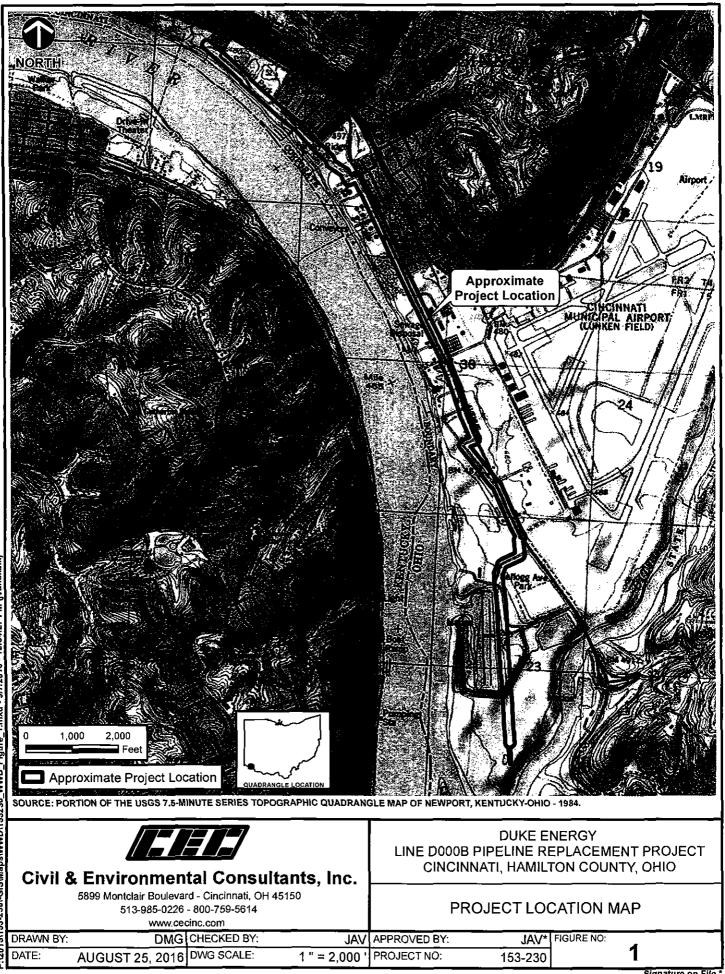
Civil & Environmental Consultants, Inc.

FIGURES

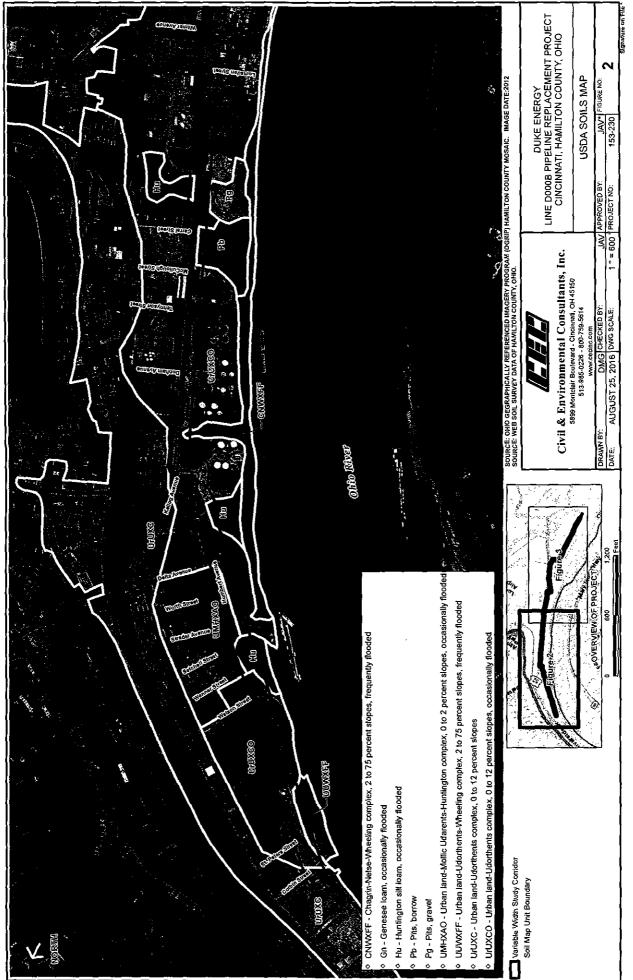
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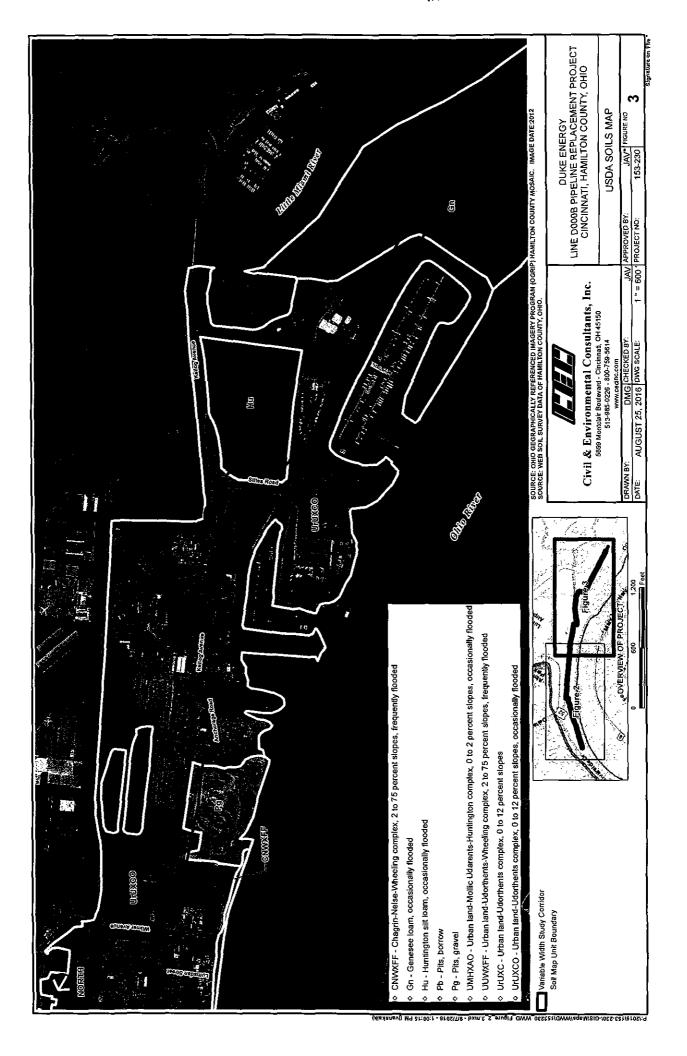
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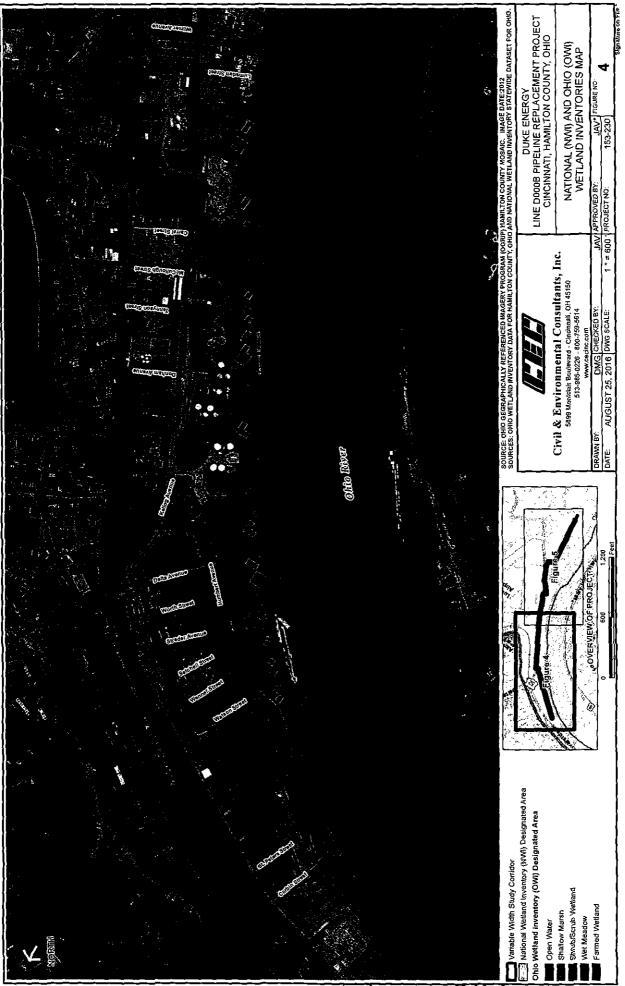


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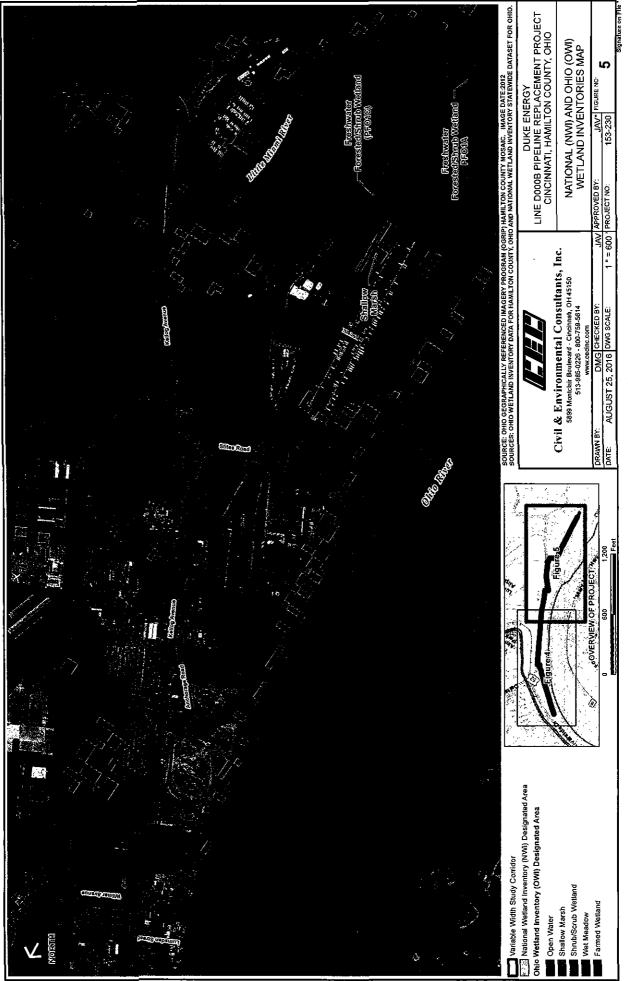


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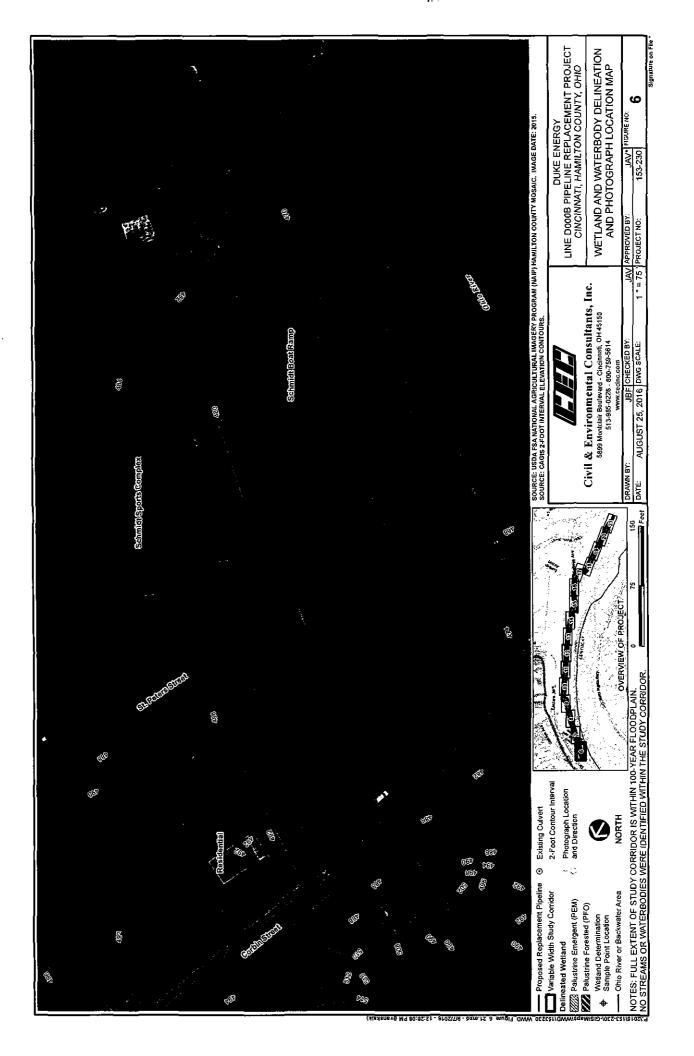


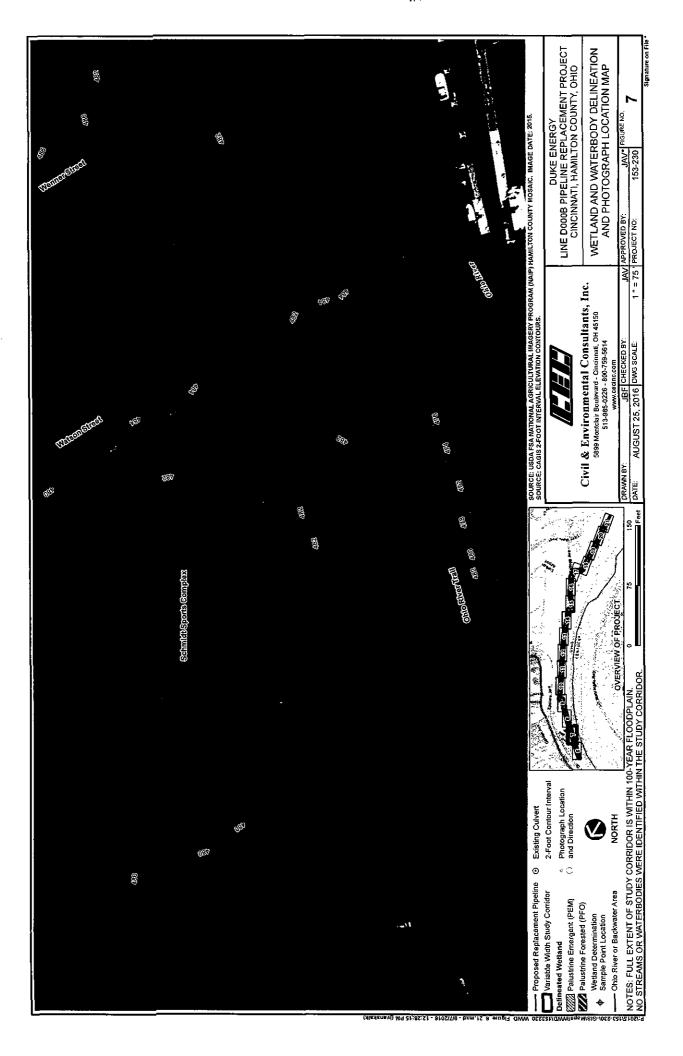


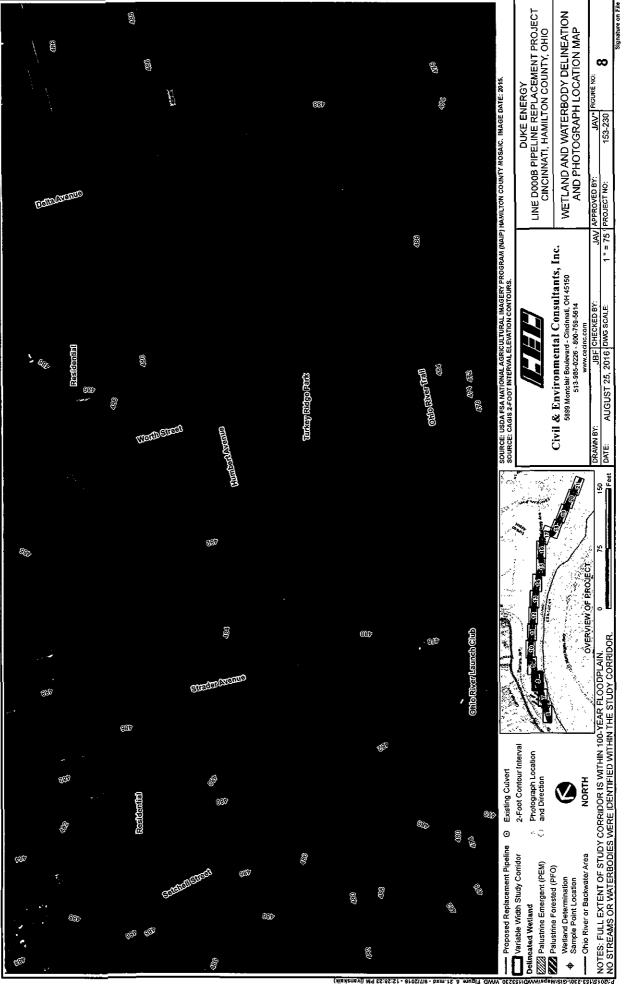
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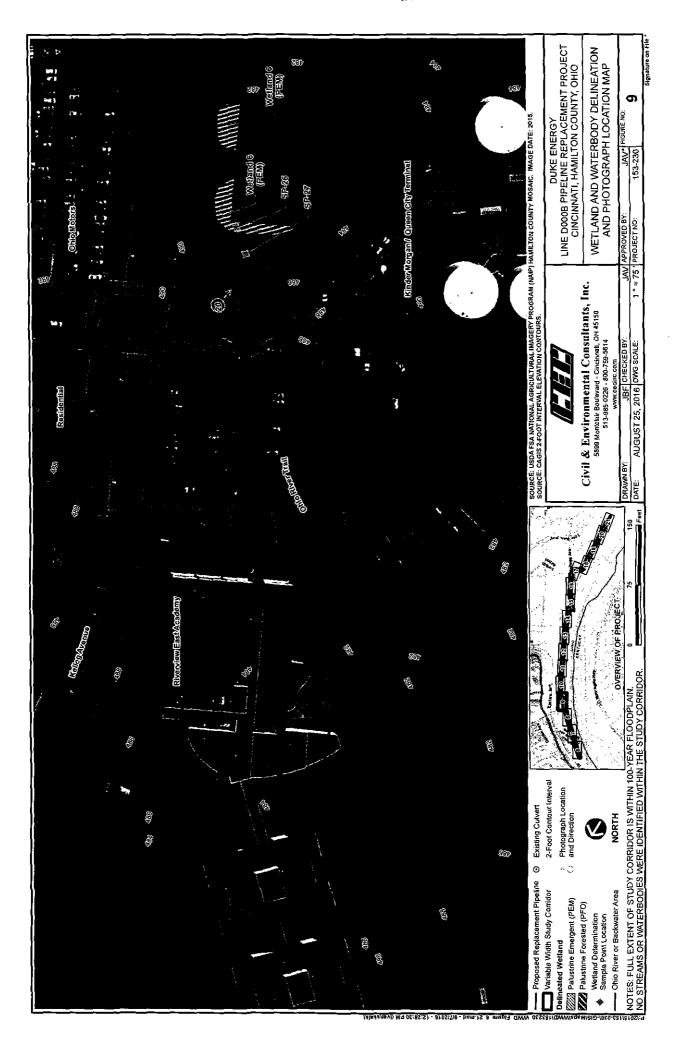


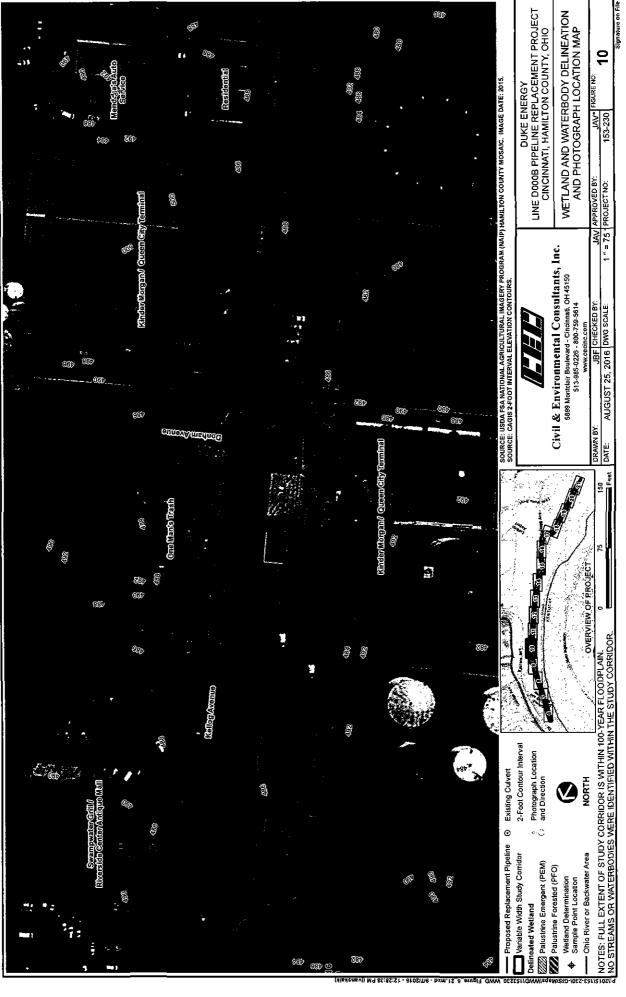


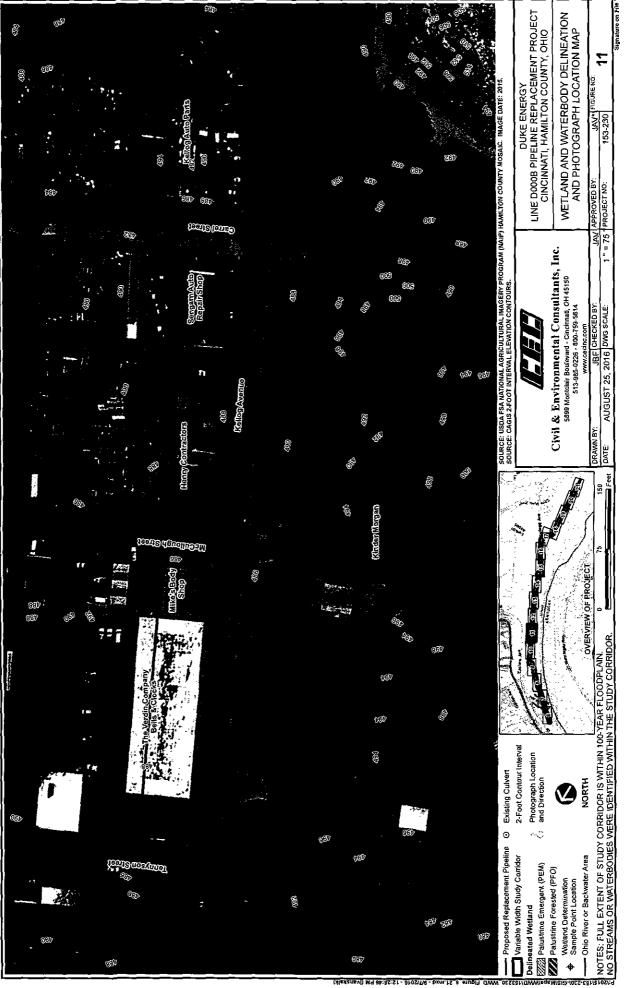


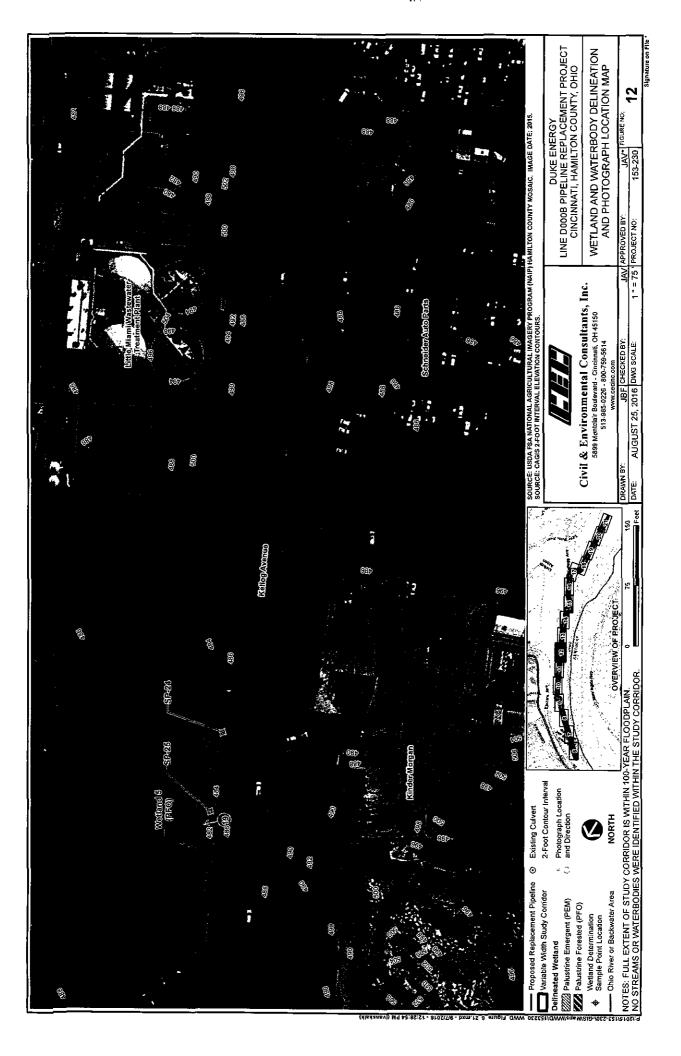
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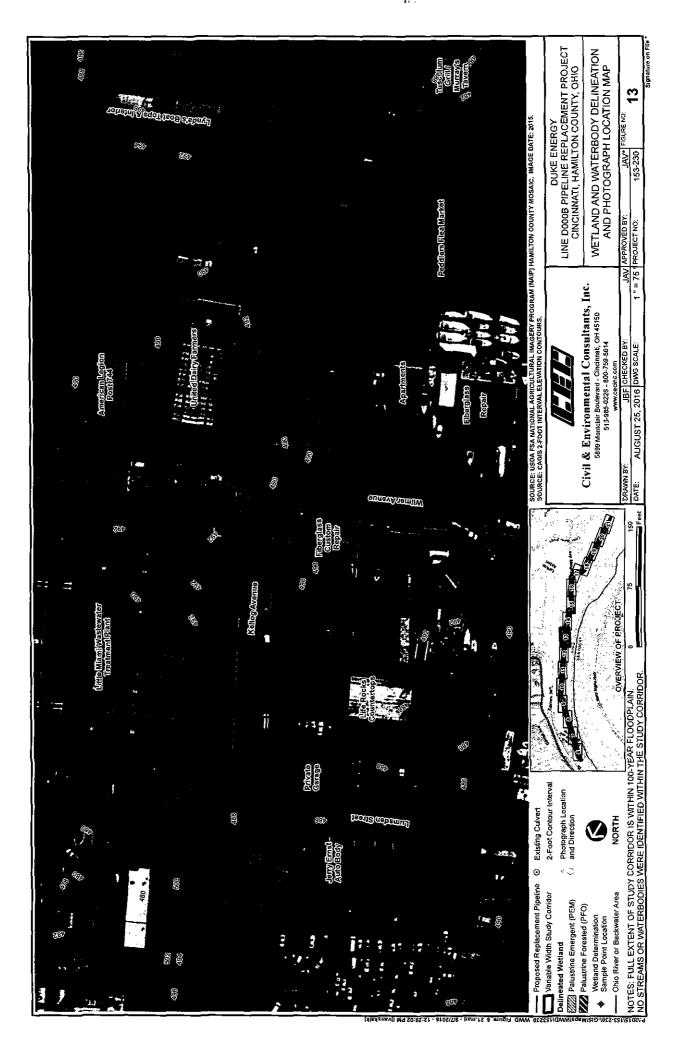
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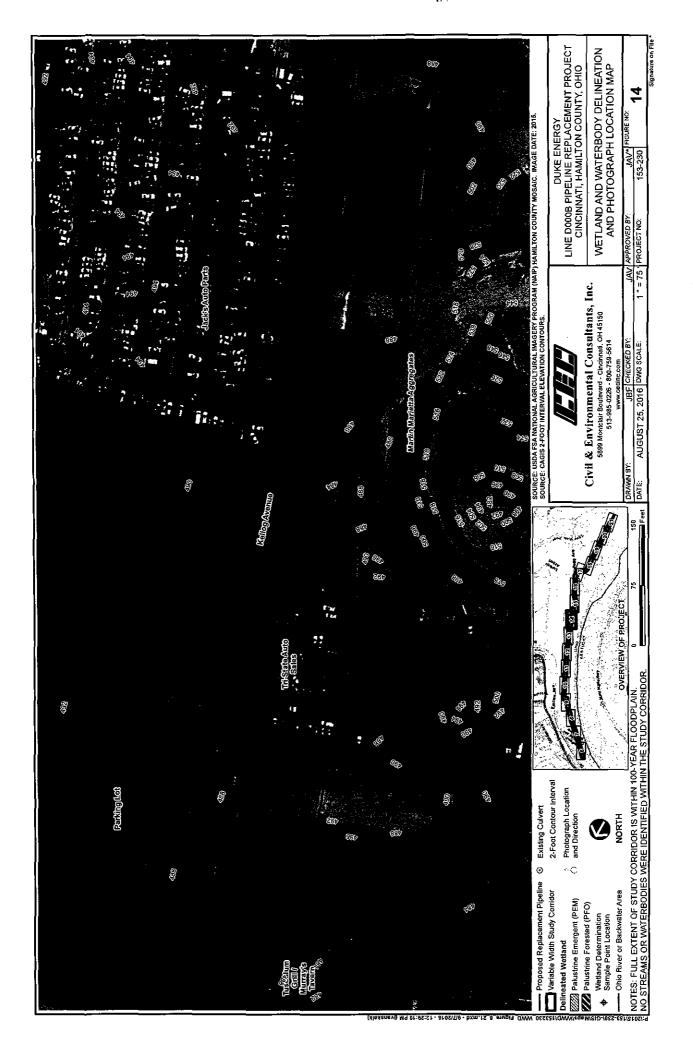


