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## TABLES

**Table 1**  
**Wetlands Identified Within the Project Area**

Map Designation <sup>1</sup>	Cowardin Classification <sup>2</sup>	Status <sup>3</sup>	Area in AOI (acres)	ORAM v 5.0 Score <sup>4</sup>	Category <sup>4</sup>	Latitude <sup>5</sup>	Longitude <sup>5</sup>	Figure (Sheet)
WOH-BJM-001	PEM	Abutting	0.19	38	2	40.277483	-80.965343	2 (1)
WOH-BJM-002	PEM/PFO	Abutting	0.52	44	2	40.278347	-80.93573	2 (1,2)
WOH-BJM-003	PEM	Abutting	0.26	30	2	40.284943	-80.968867	2 (2,3)
WOH-BJM-004	PEM	Adjacent	0.03	27	1	40.28677	-80.97026	2 (3)
WOH-BJM-005	PEM	Adjacent	0.11	21	1	40.288894	-80.967262	2 (3)
WOH-BJM-006	PEM/PFO	Adjacent	0.19	30	2	40.292615	-80.980795	2 (5)
WOH-NLE-001	PEM	Adjacent	0.12	49	2	40.289227	-80.972684	2 (4)
WOH-NLE-002	PEM	Adjacent	0.05	49	2	40.290824	-80.979909	2 (5)

**Notes:**

- <sup>1</sup> GAI map designation.
- <sup>2</sup> PEM – Palustrine Emergent, PFO – Palustrine Forested
- <sup>3</sup> Jurisdictional wetlands are regulated under USACE CWA Section 404 authority, and isolated wetlands are regulated under Ohio Revised Code 6111.02 to 6111.028.
- <sup>4</sup> Scoring for ORAM v 5.0: Category 1 = 0 - 29.9; Category 1 or 2 Gray Zone = 30 - 34.9; Category Modified 2 = 35 - 44.9; Category 2 = 45 - 59.9; Category 2 or 3 = 60 - 64.9; Category 3 = 65 - 100. ORAM v. 5.0 Quantitative Score Calibration, Last Revised: August 15, 2000. [http://www.epa.ohio.gov/portals/35/401/oram50sc\\_s.pdf](http://www.epa.ohio.gov/portals/35/401/oram50sc_s.pdf).
- <sup>5</sup> North American Datum, 1983.

Table 2  
Streams Identified Within the Project Area

Map Designation <sup>1</sup>	Stream Name	Flow Regime <sup>2</sup>	State Water Quality Classification <sup>3</sup>	PHWH Class <sup>4</sup>	HHEI Score <sup>5</sup>	QHEI Score <sup>6</sup>	Channel Width (feet) <sup>7</sup>	Channel Length in AOI (feet)	Latitude <sup>7</sup>	Longitude <sup>7</sup>	Figure (sheet)
SOH-BJM-001	UNT to Liming Creek	Intermittent	N/A	II	47	N/A	4	206	40.277520	-80.965546	2 (1)
SOH-BJM-002	UNT to Liming Creek	Intermittent	N/A	II	52	N/A	3	256	40.278702	-80.965546	2 (1,2)
SOH-BJM-003	UNT to Liming Creek	Intermittent	N/A	II	37	N/A	4	135	40.284835	-80.968933	2 (2,3)
SOH-NLE-001	UNT to Liming Creek	Intermittent	N/A	II	38	N/A	4	167	40.290296	-80.977101	2 (4)

Notes:

- <sup>1</sup> GAI map designation.
- <sup>2</sup> Flow regime determined through field observations and a review of available mapping.
- <sup>3</sup> Flow Water uses of streams are defined under the OAC 3745-1. Applicable use designations (OAC 3745-1-07), for aquatic life include: Warmwater Habitat (WWH), Exceptional Warmwater Habitat (EWH), Modified Warmwater Habitat (MWH), Seasonal Salmonid Habitat (SSH), Coldwater Habitat (CWH), and Limited Resource Water (LRW). Water Supply designations include: Public Water Supply (PWS), Agricultural Water Supply (AWS), and Industrial Water Supply (IWS). Recreation designated uses include: Primary Contact Recreation (PCR). Most primary headwater streams are not named in the rules. Dated January 23, 2008. [http://www.epa.ohio.gov/dsw/rules/3745\\_1.aspx](http://www.epa.ohio.gov/dsw/rules/3745_1.aspx).
- <sup>4</sup> Scoring for OEPA Headwater Habitat Evaluation Index (HHEI) Primary Headwater Habitats (PHWH). Class I = 0 - 29.9 and include "normally dry channels with little or no aquatic life present"; Class II = 30 - 69.9 and are equivalent to "warm water habitat"; Class III = 70 - 100 and typically have perennial flow with cool-cold water adapted native fauna.
- <sup>5</sup> Streams with drainage areas > 1 sq. mi., which have not received a water use designation under OAC 3745-1 were scored based on OEPA's Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI), June 2006. <http://www.epa.state.oh.us/portals/35/documents/qhelmanualjune2006.pdf>. Scoring: > 75 = Excellent stream habitat; 60 - 74 = Good; 45 - 59 = Fair; 30 - 44 = Poor; < 30 = Very Poor.
- <sup>6</sup> Channel width is the average length, determined by bankfull width, measured in feet.
- <sup>7</sup> North American Datum, 1983.

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## FIGURES

## PHOTOGRAPHS



Photograph 1 – Wetland WOH-BJM-001, Facing East



Photograph 2 – Wetland WOH-BJM-001, Facing West



Photograph 3 – Wetland WHO-BJM-001, Facing North



Photograph 4 – Wetland WOH-BJM-002 (PEM), Facing South



Photograph 5- Wetland WOH-BJM-002 (PEM), Facing North



Photograph 6- Wetland WHO-BJM-002 (PEM), Facing Northwest





Photograph 7. Wetland WOH-BJM-002 (PFO),  
Facing Northwest



Photograph 8. Wetland WOH-BJM-002 (PFO),  
Facing Northeast



Photograph 9 – Wetland WOH-BJM-002 (PFO),  
Facing Northwest



Photograph 10 – Wetland WOH-BJM-003, Facing  
North



Photograph 11 – Wetland WOH-BJM-003, Facing  
Southeast



Photograph 12 – Wetland WOH-BJM-003, Facing  
Northwest





Photograph 13 – Wetland WOH-BJM-004, Facing West-Northwest



Photograph 14 – Wetland WOH-BJM-004, Facing South



Photograph 15- Wetland WOH-BJM-005, Facing North



Photograph 16. Wetland WOH-BJM-005, Facing South



Photograph 17. Wetland WOH-BJM-005, Facing Northwest



Photograph 18 – Wetland WOH-BJM-006 (PEM), Facing North





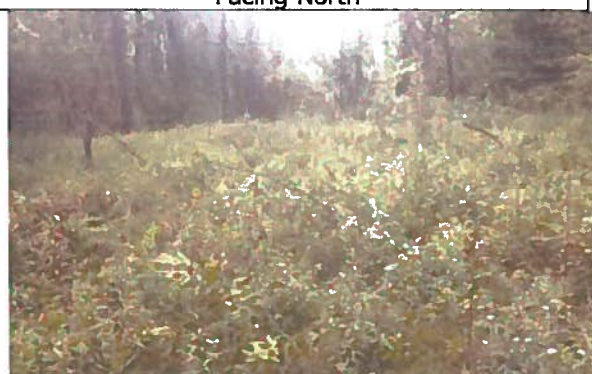
Photograph 19 – Wetland WOH-BJM-006 (PEM),  
Facing South



