



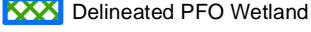



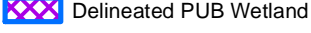


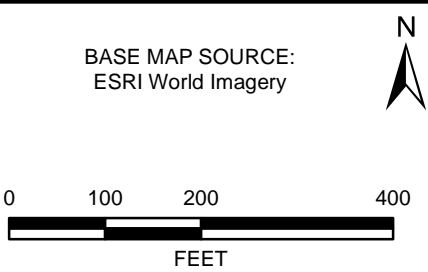
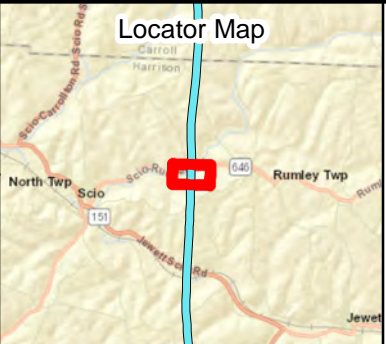




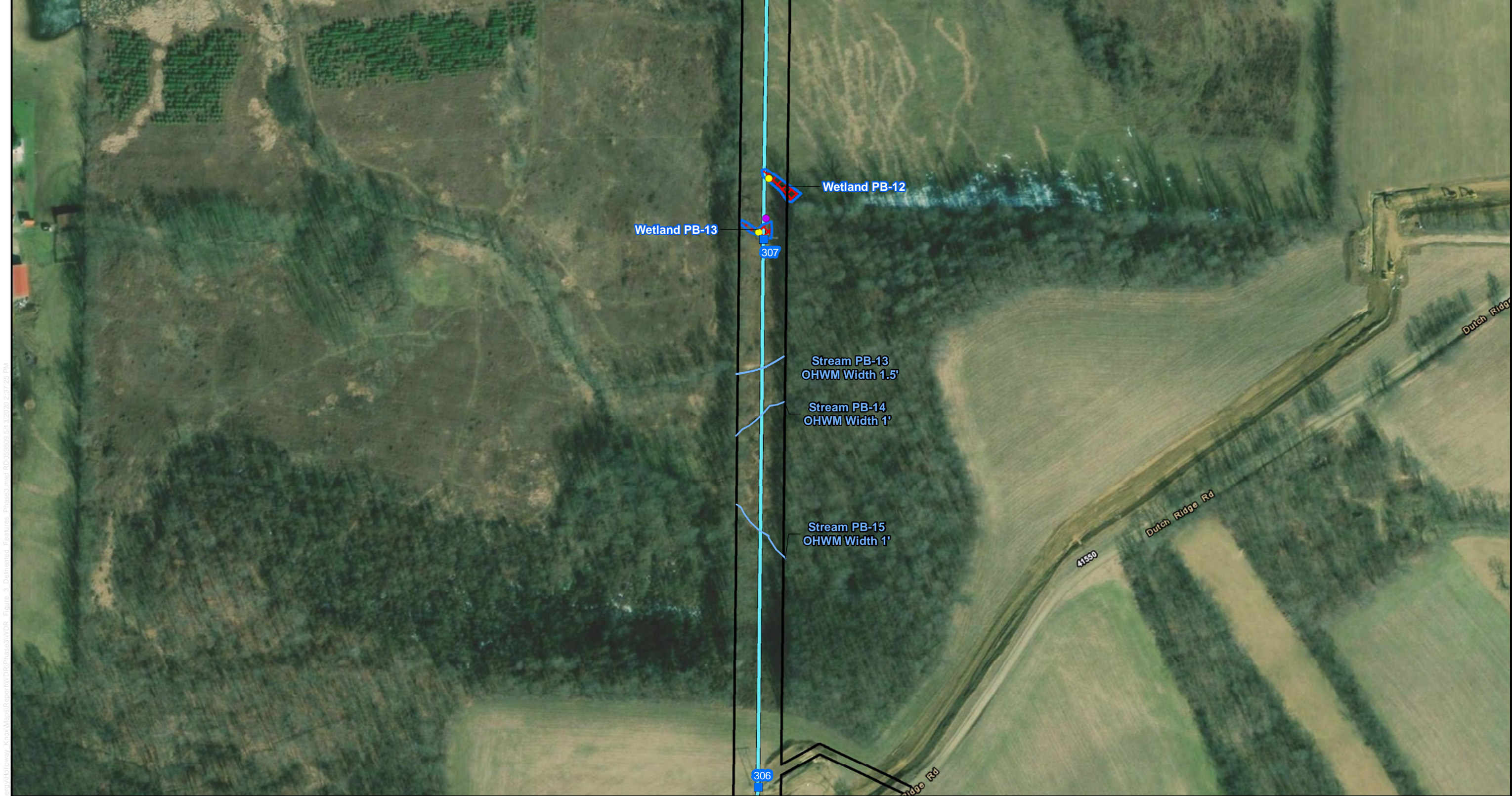
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LEGEND:

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|---|---|
| ● Substation |  Delineated Stream |
|  Proposed Structure |  Delineated PEM Wetland |
|  Polo Road (Kilgore) - Buckeye Power (New Stacy) |  Delineated PFO Wetland |
|  Environmental Survey Corridor |  Delineated PSS Wetland |
|  Upland Data Point |  Delineated PUB Wetland |
|  Wetland Data Point |  Delineated Pond |














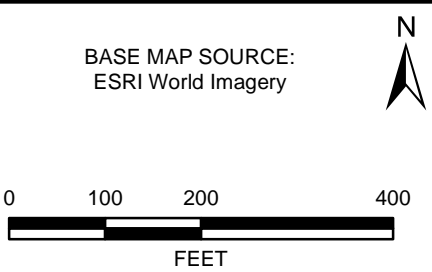
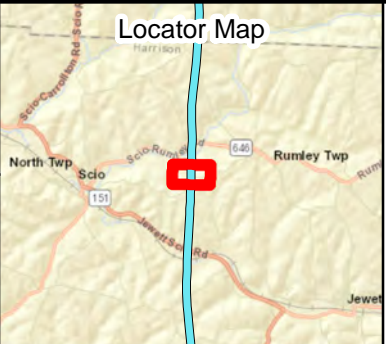
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FIGURE 3-P DELINEATED FEATURES MAP			
PN: 699212		Date: 5/13/2020	
CREATED BY: RED			
REVIEWED BY: BAO			





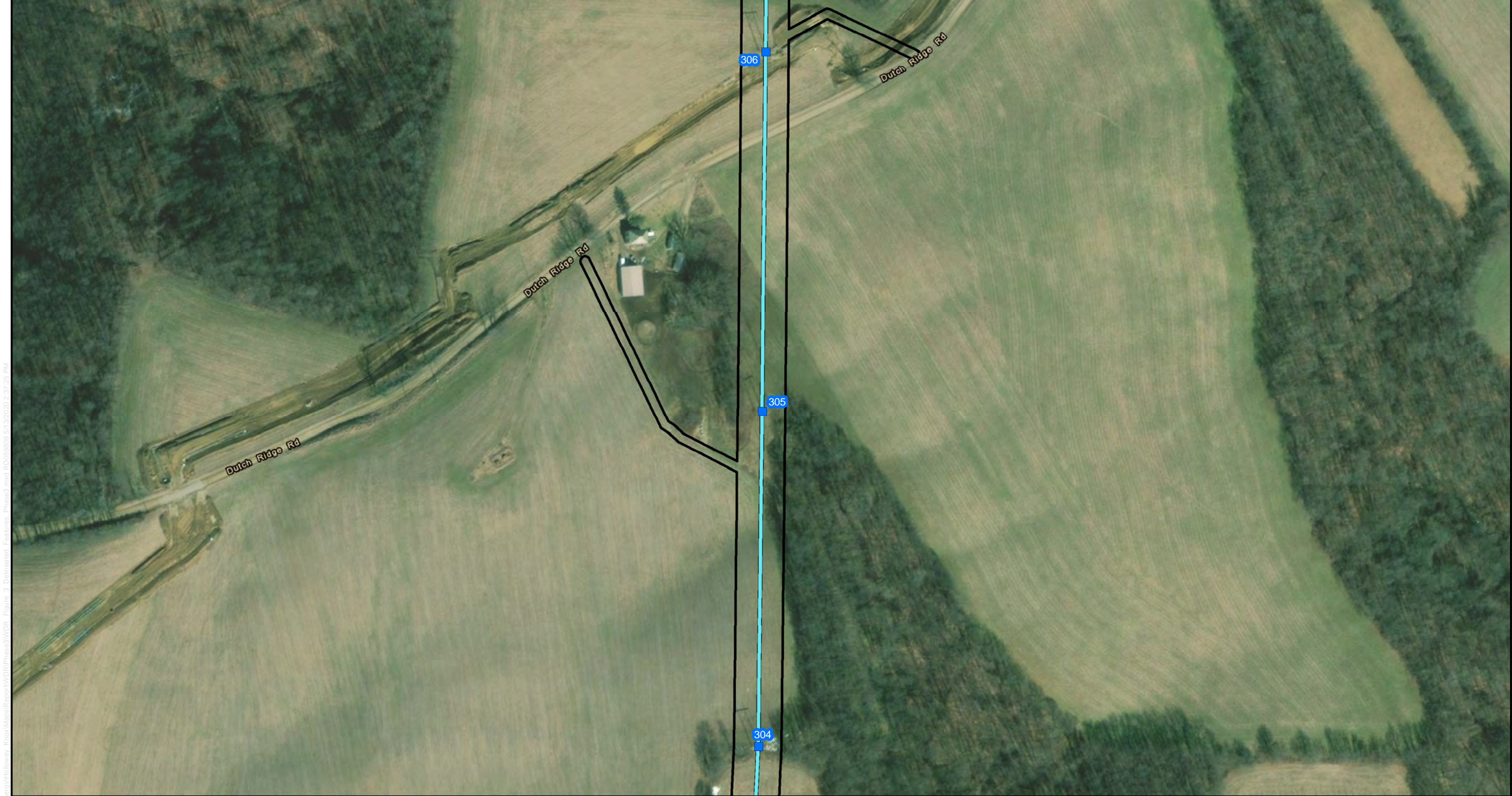
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LEGEND:

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| ● Substation |  Delineated Stream |
|  Proposed Structure |  Delineated PEM Wetland |
|  Polo Road (Kilgore) - Buckeye Power (New Stacy) |  Delineated PFO Wetland |
|  Environmental Survey Corridor |  Delineated PSS Wetland |
|  Upland Data Point |  Delineated PUB Wetland |
|  Wetland Data Point |  Delineated Pond |














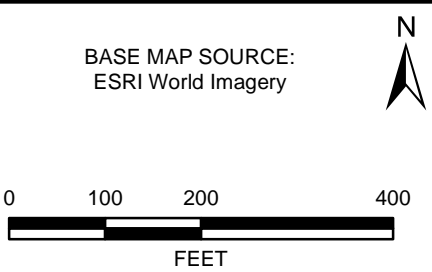
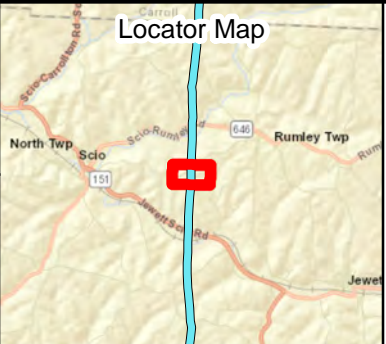
 American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.		Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project	
FIGURE 3-Q DELINEATED FEATURES MAP			
PN: 699212		Date: 5/13/2020	
CREATED BY: RED			
REVIEWED BY: BAO			





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LEGEND:

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|---|--|
| ● Substation |  Delineated Stream |
|  Proposed Structure |  Delineated PEM Wetland |
|  Polo Road (Kilgore) - Buckeye Power (New Stacy) |  Delineated PFO Wetland |
|  Environmental Survey Corridor |  Delineated PSS Wetland |
|  Upland Data Point |  Delineated PUB Wetland |
|  Wetland Data Point |  Delineated Pond |














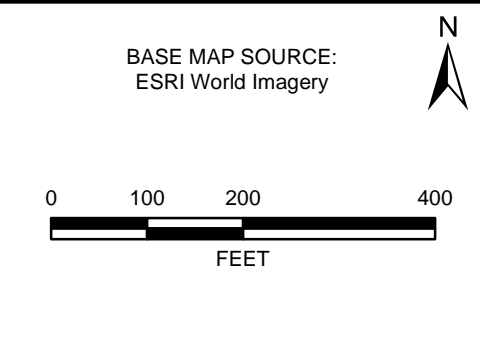
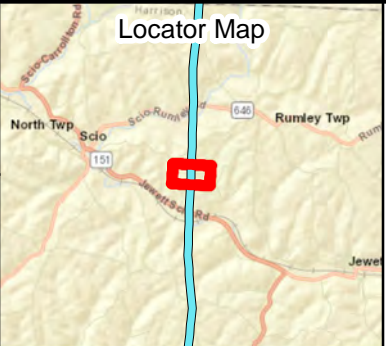
 American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>		Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project	
FIGURE 3-R DELINEATED FEATURES MAP			
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CREATED BY: RED			
REVIEWED BY: BAO			





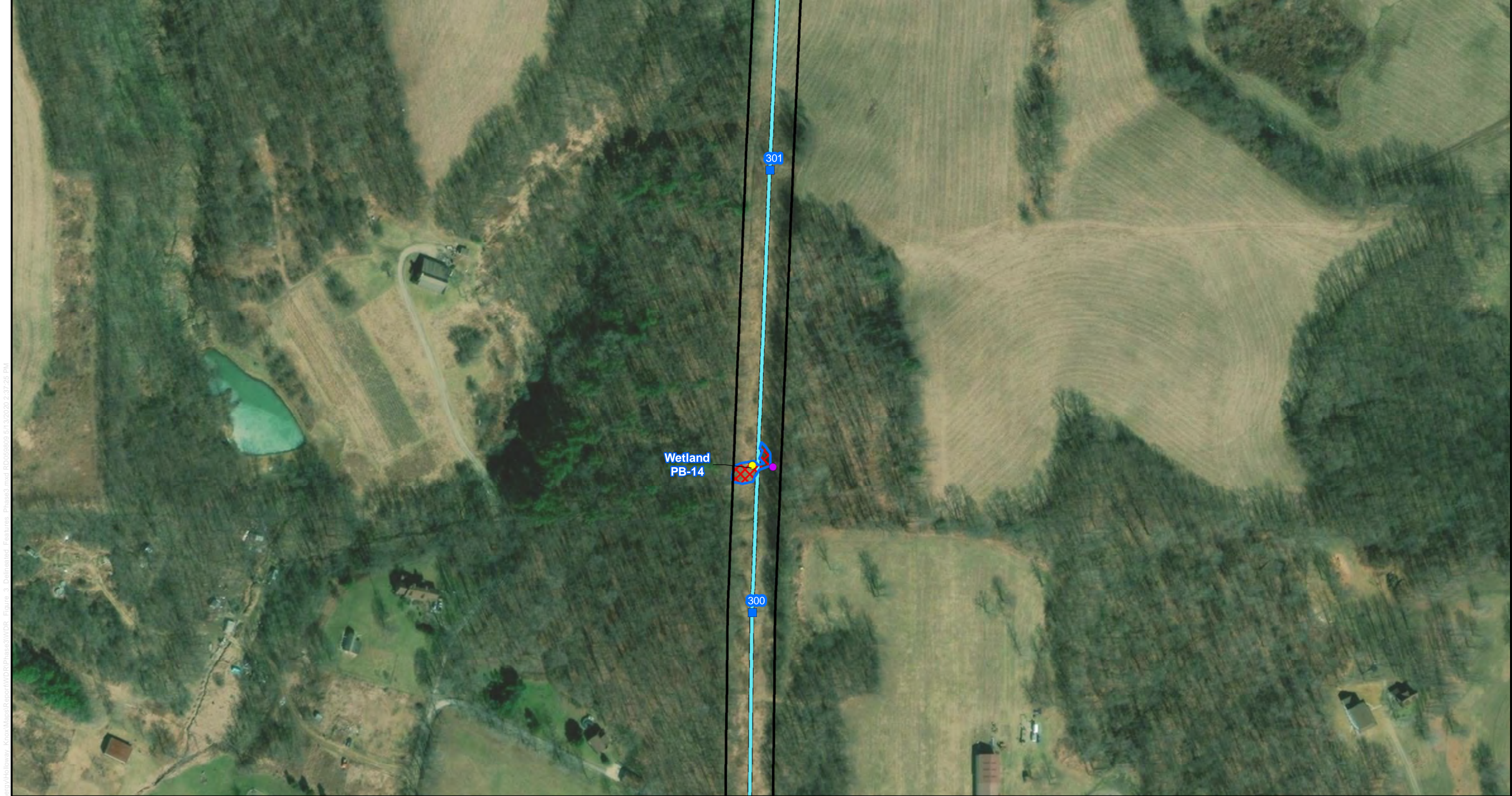
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










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|---|--|
| ● Substation |  Delineated Stream |
|  Proposed Structure |  Delineated PEM Wetland |
|  Polo Road (Kilgore) - Buckeye Power (New Stacy) |  Delineated PFO Wetland |
|  Environmental Survey Corridor |  Delineated PSS Wetland |
|  Upland Data Point |  Delineated PUB Wetland |
|  Wetland Data Point |  Delineated Pond |

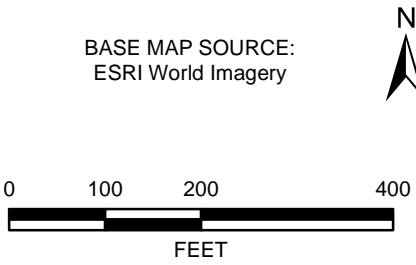
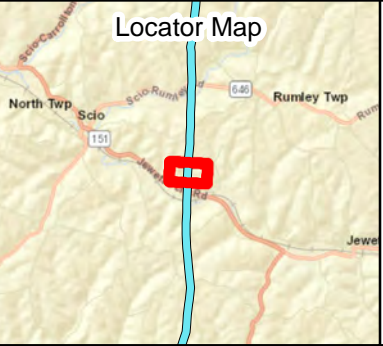


 American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>	Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project
FIGURE 3-S DELINEATED FEATURES MAP	
PN: 699212	Date: 5/13/2020
CREATED BY: RED	
REVIEWED BY: BAO	



LEGEND:

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|---|--|
| ● Substation |  Delineated Stream |
|  Proposed Structure |  Delineated PEM Wetland |
|  Polo Road (Kilgore) - Buckeye Power (New Stacy) |  Delineated PFO Wetland |
|  Environmental Survey Corridor |  Delineated PSS Wetland |
|  Upland Data Point |  Delineated PUB Wetland |
|  Wetland Data Point |  Delineated Pond |