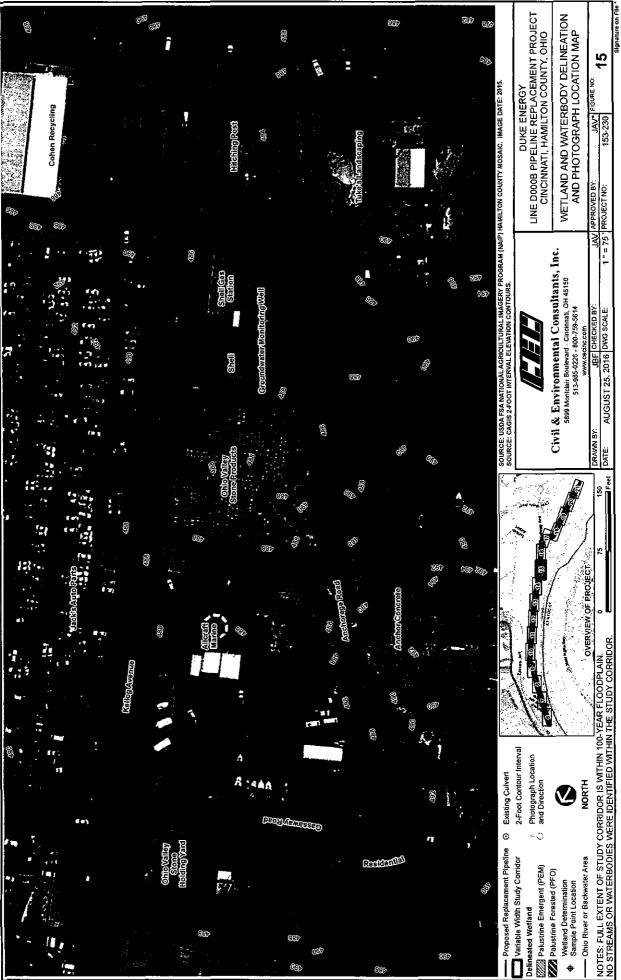






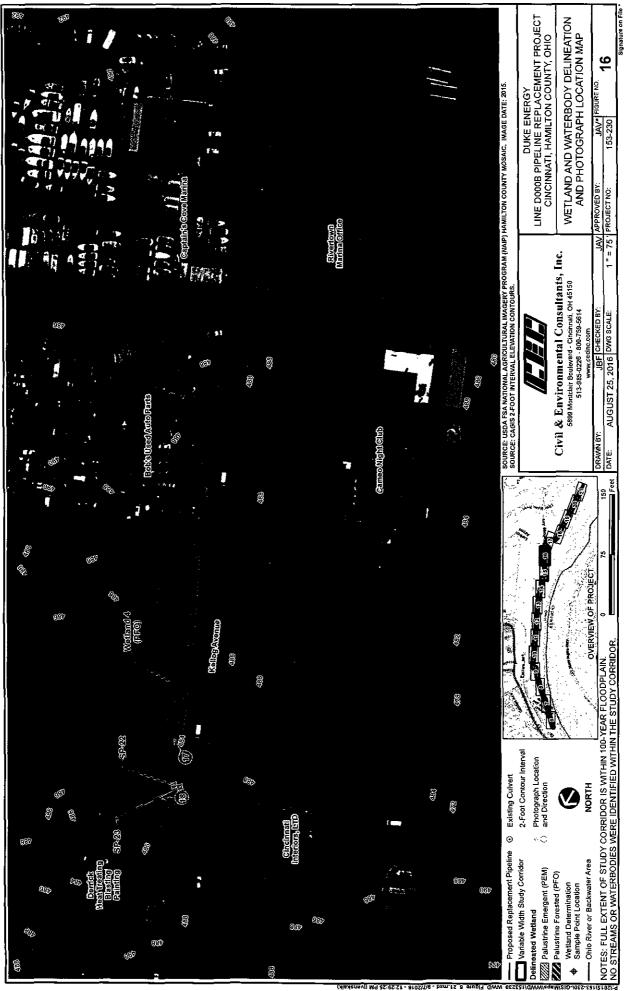


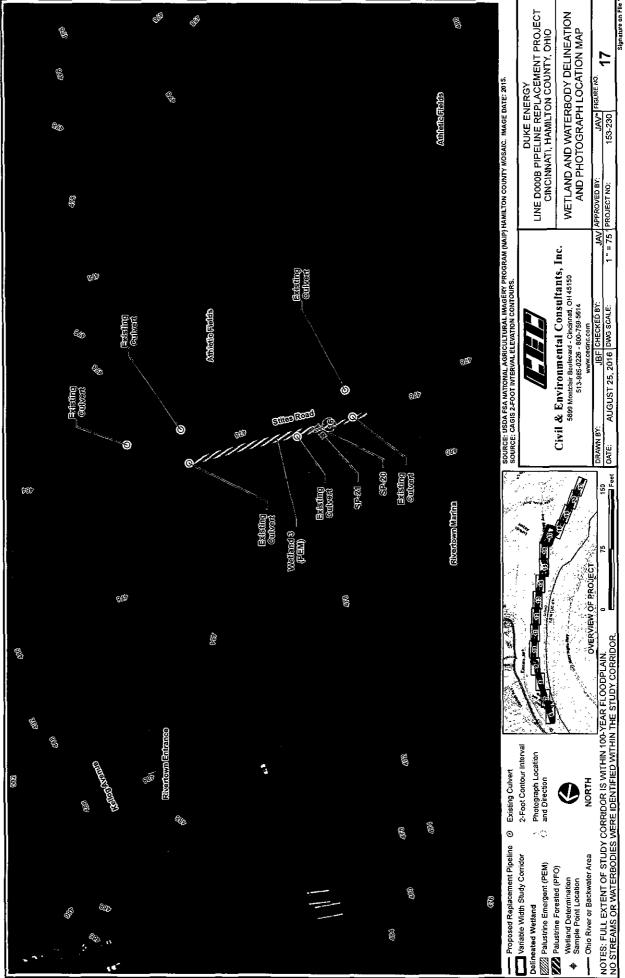




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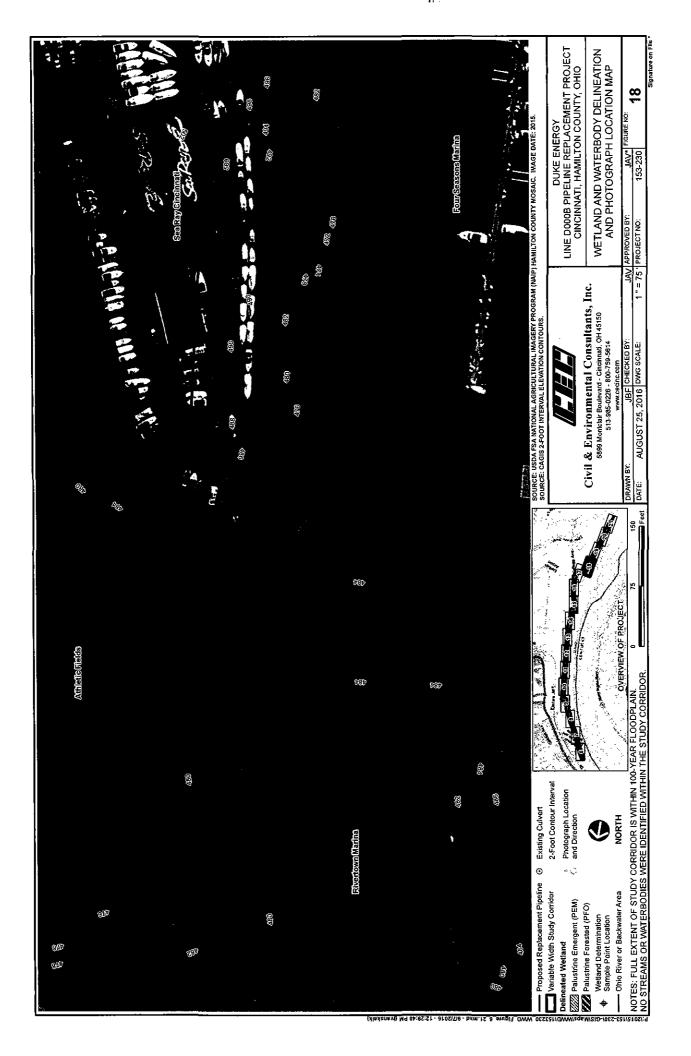
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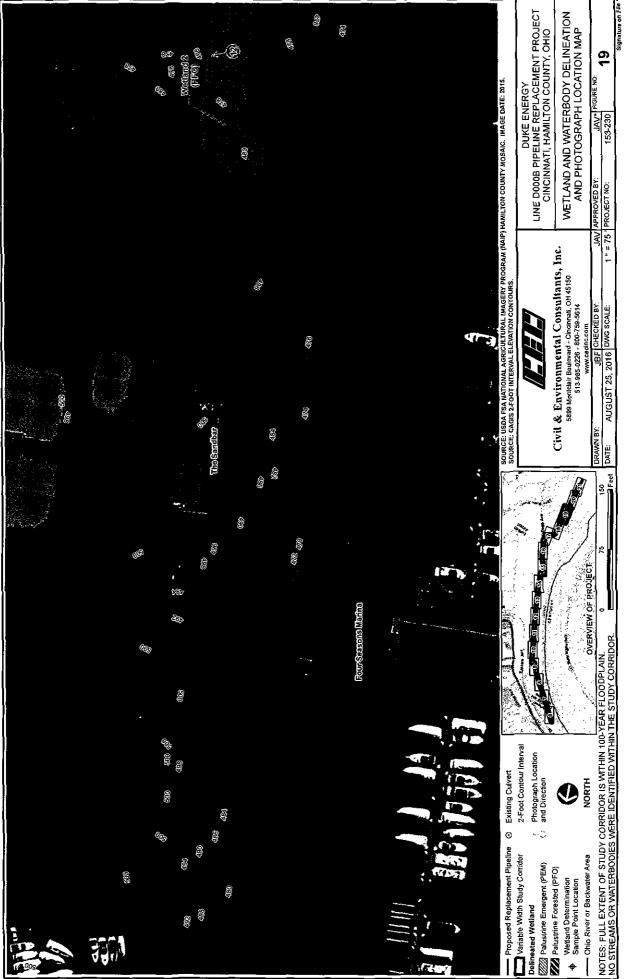




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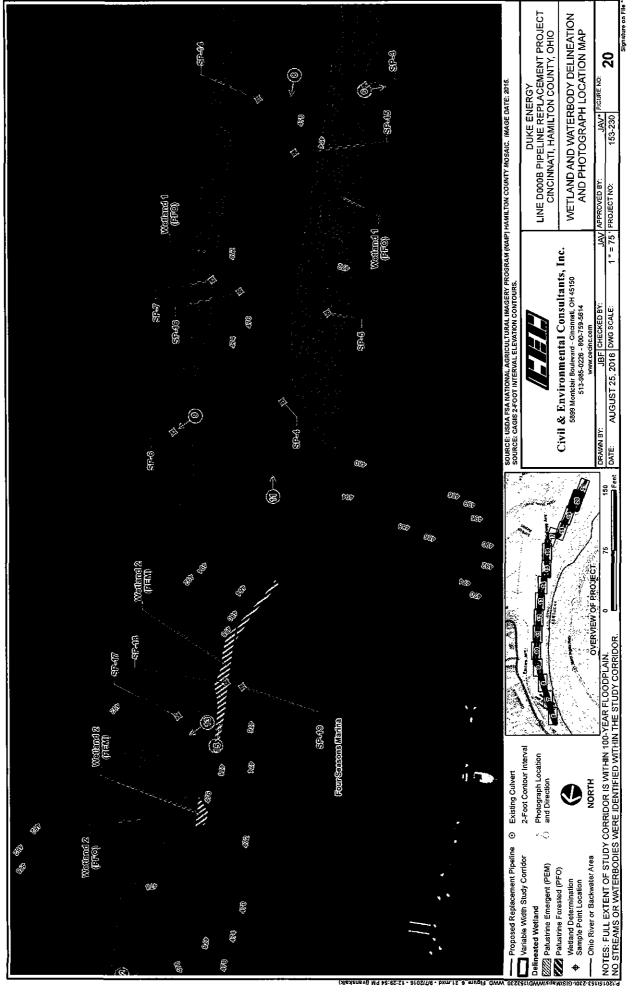
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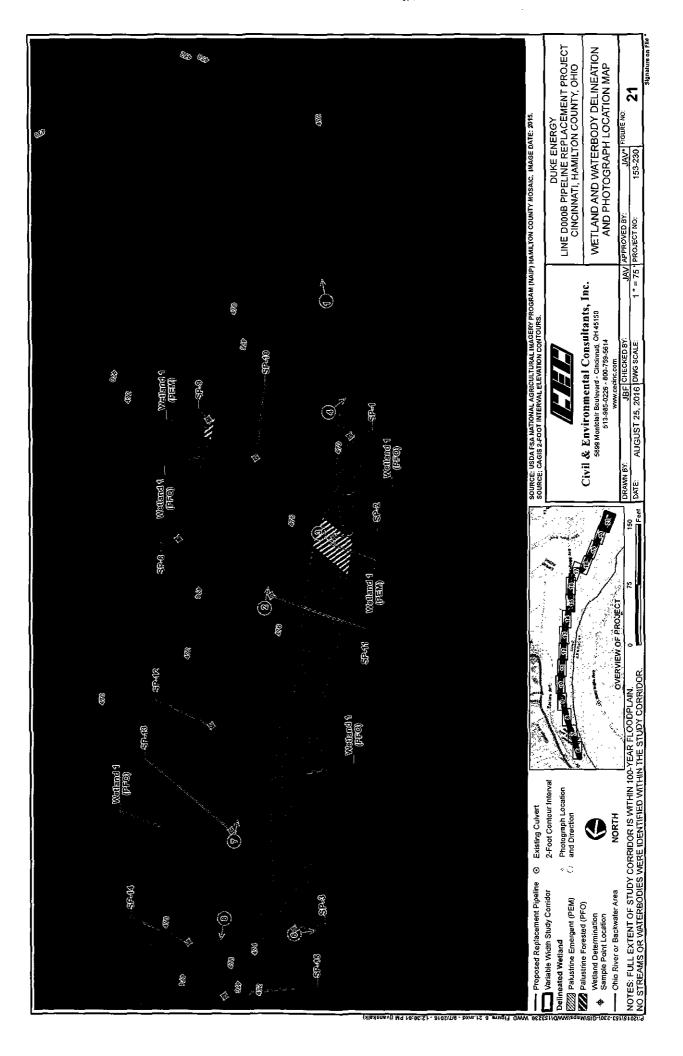




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APPENDIX A

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SITE PHOTOGRAPHS

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Photograph 1. View of maintained Line D000B ROW, south of proposed southern terminus of Project. Photograph taken facing south-southeast.



Photograph 2. View of existing Line D000B ROW at the southern terminus of study corridor. Photograph taken facing south.



I 1 1 1

Photograph 3. Representative view of the PEM portion of Wetland 1. Photograph taken facing north-northwest along existing, maintained utility ROW.



Photograph 4. Representative view of the PFO portion of Wetland 1 along the west side of the Line D000B ROW near the southern terminus of the Project. Photograph taken facing south-southwest.



1.

Photograph 5. View of high water table at wetland determination SP-1.



Photograph 6. View of the PFO portion of Wetland 1 along the west side of the Line D000B ROW near the southern terminus of the Project. Photograph taken facing west.



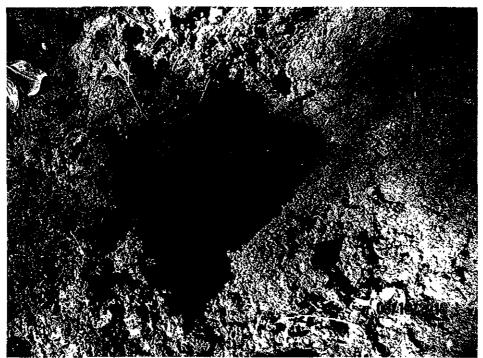
Photograph 7. Representative view of elevated and maintained ROW, bisecting Wetland 1 at wetland determination SP-6. Photograph taken facing south.



Photograph 8. Representative view of elevated and maintained Line D000B ROW, bisecting Wetland 1. Photograph taken facing north.



Photograph 9. Representative view of the PFO portion of Wetland 1 along the east side of the Line D000B ROW near the southern terminus of the Project. Photograph taken facing northeast.



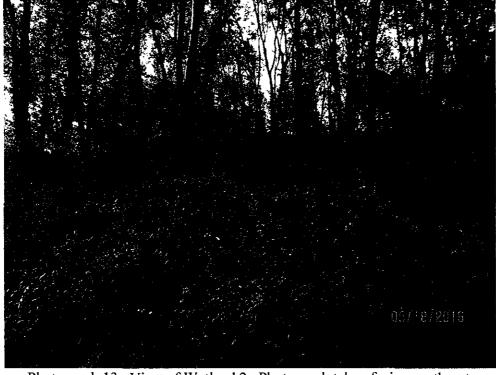
Photograph 10. View of high water table and low-chroma soil from wetland determination SP-8.



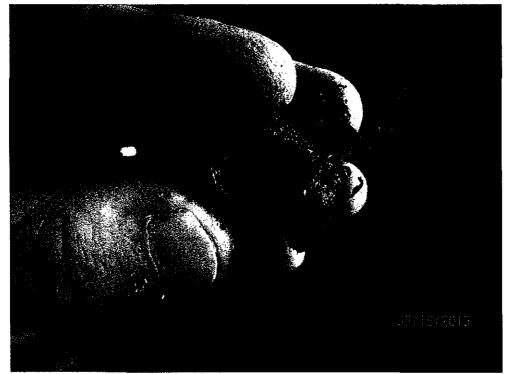
Photograph 11. Elevated view of existing bermed, maintained Line D000B ROW, bisecting Wetland 1. Photograph taken facing south.



Photograph 12. View of Wetland 2. Photograph taken facing east-northeast.



Photograph 13. View of Wetland 2. Photograph taken facing northeast.



Photograph 14. Hydric soil ped exhibiting redox features from wetland determination SP-17.



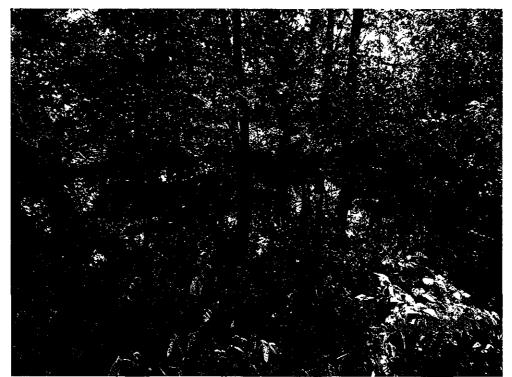
Photograph 15. View of the PEM portion of Wetland 2, facing south.



Photograph 16. View of Wetland 3, facing east-northeast.



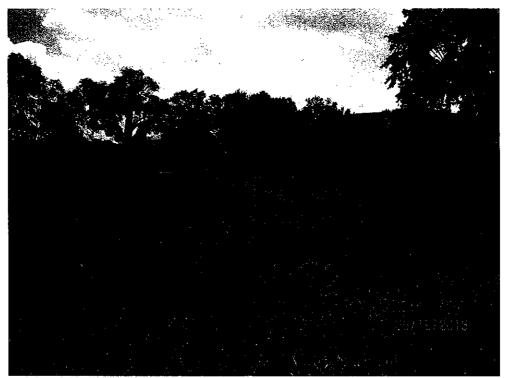
Photograph 17. View of Wetland 4, facing southeast.



Photograph 18. View of Wetland 4, facing northeast.



Photograph 19. View of Wetland 5, facing east-northeast.



Photograph 20. View of Wetland 6, facing south-southwest.

APPENDIX B

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1)

WETLAND DETERMINATION DATA FORMS

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WETLAND DETERMINATION DATA FORM	- Eastern Mountains and Piedmont Region
Project/Site: DOODB City/C	County: Concentrati / Harmelton Sampling Date: 5/16/2016
Applicant/Owner: Duke Emergy	State: OHSampling Point: SP-1
	on, Township, Range: S23, TIN, R5E
	ief (concave, convex, none): (mcave) Slope (%): 0%
Soil Map Unit Name: Gn - Demosel loam, occoe	
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation _ 1 , Soll _ 1 , or Hydrology 1 , significantly distur	
Are Vegetation, Soll, or Hydrology naturally problems	atic? (if needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing san	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes <u> </u>	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	
Remarks:	
Fuld confirmed wetland.	·
	Opportunity in the form for interview of the second second
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (☆ High Water Table (A2) Hydrogen Sulfide Od	
	es on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent from Reduction	
Recent non reduction	
Algal Mat or Crust (B4) Other (Explain in Rer	
Iron Deposits (B5)	⊥ Geomorphic Position (D2)
K Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	X Microtopographic Relief (D4)
Aquatic Fauna (B13)	K FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	<u>/A</u>
Water Table Present? Yes X_ No Depth (inches):	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes X No Depth (inches):	Aface Wetland Hydrology Present? Yes X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	V vious inspections), if available:
Remarks:	
stored and and only "	tree Turk Inchessing
Strong wetland hydrology,"	0

4 * *

VEGETATION	(Four	Strata]) – Use	scientific	names of	f plants.
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Sampling Point: <u>SP- \</u> Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: 30 2 <u>% Cover Species? Status</u> Number of Dominant Species FACU 70% - / 1. REINTANIES C That Are OBL, FACW, or FAC: (A) 35% FACI 3 2 Total Number of Dominant Proulus delta 20% N FACL Species Across All Strata: (B) Percent of Dominant Species 5 That Are OBL, FACW, or FAC: 🖉 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: 125% = Total Cover \sim 50% of total cover: 62.520% of total cover: 2 \circ **OBL** species x 1 = 139 FACW species x 2 = 27 Sapling/Shrub Stratum (Plot size: 15' R 49 FAC species x3= 147 1. Fraking as semmon Daramie 20 FACU species x4= 80 1-1 Toxidenaron nn 2. x 5 = 0 OUPL species 208 505 (A) Column Totals: (B) 5. Prevalence Index = B/A = -426. Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 🔀 2 - Dominance Test is >50% 9 ×3 - Prevalence Index is ≤3.0^t 5% = Total Cover 4 - Morphological Adaptations¹ (Provide supporting 20% of total cover: 50% of total cover: data in Remarks or on a separate sheet) Herb Stratum (Plot size: 5 Problematic Hydrophytic Vegetation¹ (Explain) FAC Josunden drom C B M 20 FA d۶ 0 ¹Indicators of hydric soil and wetland hydrology must -ð FAC be present, unless disturbed or problematic. 5 N Imposti FA -cYDefinitions of Four Vegetation Strata: 39 s.J FA(R. LOMA 5 3% Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or N FACA MAMA MANJ 6 more in diameter at breast height (DBH), regardless of height. 7 8. Sapling/Shrub - Woody plants, excluding vines, less 9 than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 10. 11. Herb -- All herbaceous (non-woody) plants, regardless 76% = Total Cover of size, and woody plants less than 3.28 ft tall. 50% of total cover: 3820% of total cover: Woody vine - All woody vines greater than 3.28 ft in Woody Vine Stratum (Plot size: 301 & height. N 2 1. Torricodendran nadecamp Hydrophytic Vegetation 5. ⇒ 2/2 = Total Cover Yes 📉 No_ Present? 50% of total cover: 176 20% of total cover: Remarks: (include photo numbers here or on a separate sheet.) ing rattle encroaching from adjacent berned upland

SOIL

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Profile Desc	ription: (Describe t	o the depth	needed to docum	ient the l	ndicator o	or confirm	n the abser	nce of in	dicators.)	
Depth	Matrix		Redox Features							
(inches)	Color (moist)		Color (moist)		Type ¹	<u>'Loc</u> ²	Texture		Remarks	
0-8"	10/R3/2	95	10VR-5/6	_5_	<u> </u>	_M_	Sety	day.	loam	
8-14"	IOYR4/2	15	10VR 16	5	C.	M	7.040	es	Loam	
			1 - 110 - 10-				0	<u> </u>		
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¹ Type: C≒Co	ncentration, D=Deple	etion, RM=R	educed Matrix, MS	=Masked	Sand Gra	ins.	² Location:	: PL=Po	e Lining <u>, M≕Mat</u> rix.	
Hydric Soil I		Ť							for Problematic Hydr	c Soils ^{\$} :
Histosol ((A1)		Dark Surface	(S7)				2 cm N	luck (A10) (MLRA 147)	1
	lpedon (A2)		Polyvalue Bel		ce (S8) (M	LRA 147.			Prairie Redox (A16)	,
Black His			Thin Dark Sur						RA 147, 148)	
	n Sulfide (A4)		Loamy Gleyed						ont Floodplain Soils (F1	9)
	Layers (A5)		Depleted Mat		· · ·				RA 136, 147)	
	* (A10) (LRR N)		K Redox Dark S		6)				hallow Dark Surface (T	F12)
	Below Dark Surface	(A11)	Depleted Darl	k Surface	(F7)		<u> </u>	_ Other (Explain In Remarks)	-
·	rk Surface (A12)		Redox Depres							:
	ucky Mineral (S1) (Ll	RR N,	(ron-Mangane		•	.RR N,				
	147, 148)		MLRA 136				•			
	leyed Matrix (S4)		Umbric Surfac		MLRA 13	6, 122)	1	Indicator	s of hydrophytic vegeta	ation and
	edox (S5)		Piedmont Flo				18)	wetland	hydrology must be pre	sent,
	Matrix (S6)		Red Parent M	-					listurbed or problematio	
Restrictive L	ayer (if observed):									. –
Type:										
Depth (inc	<i></i>	-					Hydric S	Soli Pres	ent? Yes <u>X</u>	No
Remarks:									<u> </u>	
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WETLAND DETERMINATION DATA FORM – Eastern Mounta	ins and Piedmont Region
Project/Site: <u>Line DOOOB</u> City/County: Cuncinna	Li/Hamiltorsampling Date: 5/16/20/6
Applicant/Owner: Duke Energy	_ State: OH Sampling Point: SP-2
	S23, TIN, RSE
	one): Concare Slope (%): 0%
	4.42763 Datum: W9584
Soil Map Unit Name: GA- Here see, Loam, occasionally flood	
	(If no, explain in Remarks.)
	al Circumstances" present? Yes <u>X</u> No
	explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point location	,
SolumART OF FINDINGS - Allacin site map showing sampling point iocaling	ons, nansects, important reatures, etc.
Hydrophytic Vegetation Present? Yes X No Is the Sampled Area within a Wetland? Hydric Soll Present? Yes X No within a Wetland? Wetland Hydrology Present? Yes X No Remarks: No No	Yes _ X_ No
Field confirmed wetland.	
HYDROLOGY	
Wetland Hydrology indicators;	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soll Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14) High Water Table (A2) Hydrogen Sulfide Odor (C1)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)
Crift Deposits (B3) Thin Muck Surface (C7)	✓ Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2) Shallow Aquitard (D3)
Water-Stained Leaves (B9)	<u></u>
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No <u>X</u> Depth (inches): <u>N/A</u>	
Water Table Present? Yes No <u>×</u> Depth (inches): <u>>12 [#]</u>	
	Hydrology Present? Yes <u>X</u> No
(Includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av	allable:
Remarks:	
strong wettand hydrology indicators.	
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VEGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: SP-2
1. aler and annum.	25%	Dominant Species?	<u>Status</u> EACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
2. Plantarire accidentalio 3	10%		FACu	J Total Number of Dominant Species Across All Strata:(B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
7	9			Prevalence Index worksheet: Total % Cover of: Multiply by:
50% of total cover. <u>(7.5</u> <u>Sapling/Shrub Stratum</u> (Plot size: <u>15 (R.</u>) 1	20% of		· · ·	$\begin{array}{c c} \hline \text{Total & Cover of:} & \underline{\text{Multiply by:}} \\ \hline \text{OBL species} & \underline{10} & x1 = \underline{70} \\ \hline \text{FACW species} & \underline{123} & x2 = \underline{246} \\ \hline \text{FAC species} & \underline{31} & x3 = \underline{93} \\ \hline \text{FACU species} & \underline{5} & x4 = \underline{20} \\ \end{array}$
2 3 4		——		UPL species O x5 = O Column Totals: 169 (A) 369 (B)
5		<u> </u>	<u></u>	Prevalence Index = B/A = _ 2, 18
6 7				Hydrophytic Vegetation Indicators:
8				▲ 1 - Rapid Test for Hydrophytic Vegetation ★ 2 - Dominance Test is >50%
9				$\frac{1}{2}$ 3 - Prevalence Index is $\leq 3.0^{1}$
50% ((()))	0%	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 50% of total cover:	20% of	total cover:		data in Remarks or on a separate sheet)
1. Lysemachia nummulaura	70%	Y	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Bachmeria culinduca 3. Verronia gizantea	15% 8%	2	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Porkera glabrilla	<u>_5%</u>	-N-	OBL	Definitions of Four Vegetation Strata:
5. <u>Ambrosia tribida</u> 6. <u>Carex milpinordea</u> 7. <u>Runex missus</u>	<u>5%</u> 5% 5%	N N N	FAC OBL FAC	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. Josephian radicano 9. Untria divica 10. compatiense capenail	5%		FAC FACU	Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11. amplicarpaed brattanta	<u>2%</u> 133	= Total Cov	FAC	Herb – Ail herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>66.9</u> Woody Vine Stratum (Plot size: <u>30 8.</u>)	20% of	total cover:	26.2	Woody vine – All woody vines greater than 3.28 ft in height.
1. Jovicodendram rodic and 2	1%	<u>N</u>	FAC	
4 5:	1%	= Total Cov	/er	Hydrophytic Vegetation Present? Yes <u>/</u> No
50% of total cover:	20% of			
Remarks: (Include photo numbers here or on a separate sl Dominant hydrophytic n		tatic	ni.	
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Sampling Point: SP-2

Profile Description: (Describe to the dep			or confirm	the absence of Ind	dicators.)
Depth <u>Matrix</u>	Color (moist)	Features % Type ¹	Loc ²	Texture	Domor!
(inches) Color (moist) %					Remarks
0-7" 107R4/2 902	<u>104R6/8</u>	10% C	<u> </u>	Silty clay	<u> </u>
7-20" 101R4/2 85%	IOVR'/8	15% C	M	S. Hus clu	M
		<u></u>			7
					0
		<u> </u>	<u> </u>		
		_			
				<u>`</u>	
	·				
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ype: C=Concentration, D=Depletion, RM	=Reduced Matrix, MS	-Masked Sand Gra	ains.		e Lining, M=Matrix.
ydric Soil Indicators:				Indicators	for Problematic Hydric Soils ³ :
_ Histosol (A1)	Dark Surface	(S7)		2 cm M	uck (A10) (MLRA 147)
_ Histic Epipedon (A2)		ow Surface (S8) (N	LRA 147.		Prairie Redox (A16)
Black Histic (A3)		face (S9) (MLRA 1			RA 147, 148)
_ Hydrogen Sulfide (A4)	Loamy Gleyed		., ,		nt Floodplain Soils (F19)
Stratified Layers (A5)	Sepleted Matr				RA 136, 147)
_ 2 cm Muck (A10) (LRR N)	Redox Dark S				nallow Dark Surface (TF12)
_ Depleted Below Dark Surface (A11)	Depleted Darl				Explain in Remarks)
_ Thick Dark Surface (A12)	Redox Depres				
_ Sandy Mucky Mineral (S1) (LRR N,		se Masses (F12) (LRR N,		
MLRA 147, 148)	MLRA 136				
_ Sandy Gleyed Matrix (S4)	Umbric Surfac				s of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floo	odpiain Soils (F19)	(MLRA 14	8) wetland	hydrology must be present,
Stripped Matrix (S6)	Red Parent M	aterial (F21) (MLR	A 127, 147) unless d	isturbed or problematic.
lestrictive Layer (if observed):					
Туре: N/А					
·//	_			Lindele Call Drees	ent? Yes <u>×</u> No
Depth (inches):				nyane Soli Fres	entr fes <u>/ ND</u>
Remarks:		^			
Field confirmed	\wedge	• (1			
I al contined	ware	soul			
ener ange	.([(
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WETLAND DETERMINATION DATA FORM - Eastern Mounta			
Project/Site: Line, DOOOB City/County: Commo	ti / Hamul Sampling Date: 5/16/2016		
Applicant/Owner: Dur Energy			
Investigator(s):			
Landform (hillslope, terrace, etc.): Flordplain Local rellet (concave, convex, no			
	34.427790 Datum: W9584		
Soll Map Unit Name: Gro - Llen o Dale, a casionally flooded	NWI classification: PFO		
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No			
	al Circumstances" present? Yes <u>×</u> No		
	explain any answers in Remarks.)		
	• •		
SUMMARY OF FINDINGS – Attach site map showing sampling point locati	ons, transects, important features, etc.		
Hydrophytic Vegetation Present? Yes X No Is the Sampled Area	r de la companya de l		
Hydric Soll Present? Yes X No within a Wetland?	Yes X No		
Wetland Hydrology Present? Yes X No			
Remarks: Freld confirmed wetland.			
HYDROLOGY			
Wetiand Hydrology Indicators:	Secondary Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)		
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)		
High Water Table (Az) Hydrogen Sulfide Odor (C1)	🖄 Drainage Patterns (B10)		
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3)	· · ·		
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)		
Sediment Deposits (B2) Recent Iron Reduction in Tilled Solis (C6)	Crayfish Burrows (C8)		
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1) _★ Geomorphic Position (D2)		
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)		
Water-Stained Leaves (B9)	<u>×</u> Microtopographic Relief (D4)		
Aquatic Fauna (B13)	K FAC-Neutral Test (D5)		
Field Observations:			
Surface Water Present? Yes No <u>×</u> Depth (inches): <u>N/A</u>			
Water Table Present? Yes No _ Depth (inches): _ 212."			
	Hydrology Present? Yes 🔀 No		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av	ailahla		
	dhavid'		
Romarks: Wetland hydrology observed.			