Photograph 20 – Wetland WOH-BJM-006 (PFO),  
Facing North



Photograph 21– Wetland WOH-BJM-006 (PFO),  
Facing South



Photograph 22- Wetland WOH-NLE-001, Facing  
South



Photograph 23- Wetland WOH-NLE-001, Facing  
North



Photograph 24. Wetland WOH-NLE-002, Facing  
South





Photograph 27 -- Wetland WOH-NLE-002, Facing North



Photograph 28 -- Stream SOH-BJM-001, Upstream, Facing Northeast



Photograph 29 -- Stream SOH-BJM-001, Downstream, Facing Southwest



Photograph 30 -- Stream SOH-BJM-001, Cross-stream, Facing North



Photograph 31 -- Stream SOH-BJM-002, Upstream, Facing North



Photograph 32 -- Stream SOH-BJM-002, Downstream, Facing South





Photograph 32 – Stream SOH-BJM-002, Cross-stream, Facing East



Photograph 34- Stream SOH-BJM-003, Upstream, Facing Northwest



Photograph 35 – Stream SOH-BJM-003, Downstream, Facing Southeast



Photograph 36. Stream SOH-BJM-003, Cross-stream, Facing Northeast



Photograph 37. Stream SOH-NLE-001, Upstream, Facing North



Photograph 38 – Stream SOH-NLE-001, Downstream, Facing South





Photograph 39 – Stream SOH-NLE-001, Cross-stream, Facing East



Photograph 40 – POH-BJM-001, Facing Northwest



Photograph 41 – POH-BJM-001, Facing North



Photograph 42 – POH-BJM-002, Facing West



Photograph 43 – POH-BJM-002, Facing North



Photograph 44 – POH-NLE-001, Facing Southwest





Photograph 45 – POH-NLE-001, Facing West

## APPENDIX A

### Wetland Data Forms

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Sparrow 138 kV Loop City/County: Harrison Sampling Date: 8/19/14  
 Applicant/Owner: AEP State: OH Sampling Point: WOH-BJM-001  
 Investigator(s): BJM ASW Section, Township, Range: Cadiz  
 Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR or MLRA): LRRN Lat: 40.277483 Long: -80.965343 Datum: NAD83  
 Soil Map Unit Name: GuD2 - Guemsey silty clay loam, 15 to 25 percent slope, eroded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Sample point taken along wetland drainage channel containing a fringe PEM wetland. Wetland originates from outflow of SOH-BJM-001 and drains into it located outside of the AOI	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <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)		<u>Secondary Indicators (minimum of two required)</u> <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 checked="" 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 checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>&lt;0.25</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>11</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <u>N/A</u>		
Remarks: Surface water located at the origin of wetland NE of CL crossing		

**VEGETATION (Four Strata) – Use scientific names of plants.**

 Sampling Point: WOH-BJM-001

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. None observed				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
				_____ = Total Cover
<b>Sapling/Shrub Stratum</b> (Plot size: _____ )				
1. None observed				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
				_____ = Total Cover
<b>Herb Stratum</b> (Plot size: <u>5</u> )				
1. <i>Amphicarpaea bracteata</i>	22	Y	FAC	
2. <i>Impatiens capensis</i>	18	Y	FACW	
3. <i>Verbesina alternifolia</i>	14	N	FAC	
4. <i>Agrimonia parviflora</i>	10	N	FACW	
5. <i>Onoclea sensibilis</i>	8	N	FACW	
6. <i>Solidago gigantea</i>	7	N	FACW	
7. <i>Leersia oryzoides</i>	6	N	OBL	
8. <i>Pilea pumila</i>	4	N	FACW	
9. <i>Symplocarpus foetidus</i>	2	N	OBL	
10. _____				
11. _____				
12. _____				
				91 = Total Cover
<b>Woody Vine Stratum</b> (Plot size: _____ )				
1. None observed				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
				_____ = Total Cover

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
  
 Total Number of Dominant Species Across All Strata: 2 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____
Prevalence Index = B/A = _____	

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ 1 - Rapid Test for Hydrophytic Vegetation  
☒ 2 - Dominance Test is >50%  
 \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**  
  
**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
  
**Sapling/Shrub** – Woody plants, excluding vines, 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 vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☒ No \_\_\_\_\_

Remarks: (Include photo numbers here or on a separate sheet.)  
 Sample plot size was restricted by the boundary of the wetland and wooded vegetation is rooted outside of the wetland  
 Note: at origin of the wetland, the dominant vegetation is *Typha latifolia*, *Leersia oryzoides*, and *Symplocarpus foetidus*



