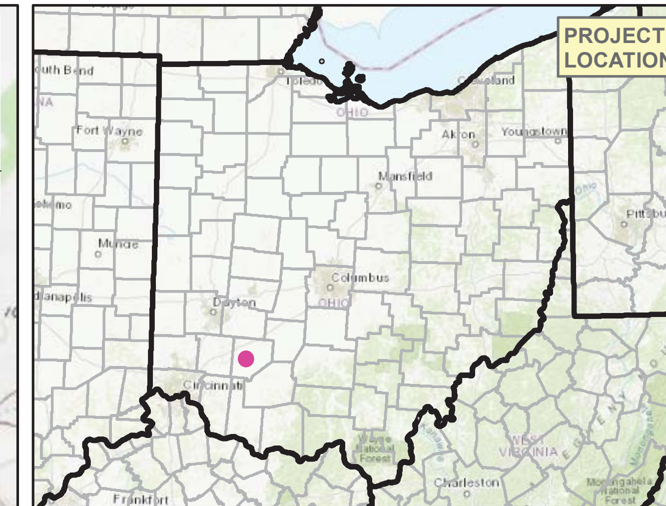


Legend

Environmental Survey Area (ESA)

0 1,500 3,000 Feet

GRAPHIC SCALE

NOTE:
1. USGS TOPOGRAPHIC QUADRANGLE WILMINGTON, OHIO
OBTAINED FROM ESRI IMAGE SERVICE. PHOTO REVISED NOVEMBER, 1979.

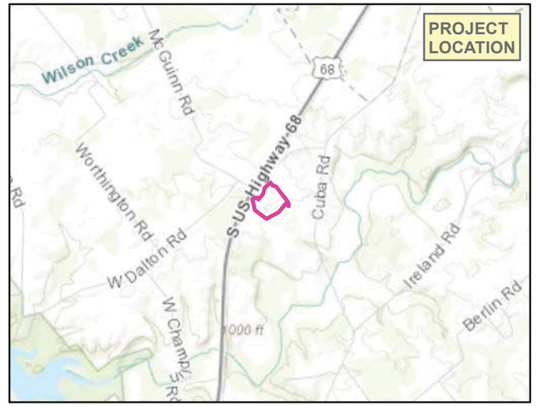
AES CORPORATION
CLINTON SUBSTATION PROJECT
CLINTON COUNTY, OHIO

TOPOGRAPHIC MAP

AES we are the energy — ARCADIS

FIGURE 1

City: CIN Div/Group: EPP Created By: MVazquez Last Saved By: MVazquez
T:_EPP\DPL\Clinton_Substation\MXD\WDR\Figure1_Clinton_Topo.mxd 11/4/2020 3:30:37 PM



Legend

- Freshwater Pond/Lake/Riverine Wetland
- Environmental Survey Area (ESA)

0 150 300 Feet

GRAPHIC SCALE

NOTE:
1. 2017 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. 2007 NATIONAL WETLANDS INVENTORY (NWI) WETLAND DATA OBTAINED FROM THE US FISH & WILDLIFE SERVICE AT: WWW.FWS.GOV.
3. 2012 NATIONAL HYDROGRAPHY DATASET (NHD) OBTAINED FROM THE US GEOLOGICAL SURVEY AT: HTTPS://NHD.USGS.GOV.
4. NO FLOOD HAZARDS WITHIN VICINITY OF SITE 2010 FEMA FLOOD ZONE DATA OBTAINED FROM: HTTPS://MSC.FEMA.GOV

AES CORPORATION
CLINTON SUBSTATION PROJECT
CLINTON COUNTY, OHIO

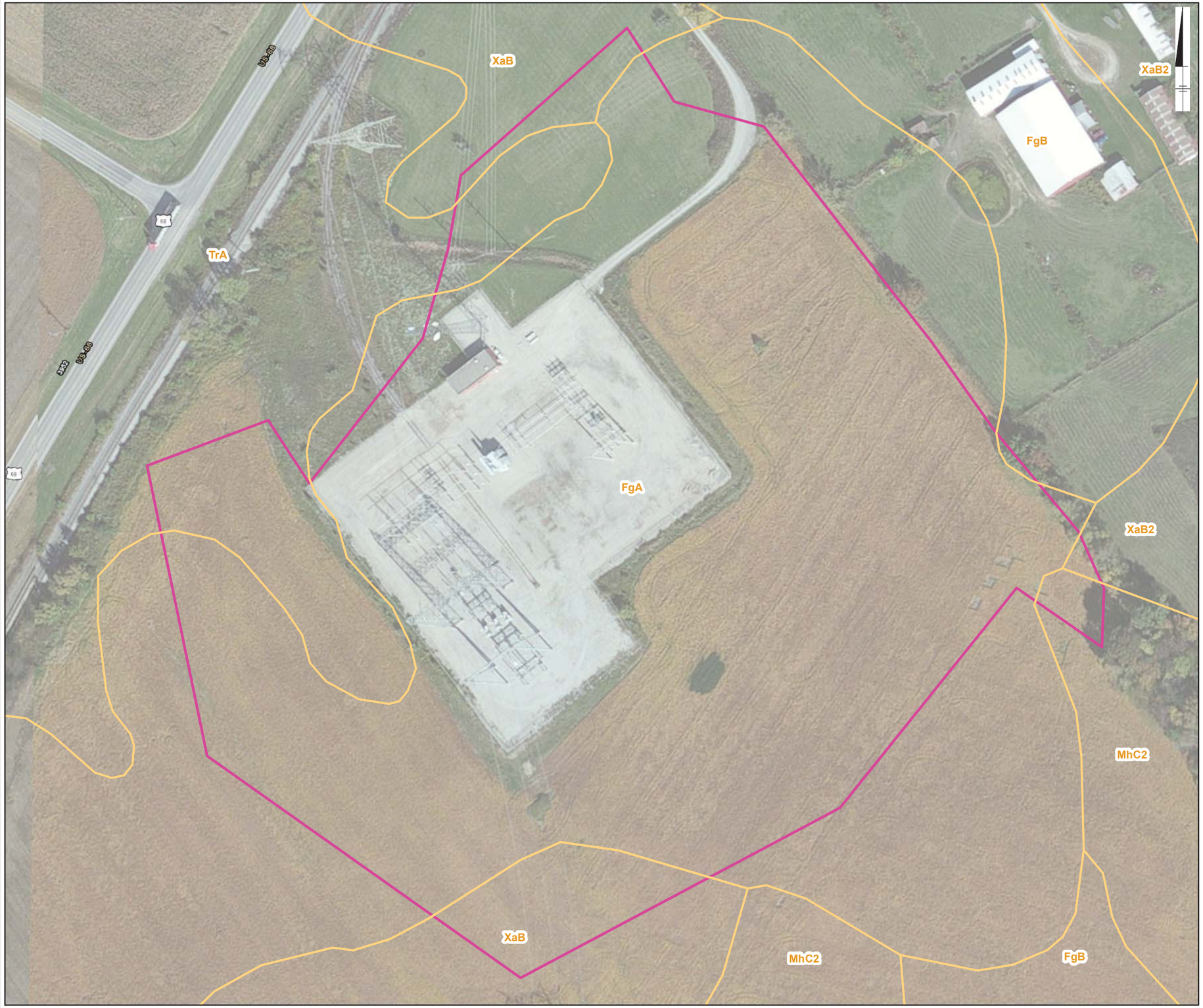
NWI / NHD / FEMA MAP

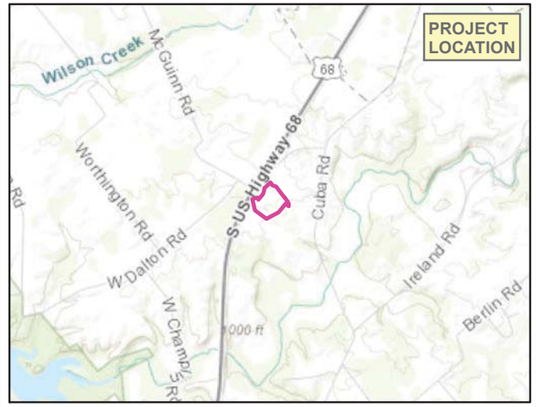
AES we are the energy

ARCADIS

FIGURE 2

City: CIN Div/Group: EPP Created By: MVazquez Last Saved By: MVazquez
T:_EPP\DPL\Clinton_Substation\MXD\WDR\Figure2_Clinton_NWI_NHD_FEMA.mxd 11/4/2020 3:24:18 PM





Legend

- Soil Class Boundary
- Environmental Survey Area (ESA)