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VEGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: <u>SP-3</u>
2010		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'R</u>)		<u>Species?</u>		Number of Dominant Species
1. Bler saccharinim	85%		FACW	That Are OBL, FACW, or FAC; (A)
2. acer regundo			FAC	Total Number of Dominant 3 (B)
3 <u>5</u>				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
6		. <u></u>		
7				Prevalence Index worksheet:
يسبر الر	90%	= Total Cov	er	<u>Total % Cover of:</u> <u>Multiply by:</u> OBL species x 1 =C
50% of total cover: 45%	6_ 20% of	total cover:	1870	FACW species 195 $x_2 = 370$
Sapling/Shrub Stratum (Plot size: 15'R)				FAC species 5 $x_3 = 15$
1				FACU species x4 =
2				UPL species $0 \times 5 = 0$
3				Column Totals: 200 (A) 405 (B)
4, 5		·		
6				Prevalence index = $B/A = 2.02$
7				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
8	·			<u>→</u> 2 - Dominance Test is >50%
9		,		$x = 2 \cdot 100$ manual results > 50%
	<u> </u>	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of	total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5/ R)	700	J		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Bochomenie ylinduca	+010	7	FACU	
2 Rensia verduca	20%	<u> </u>	FACW	¹ Indicators of hydric soil and wetland hydrology must
3 compatiene "capenois	270	<u>N</u>	FACW	be present, unless disturbed or problematic.
4. Conod gray	210		MLW	Definitions of Four Vegetation Strata:
5				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7			·	i height.
8				Sapling/Shrub - Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10		·		,
	110%	= Total Cov	ver "	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>55</u>	20% of	total cover:	22%	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 1 R)				height.
1		· <u> </u>		
2		·		
3		· ·		
4		•	·	Hydrophytic
5	ma	= Total Cov		Vegetation Present? Yes <u>Yes</u> No
50% of total cover:				
Remarks: (include photo numbers here or on a separate s				<u> </u>
Dominant hydrophytic	veg	etat	un.	
Ý - V				

SOIL

1	th needed to document the Indicator or confirm	the absence of indicators.)
Depth <u>Matrix</u> (inches) Color (moist) %	<u>Redox Features</u> Color (moist) % Type ¹ Loc ²	Texture Remarks
$\Delta = 1 \frac{1}{7} \frac{1}{1000} \frac{1}{1000} \frac{1}{1000} \frac{1}{1000}$	2.5YR 18 10 C M	Silty clay loane
<u>0-10 109K12 10</u>	a. 57 K 78 10 0 11	sury clay source
· · · · ·		
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		•
¹ Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, MS=Masked Sand Grains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soll Indicators:		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2)	Polyvalue Below Surface (S8) (MLRA 147, Thin Dark Surface (S9) (MLRA 147, 148)	
Black Histic (A3) Hydrogen Sulfide (A4)	Thin Dark Sunace (S9) (MLKA 147, 146) Loamy Gleyed Matrix (F2)	(MLRA 147, 148) Pledmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Kedox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Masses (F12) (LRR N,	
MLRA 147, 148)	MLRA 136)	•
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	⁹ Indicators of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floodplain Solls (F19) (MLRA 14	
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic.
Restrictive Layer (if observed): Type: <u>NA</u>		
•		
Depth (inches):		Hydric Soil Present? Yes <u>No</u> No
Remarks:		
Frend confurmed by	idul sort	
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	- Eastern Mountains and Piedmont Region
Project/Site: <u>Rine_DOODB</u> city/	county: Cincinnate Han_ Sampling Date: 5/16/2016
Applicant/Owner: Dube Energy	State: OH Sampling Point: SP-4
	ion, Township, Range: S23, TIN, RSE
Landform (hillslope, terrace, etc.): JUCCOLOCIAL Local re	
Subregion (LRR or MLRA): <u>LRR N</u> Lat: <u>39.08193</u>	
Soll Map Unit Name: GA - Demeale loam, orc	a si encelly floor NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes <u>×</u> No (If no, explain in Remarks.)
Are Vegetation N , Soil N , or Hydrology N significantly distu	rbed? Are "Normal Circumstances" present? Yes 🔀 No 🔜
Are Vegetation, Soil, or Hydrology naturally problem	
SUMMARY OF FINDINGS – Attach site map showing sar	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No	is the Sampled Area within a Wetland? Yes No
Remarks: Lepland sampling location regetation.	with hydrophytic
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants	(B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Oc	
	res on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce	
	on in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (
Algal Mat or Crust (B4) Other (Explain in Re	
Iron Deposits (85) Inundation Visible on Aerial Imagery (87)	Geomorphic Position (D2) Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _X_ Depth (inches):	N/A
Water Table Present? Yes No K Depth (inches):	12"
Saturation Present? Yes No Ko Depth (inches):	212." Wetland Hydrology Present? Yes No
(Includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pr	
Remarks:	,
upland hydrology observed	ł
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VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point Absolute Dominant Indicator **Dominance Test worksheet:** Tree Stratum (Plot size: % Cover Species? Status Number of Dominant Species 4*°*/ IDA, MQ F 1. 0 That Are OBL, FACW, or FAC: (A) 2. 121 Aa 15 Total Number of Dominant former d 3 Species Across All Strata: (B) 4 Percent of Dominant Species 5. That Are OBL, FACW, or FAC; (A/B) 6 Prevalence Index worksheet: Total % Cover of: Multiply by: 8<u>0%</u> = Total Cover \circ 0 20% of total cover: 16 16 x 1 ≃ **OBL** species 50% of total cover: 40 FACW species 26 <u>Sapling/Shrub Stratum</u> (Plot size: 15'R115 24 FAC species x 3 : 1. FACU species 10 χ4 2 Ô \mathcal{O} UPL species x 5 = _ З. Column Totals: (B) 4. 5. Prevalence Index = B/A = 6. Hydrophytic Vegetation Indicators: 7 1 - Rapid Test for Hydrophytic Vegetation 🔀 2 - Dominance Test is >50% $\underline{\checkmark}$ 3 - Prevalence Index is $\leq 3.0^{1}$ 0% = Total Cover 4 - Morphological Adaptations¹ (Provide supporting 50% of total cover; 20% of total cover: data in Remarks or on a separate sheet) Herb (Plot size Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must 10% be present, unless disturbed or problematic. 2% N Definitions of Four Vegetation Strata: 270 5 Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or 6. more in diameter at breast height (DBH), regardless of 7 height. 8 Sapling/Shrub - Woody plants, excluding vines, less 9._ than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 10. Herb -- All herbaceous (non-woody) plants, regardless 11 67% = Total Cover of size, and woody plants less than 3.28 ft tall. 5620% of total cover: 13 50% of total cover: 34 Woody vine - All woody vines greater than 3.28 ft in /ine Stratum (Plot size: <u>30</u> ′ K height. maria 1 2. rodendran 3 Hydrophytic Vegetation Yes 🗡 No 2 10 = Total Cover Present? ___ 20% of total cover:_ 50% of total cover: Remarks: (Include photo numbers here or on a separate sheet.) Dominant hydrophytic vegetation

SOIL

Sampling Point: <u>SP-4</u>

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		to the depth				or confirm	m the absence of indicators.)
Depth (inches)	<u>Matrix</u> Color (moist)	%	<u>_Redo</u> Color (moist)	x Features %	Type ¹	Loc ²	Texture Remarks
0-5"	10YR4/2				<u>مەنبار</u> مىسىر		Lety clay loam
5.0	10YR3/3	jer.	10094	5		M	hote of the part of the second
5-12"	1010-13	_ <u></u>	107K 74			<u> </u>	surg way source
	·		·us,			<u> </u>	
	<u> </u>						· · · · · · · · · · · · · · · · · · ·
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				·			
	oncentration, D=Depl	etion, RM=R	leduced Matrix, M	S=Masked	Sand Gra	ins.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil I							Indicators for Problematic Hydric Soils ³ ;
Histosol	(A1) bipedon (A2)		Dark Surface	· ·	o (99) (M		2 cm Muck (A10) (MLRA 147) 7, 148) Coast Prairie Redox (A16)
Black Hi			Thin Dark Su				(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye	• •	-	,	Piedmont Floodplain Solls (F19)
	Layers (A5)		Depleted Ma	trix (F3)			(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark	•			Very Shallow Dark Surface (TF12)
	i Below Dark Surface ark Surface (A12)	9 (A11)	Depleted Dat				Other (Explain in Remarks)
	lucky Mineral (S1) (L	RR N.	Redox Depre			RR N.	
	× 147, 148)		MLRA 13		- (*) -) (*		
	leyed Matrix (S4)		Umbrie Surfa				³ Indicators of hydrophytic vegetation and
	ledox (S5)		Piedmont Flo				
	Matrix (S6)		Red Parent	Material (F2	(MLR	A 127, 147	7) unless disturbed or problematic.
	Layer (if observed):						
Type:	•						Undria Sail Dragont? You No X
Depth (in			<u> </u>				Hydric Soil Present? Yes No _X
Remarks:		h					
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	 Eastern Mountains and Piedmont Region
Project/Site: Line DODOB City/C	County: Concernati / Hamilt Sampling Date: 5/16/2016
Applicant/Owner: Duke Energy	State: OH_ Sampling Point: SP-5
	on, Township, Range: S23, TIN, R5E
Investigator(s): <u>JAV / DM (Source)</u> Section	on, Township, Range: <u>38, 3, 110, 100, 100, 100, 100</u>
Landform (hillslope, terrace, etc.):	lief (concave, convex, none): $\underline{Concarte}$ Slope (%): \underline{O}
Subregion (LRR or MLRA): <u>LRR N</u> Let: <u>39.08/6/</u>	
Soll Map Unit Name: Gn - Henesse loam, occ	au onally / flood NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	(es $\underline{\times}$ No $\underline{\vee}$ (If no, explain in Remarks.)
Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly distur	rbed? Are "Normal Circumstances" present? Yes <u>×</u> No
Are Vegetation, Soll, or Hydrology naturally problem:	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing san	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soll Present? Yes No Wetland Hydrology Present? Yes No	is the Sampled Area within a Wetland? Yes <u>×</u> No
Remarks:	
Field confirmed wettand.	
Freed Confirmed Work	
v	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soll Cracks (B6)
Surface Water (A1) True Aquatic Plants	
High Water Table (A2) Hydrogen Sulfide Od	
	res on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce	d Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction	on in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (•
Algal Mat or Crust (B4) Other (Explain in Re	
Iron Deposits (B5)	上 Geomorphic Position (D2)
K Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	<u>✓</u> Microtopographic Relief (D4)
Aquatic Fauna (B13)	KAC-Neutrai Test (D5)
Field Observations:	. / 6
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No <u>*</u> Depth (inches):	
Saturation Present? Yes No <u>></u> Depth (inches):	> 12 " Wetland Hydrology Present? Yes <u>X</u> No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pro-	evious Inspections), if available:
Remarks:	
wetland hydrology abserved	ι.
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VEGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: <u>SP-5</u>
2018	Absolute	Dominant		Dominance Test worksheet:
I. Ropulule deltoides	<u>% Cover</u> 25%	<u>Species?</u>	<u>Status</u> FAC	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2. Peartanue scudentalie	25%	<u> </u>	FACW	
3. Ocen sacharenum	10%	N	FACW	Total Number of Dominant 4 Species Across All Strata: (B)
4 5				Percent of Dominant Species 7500 (A/B)
6				
7	7.50	·		Prevalence index worksheet: Total % Cover of:Multiply by:
50% of total cover: <u>30</u>	6010	= Total Cov	er 10%	$OBL species _ \bigcirc x1 = \bigcirc$
Sapling/Shrub Stratum (Plot size: $15^{\circ}R_{\circ}$)	<u>/n</u> 20% of	total cover:	10/10	FACW species 75 $x_2 = 150$
Sapingshrub Stratum (Piot size. () 3C)				FAC species 38 x3 = 114
2				FACU species x 4 =60
3				UPL species $0 \times 5 = 0$
4				Column Totals: 153 (A) 424 (B)
5		·		Prevalence Index = B/A = 2.77
6			<u> </u>	Hydrophytic Vegetation Indicators:
8				1 - Rapid Test for Hydrophytic Vegetation
9				\times 2 - Dominance Tast is >50%
	0%	= Total Cov	er i	X 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:				data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5/K)	100		F6 A.	/ Problematic Hydrophytic Vegetation ¹ (Explain)
1. Boehmenca yemonica	40%	<u> </u>	FACU	
2. Untica dioica U 3. amphicarpaga bractesta	<u>+070</u>	$-\frac{1}{4}$	FAC	Indicators of hydric soil and wetland hydrology must
1. 1/erterina alternal olia	5%	<u>N</u>	TAC	be present, unless disturbed or problematic.
5.			<u></u>	Definitions of Four Vegetation Strata:
6.		·		Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				-
9				Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10	·	·		m) tall.
11	939	= Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tail.
50% of total cover: 46.	<u>5720% of</u>	f total cover:	18.6%	
Woody Vine Stratum (Plot size: 30 / R)				Woody vine – All woody vines greater than 3.28 ft in height.
1	. <u></u>	•		
2				
3	·	· <u></u>	-	
4			_ <u>.</u>	Hydrophytic
5	-07	= Total Cov		Vegetation Present? Yes 🗡 No
50% of total cover.	<u> </u>	= Total Cov f total cover	er	
Remarks: (Include photo numbers here or on a separate s				l
	-		-for	A
Dominant hydrophytes	C ~~	gere	NA	
				i

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SOIL

Sampling Point: SP-5

		o the depi			dicator o	or contirn	n the absence of indicators.)
Depth (inches)	<u>Matrix</u> Color (moist)	%	<u>Color (moist)</u>	Features %	Type ¹	Loc ²	Remarks
3 - 2''	10YR4/1	95	10YR4/4			M	Silty clay loam
			10/10/4				And young course
8-12"	10YR4/3	100	······				Sana
				·			
						<u> </u>	
	······						
	ncentration, D=Deple	etion, RM=	Reduced Matrix, MS	=Masked \$	Sand Gra	ins.	² Location: PL=Pore Lining, M≈Matrix.
ydric Soil I							Indicators for Problematic Hydric Soils ³ :
_ Histosol			Dark Surface		(CO) (11		2 cm Muck (A10) (MLRA 147)
-	ipedon (A2)		Polyvalue Bel				
Black His Hydrone	nuc (A3) 1 Sulfide (A4)		Thin Dark Sur Loamy Gleyed			er, 140j	(MLRA 147, 148) Piedmont Floodplain Solls (F19)
	Layers (A5)		Depleted Mate		2)		(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark S	•	3		Very Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Dark				Other (Explain in Remarks)
	rk Surface (A12)	erry	Redox Depres				
	ucky Mineral (S1) (LI	RR N	iron-Mangane			RR N	
	147, 148)	,	MLRA 136		- • • -/ •		
	eyed Matrix (S4)		Umbric Surfac	•	ALRA 136	5. 122)	³ Indicators of hydrophytic vegetation and
	edox (S5)		Piedmont Floo				
-	Matrix (S6)		Red Parent M				
	ayer (if observed):						
Туре: <u></u> ь	<						
	<i>•</i> •						Hydric Soll Present? Yes 🗡 No
Depth (inc	nes):						Hydric Soll Present? Yes <u></u> No
emarks:	nic soil						
Ayou		- 0-6	J.				

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region
Project/Site: Kine P000B City/county: Cuncumati/Hamuttasampling Date: 5/16/2016
Applicant/Owner: D., he Energy State: OH Sampling Point: SP-6
investigator(s): <u>TAV/DMGr(CEC)</u> Section, Township, Range: <u>S23, TIN, R5E</u>
Landform (hillistope, terrace, etc.): Flood Lam Local relief (concave, convex, none): Concave Stope (%): 0%
Subregion (LRR or MLRA): LRR N Lat: 39.082112 Long: -84.427259 Datum: W45.84
Soll Map Unit Name: Gn- Lenepel Loam, occasionally floor My classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u> significantly disturbed? Are "Normal Circumstances" present? Yes <u>X</u> No
Are Vegetation <u>N</u> , Soll <u>N</u> , or Hydrology <u>N</u> 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 Is the Sampled Area within a Wetland? Yes X No Hydric Soil Present? Yes X No within a Wetland? Yes X No Wetland Hydrology Present? Yes Yes No Yes X No Remarks: Image: No Image: No Image: No Image: No Image: No Image: No
Freld confirmed wetland.
HYDROLOGY
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)
X Saturation (A3)
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Z Drift Deposits (B3) Thin Muck Surface (C7) Z Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)
Linundation Visible on Aerial Imagery (B7)
X Water-Stained Leaves (B9)
Aquatic Fauna (B13) \swarrow FAC-Neutral Test (D5)
Field Observations:
Surface Water Present? Yes No <u>/</u> Depth (Inches): N/A
Water Table Present? Yes No 🗡 Depth (inches): 712 //
Saturation Present? Yes <u>K</u> No Depth (inches): <u>7</u> Wetland Hydrology Present? Yes <u>K</u> No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks:
Thee trunk buttressing
· · ·

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VEGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: <u>SP-6</u>
2010	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30'R</u>)		<u>Species?</u>		Number of Dominant Species
1. alex saccharinum	65%		FACU	That Are OBL, FACW, or FAC: (A)
2. Republic doltoided	_30%		FAC	Total Number of Dominant 2
3				Species Across All Strata:
4	·			Percent of Dominant Species / / Ø
5				Percent of Dominant Species (7) That Are OBL, FACW, or FAC: 6000 (A/B)
6		<u> </u>		
7		<u></u>		Prevalence Index worksheet:
ר ۸	15%	= Total Cov	er od	$\begin{array}{c c} \hline Total \% Cover of: \\ \hline OBL species \\$
50% of total cover: 47.	<u>5/2</u> 0% of	total cover:	1910	
Sapling/Shrub Stratum (Plot size: 15 ' R)				FACW species $65 \times 2 = 130$
1				FAC species $34 \times 3 = 102$
2				FACU species $x 4 = 22$
3				UPL species $x 5 = $
4				Column Totals: <u>105</u> (A) <u>256</u> (B)
5				Prevalence index = $B/A = -\frac{2}{3} + \frac{3}{3}$
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9		<u></u> ,		-3 - Prevalence Index is ≤3.0 ¹
	0%	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of	total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: <u>5'R</u>)	107		m10.	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Urtica diorica	6%		FACU	
2. Toiricodendian radicans	2/0	<u>N</u>	FAC	Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5		<u> </u>		Tree Monthe plants qualitating since 2 in (7.6 arr) or
6		<u> </u>		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7	<u> </u>			height.
8		_		Sapling/Shrub - Woody plants, excluding vines, less
9	<u> </u>	·		than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
n	10	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>4.5</u>	<u>/</u> @ 20% of	total cover:		Woody vine - Ali woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30/R_)	. 4			height.
1. Forcodendran radicana	1 In	<u>N</u>	FAC	
2		<u> </u>		
3			• ••••••	
4			<u>_</u>	Hydrophytic
5	. <i>202</i>	_	. <u> </u>	Vegetation Present? Yes X No
		= Total Cov		Present? Yes <u>X</u> No
50% of total cover:		total cover:		
Remarks: (Include photo numbers here or on a separate a	-		and and a second se	
Dominant hydrophyte	c are	gela	Unt	
0 10	Ş	0		

SOIL

Sampling Point: SP-6

Profile Description: (Describe to the dept	needed to document the inc	dicator or confirm	the absenc	e of indicators.)	······
Depth <u>Matrix</u>	Redox Features	,			
(Inches) Color (moist) %		Type ¹ Loc ²	Texture	Remarks	
0-12" 10/R4/2 95	<u>SYR⁴/6 <u>5</u></u>	<u>C</u> M	Silty	clay	
			- <i>0</i>	đ	
				· · · · · · · · · · · · · · · · · · ·	
· ·					
¹ Type: C=Concentration, D=Depletion, RM=		and Grains.	² Location: E	PL=Pore Lining, M=Matrix.	
Hydric Soil Indicators:			Indic	cators for Problematic Hydric	Soils ³ :
Histosol (A1)	Dark Surface (S7)			2 cm Muck (A10) (MLRA 147)	
Histic Epipedon (A2)	Polyvalue Below Surface	(S8) (MLRA 147,		Coast Prairie Redox (A16)	
Black Histic (A3)	Thin Dark Surface (S9) (I	MLRA 147, 148)		(MLRA 147, 148)	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2	2)	I	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	K Depleted Matrix (F3)			(MLRA 136, 147)	
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)			Very Shallow Dark Surface (TF)	12)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F			Other (Explain in Remarks)	
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N,	Redox Depressions (F8) Iron-Manganese Masses				
MLRA 147, 148)	MLRA 136)				
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (M	LRA 136, 122)	³ In	dicators of hydrophytic vegetati	on and
Sandy Redox (S5)	Pledmont Floodplain Soll			retland hydrology must be prese	
Stripped Matrix (S6)	Red Parent Material (F21			niess disturbed or problematic.	
Restrictive Layer (if observed):					
Туре: <u>N/A</u>					
Depth (inches):			Hydric So	ll Present? Yes 🔀 No	o
Remarks:			I		
	•				
Hydric soil fo	ang.				
	0				
· · · · · · · · · · · · · · · · · · ·	2				

WETLAND DETERMINA	TION DATA FORM	– Eastern Mountai	ns and Piedmont Region
Project/Site: Line D000 B	Citv/C	County: Comma	ti / Hamulton Sampling Date: 6/18/2016
Applicant/Owner: Duke Energy	<u>~</u>		State: OH Sampling Point: SP-7
Investigator(s): JAV JDMG (C)	E Secti	on, Township, Range:	S23, TIN, RSE
1 - 2	Duin Local rel		
	Lat: 39.0815		34.427300 Datum: W9584
	Δ		
	loam, occa	() ()	1004 MWI classification: <u>PFO</u>
Are climatic / hydrologic conditions on the site typic	•		(If no, explain in Remarks.)
Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology	Significantly distur	bed? Are "Norma	ll Circumstances" present? Yes <u>×</u> No
Are Vegetation, Soli, or Hydrology _	• ·	•	explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site	map showing san	pling point locatio	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	<no< td=""><td>Is the Sampled Area</td><td></td></no<>	Is the Sampled Area	
Hydric Soil Present? Yes	K No	within a Wetland?	Yes 🖌 No
Wetland Hydrology Present? Yes	<u>≻_</u> №		
Remarks:			
Field confirmed,	matt and		
HYDROLOGY			
Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)
Primary indicators (minimum of one is required; c)	jeck all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)	True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
🔀 High Water Table (A2)	Hydrogen Sulfide Od	or (C1)	K. Drainage Patterns (B10)
🔀 Saturation (A3)	Oxidized Rhizospher	es on Living Roots (C3)	Moss Trim Lines (B16)
Y- Water Marks (B1)	Presence of Reduced	d Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Recent Iron Reductio		Crayfish Burrows (C8)
Drift Deposits (B3)	Thin Muck Surface (C		Katuration Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Rer	narks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)			∠ Geomorphic Position (D2)
nundation Visible on Aerial Imagery (B7)			Shallow Aquitard (D3)
✓ Water-Stained Leaves (B9)			Microtopographic Relief (D4) FAC-Neutral Test (D5)
Aquatic Fauna (B13)		·	
Field Observations:	C Deall Carlos N		
	🚣 Depth (inches): <u>N</u>	<u>17 Az.</u> 11	
	Depth (inches):		
Saturation Present? Yes <u>></u> No (includes capillary fringe)	Depth (inches):_ <u>&</u> u	wetland	Hydrology Present? Yes <u> </u>
Describe Recorded Data (stream gauge, monitori	ng well, aerial photos, pre	vious inspections), if av	ailable:
			· · · · · · · · · · · · · · · · · · ·
Netland hydrology	Discore	<u>j</u>	
1 1 Tland hydrology	f over a	0.	
	J		
l			

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VEGETATION (Four Strata) – Use scientific i	names of plants.	Sampling Point: <u>SP-7</u>
2010	Absolute Dominant Indicator	
<u>Tree Stratum</u> (Plot size: <u>30 'R</u>) 1. <u>a.C. a. c. a. c. a. a.</u>	<u>% Cover Species? Status</u> 85% Y FAC	Number of Dominant Species (A)
2 3		Total Number of Dominant Species Across All Strata: (B)
4 5		Percent of Dominant Species That Are OBL, FACW, or FAC: 10070 (A/B)
6		
7		Prevalence Index worksheet:
40	85% = Total Cover	<u>Total % Cover of:</u> <u>Multiply by:</u> OBL species x 1 =◯
50% of total cover: $1 \leq i \neq i$	5 20% of total cover: 17	FACW species $\frac{85}{x_2} = \frac{170}{70}$
Sapling/Shrub Stratum (Plot size: $15^{\circ}R$)		FAC species x 3 =
1 2		FACU species 3 x4 = 12
3		UPL species x5 =
4		Column Totals: (A) (B)
5		Prevalence Index = B/A = 2.09
6		Hydrophytic Vegetation Indicators:
7		🚽 🔀 1 - Rapid Test for Hydrophytic Vegetation
8	·	🖌 🚣 2 - Dominance Test is >50%
9	= Total Cover	Y ≤ 3 - Prevalence index is ≤3.0 ¹
50% of total cover:	20% of total cover:	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: $5'R_{}$)		data in Remarks or on a separate sheet)
1. Torredendion reducend	<u>3% N</u> FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Utila diolea.	<u>NFAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4		Definitions of Four Vegetation Strata:
5		
6 7		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
89 9 10		Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11	<u> </u>	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of total cover:	Woody vine – All woody vines greater than 3.28 ft In height.
1		-
2		
3		.
4		Hydrophytic
5	0% = Total Cover	Vegetation Present? Yes X No
50% of total cover:	20% of total cover:	
Remarks: (include photo numbers here or on a separate		
Dominant hydrophy	· .	1.
	~	
L		

SOIL

Sampling Point: <u>SP-7</u>

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Depth (inches)	Color (moist)		Color (moist)	<u>x Features</u> %	Type ¹	Loc2	Texture		Remarks	
0-201	10YR 3/2		SYR 4/6	5%		M	Litu	A		
0-20	1012-12		31K 10	<u></u>	<u> </u>	<u> </u>	any	vay_		
·										
								•		
<u> </u>										
			·	<u> </u>						
				·	·			·		· · · _
				· •						
Type: C=Co	ncentration, D=Deple	etion, RM=R	educed Matrix, M	S=Masked S	and Grai	ns.			ing, M=Matrix.	
ydric Soll i	ndicators:						India	cators for P	roblematic Hy	dric Solls ^a :
Histosol	(A1)		Dark Surface	ə (S7)				2 cm Muck (A10) (MLRA 1 4	\$7)
	lpedon (A2)		Polyvalue Be		(S8) (ML	.RA 147,			e Redox (A16)	•
Black His	· · ·		Thin Dark Si					(MLRA 14	• •	
	n Sulfide (A4)		Loamy Gley						oodplain Soils (F19)
	Layers (A5)		Depleted Ma		-			(MLRA 1		
	ck (A10) (LRR N)		Kedox Dark						v Dark Surface	(TF12)
	Below Dark Surface	(A11)	Depleted Da						iin in Remarks)	
·- •	rk Surface (A12)	. ,	Redox Depr					• •	•	
Sandy M	ucky Mineral (S1) (Ll	RR N,	Iron-Mangan	ese Masses	(F12) (LI	RR N,				
	147, 148)		MLRA 13							
	leyed Matrix (S4)		Umbric Surfa	ace (F13) (MI	LRA 136	, 122)	³ In	dicators of h	ydrophytic vegi	etation and
	edox (S5)		Piedmont Flo						logy must be p	
•	Matrix (S6)		Red Parent				-	-	ed or problema	
	ayer (If observed):						1	•	·	
Туре:	J/A Í									
							Hydric Sol	Il Present?	Yes 📉	No
Depth (inc	nes)		<u> </u>				Tiyane oo	n Flegenti		
Remarks:		1 N								
11 1	vic sail		MA COL							
Mya	we row	pere								
Ű		V	0							
	•									
			·							

WETLAND DETERMINATION DATA FORM – Eastern Mounta				
Project/Site: <u>Lule DOODB</u> city/County: CMCMMA	ti Hame Sampling Date: 5/18/2016			
Applicant/Owner: Duke Energy	State: <u>OH</u> Sampling Point: <u>SP-&</u>			
Investigator(s): <u>SAV/DM G(CPC)</u> Section, Township, Range:_	SASTIN, REE			
Landform (hillslope, terrace, etc.): Flood Dlaim. Local relief (concave, convex, n	one): Carlane Stope (%): 0%			
	34-426960 Datum: V9584			
Soil Mep Unit Name: Gn - Denasal loom, occasionally	NWI classification: PI-O			
Are climatic / hydrologic conditions on the site typical for this time of year? Yes $\underline{\checkmark}$ No $\underline{\lor} V$	(If no, explain in Remarks.)			
Are Vegetation N_, Soil N, or Hydrology N significantly disturbed? Are "Norm	al Circumstances" present? Yes 📈 No			
Are Vegetation <u>N</u> , soit <u>N</u> , or Hydrology <u>N</u> naturally problematic? (If needed	explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map showing sampling point locat	ions, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes ★ No is the Sampled Area Hydric Soil Present? Yes ★ No within a Wetland? Wetland Hydrology Present? Yes ★ No No	Y85_K_ No			
Remarks: Field confirmed wetland	•			
HYDROLOGY	······································			
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)			
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)			
Ligh Water Table (A2) Light Hydrogen Sulfide Odor (C1)	🔀 Drainage Patterns (B10)			
▲ Saturation (A3) Oxidized Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)			
∠ Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)			
Sediment Deposits (B2) Recent Iron Reduction in Tilled Solis (C6)	Crayfish Burrows (C8)			
Drift Deposits (B3) Thin Muck Surface (C7)	X Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)			
iron Deposits (B5)	★ Geomorphic Position (D2)			
Lundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)			
Water-Stained Leaves (B9)	<u> →</u> Microtopographic Relief (D4)			
Aquatic Fauna (B13)	K FAC-Neutral Test (D5)			
Field Observations:				
Surface Water Present? Yes <u>No ×</u> Depth (inches): <u>N/A</u>				
Water Table Present? Yes X No Depth (Inches); 7"				
(includes capillary fringe)	Hydrology Present? Yes <u>X</u> No			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a				
Remarks:				
Wetland hychology observed.				