Sampling Point: WOH-BJM-001

Eastern Mountains and Piedmont – Version 2.0

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Sparrow 138 kV Loop City/County: Harrison Sampling Date: 8/19/14  
 Applicant/Owner: AEP State: OH Sampling Point: WOH-BJM-002  
 Investigator(s): BJM ASW Section, Township, Range: Cadiz  
 Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR or MLRA): LRRN Lat: 40.278347 Long: -80.965677 Datum: NAD83  
 Soil Map Unit Name: Or - Orville silt loam, occasionally flooded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: Sample point represents the PEM portion of WOH-BJM-002 and drains eventually in SOH-BJM-001 outside of the AOI			

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>	
<b>Primary Indicators (minimum of one is required; check all that apply)</b>			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" 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 checked="" 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 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)	
<b>Field Observations:</b>			
Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>&lt;1</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12</u>		
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A			
Remarks: Multiple hydrology indicators were observed			

# VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WOH-BJM-002

Tree Stratum (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
		= Total Cover	
<b>Sapling/Shrub Stratum</b> (Plot size: _____ )			
1. none observed	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
		= Total Cover	
<b>Herb Stratum</b> (Plot size: 5' _____ )			
1. <i>Leersia oryzoides</i>	42	Y	OBL
2. <i>Typha angustifolia</i>	30	Y	OBL
3. <i>Onoclea sensibilis</i>	10	N	FACW
4. <i>Euthamia graminifolia</i>	8	N	FAC
5. <i>Impatiens capensis</i>	5	N	FACW
6. <i>Eupatorium perfoliatum</i>	4	N	FACW
7. <i>Scirpus atrovirens</i>	2	N	OBL
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
		101 = Total Cover	
<b>Woody Vine Stratum</b> (Plot size: _____ )			
1. None observed	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		= Total Cover	

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)
Prevalence Index = B/A = _____	

**Hydrophytic Vegetation Indicators:**

\_\_\_ 1 - Rapid Test for Hydrophytic Vegetation

☒ 2 - Dominance Test is >50%

\_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>

\_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

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

**Sapling/Shrub** – Woody plants, excluding vines, 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 vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☒ No \_\_\_\_\_

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

## SOIL

Sampling Point: WOH-BJM-002

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

[illegible]

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Histosol (A1)<br><input type="checkbox"/> Histic Epipedon (A2)<br><input type="checkbox"/> Black Histic (A3)<br><input type="checkbox"/> Hydrogen Sulfide (A4)<br><input type="checkbox"/> Stratified Layers (A5)<br><input type="checkbox"/> 2 cm Muck (A10) ( <b>LRR N</b> )<br><input type="checkbox"/> Depleted Below Dark Surface (A11)<br><input type="checkbox"/> Thick Dark Surface (A12)<br><input type="checkbox"/> Sandy Mucky Mineral (S1) ( <b>LRR N, MLRA 147, 148</b> )<br><input type="checkbox"/> Sandy Gleyed Matrix (S4)<br><input type="checkbox"/> Sandy Redox (S5)<br><input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Dark Surface (S7)<br><input type="checkbox"/> Polyvalue Below Surface (S8) ( <b>MLRA 147, 148</b> )<br><input type="checkbox"/> Thin Dark Surface (S9) ( <b>MLRA 147, 148</b> )<br><input type="checkbox"/> Loamy Gleyed Matrix (F2)<br><input checked="" type="checkbox"/> Depleted Matrix (F3)<br><input type="checkbox"/> Redox Dark Surface (F6)<br><input type="checkbox"/> Depleted Dark Surface (F7)<br><input type="checkbox"/> Redox Depressions (F8)<br><input type="checkbox"/> Iron-Manganese Masses (F12) ( <b>LRR N, MLRA 136</b> )<br><input type="checkbox"/> Umbric Surface (F13) ( <b>MLRA 136, 122</b> )<br><input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 148</b> )<br><input type="checkbox"/> Red Parent Material (F21) ( <b>MLRA 127, 147</b> ) | <input type="checkbox"/> 2 cm Muck (A10) ( <b>MLRA 147</b> )<br><input type="checkbox"/> Coast Prairie Redox (A16) ( <b>MLRA 147, 148</b> )<br><input type="checkbox"/> Piedmont Floodplain Soils (F19) ( <b>MLRA 136, 147</b> )<br><input type="checkbox"/> Very Shallow Dark Surface (TF12)<br><input type="checkbox"/> Other (Explain in Remarks) |
|--|---|--|
- <sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic.

