



Photograph 21: View of Stream 2 (near Britton Parkway) facing downstream, looking east.



Photograph 22: View of Stream 2 (near Davidson Road AEP Facility) facing upstream, looking west.



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AMERICAN ELECTRIC POWER  
BRITTON-DAVIDSON TAP LINE  
CITY OF HILLIARD, FRANKLIN COUNTY, OHIO  
CEC Project: 162-707  
Photographs Taken On: July 12 and 18, 2016





Photograph 23: View of Stream 2 (near Davidson Road AEP Facility) facing downstream, looking east.



Photograph 24: View of maintained lawn and edge of riparian corridor north of Davidson Road AEP Facility, looking west.



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Photograph 25: View of SP-3 within upland area, looking north.



Photograph 26: View of SP-4 within upland area near Wetland A, looking south.



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Photograph 27: View from Britton Parkway, just south of Stream 2, looking east.



Photograph 28: View of maintained lawn south of Stream 2, looking east.



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Photograph 29: View of playground, located south of Stream 2, looking south.



Photograph 30: View of ball field, located south of Stream 2, looking south.



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Photograph 31: View of Dry Detention Basin 1, looking north.



Photograph 32: View of SP-5 within upland area, looking north.



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Photograph 33: View of maintained lawn area west of Davidson Road AEP Facility, looking south.



Photograph 34: View of Davidson Road AEP Facility in the southern portion of the Site, looking south.



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**APPENDIX B**

**WETLAND DETERMINATION DATA FORMS**

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# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Britton-Davidson Tap Line City/County: Hilliard/Franklin Sampling Date: July 12, 2016  
 Applicant/Owner: American Electric Power State: OH Sampling Point: SP-1  
 Investigator(s): M. Hall and J. Demarest Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Flat Local Relief (concave, convex, none): None  
 Slope (%): 0% Lat: 40.05743 Long: -83.13237 Datum: NAD83  
 Soil Map Unit Name: Kokomo silty clay loam, 0 to 2 percent slopes NWI classification: N/A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes      No X (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present?  
 Yes X No       
 Are Vegetation No, Soil No, or Hydrology No 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 <u>    </u> No <u>X</u> | Is the Sampled Area within a Wetland? Yes <u>    </u> No <u>X</u> |
| Hydric Soil Present?            | Yes <u>    </u> No <u>X</u> |   |
| Wetland Hydrology Present?      | Yes <u>    </u> No <u>X</u> |   |
| Remarks:<br>Upland area         |                             |   |

## VEGETATION - Use scientific names of plants.

| Tree Stratum (Plot size: 30 ft. )                             | Absolute % Cover | Dominant Species?    | Indicator Status | Dominance Test worksheet:<br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40.00</u> (A/B)  |
|---|------------------|----------------------|------------------|---|
| 1. <u>Acer saccharum</u>                                      | <u>50</u>        | <u>Y</u>             | <u>FACU</u>      |   |
| 2. <u>Tilia americana</u>                                     | <u>20</u>        | <u>Y</u>             | <u>FACU</u>      |   |
| 3. <u>Quercus rubra</u>                                       | <u>15</u>        | <u>N</u>             | <u>FACU</u>      |   |
| 4. <u>Juglans nigra</u>                                       | <u>5</u>         | <u>N</u>             | <u>FACU</u>      |   |
| 5. <u>    </u>  | <u>90</u>        | <u>= Total Cover</u> | <u>    </u>      |   |
| Sapling/Shrub Stratum: Size: 15 ft. )                         |                  |                      |                  | Prevalence Index worksheet:<br>Total % Cover of: <u>    </u> Multiply by: <u>    </u><br>OBL species <u>0</u> x 1 = <u>0</u><br>FACW species <u>2</u> x 2 = <u>4</u><br>FAC species <u>80</u> x 3 = <u>240</u><br>FACU species <u>118</u> x 4 = <u>472</u><br>UPL species <u>0</u> x 5 = <u>0</u><br>Column Totals: <u>200</u> (A) <u>716</u> (B)<br><br>Prevalence Index = B/A = <u>3.6</u>  |
| 1. <u>Acer saccharum</u>                                      | <u>3</u>         | <u>Y</u>             | <u>FACU</u>      |   |
| 2. <u>Lindera benzoin</u>                                     | <u>2</u>         | <u>Y</u>             | <u>FACW</u>      |   |
| 3. <u>    </u>  | <u>    </u>      | <u>    </u>          | <u>    </u>      |   |
| 4. <u>    </u>  | <u>    </u>      | <u>    </u>          | <u>    </u>      |   |
| 5. <u>    </u>  | <u>5</u>         | <u>= Total Cover</u> | <u>    </u>      |   |
| Herb Stratum: (Plot size: 5 ft. )                             |                  |                      |                  | Hydrophytic Vegetation Indicators:<br>1 - Rapid Test for Hydrophytic Vegetation<br>2 - Dominance Test is >50%<br>3 - Prevalence Index is ≤3.0 <sup>1</sup><br>4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Geum canadense</u>                                      | <u>80</u>        | <u>Y</u>             | <u>FAC</u>       |   |
| 2. <u>Elymus hystrix</u>                                      | <u>15</u>        | <u>N</u>             | <u>FACU</u>      |   |
| 3. <u>Parthenocissus quinquefolia</u>                         | <u>10</u>        | <u>N</u>             | <u>FACU</u>      |   |
| 4. <u>    </u>  | <u>    </u>      | <u>    </u>          | <u>    </u>      |   |
| 5. <u>    </u>  | <u>    </u>      | <u>    </u>          | <u>    </u>      |   |
| 6. <u>    </u>  | <u>    </u>      | <u>    </u>          | <u>    </u>      |   |
| 7. <u>    </u>  | <u>    </u>      | <u>    </u>          | <u>    </u>      |   |
| 8. <u>    </u>  | <u>    </u>      | <u>    </u>          | <u>    </u>      |   |
| 9. <u>    </u>  | <u>    </u>      | <u>    </u>          | <u>    </u>      |   |
| 10. <u>    </u>   | <u>105</u>       | <u>= Total Cover</u> | <u>    </u>      |   |
| Woody Vine Stratum: (Plot size 30 ft. )                       |                  |                      |                  | Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u>   |
| 1. <u>N/A</u>   | <u>    </u>      | <u>    </u>          | <u>    </u>      |   |
| 2. <u>    </u>  | <u>    </u>      | <u>    </u>          | <u>    </u>      |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                      |                  |   |



## SOIL

Sampling Point: SP-1

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

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-16              | 10YR 2/2      | 100 |                |   |                   |                  | silt loam |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |

<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:**

|  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |

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

|   |
|---|
| <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks)       |

<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 X

Remarks

**HYDROLOGY****Wetland Hydrology Indicators:**

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

|  |   |
|--|---|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9)                  |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Aquatic Fauna (B13)                        |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> True Aquatic Plants (B14)                  |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)              |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled 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"/> Gauge or Well Data (D9)                    |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   | <input type="checkbox"/> Other (Explain in Remarks)                 |

Secondary Indicators (minimum of two required)

|  |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> Drainage Patterns (B10)                   |
| <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"/> FAC-Neutral Test (D5)                     |

**Field Observations:**

|                        |           |             |                       |
|------------------------|-----------|-------------|-----------------------|
| Surface Water Present? | Yes _____ | No <u>X</u> | Depth (inches): _____ |
| Water Table Present?   | Yes _____ | No <u>X</u> | Depth (inches): _____ |
| Saturation Present?    | Yes _____ | No <u>X</u> | Depth (inches): _____ |

(includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No X

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

Remarks



# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Britton-Davidson Tap Line City/County: Hilliard/Franklin Sampling Date: July 12, 2016  
 Applicant/Owner: American Electric Power State: OH Sampling Point: SP-2  
 Investigator(s): M. Hall and J. Demarest Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): Concave  
 Slope (%): 0-1% Lat: 40.05718 Long: -83.13352 Datum: NAD83  
 Soil Map Unit Name: Kokomo silty clay loam, 0 to 2 percent slopes NWI classification: N/A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes      No X (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present?  
 Yes X No       
 Are Vegetation No, Soil No, or Hydrology No 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 <u>X</u> No <u>    </u> | Is the Sampled Area within a Wetland? Yes <u>X</u> No <u>    </u> |
| Hydric Soil Present?            | Yes <u>X</u> No <u>    </u> |   |
| Wetland Hydrology Present?      | Yes <u>X</u> No <u>    </u> |   |
| Remarks:<br>Wetland A           |                             |   |

## VEGETATION - Use scientific names of plants.

| Tree Stratum (Plot size: 30 ft. )       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:<br>Number of Dominant Species<br>That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)   |
|---|------------------|-------------------|------------------|--|
| 1. <u>N/A</u>                           | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 2. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 3. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 4. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 5. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| <u>0</u> = Total Cover                  |                  |                   |                  |  |
| Sapling/Shrub Stratum: Size: 15 ft. )   |                  |                   |                  | Prevalence Index worksheet:<br>Total % Cover of: <u>    </u> Multiply by: <u>    </u><br>OBL species <u>    </u> x 1 = <u>    </u><br>FACW species <u>    </u> x 2 = <u>    </u><br>FAC species <u>    </u> x 3 = <u>    </u><br>FACU species <u>    </u> x 4 = <u>    </u><br>UPL species <u>    </u> x 5 = <u>    </u><br>Column Totals: <u>    </u> (A) <u>    </u> (B)<br><br>Prevalence Index = B/A = <u>    </u>   |
| 1. <u>N/A</u>                           | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 2. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 3. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 4. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 5. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| <u>0</u> = Total Cover                  |                  |                   |                  |  |
| Herb Stratum: (Plot size: 5 ft. )       |                  |                   |                  | Hydrophytic Vegetation Indicators:<br>X 1 - Rapid Test for Hydrophytic Vegetation<br>X 2 - Dominance Test is >50%<br>3 - Prevalence Index is ≤3.0 <sup>1</sup><br>4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.<br><br>Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> |
| 1. <u>Typha angustifolia</u>            | <u>95</u>        | <u>Y</u>          | <u>OBL</u>       |  |
| 2. <u>Euthamia graminifolia</u>         | <u>3</u>         | <u>N</u>          | <u>FACW</u>      |  |
| 3. <u>Asclepias incarnata</u>           | <u>2</u>         | <u>N</u>          | <u>OBL</u>       |  |
| 4. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 5. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 6. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 7. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 8. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 9. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 10. <u>    </u>                         | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| <u>100</u> = Total Cover                |                  |                   |                  |  |
| Woody Vine Stratum: (Plot size 30 ft. ) |                  |                   |                  |  |
| 1. <u>N/A</u>                           | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| 2. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |  |
| <u>    </u> = Total Cover               |                  |                   |                  |  |