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VEGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: <u>SP-8</u>
7610	Absolute	Dominant		Dominance Test worksheet:
<u>Iree Stratum</u> (Plot size: <u>30'R</u>) 1. <u>Acer pacehannim</u>	<u>% Cover</u> 80%	<u>Species?</u>	<u>Status</u> FACW	Number of Dominant Species
2				Total Number of Dominant
4 5				Percent of Dominant Species 100 (A/B)
6				
7				Prevalence Index worksheet:
	<u>_80%</u> :	= Total Cov	er , 🧳	<u>Total % Cover of:Multiply by:</u> OBL species 40 x 1 = 4-0
50% of total cover. <u>40</u>	70 20% of	total cover:	16/0	
Sapling/Shrub Stratum (Plot size: 15 / 2)	30	. 1	m	FACW species <u>62</u> x 2 = <u>764</u> FAC species <u>2</u> x 3 = <u>6</u>
1. Fratrinua pennayhanica	210	2	FACU	FAC species 10 $x_4 = 40$
20	<u> </u>			$\frac{1}{100} \text{ species} \qquad \frac{1}{100} \text{ x4} = \frac{1}{100} \text{ y2}$
3				Column Totals: $\underline{134}$ (A) $\underline{250}$ (B)
4 5				Prevalence Index = $B/A = \frac{1.86}{1.86}$
6	<u> </u>	<u> </u>		Hydrophytic Vegetation Indicators:
7	_			1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				X 3 - Prevalence Index is ≤3.0 ¹
		= Total Cov		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	• 20% of	total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: <u>5'2</u>)	151	$\overline{\mathbf{v}}$	ARI	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Salinurus connuis	<u>900</u> 10%			
2. Untica dioka 3. Ludurara paluetria	5%	-12-	ACU	¹ Indicators of hydric soil and wetland hydrology must
4. Topicodendian radicana		-5-	EAC.	be present, unless disturbed or problematic.
	<u> </u>	<u> </u>	100	Definitions of Four Vegetation Strata:
5		·		Tree Woody plants, excluding vines, 3 in. (7.6 cm) or
6 7				more in diameter at breast height (DBH), regardless of height.
8				Sapling/Shrub Woody plants, excluding vines, less
9				than 3 in DBH and greater than or equal to 3.28 ft (1 m) tall.
11	······			Harb All borbaccous (non-wonds) plasta recordings
	52%	= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tail.
50% of total cover: 26	10 20% of	total cover:	0.4%	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: <u>30'R</u>)				height.
1		<u> </u>		
2		<u>. </u>		
3				
4				Hydrophytic
5				Vegetation
		= Total Cov		Present? Yes <u>V</u> No
50% of total cover:		total cover:		
Remarks: (Include photo numbers here or on a separate s				
Dominant hydrophytic	May	oren	en.	
у ^ч е				
}				
L				

SOIL

Sampling Point: <u>SP-8</u>

Profile Desc	ription: (Describe t	o the depth r				or confirm	n the absence of indicators.)	
Depth	Matrix		Redox Features Color (molst), % Type ¹ Loc ²				Taxtura Desceda	
(inches)	Color (moist)	<u> </u>	- OAL		<u>Type'</u>	<u>Loc²</u>	<u>Texture</u> <u>Remarks</u>	
0-20	IUTA 1/2	12 _	<u>571K476</u>	<u> </u>	_ <u> </u>	11	surficiary	
						<u>, , , , , , , , , , , , , , , , , , , </u>	· · · · · · · · · · · · · · · · · · ·	
				;				
)	<u> </u>		. <u> </u>			,	· · · · · · · · · · · · · · · · · · ·	
						. <u> </u>		
		. <u>.</u>						
				<u> </u>				
			·······				·	<u> </u>
		<u> </u>					·	
	ncentration, D=Deple	etion, RM=Re	duced Matrix, MS	=Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil I	ndicators:						Indicators for Problematic Hyd	ric Soils":
Histosol	• •	-	Dark Surface				2 cm Muck (A10) (MLRA 14	7)
	ipedon (A2)	-	Polyvalue Bel				· - · ·	
Black His		-	Thin Dark Su			47, 148)	(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gleye		-2)		Pledmont Floodplain Solis (F	·19)
	Layers (A5) ck (A10) (L RR N)	-	Redox Dark S		s)		(MLRA 136, 147) Very Shallow Dark Surface (TE12)
	Below Dark Surface	- (A11)	Depleted Dark				Other (Explain in Remarks)	11 12)
	rk Surface (A12)		Redox Depres					
	ucky Mineral (S1) (L	RR N, _	Iron-Mangane			LRR N,		
	147, 148)		MLRA 136					
Sandy G	leyed Matrix (S4)	-	Umbric Surfac	ce (F13) (M	MLRA 13	6, 122)	³ Indicators of hydrophytic vege	
	edox (S5)	-	Pledmont Flo					
	Matrix (S6)		Red Parent M	laterial (F2	21) (MLR	A 127, 14	7) unless disturbed or problemat	ic.
	ayer (if observed):							
Type:	<u>N/A</u>		_				,	
Depth (inc	həs):		-				Hydric Soil Present? Yes <u>×</u>	No
Remarks:								
11 1	ricsoil	()						
1 drea	we soul	. Kar	ing					
0		V	U U					
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L			· · · · · · · · · · · · · · · · · · ·					

WETLAND DETERMINATION DATA FORM	– Eastern Mountains and Piedmont Region
	County: Cincinnati / Kamulton Sampling Date: 5/18/2016
Applicant/Owner: Duke energy	State: OH Sampling Point: SP-9
Investigator(s): <u>JAV/DMG (CEC)</u> Secti	on, Township, Range: S23, TIN, R5E
Landform (hillslope, terrace, etc.):Local rel	ief (concave, convex, none): Concave Slope (%): 23
Subregion (LRR or MLRA): LRR N Lat: 39. 07-91	
Soil Map Unit Name: Gn - Lenerel Loam, oc	capionallyfloriticassification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year?	res No V(If no, explain in Remarks.)
Are Vegetation \underline{N} , Soil \underline{N} , or Hydrology \underline{N} significantly distu	bed? Are "Normal Circumstances" present? Yes No
Are Vegetation N, Soil N, or Hydrology N naturally problem	
SUMMARY OF FINDINGS – Attach site map showing san	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No	Is the Sampled Area within a Wetland? Yes <u>×</u> No
Freid confirmed wettand.	-
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Od	
	es on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent iron Reduction	
Drift Deposits (B3) Thin Muck Surface (
Algal Mat or Crust (B4) Other (Explain in Rei	∠ Geomorphic Position (D2)
I Inundation Visible on Aerial Imagery (B7)	Shallow Aguitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No <u>×_</u> Depth (inches): <u>N</u>	
Water Table Present? Yes No <u>*</u> Depth (Inches):	14"
Saturation Present? Yes No 🗻 Depth (inches): 2	14" Wetland Hydrology Present? Yes 🔀 No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Remarks:	wed
watland hydrology obser	
· · ·	
1	

4 1 1

VEGETATION (Four Strata) – Use scientific n	names of	plants.		Sampling Point: <u>SP-9</u>
2010	Absolute	Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30' R</u>) 1. Platanus occidentalik	<u>% Cover</u> 10%		<u>Status</u> FACU	Number of Dominant Species
2 3	·			Total Number of Dominant
4			······	Percent of Dominant Species
5 6				
7				Prevalence Index worksheet:
	10%	= Total Cov	er	Total % Cover of:Multiply by:
50% of total cover: 5	73 20% of	total cover:	2.70	OBL species 27 x1= 27
Sapling/Shrub Stratum (Plot size: 1518)	100			FACW species 12 $x^2 = 24$
1. acer rubrum	1%	<u>N</u>	FAC	FAC species $26 \times 3 = 78$
2		<u></u>		FACU species x4 =
3				UPL species $2 \times 5 = 10$
4				Column Totals: <u>67</u> (A) <u>139</u> (B)
5			<u> </u>	Prevalence Index = B/A = 2.07
б		<u> </u>		Hydrophytic Vegetation Indicators:
7		<u> </u>		1 - Rapid Test for Hydrophytic Vegetation
8	• <u>•</u>			2 - Dominance Test is >50%
g	12			✓ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover:		= Total Cover: total cover:		4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5'R.)	2078 0	total cover.		data in Remarks or on a separate sheet)
1. Pachera glavella	25%	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Vernonia gisantea	20%	$\overline{\checkmark}$	FAC.	
3. Rumer Cripping	5%	-N	FAT	¹ Indicators of hydric soll and wetland hydrology must
4. Ludwigia palustria	270	N	OBL	be present, unless disturbed or problematic.
5. Plantago Canceolata	2%	$\overline{\mathbf{N}}$	UPL	Definitions of Four Vegetation Strata:
6. Persitalia maculosa	210	<u>, </u>	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				nagn.
9				Sapling/Shrub – Woody plants, excluding vines, less
10	•		<u> </u>	than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11				Harb All borbaccours (son woody) plants, recordless
		= Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
 <u>Woody Vine Stratum</u> (Plot size: <u>عُنْ جُ</u> رِي)	20% of	total cover:		Woody vine - All woody vines greater than 3.28 ft in
				height.
1 2				
3		_		
4				
6				Hydrophytic Vegetation
		= Total Cov	er	Present? Yes <u>X</u> No
50% of total cover:	20% of	total cover:		
Remarks: (Include photo numbers here or on a separate	sheet.)			
PEM community with	hin	adje	scen	t utility ROW,
J was		Q		\mathbf{O}

SOIL	
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Sampling Point:

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Profile Description: (Describe to the dep	th needed to document the Indicator or confi	rm the absence of indicators.)
Depth <u>Matrix</u> (inches) Color (moist) %	<u>Redox Features</u> <u>Color (moist)</u> <u>%</u> <u>Ype¹Loc²</u>	 Tayhura — Bomorka
$\frac{(\text{inches})}{O-14''} \frac{\text{Color}(\text{moist})}{O\sqrt{R^4/2}} \frac{-\%}{80}$	<u>Color (moist)</u> <u>%</u> <u>Type</u> 5VR5/8 20 C M	Littus Care Wand
0-14 10/12/2 00	<u></u>	- ANIA CAIF W/ DANG
		
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······································		
¹ Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, MS=Masked Sand Grains.	2Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2)	Polyvalue Below Surface (S8) (MLRA 14	
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
Stratified Layers (A5) 2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)	(MLRA 136, 147) Very Shallow Dark Surfece (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Masses (F12) (LRR N,	
MLRA 147, 148)	MLRA 136)	
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	³ Indicators of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA	
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 1	47) unless disturbed or problematic.
Restrictive Layer (if observed):		
Type: <u>N/A</u>		
Depth (inches):		Hydric Soil Present? Yes 📉 No
Remarks:		
Hydric soil for	A A	
Ayour soil for	ing.	1
	0	
V	-	
	•	

WETLAND DETERMINATION DATA FORM	 Eastern Mountains and Pledmont Region
Project/Site: <u></u>	County: Concinenti / Hama Sampling Date: 3/18/20/6
Applicant/Owner: Dune energy	State: OH Sampling Point: SP-10
Investigator(s):	on, Township, Range: 323, TIN, RSE
Landform (hillslope, terrace, etc.): Jloodplam Local re	lief (concave, convex, none): Slope (%):
Subregion (LRR or MLRA): LRR N Lat: 39.0792	69 Long: -84, 427 226 Datum: W9 5 84
Soll Map Unit Name: Grn - Menesle Loam, orce	
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, SoilN_, or Hydrology significantly distu	
Are vegetation <u>1</u> , soli <u>1</u> , or Hydrology <u>1</u> significantly distill Are Vegetation <u>N</u> , Soli <u>N</u> , or Hydrology <u>N</u> naturally problem	
-	
SUMMARY OF FINDINGS – Attach site map showing san	npling point locations, transects, Important features, etc.
Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No X Remarks: Upland Rompling Jocation wi	Is the Sampled Area within a Wetland? Yes No X
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (
High Water Table (A2) Hydrogen Sulfide Od	
	es an Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce Sediment Deposits (B2) Recent Iron Reduction	d Iron (C4) Dry-Season Water Table (C2) on in Tilled Soils (C6) Crayfish Burrows (C8)
Sectiment Deposits (B2) Netern Infin Muck Surface (1	
Algal Mat or Crust (B4) Other (Explain in Ref	••••
I ron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes <u>No Y</u> Depth (Inches): N	
Water Table Present? Yes No Depth (inches):	12"
Saturation Present? Yes No 🗡 Depth (inches): 之	12" Wetland Hydrology Present? Yes No X
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	
Remarks:	
nine observed.	
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Sampling Point: SP-10 VEGETATION (Four Strata) - Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Plot size: 30 R) 1. Bours deltaides <u>% Cover Species?</u> Status Number of Dominant Species 15% Y That Are OBL, FACW, or FAC: (A) Total Number of Dominant _____ Species Across All Strata: (B) 4. Percent of Dominant Species 5. /* (A/B) That Are OBL, FACW, or FAC: 6 Prevalence index worksheet: Total % Cover of: Multiply by: 5%= Total Cover 50% of total cover: _____ 20% of total cover: OBL species 2 x 1 = 2 \mathcal{O} \odot Sapling/Shrub Stratum (Plot size: 15 'R FACW species x2= } 55 x 3 = 165 FAC species 1.____ x4= 212 · FACU species 2. 4 -20 UPL species x5≂ _____ 3. 114 39 Column Totals; (A)4. _____ (B) 5 · _____ _____ 5. Prevalence index = B/A = 6. _____ ____ ____ ____ ____ ____ Hydrophytic Vegetation Indicators: _____ ____ 1 - Rapid Test for Hydrophytic Vegetation 8 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 01/2 = Total Cover 4 - Morphological Adaptations¹ (Provide supporting) 20% of total cover:_ 50% of total cover: __ data in Remarks or on a separate sheet) Herb Stratum (Plot size: Problematic Hydrophytic Vegetation¹ (Explain) FA mania a ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. ᠮ᠆ **Definitions of Four Vegetation Strata:** ţ.J Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or 111 N more in diameter at breast height (DBH), regardless of Ð height. N Sapling/Shrub - Woody plants, excluding vines, less ъĴ than 3 in. DBH and greater than or equal to 3.28 ft (1 N Ą m) tall, LANGH OM N OB A a 2 Herb - All herbaceous (non-woody) plants, regardless 997 = Total Cove of size, and woody plants less than 3.28 ft tall. 50% of total cover: 49. 5 20% of total cover: Woody vine - All woody vines greater than 3.28 ft in Woody Vine Stratum (Plot size: 30'R ____) height. 1. 2. з _____ Hydrophytic 5._ Vegetation 0% = Total Cover Yes____ No 🔀 Present? 50% of total cover: _____ 20% of total cover: ____ Remarks: (include photo numbers here or on a separate sheet.) Dominant upland negotation

Sampling Point: SP-10

		th needed to docum Bedox	Features						
epth <u>Matrix</u> nches) Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	s
2-4" 104R4/2	90%	7.5YR-5/6		<u>^</u>	M		lay		
1-11 / INVP3/2				~	<u></u>	Silt		Down C	
<u>t-11 " 104K3/2</u>	<u>90%</u>	<u>7.54R3/6</u>	10%		<u> </u>	BULLY	Uny X	oam_	
						U U			
		·····							
	·								
••••••									
						<u> </u>			
pe: C=Concentration, D=Depl	letion, RM=	Reduced Matrix, MS	=Masked S	and Gra	ilns.	² Location:	PL=Pore L	ining, M=Matr	ix.
iric Soli indicators:									Hydric Soils ³ :
		Dark Surface	(97)					(A10) (MLR/	-
Histosol (A1)		Polyvalue Bei		(S8) /M				rie Redox (A1	
Histic Epipedon (A2)		Polyvalue Ber Thin Dark Sur				,	-	147, 148)	
Black Histic (A3)					47,140)			147, 146) Floodplain So	lie (E10)
Hydrogen Sulfide (A4)		Loamy Gleyed		-)				136, 147)	119 (F 19)
Stratified Layers (A5)		Depleted Mat							
2 cm Muck (A10) (LRR N)		Redox Dark S						ow Dark Surfa	
Depleted Below Dark Surface	ə (A11)	Depleted Dark					Other (Exp	lain in Remar	KS)
Thick Dark Surface (A12)		Redox Depres							
Sandy Mucky Mineral (S1) (L	.RR N,	Iron-Mangane		(F12) (L	.RR N,				
MLRA 147, 148)		MLRA 136							
Sandy Gleyed Matrix (S4)		Umbric Surfac							egetation and
Sandy Redox (S5)		Pledmont Flor			(MLRA 14	48)	wetland hyd	irology must b	•
· · · ·							-		
Stripped Matrix (S6)		Red Parent M	aterial (F21) (MLR			unless distu	rbed or proble	matic.
Stripped Matrix (S6) Strictive Layer (if observed):			aterial (F21	i) (MLR/			unless distu	rbed or proble	matic.
Stripped Matrix (S6) Strictive Layer (if observed):			aterial (F21	i) (MLR/			unless distu	rbed or proble	ematic.
Stripped Matrix (S6) Strictive Layer (If observed): Type:N			aterial (F21	i) (MLR/		7)			No
Stripped Matrix (S6) Strictive Layer (if observed): Type:A Depth (inches):		Red Parent M	aterial (F21	i) (MLR/		7)	unless distu Soil Present		
Stripped Matrix (S6) strictive Layer (if observed): Type: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	i) (MLR/		7)			
Stripped Matrix (S6) trictive Layer (If observed): Type: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	I) (MLR		7)			
Stripped Matrix (S6) trictive Layer (if observed): Type: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (It observed): Type:A Depth (inches):		Red Parent M	aterial (F21	I) (MLR		7)			
Stripped Matrix (S6) trictive Layer (if observed): Type:A Depth (inches):		Red Parent M	aterial (F21	I) (MLR.		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	() (MLR		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR/		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>V/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>V/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>V/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>V/A</u> Depth (inches):		Red Parent M	aterial (F21	() (MLR/		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (if observed): Type:A Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (if observed): Type: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (If observed): Type: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) strictive Layer (if observed): Type: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) Strictive Layer (if observed): Type: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (If observed): Type: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			
Stripped Matrix (S6) trictive Layer (if observed): ype: <u>N/A</u> Depth (inches):		Red Parent M	aterial (F21	(MLR)		7)			

Applicant/Owner: <u>Durle Energy (CEC)</u> Investigator(s): <u>SAV/DMG</u> sector Landform (hillslope, terrace, etc.): <u>Floodplaim</u> Local reli Subregion (LRR or MLRA): <u>LRR N</u> Lat: <u>39.07973</u>	ounty: CMCIMMATI/Harry Sampling Date: 5/18/20/6 State: OH Sampling Point: SP-11 In, Township, Range: S23, TIN, RSE Stope (%): 026 ef (concave, convex, none): Convert Stope (%): 026 Image: S4, 4274/1 Datum: V9584 Image: S4, 4274/1 Datum: V9584 Image: S4, 4274/1 Datum: V9584 Image: Stope (%): O76 Image: S4, 4274/1 Datum: V9584 Image: No S4, 4274/1 S4, 4274/1 Image: No S4, 4274/1 S4, 4274/1 Image: No S4, 4274/1 S4, 4274/1 Image:
Hydrophytic Vegetation Present? Yes No X Hydric Soll Present? Yes No X Wetland Hydrology Present? Yes No X Remarks: Upland Dampling Location.	Is the Sampled Area within a Wetland? Yes No
Water Marks (B1) Presence of Reduced Sediment Deposits (B2) Recent Iron Reduction Drift Deposits (B3) Thin Muck Surface (C Algal Mat or Crust (B4) Other (Explain in Rem Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Water-Stained Leaves (B9)	or (C1) Drainage Pattems (B10) os on Living Roots (C3) Moss Trim Lines (B16) lron (C4) Dry-Season Water Table (C2) o in Tilled Solls (C6) Crayfish Burrows (C8) 77) Saturation Visible on Aerial Imagery (C9) narks) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre- Remarks: WALANA WYANAWA AMAN	4 " Wetland Hydrology Present? Yes No vious inspections), if available:

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0 - 10	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30^{2} R)	% Cover			
aler saccharmin				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
		<u> </u>		
2				Total Number of Dominant
3				Species Across All Strata: (B)
٩				
-				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (AV
5		<u> </u>		Prevalence Index worksheet:
7 <u></u>				
	<u>_5%</u> =	Total Cov	er	Total % Cover of: Multiply by:
50% of total_cover:	20% of			
Sapling/Shrub Stratum (Plot size: 15' P)				FACW species x2≈4⊋
				FAC species $ x_3 = $
1				FACU species 90 x4= 360
2				
3				
4				Column Totals: 126 (A) 477 (E
5				Prevalence Index = B/A = 3.78
·				
7				Hydrophytic Vegetation Indicators:
B				1 - Rapid Test for Hydrophytic Vegetation
		.		2 - Dominance Test is >50%
9	0.67			3 - Prevalence Index is ≤3.0 ¹
	<u></u> =	Total Cov	er	4 - Morphological Adaptations ¹ (Provide support
50% of total cover:	20% of i	total cover:		data In Remarks or on a separate sheet)
Herb Stratum (Plot size: <u>5'R</u>)				· · · ·
Festica anundinacea	70%	Y	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2 Lamium ameloncaule	15%	2	VIP/	
			EAN	¹ Indicators of hydric soil and wetland hydrology must
. Cypenus escillentus	10%	<u></u>		be present, unless disturbed or problematic.
Difolium repond	10%	<u>N</u>	FRC	Definitions of Four Vegetation Strata:
5. Redutago major	5%	<u> </u>	HACU	-
5. Lysindenia hummulaia	5%	N	FACM	Tree - Woody plants, excluding vines, 3 In. (7.6 cm)
7. Deum canadence	570	11	FACU	more in diameter at breast height (DBH), regardless height.
	$\underline{-9.00}$	_ <u>_</u>		neight.
B			·	Sapling/Shrub - Woody plants, excluding vines, les
9			. <u> </u>	than 3 in. DBH and greater than or equal to 3.28 ft (
10.				m) tall.
11		· - · · · · · ·		
• 1•	1207	= Total Cov		Herb – All herbaceous (non-woody) plants, regardle
/>	10/10/1	= 10tal Cov	er ∽า∕t	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 1/2	20% of	total cover	<u>04</u>	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size; 30' R)	(M	. \	t 1	r height.
1. Vitil uparia	170	<u>N</u>	+4Ch	
2				
3				
4			·	Hydrophytic
5				Vegetation
	170	= Total Cov	/er	Present? Yes No
50% of total cover:	20% of	total cover		
Remarks: (Include photo numbers here or on a separate s				<u> </u>
Dominant upland reget	alion	ι,		
and the state of t				
×				

SOIL

Sampling Point: SP-11

Profile Description: (Describe to the dep	th needed to document the Indica	tor or confirm the	absence of indicators.)
Depth <u>Matrix</u>	Redox Features		- · · ·
(inches) Color (moist) %	<u>Color (moist)</u> <u>%</u> <u>Type</u>	<u>e¹ Loc² _7</u>	Texture Remarks
0-4" 10YR3/2 100		f =	uable set loam
4-14" 10YR3/3 100		- an	sular sett loam w/
_			DAME DOM
	· · · · · · · · · · · · · · · · · · ·		<u></u>
·	·		
¹ Type: C=Concentration, D=Depletion, RM:	Reduced Matrix, MS=Masked Sand	Grains. ² Lo	cation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:			Indicators for Problematic Hydric Solls ³ :
Histosol (A1)	Dark Surface (S7)	\ /billion 447 440	2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2) Black Histic (A3)	Polyvalue Below Surface (S8 Thin Dark Surface (S9) (MLR) Coast Prairie Redox (A16) (MLRA 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	A 141, 140)	Piedmont Floodplain Solls (F19)
Stratified Layers (A5)	Depleted Matrix (F3)		(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)		Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (F8)		
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Masses (F1)	2) (L RR N,	
MLRA 147, 148)	MLRA 136)	426 422)	Bindington of hydrophytic vogstation and
Sandy Gleyed Matrix (S4) Sandy Redox (S5)	Umbric Surface (F13) (MLRA Piedmont Floodplain Soils (F		³ Indicators of hydrophytic vegetation and wetland hydrology must be present,
Stripped Matrix (S6)	Red Parent Material (F21) (M		unless disturbed or problematic.
Restrictive Layer (if observed):			
Туре: N/A			-
Depth (inches):		н	ydric Soil Present? Yes No 🔀
Remarks:			
upland soil f	ALIM B.		
	· T		
V	V		
			•
1			
l			