Soil ID	Soil Description	Hydric Rating
FgA	Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes	Predominantly Non-Hydric (1-32%)
FgB	Fincastle silt loam, Southern Ohio Till Plain, 2 to 4 percent slopes	Predominantly Non-Hydric (1-32%)
MhC2	Miamian silt loam, 6 to 12 percent slopes, eroded	Non-Hydric (0%)
TrA	Treaty silty clay loam, 0 to 1 percent slopes	Predominantly Hydric (66-99%)
XaB	Xenia silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes	Predominantly Non-Hydric (1-32%)
XaB2	Xenia silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes, eroded	Predominantly Non-Hydric (1-32%)

0 150 300 Feet

GRAPHIC SCALE

NOTE:
1. 2017 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
2. 2018 NATURAL RESOURCES CONSERVATION SERVICE SOIL DATA OBTAINED FROM: HTTPS://GDG.SC.EGOV.USDA.GOV

AES CORPORATION
CLINTON SUBSTATION PROJECT
CLINTON COUNTY, OHIO

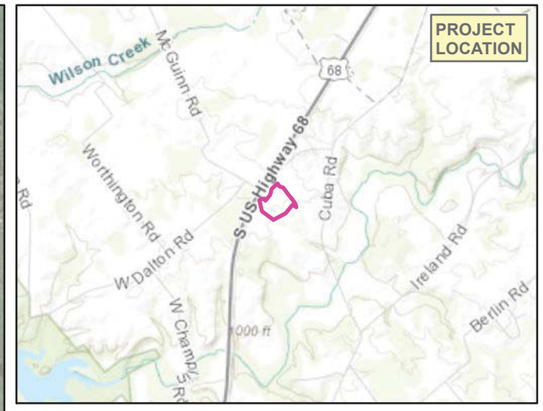
NRCS SOILS MAP

AES we are the energy

ARCADIS

FIGURE 3

City: CIN Div/Group: EPP Created By: MVazquez Last Saved By: MVazquez
T:_EPP\DPL\Clinton_Substation\MXD\WDR\Figure3_Clinton_NRCS_Soils.mxd 11/4/2020 3:17:57 PM



Legend

- Culvert
- Upland Data Point
- Wetland Data Point
- Upland Ditch
- Delineated Stream (Ephemeral)
- Delineated Stream (Intermittent)
- Delineated Wetland (PEM)
- Delineated Wetland (PSS)
- Delineated Wetland (PFO)
- Environmental Survey Area (ESA)

0 150 300 Feet

GRAPHIC SCALE

NOTE:
1. 2017 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.

AES CORPORATION
CLINTON SUBSTATION PROJECT
CLINTON COUNTY, OHIO

DELINEATED WETLANDS AND STREAMS MAP

AES we are the energy

ARCADIS

FIGURE 4

City: CIN Div/Group: EPP Created By: MVazquez Last Saved By: MVazquez
T:_EPP\DPL\Clinton_Substation\MXD\WDR\Figure4_Clinton_FieldResults.mxd 11/16/2020 11:00:21 AM

APPENDIX A

Photographic Log

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 1

Date:
October 13, 2020

Description:
View of access road to Clinton Substation

Direction:
Northeast

Photo: 2

Date:
October 13, 2020

Description:
View of Clinton Substation

Direction:
East

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 3

Date:
October 13, 2020

Description:
View of Clinton Substation ESA

Direction:
South

Photo: 4

Date:
October 13, 2020

Description:
View of Clinton Substation

Direction:
South

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

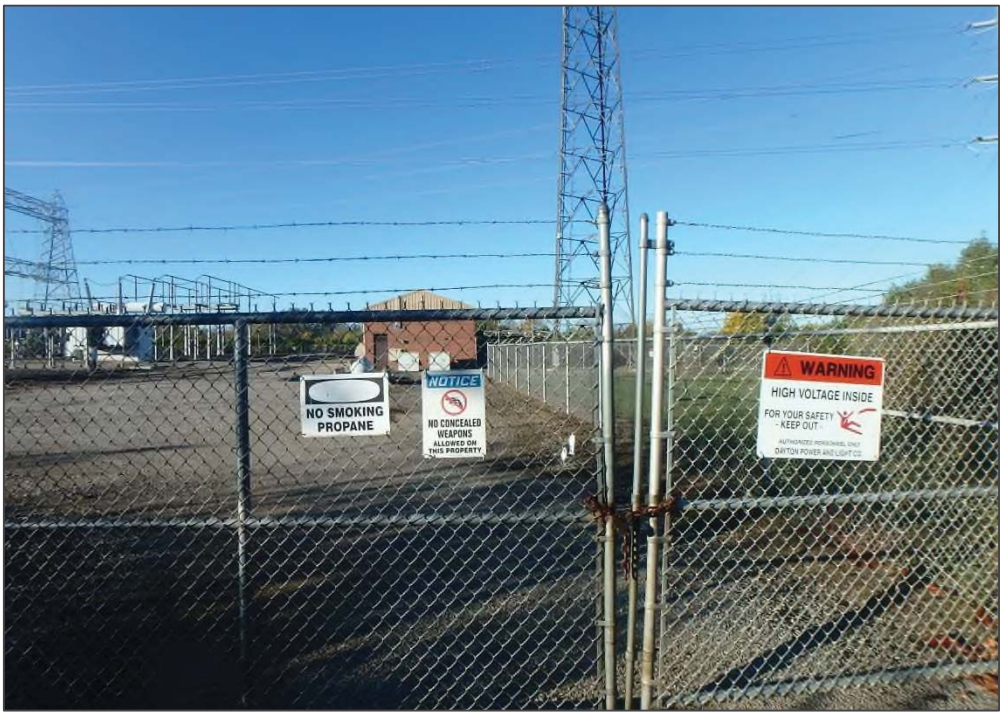


Photo: 5

Date:
October 13, 2020

Description:
View of Clinton Substation

Direction:
Southwest

Photo: 6

Date:
October 13, 2020

Description:
View of Clinton Substation

Direction:
West

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 7

Date:
October 14, 2020

Description:
View of Clinton Substation ESA

Direction:
Southwest

Photo: 8

Date:
October 13, 2020

Description:
View of stream S-1; facing upstream

Direction:
West

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 9

Date:
October 13, 2020

Description:
View of stream S-1; facing downstream

Direction:
East

Photo: 10

Date:
October 13, 2020

Description:
View of stream S-1; substrate

Direction:
N/A

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 11

Date:
October 13, 2020

Description:
View of stream S-2; facing upstream

Direction:
Northeast

Photo: 12

Date:
October 13, 2020

Description:
View of stream S-2; facing downstream

Direction:
Southwest

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 13

Date:
October 13, 2020

Description:
View of stream S-2; substrate

Direction:
N/A

Photo: 14

Date:
October 14, 2020

Description:
View of stream S-2; facing downstream at culvert inflow, outside ESA