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



## SOIL

Sampling Point: SP-2

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

| Depth<br>(inches) | Matrix        |     | Redox Features |    |                   |                  | Texture   | Remarks |
|-------------------|---------------|-----|----------------|----|-------------------|------------------|-----------|---------|
|                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-4               | 10YR 2/1      | 100 |                |    |                   |                  | silt loam |         |
| 4-16              | 10YR 4/1      | 75  | 10YR 5/6       | 25 | C                 | M                | silt loam |         |
|                   |               |     |                |    |                   |                  |           |         |
|                   |               |     |                |    |                   |                  |           |         |
|                   |               |     |                |    |                   |                  |           |         |
|                   |               |     |                |    |                   |                  |           |         |
|                   |               |     |                |    |                   |                  |           |         |
|                   |               |     |                |    |                   |                  |           |         |

<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:**

|  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |

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

|   |
|---|
| <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks)       |

<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

**HYDROLOGY****Wetland Hydrology Indicators:**

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

|  |   |
|--|---|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9)                  |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Aquatic Fauna (B13)                        |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> True Aquatic Plants (B14)                  |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)              |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled 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"/> Gauge or Well Data (D9)                    |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   | <input type="checkbox"/> Other (Explain in Remarks)                 |

Secondary Indicators (minimum of two required)

|  |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> Drainage Patterns (B10)                   |
| <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 checked="" type="checkbox"/> FAC-Neutral Test (D5)          |

**Field Observations:**

|                        |                              |  |                       |
|------------------------|------------------------------|--|-----------------------|
| 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?    | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Depth (inches): _____ |

(includes capillary fringe)

**Wetland Hydrology Present?** Yes ☒ No ☐

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

Remarks



# WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Britton-Davidson Tap Line City/County: Hilliard/Franklin Sampling Date: July 12, 2016  
 Applicant/Owner: American Electric Power State: OH Sampling Point: SP-3  
 Investigator(s): M. Hall and J. Demarest Section, Township, Range: N/A  
 Landform (hillslope, terrace, etc.): Flat Local Relief (concave, convex, none): None  
 Slope (%): 0% Lat: 40.05168 Long: -83.13212 Datum: NAD83  
 Soil Map Unit Name: Crosby silt loam, Southern Ohio Till Plain 0 to 2 percent slopes NWI classification: N/A  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes      No X (If no, explain in Remarks.)  
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present?  
 Yes X No       
 Are Vegetation No, Soil No, or Hydrology No 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 <u>X</u> No <u>    </u> | Is the Sampled Area within a Wetland? Yes <u>    </u> No <u>X</u> |
| Hydric Soil Present?            | Yes <u>    </u> No <u>X</u> |   |
| Wetland Hydrology Present?      | Yes <u>    </u> No <u>X</u> |   |
| Remarks:<br>Upland area         |                             |   |

## VEGETATION - Use scientific names of plants.

| Tree Stratum (Plot size: 30 ft. )       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:<br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80.00</u> (A/B)  |
|---|------------------|-------------------|------------------|---|
| 1. <u>Populus deltoides</u>             | <u>20</u>        | <u>Y</u>          | <u>FAC</u>       |   |
| 2. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      | Prevalence Index worksheet:<br>Total % Cover of: <u>    </u> Multiply by: <u>    </u><br>OBL species <u>    </u> x 1 = <u>    </u><br>FACW species <u>    </u> x 2 = <u>    </u><br>FAC species <u>    </u> x 3 = <u>    </u><br>FACU species <u>    </u> x 4 = <u>    </u><br>UPL species <u>    </u> x 5 = <u>    </u><br>Column Totals: <u>    </u> (A) <u>    </u> (B)<br><br>Prevalence Index = B/A = <u>    </u>  |
| 3. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |   |
| 4. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      | Hydrophytic Vegetation Indicators:<br>1 - Rapid Test for Hydrophytic Vegetation <u>    </u><br>2 - Dominance Test is >50% <u>    </u><br>3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u><br>4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u><br>Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <u>    </u><br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 5. <u>    </u>                          | <u>20</u>        | <u>    </u>       | <u>    </u>      |   |
| = Total Cover                           |                  |                   |                  | Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u>   |
| Sapling/Shrub Stratum: Size: 15 ft. )   |                  |                   |                  |   |
| 1. <u>Lonicera maackii</u>              | <u>20</u>        | <u>Y</u>          | <u>UPL</u>       | Remarks: (Include photo numbers here or on a separate sheet.)   |
| 2. <u>Populus deltoides</u>             | <u>10</u>        | <u>Y</u>          | <u>FAC</u>       |   |
| 3. <u>Rubus allegheniensis</u>          | <u>5</u>         | <u>N</u>          | <u>FACU</u>      |   |
| 4. <u>Pyrus calleryana</u>              | <u>2</u>         | <u>N</u>          | <u>UPL</u>       |   |
| 5. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |   |
| = Total Cover                           |                  |                   |                  |   |
| Herb Stratum: (Plot size: 5 ft. )       |                  |                   |                  |   |
| 1. <u>Agrostis gigantea</u>             | <u>30</u>        | <u>Y</u>          | <u>FACW</u>      |   |
| 2. <u>Poa pratensis</u>                 | <u>20</u>        | <u>Y</u>          | <u>FAC</u>       |   |
| 3. <u>Schedonorus pratensis</u>         | <u>15</u>        | <u>N</u>          | <u>FACU</u>      |   |
| 4. <u>Carex vulpinoidea</u>             | <u>10</u>        | <u>N</u>          | <u>FACW</u>      |   |
| 5. <u>Solidago canadensis</u>           | <u>10</u>        | <u>N</u>          | <u>FACU</u>      |   |
| 6. <u>Toxicodendron radicans</u>        | <u>5</u>         | <u>N</u>          | <u>FAC</u>       |   |
| 7. <u>Rumex crispus</u>                 | <u>5</u>         | <u>N</u>          | <u>FAC</u>       |   |
| 8. <u>Apocynum cannabinum</u>           | <u>2</u>         | <u>N</u>          | <u>FAC</u>       |   |
| 9. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |   |
| 10. <u>    </u>                         | <u>    </u>      | <u>    </u>       | <u>    </u>      |   |
| = Total Cover                           |                  |                   |                  |   |
| Woody Vine Stratum: (Plot size 30 ft. ) |                  |                   |                  |   |
| 1. <u>N/A</u>                           | <u>    </u>      | <u>    </u>       | <u>    </u>      |   |
| 2. <u>    </u>                          | <u>    </u>      | <u>    </u>       | <u>    </u>      |   |
| = Total Cover                           |                  |                   |                  |   |

## SOIL

Sampling Point: SP-3

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

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-10              | 10YR 4/3      | 100 |                |   |                   |                  | silt loam |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |

<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:**

|  |   |
|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |

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

|   |
|---|
| <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks)       |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: roots and compacted soilDepth (inches): 10**Hydric Soil Present?** Yes ☐ No ☒

Remarks

**HYDROLOGY****Wetland Hydrology Indicators:**

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

|  |   |
|--|---|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9)                  |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Aquatic Fauna (B13)                        |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> True Aquatic Plants (B14)                  |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)              |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled 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"/> Gauge or Well Data (D9)                    |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   | <input type="checkbox"/> Other (Explain in Remarks)                 |

Secondary Indicators (minimum of two required)

|  |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> Drainage Patterns (B10)                   |
| <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"/> FAC-Neutral Test (D5)                     |

**Field Observations:**

|                        |                              |  |                 |                   |
|------------------------|------------------------------|--|-----------------|-------------------|
| 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?    | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Depth (inches): | <u>          </u> |

(includes capillary fringe)

**Wetland Hydrology Present?** Yes ☐ No ☒

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

Remarks



## WETLAND DETERMINATION DATA FORM - Midwest Region

|   |   |  |      |                                       |                   |              |                     |                 |                          |                              |  |
|---|---|--|------|---------------------------------------|-------------------|--------------|---------------------|-----------------|--------------------------|------------------------------|--|
| Project/Site:   | Britton-Davidson Tap Line                     |  |      | City/County:                          | Hilliard/Franklin |              |                     | Sampling Date:  | July 12, 2016            |                              |  |
| Applicant/Owner:  | American Electric Power                       |  |      | State:                                | OH                |              |                     | Sampling Point: | SP-4                     |                              |  |
| Investigator(s):  | M. Hall and J. Demarest                       |  |      | Section, Township, Range:             | N/A               |              |                     |                 |                          |                              |  |
| Landform (hillslope, terrace, etc.):  | Flat  |  |      | Local Relief (concave, convex, none): | None              |              |                     |                 |                          |                              |  |
| Slope (%):  | 0%  |  | Lat: | 40.05726                              |                   | Long:        | -83.13368           |                 | Datum:                   | NAD83                        |  |
| Soil Map Unit Name:   | Kokomo silty clay loam, 0 to 2 percent slopes |  |      |                                       |                   |              | NWI classification: | N/A             |                          |                              |  |
| Are climatic/hydrologic conditions on the site typical for this time of year? |   |  |      | Yes                                   |                   |              | No                  | X               |                          | (If no, explain in Remarks.) |  |
| Are Vegetation  | No  |  | Soil | No                                    |                   | or Hydrology | No                  |                 | significantly disturbed? |                              | Are "Normal Circumstances" present?          |
|   |   |  |      | Yes                                   |                   |              | No                  | X               |                          |                              |  |
| Are Vegetation  | No  |  | Soil | No                                    |                   | or Hydrology | No                  |                 | 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 <u>      </u> | No <u>  X  </u>  | <b>Is the Sampled Area within a Wetland?</b> Yes <u>      </u> No <u>  X  </u> |
| Hydric Soil Present?                   | Yes <u>  X  </u>  | No <u>      </u> |  |
| Wetland Hydrology Present?             | Yes <u>      </u> | No <u>  X  </u>  |  |
| Remarks:<br>Upland area near Wetland A |                   |                  |  |