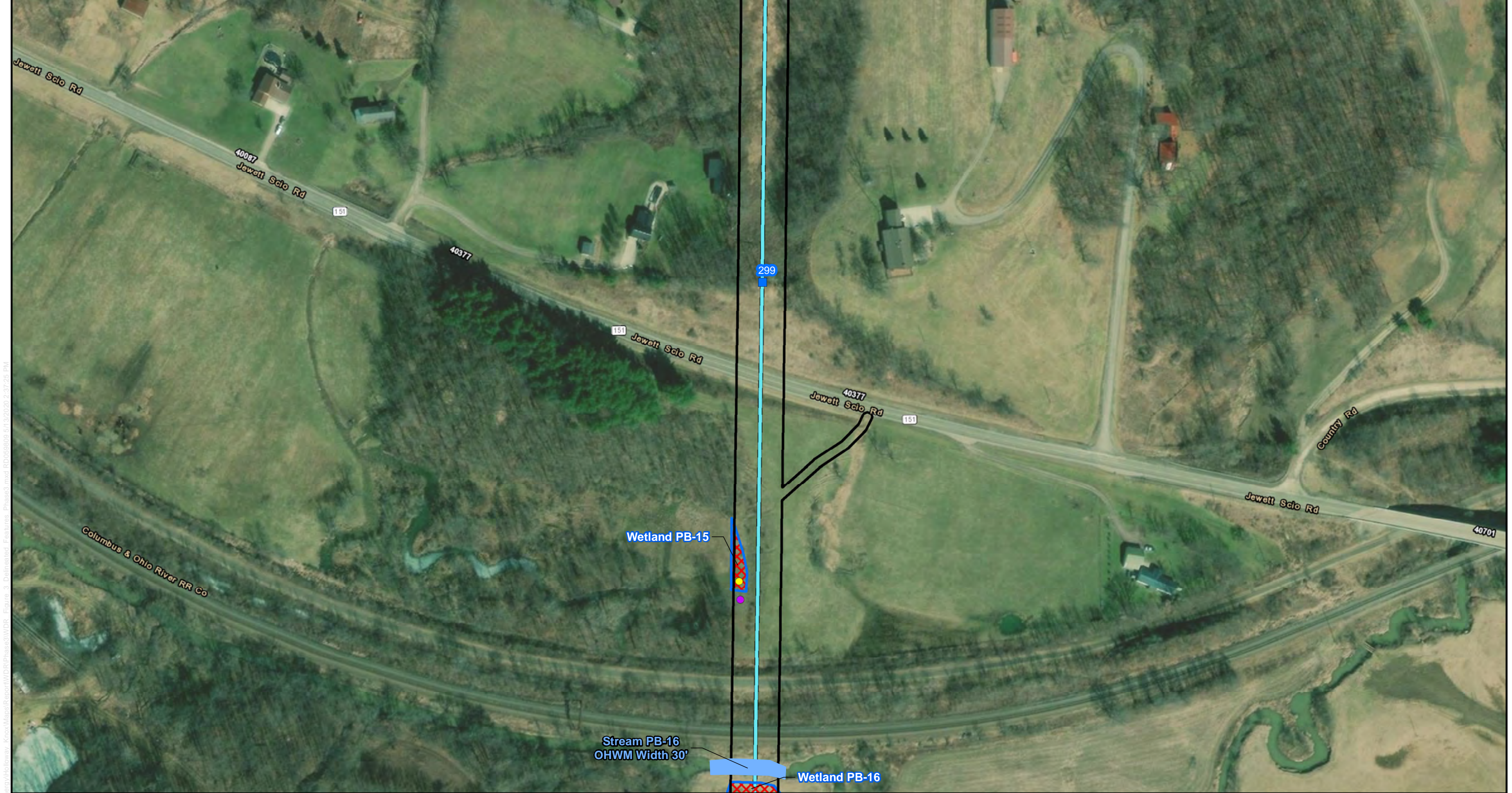


Polo Road - Buckeye Power
138 kV Transmission Line
Rebuild Project

**FIGURE 3-T
DELINEATED FEATURES MAP**












PN: 699212
CREATED BY: RED
REVIEWED BY: BAO

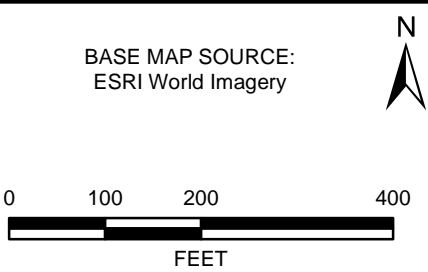
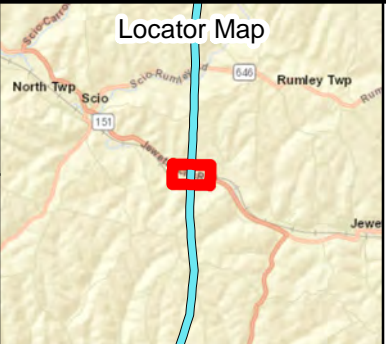
Date: 5/13/2020
Jacobs





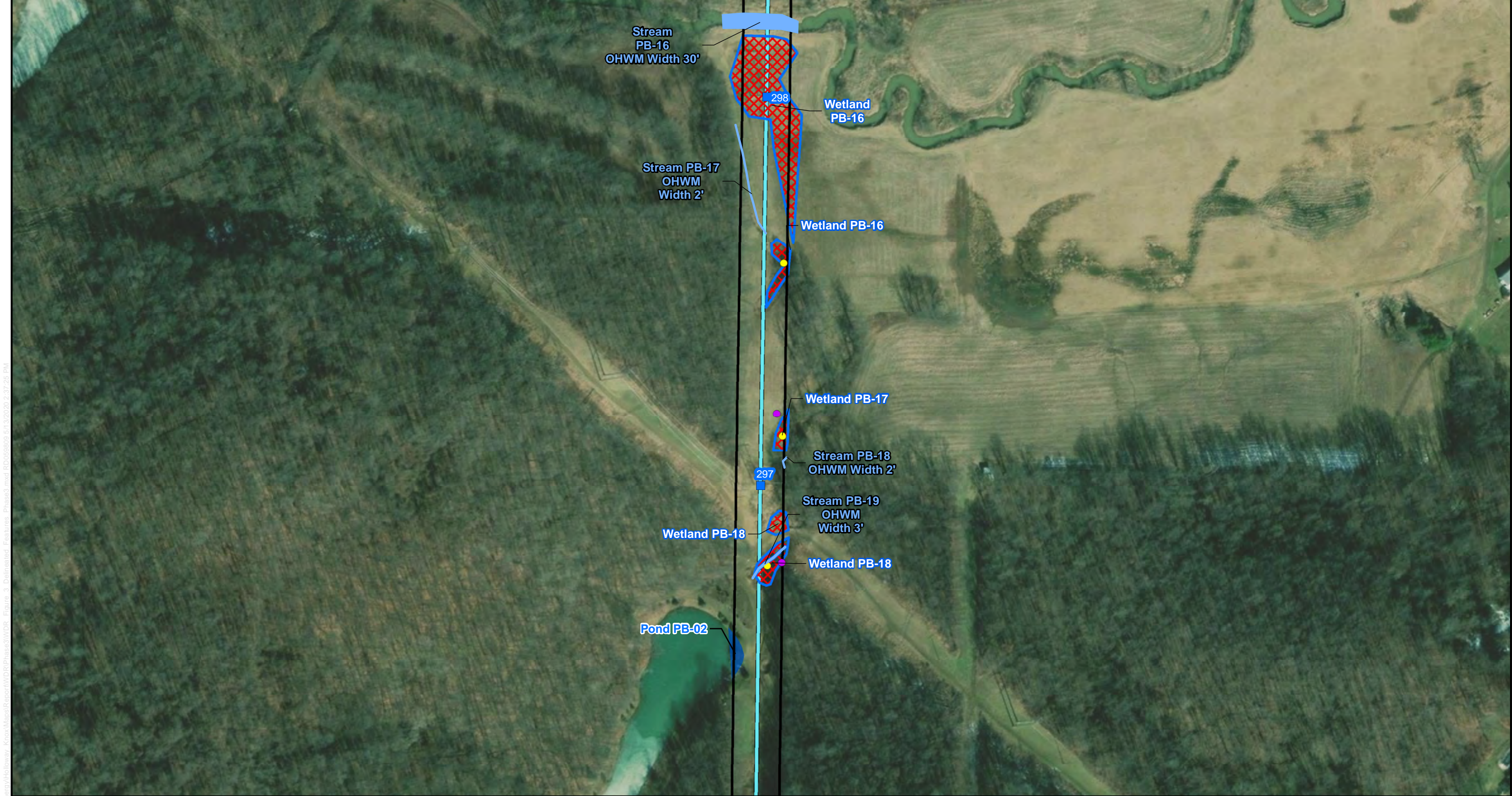
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LEGEND:

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| ● Substation |  Delineated Stream |
|  Proposed Structure |  Delineated PEM Wetland |
|  Polo Road (Kilgore) - Buckeye Power (New Stacy) |  Delineated PFO Wetland |
|  Environmental Survey Corridor |  Delineated PSS Wetland |
|  Upland Data Point |  Delineated PUB Wetland |
|  Wetland Data Point |  Delineated Pond |














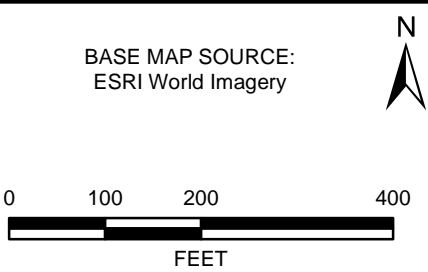
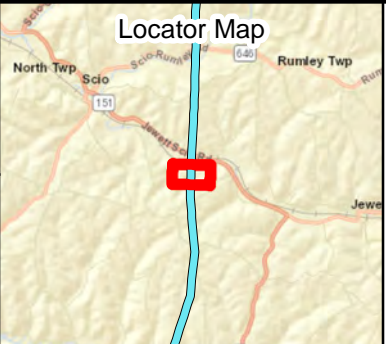
 American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>		Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project	
FIGURE 3-U DELINEATED FEATURES MAP			
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CREATED BY: RED			
REVIEWED BY: BAO			





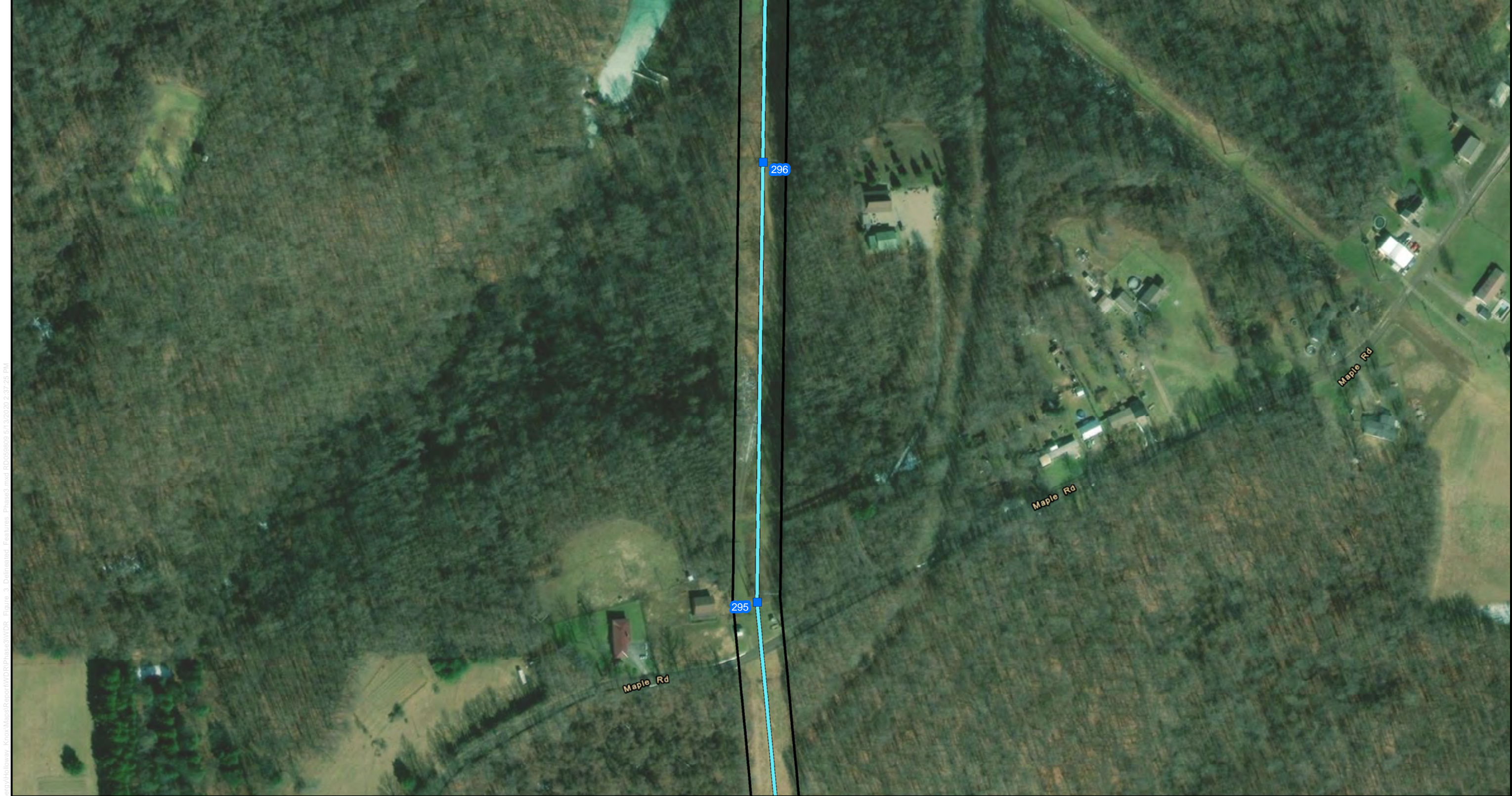
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LEGEND:

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| ● Substation |  Delineated Stream |
|  Proposed Structure |  Delineated PEM Wetland |
|  Polo Road (Kilgore) - Buckeye Power (New Stacy) |  Delineated PFO Wetland |
|  Environmental Survey Corridor |  Delineated PSS Wetland |
|  Upland Data Point |  Delineated PUB Wetland |
|  Wetland Data Point |  Delineated Pond |














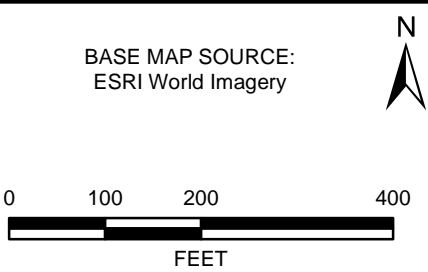
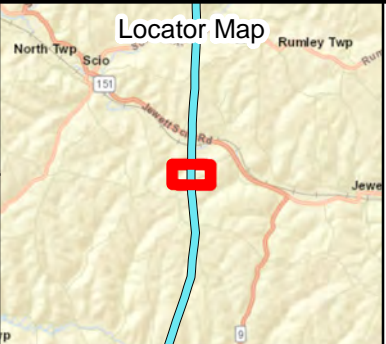
 American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>		Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project	
FIGURE 3-V DELINEATED FEATURES MAP			
PN: 699212		Date: 5/13/2020	
CREATED BY: RED			
REVIEWED BY: BAO			





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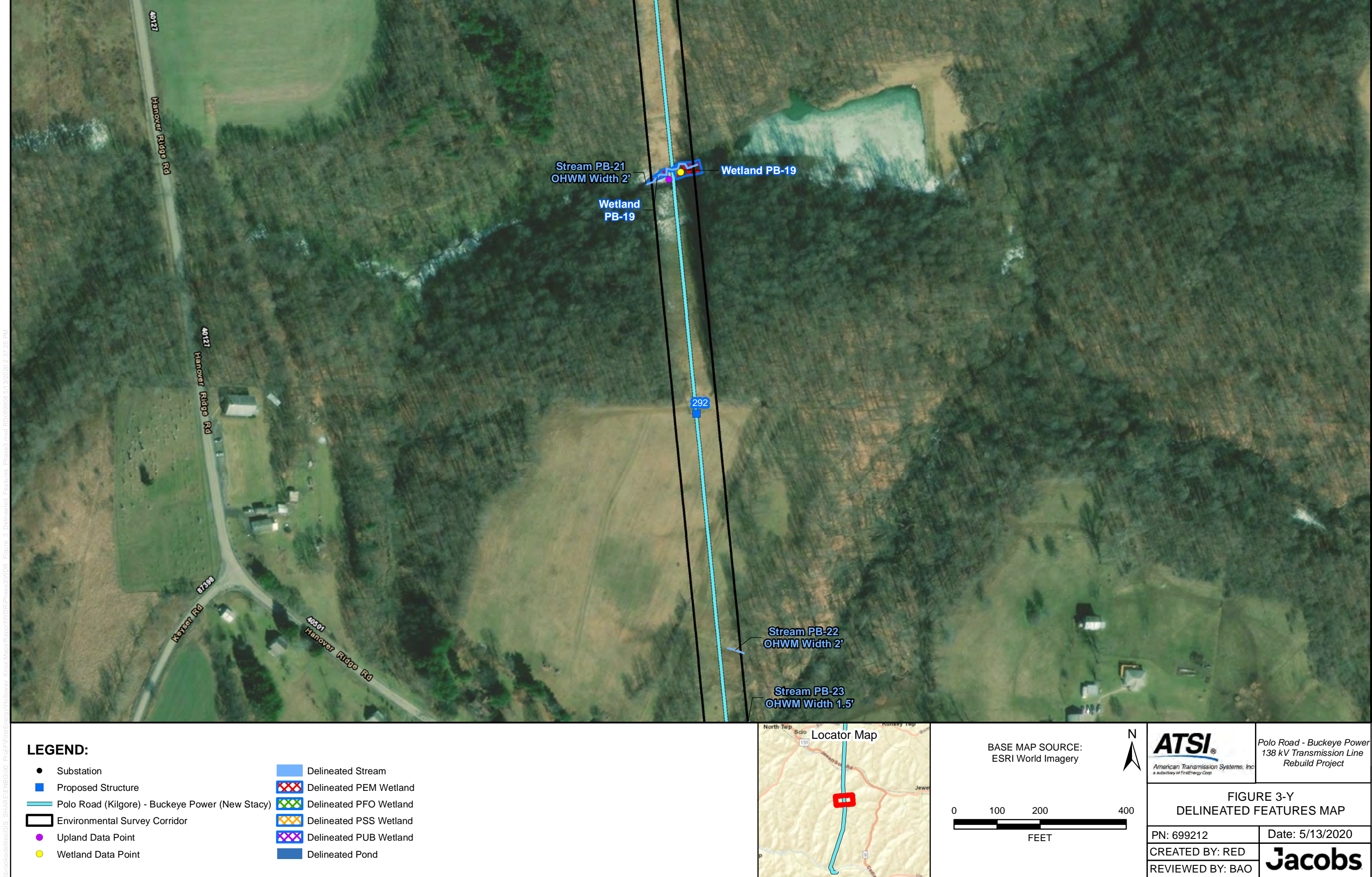
LEGEND:

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| ● Substation |  Delineated Stream |
|  Proposed Structure |  Delineated PEM Wetland |
|  Polo Road (Kilgore) - Buckeye Power (New Stacy) |  Delineated PFO Wetland |
|  Environmental Survey Corridor |  Delineated PSS Wetland |
|  Upland Data Point |  Delineated PUB Wetland |
|  Wetland Data Point |  Delineated Pond |

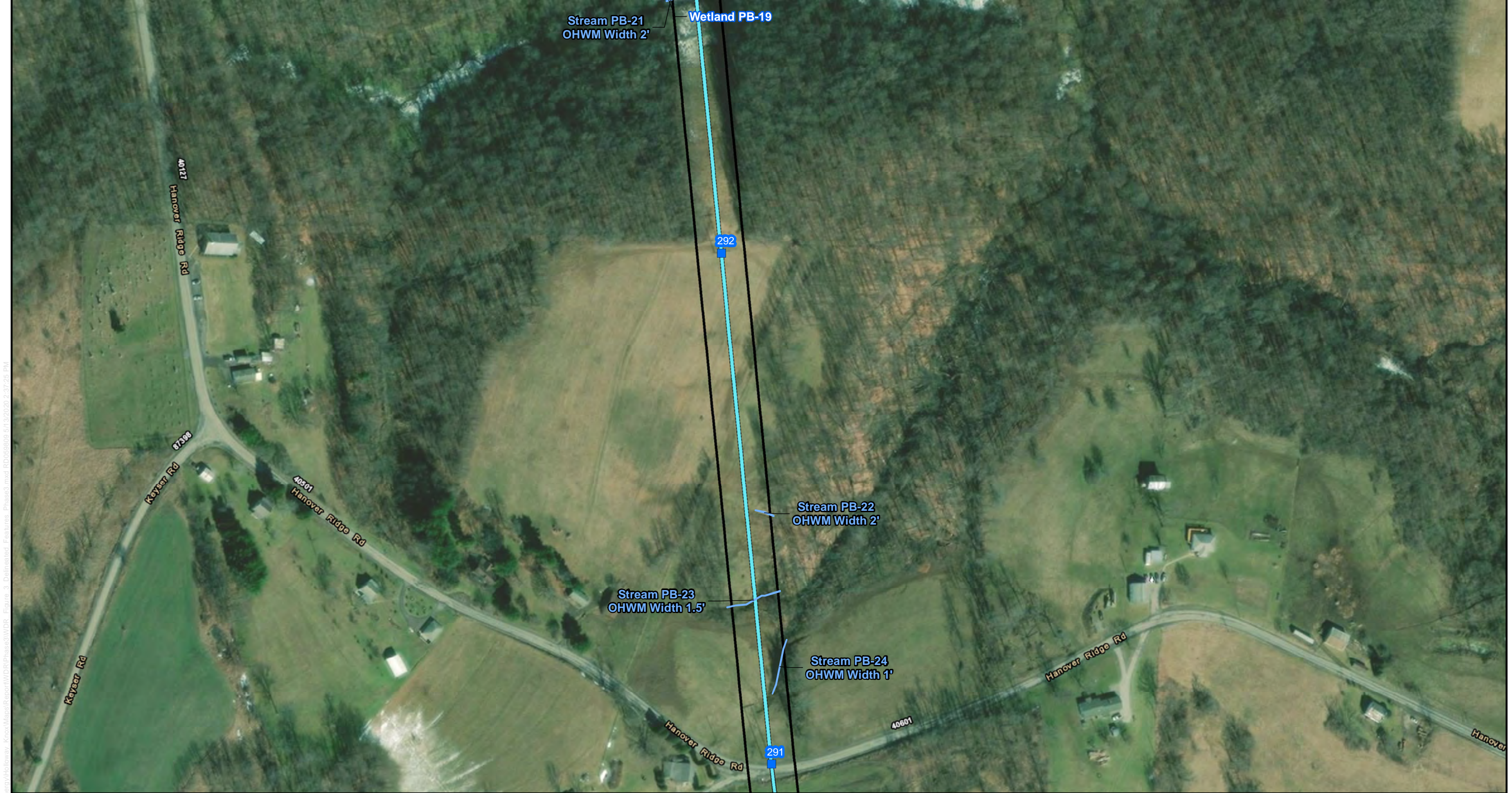


 <small>American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.</small>		Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project	
FIGURE 3-W DELINEATED FEATURES MAP			
PN: 699212		Date: 5/13/2020	
CREATED BY: RED			
REVIEWED BY: BAO			
