Direction:
Northwest

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 15

Date:
October 14, 2020

Description:
View of stream S-3; facing upstream

Direction:
North

Photo: 16

Date:
October 14, 2020

Description:
View of stream S-3; facing downstream

Direction:
West

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 17

Date:
October 14, 2020

Description:
View of stream S-3; substrate

Direction:
N/A

Photo: 18

Date:
October 14, 2020

Description:
View of stream S-4 culvert outflow into stream S-2

Direction:
South

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 19

Date:
October 14, 2020

Description:
View of stream S-4; facing upstream

Direction:
Southeast

Photo: 20

Date:
October 14, 2020

Description:
View of stream S-4; facing downstream

Direction:
Northwest

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 21

Date:
October 14, 2020

Description:
View of stream S-4; substrate

Direction:
N/A

Photo: 22

Date:
October 14, 2020

Description:
View of upland ditch near substation

Direction:
East

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 23

Date:
October 14, 2020

Description:
View of Clinton Substation

Direction:
Northwest

Photo: 24

Date:
October 14, 2020

Description:
View of Clinton Substation

Direction:
West

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 25

Date:
October 14, 2020

Description:
View of upland ditch

Direction:
Northwest

Photo: 26

Date:
October 14, 2020

Description:
View of upland ditch

Direction:
Northwest

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 27

Date:
October 13, 2020

Description:
View of DP-1 location

Direction:
East

Photo: 28

Date:
October 14, 2020

Description:
View of wetland W-1

Direction:
North

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 29

Date:
October 14, 2020

Description:
View of wetland W-1

Direction:
East

Photo: 30

Date:
October 14, 2020

Description:
View of wetland W-1

Direction:
South

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 31

Date:
October 14, 2020

Description:
View of wetland W-1

Direction:
West

Photo: 32

Date:
October 14, 2020

Description:
View of wetland W-2

Direction:
West

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 33

Date:
October 14, 2020

Description:
View of wetland W-2

Direction:
North

Photo: 34

Date:
October 14, 2020

Description:
View of wetland W-2

Direction:
East

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 35

Date:
October 14, 2020

Description:
View of wetland W-2

Direction:
South

Photo: 36

Date:
October 14, 2020

Description:
View of wetland W-3

Direction:
Northwest

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 37

Date:
October 14, 2020

Description:
View of wetland W-3; PEM portion

Direction:
North

Photo: 38

Date:
October 14, 2020

Description:
View of wetland W-3; PEM portion

Direction:
East

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 39

Date:
October 14, 2020

Description:
View of wetland W-3; PEM portion

Direction:
South

Photo: 40

Date:
October 14, 2020

Description:
View of wetland W-3; PEM portion

Direction:
West

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 41

Date:
October 14, 2020

Description:
View of wetland W-3; PSS portion

Direction:
North

Photo: 42

Date:
October 14, 2020

Description:
View of wetland W-3; PSS portion

Direction:
East

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 43

Date:
October 14, 2020

Description:
View of wetland W-3; PSS portion

Direction:
South

Photo: 44

Date:
October 14, 2020

Description:
View of wetland W-3; PSS portion

Direction:
West

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 45

Date:
October 14, 2020

Description:
View of wetland W-3; PFO portion

Direction:
North

Photo: 46

Date:
October 14, 2020

Description:
View of wetland W-3; PFO portion

Direction:
East

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 47

Date:
October 14, 2020

Description:
View of wetland W-3; PFO portion

Direction:
South

Photo: 48

Date:
October 14, 2020

Description:
View of wetland W-3; PFO portion

Direction:
West

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 49

Date:
October 14, 2020

Description:
View of wetland W-3

Direction:
North

Photo: 50

Date:
October 14, 2020

Description:
View of wetland W-3

Direction:
East

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 51

Date:
October 14, 2020

Description:
View of wetland W-3

Direction:
South

Photo: 52

Date:
October 14, 2020

Description:
View of wetland W-3

Direction:
West

Project Photographs

Dayton Power and Light Company, AES Corporation
Clinton Substation Expansion Project
Clinton County, Ohio

Photo: 53

Date:
October 14, 2020

Description:
View of wetland W-3

Direction:
West

APPENDIX B

ORAM Data Form

ORAM v. 5.0 Field Form Quantitative Rating

Site: W-1, W-2, W-3 Clinton Substation Expansion	**Rater(s):** S.Miloski	**Date:** 10/13/2020

Metric 1. Wetland Area (size).

1 (max 6 pts.) | 1 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

2 (max 14 pts.) | 3 (subtotal)

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [ ] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [x] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

13 (max 30 pts.) | 16 (subtotal)

3a. Sources of Water. Score all that apply.

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1)
- [x] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [x] Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- [ ] >0.7 (27.6in) (3)
- [x] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [ ] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

- [ ] Semi- to permanently inundated/saturated (4)
- [x] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [ ] Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [x] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [x] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [ ] other_____

Metric 4. Habitat Alteration and Development.

4 (max 20 pts.) | 20 (subtotal)

4a. Substrate disturbance. Score one or double check and average.

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] Recovering (2)
- [ ] Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [x] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

4c. Habitat alteration. Score one or double check and average.

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [x] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

- [x] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [ ] dredging
- [x] farming
- [x] nutrient enrichment

20 subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Site: W-1, W-2, W-3 Clinton Substation Expansion	**Rater(s):** S.Miloski	**Date:** 10/13/2020

20
subtotal first page

0 | 20 **Metric 5. Special Wetlands.**

max 10 pts. subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

4 | 24 **Metric 6. Plant communities, interspersion, microtopography.**

max 20 pts. subtotal

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [X] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [X] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [1] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [2] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

24 **GRAND TOTAL (max 100 pts)**

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

last revised 1 February 2001 jjm

APPENDIX C

USACE Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Site: Clinton Substation Expansion Project | City/County: Wilmington/Union | Sampling Date: 10/13/2020

Applicant/Owner: Dayton Power and Light | State: OH | Sampling Point: DP-1

Investigator(s): SM | Section, Township, Range: No PLSS

Landform: (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat. 39.3970621 | Long. -83.85412268 | Datum: NAD 83

Soil Map Unit Name: Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for time of year? Yes X No ____ (If no, explain in the Remarks)

Are Vegetation N Soil N or Hydrology N significantly disturbed?

Are Vegetation N Soil N or Hydrology N naturally problematic?

Are Normal Circumstances Present? Yes X No ____ (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland?

Yes ____ **No** X

If yes, optional Weland Site ID: ____

Remarks: suspect area in field

VEGETATION

Sampling Point: DP-1

Tree Stratum	Plot size: r=30'	Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
50% = 0.0%	20% = 0.0%	0	Total Cover	
Shrub Stratum	**Plot size: r=15'**			
1.				
2.				
3.				
4.				
5.				
50% = 0.0%	20% = 0.0%	0	Total Cover	
Herb Stratum	**Plot size: r=5'**			
1.	*Glycine max*	50	Y	UPL
2.	*Equisetum hyemale*	50	Y	FACW
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
50% = 50.0%	20% = 20.0%	100	Total Cover	
Woody Vine Stratum	**Plot size: r=30'**			
1.				
2.				
50% = 0.0%	20% = 0.0%	0	Total Cover	

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

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 1 (A)

Total number of dominant species across all strata: 2 (B)

Percent of dominant species that are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet

Total % cover of:

OBL species	0	x	1	0
FACW species	50	x	2	100
FAC species	0	x	3	0
FACU species	0	x	4	0
UPL species	50	x	5	250
Column Total	100	(A)		350 (B)

Prevalence Index: 3.5 (B/A)

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0*

____ 4 - Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)

____ 5 - Problematic Hydrophytic Vegetation*

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

Hydrophytic Vegetation Present?

Yes ____ **No** X

WETLAND DETERMINATION DATA FORM - Midwest Region

SOIL

Sampling Point: DP-1

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-16	10YR 5/4	100					Silt Loam	

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

Hydric Soil Indicators:				Indicators for Problematic Soils ***	
	Histosol (A1)		Sandy Gleyed Matrix (S4)		Coast Prairie Redox (A16)
	Histic Epipedon (A2)		Sandy Redox (S5)		Dark Surface (S7)
	Black Histic (A3)		Stripped Matrix (S6)		Iron-Manganese Masses (F12)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)		Very Shallow Dark Surface (TF12)
	Stratified Layers (A5)		Loamy Gleyed Matrix (F2)		Other (Explain in Remarks)
	2 cm Muck (A10)		Depleted Matrix (F3)		*** Indicators of hydrophytic vegetation and wetland hydrology must be presnet, unless disturbed or problematic.
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)		
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)		
	Sandy Mucky Mineral (S1)		Redox Depressions (F8)		
	5cm Mucky Peat or Peat				

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

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

Remarks: No Redox

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)				Secondary Indicators	
	Surface Water (A1)		Water Stained Leaves (B9)		Surface Soil Cracks (B6)
	High Water Table (A2)		Aquatic Fauna (B13)		Drainage Patterns (B10)
	Saturation (A3)		True Aquatic Plants (B14)		Dry-Season Water Table (C2)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
	Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)	X	Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)			X	Stunted or Stressed Plants (D1)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Geomorphic Position (D2)
	Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)		FAC-Neutral Test (D5)
	Inundation Visible on Aerial Imagery (B7)				
			Thin Muck Surface (C7)		
	Sparsely Vegetated Concave Surface (B8)		Guage or Well Data (D9)		
			Other (Explain in Remarks)		

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches) _____

Water Table Present? Yes _____ No X Depth (inches) _____

Saturation Present? Yes _____ No X Depth (inches) _____

Wetland Hydrology Present?

Yes X **No** _____

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

Remarks: Soybeans growing but stunted growth

WETLAND DETERMINATION DATA FORM - Midwest Region

Site: Clinton Substation Expansion Project | City/County: Wilmington/Union | Sampling Date: 10/13/2020

Applicant/Owner: Dayton Power and Light | State: OH | Sampling Point: DP-2

Investigator(s): SM | Section, Township, Range: No PLSS

Landform: (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat. 39.39851686 | Long. -83.85462895 | Datum: NAD 83

Soil Map Unit Name: Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for time of year? Yes X No ____ (If no, explain in the Remarks)

Are Vegetation N Soil N or Hydrology N significantly disturbed?