**VEGETATION** - Use scientific names of plants.

| Tree Stratum (Plot size: 30 ft. )       |                                | Absolute % Cover | Dominant Species? | Indicator Status |
|---|--------------------------------|------------------|-------------------|------------------|
| 1.                                      | <i>Tilia americana</i>         | 25               | Y                 | FACU             |
| 2.                                      | <i>Carya ovata</i>             | 10               | Y                 | FACU             |
| 3.                                      | <i>Juglans nigra</i>           | 5                | N                 | FACU             |
| 4.                                      | <i>Maclura pomifera</i>        | 5                | N                 | FACU             |
| 5.                                      | <i>Celtis occidentalis</i>     | 3                | N                 | FAC              |
|   |                                | 48               | = Total Cover     |                  |
| Sapling/Shrub Stratum: Size: 15 ft. )   |                                |                  |                   |                  |
| 1.                                      | <i>Lonicera maackii</i>        | 30               | Y                 | UPL              |
| 2.                                      | <i>Euonymus alatus</i>         | 10               | Y                 | UPL              |
| 3.                                      | <i>Ulmus americana</i>         | 5                | N                 | FACW             |
| 4.                                      |                                |                  |                   |                  |
| 5.                                      |                                |                  |                   |                  |
|   |                                | 45               | = Total Cover     |                  |
| Herb Stratum: (Plot size: 5 ft. )       |                                |                  |                   |                  |
| 1.                                      | <i>Erigeron annuus</i>         | 15               | Y                 | FACU             |
| 2.                                      | <i>Schedonorus pratensis</i>   | 15               | Y                 | FACU             |
| 3.                                      | <i>Carex sp.</i>               | 15               | Y                 | FAC              |
| 4.                                      | <i>Lonicera maackii</i>        | 10               | N                 | UPL              |
| 5.                                      | <i>Phleum pratense</i>         | 10               | N                 | FACU             |
| 6.                                      | <i>Geum canadense</i>          | 5                | N                 | FAC              |
| 7.                                      | <i>Daucus carota</i>           | 5                | N                 | UPL              |
| 8.                                      | <i>Ambrosia artemisiifolia</i> | 2                | N                 | FACU             |
| 9.                                      |                                |                  |                   |                  |
| 10.                                     |                                |                  |                   |                  |
|   |                                | 77               | = Total Cover     |                  |
| Woody Vine Stratum: (Plot size 30 ft. ) |                                |                  |                   |                  |
| 1.                                      | <i>Vitis vulpina</i>           | 2                | N                 | FAC              |
| 2.                                      |                                |                  |                   |                  |
|   |                                | 2                | = Total Cover     |                  |

**Dominance Test worksheet:**

Number of Dominant Species 1

That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 28.57 (A/B)

**Prevalence Index worksheet:**

|                        |              |
|------------------------|--------------|
| Total % Cover of:      | Multiply by: |
| OBL species 0 x        | 1 = 0        |
| FACW species 5 x       | 2 = 10       |
| FAC species 25 x       | 3 = 75       |
| FACU species 87 x      | 4 = 348      |
| UPL species 55 x       | 5 = 275      |
| Column Totals: 172 (A) | 708 (B)      |

Prevalence Index = B/A = 4.1

**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.

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

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

## SOIL

Sampling Point: SP-4

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

| Depth<br>(inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|-------------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-4               | 10YR 4/2      | 95  | 10YR 5/4       | 5 | C                 | M                | silt loam |         |
| 4-16              | 10YR 3/2      | 100 |                |   |                   |                  | silt loam |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |
|                   |               |     |                |   |                   |                  |           |         |

<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:**

|  |  |
|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |

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

|   |
|---|
| <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks)       |

<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

**HYDROLOGY****Wetland Hydrology Indicators:**

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

|  |   |
|--|---|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9)                  |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Aquatic Fauna (B13)                        |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> True Aquatic Plants (B14)                  |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)              |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled 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"/> Gauge or Well Data (D9)                    |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   | <input type="checkbox"/> Other (Explain in Remarks)                 |

Secondary Indicators (minimum of two required)

|  |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> Drainage Patterns (B10)                   |
| <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"/> FAC-Neutral Test (D5)                     |

**Field Observations:**

|                        |                              |  |                       |
|------------------------|------------------------------|--|-----------------------|
| 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?    | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Depth (inches): _____ |

(includes capillary fringe)

**Wetland Hydrology Present?** Yes ☐ No ☒

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

Remarks



## WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Britton-Davidson Tap Line City/County: Hilliard/Franklin Sampling Date: July 18, 2016  
Applicant/Owner: American Electric Power State: OH Sampling Point: SP-5  
Investigator(s): J. Demarest Section, Township, Range: N/A  
Landform (hillslope, terrace, etc.): Flat Local Relief (concave, convex, none): None  
Slope (%): 0% Lat: 40.0509 Long: -83.13139 Datum: NAD83  
Soil Map Unit Name: Celina silt loam, 2 to 6 percent slopes NWI classification: N/A  
Are climatic/hydrologic conditions on the site typical for this time of year? Yes        No   X   (If no, explain in Remarks.)  
Are Vegetation   No  , Soil   No  , or Hydrology   No   significantly disturbed? Are "Normal Circumstances" present?  
Yes   X   No         
Are Vegetation   No  , Soil   No  , or Hydrology   No   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 <u>  X  </u>  | No <u>      </u> | <b>Is the Sampled Area within a Wetland?</b> Yes <u>      </u> No <u>  X  </u> |
| Hydric Soil Present?            | Yes <u>      </u> | No <u>  X  </u>  |  |
| Wetland Hydrology Present?      | Yes <u>      </u> | No <u>  X  </u>  |  |
| Remarks:<br>Upland area         |                   |                  |  |

**VEGETATION** - Use scientific names of plants.

| Tree Stratum           |                            | (Plot size: 30 ft. ) | Absolute<br>% Cover | Dominant<br>Species? | Indicator<br>Status |
|------------------------|----------------------------|----------------------|---------------------|----------------------|---------------------|
| 1.                     | <i>Populus deltoides</i>   |                      | 20                  | Y                    | FAC                 |
| 2.                     | <i>Pinus strobus</i>       |                      | 10                  | Y                    | FACU                |
| 3.                     |                            |                      |                     |                      |                     |
| 4.                     |                            |                      |                     |                      |                     |
| 5.                     |                            |                      |                     |                      |                     |
|                        |                            |                      | 30                  | = Total Cover        |                     |
| Sapling/Shrub Stratum: |                            | Size: 15 ft. )       |                     |                      |                     |
| 1.                     | <i>Populus deltoides</i>   |                      | 5                   | Y                    | FAC                 |
| 2.                     | <i>Prunus virginiana</i>   |                      | 10                  | Y                    | FACU                |
| 3.                     |                            |                      |                     |                      |                     |
| 4.                     |                            |                      |                     |                      |                     |
| 5.                     |                            |                      |                     |                      |                     |
|                        |                            |                      | 15                  | = Total Cover        |                     |
| Herb Stratum:          |                            | (Plot size: 5 ft. )  |                     |                      |                     |
| 1.                     | <i>Poa pratensis</i>       |                      | 30                  | Y                    | FAC                 |
| 2.                     | <i>Solidago canadensis</i> |                      | 10                  | N                    | FACU                |
| 3.                     | <i>Dipsacus fullonum</i>   |                      | 10                  | N                    | FACU                |
| 4.                     | <i>Asclepias syriaca</i>   |                      | 5                   | N                    | FACU                |
| 5.                     |                            |                      |                     |                      |                     |
| 6.                     |                            |                      |                     |                      |                     |
| 7.                     |                            |                      |                     |                      |                     |
| 8.                     |                            |                      |                     |                      |                     |
| 9.                     |                            |                      |                     |                      |                     |
| 10.                    |                            |                      |                     |                      |                     |
|                        |                            |                      | 55                  | = Total Cover        |                     |
| Woody Vine Stratum:    |                            | (Plot size 30 ft. )  |                     |                      |                     |
| 1.                     | N/A                        |                      |                     |                      |                     |
| 2.                     |                            |                      |                     |                      |                     |
|                        |                            |                      |                     | = Total Cover        |                     |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.00 (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

X 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.

**Hydrophytic Vegetation Present?** Yes X No

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

Sampling Point: SP-5

| <b>Profile Description:</b> (Describe to the depth needed to document the indicator or confirm the absence of indicators.) |               |   |                |   |                   |  |   |
|--|---------------|---|----------------|---|-------------------|--|---|
| Depth<br>(inches)  | Matrix        |   | Redox Features |   |                   |  |   |
|  | Color (moist) | %   | Color (moist)  | %   | Type <sup>1</sup> | Loc <sup>2</sup>                                 | Texture   |
| 0-4  | 10YR 3/3      | 100   |                |   |                   |  | silt loam   |
| 4-16   | 10YR 3/2      | 100   |                |   |                   |  | silt loam   |
|  |               |   |                |   |                   |  |   |
|  |               |   |                |   |                   |  |   |
|  |               |   |                |   |                   |  |   |
|  |               |   |                |   |                   |  |   |
|  |               |   |                |   |                   |  |   |
|  |               |   |                |   |                   |  |   |
|  |               |   |                |   |                   |  |   |
|  |               |   |                |   |                   |  |   |
| <sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.                                 |               |   |                |   |                   |  | <sup>2</sup> Location: PL= Pore Lining, M=Matrix.           |
| <b>Hydric Soil Indicators:</b>   |               |   |                |   |                   |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histosol (A1)   |               | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   |                | <input type="checkbox"/> Coast Prairie Redox (A16)        |                   |  |   |
| <input type="checkbox"/> Histic Epipedon (A2)  |               | <input type="checkbox"/> Sandy Redox (S5)           |                | <input type="checkbox"/> Dark Surface (S7)                |                   |  |   |
| <input type="checkbox"/> Black Histic (A3)   |               | <input type="checkbox"/> Stripped Matrix (S6)       |                | <input type="checkbox"/> Iron-Manganese Masses (F12)      |                   |  |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)   |               | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |                | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |                   |  |   |
| <input type="checkbox"/> Stratified Layers (A5)  |               | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |                | <input type="checkbox"/> Other (Explain in Remarks)       |                   |  |   |
| <input type="checkbox"/> 2 cm Muck (A10)   |               | <input type="checkbox"/> Depleted Matrix (F3)       |                |   |                   |  |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)   |               | <input type="checkbox"/> Redox Dark Surface (F6)    |                |   |                   |  |   |
| <input type="checkbox"/> Thick Dark Surface (A12)  |               | <input type="checkbox"/> Depleted Dark Surface (F7) |                |   |                   |  |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)  |               | <input type="checkbox"/> Redox Depressions (F8)     |                |   |                   |  |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)  |               |   |                |   |                   |  |   |
| <b>Restrictive Layer (if observed):</b>  |               |   |                |   |                   |  |   |
| Type: _____  |               |   |                |   |                   |  |   |
| Depth (inches): _____  |               |   |                |   |                   | <b>Hydric Soil Present?</b> Yes ____ No <u>X</u> |   |
| Remarks  |               |   |                |   |                   |  |   |
|  |               |   |                |   |                   |  |   |