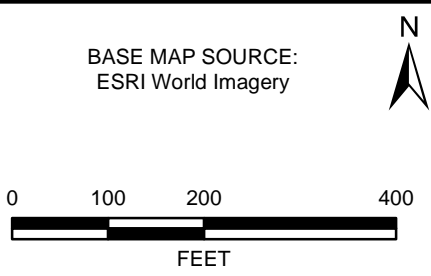
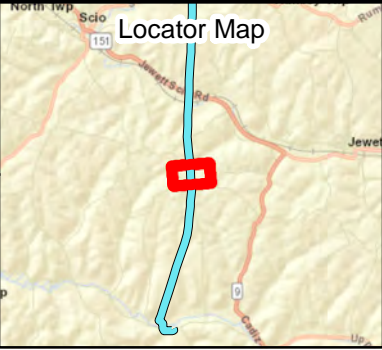
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| ● Substation |  Delineated Stream |
|  Proposed Structure |  Delineated PEM Wetland |
|  Polo Road (Kilgore) - Buckeye Power (New Stacy) |  Delineated PFO Wetland |
|  Environmental Survey Corridor |  Delineated PSS Wetland |
|  Upland Data Point |  Delineated PUB Wetland |
|  Wetland Data Point |  Delineated Pond |



 American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>		Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project	
FIGURE 3-Z DELINEATED FEATURES MAP			
PN: 699212		Date: 5/13/2020	
CREATED BY: RED			
REVIEWED BY: BAO			



LEGEND:

- Substation
- Proposed Structure
- Polo Road (Kilgore) - Buckeye Power (New Stacy)
- Environmental Survey Corridor
- Upland Data Point
- Wetland Data Point
- Delineated Stream
- Delineated PEM Wetland
- Delineated PFO Wetland
- Delineated PSS Wetland
- Delineated PUB Wetland
- Delineated Pond

Locator Map

BASE MAP SOURCE:
ESRI World Imagery

0 100 200 400
FEET

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

**FIGURE 3-AA
DELINEATED FEATURES MAP**

PN: 699212	Date: 5/13/2020
CREATED BY: RED	Jacobs
REVIEWED BY: BAO	

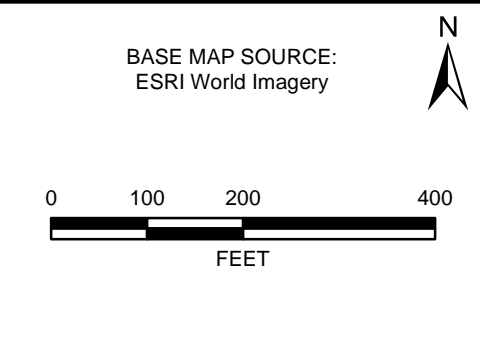
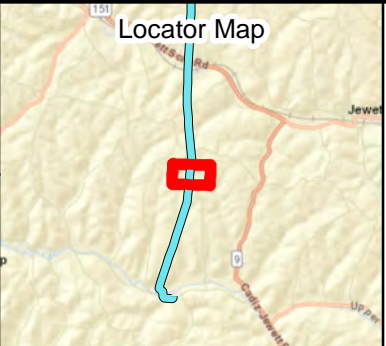
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LEGEND:

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| ● Substation | Delineated Stream |
| ■ Proposed Structure | Delineated PEM Wetland |
| — Polo Road (Kilgore) - Buckeye Power (New Stacy) | Delineated PFO Wetland |
| □ Environmental Survey Corridor | Delineated PSS Wetland |
| ● Upland Data Point | Delineated PUB Wetland |
| ● Wetland Data Point | Delineated Pond |



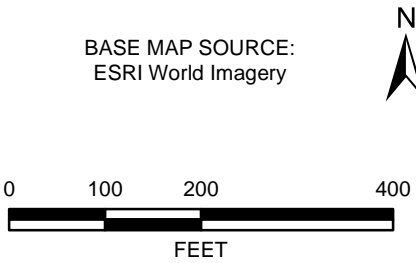
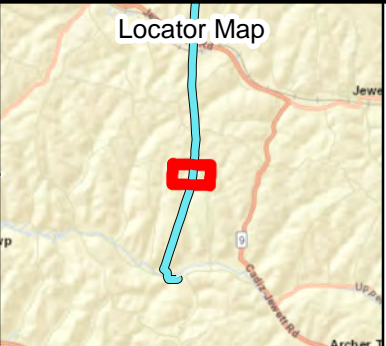
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FIGURE 3-AB DELINEATED FEATURES MAP			
PN: 699212		Date: 5/13/2020	
CREATED BY: RED			
REVIEWED BY: BAO			



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LEGEND:

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| ● Substation | Delineated Stream |
| ■ Proposed Structure | Delineated PEM Wetland |
| — Polo Road (Kilgore) - Buckeye Power (New Stacy) | Delineated PFO Wetland |
| □ Environmental Survey Corridor | Delineated PSS Wetland |
| ● Upland Data Point | Delineated PUB Wetland |
| ● Wetland Data Point | Delineated Pond |














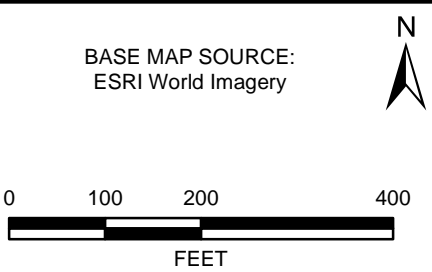
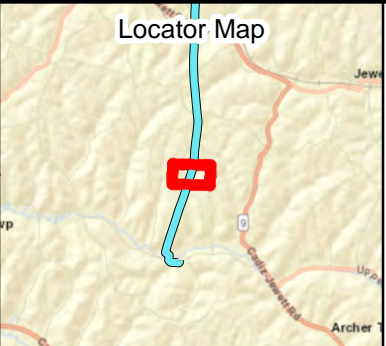
ATSI American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>	Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project
FIGURE 3-AC DELINEATED FEATURES MAP	
PN: 699212	Date: 5/13/2020
CREATED BY: RED	Jacobs
REVIEWED BY: BAO	





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LEGEND:

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| ● Substation |  Delineated Stream |
|  Proposed Structure |  Delineated PEM Wetland |
|  Polo Road (Kilgore) - Buckeye Power (New Stacy) |  Delineated PFO Wetland |
|  Environmental Survey Corridor |  Delineated PSS Wetland |
|  Upland Data Point |  Delineated PUB Wetland |
|  Wetland Data Point |  Delineated Pond |



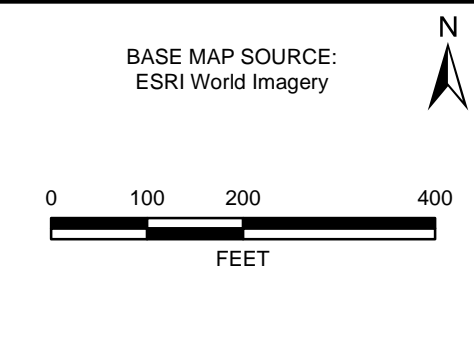
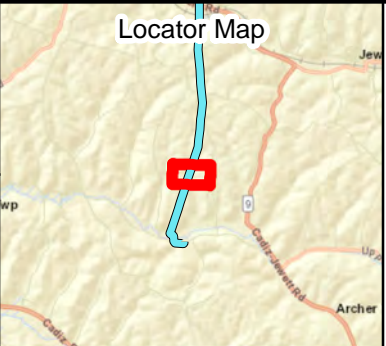
 American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>	Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project	
FIGURE 3-AD DELINEATED FEATURES MAP		
PN: 699212	Date: 5/13/2020	
CREATED BY: RED		
REVIEWED BY: BAO		





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LEGEND:

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|---|------------------------|
| ● Substation | Delineated Stream |
| ■ Proposed Structure | Delineated PEM Wetland |
| — Polo Road (Kilgore) - Buckeye Power (New Stacy) | Delineated PFO Wetland |
| □ Environmental Survey Corridor | Delineated PSS Wetland |
| ● Upland Data Point | Delineated PUB Wetland |
| ● Wetland Data Point | Delineated Pond |



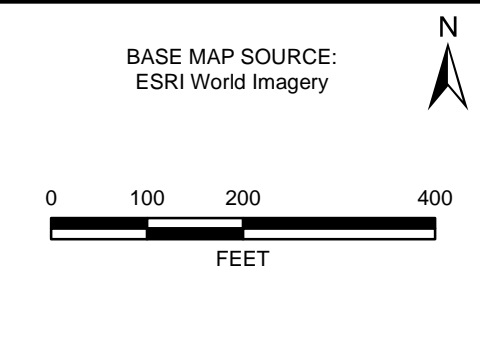
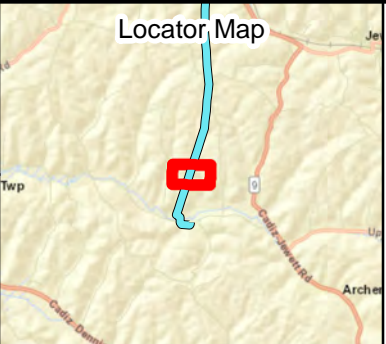
 American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.		Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project	
FIGURE 3-AE DELINEATED FEATURES MAP			
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CREATED BY: RED			
REVIEWED BY: BAO			





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|---|------------------------|
| ● Substation | Delineated Stream |
| ■ Proposed Structure | Delineated PEM Wetland |
| — Polo Road (Kilgore) - Buckeye Power (New Stacy) | Delineated PFO Wetland |
| □ Environmental Survey Corridor | Delineated PSS Wetland |
| ● Upland Data Point | Delineated PUB Wetland |
| ● Wetland Data Point | Delineated Pond |



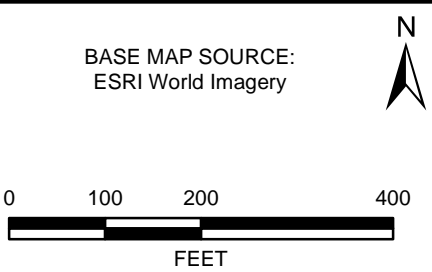
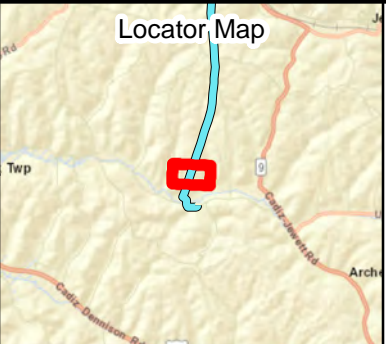
 American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>		Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project	
FIGURE 3-AF DELINEATED FEATURES MAP			
PN: 699212		Date: 5/13/2020	
CREATED BY: RED			
REVIEWED BY: BAO			



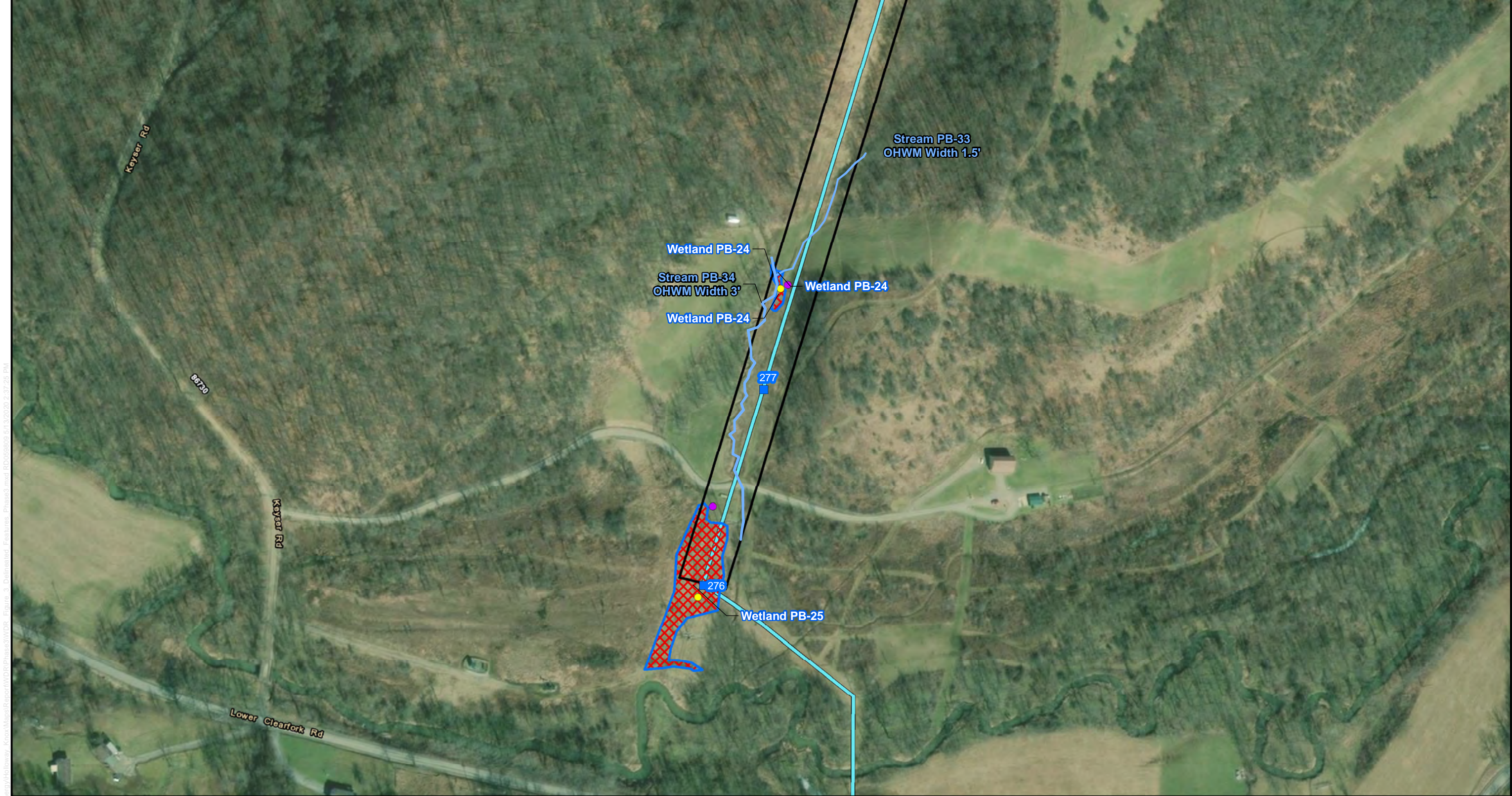
\\brooks\delles\GIS_SHARE\ENB\000_Proj\FirstEnergy\Holloway_Knox\Maps\Report\WDR\Phase3\WDR_Figure_3_Delineated_Features_Phase3.mxd RD059809 5/13/2020 2:37:25 PM

LEGEND:

- | | |
|---|------------------------|
| ● Substation | Delineated Stream |
| ■ Proposed Structure | Delineated PEM Wetland |
| — Polo Road (Kilgore) - Buckeye Power (New Stacy) | Delineated PFO Wetland |
| □ Environmental Survey Corridor | Delineated PSS Wetland |
| ● Upland Data Point | Delineated PUB Wetland |
| ● Wetland Data Point | Delineated Pond |














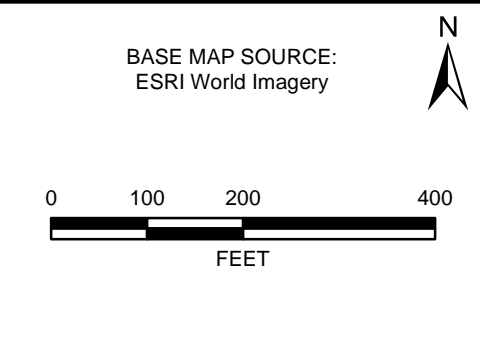
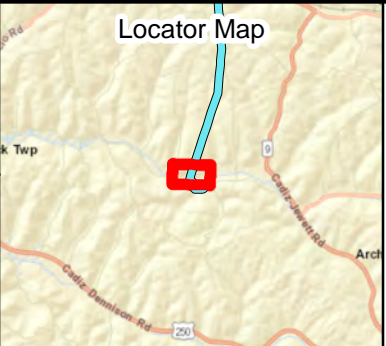
ATSI American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>	Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project
FIGURE 3-AG DELINEATED FEATURES MAP	
PN: 699212	Date: 5/13/2020
CREATED BY: RED	Jacobs
REVIEWED BY: BAO	





\\brooks\delles\GIS_SHARE\ENB0100_Proj\FirEnergy\Holloway_Knox\Maps\Report\WDR\Phase3\WDR_Figure_3_Delineated_Features_Phase3.mxd RD059809 5/13/2020 2:37:25 PM

LEGEND:

- | | |
|---|--|
| ● Substation |  Delineated Stream |
|  Proposed Structure |  Delineated PEM Wetland |
|  Polo Road (Kilgore) - Buckeye Power (New Stacy) |  Delineated PFO Wetland |
|  Environmental Survey Corridor |  Delineated PSS Wetland |
|  Upland Data Point |  Delineated PUB Wetland |
|  Wetland Data Point |  Delineated Pond |



 American Transmission Systems, Inc. <small>a subsidiary of FirstEnergy Corp.</small>		Polo Road - Buckeye Power 138 kV Transmission Line Rebuild Project	
FIGURE 3-AH DELINEATED FEATURES MAP			
PN: 699212		Date: 5/13/2020	
CREATED BY: RED			
REVIEWED BY: BAO			

Appendix A
USACE Wetland Determination Field Datasheets

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name Upland PB-01
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date 5/24/2018
 Investigator(s) T Qualio, J. Frer, Jacobs Section, Township, Range S 23 T 12N R 5W
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): convex Slope (%): 3
 Subregion (LRR or MLRA): LRR N Lat.: 40.45103977 Long.: -81.04948464 Datum: WGS 84
 Soil Map Unit Name WmD - Westmoreland-Coshocton silt loams, 15 to 25 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

UPLAND area near wetland PB-01 in routinely maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Oxidized Rhizospheres on Living |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Imagery (B7) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |
| <input type="checkbox"/> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Microtopographic Relief (D4) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

**Wetland
hydrology
present?** N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: u-tmq-05242018-04

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Andropogon gerardii</i>					45	Y	FAC	
2	<i>Solidago rugosa</i>					35	Y	FAC	
3	<i>Valerianella olitoria</i>					25	N	UPL	
4	<i>Podophyllum peltatum</i>					20	N	FACU	
5	<i>Rubus allegheniensis</i>					15	N	FACU	
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							140	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	28	70
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	35	x 4 =	140
UPL species	25	x 5 =	125
Column totals	140	(A)	505 (B)
Prevalence Index = B/A =			3.61

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: u-tmq-05242018-04

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name: Upland PB-02
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 5/24/2018
 Investigator(s): T Qualio, J. Frer, Jacobs Section, Township, Range: S 23 T 12N R 5W
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): convex Slope (%): 3
 Subregion (LRR or MLRA): LRR N Lat.: 40.44841588 Long.: -81.04951574 Datum: WGS 84
 Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flood NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