Applicant/Owner: Duha (menagy State: OH Sampling Point: SP-1: Investigator(s):	Iten/Owner:
spelcent/Owner: During (and the second s	ItechNowner:
androm (nilistope, terrace, etc.) Decomposition (LRR or MLRA): LRP, Lat: 39.080197 Log: 24.477.664 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ OCCASL ANALY & LAPT 7864 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ OCCASL ANALY & LAPT 7864 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ OCCASL ANALY & LAPT 7864 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ OCCASL ANALY & LAPT 7864 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ OCCASL ANALY & LAPT 7864 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ OCCASL ANALY & LAPT 7864 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ Soala _ No _ / (ff needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, Important features, etc Hydroigy Present? Yes _ No _ / Is the Sampled Area within a Wetland Hydroigy Present? Yes _ No _ / Is the Sampled Area within a Wetland ? Yes _ No _ / Sufface Soil Crecks (Bb) Surface Vater (A1) _ True Aquetic Plants (B14) _ Sparsely Vegotated Concave Surface (B8) Surface Water (A1) _ True Aquetic Plants (B14) _ Sparsely Vegotated Concave Surface (B8) Surface Water (A1) _ True Aquetic Plants (B14) _ Drue Aquetic Plants (B15) _ Drue Aquetic C(C1) _ Drue Age Stiff Color (C1) _ Drue Age Plants (B1) _ Drue Aquetic Plants (B14) _ Drue Age Stiff Color (C1) _ Drue Age Plants (B1) _ Drue Age Stiff Color (C1) _ Drue Age Stiff Color (C1) _ Drue Age Stiff Color (C1) _ Drue Age Stiff Color (C2) _ Moes Trin Lines (B16) _ Drue Age Stiff Color (C1) _ Drue Age Stiff Unit & Surface (C2) _ Crayfiel Burrows (C3) _ Dot Crayfiel Burrows (C3) _ Drue Age Stiff (C1) _ Drue Age Stiff	distm (hillislope, terrace, etc.): \$JbodAPLAUMLocal relief (concave, convex, none): ConLANCSlope (%), 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2
androm (nilistope, terrace, etc.) Decomposition (LRR or MLRA): LRP, Lat: 39.080197 Log: 24.477.664 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ OCCASL ANALY & LAPT 7864 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ OCCASL ANALY & LAPT 7864 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ OCCASL ANALY & LAPT 7864 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ OCCASL ANALY & LAPT 7864 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ OCCASL ANALY & LAPT 7864 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ OCCASL ANALY & LAPT 7864 Datum: Ug S Soil Map Unit Name: GA _ SOALAGL _ Joaw M _ Soala _ No _ / (ff needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, Important features, etc Hydroigy Present? Yes _ No _ / Is the Sampled Area within a Wetland Hydroigy Present? Yes _ No _ / Is the Sampled Area within a Wetland ? Yes _ No _ / Sufface Soil Crecks (Bb) Surface Vater (A1) _ True Aquetic Plants (B14) _ Sparsely Vegotated Concave Surface (B8) Surface Water (A1) _ True Aquetic Plants (B14) _ Sparsely Vegotated Concave Surface (B8) Surface Water (A1) _ True Aquetic Plants (B14) _ Drue Aquetic Plants (B15) _ Drue Aquetic C(C1) _ Drue Age Stiff Color (C1) _ Drue Age Plants (B1) _ Drue Aquetic Plants (B14) _ Drue Age Stiff Color (C1) _ Drue Age Plants (B1) _ Drue Age Stiff Color (C1) _ Drue Age Stiff Color (C1) _ Drue Age Stiff Color (C1) _ Drue Age Stiff Color (C2) _ Moes Trin Lines (B16) _ Drue Age Stiff Color (C1) _ Drue Age Stiff Unit & Surface (C2) _ Crayfiel Burrows (C3) _ Dot Crayfiel Burrows (C3) _ Drue Age Stiff (C1) _ Drue Age Stiff	diam (hilislope, terrace, etc.): \$ \$ Local relief (concave, convex, none): CMLANC Slope (%): \$ 24 \$ 24 Slope (%): \$ Slope (%): \$ 24 \$ 24 Slope (%): \$ 24
bibregion (LRR or MLRA): LRP, N Let: 37.080197 Long: 24427264	region (LRR or MLRA): LRPN Lat: 39.080197 Long: 74.427264 Detum: W3.8* Map Unit Name: GA _ BEALQAEL LocAM _ OCLAGE AND W Miclossification: 11 PL or M cilinatic hydrologic conditions on the site typical for this time of year? Yes _ No _ (if no, explain in Remarks.) Vegetation _ Soll _ or Hydrology _ naturally problematic? (if needed, explain any answers in Remarks.) IMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. drophytic Vegetation Present? Yes _ No _ K is the Sampled Area within a Wetland? Yes _ No _ K within a Wetland? Yes _ No _ K dric Soil Present? Yes _ No _ K within a Wetland? Yes _ No _ K stand Hydrology Indicators: marks: DROLOGY Vegetation (A) _ True Aquatic Plants (B14) _ Sparsely togotated Concave Surface (B8) High Water Table (A2) _ Hydrogen Suifde Odor (C1) _ Drainage Patterns (B16) Surface Soil Cracks (B6) Surface (B2) _ Crackide Area within Remarks) _ Drainage Patterns (B16) Drainage Patterns (B1) _ Presence of Reduced Irin (C4) _ Dry-Season Water Table (C2) Sediment Deposits (B3) _ Thin Muck Surface (C7) _ Saturation Visible on Aerial Imagery (C9) AgaNatio Craus (B4) _ Other (Explain in Remarks) _ Stunde or Stares (D2) Induction Visible on Aerial Imagery (B7) _ Started or Stares (D3) _ Started Varial Present? Yes _ No _ Depth (Inches): M/A if Cobservations: frace Water Fresent? Yes _ No _ Depth (Inches): M/A tater Table Present? Yes _ No _ Depth (Inches): M/A tater Table Present? Yes _ No _ Depth (Inches): M/A tater Table Present? Yes _ No _ Depth (Inches): J 212 // Y Wetland Hydrology Present? Yes _ No
boil Map Unit Name: Gn _ dowaaa loop for an analytic sector of the	Map Unit Name: GA _ SOM AGGL Local _ occasi cally floating dissification:
we climatic / hydrologic conditions on the site typical for this time of year? Yes	climatic / hydrologic conditions on the site typical for this time of year? Yes X No V (if no, explain in Remarks.) Vegetation X, Soll X, or Hydrology N, significantry disturbed? Are "Normal Circumstances" present? Yes No Vegetation Yes X, No X, Yes X
we Vegetation N., Soil N., or Hydrology N. significantly disturbed? Are "Normal Circumstances" present? Yes N.o. vrev Vegetation N., Soil N., or Hydrology N., naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No.X Is the Sampled Area within a Wetland Hydrology Present? Wetland Hydrology Indicators: No.X Wetland Hydrology Indicators: Scoondary Indicators (minimum of two required) Primary Indicators (A1) True Aqualic Plants (B14) Sturface Water (A1) True Aqualic Plants (B14) Sturface for molroum of one is required; check all that apply) Surface Soil Cracks (B6) Sturface Mater (A2) Hydrogen Sufface Odor (C1) Drainage Patterns (B10) Sturface Mater (A3) Doxidate Rhizospheres on Living Roots (C3) Moss Trin Lines (B16) Sturface Mater (A3) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sturface Notal (B4) Other (Explain in Remarks) Sturface Nated or Stressed Plants (D1) Sturface Nated Rizospheres on Living Roots (C5) Mode Aperal Mater Stressed Plants (D1) Dry-Season Water Table (C2) Sturation Visible on Aerial Imagery (C9) S	Vegetation Soll
vre Vegetation N_, Soil N_, or Hydrology N_ naturally problematic? (if needed, explain any answers in Remarks.) SUBMARY OF FINDINGS – Attach site map showing sampling point locations, transects, Important features, etc Hydrophytic Vegetation Present? Yes No_X Is the Sampled Area within a Wetland? Hydrophytic Vegetation Present? Yes No_X Is the Sampled Area within a Wetland? Yes No_X Wetland Hydrology Present? Yes Wetland Hydrology Indicators: No_X Wetland Hydrology Indicators: Surface Soil Cracks (B6) Surface Water (A1)	Vegetation
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc Hydrophytic Vagetation Present? Yes No x Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Indicators: No X Wetland Hydrology Indicators: Surface Soll Crecks (B6) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Suffde Odor (C1) Drainage Patterns (B10) Sutration (A3) Oxdized Rhizospheres on Living Roots (C3) Moss Tim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Drainage Patterns (B10) Sutration (A3) Oxdized Rhizospheres on Living Roots (C3) Moss Tim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sturation (A3) Oxdized Rhizospheres on Living Roots (C5) Crayfish Burrows (C8) Diff Deposite (B2) Recent iron Reduction In Tilled Solis (C6) Crayfish Burrows (C8) If the Doposite (B3) Thin Muck Surface (C7) Satura	IMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc drophytic Vegetation Present? Yes No is the Sampled Area within a Wetland? Yes No Xes drophytic Soil Present? Yes No Xes Xes No Xes Xe
Hydrophylic Vegetation Present? Yes No No Is the Sampled Area within a Wetland? Yes No Xethin a Wetland? Yes No Xet	drophylic Vegetation Present? Yes No is the Sampled Area within a Wetland? Yes No
Hydric Soll Present? Yes No X In the Sample Varia Wetland Hydrology Present? Yes No X Wetland Hydrology Present? Yes No X Wetland Hydrology Present? Yes No X Wetland Hydrology Indicators: Wetland Hydrology Indicators: No X Primary Indicators (minimum of one Is required; check all that apply) Surface Soil Crecks (B6) Surface Water (A1) Surface Water (A1) Sparsely Vogetated Concave Surface (B8) High Water Table (A2) Hydrogen Sufface Off (C1) Drainage Pattems (B10) Drainage Pattems (B10) Saturation (A3) Oxidized Rhizespheres on Living Roots (C3) Moss Trim Lines (B16) Dry-Season Water Table (C2) Staturation (A3) Oxidized Rhizespheres on Living Roots (C3) Moss Trim Lines (B16) Dry-Season Water Table (C2) Staturation Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Stunde on Stressed Plants (D1) If Deposits (B3) Thin Muck Surface (C7) Saturation Validie on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunde on Stressed Plants (D1) Iron Deposite (B5) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (C	dric Sail Present? Yes No x in the sail present present? Yes No x within a Wetland? Yes No x interval present? Yes No x Tranks:
Wetland Hydrology Present? Yes	stand Hydrology Present? Yes No
Remarks: Upland pamplung location. Wetfand Hydrology Indicators: Secondary Indicators (minimum of two required). Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drafnage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sufface B33 Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Agai Mat or Crust (B4) Other (Explain In Remarks) Stituted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Water Table (Pasent? Yes No × Depth (inches): M/A Water Table Present? Yes No × Depth (inches): Z12 " Water Table Present? Yes No × Depth (inches): Z12 " Water Table Present? Yes No × Depth (inches): Z12 " Water Table Present? Yes No × Depth (inches): Z12 " <td< td=""><td>Imarks: Imarks: Imarks: Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Imarks: Sparsely Vegotated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfde Odor (C1) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Mater Marks (B1) Presence of Reduced Iron (C4) Sediment Deposits (B2) Recent Iron Reduction In Tilled Solts (C6) Ortift Deposits (B3) Thin Muck Surface (C7) Inon Doposits (B5) Staturation Visible on Aerial Imagery (C9) Incord ton Visible on Aerial Imagery (B7) Staturation Visible on Aerial Imagery (C9) Water Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fuesent? Yes No × Ind Deprevations: Irface Water Present? Yes Index Carsentions: Inface Present? Yes No × Ind Deprevations: No ×</td></td<>	Imarks: Imarks: Imarks: Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Imarks: Sparsely Vegotated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfde Odor (C1) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Mater Marks (B1) Presence of Reduced Iron (C4) Sediment Deposits (B2) Recent Iron Reduction In Tilled Solts (C6) Ortift Deposits (B3) Thin Muck Surface (C7) Inon Doposits (B5) Staturation Visible on Aerial Imagery (C9) Incord ton Visible on Aerial Imagery (B7) Staturation Visible on Aerial Imagery (C9) Water Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fuesent? Yes No × Ind Deprevations: Irface Water Present? Yes Index Carsentions: Inface Present? Yes No × Ind Deprevations: No ×
Welfand Hydrology Indicators: Surface Soil Cracks (B6) Surface Water (A1)	DROLOGY iffand Hydrology Indicators: max/Indicators (minimum of one is required; check all that apply) Surface Water (A1) True Aquatic Plants (B14) High Water Table (A2) Hydrogen Sulface Or (C1) Sturation (A3) Oxdized Rhizospheres on Living Roots (C3) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction In Tilled Solls (C6) Ortuget (B4) Other (Explain in Remarks) Stunation (A3) Other (Explain in Remarks) Standitor Nisible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Standitor Nisible on Aerial Imagery (B7) Inundation Visible on Aerial Imagery (B7) Inductor Present? Yes No × Depth (inches): <u>1/A</u> Agar Vater Present? Yes No × Depth (inches): <u>12 4"</u> Muardto Present? Yes No × Depth (inches): <u>12 4"</u> Muardto Present? Yes No × Depth (inches): <u>12 4"</u>
AVDROLOGY Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply)	DROLOGY #fand Hydrology Indicators: Secondary Indicators (minimum of two required) mary Indicators (minimum of one Is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction In Tilled Solls (C6) Crayfish Burrows (C8) Orift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain In Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Infundation Visible on Aerial Imagery (B7) Inductor Visible an Aerial Imagery (B7) Shallow Aquitard (D3) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) Microtopographic Relief (D4) Aquatic Fauna (B13) Pepth (inches): <u>M/A</u> Metiand Hydrology Present? Yes No X No X Depth (inches): <u>Z12 ^{1/2}</u> Wetiand Hydrology Present? Yes No X
AVDROLOGY Wetland Hydrology Indicators: Surface Vater (A1)	DROLOGY #fand Hydrology Indicators: maty Indicators (minimum of one Is required; check all that apply)
Wetfand Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply)	#tand Hydrology Indicators: Secondary Indicators (minimum of two required) mary Indicators (minimum of one Is required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction In Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain In Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Water Fauna (B13) Microtopographic Relief (D4) FAC-Neutral Test (D5) eld Observations: No × Depth (inches): N/A Wetland Hydrology Present? Yes No × No × rider Table Present? Yes No × Depth (inches): N/A Wetland Hydrology Present? Yes
Wetfand Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6)	Secondary Indicators: Maty Indicators: Secondary Indicators: maty Indicators: Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Surface Soil Cracks (B6) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Water Table Present? Yes No × Aquatic Fauna (B13) Depth (inches): M/A ater Table Present? Yes No × No × Depth (inches): N/A Wetland Hydrology Present? Yes No × Sufface Agailany fringe) Second and independencing well, eerial photos, previous inspections), if available: Secondary Indicators
Wetfand Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6)	Secondary Indicators: Maty Indicators: Secondary Indicators: maty Indicators: Surface Soil Cracks (B6) Surface Water (A1) True Aquatic Plants (B14) Surface Soil Cracks (B6) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Water Table Present? Yes No × Aquatic Fauna (B13) Depth (inches): M/A ater Table Present? Yes No × No × Depth (inches): N/A Wetland Hydrology Present? Yes No × Sufface Agailany fringe) Second and independencing well, eerial photos, previous inspections), if available: Secondary Indicators
	Surface Water (A1)
High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent iron Reduction In Tilled Solls (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algai Mat or Crust (B4) Other (Explain In Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5)	High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Solls (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain In Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Water Fauna (B13) Microtopographic Relief (D4) Aquatic Fauna (B13) Pepth (inches): <u>N/A</u> ater Table Present? Yes No <u>×</u> No Depth (inches): <u>> 212 "</u> Wetland Hydrology Present? Yes No <u>×</u> Ituration Present? Yes No <u>×</u> Depth (inches): <u>> 12 "</u> excribe Recorded Data (stream gauge, monitoring well, aerial photos, previous Inspections), if available: Staulable:
	Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Inundation Visible on Aerial imagery (B7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) Pepth (inches): N/A ater Table Present? Yes No × No × Depth (inches): > 12.2 " wturation Present? Yes No × Opeth (inches): > 12.2 " Wetland Hydrology Present? Yes No × Scribe Recorded Data (stream gauge, monitoring well, aerial photos, previous Inspections), if available: Staulable:
	Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2)
	Sediment Deposits (B2)
	Drift Deposits (B3)
	Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Inundation Visible on Aerial imagery (B7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) ald Observations: No Depth (inches):/A arer Table Present? Yes No Depth (inches):/12 '' atter Table Present? Yes No Depth (inches):/12 '' uturation Present? Yes No Depth (inches):/12 '' wetland Hydrology Present? Yes No
	Iron Deposits (B5)
	Inundation Visible on Aerial Imagery (B7)
Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) Field Observations: No _X Depth (inches): N/A Surface Water Present? Yes No _X Depth (inches): N/A Water Table Present? Yes No _X Depth (inches): No Saturation Present? Yes No _X Depth (inches): No (includes capillary fringe)	Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) eld Observations: Adder Present? Inface Water Present? YesNo _X Depth (inches):/A ater Table Present? YesNo _X Depth (inches):/2 // ituration Present? YesNo _X Depth (inches):/2 // ituration Present? YesNo _X Depth (inches):/2 // ituration Present? YesNo _XDepth (inches):/2 // ituration Present? YesNo _XDepth (inches):/1 @// ituration Present? YesNo _XDepth (inches):/1 @// ituration Present? YesNo _XDepth (inches):/1 @// ituration Present? YesNo _X
Aquatic Fauna (B13) FAC-Neutral Test (D5) Field Observations:	
Field Observations: Surface Water Present? Yes No _X Depth (inches): N/A Water Table Present? Yes No _X Depth (inches): N/A Saturation Present? Yes No _X Depth (inches): N/A Saturation Present? Yes No _X Depth (inches): N/A (includes capillary fringe) Wetland Hydrology Present? Yes No _X Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	eld Observations: Inface Water Present? Yes No _X Depth (inches): N/A ater Table Present? Yes No _X Depth (inches): N/A Inturation Present? Yes No _X Depth (inches): N/A
Water Table Present? Yes No _X Depth (inches): _/l 2 '' Saturation Present? Yes No _X Depth (inches): _/l 2 '' Victure capillary fringe) Wetland Hydrology Present? Yes No _X Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	ater Table Present? Yes No _X Depth (inches): _/l 2 '' uturation Present? Yes No _X Depth (inches): _/l 2 '' uturation Present? Yes No _X Depth (inches): _/l 2 '' uturation Present? Yes No _X cluttes capillary fringe) wetland Hydrology Present? Yes No _X escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Water Table Present? Yes No _ Depth (inches): _ / 12 " Saturation Present? Yes No _ Depth (inches): _ / 12 " (includes capillary fringe) Wetland Hydrology Present? Yes No _ Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	ater Table Present? Yes No _X Depth (inches): _/l 2 " ituration Present? Yes No _X Depth (inches): _/l 2 " ituration Present? Yes No _X Depth (inches): _/l 2 " ituration Present? Yes No _X Depth (inches): _/l 2 " ituration Present? Yes No _X Depth (inches): _/l 2 " ituration Present? Yes No _X cluttes capillary fringe) wetland Hydrology Present? escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Saturation Present? Yes No _ >_ Depth (inches): _ ? I & " Wetland Hydrology Present? Yes No _ > No _	Ituration Present? Yes No Depth (inches): _712 // Wetland Hydrology Present? Yes No cludes capillary fringe) secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Rema _{rks} :	amarks:

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VEGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: <u>SP-12</u>
20/17	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30 / R</u>)		Species?		Number of Dominant Species
1. Ulmus americana	15%		FACW	That Are OBL, FACW, or FAC: (A)
2. acer sarchanimum	1070	<u> </u>	FACU	Total Number of Dominant
3				Species Across All Strata: (B)
4				
5				Percent of Dominant Species 50 % (A/B)
6				That Are OBL, FACW, or FAC:/0_ (A/B)
				Prevalence Index worksheet:
7	25%	= Total Cov		Total % Cover of: Multiply by:
50% of total cover.	5 % 20% of	total cover		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 'R)	<u>77</u> 2078 UI	total cover.		FACW species 3 $x_2 = 62$
				FAC species 25 x3= 75
1			<u> </u>	FACU species $\overrightarrow{72}$ x4 = 28
2				
3	_			UPL species $x_5 = 0$
4				Column Totals: 128 (A) 425 (B)
5			_	Prevalence Index = $B/A = 3.32$
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is $\leq 3.0^{1}$
	=	= Total Cov	er	
50% of total cover:	20% of	total cover:		4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: <u>5' P.</u>)	-			data in Remarks or on a separate sheet)
1. Untrea divica	50%	Y_	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Festilica anindinacea	20%	4	EACL	p
3 Viola sororia	15%	N	FAC	¹ Indicators of hydric soil and wetland hydrology must
1 amplicarpaca bractenta	10%	7	FAC	be present, unless disturbed or problematic.
5 compatiens capensis	5%	N	EACI.	Pefinitions of Four Vegetation Strata:
6 Saluin spanine.	22	N	EACI	Tree - Woody plants, excluding vines, 3 In. (7.6 cm) or
7. Ly Amachia nummularia	120		EAX	more in diameter at breast height (DBH), regardless of
7. Typ rachia / willing weekee	- 170		<u>Incu</u>	height.
8		<u></u>	<u> </u>	Sapling/Shrub - Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10		_		m) tall.
11				Herb - All herbaceous (non-woody) plants, regardless
	103%	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 51.	<u> 2</u> 0% of	total cover:	20.6	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: <u>30'R</u>)				height.
1				
2				
3				
4				
5.				Hydrophytic Vegetation
	0%	= Total Cov	er	Present? Yes No K
50% of total cover:				
Remarks: (Include photo numbers here or on a separate s				l
Dominant upland veg	•	ion,		
	-	- /		
L				

SOIL

Sampling Point: SP-12

Profile Description: (Describe to the depth needed to document the indicator or confirm	the absence of Indicators.)
Depth <u>Matrix</u> Redox Features	
(inches) Color (moist) % Color (moist) % Type ¹ Loc ²	Texture Remarks
0-5" 10YR3/2 100	bilty day loam
5-13" 10YR 1/3 100	Little day loam w/some
	- Cond
	<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) Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 147, 148) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148)	· · ·
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	(MLRA 147, 148) Piedmont Floodplain Soils (F19)
Stratified Layers (A5) Depleted Matrix (F3)	(MLRA 136, 147)
2 cm Muck (A10) (LRR N) Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12) Redox Depressions (F8)	
Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N,	
MLRA 147, 148) MLRA 136)	2
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)	³ indicators of hydrophytic vegetation and
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148	
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Restrictive Layer, (if observed):	unless disturbed or problematic.
Type: N/A	
	Hydric Soil Present? Yes No 🗡
Depth (inches):	Hydric Soil Present? Yes <u>No X</u>
Remarks:	
upland soil facing.	
upland some fraund.	
f in the second s	

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region
Project/Site: Line DOODB City/County: Cuncinnati / Hamilton Sampling Date: 5/18/20/6
Applicant/Owner: DI, De GMERGY, state: OH Sampling Point: SP-13
Investigator(s): <u>JAV/DMChYQEC</u> Section, Township, Range: <u>S23, TIN, R5E</u>
Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): Conver Slope (%): 0%
Subregion (LRR or MLRA): LRR N Lat: 39.080537 Long: -84, 427435 Datum: W9584
Soil Map Unit Name: Con - Demeser, loam, occasionally flood Will classification: [Lpland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes <u>×</u> No <u>0</u> (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes 🔀 No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS Attach site map showing sampling point locations, transects, Important features, etc.
Hydrophytic Vegetation Present? Yes No_X Is the Sampled Area Hydric Soli Present? Yes No_X within a Wetland? Yes No_X Wetland Hydrology Present? Yes No_X Remarks: Wpland Dampling Location
HYDROLOGY
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Crecks (B6)
Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)
Ingle Value Fable (22) Ingle Gale Gale (31) Drailage Fable (210)
Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction In Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5) Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3)
Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5)
Field Observations:
Surface Water Present? Yes No _ Cepth (inches): N/A
Water Table Present? Yes No \checkmark Depth (inches): $2ia''$
Saturation Present? Yes No K Depth (inches): 212 Wetland Hydrology Present? Yes No K
(Includes capillary fringe)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks: Upland hydrology abserved.

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VEGETATION (Four Strata) Use scientific n	ames of	plants.		Sampling Point: <u>SP-13</u>
24/0		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30 2)		Species?	<u>Status</u>	Number of Dominant Species t
1. Populus dettoides	15%	V V	FAC	That Are OBL, FACW, or FAC: (A)
2. Coltis occidentales	10%		CAT:	
			48.000	Total Number of Dominant
3				Species Across All Strata: (B)
4			<u> </u>	Percent of Dominant Species
5				Percent of Dominant Species 33% (A/B)
б				
7				Prevalence Index worksheet:
	25%	= Total Cov		Total % Cover of: Multiply by:
50% of total cover: 나라.			er 	OBL species x 1 =
	20%0	total cover.		FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 15' R)				40
1				<u> </u>
2				FACU species <u>95</u> x4 = <u>380</u>
3				UPL species x 5 =
				Column Totals: 139 (A) 510 (B)
4				
5				Prevalence Index = B/A = 3.66
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is $\leq 3.0^{1}$
	O'/a	= Total Cov	er	
50% of total cover;				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: <u>5' R</u>)				data in Remarks or on a separate sheet)
1. Fotula annainalla	102	\vee	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Vida soloria	15%	·····	TEN A	
		_N		¹ Indicators of hydric soil and wetland hydrology must
3. Trifoluim report	10%	<u>_N_</u>	FACO	be present, unless disturbed or problematic.
4. amplicacpasa bratesta	<u>10%</u>	<u> N </u>	EAC	, Definitions of Four Vegetation Strata:
5. Penniago major	3%	N	FACY	-
6. Vulresula atternitatio	2%	k)	FAC	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7. Englison annual	27	N	FACU	more in diameter at breast height (DBH), regardless of height.
8. Likmachia nummulana	2%	- 100-	FACU	
	<u>_A.10_</u>	<u>FJ</u>	TACM	Sapling/Shrub - Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tail.
11				Herb - All herbaceous (non-woody) plants, regardless
	114	= Total Cov	er .	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>57</u>	- 20% of	total cover:	22.8	
Woody Vine Stratum (Plot size: 30'R)			,	Woody vine - All woody vines greater than 3.28 ft in
				height.
1				
2				
3	·			
4				i Hydrophytic
5				Vegetation
	Oh	= Total Cov	er	Present? Yes No
50% of total cover:				
Remarks: (Include photo numbers here or on a separate s				·····
		A		
on the and are	anto	Jum		
Domenant upland we	de la	·······	•	
T				
			•	

SOIL

Sampling Point: SP-13

	ription: (Describe to	the depth			cator or	confirm	the absenc	e of indicato	ors.)		
Depth	<u>Matrix</u>	%	Color (mojst)	Features	ype1	Loc ²	Texture		Demort		
<u>(Inches)</u>	$\underline{-\text{Color}(\text{moist})}$			<u>%</u> <u>1</u>	<u>ype _</u> _	LOC			Remark		
0-5-	<u>107R3/2</u>	<u> (00 </u>	· .				silly	day.	Loan	n	
5-13*	10YR 3/3	90 3	2.5YR4/8	10	C	M	Lett	Jard	Loam	•	
						<u> </u>	1	0		•	
						<u> </u>	V	<u> </u>			
								. <u></u>		<u></u>	
						.				·	
			<i>.</i>							·	•
_									_		
								·			
				<u> </u>							
	ncentration, D=Depleti	ion <u>, RM</u> ≕Re	duced Matrix, MS=	Masked Sa	ind <u>Grain</u>	IS.		PL=Pore Lini			
Hydric Soli Ir	idicators:						India	ators for Pr	oblematic	Hydric So	ils ^a :
Histosol (A1)		Dark Surface (\$	37)			i	2 cm Muck (A	10) (MLRA	147)	
Histic Epi	pedon (A2)		Polyvalue Belov	w Surface ((S8) (MLI	RA 147, '	148)	Coast Prairie	Redox (A1	6)	
Black His	tic (A3)		Thin Dark Surfa	ace (S9) (M	LRA 147	', 14 8)		(MLRA 14	7, 148)		
	n Sulfide (A4)		Loamy Gleyed	Matrix (F2)				Piedmont Flo	odplain Sol	ls (F19)	
Stratified	Layers (A5)		Depleted Matrix	(F3)				(MLRA 13	6, 147)		
2 cm Muc	k (A10) (L RR N)		Redox Dark Su	rface (F6)			`	Very Shallow	Dark Surfa	ice (TF12)	
Depleted	Below Dark Surface (/	A11)	Depleted Dark		<i>r</i>)		'	Other (Explai	n in Remar	ks)	
	rk Surface (A12)		Redox Depress	sions (F8)							
Sandy Mi	ucky Mineral (S1) (LRI	RN,	(ron-Manganes	e Masses (F12) (LR	IR N,					
	147, 148)		MLRA 136)								
	eyed Matrix (S4)		Umbric Surface					dicators of hy			and
Sandy Re			Piedmont Floor					etland hydroi		-	
	Matrix (S6)		Red Parent Ma	terial (F21)	(MLRA	127, 147)	<u> </u>	nless disturbe	ed or proble	ematic.	
	ayer (if observed):										
Туре:	<u> 1/A</u>		-								
Depth (inc	hes):		_				Hydric So	il Present?	Yes	No	\times
Remarks:											
		a	* .								
٥	and soi	1 V	nond.								
Upl	and son	L 17	O.C.N. WY	•							
1		V	0								
										•	

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	RM Eastern Mountains and Pledmont Region
Project/Site: <u>Line DOODB</u> c	ity/County: ancimnati/Hamilt Sampling Date: 5/18/2016
Applicant/Owner: Duke Energy	State: OH Sampling Point: SP-14
Investigator(s): JAU/DMG (CBC) s	Section, Township, Range: S23, TIN, RSE
	al relief (concave, convex, none): <u>CONNEX</u> Slope (%): 07/2
Subregion (LRR or MLRA): LRR N Lat: 39.080	941 Long: -84.427346 Datum: Was 84
Soil Map Unit Name: GM - Denesel loam, ou	
Are climatic / hydrologic conditions on the site typical for this time of year	
Are Vegetation N, Soil N, or Hydrology N significantly d	
Are Vegetation N, Soli N, or Hydrology N naturally prob	
SUMMARY OF FINDINGS – Attach site map showing s	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes <u>K</u> No	is the Sampled Area
Hydric Soil Present? Yes No	within a Wetland? Yes No X
Wetland Hydrology Present? Yes No	
Remarks: Upland sampling location vegetation.	
upland sompting location	nith hydrophylie woody
repotation.	
10 Francis	
Wetland Hydrology indicators: Primary indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plan High Water Table (A2) Hydrogen Sulfide	
	bheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Red	•
	uction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface	ce (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in	Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	1/4
Surface Water Present? Yes <u>No K</u> Depth (Inches):	
Water Table Present? Yes No Depth (inches); Saturation Present? Yes No Depth (inches);	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos	, previous Inspections), if available:
Remarks:	
upland hydrology observed	
upland manacogy over the	•
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VEGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: <u>SP-14</u>
20/0	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 R)		Species?	Status	Number of Dominant Species
1. Populus destrides	15%		HAC.	That Are OBL, FACW, or FAC: (A)
2 aier sacchaninum	10%	<u> </u>	FACW	Total Number of Dominant ス
3		· · · · · · · · · · · · · · · · · · ·		Total Number of Dominant <u>3</u> (B)
4		•	-	
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 00/0 (A/B)
6				(AB)
7				Prevalence Index worksheet:
	25%	= Total Cov		Total % Cover of: Multiply by:
50% of total cover: 10.5	20% of	total cover	er <u>-</u>	OBL species O x1≈ O
Sapling/Shrub Stratum (Plot size: 5 2	2076 01			FACW species 10 x 2 = 20
				FAC species $37 \times 3 = 111$
1				FACU species <u>85</u> x4≈ <u>34-0</u>
2				UPL species $0 \times 5 = 0$
3				
4				
5				Prevalence Index = $B/A = 3.56$
6,				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is $\leq 3.0^{1}$
		= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of	total cover:		
Herb Stratum (Plot size: <u>5 R</u>)			<u> </u>	data in Remarks or on a separate sheet)
1. Urtica Sioica	85%	· Y _	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. amphicarpage broctesta			FAC	
3 Viola Antonia	10%		FAC	¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
5				Definitions of Four Vegetation Strata:
5				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10	<u></u>		· `	m) tall.
11				Herb - All herbaceous (non-woody) plants, regardless
	105%	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 52 .	5%20% of	total cover		Monty vine All weeks incomence to the 2,00 ft is
Woody Vine Stratum (Plot size: <u>301 R</u>)	-			Woody vine - All woody vines greater than 3.28 ft in height.
1. Jopicodendran radicans	- <u>2%</u>	N	FAC	
2				
3				
4			<u> </u>	
5		• •	·	Hydrophytic Vogetation
· · · · · · · · · · · · · · · · · · ·	2%	= Total Cov	·	Vegetation Present? Yes X No
50% of total cover:				
Remarks: (Include photo numbers here or on a separate s			·	1
ivernarks, (include photo numbers here of on a separate s	sileet.)		The L	
Dominant Dydrophytic	, ve	gern	Child C.	
		v		
1				