| 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"/> Sparsely Vegetated Concave Surface (B8) |
| <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"/> Gauge or Well Data (D9)                   | <input type="checkbox"/> Other (Explain in Remarks)              |
| <input type="checkbox"/> Surface Soil Cracks (B6)                     | <input type="checkbox"/> Drainage Patterns (B10) | <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"/> FAC-Neutral Test (D5)  |  |  |

| Field Observations:  |     |                          |    |                                     |                 |                      |                            |     |                          |    |                                     |
|--|-----|--------------------------|----|-------------------------------------|-----------------|----------------------|----------------------------|-----|--------------------------|----|-------------------------------------|
| Surface Water Present?   | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> | Depth (inches): | <input type="text"/> | Wetland Hydrology Present? | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| Water Table Present?   | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> | Depth (inches): | <input type="text"/> |                            |     |                          |    |                                     |
| Saturation Present?  | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> | Depth (inches): | <input type="text"/> |                            |     |                          |    |                                     |
| (includes capillary fringe)  |     |                          |    |                                     |                 |                      |                            |     |                          |    |                                     |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: |     |                          |    |                                     |                 |                      |                            |     |                          |    |                                     |
| Remarks  |     |                          |    |                                     |                 |                      |                            |     |                          |    |                                     |



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**APPENDIX C**

**ORAM FORMS**

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## Background Information

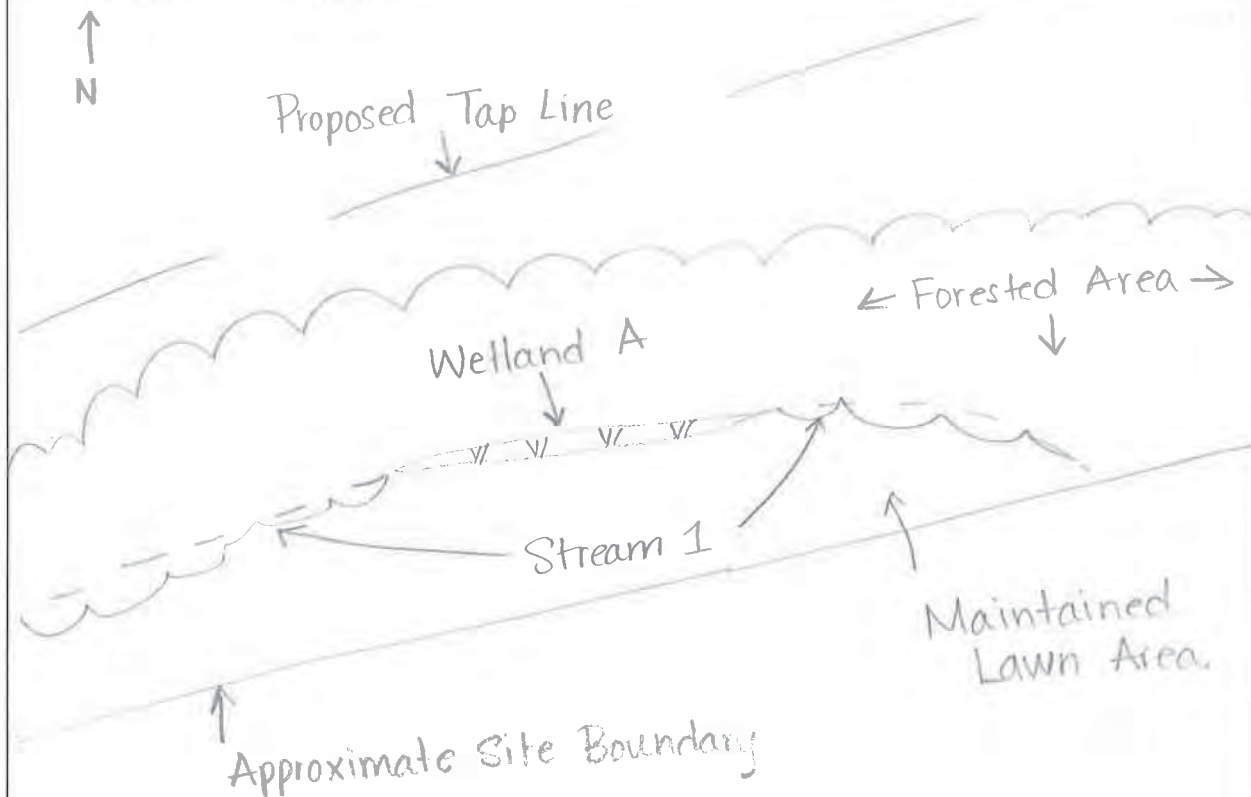
|   |  |
|---|--|
| Name:   | Mia Hall   |
| Date:   | July 13, 2016  |
| Affiliation:  | Civil & Environmental Consultants, Inc                               |
| Address:  | 250 Old Wilson Bridge Road, Suite 250, Worthington, Ohio 43085       |
| Phone Number:   | 614-540-6633   |
| e-mail address:   | mhall@cecinc.com   |
| Name of Wetland:  | Wetland A  |
| Vegetation Communit(ies):   | Herbaceous   |
| HGM Class(es):  | Depression, Riverine   |
| Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. |  |
| Please See Ecological Survey Map  |  |
| Lat/Long or UTM Coordinate  | 40.05717, -83.13358  |
| USGS Quad Name  | Hilliard, Ohio   |
| County  | Franklin   |
| Township  | Norwich  |
| Section and Subsection  | N/A  |
| Hydrologic Unit Code  | 05060001   |
| Site Visit  | July 12, 2016  |
| National Wetland Inventory Map  | Yes - not a mapped wetland   |
| Ohio Wetland Inventory Map  | No   |
| Soil Survey   | Yes - Kokomo silty clay loam, 0 to 2 % slopes                        |
| Delineation report/map  | Ecological Survey Report Britton - Davidson Tap Line<br>CEC# 162-767 |



Name of Wetland: Wetland A

Wetland Size (acres, hectares): 0.04 acre

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Wetland A is an emergent wetland located along an ephemeral stream (Stream 1) at the edge of a forested corridor. Directly south of the wetland is maintained lawn. The wetland is dominated by invasive *Typha angustifolia*.

Final score : 17

Category: 1

## Scoring Boundary Worksheet

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

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

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



## Narrative Rating

Wetland A  
CEC#162-707

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

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

|    |   |   |   |
|----|---|---|---|
| 8b | <b>Mature forested wetlands.</b> Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?  | YES<br><br>Wetland should be evaluated for possible Category 3 status.<br><br>Go to Question 9a           | <u>NO</u><br><br>Go to Question 9a            |
| 9a | <b>Lake Erie coastal and tributary wetlands.</b> Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?   | YES<br><br>Go to Question 9b  | <u>NO</u><br><br>Go to Question 10            |
| 9b | Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?  | YES<br><br>Wetland should be evaluated for possible Category 3 status<br><br>Go to Question 10            | NO<br><br>Go to Question 9c                   |
| 9c | Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.   | YES<br><br>Go to Question 9d  | NO<br><br>Go to Question 10                   |
| 9d | Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?   | YES<br><br>Wetland is a Category 3 wetland<br><br>Go to Question 10                                       | NO<br><br>Go to Question 9e                   |
| 9e | Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?  | YES<br><br>Wetland should be evaluated for possible Category 3 status<br><br>Go to Question 10            | NO<br><br>Go to Question 10                   |
| 10 | <b>Lake Plain Sand Prairies (Oak Openings)</b> Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality. | YES<br><br>Wetland is a Category 3 wetland.<br><br>Go to Question 11                                      | <u>NO</u><br><br>Go to Question 11            |
| 11 | <b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).   | YES<br><br>Wetland should be evaluated for possible Category 3 status<br><br>Complete Quantitative Rating | <u>NO</u><br><br>Complete Quantitative Rating |



Table 1. Characteristic plant species.