UPLAND area near Wetland PB-02 in routinely maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)		<u> </u> Surface Soil Cracks (B6)	
<u> </u> Surface Water (A1)	<u> </u> True Aquatic Plants (B14)	<u> </u> Sparsely Vegetated Concave Surface (B8)	
<u> </u> High Water Table (A2)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Drainage Patterns (B10)	
<u> </u> Saturation (A3)	<u> </u> Oxidized Rhizospheres on Living	<u> </u> Moss Trim Lines (B16)	
<u> </u> Water Marks (B1)	<u> </u> Roots (C3)	<u> </u> Dry-Season Water Table (C2)	
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u> </u> Crayfish Burrows (C8)	
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled	<u> </u> Saturation Visible on Aerial Imagery (C9)	
<u> </u> Algal Mat or Crust (B4)	<u> </u> Soils (C6)	<u> </u> Stunted or Stressed Plants (D1)	
<u> </u> Iron Deposits (B5)	<u> </u> Thin Muck Surface (C7)	<u> </u> Geomorphic Position (D2)	
<u> </u> Inundation Visible on Aerial	<u> </u> Other (Explain in Remarks)	<u> </u> Shallow Aquitard (D3)	
<u> </u> Imagery (B7)		<u> </u> Microtopographic Relief (D4)	
<u> </u> Water-Stained Leaves (B9)		<u> </u> FAC-Neutral Test (D5)	
<u> </u> Aquatic Fauna (B13)			

Field Observations:				Wetland hydrology present? <u>N</u>	
Surface water present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u> </u>		
Water table present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u> </u>		
Saturation present? (includes capillary fringe)	Yes <u> </u>	No <u>X</u>	Depth (inches): <u> </u>		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-tmq-05242018-C

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Triticum aestivum</i>					65	Y	UPL	
2	<i>Elymus virginicus</i>					40	Y	FACW	
3	<i>Alliaria petiolata</i>					15	N	FACU	
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							120	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	24	60
Woody Vine Stratum	0	0

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: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	15	x 4 =	60
UPL species	65	x 5 =	325
Column totals	120 (A)		465 (B)
Prevalence Index = B/A =			3.88

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: Upl-tmq-05242018-03

Sampling Form - Spring 2021

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10 YR 5/4	100					loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (**LRR N**)
- ☐ Depleted 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)

- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8)
(MLRA 147, 148)
- ☐ Thin Dark Surface (S9)
(MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) (**MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **MLRA 148)**
- ☐ Red Parent Material (F21)(**MLRA 127, 147)**

Indicators for Problematic Hydric Soils:

- ☐ 2 cm Muck (A10) (**MLRA 147)**
- ☐ Coast Prairie Redox (A16)(**MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19)
(MLRA 136, 147)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problem

Restrictive Layer (if observed) Type: _____ Depth (inches): _____	Hydric soil present? <u> N </u>
---	---------------------------------------

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name: Upland PB-03,04
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/6/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S 23 T 12N R 5W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.44613297 Long.: -81.04968555 Datum: NAD 83
 Soil Map Unit Name: CpD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland adjacent to Wetlands PB-03 and PB-04 and within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

Wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-6/6/2018-03

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Poa pratensis</i>						70	Y	FACU
2	<i>Solidago sp.</i>						20	Y	FAC
3	<i>Rubus pensilvanicus</i>						10	N	FAC
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							100	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

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: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column totals	100	(A)	370
Prevalence Index = B/A =			3.70

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

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

Solidago sp. conservatively assigned FAC indicator status, hydrophytic vegetation indicator not met.

SOIL

Sampling Point: Upl-mdt-6/6/2018-03

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name: Upland PB-05
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/6/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S 23 T 12N R 5W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.44315037 Long.: -81.04985794 Datum: NAD 83
 Soil Map Unit Name: CpD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland adjacent to Wetland PB-05 and within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:		Wetland hydrology present? <u>N</u>
Surface water present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Water table present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe)	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-6/6/2018-02

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Solidago sp.</i>						30	Y	FAC
2	<i>Rubus pensilvanicus</i>						30	Y	FAC
3	<i>Verbesina alternifolia</i>						20	Y	FAC
4	<i>Podophyllum peltatum</i>						10	N	FACU
5	<i>Rosa multiflora</i>						10	N	FACU
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							100	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column totals	100 (A)		320 (B)
Prevalence Index = B/A =			3.20

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

Solidago sp. conservatively assigned FAC indicator status.

SOIL

Sampling Point: Upl-mdt-6/6/2018-02

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name: Upland PB-06
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/6/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S 23 T 12N R 5W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.44233818 Long.: -81.04996387 Datum: NAD 83
 Soil Map Unit Name: CpD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland adjacent to Wetland PB-06 and within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Oxidized Rhizospheres on Living |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Imagery (B7) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |
| <input type="checkbox"/> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Microtopographic Relief (D4) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

**Wetland
hydrology
present?** N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-6/6/2018-01

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Solidago sp.</i>						70	Y	FAC
2	<i>Rubus pensilvanicus</i>						30	Y	FAC
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							100	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	100	x 3 =	300
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	100 (A)		300 (B)
Prevalence Index = B/A =			3.00

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

Solidago sp. conservatively assigned FAC indicator status.

SOIL

Sampling Point: Upl-mdt-6/6/2018-01

Sampling Form - Spring 2016

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 4/3	100					Silt loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10) (**LRR N**)
☐ Depleted 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)

☐ Dark Surface (S7)
☐ Polyvalue Below Surface (S8)
 (**MLRA 147, 148**)
☐ Thin Dark Surface (S9)
 (**MLRA 147, 148**)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Iron-Manganese Masses (F12) **LRR N, MLRA 136**
☐ Umbric Surface (F13)(**MLRA 136, 122**)
☐ Piedmont Floodplain Soils (F19) **MLRA 148**
☐ Red Parent Material (F21)(**MLRA 127, 147**)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**MLRA 147**)
☐ Coast Prairie Redox (A16)(**MLRA 147, 148**)
☐ Piedmont Floodplain Soils (F19)
 (**MLRA 136, 147**)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problem

Restrictive Layer (if observed) Type: _____ Depth (inches): _____	Hydric soil present? <u> N </u>
---	-----------------------------------

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name Upland PB-07,08
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date 6/6/2018
 Investigator(s) M. Thomayer, T. Qualio; Jacob: Section, Township, Range S 21 T 12N R 5W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2
 Subregion (LRR or MLRA): LRR N Lat.: 40.42572479 Long.: -81.05013349 Datum: NAD 83
 Soil Map Unit Name WnF - Westmoreland-Dekalb complex, 40 to 70 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland data point adjacent to Wetlands PB-07 and PB-08, within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Oxidized Rhizospheres on Living |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Imagery (B7) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |
| <input type="checkbox"/> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Microtopographic Relief (D4) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

**Wetland
hydrology
present?** N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-6/6/18-05/0

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Poa pratensis</i>						50	Y	FACU
2	<i>Solidago sp.</i>						30	Y	FAC
3	<i>Rubus pensilvanicus</i>						20	Y	FAC
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							100	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column totals	100 (A)		350 (B)
Prevalence Index = B/A =			3.50

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

Solidago sp. conservatively assigned FAC indicator status.

SOIL

Sampling Point: Upl-mdt-6/6/18-05/06

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Upland PB-09,10
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/6/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S 20 T 12N R 5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.40764607 Long.: -81.05168331 Datum: NAD 83
 Soil Map Unit Name: GsB - Glenford silt loam, 3 to 8 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland data point adjacent to Wetlands PB-09 and PB-10, within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:		Wetland hydrology present? <u>N</u>
Surface water present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Water table present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe)	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-6/6/2018-07

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Verbesina alternifolia</i>						70	Y	FAC
2	<i>Poa pratensis</i>						25	Y	FACU
3	<i>Dicanthelium clandestinum</i>						15	N	FAC
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							110	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	22	55
Woody Vine Stratum	0	0

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: 50.00% (A/B)

Prevalence Index Worksheet
 Total % Cover of:
 OBL species 0 x 1 = 0
 FACW species 0 x 2 = 0
 FAC species 85 x 3 = 255
 FACU species 25 x 4 = 100
 UPL species 0 x 5 = 0
 Column totals 110 (A) 355 (B)
 Prevalence Index = B/A = 3.23

Hydrophytic Vegetation Indicators:
☐ Rapid test for hydrophytic vegetation
☐ Dominance test is >50%
☐ Prevalence index is ≤3.0*
☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
☐ Problematic hydrophytic vegetation* (explain)
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: Upl-mdt-6/6/2018-07

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name Upland PB-11
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date 6/07/2018
 Investigator(s) M. Thomayer, T. Qualio; Jacob: Section, Township, Range S 20 T 12N R 5W
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.39960799 Long.: -81.05185961 Datum: NAD 83
 Soil Map Unit Name GsB - Glenford silt loam, 3 to 8 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland data point adjacent to Wetland PB-11 and within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Oxidized Rhizospheres on Living |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Imagery (B7) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |
| <input type="checkbox"/> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Microtopographic Relief (D4) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

**Wetland
hydrology
present?** N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-6/07/2018-C

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Poa pratensis</i>						65	Y	FACU
2	<i>Solidago rugosa</i>						25	Y	FAC
3	<i>Trifolium repens</i>						20	N	FACU
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							110	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	22	55
Woody Vine Stratum	0	0

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: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column totals	110 (A)		415 (B)
Prevalence Index = B/A =			3.77

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: Upl-mdt-6/07/2018-03

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Upland PB-12,13
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/07/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S 19 T 12 N R 5 W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.39812932 Long.: -81.05192015 Datum: NAD 83
 Soil Map Unit Name: CnD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland data point adjacent to Wetlands PB-12 and PB-13, within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:		Wetland hydrology present? <u>N</u>
Surface water present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Water table present?	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe)	Yes <u> </u> No <u>X</u> Depth (inches): <u> </u>	

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-6/07/2018-C

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Solidago rugosa</i>						50	Y	FAC
2	<i>Dichanthelium clandestinum</i>						30	Y	FAC
3	<i>Verbesina alternifolia</i>						20	N	FAC
4	<i>Rubus pensilvanicus</i>						15	N	FAC
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							115	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	23	58
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	115	x 3 =	345
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	115	(A)	345 (B)
Prevalence Index = B/A =			3.00

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

§

SOIL

Sampling Point: Upl-mdt-6/07/2018-01

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name Upland PB-14
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date 6/07/2018
 Investigator(s) M. Thomayer, T. Qualio; Jacob: Section, Township, Range S 19 T 12N R 5W
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.3838428 Long.: -81.05263681 Datum: NAD 83
 Soil Map Unit Name WnE - Westmoreland-Dekalb complex, 25 to 40 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland data point adjacent to Wetland PB-14 and within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)		<u> </u> Surface Soil Cracks (B6)	
<u> </u> Surface Water (A1)	<u> </u> True Aquatic Plants (B14)	<u> </u> Sparsely Vegetated Concave Surface (B8)	
<u> </u> High Water Table (A2)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Drainage Patterns (B10)	
<u> </u> Saturation (A3)	<u> </u> Oxidized Rhizospheres on Living	<u> </u> Moss Trim Lines (B16)	
<u> </u> Water Marks (B1)	<u> </u> Roots (C3)	<u> </u> Dry-Season Water Table (C2)	
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u> </u> Crayfish Burrows (C8)	
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled	<u> </u> Saturation Visible on Aerial Imagery (C9)	
<u> </u> Algal Mat or Crust (B4)	<u> </u> Soils (C6)	<u> </u> Stunted or Stressed Plants (D1)	
<u> </u> Iron Deposits (B5)	<u> </u> Thin Muck Surface (C7)	<u> </u> Geomorphic Position (D2)	
<u> </u> Inundation Visible on Aerial	<u> </u> Other (Explain in Remarks)	<u> </u> Shallow Aquitard (D3)	
<u> </u> Imagery (B7)		<u> </u> Microtopographic Relief (D4)	
<u> </u> Water-Stained Leaves (B9)		<u> </u> FAC-Neutral Test (D5)	
<u> </u> Aquatic Fauna (B13)			

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):
 (includes capillary fringe)

**Wetland
hydrology
present?** N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-6/07/2018-C

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Fragaria virginiana</i>						30	Y	FACU
2	<i>Rubus allegheniensis</i>						20	Y	FACU
3	<i>Poa pratensis</i>						20	Y	FACU
4	<i>Solidago rugosa</i>						15	N	FAC
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							85	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	17	43
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column totals	85 (A)		325 (B)
Prevalence Index = B/A =			3.82

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

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

5

SOIL

Sampling Point: Upl-mdt-6/07/2018-04

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Upland PB-15
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/07/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S 24 T 11 N R 5 W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.37875768 Long.: -81.05310721 Datum: NAD 83
 Soil Map Unit Name: Me - Melvin silt loam, frequently ponded, 0 to 3 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland data point adjacent to Wetland PB-15 and within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Oxidized Rhizospheres on Living |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Imagery (B7) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |
| <input type="checkbox"/> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Microtopographic Relief (D4) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

**Wetland
hydrology
present?** N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: U-mdt-6/07/2018-08

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>poa pratensis</i>						80	Y	FACU
2	<i>Solidago rugosa</i>						30	Y	FAC
3	<i>Trifolium pratense</i>						25	N	FACU
4	<i>Vernonia gigantea</i>						10	N	FAC
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							145	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	29	73
Woody Vine Stratum	0	0

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: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column totals	145 (A)		540 (B)
Prevalence Index = B/A =			3.72

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: U-mdt-6/07/2018-08

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Upland PB-16,17
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/07/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S 24 T 11 N R 5 W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.37551503 Long.: -81.05299632 Datum: NAD 83
 Soil Map Unit Name: CnD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland data point adjacent to Wetland PB-16 and PB-17, within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)		<u> </u> Surface Soil Cracks (B6)	
<u> </u> Surface Water (A1)	<u> </u> True Aquatic Plants (B14)	<u> </u> Sparsely Vegetated Concave Surface (B8)	
<u> </u> High Water Table (A2)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Drainage Patterns (B10)	
<u> </u> Saturation (A3)	<u> </u> Oxidized Rhizospheres on Living	<u> </u> Moss Trim Lines (B16)	
<u> </u> Water Marks (B1)	<u> </u> Roots (C3)	<u> </u> Dry-Season Water Table (C2)	
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u> </u> Crayfish Burrows (C8)	
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled	<u> </u> Saturation Visible on Aerial Imagery (C9)	
<u> </u> Algal Mat or Crust (B4)	<u> </u> Soils (C6)	<u> </u> Stunted or Stressed Plants (D1)	
<u> </u> Iron Deposits (B5)	<u> </u> Thin Muck Surface (C7)	<u> </u> Geomorphic Position (D2)	
<u> </u> Inundation Visible on Aerial	<u> </u> Other (Explain in Remarks)	<u> </u> Shallow Aquitard (D3)	
<u> </u> Imagery (B7)		<u> </u> Microtopographic Relief (D4)	
<u> </u> Water-Stained Leaves (B9)		<u> </u> FAC-Neutral Test (D5)	
<u> </u> Aquatic Fauna (B13)			

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):
 (includes capillary fringe)

Wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: u-mdt-060718-06,07

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Solidago rugosa</i>						60	Y	FAC
2	<i>Verbesina alternifolia</i>						25	Y	FAC
3	<i>Apocynum cannabinum</i>						25	Y	FACU
4	<i>Rubus allegheniensis</i>						15	N	FACU
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							125	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	25	63
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	85	x 3 =	255
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column totals	125 (A)		415 (B)
Prevalence Index = B/A =			3.32

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: u-mdt-060718-06,07

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name Upland PB-18
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date 6/07/2018
 Investigator(s) M. Thomayer, T. Qualio; Jacob: Section, Township, Range S 24 T 11 N R 5 W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.37465371 Long.: -81.05297605 Datum: NAD 83
 Soil Map Unit Name CnD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

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

Are vegetation , soil X, or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland data point adjacent to Wetland PB-18 and within maintained ROW. The area has been disturbed by recent pipeline construction.

HYDROLOGY

Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)

Primary Indicators (minimum of one is required; check all that apply)

<u> </u> Surface Water (A1)	<u> </u> True Aquatic Plants (B14)	<u> </u> Surface Soil Cracks (B6)
<u> </u> High Water Table (A2)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Sparsely Vegetated Concave Surface (B8)
<u> </u> Saturation (A3)	<u> </u> Oxidized Rhizospheres on Living	<u> </u> Drainage Patterns (B10)
<u> </u> Water Marks (B1)	<u> </u> Roots (C3)	<u> </u> Moss Trim Lines (B16)
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u> </u> Dry-Season Water Table (C2)
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled	<u> </u> Crayfish Burrows (C8)
<u> </u> Algal Mat or Crust (B4)	<u> </u> Soils (C6)	<u> </u> Saturation Visible on Aerial Imagery (C9)
<u> </u> Iron Deposits (B5)	<u> </u> Thin Muck Surface (C7)	<u> </u> Stunted or Stressed Plants (D1)
<u> </u> Inundation Visible on Aerial	<u> </u> Other (Explain in Remarks)	<u> </u> Geomorphic Position (D2)
<u> </u> Imagery (B7)		<u> </u> Shallow Aquitard (D3)
<u> </u> Water-Stained Leaves (B9)		<u> </u> Microtopographic Relief (D4)
<u> </u> Aquatic Fauna (B13)		<u> </u> FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

**Wetland
hydrology
present?** N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-6/07/2018-C

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Poa pratensis</i>						60	Y	FACU
2	<i>Solidago rugosa</i>						15	Y	FAC
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							75	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	15	38
Woody Vine Stratum	0	0

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: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column totals	75 (A)		285 (B)
Prevalence Index = B/A =			3.80

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: Upl-mdt-6/07/2018-05

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10 YR 4/2	100					Silt loam	rock in pit

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10) (**LRR N**)
☐ Depleted 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)

☐ Dark Surface (S7)
☐ Polyvalue Below Surface (S8)
☐ (**MLRA 147, 148**)
☐ Thin Dark Surface (S9)
☐ (**MLRA 147, 148**)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Iron-Manganese Masses (F12) **LRR N, MLRA 136**
☐ Umbric Surface (F13) (**MLRA 136, 122**)
☐ Piedmont Floodplain Soils (F19) **MLRA 148**
☐ Red Parent Material (F21) (**MLRA 127, 147**)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**MLRA 147**)
☐ Coast Prairie Redox (A16) (**MLRA 147, 148**)
☐ Piedmont Floodplain Soils (F19)
☐ (**MLRA 136, 147**)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problem

Restrictive Layer (if observed)

Type: RockyDepth (inches): 10Hydric soil present? N

Remarks:

Disturbed by recent pipeline construction.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Upland PB-19
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/11/2018
 Investigator(s): M. Thomayer, B. Otto Jacobs Section, Township, Range: S 23 T 11N R 5W Sampling Point U-bao-6/11/2018-01
 Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA) LRR N Lat.: 40.36391485 Long.: -81.05270745 Datum: NAD 83
 Soil Map Unit Name WnE - Westmoreland-Dekalb complex, 25 to 40 percent slopes NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal Yes

Are vegetation , soil , or hydrology naturally problematic? circumstances" present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> No </u> Hydric soil present? <u> No </u> Wetland hydrology present? <u> No </u>	Is the sampled area within a wetland? <u> No </u>
Remarks: <div style="text-align: center; margin-top: 20px;">Upland point for PEM Wetland PB-19 in routinely maintained ROW.</div>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)		Wetland hydrology present? <u> N </u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: U-bao-6/11/2018-01

50/20 Thresholds					
Tree Stratum	Plot Size (30 ft.)	Absolute % Cover	Dominant Species	Indicator Status	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
		0 = Total Cover			
Sapling/Shrub Stratum	Plot Size (15 ft.)	Absolute % Cover	Dominant Species	Indicator Status	
1	<i>Rubus allegheniensis</i>	20	Y	FACU	
2	<i>Rhus copallinum</i>	10	Y	FACU	
3					
4					
5					
6					
7					
8					
9					
10					
		30 = Total Cover			
Herb Stratum	Plot Size (5 ft.)	Absolute % Cover	Dominant Species	Indicator Status	
1	<i>Verbesina alternifolia</i>	40	Y	FAC	
2	<i>Dichanthelium clandestinum</i>	20	Y	FAC	
3	<i>Trifolium repens</i>	20	Y	FACU	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
		80 = Total Cover			
Woody Vine Stratum	Plot Size (30 ft.)	Absolute % Cover	Dominant Species	Indicator Status	
1					
2					
3					
4					
5					
		0 = Total Cover			

50/20 Thresholds

Tree Stratum	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	6	15
Herb Stratum	16	40
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 40.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>60</u>	x 3 =	<u>180</u>
FACU species	<u>50</u>	x 4 =	<u>200</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>110</u>	(A)	<u>380</u> (B)