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SOIL

Sampling Point: SP-14

Profile Description: (Describe to the depth	needed to document t	he indicator o	or confirm t	he absence	of Indicators.)
Depth <u>Matrix</u>	Redox Feat	tures			
(Inches) Color (moist) %	Color (moist) %	Type ¹	Loc ²	Texture	Remarks
0-4" 16YR 1/2 98	104R4/6 2		Μ	riters	clay Loam
4-14" 10YR4/3 100				Lotin	last loam
- THE TOWN'S TOO				sing i	Las Lound
		<u> </u>			<u> </u>
					·····
					·
				<u> </u>	
				·	
¹ Type: C=Concentration, D=Depletion, RM=R	equced Matrix, MS=Mas	Ked Sand Gra	ทาร. *		L=Pore Lining, M=Matrix.
Hydric Soll Indicators:					ators for Problematic Hydric Soils ³ :
Histosol (A1)	Dark Surface (S7)	.			cm Muck (A10) (MLRA 147)
Histic Epipedon (A2)	Polyvalue Below St			18) C	coast Prairie Redox (A16)
Black Histic (A3)	Thin Dark Surface		\$7, 148)		(MLRA 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleyed Mat			P	iedmont Floodplain Solis (F19)
Stratified Layers (A5)	Depleted Matrix (F3	-			(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark Surfac				ery Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark Surf			_ c	other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depressions				
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese M	asses (F12) (L	.RR N,		
MLRA 147, 148)	MLRA 136)				
Sandy Gleyed Matrix (S4)	Umbric Surface (F1				icators of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floodplal	in Soils (F19) (MLRA 148)		tland hydrology must be present,
Stripped Matrix (S6)	Red Parent Materia	al (F21) (MLRA	127, 147)	un	less disturbed or problematic.
Restrictive Layer, (if observed):					
Type: <u>N/A</u>	_				
Depth (inches):				Hydric Soil	Present? Yes No
Remarks:			l.		
Undand and C.	A & A A				
upland soil fo	ung.				
V	U				
]					
j					
1					

WETLAND DETERMINATION DATA FORM	 Eastern Mountains and Piedmont Region
Project/site: <u>Line DOODB</u> city/C	County: Cincinnati / Harnitan Sampling Date: 5/18/2016
Applicant/Owner: Duke Energy	State: Sampling Point: SP-15
	on, Township, Range: SQ3, TIN, RSE
Landform (hillstope, terrace, etc.):	lief (concave, convex, none): Concave Slope (%): C) %
Subregion (LRR or MLRA): LRR N Lat:	Long: Datum: W9S 84
Soll Map Unit Name: GN- Henesel 200m, occas	
/	
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation \underline{N}_{1} , Soli \underline{N}_{1} , or Hydrology \underline{N}_{1} significantly distur	
Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u> naturally problems	
SUMMARY OF FINDINGS - Attach site map showing sam	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes <u> </u>	Is the Sampled Area
Wetland Hydrology Present? Yes No	within a Wetland? Yes No
Remarks:	
Romarks: Upland sampling location is hydrophytic regetation.	its dominant woody
hydrophylic vegetation.	
HYDROLOGY	···
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants ((B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Od	
Saturation (A3) Oxidized Rhizosphere	es on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced	d Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2)Recent Iron Reductio	on In Tilled Solls (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C	
Algal Mat or Crust (B4) Other (Explain in Rer	• – • • •
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes <u>No K</u> Depth (inches):	174
Water Table Present? Yes No 🖌 Depth (inches): 2	
Saturation Present? Yes No <u>//</u> Depth (Inches):	<u>↓2</u> Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks;	
upland hydrology	
1 0 00	
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VEGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: <u>SP-15</u>
2012	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30 R</u>)	<u>% Cover</u>	<u>Species?</u>		Number of Dominant Species
1. Ulmus, amaricana	35%	<u> </u>	FACh	That Are OBL, FACW, or FAC: (A)
2. acer sauchaninum	<u>4010</u>	<u>Y</u>	FACH	Total Number of Dominant 33(B)
4				
5		<u> </u>		Percent of Dominant Species 66% (A/B) That Are OBL, FACW, or FAC: 66% (A/B)
6	<u> </u>	-		Prevalence Index worksheet:
	60%	= Total Cove		Total % Cover of: Multiply by:
50% of total cover: 30	20% of	total cover:	"\a	OBL species x1=
Sapling/Shrub Stratum (Plot size: 15 / R)				FACW species $\underline{76}$ x2 = $\underline{152}$
1.				FAC species x 3 =
2				FACU species $\frac{78}{78}$ x4= 312
3				UPL species x 5 =
4				Column Totals: 164° (A) 494° (B)
5				Prevalence Index = $B/A = 3.01$
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				🔀 2 - Dominance Test is >50%
9	~7			3 - Prevalence Index is ≤3.0 ⁴
50% of total cover:	<u>()</u> :	= Total Cove	ər 	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' R)	20% 0	total cover:		data in Remarks or on a separate sheet)
1. Festura grundinarea	65%	γ	FACI	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Corvin maculatum	15%	N	FACIN	
3. He choma gederacea	50/2	5	FACIL	¹ Indicators of hydric soil and wetland hydrology must
4. Engeron annulus	<%	U,	FACI	be present, unless disturbed or problematic.
57/1 QAD OTIMINA	5%	4	FAC	Definitions of Four Vegetation Strata:
6 Planlago major.	3%	N	FACU	Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
7. Verbesind atternitested	3%	N	FAC	more in diameter at breast height (DBH), regardless of height
8 amphicarpaea Starteata	2%	K)	FAC	
9. Rusimachia nummulare	<u>a 170</u>	N	TAW	Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10.	<u> </u>			man s m. Don and greater man or equal to 5.20 m () m) tall.
11				
	104	= Total Cove	ar a	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>52</u>	20% of	total cover:	<u>20.8</u>	
Woody Vine Stratum (Plot size: 30 / R)				Woody vine - All woody vines greater than 3.28 ft in height.
1		·		
2	<u></u>	<u> </u>		
3				
4		<u> </u>		Hydrophytic
5				Vegetation
		= Total Cove		Present? Yes K No
50% of total cover:		total cover:		
Remarks: (Include photo numbers here or on a separate si				
Dominant Dydrophytic	- Ne	getat	jen	

Sampling Point: <u>SP-15</u>

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	Iption: (Describe i	to the depth i				or confirm	the absence	of Indicato	ors.)	
Depth (inches)	<u>Matrix</u> Color (moist)		Color (moist)	<u>x Features</u> %	Type ¹	Loc ²	Texture		Remarks	
<u>0-(2"</u>	107R3/2	100		<u>متبنین</u> م	ـــــــــــــــــــــــــــــــــــــ		Sety	Jay	loam	·
······································		· · · · · · · · · · · · · · · · · · ·		·						
·										
	ncentration, D=Depl		duced Matrix, M	 S=Masked	Sand Gra		² Location: PL	=Pore Lini	ing. M=Matrix.	
Hydric Soil Ir									oblematic H	
Black His Hydrogen Stratified 2 cm Muc Depleted Thick Dar Sandy Mc MLRA Sandy Re Sandy Re	pedon (A2) Sulfide (A4) Layers (A5) k (A10) (LRR N) Below Dark Surface k Surface (A12) icky Mineral (S1) (L 147, 148) ayed Matrix (S4) idox (S5) Matrix (S6)		Dark Surface Polyvalue Be Thín Dark Su Loamy Gleye Depleted Mai Redox Dark S Depleted Dai Redox Depre Iron-Mangan MLRA 13 Umbric Surfa Piedmont Flc Red Parent M	Now Surface Inface (S9) Ind Matrix (F Inface (F6) Surface (F6 Surface (F6) Surface (F6) Surface (F6) Surface (F13) (F Surface (F13) (F Surface (F13) (F)	(MLRA 1 2) (F7)) s (F12) (I MLRA 13) vils (F19)	47, 148) -RR N, 6, 122) (MLRA 14)	148) Co Pie Ve Ot ³ India 8) wet	bast Prairie (MLRA 14 admont Fite (MLRA 13 (MLRA 13 ery Shallow her (Expla cators of h) (and hydro	odplain Soils	(F19) e (TF12))) getation and present,
	ayer (if observed):									
Type:] Depth (Inc i	<i>U</i> ¹		-				Hydric Soil I	Present?	Yes	No_X
Remarks:	nd soil	2 fac	ing.							
	·									
	<u></u>							. <u>.</u> .		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region
Project/Site: RIME DODOB City/County: CUARCANNATi/Hamo Sampling Date: 5/18/20/
Applicant/Owner: DURL ENALY State: OH Sampling Point: SP-16
Investigator(s): JAV/DMG (EEC) Section, Township, Range: SQ3, TIN, RSE
Landform (hillslope, terrace, etc.): Floodplan Local relief (concave, convex, none): Concave Slope (%): 07
Subregion (LRR or MLRA): LRR N Lat: 39.081597 Long: 84.427429 Datum: W9584
Soll Map Unit Name: On - Denese Loam, occasionally flatting assification: upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u> significantly disturbed? Are "Normal Circumstances" present? Yes <u>X</u> No
Are Vegetation N_, Soil N, or Hydrology N_ naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.
Sommary of Fradings - Attach site map showing sampling point locations, transects, important reacties, etc.
Hydrophytic Vegetation Present? Yes No Is the Sampled Area Hydroic Soil Present? Yes No within a Wetland? Yes No Wetland Hydrology Present? Yes No No No Remarks: Image: state st
upland sampling location
HYDROLOGY
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6)
Surface Water (A1)True Aquatic Plants (B14)Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced iron (C4) Dry-Season Water Table (C2)
Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9)
Atgal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5) Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3)
Water-Stained Leaves (B9)
Aquatic Fauna (B13) FAC-Neutral Test (D5)
Field Observations:
Surface Water Present? Yes No X_ Depth (inches): N/A
Water Table Present? Yes No <u>×_</u> Depth (inches): <u>>12 *</u>
Saturation Present? Yes No 🗡 Depth (inches): 21 2 ¹⁴ Wetland Hydrology Present? Yes No X
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Rémarks:
upland hydrology

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VEGETATION (Four Strata) Use scientific na	ames of	plants.		Sampling Point: <u>SP-\b</u>
2010	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30 K</u>)	% Cover	<u>Species?</u>	Status	Number of Dominant Species
1 Populus destaides	70%	Y	FAC	That Are OBL, FACW, or FAC; (A)
2 Cetter occidentalla	35%	1	FACIL	
				Total Number of Dominant
3. Quer Raccharimum	1210	<u></u>	FACM	Species Across All Strata: (B)
4				
5				Percent of Dominant Species 500 (A/B)
			·	That Are OBL, FACW, or FAC:(A/B)
6				Prevalence index worksheet:
7				
	120%	= Total Cov	8r	Total % Cover of: Multiply by:
50% of total cover: 60	20% of	total cover:		OBL species x1 =
Sapling/Shrub Stratum (Plot size: 15' R)				FACW species 50 x 2 = 100
				FAC species 82 x3= 346
1				
2				FACU species x4 =308
3				UPL species x 5 =
				Column Totals: 209 (A) 654 (B)
4				
5		·		Prevalence Index = $B/A = 3.12$
6			_	
7				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
8		<u> </u>	·	2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
	0%.	= Total Cov	or	
50% of total cover:				4 - Morphological Adaptations ¹ (Provide supporting
	_ 20/0 01	total cover.		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: <u>5'R</u>)	000			Problematic Hydrophytic Vegetation ¹ (Explain)
1.Untica dioica	3570	<u> </u>	FACU	
2. Brenneria culindrica	35%	Y	FACIN	
3 amplicaro da matesta	5%	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	EAC	¹ Indicators of hydric soil and wetland hydrology must
	-07	- <u>P</u>	+	be present, unless disturbed or problematic.
A Viola soroua	270	<u> </u>	FAC	Definitions of Four Vegetation Strata:
5. Parthonocissus gungueld	<u>a 5%</u>	<u> </u>	+ACN	
6 Salum opartine V	270	N	FA(Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
7			<u></u>	more in diameter at breast height (DBH), regardless of
·				height.
8				Sapling/Shrub - Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
¹¹	000			Herb - All herbaceous (non-woody) plants, regardless
12.	<u>\$ 1</u> /6	= Total Cov	er a	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 43.5	2 20% of	total cover:	17.7	Mendusing Allowed using grader than 2.29 ft in
Woody Vine Stratum (Plot size: 30 / R)			i	Woody vine - Ali woody vines greater than 3.28 ft in height.
1. Johncodendram radicana	. 2%	N	FAC	
2			<u> </u>	
3				
4.				
5				Hydrophytic Vegetation
· · · · · · · · · · · · · · · · · · ·	22			Present? Yes No _X
	<u></u> ;	= Total Cov	ər	
50% of total cover:	20% of	total cover:		· · ·
Remarks: (Include photo numbers here or on a separate s	heet.)			
- · · · ·		-		
Dominant upland we	sera	LOW	,	
	₿.			
1				
1				
)				
4				
L				

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Sampling Point: <u>SP-16</u>

Profile Desc	ription: (Describe	to the deptin	needed to docum	nent the Inc	dicator o	r confirm	n the absence of indicators.)
Depth	Matrix		Redox	Features	- 1		
(Inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks
0-13"	104R3/2	100	······				Sitty day Loam
							0_0
	<u></u>	·	-				
	·······						
		·	· _ · _ · _ · _ · _ · _ · _ · _ ·		· ·	——	,
	<u> </u>				·		
	<u> </u>			·		·····	
		·				— <u> </u>	
	· · · · · · · · · · · · · · · · · · ·	· —			·	_	
Type: C=Co Hydric Soil I	ncentration, D=Dep	letion, RM=Re	duced Matrix, MS	=Masked S	and Grai	ns.	² Location: PL=Pore Lining, M=Matrix.
-				(07)			Indicators for Problematic Hydric Soils ³ :
Histosol	(A1) Ipedon (A2)	-	Dark Surface Polyvalue Bel		(00) (MI)	DA 447	2 cm Muck (A10) (MLRA 147)
Black His			Thin Dark Sur				, 148) Coast Prairie Redox (A16) (MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleyed			.,,	Piedmont Floodplain Soils (F19)
	Layers (A5)	-	Depleted Mat	•			(MLRA 136, 147)
	ck (A10) (LRR N)	-	Redox Dark S				Very Shallow Dark Surface (TF12)
	Below Dark Surface	e (A11)	Depleted Darl				Other (Explain in Remarks)
	rk Surface (A12)		Redox Depres				
	ucky Mineral (S1) (L . 147, 148)	.RR N,	Iron-Mangane MLRA 136		(F12) (LI	KK N,	
	leyed Matrix (S4)		Umbric Surfac		I RA 136	122)	³ Indicators of hydrophytic vegetation and
	edox (S5)	-	Piedmont Floo				
	Matrix (S6)	-	Red Parent M				
Restrictive L	ayer (if observed):				<u> </u>		
Туре:	<u>N/A</u>		_				
Depth (inc	hes):		_				Hydric Soli Present? Yes No
Remarks:	······································						. <u> </u>
1.00		Λ					
uper	nd soil	fou	ng				
		$\{\}$	0				
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WETLAND DETERMINATION DATA FORM	Eastern Mountains and Piedmont Region
	inty: Cincinnati /Hamilt Sampling Date: 5/18/2016
	State: <u>OH</u> Sampling Point: <u>SP-17</u>
	Township, Range: S23, TIN, R5E
Landform (hillslope, terrace, etc.): <u>Topoaplam</u> Local relief	
Subregion (LRR or MLRA): LRR N _ Lat: 39.08306	
Soil Map Unit Name: Ur Ux CO-Union, Land-Udo Than	The Complex Oto Net cassification: PFO
Soli Map Unit Name: Ur Ux CO-Unitern, Land-Uno Than Crassing Conditions on the site typical for the of year? Yes	s No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbe	
Are Vegetation N, Soll N, or Hydrology N naturally problematic	· _
SUMMARY OF FINDINGS - Attach site map showing samp	
Hydrophytic Vegetation Present? Yes No	s the Sampled Area
	vithin a Wetland? Yes <u>*</u> No
Wetland Hydrology Present? Yes <u>Yes</u> No Remarks:	
VALA IDEALATA	
Fuld confirmed PFO wetlan	
HYDROLOGY	L
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B1	
High Water Table (A2) Hydrogen Sulfide Odor	
Saturation (A3) Oxidized Rhizospheres	
Water Marks (B1) Presence of Reduced Ir	
📩 Sediment Deposits (B2) Recent Iron Reduction I	n Tilled Solls (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain In Rema	rks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	K FAC-Neutral Test (D5)
Field Observations:	1a
Surface Water Present? Yes No <u>X</u> Depth (inches):	
Water Table Present? Yes No <u>×</u> Depth (inches): <u>71</u>	
Saturation Present? Yes No <u>*</u> Depth (inches): <u>>13</u>	<u>~ //</u> Wetland Hydrology Present? Yes <u>~</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previo	nus inspections), if available:
Remarks:	<u> </u>
wattand hydrology observed	
wasano where the contract	я L
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VEGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: <u>SP-17</u>
Dalo	Absolute	Dominant	-	Dominance Test worksheet:
Tree Stratum (Plot size: 30 R)	% Cover	Species?		Number of Dominant Species
1. Plantanula occidentalla	65%	<u> </u>	FACU	That Are OBL, FACW, or FAC: (A)
2. Boulus deltrides	25%	<u> </u>	FAC	
3. aler sacchannum	5%	-G	FACW	Total Number of Dominant Species Across All Strata: (B)
1				
-				Percent of Dominant Species That Are OBL, FACW, or FAC:
5	·			That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
,	<u> </u>	= Total Cov	er, a	
50% of total cover: <u>47.</u>	<u>う</u> 20% of	total cover:		
Sapling/Shrub Stratum (Plot size: 15' R)	-			
1. aver saccharinem	10%	<u> </u>	FACIL	$\int FAC \text{ species } \underline{45} \times 3 = \underline{135}$
2. Letter oundentalis	1%	N	FACU	FACU species x4 =
3 amozalia Anticoza	2%	N)	FAC	UPL species \bigcirc $x5 = \bigcirc$
4. Ulmus americand	110	TTT I	FACUL	Column Totals: 139 (A) 325 (B)
		1~	1 ALW	
5				Prevalence Index = B/A = 2.33
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8		<u></u>		🔀 2 - Dominance Test is >50%
9				<u>∕</u> 3 - Prevalence index is ≤3.0 ¹
	14%	= Total Cov	ег	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of	total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: <u>5'R</u>)	~		<i></i>	
1. Jourodandian rodreans	20%	<u> </u>	FAC.	Problematic Hydrophytic Vegetation ¹ (Explain)
2 Leensia miginica	5%	N	FACW	
3. Conex graye	5%	N	FACU	Indicators of hydric soil and wetland hydrology must
			1_1_33	be present, unless disturbed or problematic.
+	_			Definitions of Four Vegetation Strata:
5				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
6			·	more in diameter at breast height (DBH), regardless of
7			·	height.
8				Sapling/Shrub - Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb All borbsonous (non woodu) planta regardinge
	30%	= Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 15		total cover:		
Woody Vine Stratum (Plot size: 30'R)				Woody vine – All woody vines greater than 3.28 ft in
				height.
1				
2		• — <u> </u>		
3	·	·	·	
4	 			Hydrophytic
5		. <u>-</u>		Vegetation
	<u>_0%</u>	= Total Cov	/er	Present? Yes <u>×</u> No
50% of total cover:				
Remarks: (Include photo numbers here or on a separate s	heet.)			
			_	
Dominant hydrophytic	Neas	tati	óΛ.	
	Q			
1				
			=	

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SOIL

Sampling Point: <u>SP-17-</u>

	Matrix			Features		T f		D l_	
nches)	LOYR 5/1		Color (moist) 7.54R 4/4	<u>% Type'</u>		<u>Texture</u>		Remarks	···· ··· · · · · · · · · · · ·
$\frac{3-6}{2}$		02	7.51041			S.ULX	pam	<u>}</u>	
<u>> - 12 "</u>	<u>101K 11</u>	<u> 85 </u>	<u>T. 27K 74</u>	<u>+ 15 C</u>	<u>M</u>	Suboy.	Loy k	bam_	
							<u> </u>		
					•				
			· · · · · ·	·····	·				
	·								
		<u> </u>			· ·		·		
						,			
pe: C=Co	ncentration, D=Depl	etion, RM=I	Reduced Matrix, MS	-Masked Sand G	ains.	² Location: Pl	.=Pore Linir	ng, M≕Matrix.	
·	ndicators:		· · · · · · · · · · · · · · · · · · ·					oblematic Hy	dric Solls ³ :
Histosol ((A1)		Dark Surface	(S7)		2	cm Muck (A	(MLRA 1	47)
	lpedon (A2)		Polyvalue Bel	ow Surface (S8) (I	MLRA 147, 1			Redox (A16)	•
Black His	-		Thin Dark Sur	face (S9) (MLRA	147, 148)	-	(MLRA 14)	7, 148)	
Hydroger	n Sulfidø (A4)		Loamy Gleye	d Matrix (F2)		P	edmont Flo	odplain Soils ((F19)
Stratified	Layers (A5)		🔀 Depleted Mat	rix (F3)			(MLRA 13)		
2 cm Mu	ck (A10) (LRR N)		Redox Dark S	Surface (F6)				Dark Surface	
Depleted	Below Dark Surface	e (A11)		k Surface (F7)		0	ther (Explai	n in Remarks)	
	rk Surface (A12)		Redox Depres						
	ucky Mineral (S1) (L	RR N,		ese Masses (F12)	LRR N,				
	147, 148)		MLRA 136			3			
	leyed Matrix (S4)			ce (F13) (MLRA 1		°Ind		/drophytic veg	
	odov (S5)								rooont
Sandy R			Piedmont Flo				tland hydrol		
Stripped	Matrix (S6)			odpiain Solis (F19 Iaterial (F21) (MLF			-	ogy must be p ed or problema	
Stripped	Matrix (S6) ayer (if observed):						-		
_ Stripped strictive L Type:	Matrix (S6) ayer (if observed):					un	ess disturbe	ed or problem	atic.
Stripped	Matrix (S6) ayer (if observed):						ess disturbe		
Stripped strictive L Type:	Matrix (S6) ayer (if observed):					un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: <u>N</u> Depth (incomarks:	Matrix (S6) ayer (if observed): / A hes):	0	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: <u></u> Depth (inc marks:	Matrix (S6) ayer (if observed): / A hes):	Roc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: <u></u> Depth (inc marks:	Matrix (S6) ayer (if observed):	Roc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): / A hes):	foc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): / A hes):	foc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): / A hes):	foc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): / A hes):	foc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): / A hes):	Roc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc narks:	Matrix (S6) ayer (if observed): / A hes):	Roc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc narks:	Matrix (S6) ayer (if observed): / A hes):	Roc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc narks:	Matrix (S6) ayer (if observed): //A	Roc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): //A	Roc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): //A	foc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): //A	foc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): //A	Roc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): //A	Roc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: <u></u> Depth (inc marks:	Matrix (S6) ayer (if observed): //A	Roc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): //A	Roc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): //A	Roc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: <u></u> Depth (inc marks:	Matrix (S6) ayer (if observed): //A	foc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): //A	foc	Red Parent M			un	ess disturbe	ed or problem	atic.
Stripped strictive L Type: Depth (inc marks:	Matrix (S6) ayer (if observed): //A	foc	Red Parent M			un	ess disturbe	ed or problem	atic.

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WETLAND DETERMINATION DATA FOR	M – Eastern Mountains and Piedmont Region
Project/Site: Line DOODB Cit	y/County: ancinnati/Harmer Sampling Date: 5/19/20/6
Applicant/Owner: Duke Energy	State: OH Sampling Point: SP-18
Investigator(s): JAV / DMG (CEC) se	ection, Township, Range: <u>SQ3, TIN, RSE</u>
	relief (concave, convex, none); Carcarc Slope (%); D2
Subregion (LRR or MLRA): LRR N Lat: 39.0829	
	I do Thanta complexiti classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year	Yes No (If no, explain in Remarks.)
Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u> significantly dis	
Are Vegetation <u>N</u> , Soll <u>N</u> , or Hydrology <u>N</u> naturally proble	
SUMMARY OF FINDINGS – Attach site map showing s	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes <u>×</u> No Hydric Soil Present? Yes <u>×</u> No Wetland Hydrology Present? Yes <u>×</u> No	Is the Sampled Area within a Wetland? Yes <u> </u>
Remarks: Fuld confirmed PEM wetto	ind.
₩ I I I I I I I I I I I I I I I I I I I	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plan	ts (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide	Odor (C1) Z Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizosph	neres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Redu	ced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduc	ction in Tilled Solis (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface	
Algal Mat or Crust (B4) Other (Explain in f	
Iron Deposits (B5)	🖌 Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Rellef (D4)
Aquatic Fauna (B13)	K FAC-Neutral Test (D5)
Field Observations:	. \ / &
Surface Water Present? Yes No Depth (inches):	N/A
Water Table Present? Yes No 🔀 Depth (inches):	
Saturation Present? Yes No 🔀 Depth (inches):	Vetland Hydrology Present? Yes K No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:
Remarks;	
waternd hydrology abserved.	
We	
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	Absolute	Dominant	Indicator	Dominance Test worksheet:
ree Stratum (Plot size: 0.05 and	% Cover	Species?	Status	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: 100 % (A/B)
·				That Are OBL, FACW, or FAC: 100% (A/B)
·	,	· · · · · · · · · · · · · · · · · · ·		Prevalence Index worksheet:
<u></u>		·		Total % Cover of: Multiply by:
	<u></u> ;	Total Cove	er	$\begin{array}{c} \underline{\hline}\\ \underline{\hline}\\ OBL \text{ species } \\ \underline{\hline}\\ \underline{\hline}\\\\\underline{\hline}\\ \underline{\hline}\\\\\underline{\hline}\\\underline{\hline}$
50% of total cover:	_ 20% of	total cover:		FACW species $\frac{76}{x^2} = \frac{192}{x^2}$
apling/Shrub Stratum (Plot size: 0.05 and)	20	» \	MAC.	
Cornes amonum	<u>_3%</u>	<u>~</u>	FACW	
		<u> </u>		FACU species x4 =
·				UPL species $x 5 =$
				Column Totals: 17 (A) 255 (B)
				Prevalence Index = B/A = _2.17
				Hydrophytic Vegetation Indicators:
				★ 1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
	24	 Total Cove		<u> Y</u> 3 - Prevalence Index is ≤3.0 ¹
			9r 	4 - Morphological Adaptations ¹ (Provide supporting
erb Stratum (Plot size: 50% of total cover:)	20% Of	total cover:_		data in Remarks or on a separate sheet)
	70%	\mathbf{V}	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Caref grays Lisimachik nummularie	$\frac{700}{200}$		THEW .	
	20%	<u> </u>	<u>tac</u>	I indicators of hydric soil and wetland hydrology must
Strifodendign roducous	10%	<u>N</u>	FAC	be present, unless disturbed or problematic.
Violasororia	<u> </u>	<u>N</u>	FAC	Definitions of Four Vegetation Strata:
Vernovia aigantea	<u> 3 / 10</u>	<u>_</u>	FAC	
Pholaris and inderacea	3%	<u>N</u>	EACU	/ Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Pumpy crespus	_32_	N	FAC	more in diameter at breast height (DBH), regardless of height.
· ′				Sapling/Shrub – Woody plants, excluding vines, less
·				than 3 in. DBH and greater than or equal to 3.28 ft (1
0				m) tall.
1				
	114%	= Total Cove		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 57	20% of	total cover:	22.8	
Voody Vine Stratum (Plot size: 0.05 ame)				Woody vine – All woody vines greater than 3.28 ft in
·				height.
			——	
·		<u> </u>		
•		<u> </u>		
h <u></u>				Hydrophytic
ō 				Vegetation
		= Total Cove		Present? Yes 🔀 No
50% of total cover:	-	total cover:		
Remarks: (Include photo numbers here or on a separate s				
Dominant hydrophytic.	NEge	tate	ěΛ.	· · ·
U I V	ÿ			

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<u>ches)</u>	Matrix	<u> </u>		Features				
	Color (moist)		Color (molst)		ype1_		Texture	Remarks
<u>-14"</u>	<u>104R 2/2</u>	<u>95</u> a	2.5VR78	<u> </u>	<u>C 1</u>	<u> </u>	Silty day	Loam
							0 0	
			<u> </u>					
								
·				·				
	<u> </u>							
		<u> </u>						
	ncentration, D=Deple	etlon, RM=Red	luced Matrix, MS	=Maske <u>d Sa</u>	nd Grain	5	² Location: PL=Pore	
ric Soil In	dicators:						Indicators for	r Problematic Hydric Soils ³
Histosol (•	_	_ Dark Surface	• •				k (A10) (MLRA 147)
	pedon (A2)	-	_ Polyvalue Belo					iirie Redox (A16)
Black Hist			Thin Dark Sur		LRA 147	, 148)		. 147, 148)
	Sulfide (A4)	-	_ Loamy Gleyed					Floodplain Soils (F19)
	Layers (A5)	-	_ Depleted Matr					136, 147)
	k (A10) (LRR N)		A Redox Dark S	• •				low Dark Surface (TF12)
	Below Dark Surface	(A11) _	Depleted Dark)		Other (Ex	plain in Remarks)
	k Surface (A12)		_ Redox Depres		- 400 // 7 0			
	icky Mineral (S1) (Ll	RR N, _	_ fron-Mangane		-12) (LR	ĸn,		*
	147, 148)		MLRA 136	-	0 1 1 1 2	1221	³ Indiactors (of hydrophytic vegetation and
	eyed Matrix (S4)	-	Umbric Surfac Piedmont Floc					drology must be present,
Sandy Re Stripped I	vlatrix (S6)		Red Parent M					urbed or problematic.
	ayer, (if observed):				(11121-0-5-1			
	S / A '							
Depth (incl	nes):						Hydric Soll Presen	t? Yes <u>×</u> No
narks:		~						
۱. <u>۱</u> .	:	0						
the	ic soil	hou	ng					
0		V	O					

WETLAND DETERMINATION DATA FORM – Easter	
Project/Site: <u>Rine DOODB</u> City/County: Cu	Manmati Hamilton Date: 5/19/20/6
Applicant/Owner: Dure Energy	state: OH sampling Point: SP-19
Investigator(s): JAV / DM G (CEC) Section, Townsh	ip, Range: S23, TIN, RSE
Landform (hillslope, terrace, etc.): Floodplann Local relief (concave	
Subregion (LRR or MLRA): LRR N Lat 39.082924	_ Long: -84, 427772 Datum: wq 5 84
Soil Man Linit Name: Ur UXCO - Unland Jan & -Udarthan	to conclusive classification: USLAND
Are climatic / hydrologic conditions on the site typical for this time divert? Yes	No (If no, explain in Remarks.)
Are Vegetation <u>N</u> , Soll <u>N</u> , or Hydrology <u>N</u> significantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Vegetation <u>N</u> , soil <u>N</u> , or Hydrology <u>N</u> naturally problematic?	(if needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling po	
Hydrophytic Vegetation Present? Yes No _X Is the Sail Hydric Soil Present? Yes No _X within a Wetland Hydrology Present? Wetland Hydrology Present? Yes No _X within a Wetland Hydrology Present? Remarks: 1	mpled Area Netland? Yes No <u>×</u>
upeand sampling location.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Living	Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction in Tilled S	
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shailow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Rellef (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes No × Depth (inches): N/A	
Surface Water Present? Yes No Depth (inches):/A Water Table Present? Yes No Depth (inches):/A	
Saturation Present? Yes No Depth (inches): >12"	Wetland Hydrology Present? Yes No X
(Includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspe	
Remarks:	
none observed.	