| invasive/exotic spp          | fen species                                  | bog species                                   | Oak Opening species             | wet prairie species              |
|------------------------------|--|---|---------------------------------|----------------------------------|
| <i>Lythrum salicaria</i>     | <i>Zygadenus elegans</i> var. <i>glaucus</i> | <i>Calla palustris</i>                        | <i>Carex cryptolepis</i>        | <i>Calamagrostis canadensis</i>  |
| <i>Myriophyllum spicatum</i> | <i>Cacalia plantaginea</i>                   | <i>Carex atlantica</i> var. <i>capillacea</i> | <i>Carex lasiocarpa</i>         | <i>Calamagrostis stricta</i>     |
| <i>Najas minor</i>           | <i>Carex flava</i>                           | <i>Carex echinata</i>                         | <i>Carex stricta</i>            | <i>Carex atheroides</i>          |
| <i>Phalaris arundinacea</i>  | <i>Carex sterilis</i>                        | <i>Carex oligosperma</i>                      | <i>Cladium mariscoides</i>      | <i>Carex buxbaumii</i>           |
| <i>Phragmites australis</i>  | <i>Carex stricta</i>                         | <i>Carex trisperma</i>                        | <i>Calamagrostis stricta</i>    | <i>Carex pellita</i>             |
| <i>Potamogeton crispus</i>   | <i>Deschampsia caespitosa</i>                | <i>Chamaedaphne calyculata</i>                | <i>Calamagrostis canadensis</i> | <i>Carex sartwellii</i>          |
| <i>Ranunculus ficaria</i>    | <i>Eleocharis rostellata</i>                 | <i>Decodon verticillatus</i>                  | <i>Quercus palustris</i>        | <i>Gentiana andrewsii</i>        |
| <i>Rhamnus frangula</i>      | <i>Eriophorum viridicarinatum</i>            | <i>Eriophorum virginicum</i>                  |                                 | <i>Helianthus grosseserratus</i> |
| <i>Typha angustifolia</i>    | <i>Gentianopsis</i> spp.                     | <i>Larix laricina</i>                         |                                 | <i>Liatris spicata</i>           |
| <i>Typha x glauca</i>        | <i>Lobelia kalmii</i>                        | <i>Nemopanthus mucronatus</i>                 |                                 | <i>Lysimachia quadriflora</i>    |
|                              | <i>Parnassia glauca</i>                      | <i>Scheuchzeria palustris</i>                 |                                 | <i>Lythrum alatum</i>            |
|                              | <i>Potentilla fruticosa</i>                  | <i>Sphagnum</i> spp.                          |                                 | <i>Pycnanthemum virginianum</i>  |
|                              | <i>Rhamnus alnifolia</i>                     | <i>Vaccinium macrocarpon</i>                  |                                 | <i>Silphium terebinthinaceum</i> |
|                              | <i>Rhynchospora capillacea</i>               | <i>Vaccinium corymbosum</i>                   |                                 | <i>Sorghastrum nutans</i>        |
|                              | <i>Salix candida</i>                         | <i>Vaccinium oxycoccos</i>                    |                                 | <i>Spartina pectinata</i>        |
|                              | <i>Salix myricoides</i>                      | <i>Woodwardia virginica</i>                   |                                 | <i>Solidago riddellii</i>        |
|                              | <i>Salix serissima</i>                       | <i>Xyris difformis</i>                        |                                 |                                  |
|                              | <i>Solidago ohioensis</i>                    |   |                                 |                                  |
|                              | <i>Tofieldia glutinosa</i>                   |   |                                 |                                  |
|                              | <i>Triglochin maritimum</i>                  |   |                                 |                                  |
|                              | <i>Triglochin palustre</i>                   |   |                                 |                                  |

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

|  |                          |                        |
|--|--------------------------|------------------------|
| <b>Site:</b> Britton-Davidson Tap Line | <b>Rater(s):</b> M. Hall | <b>Date:</b> 7/13/2016 |
|--|--------------------------|------------------------|

|           |          |
|-----------|----------|
| 0         | 0        |
| max 6 pts | subtotal |

### Metric 1. Wetland Area (size).

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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), shrub land, 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          | 13       |
| 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 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          | 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 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 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            |

|                    |
|--------------------|
| 21                 |
| subtotal this page |

|  |                          |                        |
|--|--------------------------|------------------------|
| <b>Site:</b> Britton-Davidson Tap Line | <b>Rater(s):</b> M. Hall | <b>Date:</b> 7/13/2016 |
|--|--------------------------|------------------------|

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subtotal first page

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|            |          |
|------------|----------|
| 0          | 21       |
| max 10 pts | subtotal |

### Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- 0

☐ 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          | 17       |
| max 20 pts. | subtotal |

### Metric 6. Plant communities, interspersions, microtopography.

#### 6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- 1

☐ Aquatic bed  
☐ Emergent  
☐ Shrub  
☐ Forest  
☐ Mudflats  
☐ Open water  
☐ Other

#### 6b. horizontal (plan view) Interspersion.

Select only one

- 0

☐ 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

- 5

☒ 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.

- 0

☐ 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                                  |

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End of Quantitative Rating. Complete Categorization Worksheets.



# ORAM Summary Worksheet

Wetland A  
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|                                  |   | circle<br>answer or<br>insert<br>score               | Result   |
|----------------------------------|---|--|--|
| Narrative Rating                 | Question 1. Critical Habitat  | YES NO   | If yes, Category 3.                                  |
|                                  | Question 2. Threatened or Endangered Species                        | YES NO   | If yes, Category 3.                                  |
|                                  | Question 3. High Quality Natural Wetland                            | YES NO   | If yes, Category 3.                                  |
|                                  | Question 4. Significant bird habitat                                | YES NO   | If yes, Category 3.                                  |
|                                  | Question 5. Category 1 Wetlands                                     | YES NO   | If yes, Category 1.                                  |
|                                  | Question 6. Bogs  | YES NO   | If yes, Category 3.                                  |
|                                  | Question 7. Fens  | YES NO   | If yes, Category 3.                                  |
|                                  | Question 8a. Old Growth Forest                                      | YES NO   | If yes, Category 3.                                  |
|                                  | Question 8b. Mature Forested Wetland                                | YES NO   | If yes, evaluate for Category 3; may also be 1 or 2. |
|                                  | Question 9b. Lake Erie Wetlands - Restricted                        | YES NO   | If yes, evaluate for Category 3; may also be 1 or 2. |
|                                  | Question 9d. Lake Erie Wetlands - Unrestricted with native plants   | YES NO   | If yes, Category 3                                   |
|                                  | Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants | YES NO   | If yes, evaluate for Category 3; may also be 1 or 2. |
|                                  | Question 10. Oak Openings   | YES NO   | If yes, Category 3                                   |
| Question 11. Relict Wet Prairies | YES NO  | If yes, evaluate for Category 3; may also be 1 or 2. |  |
| Quantitative Rating              | Metric 1. Size  | 0  |  |
|                                  | Metric 2. Buffers and surrounding land use                          | 4  |  |
|                                  | Metric 3. Hydrology   | 9  |  |
|                                  | Metric 4. Habitat   | 8  |  |
|                                  | Metric 5. Special Wetland Communities                               | 0  |  |
|                                  | Metric 6. Plant communities, interspersion, microtopography         | -4   |  |
|                                  | TOTAL SCORE   | 17   | Category based on score breakpoints<br>1             |

Complete Wetland Categorization Worksheet.

# Wetland Categorization Worksheet

Wetland A  
CEC # 162-707

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

Final Category

|            |   |                                  |                                  |
|------------|---|----------------------------------|----------------------------------|
| Choose one | <input checked="" type="radio"/> Category 1 | <input type="radio"/> Category 2 | <input type="radio"/> Category 3 |
|------------|---|----------------------------------|----------------------------------|

End of Ohio Rapid Assessment Method for Wetlands.

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## **APPENDIX D**

## **HHEI FORMS**

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SITE NAME/LOCATION **Britton-Davidson Tap Line/ City of Hilliard, Franklin County, Ohio**

SITE NUMBER **Stream 1** RIVER BASIN **05060001** DRAINAGE AREA (mi<sup>2</sup>) **0.08**

LENGTH OF STREAM REACH (ft) **200** LAT. **40.05728** LONG. **-83.13303** RIVER CODE RIVER MILE

DATE **07/12/16** SCORER **MRH** COMMENTS **culvert placement and straightened**

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

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

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

| TYPE   | PERCENT                         | TYPE   | PERCENT                          |
|--|---------------------------------|--|----------------------------------|
| <input type="checkbox"/> BLDR SLABS [16 pts]         | <input type="text" value="0%"/> | <input checked="" type="checkbox"/> SILT [3 pt]            | <input type="text" value="85%"/> |
| <input type="checkbox"/> BOULDER (>256 mm) [16 pts]  | <input type="text" value="0%"/> | <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]    | <input type="text" value="5%"/>  |
| <input type="checkbox"/> BEDROCK [16 pt]             | <input type="text" value="0%"/> | <input type="checkbox"/> FINE DETRITUS [3 pts]             | <input type="text" value="0%"/>  |
| <input type="checkbox"/> COBBLE (65-256 mm) [12 pts] | <input type="text" value="0%"/> | <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt] | <input type="text" value="10%"/> |
| <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]    | <input type="text" value="0%"/> | <input type="checkbox"/> MUCK [0 pts]                      | <input type="text" value="0%"/>  |
| <input type="checkbox"/> SAND (<2 mm) [6 pts]        | <input type="text" value="0%"/> | <input type="checkbox"/> ARTIFICIAL [3 pts]                | <input type="text" value="0%"/>  |

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%**

(A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **3**

TOTAL NUMBER OF SUBSTRATE TYPES: **3**
**HHEI Metric Points**

Substrate Max = 40

**6**

A + B

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

|  |   |
|--|---|
| <input type="checkbox"/> > 30 centimeters [20 pts] | <input checked="" type="checkbox"/> > 5 cm - 10 cm [15 pts] |
| <input type="checkbox"/> > 22.5 - 30 cm [30 pts]   | <input type="checkbox"/> < 5 cm [5 pts]                     |
| <input type="checkbox"/> > 10 - 22.5 cm [25 pts]   | <input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]  |

Pool Depth Max = 30

**15**

COMMENTS

MAXIMUM POOL DEPTH (centimeters): **8**

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

|   |  |
|---|--|
| <input type="checkbox"/> > 4.0 meters (> 13') [30 pts]              | <input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] |
| <input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]   | <input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]                             |
| <input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] |  |

Bankfull Width Max=30

**5**

COMMENTS

AVERAGE BANKFULL WIDTH (meters): **0.76**

**This information must also be completed**

## RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream☆

### RIPARIAN WIDTH

| L                                   | R                                   | (Per Bank)     |
|-------------------------------------|-------------------------------------|----------------|
| <input type="checkbox"/>            | <input type="checkbox"/>            | Wide >10m      |
| <input type="checkbox"/>            | <input type="checkbox"/>            | Moderate 5-10m |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Narrow <5m     |
| <input type="checkbox"/>            | <input type="checkbox"/>            | None           |

COMMENTS

### FLOODPLAIN QUALITY

| L                                   | R                                   | (Most Predominant per Bank)         |
|-------------------------------------|-------------------------------------|-------------------------------------|
| <input type="checkbox"/>            | <input type="checkbox"/>            | Mature Forest, Wetland              |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Immature Forest, Shrub or Old Field |
| <input type="checkbox"/>            | <input type="checkbox"/>            | Residential, Park, New Field        |
| <input type="checkbox"/>            | <input type="checkbox"/>            | Fenced Pasture                      |

| L                        | R                        |                        |
|--------------------------|--------------------------|------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Conservation Tillage   |
| <input type="checkbox"/> | <input type="checkbox"/> | Urban or Industrial    |
| <input type="checkbox"/> | <input type="checkbox"/> | Open Pasture, Row Crop |
| <input type="checkbox"/> | <input type="checkbox"/> | Mining or Construction |