Are Vegetation N Soil N or Hydrology N naturally problematic?

Are Normal Circumstances Present? Yes X No ____ (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland?

Yes X **No** ____

If yes, optional Weland Site ID: wetland W-1

Remarks: PEM

VEGETATION

Sampling Point: DP-2

Tree Stratum (Plot size: r=30')		Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
50% = 0.0%	20% = 0.0%	0	Total Cover	
Shrub Stratum (Plot size: r=15')				
1.	*Populus deltoides*	10	Y	FAC
2.				
3.				
4.				
5.				
50% = 5.0%	20% = 2.0%	10	Total Cover	
Herb Stratum (Plot size: r=5')				
1.	*Leersia oryzoides*	40	Y	OBL
2.	*Phalaris arundinacea*	30	Y	FACW
3.	*Carex lurida*	30	Y	OBL
4.				
5.				
6.				
7.				
8.				
9.				
10.				
50% = 50.0%	20% = 20.0%	100	Total Cover	
Woody Vine Stratum (Plot size: r=30')				
1.				
2.				
50% = 0.0%	20% = 0.0%	0	Total Cover	

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

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 4 (A)

Total number of dominant species across all strata: 4 (B)

Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % cover of:

OBL species	70	x	1	70
FACW species	30	x	2	60
FAC species	10	x	3	30
FACU species	0	x	4	0
UPL species	0	x	5	0
Column Total	110	(A)		160 (B)

Prevalence Index: 1.5 (B/A)

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0*

____ 4 - Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)

____ 5 - Problematic Hydrophytic Vegetation*

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

Hydrophytic Vegetation Present?

Yes X **No** ____

WETLAND DETERMINATION DATA FORM - Midwest Region

SOIL

Sampling Point: DP-2

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-16	10YR 3/2	90	10YR 5/6	10	C	PL/M	Silt Loam	Prominent Redox Concentrations

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

Hydric Soil Indicators:				Indicators for Problematic Soils ***	
	Histosol (A1)		Sandy Gleyed Matrix (S4)		Coast Prairie Redox (A16)
	Histic Epipedon (A2)		Sandy Redox (S5)		Dark Surface (S7)
	Black Histic (A3)		Stripped Matrix (S6)		Iron-Manganese Masses (F12)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)		Very Shallow Dark Surface (TF12)
	Stratified Layers (A5)		Loamy Gleyed Matrix (F2)		Other (Explain in Remarks)
	2 cm Muck (A10)		Depleted Matrix (F3)		*** Indicators of hydrophytic vegetation and wetland hydrology must be presnet, unless disturbed or problematic.
	Depleted Below Dark Surface (A11)	X	Redox Dark Surface (F6)		
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)		
	Sandy Mucky Mineral (S1)		Redox Depressions (F8)		
	5cm Mucky Peat or Peat				

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)				Secondary Indicators	
	Surface Water (A1)		Water Stained Leaves (B9)	X	Surface Soil Cracks (B6)
	High Water Table (A2)		Aquatic Fauna (B13)	X	Drainage Patterns (B10)
	Saturation (A3)		True Aquatic Plants (B14)		Dry-Season Water Table (C2)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
	Sediment Deposits (B2)	X	Oxidized Rhizospheres on Living Roots (C3)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)				Stunted or Stressed Plants (D1)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	X	Geomorphic Position (D2)
	Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)	X	FAC-Neutral Test (D5)
	Inundation Visible on Aerial Imagery (B7)				
			Thin Muck Surface (C7)		
	Sparsely Vegetated Concave Surface (B8)		Guage or Well Data (D9)		
			Other (Explain in Remarks)		

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches) _____

Water Table Present? Yes _____ No X Depth (inches) _____

Saturation Present? Yes _____ No X Depth (inches) _____

Wetland Hydrology Present?

Yes X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Site: Clinton Substation Expansion Project | City/County: Wilmington/Union | Sampling Date: 10/13/2020

Applicant/Owner: Dayton Power and Light | State: OH | Sampling Point: DP-3

Investigator(s): SM | Section, Township, Range: No PLSS

Landform: (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): Convex

Slope (%): 0 | Lat. 39.39849856 | Long. -83.85462707 | Datum: NAD 83

Soil Map Unit Name: Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for time of year? Yes X No ____ (If no, explain in the Remarks)

Are Vegetation N Soil N or Hydrology N significantly disturbed?

Are Vegetation N Soil N or Hydrology N naturally problematic?

Are Normal Circumstances Present? Yes X No ____ (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland?

Yes ____ **No** X

If yes, optional Weland Site ID: ____

Remarks: upland data point for W-1, W-2 and W-3

VEGETATION

Sampling Point: DP-3

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
50% = 0.0% 20% = 0.0%	0	Total Cover	
Shrub Stratum (Plot size: r=15')			
1. *Lonicera maackii*	50	Y	UPL
2. *Elaeagnus umbellata*	50	Y	UPL
3.			
4.			
5.			
50% = 50.0% 20% = 20.0%	100	Total Cover	
Herb Stratum (Plot size: r=5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
50% = 0.0% 20% = 0.0%	0	Total Cover	
Woody Vine Stratum (Plot size: r=30')			
1.			
2.			
50% = 0.0% 20% = 0.0%	0	Total Cover	

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

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 0 (A)

Total number of dominant species across all strata: 2 (B)

Percent of dominant species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet

Total % cover of:

OBL species	0	x	1	0
FACW species	0	x	2	0
FAC species	0	x	3	0
FACU species	0	x	4	0
UPL species	100	x	5	500
Column Total	100	(A)		500 (B)

Prevalence Index: 5.0 (B/A)

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0*

____ 4 - Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)

____ 5 - Problematic Hydrophytic Vegetation*

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

Hydrophytic Vegetation Present?

Yes ____ **No** X

WETLAND DETERMINATION DATA FORM - Midwest Region

SOIL

Sampling Point: DP-3

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-16	10YR 3/3	100					Silt Loam	

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

Hydric Soil Indicators:			**Indicators for Problematic Soils *****
	Histosol (A1)	Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
	Histic Epipedon (A2)	Sandy Redox (S5)	Dark Surface (S7)
	Black Histic (A3)	Stripped Matrix (S6)	Iron-Manganese Masses (F12)
	Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	Very Shallow Dark Surface (TF12)
	Stratified Layers (A5)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
	2 cm Muck (A10)	Depleted Matrix (F3)	*** Indicators of hydrophytic vegetation and wetland hydrology must be presnet, unless disturbed or problematic.
	Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	
	Thick Dark Surface (A12)	Depleted Dark Surface (F7)	
	Sandy Mucky Mineral (S1)	Redox Depressions (F8)	
	5cm Mucky Peat or Peat		

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)				Secondary Indicators	
	Surface Water (A1)		Water Stained Leaves (B9)		Surface Soil Cracks (B6)
	High Water Table (A2)		Aquatic Fauna (B13)		Drainage Patterns (B10)
	Saturation (A3)		True Aquatic Plants (B14)		Dry-Season Water Table (C2)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
	Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)				Stunted or Stressed Plants (D1)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Geomorphic Position (D2)
	Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)		FAC-Neutral Test (D5)
	Inundation Visible on Aerial Imagery (B7)				
			Thin Muck Surface (C7)		
	Sparsely Vegetated Concave Surface (B8)		Guage or Well Data (D9)		
			Other (Explain in Remarks)		

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches) _____

Water Table Present? Yes _____ No _____ Depth (inches) _____

Saturation Present? Yes _____ No _____ Depth (inches) _____

Wetland Hydrology Present?

Yes _____ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Site: Clinton Substation Expansion Project | City/County: Wilmington/Union | Sampling Date: 10/14/2020

Applicant/Owner: Dayton Power and Light | State: OH | Sampling Point: DP-4

Investigator(s): SM | Section, Township, Range: No PLSS

Landform: (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat. 39.39861357 | Long. -83.85482453 | Datum: NAD 83

Soil Map Unit Name: Treaty silty clay loam, 0 to 1 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for time of year? Yes X No ____ (If no, explain in the Remarks)

Are Vegetation N Soil N or Hydrology N significantly disturbed?

Are Vegetation N Soil N or Hydrology N naturally problematic?

Are Normal Circumstances Present? Yes X No ____ (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland?