VEGETATION (Four Strata) – Use scientific r	names of plants.	Sampling Point: SP-19
Tree Stratum (Plot size: <u>30' R</u>)	Absolute Dominant Indicator	Dominance Test worksheet:
1		Number of Dominant Species That Are OBL, FACW, or FAC:
2 3		Total Number of Dominant Species Across All Strata:
4		
5		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6		Prevalence Index worksheet:
······································	0% = Total Cover	Total % Cover of:Multiply by:
50% of total cover:	20% of total cover:	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15 R)		FACW species x 2 =
1		FAC species x3 =1
2		FACU species 106 x4 = 424
3		UPL species x 5 =
4		Column Totals: 118 (A) 455 (B)
5		Prevalence Index = B/A = <u>3.25</u>
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8		2 - Dominance Test is >50%
9	010 = Total Cover	3 - Prevalence Index is ≤3.0 ¹
50% of total cover:	_	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5 R)		data in Remarks or on a separate sheet)
1. Festuca anundinaled	60% Y FACI	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Infoliim append		6
3. Viola socoria		Indicators of hydric soil and wetland hydrology must
4 Plantago mayor	5% N FAC	be present, unless disturbed or problematic.
5. Cuponul openentus	5% N FACU	Definitions of Four Vegetation Strata:
6. Jarano alimale	1% N FACI	Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
7		more in diameter at breast height (DBH), regardless of height.
8		_
9		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall.
11	118% - Total Cover	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover:	$\frac{118\%}{20\%} = \text{Total Cover}$	Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: <u>30' R</u>)		height.
1		
2		
4		
5		Hydrophytic Vegetation
	O% = Total Cover	Present? Yes No X
50% of total cover:	20% of total cover:	
Remarks: (Include photo numbers here or on a separate	sheet.)	
Dominant upland N	egetatin.	
•	0	

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Profile Description: (Describe to the depth needed to document the indicator or confil Depth	
(inches) Color (moist) % Color (moist) % Type ¹ Loc ²	
	
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.	² Location: PL=Pore Lining, M=Matrix.
rdric Soil indicators:	Indicators for Problematic Hydric Soils ³ :
_ Histosol (A1) Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)
_ Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 14	
Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148)	
_ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) _ Stratified Layers (A5) Depleted Matrix (F3)	Piedmont Floodplain Solls (F19) (MLRA 136, 147)
_ Straumed Layers (A5) Depieted Matrix (F3) _ 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6)	(MERA 136, 147) Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12) Redox Depressions (F8)	<u> </u>
Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N,	
MLRA 147, 148) MLRA 136)	
_ Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)	
_ Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA	
_ Stripped Matrix (\$6) Red Parent Material (F21) (MLRA 127, 1	147) unless disturbed or problematic.
estrictive Layer (if observed): Type: ゆ/A	
Depth (inches):	Hydric Soil Present? Yes No
emarks:	
upland soil boung	
ng boung	
\mathbf{V}	
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WETLAND DETERMINATION DATA FORM	- Eastern Mountains and Piedmont Region
Project/Site: City/	county: Cincinnati/Hame Sampling Date: 5/19/2016
Applicant/Owner: Duke Energy	
	tion, Township, Range: S23, T1N, RSE
Landform (hillslope, terrace, etc.): <u>SUrod Dam</u> Local re	
Subregion (LRR or MLRA): LRR N Lat: 39.0903	
Soll Map Unit Name: Ur UXCO - Urban O and - Udot	Renta complex, NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of years	
Are Vegetation, SoilN_, or Hydrology significantly distu	rbed? Are "Normal Circumstances" present? Yes 🔀 No
Are Vegetation N_, Soll N_, or Hydrology N_ naturally problem	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sar	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No	Is the Sampled Area within a Wetland? Yes No
	<u></u>
Field confuned PEM wetten	darea.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soll Cracks (B6)
Surface Water (A1)	
High Water Table (A2) Hydrogen Sulfide Oc	
	res on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce	, , , , , , , , , , , , , , , , , , , ,
	on in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (
Algai Mat or Crust (B4) Other (Explain in Re	marks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	K Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	上 FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No <u>×</u> _ Depth (inches): <u></u>	
Water Table Present? Yes No Depth (inches):	<u>515 ((</u>
Saturation Present? Yes No 🗡 Depth (inches):	212." Wetland Hydrology Present? Yes <u>×</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pr	evicus inspections) if available
Remarks:	
Field confirmed wetland by	idrology.
Guera an House a	
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VEGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: <u>SP-20</u>
		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: CMTAL LOCTIAND	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominant Species (A) That Are OBL, FACW, or FAC:
2			·	Total Number of Dominant Species Across All Strata: (B)
4 5				Percent of Dominant Species
6				
7		 -	·	Prevalence Index worksheet:
	0%	= Total Cov	er	Total % Cover of:Multiply by: OBL species35x1 =35
50% of total cover:		total cover:		
Sapling/Shrub Stratum (Plot size: CATULO USCA)				FACW species 10 $x_2 = 30$ FAC species 10 $x_3 = 30$
2				FACU species x 4 =
3			·	UPL species x5 =
4				Column Totals: _ <u>5</u> (A) _ <u>85</u> (B)
5	·			Prevalence index = $B/A = 1.54$
6				Hydrophytic Vegetation Indicators:
7				X 1 - Rapid Test for Hydrophytic Vegetation
9			• -	🖌 2 - Dominance Test is >50%
J	0%	= Total Cov		<u>×</u> 3 - Prevalence Index is ≤3.0 ¹
50% of total cover:	20% of	total cover:		4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5'R)				data in Remarks or on a separate sheet)
1. Le l'enoplectus pungens		<u> </u>	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2 Rismer busput	5%	N	FAC	¹ Indicators of hydric soil and wetland hydrology must
3. Mola sociona	5%	<u>N</u>	FAC	be present, unless disturbed or problematic.
4. Contum maculatum	10%	<u>N</u>	FACU	Definitions of Four Vegetation Strata:
5 6				Tree – Woody plants, excluding vines, 3 In. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
50% of total cover: 27.	55%	= Total Cov	rer	of size, and woody plants less than 3.28 ft tall.
50% of total cover: ۲. Woody Vine Stratum (Plot size: Entre rotted	<u>5</u> 20% of	total cover:		Woody vine – All woody vines greater than 3.28 ft in height.
1 2		<u></u>		
3				
4				
5				Hydrophytic Vegetation
50% of total cover:		= Total Cov total cover:		Present? Yes <u>×</u> No
Remarks: (Include photo numbers here or on a separate s				L
Dominant by dropstytic	Neg	otati	ion	
· · · · · · · · · · · · · · · · · · ·	<u> </u>		. <u> </u>	

Sampling Point: <u>SP-20</u>

Depth <u>Matrix</u>	Redox Features	
(inches) Color (moist) %	Color (moist) % Type ¹ Loc ² Tex	kture Remarks
0-5" 10/R4/2 95	7.54R% 5 C M &	lt loam
5-12" IOVR3/2 95	7.5YR5/65 C M &	et loam
······································	······	
······································		·
	, 	
· · · · ·		
_		
	=Reduced Matrix, MS=Masked Sand Grains. ² Loca	tion: PL=Pore Lining, M=Matrix.
ydric Soil Indicators:	Deal Russes (07)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Histic Epipedon (A2)	Dark Surface (S7) Belverskie Below Surface (S8) (ML DA 147, 149)	2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16)
Histic Epipedon (A2) Black Histic (A3)	Polyvalue Below Surface (S8) (MLRA 147, 148) Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)
_ Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Pledmont Floodplain Soils (F19)
_ Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	K Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
_ Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1) (LRR N,	iron-Manganese Masses (F12) (LRR N,	
MLRA 147, 148)	MLRA 136)	31. 11 ton - the above - built are re-t-th
_ Sandy Gleyed Matrix (S4) _ Sandy Redox (S5)	Umbric Surface (F13) (MLRA 136, 122) Piedmont Fioodplain Soils (F19) (MLRA 148)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present,
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 147)	unless disturbed or problematic.
Restrictive Layer (if observed):		
3 / 8		
туре: N/A	Hvd	ric Soil Present? Yes 🖌 No
Depth (inches):	Hyd	ric Soil Present? Yes 🔀 No
туре: <u>N/A</u> Depth (inches): Remarks:		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u> No </u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>K</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>K</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>K</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>K</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>×</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>K</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>K</u> No
Type: N/A Depth (inches):		ric Soil Present? Yes <u>K</u> No

	- Eastern Mountains and Pledmont Region
Project/Site: <u>Rive</u> , DOOB City/C	county: Concernati Hamilton Sampling Date: 5/19/2016
Applicant/Owner: Dure Energy	
	on, Township, Range: S23, T1N,
Landform (hillslope, terrace, etc.): <u>FROODPLAN</u> Local reli	
Subregion (LRR or MLRA): LRR N Let: 39,09038	
Soil Map Unit Name: Ur UXCO - Wyan Land - W	douttents comp AWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year?	es <u>X</u> No (If no, explain in Remarks.)
Are Vegetation $\underline{N}_{}$, Soil $\underline{N}_{}$, or Hydrology $\underline{N}_{}$ significantly distur-	bed? Are "Normal Circumstances" present? Yes 🔀 No
Are Vegetation, Soil, or Hydrology naturally problems	
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No_ 🔀	
Hydric Soil Present? Yes No	Is the Sampled Area within a Wetland? Yes NoX
Wetland Hydrology Present? Yes No	
Remarks:	
upland sampling location	1
V	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odd	pr (C1) Drainage Patterns (B10)
	es on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced	l Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent iron Reductio	n In Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C	C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Ren	narks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No K Depth (inches):	12 1
Saturation Present? Yes No <u></u> Depth (inches): 2	12_" Wetland Hydrology Present? Yes No_X
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks:	
an allocated	
none observed	

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VEGETATION (Four Strata) – Use scientific r	ames of plants.	
<u>Tree Stratum</u> (Plot size: <u>30'R</u>) 1	Absolute Dominant Indicator % Cover Species? Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
2 3		Total Number of Dominant Species Across All Strata:
4 5 6		Percent of Dominant Species That Are OBL, FACW, or FAC:
7	= Total Cover	Prevalence Index worksheet: Total % Cover of:Multiply by:
Sapling/Shrub Stratum (Plot size: 15' R)	20% of total cover	OBL species \bigcirc $x1 =$ FACW species \bigcirc $x2 =$ FAC species \bigcirc $x3 =$ FACU species \bigcirc $x4 =$ UPL species \bigcirc $x5 =$
5 5		Column Totals: 10 (A) 440 (B)
6		Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
7 8		1 - Rapid Test for Hydrophytic Vegetation
9		2 - Dominance Test is $>50\%$ 3 - Prevalence Index is $\le 3.0^{1}$
	0% = Total Cover	5 - Prevalence Index is \$3.0 4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' R_) 1. Tripolium repard	60% Y FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Featura annanaca		
3		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4		Definitions of Four Vegetation Strata:
5 6 7		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
89		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11	10% = Total Cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.26 ft tall.
50% of total cover: <u>55</u> <u>Woody Vine Stratum</u> (Plot size: <u>30' R</u>)	_	Woody vine – All woody vines greater than 3.28 ft in height.
1 2 3		
4 5	0% = Total Cover	Hydrophytic Vegetation Present? Yes No
	20% of total cover:	
Remarks: (Include photo numbers here or on a separate Dominant upland wea		
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Sampling Point: <u>SP-21</u>

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Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of Indicators.)				
Depth <u>Matrix</u>	Redox	Features	_12	To the Dements
$\frac{(\text{Inches})}{O} \frac{Color (\text{moist})}{O} \frac{\%}{100}$	Color (moist)	<u>%</u> Typ		<u>Porto</u> Remarks
0-14" 10YR4/3100	·	······································		Siltloam
			<u> </u>	
	<u></u>			
	······	·		······································
	<u> </u>			
	, <u></u> _			
		<u> </u>		
¹ Type: C=Concentration, D∞Depletion, RM: Hydric Soil Indicators:	-Reduced Matrix, MS	=Masked Sand	Grains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
•	Dark Surface	(67)		-
Length Histosol (A1) Histic Epipedon (A2)	Dark Surface	(S7) low Surface (\$8		2 cm Muck (A10) (MLRA 147) , 148) Coast Prairie Redox (A16)
Black Histic (A3)		rface (S9) (MLF		(MLRA 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleyed		,	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Mat			(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark S			Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)		k Surface (F7)		Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depres	• •	~~ // 	
Sandy Mucky Mineral (S1) (LRR N,	Iron-Mangane MLRA 136	ese Masses (F1	2) (LRR N,	
MLRA 147, 148) Sandy Gleyed Matrix (S4)		" ce (F13) (MLR/	136 122)	³ Indicators of hydrophytic vegetation and
Sandy Redox (S5)		odplain Solls (F		
Stripped Matrix (S6)		aterial (F21) (N		
Restrictive Layer (if observed):			· · · · · · · · · · · · · · · · · · ·	
туре: <u>N/A</u>				
Depth (inches):				Hydric Soil Present? Yes No 🔀
Remarks:				
upland soil f	- MA			
Uplana sour p	sur g			
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WETLAND DETERMINATION DATA FORM	– Eastern Mountains and Piedmont Region
Project/Site: <u>Line DOODB</u> city/C	County: CINCINRATY Hame Sampling Date: 5/19/2016
Applicant/Owner: Dure Engrary	state: OH sampling Point: SP-22
	on, Township, Range: S24, T1N, R5E
	lef (concave, convex, none): <u>Concave</u> Slope (%): <u>0</u>
Subregion (LRR or MLRA): <u>LRR N</u> Lat: <u>39.0944</u>	
Soil Map Unit Name: Ur UXCO - uban Damo-	Usouthants configuration: PFO
Are climatic? hydrologic conditions on the site typical for this time of year h	es No (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly distur	
Are Vegetation N, Soil N, or Hydrology N naturally problem	• • • • • • • • • • • • • • • • • • •
SUMMARY OF FINDINGS - Attach site map showing san	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X_ No Hydric Soil Present? Yes X_ No Wetland Hydrology Present? Yes Yes No	Is the Sampled Area within a Wetland? Yes No
Remarks: Field confirmed PFO wetle	and
Jula confirmed 1 0 were	
V	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (
🔀 High Water Table (A2) Hydrogen Sulfide Od	
Saturation (A3) Oxidized Rhizosphere	es an Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced	d iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reductio	n in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C	C7) X Saturation Visible on Aerial Imagery (C9)
Algai Mat or Crust (B4) Other (Explain In Rer	
Iron Deposits (B5)	🔀 Geomorphic Position (D2)
🖌 Inundation Visible on Aerial Imagery (B7)	Shallow Aguitard (D3)
- Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	KFAC-Neutral Test (D5)
Field Observations:	A "
Surface Water Present? Yes X No Depth (inches): 2	
Water Table Present? Yes <u>X</u> No Depth (inches); <u>Ves</u> X	
Saturation Present? Yes <u> No</u> Depth (Inches):	Wetland Hydrology Present? Yes <u></u> No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Remarks:	
	4
Strong wetland hydrology	f.
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VEGETATION (Four Strata) - Use scientific n	ames of	plants.		Sampling Point: SP-22
20/0	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30 R</u>)	<u>% Cover</u>	Species?	Status	Number of Dominant Species
1 aver saccharmen	90%	√	FACIL	That Are OBL, FACW, or FAC: (A)
2. Saler migra	10%	h l	OBL	
	1 200 60	_1~		Total Number of Dominant
3V		·····		Species Across All Strata: (B)
4				Demonst of Demissori Cappies
5				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6				
				Prevalence Index worksheet:
7	1002			Total % Cover of: Multiply by:
50% of total cover: _SC		Fotal Cov	er	OBL species x1 =
50% of total cover:	20% of	total cover:	CX S	FACW species $100 \times 2 = 206$
Sapling/Shrub Stratum (Plot size: 15' R)	. m	× /	· · ·	
1. acer saecher unum	10%	<u> </u>	HALV	FAC species x 3 =
2. Robinia pseudoacia	2%	Ň	FACI	FACU species x4 =
······································				UPL species x 5 =
3				Column Totals: 113 (A)
4			·	
5				Prevalence Index = $B/A = 1.95$
6				Hydrophytic Vegetation Indicators:
7				
				<u> → 1 - Rapid Test for Hydrophytic Vegetation</u>
8				<u>×</u> 2 - Dominance Test is >50%
9	1001			_ <u>≻</u> 3 - Prevalence Index is ≤3.0 ¹
<i>c</i>	10%	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 5	20% of	total cover:		
Herb Stratum (Plot size: <u>5' R</u>)				data in Remarks or on a separate sheet)
1				Problematic Hydrophytic Vegetation ¹ (Explain)
2				
			·	¹ Indicators of hydric soll and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				
6				Tree Woody plants, excluding vines, 3 in. (7.6 cm) or
7				more in diameter at breast height (DBH), regardless of height.
				negut.
8			'	Sapling/Shrub Woody plants, excluding vines, less
9		<u> </u>		than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	0%	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of	total cover.		
Woody Vine Stratum (Plot size: 30'R)				Woody vine - All woody vines greater than 3.28 ft in
1. SohrodonMan radicana	1%	• 1	TAC	height
1. COMMONDAM / DOMAN		<u>N</u>	FAC	1
2				
3			<u> </u>	
4				
5.				Hydrophytic Vegetation
│ ^{••}	1%			Vegetation Present? Yes <u>No</u> No
		= Total Cov	er 	····
50% of total cover:	20% of	total cover		<u> </u>
Remarks: (Include photo numbers here or on a separate s	•	A	-t-	
A + A. J. white	·	ADTA	Lion	
Dominant aydrophyte	~ ~ ~	n		
		V		
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SOIL

Sampling Point: <u>SP-22</u>

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)				
Depth <u>Matrix</u>	Redox Features	- · · · · ·		
(inches) Color (moist) %	Color (moist) % Type ¹ Loc ²	Texture Remarks		
0-12" 101R4/1 90	104R4/8 10 C M	Clay loom		
		<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)	Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)		
Histic Epipedon (A2)	Polyvalue Below Surface (S8) (MLRA 147,	148) Coast Prairie Redox (A16)		
Black Histlc (A3)	Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)		
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)		
Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)		
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)		
Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Depleted Dark Surface (F7) Redox Depressions (F8)	Other (Explain in Remarks)		
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Masses (F12) (LRR N,			
MLRA 147, 148)	MLRA 136)			
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	³ Indicators of hydrophytic vegetation and		
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 14			
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 147			
Restrictive Layer (if observed):				
Туре: <u>N/A</u>				
Depth (inches):		Hydric Soli Present? Yes 🔀 No		
Remarks:				
· · · · · · · · · · · · · · · · · · ·	•]		
Hydric soil for	ang			
Address of a lite				
	e			
		•		
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5				
1	1			

WETLAND DETERMINATION DATA FORM	– Eastern Mountains and Piedmont Region
Project/Site: Kine DOODB City/C	County: Commati / Hans Sampling Date: 5/19/2016
Applicant/Owner: Duke Energy	
	on Township, Bange: S24. T1N, R5E
Landform (hillslope, terrace, etc.): <u>3000000000000000000000000000000000000</u>	
Subregion (LRR or MLRA): LRRIN Lat: 39.0944	81 Long: 84,428428 Datum: 49584
Soll Map Unit Name: Ur UXCO - unband Cand-	Udgethants con My dassification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year?	es No (If no, explain in Remarks.)
	-
Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u> significantly distur Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u> naturally problem	·
	npling point locations, transects, important features, etc.
,	
Hydrophytic Vegetation Present? Yes No X	is the Sampled Area
Hydric Soil Present? Yes No X	within a Wetland? Yes No
Wetland Hydrology Present? Yes <u>No</u>	
Remarks: Upland sampling focation	n
apeara sompen of focas	wit (
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (
High Water Table (A2)	
	es on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reductio	
Drift Deposits (B3) Thin Muck Surface (0	
Algal Mat or Crust (B4) Other (Explain in Rer	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	1.
Surface Water Present? Yes No 🔀 Depth (inches):	
Water Table Present? Yes No 🔀 Depth (inches):	<u>13,</u>
Saturation Present? Yes No 🗡 Depth (inches): 义	12." Wetland Hydrology Present? Yes No X
(includes capiliary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	wous inspections), if available:
Remarks:	
none observed.	
	· ·

VEGETATION (Four Strata) – Use scientific	c names of plants.	Sampling Point: <u>SP-23</u>
Tree Stratum (Plot size: 30.1 R.)	Absolute Dominant Indicator % Cover Species? Status	Dominance Test worksheet:
1		Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2 3		Total Number of Dominant (B)
4 5		Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6		Prevalence index worksheet:
7	0% = Total Cover	Total % Cover of: Multiply by:
50% of total covor	2 = Total Cover	OBL species x1=O
Sapling/Shrub Stratum (Plot size: 15' R.)	20% of total cover:	FACW species x 2 =
		FAC species x3 =
1		FACU species 35 x4 = 14-0
3		UPL species $40 \times 5 = 200$
		Column Totals: 75 (A) 340 (B)
4 5		Prevalence index = $B/A = 4.53$
б		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
8		2 - Dominance Test is >50%
9		3 - Prevalence Index is ≤3.0 ¹
50% of total cover	20% of total cover	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5/ 2)	20% of total cover	data in Remarks or on a separate sheet)
1. Stallania media	40% Y UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Festula grundinalla	- 25% Y FACI	,
3. Jananarum of Arma		1 Indicators of hydric soil and wetland hydrology must
S. Cran and March Configure - Cran		be present, unless disturbed or problematic.
5		Definitions of Four Vegetation Strata:
6 7		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of i height.
8 9 10		Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11.		Harb All hadronous (new woods) what a reportion
	7.520% of total cover	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 301 R)		Woody vine - All woody vines greater than 3.28 ft in height.
1 2		
3		
4		Hydrophytic
5		Vegetation Present? Yes No X
50% of total cover:	= Total Cover 20% of total cover:	
Remarks: (Include photo numbers here or on a separa		
Dominant upland w	egotation.	
	ψ.	

Sampling Point: <u>SP-2</u>3

ofile Description: (Describe to the dep	th needed to document the indicator or confirm t	the absence of indicators.)
epth <u>Matrix</u> <u>iches) Color (moist) %</u>) - 12 ¹ 1012 100	Redox Features Color (moist) % Type1 Loc2	Texture Remarks
	Reduced Matrix, MS=Masked Sand Grains.	² Location: PL=Pore Lining, M=Matrix.
dric Soil Indicators:	Dove Rutors (97)	Indicators for Problematic Hydric Soils ³ :
_ Histosol (A1) _ Histic Epipedon (A2) _ Black Histic (A3)	 Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 1 Thin Dark Surface (S9) (MLRA 147, 148) 	(MLRA 147, 148)
_ Hydrogen Sulfide (A4) _ Stratifled Layers (A5)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	Piedmont Floodplain Soils (F19) (MLRA 136, 147)
_ 2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (F8)	
_ Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
_ Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	³ Indicators of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 148	
_ Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 147)	unless disturbed or problematic.
strictive Layer (if observed):		
Туре: <u>N/A</u>		
Depth (inches):		Hydric Soil Present? Yes No
upland soil fo	ang	
	,	

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	- Eastern Mountains and Piedmont Region
Project/Site: Line DOCOB City/C	County: Cincinnati / Hannel Sampling Date: 5/19/2016
Applicant/Owner: Eneroy	state: <u>OH</u> sampling Point: <u>SP-24</u>
Investigator(s): JAV/DMG ((FEC) Section	an, Township, Range: SO30, T1N, R5E
	llef (concave, convex, none): <u>Nave</u> Slope (%): <u>O</u>
Subregion (LRR or MLRA): LRR N Lat: 39.10567	
Soil Map Unit Name: Hu - Huntington selt loo.	
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrology significantly distur	
Are Vegetation N, soil N, or Hydrology N naturally problem	
	npling point locations, transects, important features, etc.
Committee of the story of the s	iping point rocations, dansects, important readies, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soll Present? Yes No Wetland Hydrology Present? Yes No	is the Sampled Area within a Wetland? Yes No <u>×</u>
Remarks:	
Upland sampling area	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (
High Water Table (A2) Hydrogen Sulfide Od	
Saturation (A3)Oxidized Rhizospher Water Marks (B1) Presence of Reduced	es on Living Roots (C3) Moss Trim Lines (B16)
Sediment Deposits (B2)	
Drift Deposits (B3)	
Algal Mat or Crust (B4) Other (Explain in Rer	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (69)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes No Depth (inches);N	
Water Table Present? Yes No 🔀 Depth (inches): _>	<u>/\2</u> "
Saturation Present? Yes No <u> / Depth</u> (inches):>	V2." Wetland Hydrology Present? Yes No X
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Remarks:	
upland hydrology observed	
	,

VEGETATION (Four Strata) – Use scientific n	ames of	piants.		Sampling Point: <u>SP-24</u>
Tree Stratum (Plot size: <u>30' R</u>)	% Cover	Dominant Species?		Dominance Test worksheet: Number of Dominant Species
1 2		·		That Are OBL, FACW, or FAC: (A)
34		·		Species Across All Strata:
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
7	0%	= Total Cov		Total % Cover of; Multiply by:
50% of total cover: Sapling/Shrub Stratum (Plot size: <u>15 / R</u>)	20% of	total cover:	میں ا ^ن	OBL species O x1 = O FACW species O x2 = O
1				FAC species \bigcirc $x_3 = \bigcirc$ FACU species $\boxed{50}$ $x_4 = \boxed{200}$
2 3				UPL species x 5 =
4 5		<u> </u>		Column Totals: 50 (A) 200 (B) 400
6				Prevalence Index = B/A = <u>4-00</u> Hydrophytic Vegetation Indicators:
7		· · · · · · · · · · · · · · · · · · ·		1 - Rapid Test for Hydrophytic Vegetation
8		·		2 - Dominance Test is >50%
9	~~~~		<u> </u>	3 - Prevalence Index is ≤3.0 ¹
50% of total cover:	<u>~/?</u> 20% of	= Total Cov	er 	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5/ R)	10%0	total cover.		data in Remarks or on a separate sheet)
1. Featura aundinarea	40%	Y	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Jarado and officinale	10%	- <u>\</u>	FACU	¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
5				Definitions of Four Vegetation Strata:
6		<u>.</u>		Tree – Woody plants, excluding vines, 3 In. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8 9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10 11				m) tall.
1150% of total cover: 25	<u>50%</u> 20% of	= Total Cov total cover:		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: <u>30'R</u>)				Woody vine – All woody vines greater than 3.28 ft in height.
2		· ·		
4				Hydrophytic
5	07	= Total Cov f total cover	ver	Vegetation Present? Yes No
50% of total cover: Remarks: (include photo numbers here or on a separate s				<u> </u>
Dominant upland re	geti	tion		
	~			
	· · · · · · · · · · · · · · · · · · ·			

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US Army Corps of Engineers

Sampling Point: <u>SP-24</u>-

Depth <u>Matrix</u>	Redox l	Features		
$\frac{(\text{Inches})}{0 - 12''} \frac{\text{Color (moist)}}{107 \text{ R}^{4/3}} \frac{\%}{100}$				Jexture Remarks
Type: C=Concentration, D=Depletion, RM= lydric Soll Indicators: Histosol (A1)	Dark Surface (S	57)		² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Solis ³ : 2 cm Muck (A10) (MLRA 147)
 Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depieted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) testrictive Layer (If observed): Type:A 	Loamy Gleyed Depleted Matriz Redox Dark Su Depleted Dark Redox Depress Iron-Manganes MLRA 136) Umbric Surface Piedmont Flood	ace (S9) (MLRA 1 Matrix (F2) x (F3) Inface (F6) Surface (F7)	47, 148) LRR N, 6, 122) (MLRA 148	(MLRA 147, 148) Piedmont Floodplain Solis (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present,
Depth (inches): emarks: Upland sail fo	ang.			Hydric Soll Present? Yes No

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WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region
Project/Site: Line DOOOB City/County: Cincurrate / Hamil Sampling Date: 5/19/2016
Applicant/Owner: Durch Emergy State: OH Sampling Point: SP-25
Investigator(s): <u>JAV/DMG1 (CBC)</u> section, Township, Range: <u>S030, T1N, R5E</u>
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0%
Subregion (LRR or MLRA): LRR N Lat: 39.105927 Long: -84.435067 Datum: W9.84
Soil Map Unit Name: HU - Huntington selt loam occasionally Wichassincation: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation <u>N</u> , Soil <u>N</u> , or Hydrology <u>N</u> significantly disturbed? Are "Normal Circumstances" present? Yes <u>X</u> No
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Is the Sampled Area Hydric Soil Present? Yes X No within a Wetland? Yes Xo Wetland Hydrology Present? Yes Xo No Yes Xo
Remarks: Field confirmed forested wetland
HYDROLOGY
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8)
🖄 High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
K Water Marks (B1) / Presence of Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction In Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C7) X Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)
<u> </u>
Water-Stained Leaves (B9) Microtopographic Relief (D4)
Aquatic Fauna (B13) X FAC-Neutral Test (D5)
Field Observations:
Surface Water Present? Yes <u>×</u> No Depth (inches): <u>12</u> ′′
Water Table Present? Yes <u>X</u> No Depth (inches):
Saturation Present? Yes X No Depth (inches): Wetland Hydrology Present? Yes X No (includes capillary fringe)
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks:
Strong wetland hydrology indicators