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

|   |   |
|---|---|
| <input type="checkbox"/> Stream Flowing                                     | <input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent) |
| <input type="checkbox"/> Subsurface flow with isolated pools (Interstitial) | <input type="checkbox"/> Dry channel, no water (Ephemeral)                                |

COMMENTS

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

|  |                              |                              |                              |
|--|------------------------------|------------------------------|------------------------------|
| <input checked="" type="checkbox"/> None | <input type="checkbox"/> 1.0 | <input type="checkbox"/> 2.0 | <input type="checkbox"/> 3.0 |
| <input type="checkbox"/> 0.5             | <input type="checkbox"/> 1.5 | <input type="checkbox"/> 2.5 | <input type="checkbox"/> >3  |

## STREAM GRADIENT ESTIMATE

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

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

QHEI PERFORMED? ☐ Yes ☒ No QHEI Score \_\_\_\_\_ (If Yes, Attach Completed QHEI Form)

**DOWNSTREAM DESIGNATED USE(S)**

|  |                                |      |
|--|--------------------------------|------|
| <input checked="" type="checkbox"/> WWH Name: Scioto River | Distance from Evaluated Stream | 1.40 |
| <input type="checkbox"/> CWH Name:                         | Distance from Evaluated Stream |      |
| <input type="checkbox"/> EWH Name:                         | Distance from Evaluated Stream |      |

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

USGS Quadrangle Name: Hilliard, Ohio NRCS Soil Map Page:          NRCS Soil Map Stream Order:           
County: Franklin Township / City: Norwich/ Hilliard

**MISCELLANEOUS**

Base Flow Conditions? (Y/N): Y Date of last precipitation: 07/06/16 Quantity: 0.06 in.  
Photograph Information:           
Elevated Turbidity? (Y/N): N Canopy (% open): 5%  
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number:           
Field Measures: Temp (°C)          Dissolved Oxygen (mg/l)          pH (S.U.)          Conductivity (µmhos/cm)           
Is the sampling reach representative of the stream (Y/N) Y If not, please explain:         

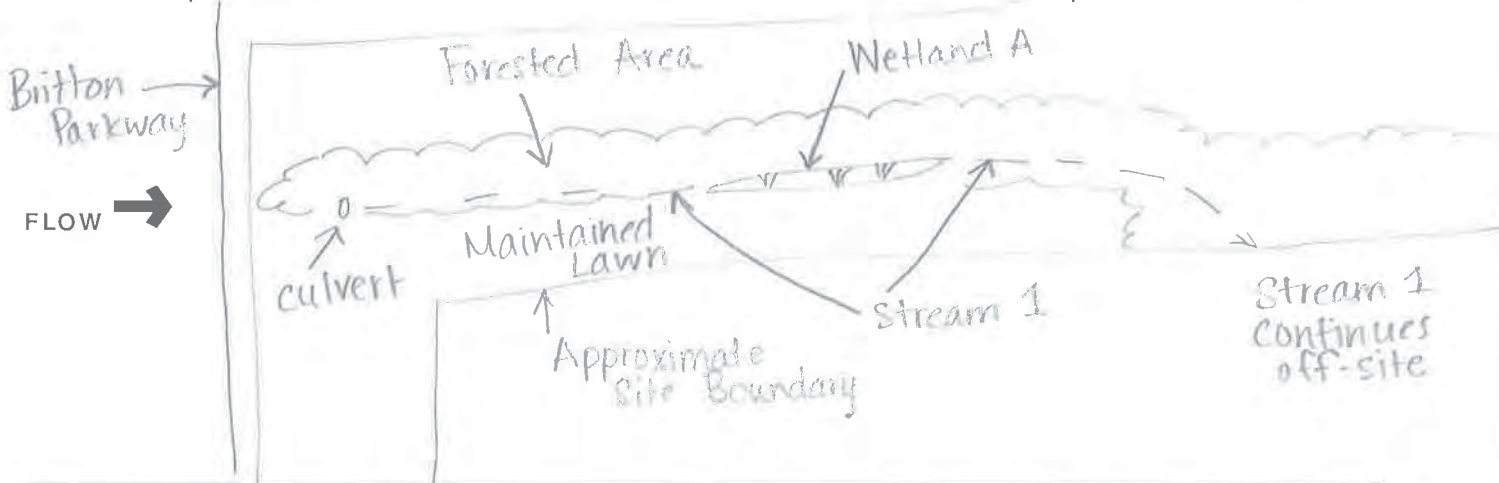
Additional comments/description of pollution impacts:         

**BIOTIC EVALUATION**

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)  
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N  
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N  
Comments Regarding Biology: Stream was mostly dry with patches of isolated pools.

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

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





SITE NAME/LOCATION **Britton-Davidson Tap Line/ City of Hilliard, Franklin County, Ohio**

SITE NUMBER **Stream 2** RIVER BASIN **05060001** DRAINAGE AREA (mi<sup>2</sup>)

LENGTH OF STREAM REACH (ft) **200** LAT. **40.05121** LONG. **-83.13377** RIVER CODE RIVER MILE

DATE **07/12/16** SCORER **MRH** COMMENTS **culvert placement and straightened - UPSTREAM**

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

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

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

| TYPE   | PERCENT                      | TYPE  | PERCENT                      |
|--|------------------------------|---|------------------------------|
| <input type="checkbox"/> BLDR SLABS [16 pts]                 | <input type="checkbox"/> 0%  | <input type="checkbox"/> SILT [3 pt]                    | <input type="checkbox"/> 10% |
| <input type="checkbox"/> BOULDER (>256 mm) [16 pts]          | <input type="checkbox"/> 0%  | <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts] | <input type="checkbox"/> 0%  |
| <input type="checkbox"/> BEDROCK [16 pt]                     | <input type="checkbox"/> 0%  | <input type="checkbox"/> FINE DETRITUS [3 pts]          | <input type="checkbox"/> 0%  |
| <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]         | <input type="checkbox"/> 8%  | <input type="checkbox"/> CLAY or HARDPAN [0 pt]         | <input type="checkbox"/> 10% |
| <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts] | <input type="checkbox"/> 60% | <input type="checkbox"/> MUCK [0 pts]                   | <input type="checkbox"/> 0%  |
| <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]     | <input type="checkbox"/> 12% | <input type="checkbox"/> ARTIFICIAL [3 pts]             | <input type="checkbox"/> 0%  |

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **8.00%**

(A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **15**

TOTAL NUMBER OF SUBSTRATE TYPES: **5**

**HHEI  
Metric  
Points**

Substrate  
Max = 40

**20**

A + B

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

|   |  |
|---|--|
| <input type="checkbox"/> > 30 centimeters [20 pts]          | <input type="checkbox"/> > 5 cm - 10 cm [15 pts]           |
| <input type="checkbox"/> > 22.5 - 30 cm [30 pts]            | <input type="checkbox"/> < 5 cm [5 pts]                    |
| <input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts] | <input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts] |

Pool Depth  
Max = 30

**25**

COMMENTS

MAXIMUM POOL DEPTH (centimeters):

**10**

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

|  |   |
|--|---|
| <input type="checkbox"/> > 4.0 meters (> 13') [30 pts]                         | <input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] |
| <input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]              | <input type="checkbox"/> < 1.0 m (<= 3' 3") [5 pts]                 |
| <input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] |   |

Bankfull  
Width  
Max=30

**20**

COMMENTS

AVERAGE BANKFULL WIDTH (meters):

**1.52**

This information must also be completed

**RIPARIAN ZONE AND FLOODPLAIN QUALITY**

☆NOTE: River Left (L) and Right (R) as looking downstream☆

**RIPARIAN WIDTH**

**FLOODPLAIN QUALITY**

| L                                   | R                                   | (Per Bank)     | L                                   | R                                   | (Most Predominant per Bank)         | L                        | R                        |                        |
|-------------------------------------|-------------------------------------|----------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|------------------------|
| <input type="checkbox"/>            | <input type="checkbox"/>            | Wide >10m      | <input type="checkbox"/>            | <input type="checkbox"/>            | Mature Forest, Wetland              | <input type="checkbox"/> | <input type="checkbox"/> | Conservation Tillage   |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Moderate 5-10m | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Immature Forest, Shrub or Old Field | <input type="checkbox"/> | <input type="checkbox"/> | Urban or Industrial    |
| <input type="checkbox"/>            | <input type="checkbox"/>            | Narrow <5m     | <input type="checkbox"/>            | <input type="checkbox"/>            | Residential, Park, New Field        | <input type="checkbox"/> | <input type="checkbox"/> | Open Pasture, Row Crop |
| <input type="checkbox"/>            | <input type="checkbox"/>            | None           | <input type="checkbox"/>            | <input type="checkbox"/>            | Fenced Pasture                      | <input type="checkbox"/> | <input type="checkbox"/> | Mining or Construction |

COMMENTS

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

|   |  |
|---|--|
| <input checked="" type="checkbox"/> Stream Flowing                          | <input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent) |
| <input type="checkbox"/> Subsurface flow with isolated pools (Interstitial) | <input type="checkbox"/> Dry channel, no water (Ephemeral)                     |

COMMENTS

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

|   |                              |                              |                              |
|---|------------------------------|------------------------------|------------------------------|
| <input type="checkbox"/> None           | <input type="checkbox"/> 1.0 | <input type="checkbox"/> 2.0 | <input type="checkbox"/> 3.0 |
| <input checked="" type="checkbox"/> 0.5 | <input type="checkbox"/> 1.5 | <input type="checkbox"/> 2.5 | <input type="checkbox"/> >3  |

**STREAM GRADIENT ESTIMATE**

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



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

**QHEI PERFORMED?** - ☐ Yes ☒ No QHEI Score \_\_\_\_\_ (If Yes, Attach Completed QHEI Form)

## DOWNSTREAM DESIGNATED USE(S)

|   |           |              |                                |      |
|---|-----------|--------------|--------------------------------|------|
| W | WWH Name: | Scioto River | Distance from Evaluated Stream | 1.90 |
| C | CWH Name: |              | Distance from Evaluated Stream |      |
| E | EWH Name: |              | Distance from Evaluated Stream |      |