Yes X **No** ____

If yes, optional Weland Site ID: wetland W-2

Remarks: PEM, abuts ephemeral stream

VEGETATION

Sampling Point: DP-4

Tree Stratum (Plot size: r=30')	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
50% = 0.0% 20% = 0.0%	0	Total Cover	
Shrub Stratum (Plot size: r=15')			
1.			
2.			
3.			
4.			
5.			
50% = 0.0% 20% = 0.0%	0	Total Cover	
Herb Stratum (Plot size: r=5')			
1. *Echinochloa crus-galli*	50	Y	FACW
2. *Carex lurida*	30	Y	OBL
3. *Rumex crispus*	20	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
50% = 50.0% 20% = 20.0%	100	Total Cover	
Woody Vine Stratum (Plot size: r=30')			
1.			
2.			
50% = 0.0% 20% = 0.0%	0	Total Cover	

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

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 3 (A)

Total number of dominant species across all strata: 3 (B)

Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % cover of:

OBL species	30	x	1	30
FACW species	50	x	2	100
FAC species	20	x	3	60
FACU species	0	x	4	0
UPL species	0	x	5	0
Column Total	100	(A)		190 (B)

Prevalence Index: 1.9 (B/A)

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0*

____ 4 - Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)

____ 5 - Problematic Hydrophytic Vegetation*

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

Hydrophytic Vegetation Present?

Yes X **No** ____

WETLAND DETERMINATION DATA FORM - Midwest Region

SOIL

Sampling Point: DP-4

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-16	10YR 4/2	95	10YR 4/6	5	C	PL/M	Silt Loam	Prominent Redox Concentrations

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

	Hydric Soil Indicators:				Indicators for Problematic Soils ***
	Histosol (A1)		Sandy Gleyed Matrix (S4)		Coast Prairie Redox (A16)
	Histic Epipedon (A2)		Sandy Redox (S5)		Dark Surface (S7)
	Black Histic (A3)		Stripped Matrix (S6)		Iron-Manganese Masses (F12)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)		Very Shallow Dark Surface (TF12)
	Stratified Layers (A5)		Loamy Gleyed Matrix (F2)		Other (Explain in Remarks)
	2 cm Muck (A10)	X	Depleted Matrix (F3)		*** Indicators of hydrophytic vegetation and wetland hydrology must be presnet, unless disturbed or problematic.
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)		
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)		
	Sandy Mucky Mineral (S1)		Redox Depressions (F8)		
	5cm Mucky Peat or Peat				

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

	Primary Indicators (check all that apply)				Secondary Indicators
	Surface Water (A1)		Water Stained Leaves (B9)		Surface Soil Cracks (B6)
	High Water Table (A2)		Aquatic Fauna (B13)	X	Drainage Patterns (B10)
	Saturation (A3)		True Aquatic Plants (B14)		Dry-Season Water Table (C2)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
	Sediment Deposits (B2)	X	Oxidized Rhizospheres on Living Roots (C3)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)				Stunted or Stressed Plants (D1)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)		Geomorphic Position (D2)
	Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)	X	FAC-Neutral Test (D5)
	Inundation Visible on Aerial Imagery (B7)		Thin Muck Surface (C7)		
	Sparsely Vegetated Concave Surface (B8)		Guage or Well Data (D9)		
			Other (Explain in Remarks)		

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches) _____

Water Table Present? Yes _____ No X Depth (inches) _____

Saturation Present? Yes _____ No X Depth (inches) _____

Wetland Hydrology Present?

Yes X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Site: Clinton Substation Expansion Project | City/County: Wilmington/Union | Sampling Date: 10/14/2020

Applicant/Owner: Dayton Power and Light | State: OH | Sampling Point: DP-5

Investigator(s): SM | Section, Township, Range: No PLSS

Landform: (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat. 39.39828361 | Long. -83.85429281 | Datum: NAD 83

Soil Map Unit Name: Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for time of year? Yes X No ____ (If no, explain in the Remarks)

Are Vegetation N Soil N or Hydrology N significantly disturbed?

Are Vegetation N Soil N or Hydrology N naturally problematic?

Are Normal Circumstances Present? Yes X No ____ (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland?

Yes X **No** ____

If yes, optional Weland Site ID: wetland W-3

Remarks: PEM portion

VEGETATION

Sampling Point: DP-5

Tree Stratum (Plot size: r=30')		Absolute % Cover	Dominant Species	Indicator Status
1.	*Platanus occidentalis*	10	Y	FACW
2.				
3.				
4.				
5.				
50% = 5.0%	20% = 2.0%	10	Total Cover	

Shrub Stratum (Plot size: r=15')				
1.				
2.				
3.				
4.				
5.				
50% = 0.0%	20% = 0.0%	0	Total Cover	

Herb Stratum (Plot size: r=5')				
1.	*Typha angustifolia*	95	Y	OBL
2.	*Cyperus esculentus*	5	N	FACW
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
50% = 50.0%	20% = 20.0%	100	Total Cover	

Woody Vine Stratum (Plot size: r=30')				
1.				
2.				
50% = 0.0%	20% = 0.0%	0	Total Cover	

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

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 2 (A)

Total number of dominant species across all strata: 2 (B)

Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % cover of:

OBL species	95	x	1	95
FACW species	15	x	2	30
FAC species	0	x	3	0
FACU species	0	x	4	0
UPL species	0	x	5	0
Column Total	110 (A)			125 (B)

Prevalence Index: 1.1 (B/A)

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0*

____ 4 - Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)

____ 5 - Problematic Hydrophytic Vegetation*

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

Hydrophytic Vegetation Present?

Yes X **No** ____

WETLAND DETERMINATION DATA FORM - Midwest Region

SOIL

Sampling Point: DP-5

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-16	10YR 5/2	80	7.5YR 5/6	20	C	PL/M		Distinct Redox Concentrations

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

	Hydric Soil Indicators:				Indicators for Problematic Soils ***
	Histosol (A1)		Sandy Gleyed Matrix (S4)		Coast Prairie Redox (A16)
	Histic Epipedon (A2)		Sandy Redox (S5)		Dark Surface (S7)
	Black Histic (A3)		Stripped Matrix (S6)		Iron-Manganese Masses (F12)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)		Very Shallow Dark Surface (TF12)
	Stratified Layers (A5)		Loamy Gleyed Matrix (F2)		Other (Explain in Remarks)
	2 cm Muck (A10)	X	Depleted Matrix (F3)		*** Indicators of hydrophytic vegetation and wetland hydrology must be presnet, unless disturbed or problematic.
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)		
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)		
	Sandy Mucky Mineral (S1)		Redox Depressions (F8)		
	5cm Mucky Peat or Peat				

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

	Primary Indicators (check all that apply)				Secondary Indicators
	Surface Water (A1)		Water Stained Leaves (B9)	X	Surface Soil Cracks (B6)
	High Water Table (A2)		Aquatic Fauna (B13)	X	Drainage Patterns (B10)
	Saturation (A3)		True Aquatic Plants (B14)		Dry-Season Water Table (C2)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
	Sediment Deposits (B2)	X	Oxidized Rhizospheres on Living Roots (C3)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)				Stunted or Stressed Plants (D1)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	X	Geomorphic Position (D2)
	Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)	X	FAC-Neutral Test (D5)
	Inundation Visible on Aerial Imagery (B7)				
			Thin Muck Surface (C7)		
	Sparsely Vegetated Concave Surface (B8)		Guage or Well Data (D9)		
			Other (Explain in Remarks)		

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches) _____

Water Table Present? Yes _____ No X Depth (inches) _____

Saturation Present? Yes _____ No X Depth (inches) _____

Wetland Hydrology Present?

Yes X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Site: Clinton Substation Expansion Project | City/County: Wilmington/Union | Sampling Date: 10/14/2020

Applicant/Owner: Dayton Power and Light | State: OH | Sampling Point: DP-6

Investigator(s): SM | Section, Township, Range: No PLSS

Landform: (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat. 39.39803456 | Long. -83.85404652 | Datum: NAD 83

Soil Map Unit Name: Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for time of year? Yes X No ____ (If no, explain in the Remarks)

Are Vegetation N Soil N or Hydrology N significantly disturbed?

Are Vegetation N Soil N or Hydrology N naturally problematic?

Are Normal Circumstances Present? Yes X No ____ (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland?