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (If observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:



# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Sparrow 138 kV Loop City/County: Harrison Sampling Date: 8/19/14  
 Applicant/Owner: AEP State: OH Sampling Point: WOH-BJM-002  
 Investigator(s): BJM ASW Section, Township, Range: Cadiz  
 Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR or MLRA): LRRN Lat: 40.278347 Long: -80.965677 Datum: NAD83  
 Soil Map Unit Name: GuD2 - Gumsey silty clay loam, 15 to 25 percent slope, eroded NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Sample point represents the PFO portion of WOH-BJM-002 and drains eventually in SOH-BJM-001			

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input 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 checked="" 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)		<u>Secondary Indicators (minimum of two required)</u> <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 checked="" 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 checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <u>N/A</u>		
Remarks: Multiple hydrology indicators were observed		

**VEGETATION (Four Strata) – Use scientific names of plants.**

 Sampling Point: WOH-BJM-002

<b>Tree Stratum</b> (Plot size: <u>30'</u> )				Absolute % Cover	Dominant Species?	Indicator Status
1.	Acer negundo	20	Y	FAC		
2.	Salix nigra	15	Y	OBL		
3.	Ulmus rubra	10	Y	FACW		
4.						
5.						
6.						
7.						
8.						
		45	= Total Cover			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )				Absolute % Cover	Dominant Species?	Indicator Status
1.	Rosa multiflora	15	Y	FACU		
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
		15	= Total Cover			
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				Absolute % Cover	Dominant Species?	Indicator Status
1.	Amphicarpaea bracteata	22	Y	FAC		
2.	Impatiens capensis	18	Y	FACW		
3.	Agrimonia parviflora	14	N	FACW		
4.	Typha augustifolia	8	N	OBL		
5.	Leersia oryzoides	6	N	OBL		
6.	Solidago gigantea	5	N	FACW		
7.	Onoclea sensibilis	5	N	FACW		
8.						
9.						
10.						
11.						
12.						
		78	= Total Cover			
<b>Woody Vine Stratum</b> (Plot size: _____ )				Absolute % Cover	Dominant Species?	Indicator Status
1.	None observed					
2.						
3.						
4.						
5.						
6.						
			= Total Cover			

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

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)  
  
 Total Number of Dominant Species Across All Strata: 6 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 83.33 (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ 1 - Rapid Test for Hydrophytic Vegetation  
☒ 2 - Dominance Test is >50%  
 \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**  
  
**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
  
**Sapling/Shrub** – Woody plants, excluding vines, 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 vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes ☒      No \_\_\_\_\_

Sampling Point: WOH-BJM-002

Sampling Point: WOH-BJM-002

Eastern Mountains and Piedmont – Version 2.0

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Sparrow 138 kV Loop City/County: Harrison Sampling Date: 8/19/14  
 Applicant/Owner: AEP State: OH Sampling Point: WOH-BJM-003  
 Investigator(s): BJM ASW Section, Township, Range: Cadiz  
 Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR or MLRA): LRRN Lat: 40.284943 Long: -80.968867 Datum: NAD83  
 Soil Map Unit Name: GuD2 - Gumsey silty clay loam, 15 to 25 percent slope, eroded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Sample point located in a PEM wetland that displays heavy cattle traffic and is surrounded by upland pasture	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <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)		<u>Secondary Indicators (minimum of two required)</u> <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)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <u>N/A</u>		
Remarks: Due to cattle traffic, stream SOH-BJM-003 does not exist until the western portion of the wetland		