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

USGS Quadrangle Name: **Hilliard, Ohio** NRCS Soil Map Page: **1** NRCS Soil Map Stream Order: **1**

County: **Franklin** Township / City: **Norwich/ Hilliard**

## MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 07/06/16 Quantity: 0.06 in.

Photograph Information:

Elevated Turbidity? (Y/N): **N** Canopy (% open): **90%**

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number:                     

Field Measures: Temp (°C) \_\_\_\_\_ Dissolved Oxygen (mg/l) \_\_\_\_\_ pH (S.U.) \_\_\_\_\_ Conductivity (µmhos/cm) \_\_\_\_\_

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

Additional comments/description of pollution impacts:

## BIOTIC EVALUATION

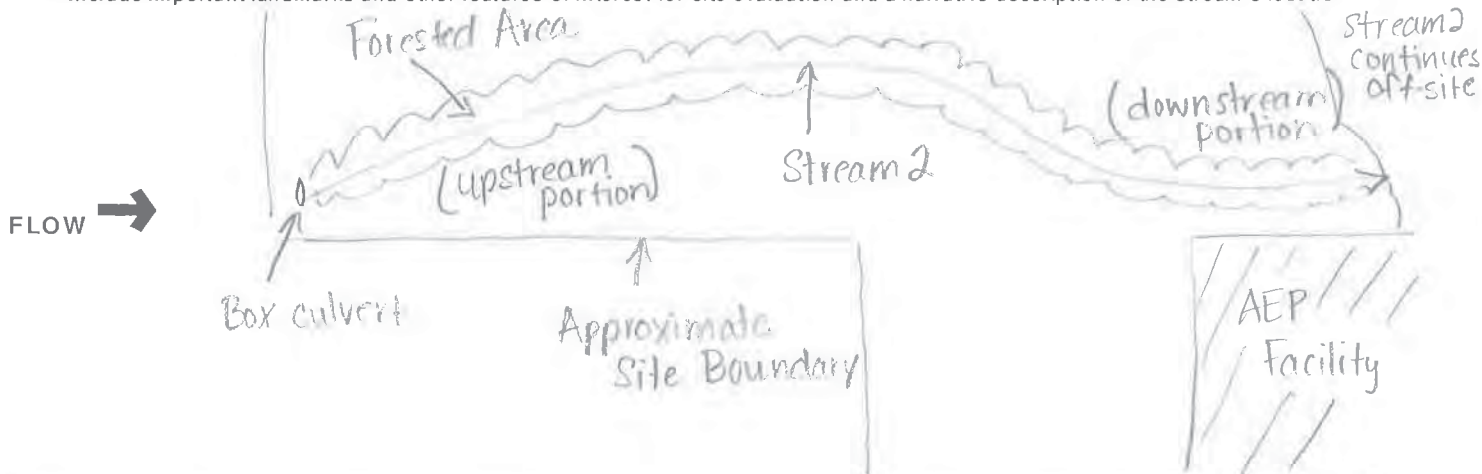
Performed? (Y/N): Y (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) ☒ Y Voucher? (Y/N) ☐ N Salamanders Observed? (Y/N) ☐ N Voucher? (Y/N) ☐ N  
Frogs or Tadpoles Observed? (Y/N) ☐ N Voucher? (Y/N) ☐ N Aquatic Macroinvertebrates Observed? (Y/N) ☐ N Voucher? (Y/N) ☐ N

Comments Regarding Biology:

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

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





## Primary Headwater Habitat Evaluation Form

57

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **Britton-Davidson Tap Line/ City of Hilliard, Franklin County, Ohio**SITE NUMBER **Stream 2** RIVER BASIN **05060001** DRAINAGE AREA (mi<sup>2</sup>) **0.74**LENGTH OF STREAM REACH (ft) **200** LAT. **40.05144** LONG. **-83.13106** RIVER CODE RIVER MILEDATE **07/12/16** SCORER **MRH** COMMENTS **culvert placement and straightened - DOWNSTREAM**

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

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

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

| TYPE   | PERCENT | TYPE  | PERCENT |
|--|---------|---|---------|
| <input type="checkbox"/> BLDR SLABS [16 pts]             | 0%      | <input type="checkbox"/> SILT [3 pt]                    | 10%     |
| <input type="checkbox"/> BOULDER (>256 mm) [16 pts]      | 0%      | <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts] | 0%      |
| <input type="checkbox"/> BEDROCK [16 pt]                 | 0%      | <input type="checkbox"/> FINE DETRITUS [3 pts]          | 0%      |
| <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]     | 0%      | <input type="checkbox"/> CLAY or HARDPAN [0 pt]         | 0%      |
| <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]        | 0%      | <input type="checkbox"/> MUCK [0 pts]                   | 0%      |
| <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts] | 70%     | <input type="checkbox"/> ARTIFICIAL [3 pts]             | 20%     |

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%** (A) (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **9**TOTAL NUMBER OF SUBSTRATE TYPES: **3**HHEI  
Metric  
PointsSubstrate  
Max = 40**12**

A + B

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

|   |  |
|---|--|
| <input type="checkbox"/> > 30 centimeters [20 pts]          | <input type="checkbox"/> > 5 cm - 10 cm [15 pts]           |
| <input type="checkbox"/> > 22.5 - 30 cm [30 pts]            | <input type="checkbox"/> < 5 cm [5 pts]                    |
| <input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts] | <input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts] |

COMMENTS MAXIMUM POOL DEPTH (centimeters): **15**

Pool Depth  
Max = 30**25**

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

|  |   |
|--|---|
| <input type="checkbox"/> > 4.0 meters (> 13') [30 pts]                         | <input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] |
| <input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]              | <input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]                  |
| <input checked="" type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] |   |

COMMENTS AVERAGE BANKFULL WIDTH (meters): **1.82**

Bankfull  
Width  
Max=30**20**

This information must also be completed

## RIPARIAN ZONE AND FLOODPLAIN QUALITY

☆NOTE: River Left (L) and Right (R) as looking downstream☆

## RIPARIAN WIDTH

## FLOODPLAIN QUALITY

| L                                   | R                                   | (Per Bank)     | L                                   | R                                   | (Most Predominant per Bank)         | L                        | R                        |                        |
|-------------------------------------|-------------------------------------|----------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|------------------------|
| <input type="checkbox"/>            | <input type="checkbox"/>            | Wide >10m      | <input type="checkbox"/>            | <input type="checkbox"/>            | Mature Forest, Wetland              | <input type="checkbox"/> | <input type="checkbox"/> | Conservation Tillage   |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Moderate 5-10m | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Immature Forest, Shrub or Old Field | <input type="checkbox"/> | <input type="checkbox"/> | Urban or Industrial    |
| <input type="checkbox"/>            | <input type="checkbox"/>            | Narrow <5m     | <input type="checkbox"/>            | <input type="checkbox"/>            | Residential, Park, New Field        | <input type="checkbox"/> | <input type="checkbox"/> | Open Pasture, Row Crop |
| <input type="checkbox"/>            | <input type="checkbox"/>            | None           | <input type="checkbox"/>            | <input type="checkbox"/>            | Fenced Pasture                      | <input type="checkbox"/> | <input type="checkbox"/> | Mining or Construction |

COMMENTS

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

|   |  |
|---|--|
| <input checked="" type="checkbox"/> Stream Flowing                          | <input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent) |
| <input type="checkbox"/> Subsurface flow with isolated pools (Interstitial) | <input type="checkbox"/> Dry channel, no water (Ephemeral)                     |

COMMENTS

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

|   |                              |                              |                              |
|---|------------------------------|------------------------------|------------------------------|
| <input type="checkbox"/> None           | <input type="checkbox"/> 1.0 | <input type="checkbox"/> 2.0 | <input type="checkbox"/> 3.0 |
| <input checked="" type="checkbox"/> 0.5 | <input type="checkbox"/> 1.5 | <input type="checkbox"/> 2.5 | <input type="checkbox"/> >3  |

## STREAM GRADIENT ESTIMATE

|  |   |   |   |  |
|--|---|---|---|--|
| <input checked="" type="checkbox"/> Flat (0.5 ft/100 ft) | <input type="checkbox"/> Flat to Moderate | <input type="checkbox"/> Moderate (2 ft/100 ft) | <input type="checkbox"/> Moderate to Severe | <input type="checkbox"/> Severe (10 ft/100 ft) |
|--|---|---|---|--|

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

QHEI PERFORMED? - ☐ Yes ☒ No QHEI Score \_\_\_\_\_ (If Yes, Attach Completed QHEI Form)

## DOWNSTREAM DESIGNATED USE(S)

|           |              |                                |      |
|-----------|--------------|--------------------------------|------|
| WWH Name: | Scioto River | Distance from Evaluated Stream | 1.80 |
| CWH Name: |              | Distance from Evaluated Stream |      |
| EWH Name: |              | Distance from Evaluated Stream |      |

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

USGS Quadrangle Name: **Hilliard, Ohio** NRCS Soil Map Page: **1** NRCS Soil Map Stream Order: **1**

County: **Franklin** Township / City: **Norwich/ Hilliard**

## MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 07/06/16 Quantity: 0.06 in

Photograph Information: \_\_\_\_\_

Elevated Turbidity? (Y/N): N Canopy (% open): 90%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number:                     

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

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

Additional comments/description of pollution impacts: \_\_\_\_\_

## BIOTIC EVALUATION

Performed? (Y/N): Y (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) Y Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N  
 Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: \_\_\_\_\_

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

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





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**APPENDIX E**

**AGENCY CORRESPONDENCE**

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September 26, 2016

Via email: [environmentalreviewrequest@dnr.state.oh.us](mailto:environmentalreviewrequest@dnr.state.oh.us)

Mr. John Kessler  
Ohio Department of Natural Resources  
Office of Real Estate  
2045 Morse Road, Building E-2  
Columbus, OH 43229

Dear Mr. Kessler:

Subject: ODNR Environmental Review Request  
Britton-Davidson Tap Line  
City of Hilliard, Franklin County, Ohio  
CEC Project 162-707

On behalf of American Electric Power, Civil & Environmental Consultants, Inc. (CEC) is inquiring whether there are any known occurrences of federally listed endangered, threatened, or candidate species relative to the above referenced site.