Yes X **No** ____

If yes, optional Weland Site ID: wetland W-3

Remarks: PFO portion

VEGETATION

Sampling Point: DP-6

Tree Stratum (Plot size: r=30')		Absolute % Cover	Dominant Species	Indicator Status
1.	*Salix nigra*	80	Y	OBL
2.				
3.				
4.				
5.				
50% = 40.0%	20% = 16.0%	80	Total Cover	
Shrub Stratum (Plot size: r=15')				
1.				
2.				
3.				
4.				
5.				
50% = 0.0%	20% = 0.0%	0	Total Cover	
Herb Stratum (Plot size: r=5')				
1.	*Typha angustifolia*	50	Y	OBL
2.	*Cyperus esculentus*	30	Y	FACW
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
50% = 40.0%	20% = 16.0%	80	Total Cover	
Woody Vine Stratum (Plot size: r=30')				
1.				
2.				
50% = 0.0%	20% = 0.0%	0	Total Cover	

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

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 3 (A)

Total number of dominant species across all strata: 3 (B)

Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % cover of:

OBL species	130	x	1	130
FACW species	30	x	2	60
FAC species	0	x	3	0
FACU species	0	x	4	0
UPL species	0	x	5	0
Column Total	160 (A)			190 (B)

Prevalence Index: 1.2 (B/A)

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0*

____ 4 - Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)

____ 5 - Problematic Hydrophytic Vegetation*

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

Hydrophytic Vegetation Present?

Yes X **No** ____

WETLAND DETERMINATION DATA FORM - Midwest Region

SOIL

Sampling Point: DP-6

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-16	10YR 5/2	95	10YR 4/6	5	C	PL/M	Silty Clay	Prominent Redox Concentrations

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

Hydric Soil Indicators:				Indicators for Problematic Soils ***	
	Histosol (A1)		Sandy Gleyed Matrix (S4)		Coast Prairie Redox (A16)
	Histic Epipedon (A2)		Sandy Redox (S5)		Dark Surface (S7)
	Black Histic (A3)		Stripped Matrix (S6)		Iron-Manganese Masses (F12)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)		Very Shallow Dark Surface (TF12)
	Stratified Layers (A5)		Loamy Gleyed Matrix (F2)		Other (Explain in Remarks)
	2 cm Muck (A10)	X	Depleted Matrix (F3)	*** Indicators of hydrophytic vegetation and wetland hydrology must be presnet, unless disturbed or problematic.	
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)		
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)		
	Sandy Mucky Mineral (S1)		Redox Depressions (F8)		
	5cm Mucky Peat or Peat				

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)				Secondary Indicators	
	Surface Water (A1)		Water Stained Leaves (B9)	X	Surface Soil Cracks (B6)
	High Water Table (A2)		Aquatic Fauna (B13)	X	Drainage Patterns (B10)
	Saturation (A3)		True Aquatic Plants (B14)		Dry-Season Water Table (C2)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)	X	Crayfish Burrows (C8)
	Sediment Deposits (B2)	X	Oxidized Rhizospheres on Living Roots (C3)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)				Stunted or Stressed Plants (D1)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	X	Geomorphic Position (D2)
	Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)	X	FAC-Neutral Test (D5)
	Inundation Visible on Aerial Imagery (B7)				
			Thin Muck Surface (C7)		
	Sparsely Vegetated Concave Surface (B8)		Guage or Well Data (D9)		
			Other (Explain in Remarks)		

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches) _____

Water Table Present? Yes _____ No X Depth (inches) _____

Saturation Present? Yes _____ No X Depth (inches) _____

Wetland Hydrology Present?

Yes X **No** _____

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Site: Clinton Substation Expansion Project | City/County: Wilmington/Union | Sampling Date: 10/14/2020

Applicant/Owner: Dayton Power and Light | State: OH | Sampling Point: DP-7

Investigator(s): SM | Section, Township, Range: No PLSS

Landform: (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat. 39.3977231 | Long. -83.85391948 | Datum: NAD 83

Soil Map Unit Name: Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes | NWI Classification: N/A

Are climatic/hydrologic conditions on the site typical for time of year? Yes X No ____ (If no, explain in the Remarks)

Are Vegetation N Soil N or Hydrology N significantly disturbed?

Are Vegetation N Soil N or Hydrology N naturally problematic?

Are Normal Circumstances Present? Yes X No ____ (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland?

Yes X **No** ____

If yes, optional Weland Site ID: wetland W-3

Remarks: PSS portion

VEGETATION

Sampling Point: DP-7

Tree Stratum	Plot size: r=30'	Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
50% = 0.0%	20% = 0.0%	0	Total Cover	
Shrub Stratum	**Plot size: r=15'**			
1.	*Salix nigra*	80	Y	OBL
2.				
3.				
4.				
5.				
50% = 40.0%	20% = 16.0%	80	Total Cover	
Herb Stratum	**Plot size: r=5'**			
1.	*Carex lurida*	20	Y	OBL
2.	*Cyperus esculentus*	20	Y	FACW
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
50% = 20.0%	20% = 8.0%	40	Total Cover	
Woody Vine Stratum	**Plot size: r=30'**			
1.				
2.				
50% = 0.0%	20% = 0.0%	0	Total Cover	

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

Dominance Test Worksheet

Number of dominant species that are OBL, FACW, or FAC: 3 (A)

Total number of dominant species across all strata: 3 (B)

Percent of dominant species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % cover of:

OBL species	100	x	1	100
FACW species	20	x	2	40
FAC species	0	x	3	0
FACU species	0	x	4	0
UPL species	0	x	5	0
Column Total	120 (A)			140 (B)

Prevalence Index: 1.2 (B/A)

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0*

____ 4 - Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet)

____ 5 - Problematic Hydrophytic Vegetation*

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

Hydrophytic Vegetation Present?

Yes X **No** ____

WETLAND DETERMINATION DATA FORM - Midwest Region

SOIL

Sampling Point: DP-7

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

Depth	Matrix		Redox Features					
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks
0-16	10YR 4/2	90	10YR 5/6	10	C	PL/M	Silt Loam	Prominent Redox Concentrations

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

Hydric Soil Indicators:				Indicators for Problematic Soils ***	
	Histosol (A1)		Sandy Gleyed Matrix (S4)		Coast Prairie Redox (A16)
	Histic Epipedon (A2)		Sandy Redox (S5)		Dark Surface (S7)
	Black Histic (A3)		Stripped Matrix (S6)		Iron-Manganese Masses (F12)
	Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1)		Very Shallow Dark Surface (TF12)
	Stratified Layers (A5)		Loamy Gleyed Matrix (F2)		Other (Explain in Remarks)
	2 cm Muck (A10)	X	Depleted Matrix (F3)	*** Indicators of hydrophytic vegetation and wetland hydrology must be presnet, unless disturbed or problematic.	
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)		
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)		
	Sandy Mucky Mineral (S1)		Redox Depressions (F8)		
	5cm Mucky Peat or Peat				

Restrictive Layer (if observed)

Type: _____

Depth (inches): _____

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (check all that apply)				Secondary Indicators	
	Surface Water (A1)		Water Stained Leaves (B9)	X	Surface Soil Cracks (B6)
	High Water Table (A2)		Aquatic Fauna (B13)	X	Drainage Patterns (B10)
	Saturation (A3)		True Aquatic Plants (B14)		Dry-Season Water Table (C2)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)
	Sediment Deposits (B2)	X	Oxidized Rhizospheres on Living Roots (C3)		Saturation Visible on Aerial Imagery (C9)
	Drift Deposits (B3)				Stunted or Stressed Plants (D1)
	Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	X	Geomorphic Position (D2)
	Iron Deposits (B5)		Recent Iron Reduction in Tilled Soil (C6)	X	FAC-Neutral Test (D5)
	Inundation Visible on Aerial Imagery (B7)				
			Thin Muck Surface (C7)		
	Sparsely Vegetated Concave Surface (B8)		Guage or Well Data (D9)		
			Other (Explain in Remarks)		

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches) _____

Water Table Present? Yes _____ No X Depth (inches) _____

Saturation Present? Yes _____ No X Depth (inches) _____

Wetland Hydrology Present?