**VEGETATION (Four Strata) – Use scientific names of plants.**

 Sampling Point: WOH-BJM-003

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. none observed				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
				_____ = Total Cover
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				
1. none observed				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
				_____ = Total Cover
<b>Herb Stratum</b> (Plot size: 5' _____)				
1. Eupatorium perfoliatum	30	Y	FACW	
2. Typha latifolia	22	Y	OBL	
3. Leersia oryzoides	18	N	OBL	
4. Acorus calamus	10	N	OBL	
5. Impatiens capensis	8	N	FACW	
6. Juncus tenuis	4	N	FAC	
7. Scirpus atrovirens	2	N	OBL	
8. Plantago major	2	N	FAC	
9. Cyperus esculentus	2	N	FACW	
10. _____				
11. _____				
12. _____				
				98 = Total Cover
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. None observed				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
				_____ = Total Cover
Remarks: (Include photo numbers here or on a separate sheet.)				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
  
 Total Number of Dominant Species Across All Strata: 2 (B)  
  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ 1 - Rapid Test for Hydrophytic Vegetation  
☒ 2 - Dominance Test is >50%  
 \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**  
  
**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
  
**Sapling/Shrub** – Woody plants, excluding vines, 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 vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**      Yes ☒      No \_\_\_\_\_

Sampling Point: WOH-BJM-003

[illegible]<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 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)**
- ☐ Umbritic Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

- ☐ 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)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Sparrow 138 kV Loop City/County: Harrison Sampling Date: 8/19/14  
 Applicant/Owner: AEP State: OH Sampling Point: WOH-BJM-004  
 Investigator(s): BJM ASW Section, Township, Range: Cadiz  
 Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR or MLRA): LRRN Lat: 40.284943 Long: -80.968867 Datum: NAD83  
 Soil Map Unit Name: MrF - Morristown channery silt loam, 25 to 70 percent slopes, bouldery NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Sample point located in a PEM wetland located along the fringe of pond POH-BJM-002	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <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)		<u>Secondary Indicators (minimum of two required)</u> <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)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A		
Remarks: Hydrology passes on two secondary indicators		

**VEGETATION (Four Strata) – Use scientific names of plants.**

 Sampling Point: WOH-BJM-004

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Ulmus americana</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Salix nigra</u>	<u>10</u>	<u>Y</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<b>Sapling/Shrub Stratum</b> (Plot size: _____ )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. <u>none observed</u>	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
<b>Herb Stratum</b> (Plot size: <u>5'</u> )				
1. <u>Cyperus esculentus</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Scirpus atrovirens</u>	<u>14</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Carex scoparia</u>	<u>14</u>	<u>Y</u>	<u>FACW</u>	_____ = Total Cover
4. <u>Ulmus americana</u>	<u>8</u>	<u>N</u>	<u>FACW</u>	
5. <u>Agrostis gigantea</u>	<u>8</u>	<u>N</u>	<u>FACW</u>	
6. <u>Panicum hydropiper</u>	<u>6</u>	<u>N</u>	<u>OBL</u>	
7. <u>Scirpus cyperinus</u>	<u>4</u>	<u>N</u>	<u>FACW</u>	_____ = Total Cover
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<b>Woody Vine Stratum</b> (Plot size: _____ )				_____ = Total Cover
1. <u>None observed</u>	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	_____ = Total Cover
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	

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

Sampling Point: WOH-BJM-004

Sampling Point: WOH-BJM-004

[illegible]<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- \_\_\_ 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**)
- \_\_\_ Umbritic Surface (F13) (**MLRA 136, 122**)
- \_\_\_ Piedmont Floodplain Soils (F19) (**MLRA 148**)
- \_\_\_ Red Parent Material (F21) (**MLRA 127, 147**)

- ☐ 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)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

soils appear to be coal refuse

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Sparrow 138 kV Loop City/County: Harrison Sampling Date: 8/19/14  
 Applicant/Owner: AEP State: OH Sampling Point: WOH-BJM-005  
 Investigator(s): BJM ASW Section, Township, Range: Cadiz  
 Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR or MLRA): LRRN Lat: 40.288894 Long: -80.967262 Datum: NAD83  
 Soil Map Unit Name: AbC2 - Aaron silty clay loam, 6 to 15 percent slopes, eroded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Sample point located in a PEM wetland currently crossed by an existing access road via timber mats from a pipeline project	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b>		<b>Secondary Indicators (minimum of two required)</b>	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>			
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" 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 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)	
<b>Field Observations:</b>			
Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>			
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <u>N/A</u>			
Remarks:			