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VEGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: SP-25
2010	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30 'R</u>) 1. <u>Acon Aacchannum</u>	<u>% Cover</u> 657	<u>Species?</u>	<u>Status</u> FACh	Number of Dominant Spacies That Are OBL, FACW, or FAC: (A)
2 3				Total Number of Dominant Species Across All Strata:(B)
4 <u></u> 5	 .	·		Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)
б				
7		_		Prevalence Index worksheet:
		= Total Cov		Total % Cover of:Multiply by: OBL species O x 1 =
50% of total cover:	20% of	total cover:		OBL species O x1 = O FACW species 1\0 x2 = 220
<u>Sapling/Shrub Stratum</u> (Plot size: 15' R)	_15%	\mathbf{N}	FACU	FAC species $2 \times 2^{-} \times 2^{-$
1. acer sacchannum		>7	1 Film W	FACU species x3 =
2				UPL species x4
3				
4 5				Column Totals: (A) (A) (B) Prevalence Index = $B/A = 2.00$
б				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				4 3 - Prevalence Index is $\leq 3.0^1$
	15%	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of	total cover:		data in Remarks or on a separate sheet)
<u>Herb Stratum</u> (Plot size: 5^{\prime} R.)	1.00			Problematic Hydrophytic Vegetation ¹ (Explain)
1. hansia vinginica	10%	<u> </u>	FACW	
2. Conium maculatum 3. hypmachia nummulau		7	FACW FACU	/ ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4		<u> </u>		Definitions of Four Vegetation Strata:
5				_
6 7				Tree – Woody plants, excluding vines, 3 ln. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8 9 10				Sapting/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11	30%	= Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 15		total cover		Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30 2)				height.
2				
3				
4				linder wheet
5				Hydrophytic Vegetation
50% of total cover:	_0%	= Total Cov		Present? Yes <u>/</u> No
Remarks: (include photo numbers here or on a separate s				l
Dominant hydrophyte	-	east	ation	1,
ν v ζ		G		
l				

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Sampling Point: SP-25

	Rede	x Features		the absence of			
Depth <u>Matrix</u> nches) Color (molst) %	Color (moist)		$1 Loc^2$	Texture		Remarks	
0-111" 10YR 3/2 90	10 YR 5/6	10 C	M	S. Otu	Onu (mm	
				<u></u>	~0 ~	Children and Child	·
	·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·	·					
				_ 			
					······	·	
·							
pe: C=Concentration, D=Depletion, RM	=Reduced Matrix. M	S=Masked Sand	Grains.	² Location: PL	=Pore Lini	ng. M=Matrix.	-
fric Soll Indicators:						oblematic Hy	dric Solls ³ :
Histosol (A1)	Dark Surface	a (S7)				10) (MLRA 1	
Histic Epipedon (A2)		elow Surface (S8)	(MI RA 147.			Redox (A16)	**)
Black Histic (A3)		urface (S9) (MLR.			(MLRA 14		
Hydrogen Sulfide (A4)		ed Matrix (F2)	····,		•	odplain Solis ((F19)
Stratified Layers (A5)	Depleted Ma				(MLRA 13		
2 cm Muck (A10) (LRR N)	Kedox Dark					Dark Surface	(TF12)
Depleted Below Dark Surface (A11)	Depleted Da	rk Surface (F7)				in in Remarks)	
Thick Dark Surface (A12)	Redox Depre			-			
Sandy Mucky Mineral (S1) (LRR N,	Iron-Mangan	iese Masses (F12	2) (LRR N,				
MLRA 147, 148)	MLRA 13	16)					
Sandy Gleyed Matrix (S4)	Umbric Surfa	ace (F13) (ML.RA	136, 122)	³ India	cators of hy	drophytic veg	etation and
Sandy Redox (S5)	Piedmont Flo	oodplain Solls (F1	9) (MLRA 14	8) wet	land hydro	lo <mark>gy mus</mark> t be p	resent,
Stripped Matrix (S6)	Red Parent I	Material (F21) (M	LRA 127, 147) unle	ess disturb	ed or problema	atic.
strictive Layer (if observed):							
Туре:А							
1				Hydric Soil I	Present?	Yes 🗡	No
Depth (Inches):		_					
Depth (inches):							
marks;							
marks;							
marks;	oung.						
	oung.						
narks:	oung.						
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WETLAND DETERMINATIO	N DATA FORM – Eastern Mounta	ains and Piedmont Region
Project/Site: <u>Line DOOOB</u>	City/County:	ati/Hometon Sampling Date: 5/19/2016
Applicant/Owner: Dune Energy		
Investigator(s): JAV/DMG. (CEC)	Section, Township, Range:	SO25 TAN. R4E
Landform (hillslope, terrace, etc.): JLood Ala		
	· · · · · · · · · · · · · · · · · · ·	84.439915 Datum: W9384
Soll Map Unit Name: UCUXCO - Unitram		amphibiliassification: PEM
Are climatic / hydrologic conditions on the site typical for		(If no, explain in Remarks.)
Are Vegetation N_, Soil N_, or Hydrology N	_	ai Circumstances" present? Yes <u>×</u> No
Are Vegetation N, Soll N, or Hydrology N		, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma		
SUMMART OF FINDINGS - Allach site ind	ap showing sampling point locat	ions, transects, important reatures, etc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks: Yes	No Is the Sampled Area No within a Wetland? No	Yes <u>X</u> No
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check		Surface Soil Cracks (B6)
· · ·	True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3	∑ Drainage Patterns (B10)) Moss Trim Lines (B16)
	Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
—	Recent Iron Reduction in Tilled Solls (C6)	Crayfish Burrows (C8)
	Thin Muck Surface (C7)	Z Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) 0	Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)		Ceomorphic Position (D2)
Linundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)
Water-Stained Leaves (B9) Aquatic Fauna (B13)		X Microtopographic Relief (D4) X FAC-Neutral Test (D5)
Field Observations:		
	Depth (Inches): N/A	
	Depth (inches): $\geq \langle \partial \rangle^{\prime\prime}$	
		l Hydrology Present? Yes <u>/ No</u>
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring w	V	
Describe Recorded Data (stream gauge, monitoring w	en, aenai photos, previous inspections), a a	valiable.
Remarks:		
Vetland hydrology	aboured.	
1		

VEGETATION (Four Strata) – Use scientific i	names of plants.	Sampling Point: SP-26
3 / 2	Absolute Dominant Indicator	Dominance Test worksheet;
Tree Stratum (Plot size: <u>301 R</u>)	% Cover Species? Status	Number of Densional States
1		Number of Dominant Species That Are OBL, FACW, or FAC:
2		Total Number of Dominant
34		
5		Percent of Dominant Species 100 2 (A/B)
6		Prevalence Index worksheet:
7	07 = Total Cover	Total % Cover of:Multiply by:
50% of total cover:	20% of total cover;	OBL species x1 =
Sapling/Shrub Stratum (Plot size: (5/ R))		FACW species 85 x2 = 170
A		FAC species x 3 =
2	· · · · · · · · · · · · · · · · · · ·	FACU species $2 \times 4 = 0$
3		UPL species O $x5 = O$ Column Totals: 85 (A) 170 (B)
4		
5		Prevalence index = $B/A = 2.00$
7		Hydrophytic Vegetation Indicators:
8		 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
9		$\frac{1}{2} 3 - \text{Prevalence Index is } \le 3.0^{4}$
مسر المراجع	<u> 7</u> = Total Cover	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of total cover:	data in Remarks or on a separate sheet)
1. Phalans anundinacea	60% V FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Leonara vinginica	25% Y FACU	J.
		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4		Definitions of Four Vegetation Strata:
5		Tree - Woody plants, excluding vines, 3 ln. (7.6 cm) or
67		more in diameter at breast height (DBH), regardless of height.
8		Sapling/Shrub - Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11		Herb - All herbaceous (non-woody) plants, regardless
	85% = Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover: \underline{TZ} <u>Woody Vine Stratum</u> (Plot size: $\underline{30'R}$)	.5 20% of total cover:	Woody vine – All woody vines greater than 3.28 ft in height.
1		······································
2		
3		
5		Hydrophytic S
5	0% = Total Cover	Vegetation Present? Yes <u>X</u> No
50% of total cover:	20% of total cover:	
Remarks: (Include photo numbers here or on a separate	sheet.)	· · · · · · · · · · · · · · · · · · ·
Dominant Jujdrophyt	tic regetation	
	v	

Sampling Point: <u>SP-26</u>

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Profile Description: (Describe to the de	pth needed to document the Indicator or c	onfirm the absence of Indicators.)
DepthMatrix	Redox Features	
(inches) Color (moist) %		A CONTRACTOR Remarks
0-11" 10YR \$1 85	104R2/6 15 C N	1 Clay Loam
		<u>U</u>
~ ~		
· · · · · · · · · · · ·		
<u></u>		
·		
Hydric Soil Indicators:	Reduced Matrix, MS=Masked Sand Grains	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)
Histosol (A1)	Dark Surface (S7) Polyvalue Below Surface (S8) (MLR)	
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147,	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Pledmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Kedox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
Depteted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Other (Explain In Remarks)
Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N,	Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR	N
MLRA 147, 148)	MLRA 136)	
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 1	22) ³ Indicators of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (ML	
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 12	
Restrictive Layer (if observed):		
Type:N/A		
Depth (inches):		Hydric Soil Present? Yes <u>K</u> No
Remarks:		
Hydric soil fo	A to Att	
Ayanc son po	ung	
0 0	0	
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1		
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WETLAND DETERMINA			ins and Piedmont Region
Project/Site: Rune DOODB	Citv/C	County: Concorner	ati/Hamilston Date: 5/19/2016
Applicant/Owner: Dure Energy		<u> </u>	_ State: OH_ Sampling Point: SP - 27
Investigator(s): JAV/DMG (8	. <u>EC</u>) Secti		SOAS, TAN, RAE
Landform (hillslope, terrace, etc.):	Local rel	ief (concave, convex, no	one): <u>None</u> Slope (%): 072
			34.440009 Datum: 49584
Soll Map Unit Name: UCUXCO			NWI classification: Upland
Are climatic / hydrologic conditions on the site typic	al for this time of year?	les 75 No	,
Are Vegetation, Soil, or Hydrology _			al Circumstances" present? Yes X No
Are Vegetation <u>N</u> , Soll <u>N</u> , or Hydrology			• • • • • • • • • • • • • • • • • • • •
		. ,	explain any answers in Remarks.) ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes Hydric Soll Present? Yes Wetland Hydrology Present? Yes	No <u>X</u> No <u>X</u>	is the Sampled Area within a Wetland?	Yes No
Remarks: Upland sampling	location		
HYDROLOGY			
Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; c	heck all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)	True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Hydrogen Sulfide Od	or (C1)	Drainage Patterns (B10)
Saturation (A3)		es on Living Roots (C3)	Moss Trim Lines (816)
Water Marks (B1)	Presence of Reduce		Dry-Season Water Table (C2)
Sediment Deposits (B2)		n in Tilled Soils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3)	Thin Muck Surface (•	Saturation Visible on Aerial Imagery (C9)
Aigal Mat or Crust (B4)	Other (Explain in Re	narks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)			Geomorphic Positlon (D2) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (87) Water-Stained Leaves (89)			Microtopographic Relief (D4)
Aquatic Fauna (B13)			FAC-Neutral Test (D5)
Field Observations:			
	∠ Depth (inches): <u>ト</u>)/A	
	✓ Depth (inches):	•	
1	✓ Depth (Inches):		Hydrology Present? Yes No
(includes capillary fringe)		·	
Describe Recorded Data (stream gauge, monitori	ng well, aerial photos, pre	evious inspections), if av	allable:
Remarks:		1	
upland hydrogy	- absent	d	
	1		
······································			

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0.10	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>301 Z.</u>)	% Cover Species? Status	Number of Dominant Species
		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
۶ <u>, </u>		Percent of Dominant Species 6
5		That Are OBL, FACW, or FAC:(A/B)
3		Prevalence Index worksheet:
7	= Total Cover	Total % Cover of:Multiply by:
50% of total cover:	20% of total cover:	OBL species x1 =
Sapling/Shrub Stratum (Plot size: 151 R.)		FACW species x2 =
I		FAC species x 3 =
·		FACU species 90 x4 = 360
)		UPL species $0 \times 5 = 0$
۶ <u>ــــــــــــــــــــــــــــــــــــ</u>		Column Totals: $\underline{90}$ (A) $\underline{360}$ (B)
5		Prevalence Index = B/A = 4.00
)		Hydrophytic Vegetation Indicators:
7		1 - Rapid Test for Hydrophytic Vegetation
3		 2 - Dominance Test is >50%
B		3 - Prevalence index is ≤3.0 ¹
	= Total Cover	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: <u>5/ P</u>)	and it the	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Featura anundinacea	90% V FACI	
		¹ Indicators of hydric soil and wetland hydrology must
Э		be present, unless disturbed or problematic.
4. <u></u>		Definitions of Four Vegetation Strata:
5		. Tree – Woody plants, excluding vines, 3 in. (7,6 cm) or
õ		more in diameter at breast height (DBH), regardless of
7		height.
B		Sapling/Shrub – Woody plants, excluding vines, less
9		
10		_ m) tal).
11		Herb - All herbaceous (non-woody) plants, regardless
50% of total cover;	= Total Cover	of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30^{\prime} R)	20 % of total cover;	Woody vine – All woody vines greater than 3.28 ft in height.
1		-
2		
3		
4		Hydrophytic
5		Vegetation
	0% = Total Cover	Present? Yes No X
50% of total cover:		<u></u>
Remarks: (Include photo numbers here or on a separate s	sheet.)	
Dominant upland N	egetation	
	0	

4.

Sampling Point: SP-27

				the absence of indical		
Depth <u>Matrix</u> (inches) <u>Color (moist)</u> %	Redo: Color (moist)	<u> Features</u>	Loc ²	Texture	Remarks	
0-12" 10YR 4/3 100				Q. Ant Q man	1	
012 101 73 100		<u> </u>		<u>ANN ADDIN</u>		
				·····		
				·		
				······		
¹ Type: C=Concentration, D=Depletion, RM=	Reduced Matrix. MS		Grains.	² Location: PL=Pore Lir	ning, M=Matrix,	
Hydric Soil Indicators:					Problematic Hydric Sol	ls ^{\$} :
Histosol (A1)	Dark Surface	(S7)			(A10) (MLRA 147)	
Histic Epipedon (A2)		low Surface (S8)	(MLRA 147. ·			
Black Histic (A3)		rface (S9) (MLRA		(MLRA 1		
Hydrogen Sulfide (A4)	Loamy Gleye				ioodplain Soiis (F19)	
Stratified Layers (A5)	Depleted Mat			(MLRA 1		
2 cm Muck (A10) (LRR N)	Redox Dark S			F	w Dark Surface (TF12)	
Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Redox Depre	k Surface (F7)		Other (Expl	ain in Remarks)	
Sandy Mucky Mineral (S1) (LRR N,		ese Masses (F12	LRR N.			
MLRA 147, 148}	MLRA 13		, territered			
Sandy Gleyed Matrix (S4)		ce (F13) (MLRA	136, 122)	³ Indicators of I	nydrophytic vegetation a	nd
Sandy Redox (S5)	Pledmont Flo	odplain Soils (F1	9) (MLRA 148	3) wetland hydr	ology must be present,	
Stripped Matrix (S6)	Red Parent N	laterial (F21) (ML	RA 127, 147)	unless distur	bed or problematic.	
Restrictive Layer (if observed):						
туре: <u>N/A</u>	<u></u>					~
Depth (Inches):				Hydric Soil Present?	Yes No	<u>×</u>
Remarks:						
upland soil f	ALMA					
upen in - 1	any -					
V						
					1	
					1	
					1	
					1	
					1 -	
					1	
					1	
					1	
					1	
					1	
					1	
					1	
					1	
					1	

APPENDIX C

OHIO EPA ORAM DATA FORMS

Wetland 1

	Ohio Rapid Assessment Metho 10 Page Form for Wetland Cat	
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

<u>Instructions</u>

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: <u>http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx</u>

Name: Joey Van Skaik / Dustin Giesler. Date: 5/16/2016 Affiliation Civil + Environmental Consultants, Inc. Address: Montelaire BLVD, Milford, OH, 45150 2899 Phone Number: 513 - 483 - 3522 e-mail address: dgiester@ cecinc.com / jvanskaik@cecinc.com Name of Wetland: Wetland Vegetation Communit(les): PFO/PEM HGM Class(es): Riverine Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. see DEC's Wetland and Waterbody Report Lat/Long or UTM Coordinate 84, 433691 **USGS Quad Name** KY-OH County Hamilt Township Section and Subsection Hydrologic Unit Code 05090202 - Little Miami River Site Visit + 5/18/2016 National Wetland Inventory Map Forested /should Wetland Ohlo Wetland Inventory Map Shallow marc Soil Survey (an Councese boam, Occasionally Flooded Delineation report/map CEL's wetland and waterbody Report Sre

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Background Information

Name of Wetland: Wetland Size (acres, hectares): ~120 1. Acres Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See CEC's Withland and Waterbody Report Comments, Narrative Discussion, Justification of Category Changes: See CEC'S Wetland and Water body Report Final score : 76.5 Category: 3

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	×	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human- induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	. ×	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	\times	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	×	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		×
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		\times

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

wetland 1

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <u>http://www.dnr.state.oh.us/dnap</u>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat bas been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has	YES Wetland should be evaluated for possible Category 3 status	Go to Question 2
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	<u> </u>
2	Threatened or Endangered Species. is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland.	NO Go to Question 3
		Go to Question 3	IA
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland	NO Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songoird, or shore/bird concentration areas?	YES Wetland is a Category 3 wetland	Go to Question 5
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre)	Go to Question 5	
5	in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria, or Phragmites australis,</i> or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland	NO Go to Question 7
		Go to Question 7	ID
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland	Go to Question 8a
		Go to Question 8a	
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canoples; aggregations of	YES Wetland is a Category 3 wetland.	NO Go to Question 8b
	years; an all-aged structure and multilayered canoples; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Go to Question 8b	

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wetland 1

b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
		Category 3 status.	
_		Go to Question 9a	
9	Lake Erle coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	\odot
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
)	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or	YES Wetland should be	NO Go to Question 9c
	andward dikes or other hydrological controls?	evaluated for possible Category 3 status	
		Go to Question 10	
C	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upfand	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
d	Does the wetland have a predominance of native species within its	YES	/ NO
	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
		Wetland should be evaluated for possible Category 3 status	Go to Question 10
0	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	Go to Question 10. YES	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be	.20	NO NO
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this	Go to Question 11	
	type of wetland and its quality.		A
1	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies	YES	NO
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami,	evaluated for possible Category 3 status	Quantitative Rating
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	,

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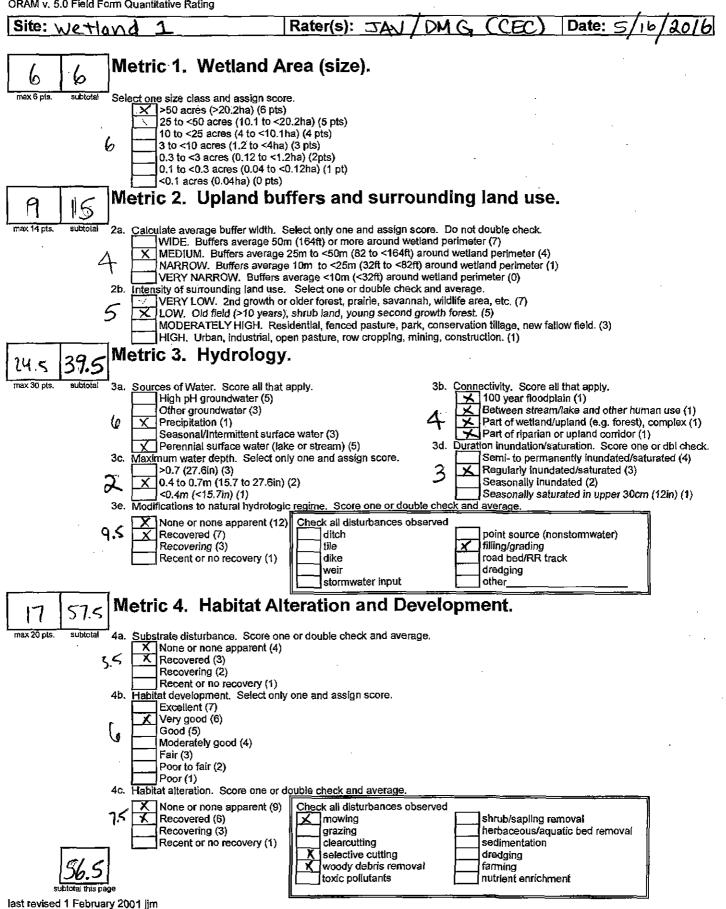
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wetland 1

Invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carez atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumi
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	. Carex sartwelli
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentlana andrewsi
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	·	Helianthus grosseserratu
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicate
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflore
	Parnassia glauca	Schechzeria palustris		Lythrum alatun
	Potentilla fruticosa	Sphagnum spp.	·	Pycnanthemum virginianut
	Rhammus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceu
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutan
	Salix candida	Vaccinium oxycoccos		Spartina pectinal
	Salix myricoides	Woodwardia virginica		Solidago riddell
	Salix serissima	Xyris difformis	•	· · ·
	Solidago oltioensis		•	
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palusire		•	

End of Narrative Rating. Begin Quantitative Rating on next page.

ORAM v. 5.0 Field Form Quantitative Rating



ORAM v. 5.0 Field Form Quantitative Rating Site: Wetland Rater Date: S): Metric 5. Special Wetlands. subtota Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-unrestricted hydrology (10) Lake Erie coastal/tributary wetland-restricted hydrology (5) Lake Plain Sand Prairies (Oak Openings) (10) Relict Wet Prairies (10) Known occurrence state/federal threatened or endangered species (10) Significant migratory songbird/water fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10) Metric 6. Plant communities, interspersion, microtopography. 76.5 15 max 20 pts subiola Vegetation Community Cover Scale 6a. Wetland Vegetation Communities. Absent or comprises <0.1ha (0.2471 acres) contiguous area Score all present using 0 to 3 scale. 0 Aquatic bed Present and either comprises small part of wetland's 1 Emergent vegetation and is of moderate quality, or comprises a Shrub significant part but is of low quality 6 Forest 2 Present and either comprises significant part of wetland's Mudflats vegetation and is of moderate quality or comprises a small Open water part and is of high quality Present and comprises significant part, or more, of wetland's Other 3 6b. horizontal (plan view) Interspersion. vegetation and is of high quality Select only one. Narrative Description of Vegetation Quality High (5) Moderately high(4) low Low spp diversity and/or predominance of nonnative or Moderate (3) disturbance tolerant native species 3 Native spp are dominant component of the vegetation, Moderately low (2) mod Low (1) although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to None (0) 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 hlgh A predominance of native species, with nonnative spp Extensive >75% cover (-5) and/or disturbance tolerant native spp absent or virtually Moderate 25-75% cover (-3) absent, and high spp diversity and often, but not always, Sparse 5-25% cover (-1) the presence of rare, threatened, or endangered spp 6 X Nearly absent <5% cover (0) Mudflat and Open Water Class Quality Absent (1) 6d, Microtopography. Absent <0.1ha (0.247 acres) 0 Score all present using 0 to 3 scale. Low 0.1 to <1ha (0.247 to 2.47 acres) 1 Vegetated hummucks/tussucks 2 Moderate 1 to <4ha (2.47 to 9.88 acres) ٥ Coarsé woody debris >15cm (6in) High 4ha (9.88 acres) or more Standing dead >25cm (10in) dbh l٥ Amphibian breeding pools **Microtopography Cover Scale** Absent n Present very small amounts or If more common 1 of marginal quality Present in moderate amounts, but not of highest 2 quality or in small amounts of highest quality

76.5

End of Quantitative Rating. Complete Categorization Worksheets.

3

Present in moderate or greater amounts

and of highest quality

ORAM Summary Worksheet

11

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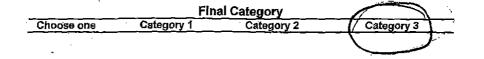
		circle	
	-	answer or	
•		insert	Result
		SCOTO	
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	if yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO.	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2,
	Question 9b, Lake Ene Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
· ·	Question 9d. Lake Erie Wetlands Unrestricted with native plants	YES NO	If yes, Category 3
: .	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	6	
·	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	24.5	
	Metric 4. Habitat	17	
	Metric 5. Special Wetland Communities	5	
	Metric 6. Plant communities, interspersion, microtopography	15	
·	TOTAL SCORE	76.5	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

wetland I

Choices	Circlø one	6	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	0	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1- 54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written Justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.



End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization		
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001	

Wetland Z

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: <u>http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx</u>

Name: Joey Van Skaik / Dustin Giesles Date: 5/18/2016 Affiliation ivil + Environmental Consultants Address: Montelair Blud, Milford, Ohio 45150 Phone Number: 513 - 483 - 3522 e-mail address: JVaviskaik@ Lecinc. com / Squester @ Lecinc. com Name of Wetland: Wetland 2 Vegetation Communit(les): PF0 IPEM HGM Class(es): Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. CEC's wetland and Waterbody SCE Report Lat/Long or UTM Coordinate -84.427486 39.083414 USGS Quad Name -KY-OH Newport County Hanii ton Township Section and Subsection Hydrologic Unit Code 05090203 - Middle Onio - Laughery Site Visit 5/18 + 5/19/2016 National Wetland Inventory Map N/A Ohio Wetland Inventory Map A//A Soll Survey Ur<u>UX()</u> Urban land - Udorthants complex, Q to 12 parcent slopes, Occassion ally floided Delineation report/map wetland and Waterbody Report LEL'S

Background Information

Name of Wetland: Wetland Z Wetland Size (acres, hectares): Ĝ., \sim େ acres Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See CEC's Wetland and Waterbody Report Comments, Narrative Discussion, Justification of Category Changes: See (EC's Wetland and Waterbody Report Final score : <u>52</u>.5 **Category:** Z

2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	×	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human- induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	×	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	×	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	×	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	-	×
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		×

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

Wetland 2

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <u>http://www.dnr.state.oh.us/dnap</u>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

ŧ	Question	Circle one	
	Critical Habitat. Is the wetland in a township, section, or subsection of	YES	Ø
	a United States Geological Survey 7.5 minute Quadrangle that has		
	been designated by the U.S. Fish and Wildlife Service as "critical	Wetland should be	Go to Question 2
	habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or	evaluated for possible Category 3 status	1
	threatened species which can be found in Ohio, the Indiana Bat has		
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover	Go to Question 2	
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
	Threatened or Endangered Species. Is the wetland known to contain	YES	19
	an individual of, or documented occurrences of federal or state-listed		
	threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
		Go to Question 3	_
	Documented High Quality Wetland. Is the wetland on record in	YES	(NØ
	Natural Heritage Database as a high quality wetland?	123	
		Wetland is a Category	Go to Question 4
		3 wetland	
			Í
	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4	
	contain documented regionally significant breeding or nonbreeding	1,ES	Ø
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category	Go to Question 5
		3 wetland	
		1	· .
		Go to Question 5	
i	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre)	YES	NO
	In size and hydrologically isolated and either 1) comprised of		
	vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacee, Lythrum salicaria, or Phragmites australis, or	Wetland is a Category 1 wetland	Go to Question 6
	2) an acidic pond created or excavated on mined lands that has little or	1 Wedano	
	no vegetation?	Go to Question 6	
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	(NO)
	significant inflows or outflows, 2) supports acidophilic mosses,	}	
	particularly Sphagnum spp., 3) the acidophilic mosses have >30%	Wetland is a Category	Go to Question 7
	cover, 4) at least one species from Table 1 is present, and 5) the	3 wetland	
	cover of invasive species (see Table 1) is <25%?	Go to Question 7	
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	YES	(NO)
•	is saturated during most of the year, primarily by a discharge of free		
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0)	Wetland is a Category	Go to Question 8a
	and with one or more plant species listed in Table 1 and the cover of	3 welland	
	invasive species listed in Table 1 is <25%?		
a	"Old Growth Forest." Is the wetland a forested wetland and is the	Go to Question 8a	
a	forest characterized by, but not limited to, the following characteristics:	IEO	
	overstory canopy trees of great age (exceeding at least 50% of a	Wetland is a Category	Go to Question 8b
	projected maximum attainable age for a species); little or no evidence	3 wetland.	
	of human-caused understory disturbance during the past 80 to 100		
	years; an all-aged structure and multilayered canoples; aggregations of	Go to Question 8b	
	canopy trees interspersed with canopy gaps; and significant numbers		
	of standing dead snags and downed logs?		1

4

wetland 2

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	Mature forested wetlands. Is the wetland a forested wetland with	(TES)	
	50% or more of the cover of upper forest canopy consisting of		
	deciduous trees with large diameters at breast height (dbh), generally	Wetland should be	Go to Question 9a
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible	í .
		Category 3 status.	
			l
9a	Lake Erle coastal and tributary wetlands. Is the wetland located at	Go to Question 9a	(NG)
34	an elevation less than 575 feet on the USGS map, adjacent to this	123	
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	, NO "
	prevent erosion and the loss of aquatic plants, i.e. the wetland is		No
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	andward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
		Go to Question 10	
9c	Are Lake Erle water levels the wetland's primary hydrological Influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland		
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These		
	include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	ſ	
9d	Does the wetland have a predominance of native species within its	YES	NO
·u	vegetation communities, although non-native or disturbance tolerant	. 20	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
90	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
	toleran, hauve plant species within its vegetation communicer	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
	Lake Dista Com (Decision (Decis Operations)) is the wetlenst located in	Go to Question 10.	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Countles and can the wetland be	YES (NO
	characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	
	several inches of the surface, and often with a dominance of the		
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	
	dominated by some or all of the species in Table 1. Extensive prairies		
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohlo (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Complete Quantitative	
	The second se	Rating	
		1	J

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