Yes X **No** _____

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

Remarks:

APPENDIX D

HHEI Data Forms

Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3) 14

SITE NAME/LOCATION S-1 (UNT to Cowan Creek)
SITE NUMBER _____ RIVER BASIN Little Miami RIVER CODE _____ DRAINAGE AREA (mi²) <0.01
LENGTH OF STREAM REACH (ft) 50 LAT 39.397224164 LONG -83.852137692 RIVER MILE _____
DATE 10/13 SCORER SM COMMENTS Headwaters appeared farmed

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☑ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐ ☐	BLDR SLABS [16 pts]		☑ ☐	SILT [3 pt]	50
☐ ☐	BOULDER (>256 mm) [16 pts]		☐ ☑	LEAF PACK/WOODY DEBRIS [3 pts]	30
☐ ☐	BEDROCK [16 pts]		☐ ☐	FINE DETRITUS [3 pts]	20
☐ ☐	COBBLE (65-256 mm) [12 pts]		☐ ☐	CLAY or HARDPAN [0 pt]	
☐ ☐	GRAVEL (2-64 mm) [9 pts]		☐ ☐	MUCK [0 pts]	
☐ ☐	SAND (<2 mm) [6 pts]		☐ ☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) 6

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

TOTAL NUMBER OF SUBSTRATE TYPES: (B) 3

HHEI Metric Points
Substrate Max = 40: 9
A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☐	5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☐	< 5 cm [5pts]
☐	> 10 - 22.5 cm [25 pts]	☑	NO WATER OR MOIST CHANNEL [0pts]

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 0

Pool Depth Max = 30: 0

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐	> 4.0 meters (> 13') [30 pts]	☐	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☑	≤ 1.0 m (≤ 3' 3") [5 pts]
☐	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) 0.2

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☑	☑	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☑	☑	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS _____

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

☐	Stream Flowing	☐	Moist Channel, isolated pools, no flow (intermittent)
☐	Subsurface flow with isolated pools (interstitial)	☑	Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐	None	☐	1.0	☐	2.0	☐	3.0
☑	0.5	☐	1.5	☐	2.5	☐	>3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☑ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

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

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☑ WWH Name: Cowan Creek Distance from Evaluated Stream 2,700 ft

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Wilmington NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Clinton Township/City: Union/Wilmington

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/12/2020 Quantity: 0.1 in

Photo-documentation Notes: Upstream, downstream, substrate

Elevated Turbidity? (Y/N): N Canopy (% open): 10

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

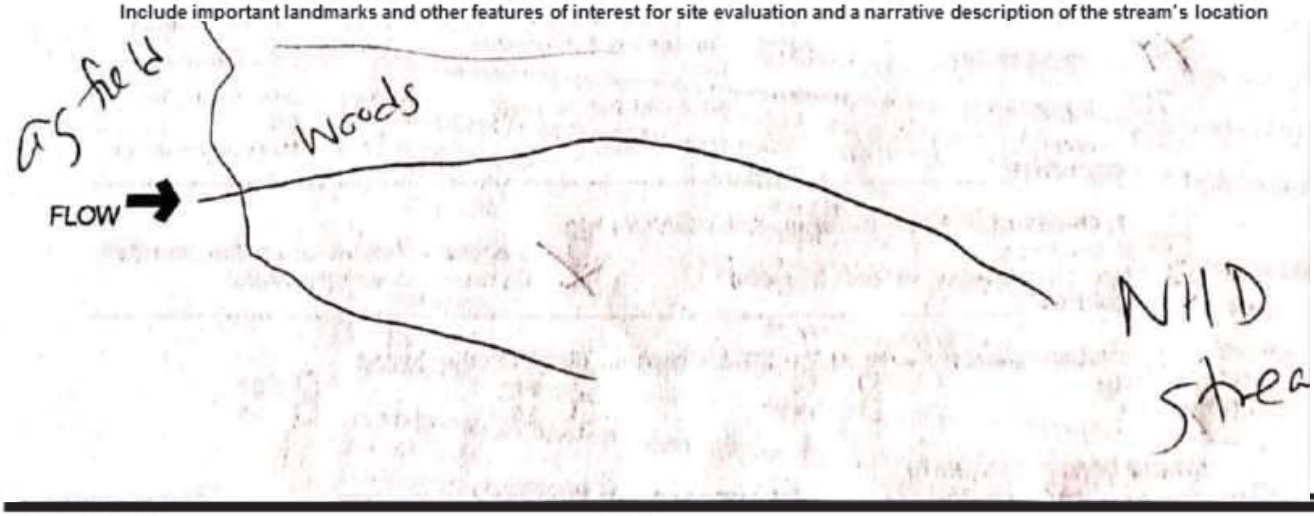
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

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

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



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3) 31

SITE NAME/LOCATION S-2 (UNT to Wilson Creek)
SITE NUMBER _____ RIVER BASIN Little Miami RIVER CODE _____ DRAINAGE AREA (mi²) 0.04
LENGTH OF STREAM REACH (ft) 100 LAT 39.398533005 LONG -83.854867788 RIVER MILE _____
DATE 10/13 SCORER SM COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☑ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐ ☐	BLDR SLABS [16 pts]		☑ ☐	SILT [3 pt]	25
☐ ☐	BOULDER (>256 mm) [16 pts]		☐ ☑	LEAF PACK/WOODY DEBRIS [3 pts]	25
☐ ☐	BEDROCK [16 pts]		☐ ☐	FINE DETRITUS [3 pts]	20
☐ ☐	COBBLE (65-256 mm) [12 pts]		☐ ☐	CLAY or HARDPAN [0 pt]	20
☐ ☐	GRAVEL (2-64 mm) [9 pts]	10	☐ ☐	MUCK [0 pts]	
☐ ☐	SAND (<2 mm) [6 pts]		☐ ☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 6 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 5

HHEI Metric Points
Substrate Max = 40: 11
A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☐	5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☐	< 5 cm [5pts]
☐	> 10 - 22.5 cm [25 pts]	☑	NO WATER OR MOIST CHANNEL [0pts]

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 0

Pool Depth Max = 30: 0

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐	> 4.0 meters (> 13') [30 pts]	☐	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☑	≤ 1.0 m (≤ 3' 3") [5 pts]
☑	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) 1.6

Bankfull Width Max=30: 20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☑	☑	Immature Forest, Shrub or Old Field	☑	☐	Urban or Industrial
☑	☑	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☑	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS _____

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

☐	Stream Flowing	☑	Moist Channel, isolated pools, no flow (intermittent)
☐	Subsurface flow with isolated pools (interstitial)	☐	Dry channel, no water (ephemeral)

COMMENTS crayfish burrows along channel

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☑	None	☐	1.0	☐	2.0	☐	3.0
☐	0.5	☐	1.5	☐	2.5	☐	>3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☑ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

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

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☑ WWH Name: Wilson Creek Distance from Evaluated Stream 7,000 ft

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Wilmington NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Clinton Township/City: Union/Wilmington

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/12/2020 Quantity: 0.1 in

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 10

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

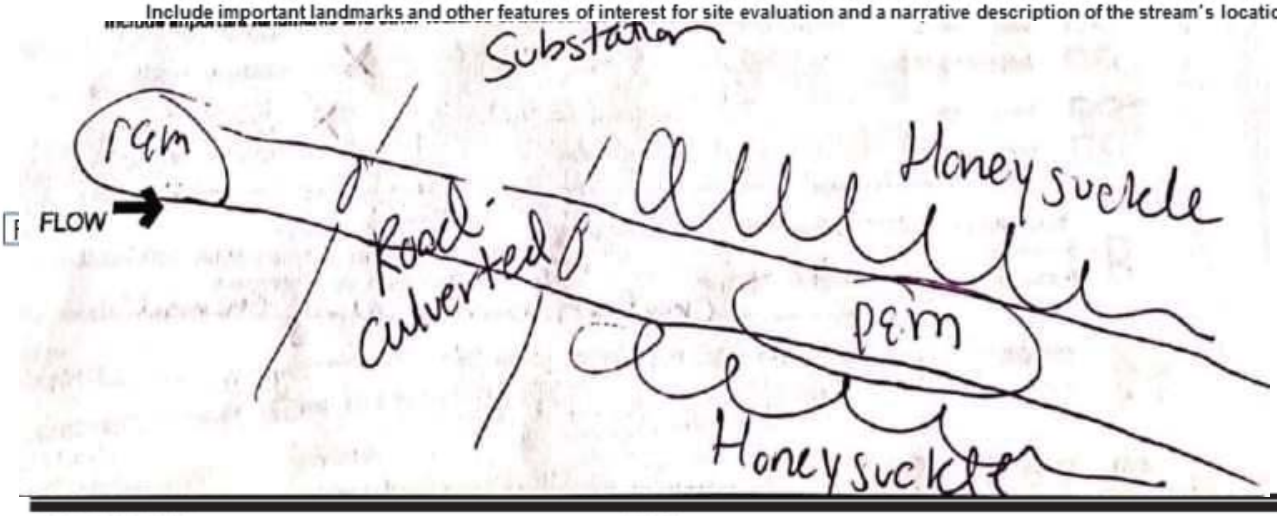
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: Crayfish burrows

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

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



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3) 15

SITE NAME/LOCATION S-3

SITE NUMBER _____ RIVER BASIN Little Miami RIVER CODE _____ DRAINAGE AREA (mi²) <0.01