Prevalence Index = B/A = 3.45

Hydrophytic Vegetation Indicators

 Rapid test for hydrophytic vegetation

 Dominance test is >50%

 Prevalence index is ≤3.0*

 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

 Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

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

S

SOIL

Sampling Point: U-bao-6/11/2018-01

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Upland PB-20
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/11/2018
 Investigator(s): M. Thomayer, B. Otto Jacobs Section, Township, Range: S 23 T 11N R 5W Sampling Point Upl-bao-6/11/2018-03
 Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA) LRR N Lat.: 40.3576897 Long.: -81.05195388 Datum: NAD 83
 Soil Map Unit Name WnE - Westmoreland-Dekalb complex, 25 to 40 percent slopes NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal Yes

Are vegetation , soil , or hydrology naturally problematic? circumstances" present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> No </u> Hydric soil present? <u> No </u> Wetland hydrology present? <u> No </u>	Is the sampled area within a wetland? <u> No </u>
Remarks: <div style="text-align: center; margin-top: 20px;">Upland point for PEM Wetland PB-20 in routinely maintained ROW.</div>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): <u> </u> (includes capillary fringe)		Wetland hydrology present? <u> N </u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: Upl-bao-6/11/2018-6

Tree Stratum						50/20 Thresholds		
Plot Size (	30 ft.	)	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1						Tree Stratum	0	0
2						Sapling/Shrub Stratum	0	0
3						Herb Stratum	20	50
4						Woody Vine Stratum	0	0
5								
6								
7								
8								
9								
10								
			0	= Total Cover				
Sapling/Shrub Stratum						Dominance Test Worksheet		
Plot Size (	15 ft.	)	Absolute % Cover	Dominant Species	Indicator Status	Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)		
						Total Number of Dominant Species Across all Strata: <u>3</u> (B)		
						Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)		
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
			0	= Total Cover				
Herb Stratum						Prevalence Index Worksheet		
Plot Size (	5 ft.	)	Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:		
						OBL species <u>0</u> x 1 = <u>0</u>		
						FACW species <u>0</u> x 2 = <u>0</u>		
						FAC species <u>70</u> x 3 = <u>210</u>		
						FACU species <u>30</u> x 4 = <u>120</u>		
						UPL species <u>0</u> x 5 = <u>0</u>		
						Column totals <u>100</u> (A) <u>330</u> (B)		
						Prevalence Index = B/A = <u>3.30</u>		
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
			100	= Total Cover				
Woody Vine Stratum						Hydrophytic Vegetation Indicators		
Plot Size (	30 ft.	)	Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input type="checkbox"/> Prevalence index is ≤3.0* <input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
			0	= Total Cover				
						Definitions of Vegetation Strata:		
						Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.		
						Hydrophytic vegetation present? <u>Y</u>		

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

Poa sp. conservatively assigned FAC indicator status

SOIL

Sampling Point: Upl-bao-6/11/2018-03

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Upland PB-21
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/11/2018
 Investigator(s): M. Thomayer, B. Otto Jacobs Section, Township, Range: S 23 T 11N R 5W
 Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA) LRR N Lat.: 40.35644735 Long.: -81.05232966 Datum: NAD 83
 Soil Map Unit Name GuD2 - Guernsey silty clay loam, 15 to 25 percent slopes, eroded NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal Yes

Are vegetation , soil , or hydrology naturally problematic? circumstances" present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> </u> No <u> </u> Hydric soil present? <u> </u> No <u> </u> Wetland hydrology present? <u> </u> No <u> </u>	Is the sampled area within a wetland? <u> </u> No <u> </u>
Remarks: <div style="text-align: center; margin-top: 20px;">Upland point for PEM Wetland PB-21 in routinely maintained ROW.</div>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes <u> </u> No <u> </u> X <u> </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> </u> X <u> </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> </u> X <u> </u> Depth (inches): <u> </u> (includes capillary fringe)		Wetland hydrology present? <u> </u> N <u> </u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: Upl-bao-6/11/2018-(

Tree Stratum					50/20 Thresholds		
Plot Size (30 ft.)	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	22	55	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
	0 = Total Cover						
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size (15 ft.)	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant			
2				Species that are OBL,			
3				FACW, or FAC:	1	(A)	
4				Total Number of Dominant			
5				Species Across all Strata:	2	(B)	
6				Percent of Dominant			
7				Species that are OBL,			
8				FACW, or FAC:	50.00%	(A/B)	
9							
10							
	0 = Total Cover						
Herb Stratum					Prevalence Index Worksheet		
Plot Size (5 ft.)	Absolute % Cover	Dominant Species	Indicator Status				
1				Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	30 x 3 =	90	
5				FACU species	30 x 4 =	120	
6				UPL species	50 x 5 =	250	
7				Column totals	110 (A)	460 (B)	
8				Prevalence Index = B/A =		4.18	
9							
10							
11							
12							
13							
14							
15							
	110 = Total Cover						
Woody Vine Stratum					Hydrophytic Vegetation Indicators		
Plot Size (30 ft.)	Absolute % Cover	Dominant Species	Indicator Status				
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* (explain)			
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
	0 = Total Cover						
Remarks: (Include photo numbers here or on a separate sheet)					Definitions of Vegetation Strata:		
Poa sp. conservatively assigned FAC indicator status					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
					Woody vines - All woody vines greater than 3.28 ft in height.		
					Hydrophytic vegetation present? <u> N </u>		

SOIL

Sampling Point: Upl-bao-6/11/2018-02

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Upland PB-22
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/07/2018
 Investigator(s): M. Thomayer, B. Otto; Jacob Section, Township, Range: S 22 T 11 N R 5 W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.344151 Long.: -81.054849 Datum: NAD 83
 Soil Map Unit Name: WmE - Westmoreland-Coshocton complex, 25 to 40 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland data point adjacent to Wetland PB-22 and within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

**Wetland
hydrology
present?** N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-6/12/2018-C

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Trifolium pratense</i>						60	Y	FACU
2	<i>Poa pratensis</i>						40	Y	FACU
3	<i>Triticum aestivum</i>						20	N	UPL
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							120	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	24	60
Woody Vine Stratum	0	0

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: 0.00% (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	100	x 4 =	400
UPL species	20	x 5 =	100
Column totals	120 (A)		500 (B)
Prevalence Index = B/A =			4.17

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: Upl-mdt-6/12/2018-01

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name Upland PB-23
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date 6/07/2018
 Investigator(s) M. Thomayer, B. Otto; Jacob: Section, Township, Range S22 T11N R5W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.3300034 Long.: -81.06100922 Datum: NAD 83
 Soil Map Unit Name RcB-Richland silt loam, 2 to 6 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland data point adjacent to Wetland PB-23 and within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Oxidized Rhizospheres on Living |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Imagery (B7) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |
| <input type="checkbox"/> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Microtopographic Relief (D4) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

**Wetland
hydrology
present?** N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-6/12/2018-C

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Poa pratensis</i>						70	Y	FACU
2	<i>Dipsacus fullonum</i>						20	N	FACU
3	<i>Ambrosia artemisiifolia</i>						15	N	FACU
4	<i>Verbesina alternifolia</i>						10	N	FAC
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							115	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	23	58
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column totals	115 (A)		450 (B)
Prevalence Index = B/A =			3.91

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: Upl-mdt-6/12/2018-02

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name Upland PB-24
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date 6/07/2018
 Investigator(s) M. Thomayer, B. Otto; Jacob: Section, Township, Range S 21 T 11 N R 5 W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.3300034 Long.: -81.06100922 Datum: NAD 83
 Soil Map Unit Name RcB - Richland silt loam, 2 to 6 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland data point adjacent to Wetland PB-24 and within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

Wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-6/12/2018-C

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Dichanthelium clandestinum</i>				30		Y	FAC	
2	<i>Verbesina alternifolia</i>				30		Y	FAC	
3	<i>Cirsium arvense</i>				20		Y	FACU	
4	<i>Rubus allegheniensis</i>				20		Y	FACU	
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							100	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>60</u>	x 3 =	<u>180</u>
FACU species	<u>40</u>	x 4 =	<u>160</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>100</u> (A)		<u>340</u> (B)
Prevalence Index = B/A =			<u>3.40</u>

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: Upl-mdt-6/12/2018-03

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name Upland PB-25
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date 6/07/2018
 Investigator(s) M. Thomayer, B. Otto; Jacob: Section, Township, Range S 21 T 11 N R 5 W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.32873025 Long.: -81.06160298 Datum: NAD 83
 Soil Map Unit Name RcB - Richland silt loam, 2 to 6 percent slope NWI Classification: N/A

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

Are vegetation , soil X, or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric soil present? <u>No</u>	
Wetland hydrology present? <u>No</u>	

Remarks:

Upland data point adjacent to Wetland PB-25 and within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Oxidized Rhizospheres on Living |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Imagery (B7) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |
| <input type="checkbox"/> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Microtopographic Relief (D4) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes No X Depth (inches):
 (includes capillary fringe)

Wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Upl-mdt-06122018-C

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Trifolium pratense</i>						60	Y	FACU
2	<i>Poa pratensis</i>						30	Y	FACU
3	<i>Plantago major</i>						30	Y	FACU
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							120	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	24	60
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (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	120	x 4 =	480
UPL species	0	x 5 =	0
Column totals	120 (A)		480 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: Upl-mdt-06122018-04

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Report Name: Wetland PB-01
 Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Sampling Date: 5/24/2018
 Applicant/Owner: FirstEnergy State: Ohio Sampling Point: W-tmq-05/24/18-04
 Investigator(s): T. Qualio, J.Freer; Jacobs Section, Township, Range: S23 T12N R5W
 Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave Slope (%): 1-3
 Subregion (LRR or MLRA): LRR N Lat.: 40.451423 Long.: -81.049639 Datum: WGS 84
 Soil Map Unit Name: RgD - Rigley sandy loam, 15 to 25 percent slopes NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes X No (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes
 Are vegetation , soil , or hydrology naturally problematic? present?
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u> Hydric soil present? <u>Yes</u> Wetland hydrology present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Remarks: PEM wetland in routinely maintained ROW, depressional wetland drains into NHD stream.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>1</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>10</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)		Wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: W-tmq-05/24/18-04

Tree Stratum					50/20 Thresholds		
Tree Stratum	Plot Size (30 ft.)	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree Stratum	0	0
2					Sapling/Shrub Stratum	0	0
3					Herb Stratum	25	63
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		0	= Total Cover				
					Dominance Test Worksheet		
					Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)		
					Total Number of Dominant Species Across all Strata: <u>2</u> (B)		
					Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)		
					Prevalence Index Worksheet		
					Total % Cover of:		
					OBL species <u>45</u> x 1 = <u>45</u>		
					FACW species <u>60</u> x 2 = <u>120</u>		
					FAC species <u>20</u> x 3 = <u>60</u>		
					FACU species <u>0</u> x 4 = <u>0</u>		
					UPL species <u>0</u> x 5 = <u>0</u>		
					Column totals <u>125</u> (A) <u>225</u> (B)		
					Prevalence Index = B/A = <u>1.80</u>		
					Hydrophytic Vegetation Indicators:		
					<input checked="" type="checkbox"/> Rapid test for hydrophytic vegetation		
					<input checked="" type="checkbox"/> Dominance test is >50%		
					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
					Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
					Definitions of Vegetation Strata:		
					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
					Woody vines - All woody vines greater than 3.28 ft in height.		
					Hydrophytic vegetation present? <u>Y</u>		
Remarks: (Include photo numbers here or on a separate sheet)							

SOIL

Sampling Point: W-tmq-05/24/18-04

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (**LRR N**)
- ☐ Depleted 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)

<input type="checkbox"/>	Dark Surface (S7)	<input type="checkbox"/>	2 cm
<input type="checkbox"/>	Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/>	Coars
<input type="checkbox"/>	Thin Dark Surface (S9)	<input type="checkbox"/>	Piedr
<input type="checkbox"/>	(MLRA 147, 148)	<input type="checkbox"/>	(MLR
<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Very
<input checked="" type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	Other
<input type="checkbox"/>	Redox Dark Surface (F6)		
<input type="checkbox"/>	Depleted Dark Surface (F7)		
<input type="checkbox"/>	Redox Depressions (F8)		
<input type="checkbox"/>	Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/>	Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/>	Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/>	Red Parent Material (F21) (MLRA 127, 147)		

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) **(MLRA 147)**
☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
☐ Piedmont Floodplain Soils (F19)
☐ **(MLRA 136, 147)**
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-02
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 5/24/2018
 Investigator(s): T. Qualio, J. Freer, Jacobs Section, Township, Range: S23 T12N R5W Sampling Point: W-tmq-05/24/18-03
 Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave Slope (%): 1-3
 Subregion (LRR or MLRA): LRR N Lat.: 40.448444 Long.: -81.049571 Datum: WGS 84
 Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flooded NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes X No (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes
 Are vegetation , soil , or hydrology naturally problematic? present?
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u> Hydric soil present? <u>Yes</u> Wetland hydrology present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Remarks: PEM wetland in routinely maintained ROW, depressional wetland drains into NHD stream.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>1</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0-3</u> (includes capillary fringe)		Wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: W-tmq-05/24/18-03

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Poa palustris</i>						65	Y	FACW
2	<i>Juncus effusus</i>						25	Y	FACW
3	<i>Vernonia noveboracensis</i>						10	N	FACW
4	<i>Carex lurida</i>						10	N	OBL
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							110	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	22	55
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	10	x 1 =	10
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	110 (A)		210 (B)
Prevalence Index = B/A =			1.91

Hydrophytic Vegetation Indicators:

☒ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-tmq-05/24/18-03

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name: Wetland PB-03
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/6/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S23 T12N R5W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR or MLRA): LRR N Lat.: 40.446774 Long.: -81.049839 Datum: NAD 83
 Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flood NWI Classification: R4SBC

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes ☒ No ☐ (If no, explain in remarks)

Are vegetation, soil, or hydrology significantly disturbed? Are "normal circumstances" present? Yes ☐

Are vegetation, soil, or hydrology naturally problematic? present? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland in floodplain within maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)		<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Imagery (B7)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> 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): 6
 (includes capillary fringe)

**Wetland
hydrology
present?** Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout, wetland receives flooding from perennial stream

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/6/2018-04

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Phalaris arundinacea</i>						100	Y	FACW
2	<i>Impatiens capensis</i>						20	N	FACW
3	<i>Verbesina alternifolia</i>						20	N	FAC
4	<i>Rubus pensilvanicus</i>						10	N	FAC
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							150	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	30	75
Woody Vine Stratum	0	0

Dominance Test Worksheet
 Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across all Strata: 1 (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet
 Total % Cover of:
 OBL species 0 x 1 = 0
 FACW species 120 x 2 = 240
 FAC species 30 x 3 = 90
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column totals 150 (A) 330 (B)
 Prevalence Index = B/A = 2.20

Hydrophytic Vegetation Indicators:
☒ Rapid test for hydrophytic vegetation
☒ Dominance test is >50%
☒ Prevalence index is ≤3.0*
 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
 Problematic hydrophytic vegetation* (explain)
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/6/2018-04

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name: Wetland PB-04
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/6/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob Section, Township, Range: S23 T12N R5W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR or MLRA): LRR N Lat.: 40.446056 Long.: -81.049701 Datum: NAD 83
 Soil Map Unit Name: CpD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland on hillside within linear swale in maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:				Wetland hydrology present? <u>Y</u>	
Surface water present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>1</u>		
Water table present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u> </u>		
Saturation present? (includes capillary fringe)	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>0</u>		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout, wetland conveys surface flow

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/6/2018-03

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Symplocarpus foetidus</i>						45	Y	OBL
2	<i>Carex vulpinoidea</i>						20	Y	OBL
3	<i>Phalaris arundinacea</i>						15	N	FACW
4	<i>Juncus effusus</i>						10	N	FACW
5	<i>Carex lurida</i>						10	N	OBL
6	<i>Onoclea sensibilis</i>						10	N	FACW
7	<i>Impatiens capensis</i>						5	N	FACW
8									
9									
10									
11									
12									
13									
14									
15									
							115	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	23	58
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	75	x 1 =	75
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	115	(A)	155
Prevalence Index = B/A =			1.35

Hydrophytic Vegetation Indicators:

☒ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/6/2018-03

Sampling Form - W.M.A. 6/3/2016

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 4/1	80	7.5YR 3/3	20	C	M	sandy clay	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Thin Dark Surface (S9)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> X Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> (LRR N, MLRA 147, 148)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Iron-Manganese Masses (F12) LRR N, MLRA 136
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) MLRA 148
	<input type="checkbox"/> Red Parent Material (F21)(MLRA 127, 147)

Indicators for Problematic Hydric Soils:

<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Coast Prairie Redox (A16)(MLRA 147, 148)
<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problem

Restrictive Layer (if observed) Type: _____ Depth (inches): _____	Hydric soil present? <u> Y </u>
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Remarks:

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name: Wetland PB-05
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/6/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob Section, Township, Range: S23 T12N R5W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.44302 Long.: -81.049866 Datum: NAD 83
 Soil Map Unit Name: CpD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland on hillside surrounding small stream in maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<u> </u> Surface Water (A1)	<u> </u> True Aquatic Plants (B14)	<u> </u> Surface Soil Cracks (B6)	
<u> </u> High Water Table (A2)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Sparsely Vegetated Concave Surface (B8)	
<u>X</u> Saturation (A3)	<u> </u> Oxidized Rhizospheres on Living	<u>X</u> Drainage Patterns (B10)	
<u> </u> Water Marks (B1)	<u> </u> Roots (C3)	<u> </u> Moss Trim Lines (B16)	
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u> </u> Dry-Season Water Table (C2)	
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled	<u> </u> Crayfish Burrows (C8)	
<u> </u> Algal Mat or Crust (B4)	<u> </u> Soils (C6)	<u> </u> Saturation Visible on Aerial Imagery (C9)	
<u> </u> Iron Deposits (B5)	<u>X</u> Thin Muck Surface (C7)	<u> </u> Stunted or Stressed Plants (D1)	
<u> </u> Inundation Visible on Aerial	<u> </u> Other (Explain in Remarks)	<u> </u> Geomorphic Position (D2)	
<u> </u> Imagery (B7)		<u> </u> Shallow Aquitard (D3)	
<u> </u> Water-Stained Leaves (B9)		<u>X</u> Microtopographic Relief (D4)	
<u> </u> Aquatic Fauna (B13)		<u>X</u> FAC-Neutral Test (D5)	

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes X No Depth (inches): 0
 (includes capillary fringe)

Wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout, surrounds small stream

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/6/2018-02

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex vulpinoidea</i>						60	Y	OBL
2	<i>Impatiens capensis</i>						25	Y	FACW
3	<i>Carex lurida</i>						20	N	OBL
4	<i>Onoclea sensibilis</i>						10	N	FACW
5	<i>Juncus effusus</i>						10	N	FACW
6	<i>Symplocarpus foetidus</i>						5	N	OBL
7									
8									
9									
10									
11									
12									
13									
14									
15									
							130	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	26	65
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	85	x 1 =	85
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	130	(A)	175
Prevalence Index = B/A =			1.35

Hydrophytic Vegetation Indicators:

☒ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/6/2018-02

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name Wetland PB-06
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date 6/6/2018
 Investigator(s) M. Thomayer, T. Qualio; Jacob: Section, Township, Range S23 T12N R5W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.442307 Long.: -81.050011 Datum: NAD 83
 Soil Map Unit Name CpD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland on hillside likely from a seep in maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <u> </u> Surface Water (A1) | <u> </u> True Aquatic Plants (B14) |
| <u>X</u> High Water Table (A2) | <u> </u> Hydrogen Sulfide Odor (C1) |
| <u>X</u> Saturation (A3) | <u> </u> Oxidized Rhizospheres on Living |
| <u> </u> Water Marks (B1) | <u> </u> Roots (C3) |
| <u> </u> Sediment Deposits (B2) | <u> </u> Presence of Reduced Iron (C4) |
| <u> </u> Drift Deposits (B3) | <u> </u> Recent Iron Reduction in Tilled |
| <u> </u> Algal Mat or Crust (B4) | <u> </u> Soils (C6) |
| <u> </u> Iron Deposits (B5) | <u>X</u> Thin Muck Surface (C7) |
| <u> </u> Inundation Visible on Aerial | <u> </u> Other (Explain in Remarks) |
| <u> </u> Imagery (B7) | |
| <u> </u> Water-Stained Leaves (B9) | |
| <u> </u> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <u> </u> Surface Soil Cracks (B6) |
| <u> </u> Sparsely Vegetated Concave Surface (B8) |
| <u>X</u> Drainage Patterns (B10) |
| <u> </u> Moss Trim Lines (B16) |
| <u> </u> Dry-Season Water Table (C2) |
| <u> </u> Crayfish Burrows (C8) |
| <u> </u> Saturation Visible on Aerial Imagery (C9) |
| <u> </u> Stunted or Stressed Plants (D1) |
| <u> </u> Geomorphic Position (D2) |
| <u> </u> Shallow Aquitard (D3) |
| <u>X</u> Microtopographic Relief (D4) |
| <u>X</u> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u> </u>
Water table present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>5</u>
Saturation present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>0</u>