**VEGETATION (Four Strata) – Use scientific names of plants.**

 Sampling Point: **WOH-BJM-005**

Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?	Indicator Status	
1. none observed				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
				= Total Cover
<b>Sapling/Shrub Stratum</b> (Plot size: 15' )				
1. none observed				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
				= Total Cover
<b>Herb Stratum</b> (Plot size: 5' )				
1. <i>Leersia oryzoides</i>	32	Y	OBL	
2. <i>Scirpus atrovirens</i>	22	Y	OBL	
3. <i>Echinochloa crus-galli</i>	18	N	FAC	
4. <i>Eupatorium perfoliatum</i>	10	N	FACW	
5. <i>Juncus tenuis</i>	8	N	FAC	
6. <i>Solidago gigantea</i>	4	N	FACW	
7. <i>Equisetum fluviatile</i>	2	N	OBL	
8.				
9.				
10.				
11.				
12.				
				96 = Total Cover
<b>Woody Vine Stratum</b> (Plot size: )				
1. None observed				
2.				
3.				
4.				
5.				
6.				
				= Total Cover

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
 Total Number of Dominant Species Across All Strata: 2 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 \_\_\_ 1 - Rapid Test for Hydrophytic Vegetation  
☒ 2 - Dominance Test is >50%  
 \_\_\_ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**  
**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/Shrub** – Woody plants, excluding vines, 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 vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☒ No \_\_\_\_\_

Remarks: (Include photo numbers here or on a separate sheet.)  
 sample plot size restricted to wetland boundary



Sampling Point: WOH-BJM-005

[illegible]<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- \_\_\_ 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)**

- ☐ 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)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

**soils appear to be coal refuse**

# WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Sparrow 138 kV Loop City/County: Hamson Sampling Date: 8/20/14  
 Applicant/Owner: AEP State: OH Sampling Point: WOH-BJM-006  
 Investigator(s): BJM ASW Section, Township, Range: Cadiz  
 Landform (hillslope, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR or MLRA): LRRN Lat: 40.292615 Long: -80.980795 Datum: NAD83  
 Soil Map Unit Name: GuD2 - Gurnsey silty clay loam, 15 to 25 percent slope, eroded NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Sample point located between edge of N. Main St. and footslope for a hillslope in a PEM portion of WOH-BJM-006			

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <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 checked="" 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)		<u>Secondary Indicators (minimum of two required)</u> <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)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <u>N/A</u>		
Remarks:		

**VEGETATION (Four Strata) – Use scientific names of plants.**

 Sampling Point WOH-BJM-006

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. none observed				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
				<b>Dominance Test worksheet:</b>
				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
				<b>Prevalence Index worksheet:</b>
				Total % Cover of: _____ Multiply by: _____
				OBL species _____ x 1 = _____
				FACW species _____ x 2 = _____
				FAC species _____ x 3 = _____
				FACU species _____ x 4 = _____
				UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
				<b>Hydrophytic Vegetation Indicators:</b>
				<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
				<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>
				<input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				<b>Definitions of Four Vegetation Strata:</b>
				<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
				<b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
				<b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u> )</b> _____ = Total Cover				
1. none observed				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
<b>Herb Stratum (Plot size: <u>5'</u> )</b> _____ = Total Cover				
1. Phalaris arundinacea	90	Y	FACW	
2. Typha latifolia	8	N	OBL	
3. Imatiens capensis	2	N	FACW	
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
<b>Woody Vine Stratum (Plot size: _____ )</b> <u>100</u> = Total Cover				
1. None observed				
2.				
3.				
4.				
5.				
6.				
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) <b>sample plot size restricted to wetland boundary</b>				

## SOIL

Sampling Point: WOH-BJM-006

[illegible]

**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**10/30/2014 4:04:19 PM**

**in**

**Case No(s). 14-1768-EL-BLN**

Summary: Letter of Notification for the Sparrow 138kV Transmission Line Loop Project (Part 3 of 6) electronically filed by Mr. Yazen Alami on behalf of AEP Ohio Transmission Company