LENGTH OF STREAM REACH (ft) 30 LAT 39.398553282 LONG -83.854860194 RIVER MILE _____

DATE 10/14 SCORER SM COMMENTS _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☑ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐ ☐	BLDR SLABS [16 pts]		☐ ☐	SILT [3 pt]	25
☐ ☐	BOULDER (>256 mm) [16 pts]		☑ ☐	LEAF PACK/WOODY DEBRIS [3 pts]	35
☐ ☐	BEDROCK [16 pts]		☐ ☑	FINE DETRITUS [3 pts]	35
☐ ☐	COBBLE (65-256 mm) [12 pts]		☐ ☐	CLAY or HARDPAN [0 pt]	
☐ ☐	GRAVEL (2-64 mm) [9 pts]	5	☐ ☐	MUCK [0 pts]	
☐ ☐	SAND (<2 mm) [6 pts]		☐ ☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 6 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 4

HHEI Metric Points

Substrate Max = 40: 10

A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☐	5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☐	< 5 cm [5pts]
☐	> 10 - 22.5 cm [25 pts]	☑	NO WATER OR MOIST CHANNEL [0pts]

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 0

Pool Depth Max = 30: 0

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐	> 4.0 meters (> 13') [30 pts]	☐	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☑	≤ 1.0 m (≤ 3' 3") [5 pts]
☐	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) 0.2

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R	L	R
☐	☐ Wide >10m	☑	☑ Mature Forest, Wetland	☐	☐ Conservation Tillage
☐	☐ Moderate 5-10m	☑	☑ Immature Forest, Shrub or Old Field	☑	☐ Urban or Industrial
☑	☑ Narrow <5m	☐	☐ Residential, Park, New Field	☐	☑ Open Pasture, Row Crop
☐	☐ None	☐	☐ Fenced Pasture	☐	☐ Mining or Construction

COMMENTS _____

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

☐	Stream Flowing	☐	Moist Channel, isolated pools, no flow (intermittent)
☐	Subsurface flow with isolated pools (interstitial)	☑	Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐	None	☐	1.0	☐	2.0	☐	3.0
☑	0.5	☐	1.5	☐	2.5	☐	>3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☑ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

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

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☑ WWH Name: Wilson Creek Distance from Evaluated Stream 7,000 ft

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Wilmington NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Clinton Township/City: Union/Wilmington

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/12/2020 Quantity: 0.1 in

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 10

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

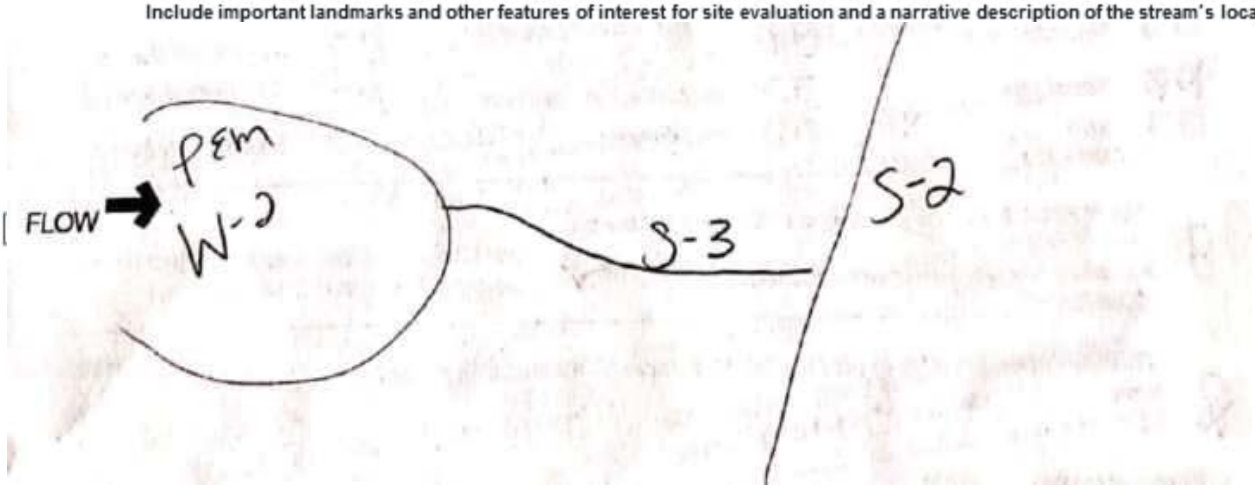
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

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

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



Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3) 17

SITE NAME/LOCATION S-4
SITE NUMBER _____ RIVER BASIN Little Miami RIVER CODE _____ DRAINAGE AREA (mi²) 0.01
LENGTH OF STREAM REACH (ft) 100 LAT 39.397866924 LONG -83.855844888 RIVER MILE _____
DATE 10/13 SCORER SM COMMENTS culverted, captured

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☑ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐ ☐	BLDR SLABS [16 pts]		☑ ☐	SILT [3 pt]	30
☐ ☐	BOULDER (>256 mm) [16 pts]		☐ ☑	LEAF PACK/WOODY DEBRIS [3 pts]	30
☐ ☐	BEDROCK [16 pts]		☐ ☐	FINE DETRITUS [3 pts]	20
☐ ☐	COBBLE (65-256 mm) [12 pts]		☐ ☐	CLAY or HARDPAN [0 pt]	10
☐ ☐	GRAVEL (2-64 mm) [9 pts]	5	☐ ☐	MUCK [0 pts]	
☐ ☐	SAND (<2 mm) [6 pts]	5	☐ ☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 6 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 6

HHEI Metric Points
Substrate Max = 40: 12
A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐ > 30 centimeters [20 pts]
☐ > 22.5 - 30 cm [30 pts]
☐ > 10 - 22.5 cm [25 pts]
☐ 5 cm - 10 cm [15 pts]
☐ < 5 cm [5pts]
☑ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 0

Pool Depth Max = 30: 0

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐ > 4.0 meters (> 13') [30 pts]
☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☑ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) 0.3

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R	L	R
☐	☐ Wide >10m	☐	☐ Mature Forest, Wetland	☐	☐ Conservation Tillage
☐	☐ Moderate 5-10m	☐	☐ Immature Forest, Shrub or Old Field	☐	☑ Urban or Industrial
☑	☑ Narrow <5m	☐	☐ Residential, Park, New Field	☑	☐ Open Pasture, Row Crop
☐	☐ None	☐	☐ Fenced Pasture	☐	☐ Mining or Construction

COMMENTS _____

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

☐ Stream Flowing
☐ Subsurface flow with isolated pools (interstitial)
☐ Moist Channel, isolated pools, no flow (intermittent)
☑ Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐ None ☐ 1.0 ☐ 2.0 ☐ 3.0
☑ 0.5 ☐ 1.5 ☐ 2.5 ☐ >3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☑ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

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

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☑ WWH Name: Wilson Creek Distance from Evaluated Stream 7,000 ft

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Wilmington NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Clinton Township/City: Union/Wilmington

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/12/2020 Quantity: 0.1 in

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 10

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): _____

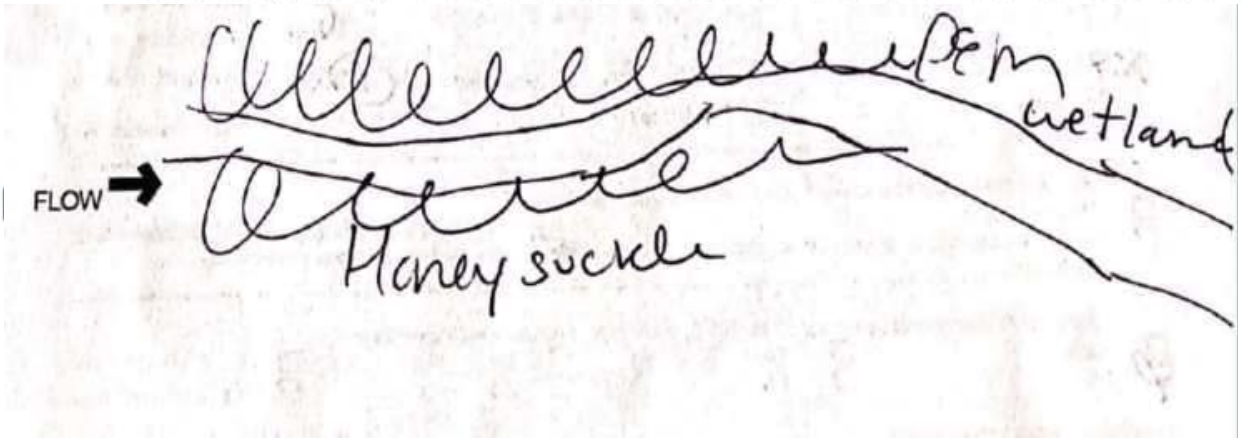
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: _____

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

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



Summary: Notice of Construction of Clinton 345kV Expansion Part 3 electronically filed by Mr. Michael F Russ on behalf of The Dayton Power and Light Company