(includes capillary fringe)

Wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout, water in pit

VEGETATION - Use scientific names of plants

Sampling Point: w-mdt-6/6/2018-01

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Impatiens capensis</i>						50	Y	FACW
2	<i>Onoclea sensibilis</i>						40	Y	FACW
3	<i>Carex lurida</i>						20	N	OBL
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							110	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	22	55
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet
 Total % Cover of:
 OBL species 20 x 1 = 20
 FACW species 90 x 2 = 180
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column totals 110 (A) 200 (B)
 Prevalence Index = B/A = 1.82

Hydrophytic Vegetation Indicators:
☒ Rapid test for hydrophytic vegetation
☒ Dominance test is >50%
☒ Prevalence index is ≤3.0*
 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
 Problematic hydrophytic vegetation* (explain)
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: w-mdt-6/6/2018-01

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name: Wetland PB-07
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/6/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S21 T12N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.426431 Long.: -81.050114 Datum: NAD 83
 Soil Map Unit Name: RgE - Ringley loam, 25 to 40 percent slope NWI Classification: R4SBC

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation , soil , or hydrology naturally problematic? present?
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland in valley surrounding intermittent stream in maintained ROW/pasture.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Iron Deposits (B5) | |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |
| <input type="checkbox"/> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Microtopographic Relief (D4) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <u>X</u>	No <u></u>	Depth (inches): <u>1</u>
Water table present?	Yes <u></u>	No <u>X</u>	Depth (inches): <u></u>
Saturation present? (includes capillary fringe)	Yes <u>X</u>	No <u></u>	Depth (inches): <u>0</u>

Wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout with pockets of inundation; periodically receives flooding

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/6/2018-06

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex lurida</i>						30	Y	OBL
2	<i>Carex vulpinoidea</i>						20	Y	OBL
3	<i>Symplocarpus foetidus</i>						15	N	OBL
4	<i>Impatiens capensis</i>						15	N	FACW
5	<i>Juncus effusus</i>						10	N	FACW
6	<i>Onoclea sensibilis</i>						10	N	FACW
7									
8									
9									
10									
11									
12									
13									
14									
15									
							100	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	65	x 1 =	65
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	100 (A)		135 (B)
Prevalence Index = B/A =			1.35

Hydrophytic Vegetation Indicators:

☒ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/6/2018-06

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name: Wetland PB-08
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/6/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S21 T12N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.425511 Long.: -81.050228 Datum: NAD 83
 Soil Map Unit Name: WnF - Westmoreland-Dekalb complex, 40 to 70 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland in valley surrounding ephemeral stream within maintained ROW/pasture.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Oxidized Rhizospheres on Living |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input checked="" type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Imagery (B7) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |
| <input type="checkbox"/> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input checked="" type="checkbox"/> Microtopographic Relief (D4) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>1</u>
Water table present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u> </u>
Saturation present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>0</u>

(includes capillary fringe)

**Wetland
hydrology
present?** Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout, wetland receives flooding from ephemeral stream/seeps

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/6/2018-05

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Panicum sp.</i>						60	Y	
2	<i>Carex vulpinoidea</i>						30	Y	OBL
3	<i>Impatiens capensis</i>						30	Y	FACW
4	<i>Eupatorium perfoliatum</i>						10	N	FACW
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							130	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	26	65
Woody Vine Stratum	0	0

Dominance Test Worksheet
 Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across all Strata: 3 (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index Worksheet
 Total % Cover of:
 OBL species 30 x 1 = 30
 FACW species 40 x 2 = 80
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column totals 70 (A) 110 (B)
 Prevalence Index = B/A = 1.57

Hydrophytic Vegetation Indicators:
☐ Rapid test for hydrophytic vegetation
☒ Dominance test is >50%
☒ Prevalence index is ≤3.0*
 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
☐ Problematic hydrophytic vegetation* (explain)
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/6/2018-05

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name: Wetland PB-09
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/6/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob Section, Township, Range: S20 T12N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.408456 Long.: -81.051824 Datum: NAD 83
 Soil Map Unit Name: BkE - BerkSchannery silt loam, 25 to 35 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland in valley adjacent to intermittent stream in maintained ROW

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:

Surface water present? Yes X No Depth (inches): 1
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes X No Depth (inches): 0
 (includes capillary fringe)

Wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout with pockets of inundation

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/6/2018-08

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex vulpinoidea</i>						50	Y	OBL
2	<i>Onoclea sensibilis</i>						30	Y	FACW
3	<i>Carex lurida</i>						20	N	OBL
4	<i>Juncus effusus</i>						20	N	FACW
5	<i>Impatiens capensis</i>						15	N	FACW
6	<i>Eupatorium perfoliatum</i>						10	N	FACW
7	<i>Symplocarpus foetidus</i>						10	N	OBL
8									
9									
10									
11									
12									
13									
14									
15									
							155	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	31	78
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	80	x 1 =	80
FACW species	75	x 2 =	150
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	155 (A)		230 (B)
Prevalence Index = B/A =			1.48

Hydrophytic Vegetation Indicators:

☒ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/6/2018-08

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Carroll Report Name: Wetland PB-10
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/6/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S20 T12N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.40766 Long.: -81.051582 Datum: NAD 83
 Soil Map Unit Name: GsB - Glenford silt loam, 3 to 8 percent slope NWI Classification: R4SBC

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland in valley between pond and intermittent stream in maintained ROW

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Oxidized Rhizospheres on Living |
| <input type="checkbox"/> Water Marks (B1) | <input checked="" type="checkbox"/> Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |
| <input type="checkbox"/> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input checked="" type="checkbox"/> Microtopographic Relief (D4) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>1</u>
Water table present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u> </u>
Saturation present? (includes capillary fringe)	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>0</u>

Wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout with pockets of inundation; may periodically receive flooding

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/6/2018-07

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Impatiens capensis</i>						60	Y	FACW
2	<i>Carex lurida</i>						30	Y	OBL
3	<i>Juncus effusus</i>						30	Y	FACW
4	<i>Carex vulpinoidea</i>						20	N	OBL
5	<i>Panicum sp.</i>						20	N	
6	<i>Onoclea sensibilis</i>						10	N	FACW
7	<i>Symplocarpus foetidus</i>						10	N	OBL
8									
9									
10									
11									
12									
13									
14									
15									
							180	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	36	90
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet
 Total % Cover of:
 OBL species 60 x 1 = 60
 FACW species 100 x 2 = 200
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column totals 160 (A) 260 (B)
 Prevalence Index = B/A = 1.63

Hydrophytic Vegetation Indicators:
☐ Rapid test for hydrophytic vegetation
☒ Dominance test is >50%
☒ Prevalence index is ≤3.0*
 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
☐ Problematic hydrophytic vegetation* (explain)
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/6/2018-07

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-11
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/07/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob Section, Township, Range: S20 T12N R5W
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.399676 Long.: -81.051811 Datum: NAD 83
 Soil Map Unit Name: GsB - Glenford silt loam, 3 to 8 percent slope NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes ☒ No ☐ (If no, explain in remarks)

Are vegetation, soil, or hydrology significantly disturbed? Are "normal circumstances" present? Yes ☐

Are vegetation, soil, or hydrology naturally problematic? present? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland in maintained ROW/cow pasture.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:		Wetland hydrology present?	
Surface water present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u>	Wetland hydrology present? <u>Y</u>	
Water table present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u>		
Saturation present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout with some surface flow

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/07/2018-03

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Poa palustris</i>						50	Y	FACW
2	<i>Juncus effusus</i>						25	Y	FACW
3	<i>Rumex crispus</i>						15	N	FAC
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							90	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	18	45
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	75	x 2 =	150
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	90	(A)	195 (B)
Prevalence Index = B/A =			2.17

Hydrophytic Vegetation Indicators:

☒ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/07/2018-03

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-12
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/07/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob Section, Township, Range: S20 T12N R5W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.39833 Long.: -81.051836 Datum: NAD 83
 Soil Map Unit Name: CnD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland on hillside in maintained ROW/cow pasture

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<u> </u> Surface Water (A1)	<u> </u> True Aquatic Plants (B14)	<u> </u> Surface Soil Cracks (B6)	
<u> </u> High Water Table (A2)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Sparsely Vegetated Concave Surface (B8)	
<u>X</u> Saturation (A3)	<u> </u> Oxidized Rhizospheres on Living	<u>X</u> Drainage Patterns (B10)	
<u> </u> Water Marks (B1)	<u> </u> Roots (C3)	<u> </u> Moss Trim Lines (B16)	
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u> </u> Dry-Season Water Table (C2)	
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled	<u> </u> Crayfish Burrows (C8)	
<u> </u> Algal Mat or Crust (B4)	<u> </u> Soils (C6)	<u> </u> Saturation Visible on Aerial Imagery (C9)	
<u> </u> Iron Deposits (B5)	<u>X</u> Thin Muck Surface (C7)	<u> </u> Stunted or Stressed Plants (D1)	
<u> </u> Inundation Visible on Aerial	<u> </u> Other (Explain in Remarks)	<u> </u> Geomorphic Position (D2)	
<u> </u> Imagery (B7)		<u> </u> Shallow Aquitard (D3)	
<u> </u> Water-Stained Leaves (B9)		<u> </u> Microtopographic Relief (D4)	
<u> </u> Aquatic Fauna (B13)		<u>X</u> FAC-Neutral Test (D5)	

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes X No Depth (inches): 0
 (includes capillary fringe)

**Wetland
hydrology
present?** Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout with some surface flow

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/07/2018-02

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex sp.</i>						40	Y	
2	<i>Juncus effusus</i>						25	Y	FACW
3	<i>Carex vulpinoidea</i>						20	N	OBL
4	<i>Eupatorium perfoliatum</i>						15	N	FACW
5	<i>Scirpus atrovirens</i>						5	N	OBL
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							105	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	21	53
Woody Vine Stratum	0	0

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: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	25	x 1 =	25
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	65 (A)		105 (B)
Prevalence Index = B/A =			1.62

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☒ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/07/2018-02

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-13
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/07/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob Section, Township, Range: S19 T12N R5W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.398059 Long.: -81.051966 Datum: NAD 83
 Soil Map Unit Name: CnD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes ☒ No ☐ (If no, explain in remarks)

Are vegetation, soil, or hydrology significantly disturbed? Are "normal circumstances" present? Yes ☐

Are vegetation, soil, or hydrology naturally problematic? present? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland on hillside in maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:

Surface water present? Yes ☐ No ☒ Depth (inches):
 Water table present? Yes ☐ No ☒ Depth (inches):
 Saturation present? Yes ☒ No ☐ Depth (inches): 0
 (includes capillary fringe)

Wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout with some surface flow

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/07/2018-01

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Impatiens capensis</i>						60	Y	FACW
2	<i>Phalaris arundinacea</i>						15	N	FACW
3	<i>Agrimonia parviflora</i>						15	N	FACW
4	<i>Carex comosa</i>						15	N	OBL
5	<i>Scirpus atrovirens</i>						10	N	OBL
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							115	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	23	58
Woody Vine Stratum	0	0

Dominance Test Worksheet
 Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across all Strata: 1 (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet
 Total % Cover of:
 OBL species 25 x 1 = 25
 FACW species 90 x 2 = 180
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column totals 115 (A) 205 (B)
 Prevalence Index = B/A = 1.78

Hydrophytic Vegetation Indicators:
☒ Rapid test for hydrophytic vegetation
☒ Dominance test is >50%
☒ Prevalence index is ≤3.0*
 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
 Problematic hydrophytic vegetation* (explain)
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/07/2018-01

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name Wetland PB-14
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date 6/07/2018
 Investigator(s) M. Thomayer, T. Qualio; Jacob: Section, Township, Range S19 T12N R5W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.383833 Long.: -81.052798 Datum: NAD 83
 Soil Map Unit Name WnE - Westmoreland-Dekalb complex, 25 to 40 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland on hillside in maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Oxidized Rhizospheres on Living |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Imagery (B7) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |
| <input type="checkbox"/> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input checked="" type="checkbox"/> Microtopographic Relief (D4) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes X No Depth (inches): 0
 (includes capillary fringe)

Wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout with some surface flow

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/07/2018-04

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex vulpinoidea</i>						60	Y	OBL
2	<i>Impatiens capensis</i>						50	Y	FACW
3	<i>Dichanthelium clandestinum</i>						25	N	FAC
4	<i>Carex lurida</i>						20	N	OBL
5	<i>Typha angustifolia</i>						5	N	OBL
6	<i>Symplocarpus foetidus</i>						5	N	OBL
7									
8									
9									
10									
11									
12									
13									
14									
15									
							165	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	33	83
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	90	x 1 =	90
FACW species	50	x 2 =	100
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	165	(A)	265
Prevalence Index = B/A =			1.61

Hydrophytic Vegetation Indicators:

☒ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

V

SOIL

Sampling Point: W-mdt-6/07/2018-04

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-15
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/07/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob Section, Township, Range: S24 T11N R5W
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR or MLRA): LRR N Lat.: 40.378942 Long.: -81.053108 Datum: NAD 83
 Soil Map Unit Name: CnD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes ☒ No ☐ (If no, explain in remarks)

Are vegetation, soil, or hydrology significantly disturbed? Are "normal circumstances" present? Yes ☐

Are vegetation, soil, or hydrology naturally problematic? present? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland in maintained ROW/cow pasture and within 100-Year floodplain.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:		Wetland hydrology present?	
Surface water present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u>	Wetland hydrology present? <u>Y</u>	
Water table present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u>		
Saturation present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout, 80% inundated

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/07/2018-08

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex vulpinoidea</i>						60	Y	OBL
2	<i>Carex cristatella</i>						30	Y	FACW
3	<i>Scirpus atrovirens</i>						10	N	OBL
4	<i>Eupatorium perfoliatum</i>						5	N	FACW
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							105	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	21	53
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	70	x 1 =	70
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	105 (A)		140 (B)
Prevalence Index = B/A =			1.33

Hydrophytic Vegetation Indicators:

☒ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/07/2018-08

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-16
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/07/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob Section, Township, Range: S24 T11N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.377245 Long.: -81.053006 Datum: NAD 83
 Soil Map Unit Name: CnD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: R4SBC

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland in maintained ROW. Northern portion of wetland is surrounded by ag field

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:				Wetland hydrology present? <u>Y</u>	
Surface water present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>1</u>		
Water table present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u> </u>		
Saturation present? (includes capillary fringe)	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>0</u>		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout, 80% inundated; some surface flow

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/07/2018-07

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Phalaris arundinacea</i>						60	Y	FACW
2	<i>Symplocarpus foetidus</i>						40	Y	OBL
3	<i>Carex crinita</i>						15	N	OBL
4	<i>Impatiens capensis</i>						15	N	FACW
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							130	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	26	65
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet
 Total % Cover of:
 OBL species 55 x 1 = 55
 FACW species 75 x 2 = 150
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column totals 130 (A) 205 (B)
 Prevalence Index = B/A = 1.58

Hydrophytic Vegetation Indicators:
☒ Rapid test for hydrophytic vegetation
☒ Dominance test is >50%
☒ Prevalence index is ≤3.0*
 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
 Problematic hydrophytic vegetation* (explain)
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/07/2018-07

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-17
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/07/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S24 T11N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 15
 Subregion (LRR or MLRA): LRR N Lat.: 40.375372 Long.: -81.052971 Datum: NAD 83
 Soil Map Unit Name: CnD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes ☒ No ☐ (If no, explain in remarks)

Are vegetation, soil, or hydrology significantly disturbed? Are "normal circumstances" present? Yes ☐

Are vegetation, soil, or hydrology naturally problematic? present? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland valley in maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)	
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:		Wetland hydrology present? <u>Y</u>
Surface water present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u>	
Water table present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u>	
Saturation present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/07/2018-06

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Phalaris arundinacea</i>						100	Y	FACW
2	<i>Symplocarpus foetidus</i>						20	N	OBL
3	<i>Carex crinita</i>						15	N	OBL
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
							135	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	27	68
Woody Vine Stratum	0	0

Dominance Test Worksheet
 Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across all Strata: 1 (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet
 Total % Cover of:
 OBL species 35 x 1 = 35
 FACW species 100 x 2 = 200
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column totals 135 (A) 235 (B)
 Prevalence Index = B/A = 1.74

Hydrophytic Vegetation Indicators:
☒ Rapid test for hydrophytic vegetation
☒ Dominance test is >50%
☒ Prevalence index is ≤3.0*
 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
 Problematic hydrophytic vegetation* (explain)
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/07/2018-06

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-18
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/07/2018
 Investigator(s): M. Thomayer, T. Qualio; Jacob: Section, Township, Range: S24 T11N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 15
 Subregion (LRR or MLRA): LRR N Lat.: 40.37487 Long.: -81.053009 Datum: NAD 83
 Soil Map Unit Name: CnD - Coshocton silt loam, 15 to 25 percent slope NWI Classification: R4SBC

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

Are vegetation , soil X, or hydrology X significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland in stream valley in maintained ROW. Recently impacted by pipeline construction.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <u> </u> Surface Water (A1) | <u> </u> True Aquatic Plants (B14) |
| <u> </u> High Water Table (A2) | <u> </u> Hydrogen Sulfide Odor (C1) |
| <u>X</u> Saturation (A3) | <u> </u> Oxidized Rhizospheres on Living |
| <u> </u> Water Marks (B1) | <u> </u> Roots (C3) |
| <u> </u> Sediment Deposits (B2) | <u> </u> Presence of Reduced Iron (C4) |
| <u> </u> Drift Deposits (B3) | <u> </u> Recent Iron Reduction in Tilled |
| <u> </u> Algal Mat or Crust (B4) | <u> </u> Soils (C6) |
| <u> </u> Iron Deposits (B5) | <u> </u> Thin Muck Surface (C7) |
| <u> </u> Inundation Visible on Aerial | <u> </u> Other (Explain in Remarks) |
| <u> </u> Imagery (B7) | |
| <u> </u> Water-Stained Leaves (B9) | |
| <u> </u> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <u> </u> Surface Soil Cracks (B6) |
| <u>X</u> Sparsely Vegetated Concave Surface (B8) |
| <u>X</u> Drainage Patterns (B10) |
| <u> </u> Moss Trim Lines (B16) |
| <u> </u> Dry-Season Water Table (C2) |
| <u> </u> Crayfish Burrows (C8) |
| <u> </u> Saturation Visible on Aerial Imagery (C9) |
| <u> </u> Stunted or Stressed Plants (D1) |
| <u>X</u> Geomorphic Position (D2) |
| <u> </u> Shallow Aquitard (D3) |
| <u> </u> Microtopographic Relief (D4) |
| <u>X</u> FAC-Neutral Test (D5) |

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes X No Depth (inches): 0
 (includes capillary fringe)

Wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout with some surface flow

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/07/2018-05

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex vulpinoidea</i>						30	Y	OBL
2	<i>Leersia oryzoides</i>						25	Y	OBL
3	<i>Carex crinita</i>						15	Y	OBL
4	<i>Juncus effusus</i>						15	Y	FACW
5	<i>Carex lurida</i>						10	N	OBL
6	<i>Impatiens capensis</i>						10	N	FACW
7	<i>Onoclea sensibilis</i>						10	N	FACW
8									
9									
10									
11									
12									
13									
14									
15									
							115	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	23	58
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	80	x 1 =	80
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	115 (A)		150 (B)
Prevalence Index = B/A =			1.30

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/07/2018-05

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-19
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/11/2018
 Investigator(s): M. Thomayer, B. Otto; Jacobs Section, Township, Range: S23 T11N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR or MLRA) LRR N Lat.: 40.363957 Long.: -81.052631 Datum: NAD 83
 Soil Map Unit Name WnE - Westmoreland-Dekalb complex, 25 to 40 percent slopes NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes ☒ No ☐ (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal Yes

Are vegetation , soil , or hydrology naturally problematic? circumstances" present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u> Hydric soil present? <u>Yes</u> Wetland hydrology present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Remarks: <p style="text-align: center;">PEM wetland along stream and pond within valley in existing ROW.</p>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: W-bao-6/11/2018-0

Tree Stratum						50/20 Thresholds		
Plot Size (	30 ft.	)	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1						Tree Stratum	0	0
2						Sapling/Shrub Stratum	0	0
3						Herb Stratum	20	50
4						Woody Vine Stratum	0	0
5								
6								
7								
8								
9								
10								
			0	= Total Cover				
Sapling/Shrub Stratum						Dominance Test Worksheet		
Plot Size (	15 ft.	)	Absolute % Cover	Dominant Species	Indicator Status	Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A)		
1						Total Number of Dominant Species Across all Strata: <u>3</u> (B)		
2						Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)		
3								
4								
5								
6								
7								
8								
9								
10								
			0	= Total Cover				
Herb Stratum						Prevalence Index Worksheet		
Plot Size (	5 ft.	)	Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:		
1						OBL species <u>10</u> x 1 = <u>10</u>		
2						FACW species <u>70</u> x 2 = <u>140</u>		
3						FAC species <u>20</u> x 3 = <u>60</u>		
4						FACU species <u>0</u> x 4 = <u>0</u>		
5						UPL species <u>0</u> x 5 = <u>0</u>		
6						Column totals <u>100</u> (A) <u>210</u> (B)		
7						Prevalence Index = B/A = <u>2.10</u>		
8								
9								
10								
11								
12								
13								
14								
15								
			100	= Total Cover				
Woody Vine Stratum						Hydrophytic Vegetation Indicators		
Plot Size (	30 ft.	)	Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
			0	= Total Cover				
Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.						Hydrophytic vegetation present? <u>Y</u>		
Remarks: (Include photo numbers here or on a separate sheet)								

SOIL

Sampling Point: W-bao-6/11/2018-01

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-20
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/11/2018
 Investigator(s): M. Thomayer, B. Otto; Jacobs Section, Township, Range: S23 T11N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR or MLRA) LRR N Lat.: 40.357577 Long.: -81.052034 Datum: NAD 83
 Soil Map Unit Name WnE - Westmoreland-Dekalb complex, 25 to 40 percent slopes NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes ☒ No ☐ (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal Yes

Are vegetation , soil , or hydrology naturally problematic? circumstances" present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u> Hydric soil present? <u>Yes</u> Wetland hydrology present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Remarks: <p style="text-align: center;">PEM wetland along stream within valley in existing ROW.</p>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>surface</u> (includes capillary fringe)		Wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: W-bao-6/11/2018-0

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Leersia oryzoides</i>						20	Y	OBL
2	<i>Impatiens capensis</i>						20	Y	FACW
3	<i>Juncus effusus</i>						20	Y	FACW
4	<i>Onoclea sensibilis</i>						10	N	FACW
5	<i>Carex lurida</i>						10	N	OBL
6	<i>Carex cristatella</i>						10	N	FACW
7	<i>Euphorbia purpurea</i>						10	N	FAC
8									
9									
10									
11									
12									
13									
14									
15									
							100	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	30	x 1 =	30
FACW species	60	x 2 =	120
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	100 (A)		180 (B)
Prevalence Index = B/A =			1.80

Hydrophytic Vegetation Indicators:

☒ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-bao-6/11/2018-03

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-21
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/11/2018
 Investigator(s): M. Thomayer, B. Otto; Jacobs Section, Township, Range: S23 T11N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR or MLRA) LRR N Lat.: 40.356249 Long.: -81.052299 Datum: NAD 83
 Soil Map Unit Name WnE - Westmoreland-Dekalb complex, 25 to 40 percent slopes NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal Yes

Are vegetation , soil , or hydrology naturally problematic? circumstances" present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u> Hydric soil present? <u>Yes</u> Wetland hydrology present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Remarks: <div style="text-align: center; margin-top: 20px;">PEM wetland along stream within valley in existing ROW.</div>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u>1</u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u>0</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>surface</u> (includes capillary fringe)		Wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION - Use scientific names of plants
Sampling Point: W-bao-6/11/2018-02

Tree Stratum						50/20 Thresholds		
Tree Stratum	Plot Size (30 ft.)	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1					Tree Stratum	0	0	
2					Sapling/Shrub Stratum	0	0	
3					Herb Stratum	22	55	
4					Woody Vine Stratum	0	0	
5								
6								
7								
8								
9								
10								
		0	= Total Cover					
Sapling/Shrub Stratum						Dominance Test Worksheet		
Sapling/Shrub Stratum	Plot Size (15 ft.)	Absolute % Cover	Dominant Species	Indicator Status				
1					Number of Dominant Species that are OBL, FACW, or FAC:	2	(A)	
2					Total Number of Dominant Species Across all Strata:	2	(B)	
3					Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)	
4								
5								
6								
7								
8								
9								
10								
		0	= Total Cover					
Herb Stratum						Prevalence Index Worksheet		
Herb Stratum	Plot Size (5 ft.)	Absolute % Cover	Dominant Species	Indicator Status				
1	<i>Leersia oryzoides</i>	50	Y	OBL	Total % Cover of:			
2	<i>Juncus effusus</i>	30	Y	FACW	OBL species	55	x 1 = 55	
3	<i>Impatiens capensis</i>	10	N	FACW	FACW species	45	x 2 = 90	
4	<i>Euphorbia purpurea</i>	10	N	FAC	FAC species	10	x 3 = 30	
5	<i>Onoclea sensibilis</i>	5	N	FACW	FACU species	0	x 4 = 0	
6	<i>Carex lurida</i>	5	N	OBL	UPL species	0	x 5 = 0	
7					Column totals	110	(A) 175 (B)	
8					Prevalence Index = B/A =	1.59		
9								
10								
11								
12								
13								
14								
15								
		110	= Total Cover					
Woody Vine Stratum						Hydrophytic Vegetation Indicators		
Woody Vine Stratum	Plot Size (30 ft.)	Absolute % Cover	Dominant Species	Indicator Status				
1					<input checked="" type="checkbox"/> Rapid test for hydrophytic vegetation			
2					<input checked="" type="checkbox"/> Dominance test is >50%			
3					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5					Problematic hydrophytic vegetation* (explain)			
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
						Definitions of Vegetation Strata:		
						Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
						Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
						Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
						Woody vines - All woody vines greater than 3.28 ft in height.		
						Hydrophytic vegetation present? <u>Y</u>		

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

SOIL

Sampling Point: W-bao-6/11/2018-02

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name Wetland PB-22
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date 6/12/2018
 Investigator(s) M. Thomayer, B. Otto; Jacob Section, Township, Range S22 T11N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.344246 Long.: -81.054744 Datum: NAD 83
 Soil Map Unit Name WmE - Westmoreland-Coshocton complex, 25 to 40 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland at toe of slope in maintained ROW

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

 Surface Water (A1) True Aquatic Plants (B14)
 High Water Table (A2) Hydrogen Sulfide Odor (C1)
X Saturation (A3) Oxidized Rhizospheres on Living
 Water Marks (B1) Roots (C3)
 Sediment Deposits (B2) Presence of Reduced Iron (C4)
 Drift Deposits (B3) Recent Iron Reduction in Tilled
 Algal Mat or Crust (B4) Soils (C6)
 Iron Deposits (B5) X Thin Muck Surface (C7)
 Inundation Visible on Aerial Other (Explain in Remarks)
 Imagery (B7)
 Water-Stained Leaves (B9)
 Aquatic Fauna (B13)

Secondary Indicators (minimum of two required)

 Surface Soil Cracks (B6)
 Sparsely Vegetated Concave Surface (B8)
X Drainage Patterns (B10)
 Moss Trim Lines (B16)
 Dry-Season Water Table (C2)
 Crayfish Burrows (C8)
 Saturation Visible on Aerial Imagery (C9)
 Stunted or Stressed Plants (D1)
X Geomorphic Position (D2)
 Shallow Aquitard (D3)
X Microtopographic Relief (D4)
X FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes X No Depth (inches): 0
 (includes capillary fringe)

**Wetland
hydrology
present?** Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout with some surface flow

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/12/2018-01

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Poa sp.</i>						80	Y	
2	<i>Carex vulpinoidea</i>						30	Y	OBL
3	<i>Scirpus atrovirens</i>						20	N	OBL
4	<i>Impatiens capensis</i>						15	N	FACW
5	<i>Symplocarpus foetidus</i>						10	N	OBL
6	<i>Carex lurida</i>						10	N	OBL
7	<i>Onoclea sensibilis</i>						10	N	FACW
8									
9									
10									
11									
12									
13									
14									
15									
							175	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	35	88
Woody Vine Stratum	0	0

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: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	70	x 1 =	70
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	95 (A)		120 (B)
Prevalence Index = B/A =			1.26

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/12/2018-01

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-23
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/12/2018
 Investigator(s): M. Thomayer, B. Otto; Jacob Section, Township, Range: S22 T11N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.342492 Long.: -81.055453 Datum: NAD 83
 Soil Map Unit Name: WmE - Westmoreland-Coshocton complex, 25 to 40 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation , soil , or hydrology naturally problematic? present?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland at toe of slope in maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living	<input checked="" type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)	
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:

Surface water present? Yes X No Depth (inches): 1
 Water table present? Yes No X Depth (inches):
 Saturation present? Yes X No Depth (inches): 0
 (includes capillary fringe)

**Wetland
hydrology
present?** Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout with some surface flow/inundation

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/12/2018-02

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Leersia oryzoides</i>						50	Y	OBL
2	<i>Onoclea sensibilis</i>						20	Y	FACW
3	<i>Symplocarpus foetidus</i>						20	Y	OBL
4	<i>Impatiens capensis</i>						15	N	FACW
5	<i>Juncus effusus</i>						10	N	FACW
6	<i>Carex lurida</i>						5	N	OBL
7	<i>Carex vulpinoidea</i>						5	N	OBL
8									
9									
10									
11									
12									
13									
14									
15									
							125	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	25	63
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	80	x 1 =	80
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	125 (A)		170 (B)
Prevalence Index = B/A =			1.36

Hydrophytic Vegetation Indicators:

☒ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/12/2018-02

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-24
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/12/2018
 Investigator(s): M. Thomayer, B. Otto; Jacob Section, Township, Range: S21 T11N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.329959 Long.: -81.061079 Datum: NAD 83
 Soil Map Unit Name: RcB - Richland silt loam, 2 to 6 percent slope NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present? (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland at toe of slope and adjacent to intermittent stream in maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Oxidized Rhizospheres on Living |
| <input type="checkbox"/> Water Marks (B1) | <input checked="" type="checkbox"/> Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Soils (C6) |
| <input type="checkbox"/> Iron Deposits (B5) | <input checked="" type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |
| <input type="checkbox"/> Aquatic Fauna (B13) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Moss Trim Lines (B16) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Shallow Aquitard (D3) |
| <input checked="" type="checkbox"/> Microtopographic Relief (D4) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>1</u>
Water table present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u> </u>
Saturation present? (includes capillary fringe)	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>0</u>

Wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated throughout with some surface flow/inundation. Likely receives flood water periodically.

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/12/2018-03

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex lurida</i>						55	Y	OBL
2	<i>Carex vulpinoidea</i>						30	Y	OBL
3	<i>Juncus effusus</i>						15	N	FACW
4	<i>Impatiens capensis</i>						15	N	FACW
5	<i>Onoclea sensibilis</i>						10	N	FACW
6	<i>Eupatorium perfoliatum</i>						10	N	FACW
7									
8									
9									
10									
11									
12									
13									
14									
15									
							135	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	27	68
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	85	x 1 =	85
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	135	(A)	185
Prevalence Index = B/A =			1.37

Hydrophytic Vegetation Indicators:

☒ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/12/2018-03

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Holloway-Knox 138 kV Transmission Line City/County: Harrison Report Name: Wetland PB-25
 Applicant/Owner: FirstEnergy State: Ohio Sampling Date: 6/12/2018
 Investigator(s): M. Thomayer, B. Otto; Jacob: Section, Township, Range: S21 T11N R5W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%):
 Subregion (LRR or MLRA): LRR N Lat.: 40.328459 Long.: -81.061659 Datum: NAD 83
 Soil Map Unit Name: Or - Orrville silt loam, 0 to 3 percent slopes, occasionally flood NWI Classification: N/A

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

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" Yes

Are vegetation , soil , or hydrology naturally problematic? present?
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric soil present? <u>Yes</u>	
Wetland hydrology present? <u>Yes</u>	

Remarks:

PEM wetland in floodplain in maintained ROW.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)			
<u> </u> Surface Water (A1)	<u> </u> True Aquatic Plants (B14)	<u> </u> Surface Soil Cracks (B6)	
<u> </u> High Water Table (A2)	<u> </u> Hydrogen Sulfide Odor (C1)	<u> </u> Sparsely Vegetated Concave Surface (B8)	
<u>X</u> Saturation (A3)	<u> </u> Oxidized Rhizospheres on Living	<u>X</u> Drainage Patterns (B10)	
<u> </u> Water Marks (B1)	<u> </u> Roots (C3)	<u> </u> Moss Trim Lines (B16)	
<u> </u> Sediment Deposits (B2)	<u> </u> Presence of Reduced Iron (C4)	<u> </u> Dry-Season Water Table (C2)	
<u> </u> Drift Deposits (B3)	<u> </u> Recent Iron Reduction in Tilled	<u> </u> Crayfish Burrows (C8)	
<u> </u> Algal Mat or Crust (B4)	<u> </u> Soils (C6)	<u> </u> Saturation Visible on Aerial Imagery (C9)	
<u> </u> Iron Deposits (B5)	<u> </u> Thin Muck Surface (C7)	<u> </u> Stunted or Stressed Plants (D1)	
<u> </u> Inundation Visible on Aerial	<u> </u> Other (Explain in Remarks)	<u> </u> Geomorphic Position (D2)	
<u> </u> Imagery (B7)		<u> </u> Shallow Aquitard (D3)	
<u> </u> Water-Stained Leaves (B9)		<u>X</u> Microtopographic Relief (D4)	
<u> </u> Aquatic Fauna (B13)		<u>X</u> FAC-Neutral Test (D5)	

Field Observations:				Wetland hydrology present? <u>Y</u>	
Surface water present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u> </u>		
Water table present?	Yes <u> </u>	No <u>X</u>	Depth (inches): <u> </u>		
Saturation present? (includes capillary fringe)	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>0</u>		

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available

Remarks:

Saturated through 80% of wetland

VEGETATION - Use scientific names of plants

Sampling Point: W-mdt-6/12/2018-04

Tree Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Sapling/Shrub Stratum					Plot Size (15 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
							0	= Total Cover	
Herb Stratum					Plot Size (5 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1	<i>Phalaris arundinacea</i>						35	Y	FACW
2	<i>Juncus effusus</i>						20	Y	FACW
3	<i>Carex sp.</i>						20	Y	
4	<i>Agrimonia parviflora</i>						15	N	FACW
5	<i>Solidago gigantea</i>						15	N	FACW
6	<i>Scirpus atrovirens</i>						10	N	OBL
7									
8									
9									
10									
11									
12									
13									
14									
15									
							115	= Total Cover	
Woody Vine Stratum					Plot Size (30 ft.)		Absolute % Cover	Dominant Species	Indicator Status
1									
2									
3									
4									
5									
							0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	23	58
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	10	x 1 =	10
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	95 (A)		180 (B)
Prevalence Index = B/A =			1.89

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: W-mdt-6/12/2018-04

[illegible]

Appendix B

OEPA ORAM Datasheets

Site: FirstEnergy Holloway-Knox 138kV

Rater(s): T. Qualio, J.Freer

Date: 05/24/2018

w-tmq-5/24/2018-04

0

0

max 6 pts.

subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

5

5

max 14 pts.

subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

11

16

max 30 pts.

subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
☐ Recovered (7)
☒ Recovering (3)
☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- ☐ ditch
☐ tile
☐ dike
☐ weir
☐ stormwater input
☐ point source (nonstormwater)
☒ filling/grading
☐ road bed/RR track
☐ dredging
☐ other _____

8

24

max 20 pts.

subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
☒ Recovered (3)
☐ Recovering (2)
☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
☐ Very good (6)
☐ Good (5)
☐ Moderately good (4)
☐ 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)
☒ Recovering (3)
☐ Recent or no recovery (1)

Check all disturbances observed

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

24

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): T. Qualio, J.Freer	Date: 05/24/2018
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24

subtotal first page

w-bao-5/15/2018-01

0	24
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	26
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

26 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): T. Qualio, J.Freer	Date: 05/24/2018
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1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-tmq-5/24/2018-03

Select one size class and assign score.

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

5	6
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

10.5	16.5
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

8	24.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input checked="" type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

24.5

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): T. Qualio, J.Freer	Date: 05/24/2018
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24.5

subtotal first page

0	24.5
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	26.5
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

26.5 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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2	2
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/06/2018-04

Select one size class and assign score.

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

8	10
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

16	26
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☒ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7.5	33.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☒ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

33.5

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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33.5

subtotal first page

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0	33.5
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-4	29.5
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

29.5 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/06/2018-03

Select one size class and assign score.

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

11	11
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

9	20
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☒ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |

6.5	26.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☒ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

26.5

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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26.5

subtotal first page

w-mdt-6/06/2018-03

0	26.5
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

0	26.5
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☒ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

26.5 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/06/2018-02

Select one size class and assign score.

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

8	8
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

13	21
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☒ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7	28
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

28

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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28

subtotal first page

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0	28
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

1	29
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☒ Nearly absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

29

GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV

Rater(s): M. Thomayer, T. Qualio

Date: 6/06/2018

0 0

max 6 pts. subtotal

Metric 1. Wetland Area (size).

w-mdt-06/06/2018-01

Select one size class and assign score.

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

8 8

max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

7 15

max 30 pts. subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
☐ Recovered (7)
☒ Recovering (3)
☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- ☐ ditch
☐ tile
☐ dike
☐ weir
☐ stormwater input
☐ point source (nonstormwater)
☒ filling/grading
☐ road bed/RR track
☐ dredging
☐ other _____

6 21

max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
☒ Recovered (3)
☐ Recovering (2)
☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
☐ Very good (6)
☐ Good (5)
☐ Moderately good (4)
☐ 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)
☒ Recovering (3)
☒ Recent or no recovery (1)

Check all disturbances observed

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

21

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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21

subtotal first page

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0	21
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

1	22
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☒ Nearly absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

22 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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2	2
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/06/2018-06

Select one size class and assign score.

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

8	10
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

12.5	22.5
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☒ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

9	31.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☒ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

31.5

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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31.5

subtotal first page

w-mdt-06/06/2018-06

0	31.5
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	33.5
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

33.5 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/06/2018-05

Select one size class and assign score.

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

8	9
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

9.5	18.5
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☒ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6	24.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☐ Recovered (3)
- ☒ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

24.5

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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24.5

subtotal first page

w-mdt-6/06/2018-05

0	24.5
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

1	25.5
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☒ Nearly absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

25.5 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV

Rater(s): M. Thomayer, T. Qualio

Date: 6/06/2018

1

1

max 6 pts.

subtotal

Metric 1. Wetland Area (size).

w-mdt-06/06/2018-08

Select one size class and assign score.

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

8

9

max 14 pts.

subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

12.5

21.5

max 30 pts.

subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
☒ Recovered (7)
☒ Recovering (3)
☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |

9

30.5

max 20 pts.

subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
☒ Recovered (3)
☐ Recovering (2)
☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
☐ Very good (6)
☐ Good (5)
☐ Moderately good (4)
☒ 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)
☒ Recovering (3)
☐ Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

30.5

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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30.5

subtotal first page

w-mdt-6/06/2018-08

0	30.5
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

3	33.5
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ 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 hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

33.5 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV

Rater(s): M. Thomayer, T. Qualio

Date: 6/06/2018

0 0

max 6 pts. subtotal

Metric 1. Wetland Area (size).

w-mdt-06/06/2018-07

Select one size class and assign score.

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

5 5

max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

10 15

max 30 pts. subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
☐ Recovered (7)
☒ Recovering (3)
☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input checked="" type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other Pond adjacent |

7 22

max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
☒ Recovered (3)
☐ Recovering (2)
☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
☐ Very good (6)
☐ Good (5)
☐ Moderately good (4)
☐ 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)
☒ Recovering (3)
☐ Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

22

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/06/2018
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22

subtotal first page

w-mdt-6/06/2018-07

0	22
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	24
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

24 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/18
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/07/2018-03

Select one size class and assign score.

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

2	2
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

10	12
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7	19
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

19

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/18
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19

subtotal first page

w-mdt-5/01/2018-01

0	19
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	21
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

21 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/2018
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/07/2018-02

Select one size class and assign score.

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

5	5
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

6	11
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7	18
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

18

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/2018
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18

subtotal first page

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0	18
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	20
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

20 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/2018
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/07/2018-01

Select one size class and assign score.

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

5	5
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

6	11
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7	18
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

18

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/2018
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18

subtotal first page

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0	18
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	20
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

20 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV

Rater(s): M. Thomayer, T. Qualio

Date: 6/07/2018

1

1

max 6 pts.

subtotal

Metric 1. Wetland Area (size).

w-mdt-06/07/2018-04

Select one size class and assign score.

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

8

9

max 14 pts.

subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

7

16

max 30 pts.

subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
☐ Recovered (7)
☒ Recovering (3)
☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |

8

24

max 20 pts.

subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
☒ Recovered (3)
☐ Recovering (2)
☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
☐ Very good (6)
☐ Good (5)
☐ Moderately good (4)
☐ 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)
☒ Recovering (3)
☐ Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> mowing | <input checked="" type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

24

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/2018
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24

subtotal first page

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0	24
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

3	27
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ 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 hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

27 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV

Rater(s): M. Thomayer, T. Qualio

Date: 6/07/2018

1

1

max 6 pts.

subtotal

Metric 1. Wetland Area (size).

w-mdt-06/07/2018-08

Select one size class and assign score.

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

8

9

max 14 pts.

subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

7

16

max 30 pts.

subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
☐ Recovered (7)
☒ Recovering (3)
☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- ☐ ditch
☐ tile
☐ dike
☐ weir
☐ stormwater input

- ☐ point source (nonstormwater)
☒ filling/grading
☐ road bed/RR track
☐ dredging
☐ other _____

8

24

max 20 pts.

subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
☒ Recovered (3)
☐ Recovering (2)
☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
☐ Very good (6)
☐ Good (5)
☐ Moderately good (4)
☐ 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)
☒ Recovering (3)
☐ Recent or no recovery (1)

Check all disturbances observed

- ☒ mowing
☒ grazing
☐ clearcutting
☒ selective cutting
☐ woody debris removal
☐ toxic pollutants

- ☒ shrub/sapling removal
☐ herbaceous/aquatic bed removal
☒ sedimentation
☐ dredging
☐ farming
☐ nutrient enrichment

24

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/2018
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24

subtotal first page

w-mdt-06/07/2018-08

0	24
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

3	27
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ 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 hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

27 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/2018
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2	2
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/07/2018-07

Select one size class and assign score.

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

7	9
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

14	23
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

9	32
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☒ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input checked="" type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

32

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/2018
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32

subtotal first page

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0	32
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-1	31
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☒ 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 hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

31 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/2018
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/07/2018-06

Select one size class and assign score.

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

8	8
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

10	18
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

9	27
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

27

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/2018
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27

subtotal first page

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0	27
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-4	23
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

23 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/2018
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/07/2018-05

Select one size class and assign score.

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

4	4
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

10	14
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input checked="" type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

7	21
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☐ Recovered (3)
- ☒ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input checked="" type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> nutrient enrichment

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subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, T. Qualio	Date: 6/07/2018
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subtotal first page

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0	21
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	23
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

23 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, B.Otto	Date: 6/11/2018
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w-bao-6/11/2018-01

1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

3	4
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

10.5	14.5
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☐ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

8	22.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☐ Recovered (3)
- ☒ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☒ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

22.5

subtotal this page

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22.5

subtotal first page

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0	22.5
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	24.5
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ 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 hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ 1 Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

24.5 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, B.Otto	Date: 6/11/2018
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0	0
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

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

7	7
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max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

12	19
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max 30 pts. subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☒ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input checked="" type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |

8	27
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max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

27

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, B.Otto	Date: 6/11/2018
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27

subtotal first page

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0	27
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	29
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ 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 hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☒ 1 Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

29 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, B.Otto	Date: 6/11/2018
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0	0
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

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

8	8
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max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

12	20
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max 30 pts. subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☒ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |

8	28
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max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

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subtotal this page

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subtotal first page

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0	28
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-1	27
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☒ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

27 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, B.Otto	Date: 6/12/2018
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/12/2018-01

Select one size class and assign score.

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

8	8
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

12	20
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☒ Recovered (7)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

8	28
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

28

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, B.Otto	Date: 6/12/2018
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28

subtotal first page

w-mdt-6/12/2018-01

0	28
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	30
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☒ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

30 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, B.Otto	Date: 6/12/2018
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

w-mdt-06/12/2018-02

Select one size class and assign score.

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

8	8
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

14	22
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
- ☒ Recovered (7)
- ☐ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other _____

6.5	28.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
- ☒ Recovered (3)
- ☒ Recovering (2)
- ☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☐ 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)
- ☒ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input checked="" type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input checked="" type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

28.5

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, B.Otto	Date: 6/12/2018
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28.5

subtotal first page

w-mdt-6/12/2018-02

0	28.5
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	30.5
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ 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 hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

30.5 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV

Rater(s): M. Thomayer, B.Otto

Date: 6/12/2018

0 0

max 6 pts. subtotal

Metric 1. Wetland Area (size).

w-mdt-06/12/2018-03

Select one size class and assign score.

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

8 8

max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

14 22

max 30 pts. subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
☒ Recovered (7)
☐ Recovering (3)
☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- ☒ ditch
☐ tile
☐ dike
☐ weir
☐ stormwater input
☐ point source (nonstormwater)
☒ filling/grading
☒ road bed/RR track
☐ dredging
☐ other _____

6 28

max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
☐ Recovered (3)
☒ Recovering (2)
☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
☐ Very good (6)
☐ Good (5)
☐ Moderately good (4)
☐ 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)
☒ Recovering (3)
☐ Recent or no recovery (1)

Check all disturbances observed

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

28

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, B.Otto	Date: 6/12/2018
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28

subtotal first page

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0	28
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	30
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☐ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ 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 hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

30 GRAND TOTAL (max 100 pts)

Site: FirstEnergy Holloway-Knox 138kV

Rater(s): M. Thomayer, B.Otto

Date: 6/12/2018

2

2

max 6 pts.

subtotal

Metric 1. Wetland Area (size).

w-mdt-06/12/2018-04

Select one size class and assign score.

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

8

10

max 14 pts.

subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

14

24

max 30 pts.

subtotal

Metric 3. Hydrology.

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

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

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

- ☐ >0.7 (27.6in) (3)
☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
☒ <0.4m (<15.7in) (1)

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

- ☐ None or none apparent (12)
☒ Recovered (7)
☐ Recovering (3)
☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- ☒ ditch
☐ tile
☐ dike
☐ weir
☐ stormwater input
☐ point source (nonstormwater)
☒ filling/grading
☒ road bed/RR track
☐ dredging
☐ other _____

6

30

max 20 pts.

subtotal

Metric 4. Habitat Alteration and Development.

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

- ☐ None or none apparent (4)
☐ Recovered (3)
☒ Recovering (2)
☐ Recent or no recovery (1)

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

- ☐ Excellent (7)
☐ Very good (6)
☐ Good (5)
☐ Moderately good (4)
☐ 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)
☒ Recovering (3)
☐ Recent or no recovery (1)

Check all disturbances observed

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

30

subtotal this page

Site: FirstEnergy Holloway-Knox 138kV	Rater(s): M. Thomayer, B.Otto	Date: 6/12/2018
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30

subtotal first page

w-mdt-6/12/2018-04

0	30
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

1	31
---	----

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ 1 Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☐ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☒ 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)
- ☐ 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 hummocks/tussocks
- ☐ Coarse woody debris >15cm (6in)
- ☐ Standing dead >25cm (10in) dbh
- ☐ Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

31 GRAND TOTAL (max 100 pts)

Appendix C

OEPA QHEI Datasheets



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:

45

Stream & Location: Holloway-Knox 138kV Transmission Line (Dining Fork)

RM: _ _ _ Date: 06 / 06 / 18

S-MDT-06062018-03

Scorers Full Name & Affiliation: M. Thomayer, T. Qualio-CH2M HILL

River Code: - STORET #: Lat./ Long.: 40 . 44736 18 1 . 049597 Office verified location ☒

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 & average)

BEST TYPES		POOL RIFFLE		OTHER TYPES		POOL RIFFLE		ORIGIN		QUALITY		Substrate 5 Maximum 20
<input type="checkbox"/>	BLDR /SLABS [10]			<input type="checkbox"/>	HARDPAN [4]	25	10	<input checked="" type="checkbox"/>	LIMESTONE [1]	<input checked="" type="checkbox"/>	HEAVY [-2]		5
<input type="checkbox"/>	BOULDER [9]			<input type="checkbox"/>	DETRITUS [3]			<input type="checkbox"/>	TILLS [1]	<input type="checkbox"/>	MODERATE [-1]	
<input type="checkbox"/>	COBBLE [8]		20	<input type="checkbox"/>	MUCK [2]			<input checked="" type="checkbox"/>	WETLANDS [0]	<input type="checkbox"/>	NORMAL [0]	
<input type="checkbox"/>	GRAVEL [7]	10	40	<input checked="" type="checkbox"/>	SILT [2]	45	10	<input checked="" type="checkbox"/>	HARDPAN [0]	<input type="checkbox"/>	FREE [1]	
<input checked="" type="checkbox"/>	SAND [6]	20	25	<input type="checkbox"/>	ARTIFICIAL [0]			<input type="checkbox"/>	SANDSTONE [0]	<input checked="" type="checkbox"/>	EXTENSIVE [-2]	
<input type="checkbox"/>	BEDROCK [5]			(Score natural substrates; ignore sludge from point-sources)				<input type="checkbox"/>	RIP/RAP [0]	<input type="checkbox"/>	MODERATE [-1]	
								<input type="checkbox"/>	LACUSTURINE [0]	<input type="checkbox"/>	NORMAL [0]	
								<input type="checkbox"/>	SHALE [-1]	<input type="checkbox"/>	NONE [1]	
								<input type="checkbox"/>	COAL FINES [-2]			

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☒ 3 or less [0]

Comments

bricks lining stream bed

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

AMOUNT

Check ONE (Or 2 & average)

<input type="checkbox"/>	UNDERCUT BANKS [1]	<input type="checkbox"/>	POOLS > 70cm [2]	<input type="checkbox"/>	OXBOWS, BACKWATERS [1]	<input type="checkbox"/>	EXTENSIVE >75% [11]
<input type="1"/>	OVERHANGING VEGETATION [1]	<input type="checkbox"/>	ROOTWADS [1]	<input type="checkbox"/>	AQUATIC MACROPHYTES [1]	<input checked="" type="checkbox"/>	MODERATE 25-75% [7]
<input type="1"/>	SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/>	BOULDERS [1]	<input type="1"/>	LOGS OR WOODY DEBRIS [1]	<input type="checkbox"/>	SPARSE 5-<25% [3]
<input type="checkbox"/>	ROOTMATS [1]					<input type="checkbox"/>	NEARLY ABSENT <5% [1]

Comments

Cover
Maximum
20
10

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
<input type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]
<input checked="" type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input checked="" type="checkbox"/> RECOVERED [4]	<input type="checkbox"/> MODERATE [2]
<input type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input checked="" type="checkbox"/> LOW [1]
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]	

Comments

Channel
Maximum
20
11

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION		RIPARIAN WIDTH		FLOOD PLAIN QUALITY		CONSERVATION TILLAGE	
<input type="checkbox"/>	NONE / LITTLE [3]	<input type="checkbox"/>	WIDE > 50m [4]	<input type="checkbox"/>	FOREST, SWAMP [3]	<input type="checkbox"/>	CONSERVATION TILLAGE [1]
<input type="checkbox"/>	MODERATE [2]	<input type="checkbox"/>	MODERATE 10-50m [3]	<input type="checkbox"/>	SHRUB OR OLD FIELD [2]	<input type="checkbox"/>	URBAN OR INDUSTRIAL [0]
<input checked="" type="checkbox"/>	HEAVY / SEVERE [1]	<input type="checkbox"/>	NARROW 5-10m [2]	<input type="checkbox"/>	RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/>	MINING / CONSTRUCTION [0]
		<input type="checkbox"/>	VERY NARROW < 5m [1]	<input type="checkbox"/>	FENCED PASTURE [1]		
		<input type="checkbox"/>	NONE [0]	<input checked="" type="checkbox"/>	OPEN PASTURE, ROWCROP [0]		

Comments

Indicate predominant land use(s) past 100m riparian.
Riparian
Maximum
10
5

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH

Check ONE (ONLY!)

☐ > 1m [6]
☐ 0.7-<1m [4]
☒ 0.4-<0.7m [2]
☐ 0.2-<0.4m [1]
☐ < 0.2m [0]

CHANNEL WIDTH

Check ONE (Or 2 & average)

☒ POOL WIDTH > RIFFLE WIDTH [2]
☐ POOL WIDTH = RIFFLE WIDTH [1]
☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY

Check ALL that apply

☐ TORRENTIAL [-1] ☒ SLOW [1]
☐ VERY FAST [1] ☐ INTERSTITIAL [-1]
☐ FAST [1] ☐ INTERMITTENT [-2]
☐ MODERATE [1] ☐ EDDIES [1]

Indicate for reach - pools and riffles.

Comments

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Pool /
Current
Maximum
12
5

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Check ONE (Or 2 & average).

☐ NO RIFFLE [metric=0]

RIFFLE DEPTH	RUN DEPTH	RIFFLE / RUN SUBSTRATE	RIFFLE / RUN EMBEDDEDNESS
<input checked="" type="checkbox"/> BEST AREAS > 10cm [2]	<input type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]
<input type="checkbox"/> BEST AREAS 5-10cm [1]	<input checked="" type="checkbox"/> MAXIMUM < 50cm [1]	<input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> BEST AREAS < 5cm [metric=0]		<input checked="" type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<input checked="" type="checkbox"/> MODERATE [0]
			<input type="checkbox"/> EXTENSIVE [-1]

Comments

Riffle /
Run
Maximum
8
3

6] GRADIENT

DRAINAGE AREA

(4.92 mi²)
☐ VERY LOW - LOW [2-4]
☒ MODERATE [6-10]
☐ HIGH - VERY HIGH [10-6]

%POOL: 30

%GLIDE: 20

%RUN: 20

%RIFFLE: 30

Gradient
Maximum
10
6

AJ SAMPLED REACH

Check ALL that apply

METHOD

- ☐ BOAT
☐ WADE
☐ L. LINE
☒ OTHER

STAGE

- 1st --sample pass-- 2nd
☐ HIGH
☐ UP
☒ NORMAL
☐ LOW
☐ DRY

DISTANCE

- ☐ 0.5 Km
☐ 0.2 Km
☐ 0.15 Km
☐ 0.12 Km
☒ OTHER

37

meters

CANOPY

- ☒ > 85%- OPEN
☐ 55%-<85%
☐ 30%-<55%
☐ 10%-<30%
☐ <10%- CLOSED

CJ RECREATION

AREA DEPTH
POOL: ☐ >100R2 ☐ >3ft

CLARITY

- 1st --sample pass-- 2nd
☐ < 20 cm
☐ 20-<40 cm
☐ 40-70 cm
☐ > 70 cm/ CTB
☐ SECCHI DEPTH ☐

BJ AESTHETICS

- ☐ NUISANCE ALGAE
☐ INVASIVE MACROPHYTES
☐ EXCESS TURBIDITY
☐ DISCOLORATION
☐ FOAM / SCUM
☐ OIL SHEEN
☐ TRASH / LITTER
☐ NUISANCE ODOR
☐ SLUDGE DEPOSITS
☐ CSOs/SSOs/OUTFALLS

DJ MAINTENANCE

- PUBLIC / PRIVATE / BOTH / NA
ACTIVE / HISTORIC / BOTH / NA
YOUNG-SUCCESSION-OLD
SPRAY / SNAG / REMOVED
MODIFIED / DIPPED OUT / NA
LEVEED / ONE SIDED
RELOCATED / CUTOFFS
MOVING-BEDLOAD-STABLE
ARMOURED / SLUMPS
ISLANDS / SCOURED
IMPOUNDED / DESICCATED
FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

EJ ISSUES

- WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT&GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H₂O / TILE / H₂O TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

FJ MEASUREMENTS

- \bar{x} width
 \bar{x} depth
max. depth
 \bar{x} bankfull width
bankfull \bar{x} depth
W/D ratio
bankfull max. depth
floodprone \bar{x}^2 width
entrench. ratio

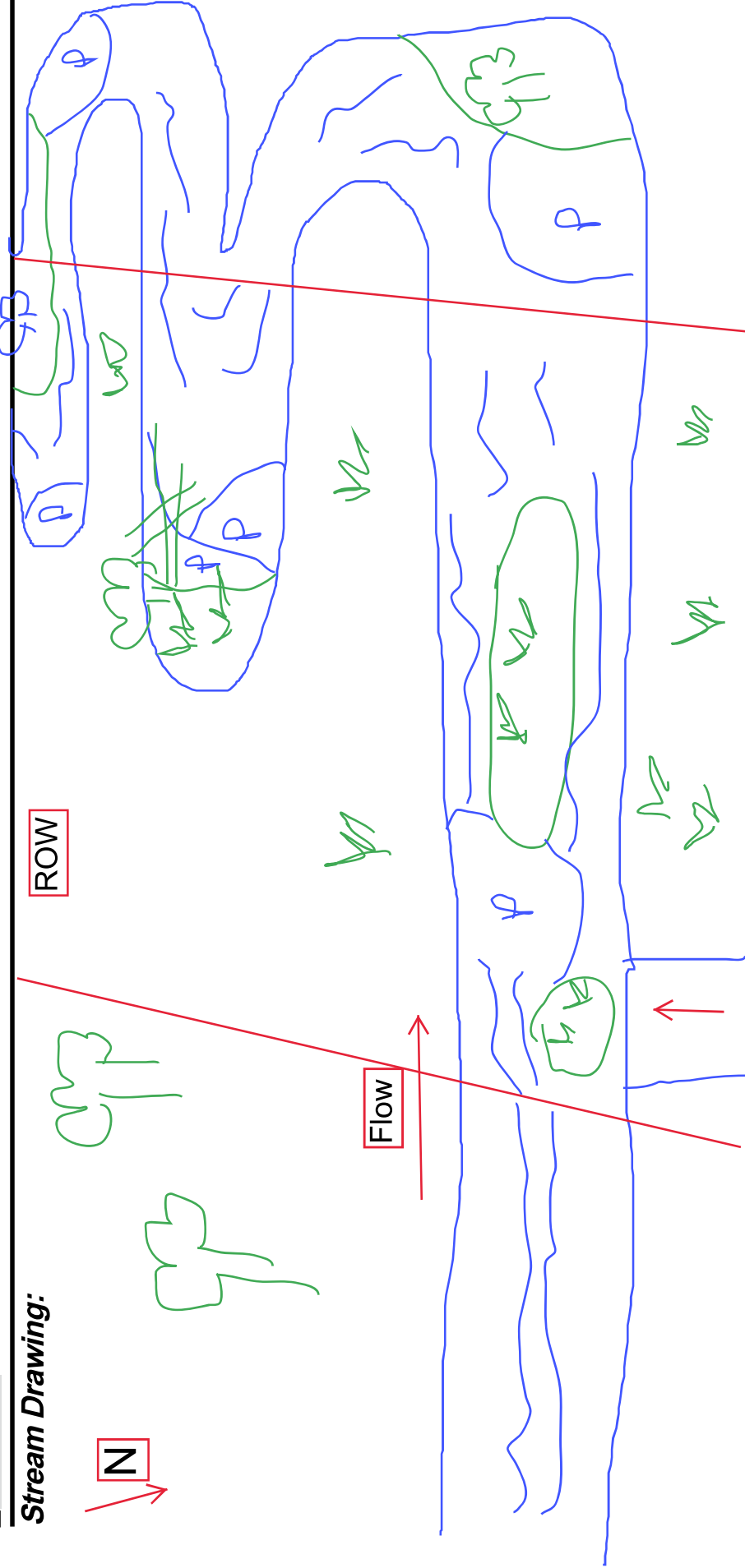
Legacy Tree:

Stream Drawing:



ROW

Flow



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

4/8/2022 12:37:36 PM

in

Case No(s). 22-0285-EL-BLN

Summary: Application Letter of Notification Application for Kilgore (Polo Road)-New Stacy BUC Segment of Knox-Nottingham 138 kV Transmission Line Project (Part 4) electronically filed by Ms. Devan K. Flahive on behalf of American Transmission Systems Incorporated