## 1.0 SITE DESCRIPTION

The approximately 27.8-acre Site is located in the northeastern quadrant of the intersection of Davidson Road and Britton Parkway and extending north to a business facility in the City of Hilliard, Franklin County, Ohio (the Site). The location of the Site is indicated on the attached topographic map (Figure 1). Coordinates to a point in the central portion of the Site are: 40.053664, -83.134786.

The majority of the Site consists of maintained lawn areas and forested areas. The forested areas within the Site are dominated by the following tree species: shag-bark hickory (*Carya ovata*), American basswood (*Tilia americana*), black walnut (*Juglans nigra*), Northern red oak (*Quercus rubra*), sugar maple (*Acer saccharum*) and eastern cottonwood (*Populus deltoides*). Surrounding land uses include I-71, residential properties, commercial/retail properties, and agricultural land. CEC identified one wetland, two streams, two ditches, one retention basin and one dry detention basin within the Site during an ecological survey. A Site Location Map (Figure 1), a Background Environmental Data Map (Figure 2), an Ecological Survey Map (Figure 3) and site photographs are attached for your use.

Mr. John Kessler-ODNR  
CEC Project 162-707  
Page 2  
September 26, 2016

## 2.0 CLOSING

If you have any questions or need other information, please contact Ms. Jamie VanDusen at 614-310-0175 or e-mail at [jvandusen@cecinc.com](mailto:jvandusen@cecinc.com). Thank you for your time and I look forward to hearing from you soon.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Jamie VanDusen  
Project Manager



Bill Acton  
Vice President

Enclosures (4):      Figure 1 – Site Location Map (USGS)  
                             Figure 2 – Background Environmental Data Map  
                             Figure 3 – Ecological Survey Map  
                             Site Photographs

cc: Mr. Ron Howard – American Electric Power (email)



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## **SITE LOCATION MAP (USGS)**

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**REFERENCE**  
HTTP://GOTO.ARCGISONLINE.COM/MAPS/  
USA\_TOPO\_MAPS, ACCESSED 7/21/2016  
  
USGS 7.5 MINUTE TOPOGRAPHIC MAP:  
HILLIARD, OHIO QUADRANGLE  
PUBLISHED 1974.

Britton-Davidson Tap  
Stop  
(Lat: N40.058783  
Lon: W83.131967)

Britton-Davidson Tap  
Start  
(Lat: N40.051153  
Lon: W83.130904)

**LEGEND**

 APPROXIMATE SITE BOUNDARY

 PROPOSED BRITTON-DAVIDSON  
TAP LINE CENTERLINE



APPROXIMATE SITE LOCATION



**Civil & Environmental Consultants, Inc.**  
250 Old Wilson Bridge Road, Suite 250 - Worthington, OH 43085  
614-540-6633 · 888-598-6808  
www.cecinc.com

AMERICAN ELECTRIC POWER  
BRITTON-DAVIDSON TAP LINE  
CITY OF HILLIARD  
FRANKLIN COUNTY, OHIO

**SITE LOCATION MAP (USGS)**

|           |           |             |             |              |         |         |   |
|-----------|-----------|-------------|-------------|--------------|---------|---------|---|
| DRAWN BY: | MAD       | CHECKED BY: | MRH         | APPROVED BY: | JCD*    | FIGURE: | 1 |
| DATE:     | 7/21/2016 | MAP SCALE:  | 1" = 2,000' | PROJECT NO:  | 162-707 |         |   |

\*Hand Signature on File

P:\2016\162-707-GIS\Maps\PJWD\162707\_PJWD\_Fig\_1.mxd LS:( 7/21/2016 - mdeliberato) - LP:7/21/2016 10:45:34 AM - LExported:7/14/2016 4:07:20 PM

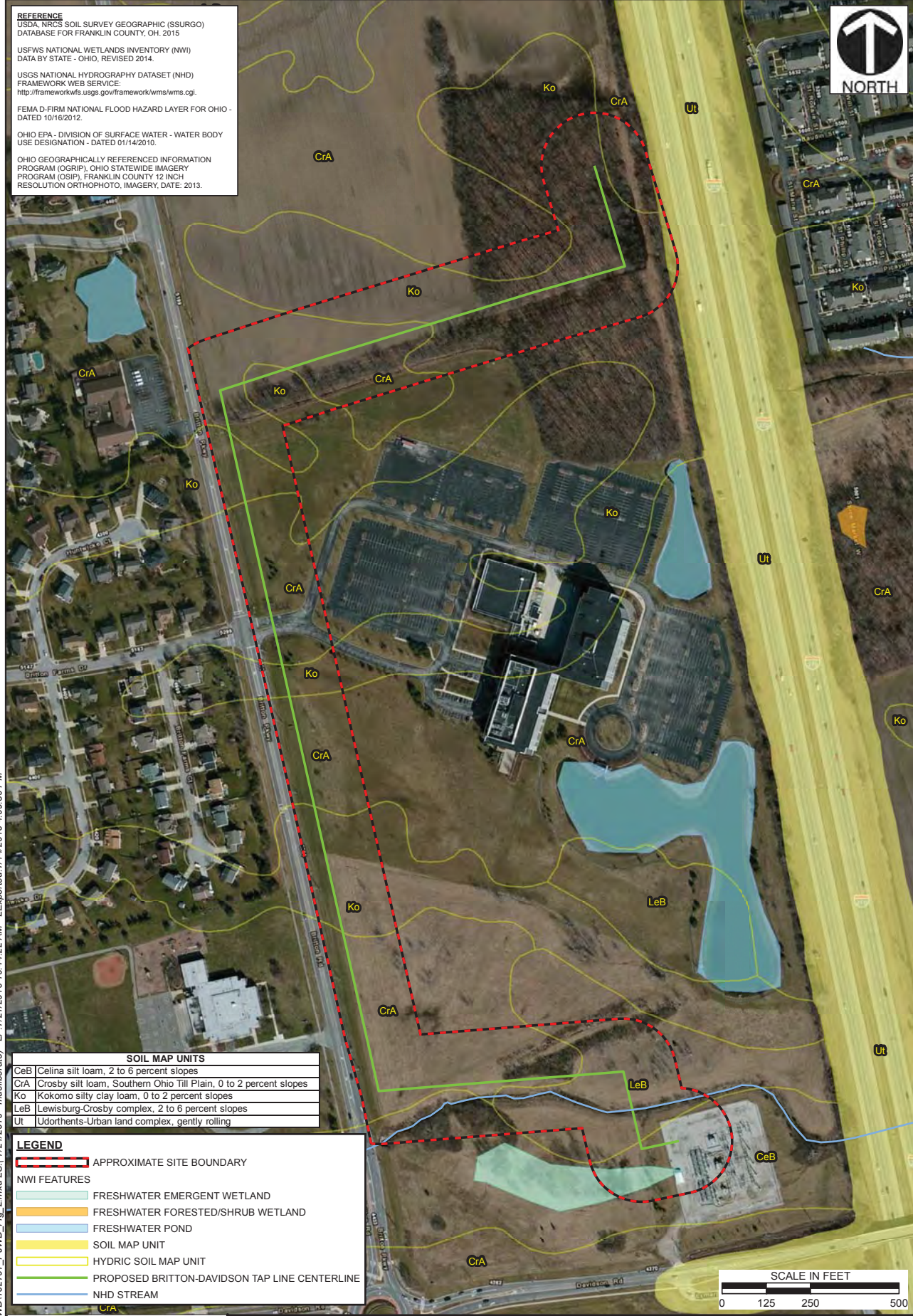
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## **BACKGROUND ENVIRONMENTAL DATA MAP**

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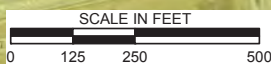


**REFERENCE**  
 USDA NRCS SOIL SURVEY GEOGRAPHIC (SSURGO) DATABASE FOR FRANKLIN COUNTY, OH. 2015  
 USFWS NATIONAL WETLANDS INVENTORY (NWI) DATA BY STATE - OHIO, REVISED 2014.  
 USGS NATIONAL HYDROGRAPHY DATASET (NHD) FRAMEWORK WEB SERVICE:  
<http://frameworkhws.usgs.gov/framework/wms/wms.cgi>  
 FEMA D-FIRM NATIONAL FLOOD HAZARD LAYER FOR OHIO - DATED 10/16/2012.  
 OHIO EPA - DIVISION OF SURFACE WATER - WATER BODY USE DESIGNATION - DATED 01/14/2010.  
 OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (OGRIP), OHIO STATEWIDE IMAGERY PROGRAM (OSIP), FRANKLIN COUNTY 12 INCH RESOLUTION ORTHOPHOTO, IMAGERY, DATE: 2013.



| SOIL MAP UNITS |   |
|----------------|---|
| CeB            | Celina silt loam, 2 to 6 percent slopes                           |
| CrA            | Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes |
| Ko             | Kokomo silty clay loam, 0 to 2 percent slopes                     |
| LeB            | Lewisburg-Crosby complex, 2 to 6 percent slopes                   |
| Ut             | Udorthents-Urban land complex, gently rolling                     |

| LEGEND       |   |
|--------------|---|
|              | APPROXIMATE SITE BOUNDARY                     |
| NWI FEATURES |   |
|              | FRESHWATER EMERGENT WETLAND                   |
|              | FRESHWATER FORESTED/SHRUB WETLAND             |
|              | FRESHWATER POND                               |
|              | SOIL MAP UNIT                                 |
|              | HYDRIC SOIL MAP UNIT                          |
|              | PROPOSED BRITTON-DAVIDSON TAP LINE CENTERLINE |
|              | NHD STREAM                                    |



THIS MAP WAS DEVELOPED FOR PLANNING PURPOSES ONLY AND MAY NOT BE SUITABLE FOR CERTAIN LEGAL, ENGINEERING, OR SURVEYING PURPOSES. USERS OF THIS INFORMATION SHOULD REVIEW OR CONSULT THE PRIMARY DATA AND INFORMATION SOURCES TO ASCERTAIN THE USABILITY OF THE INFORMATION. ALL LENGTHS AND AREAS ARE APPROXIMATE.

**Civil & Environmental Consultants, Inc.**  
 250 Old Wilson Bridge Road, Suite 250 - Worthington, OH 43085  
 614-540-6633 · 888-598-6808  
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AMERICAN ELECTRIC POWER  
 BRITTON-DAVIDSON TAP LINE  
 CITY OF HILLIARD  
 FRANKLIN COUNTY, OHIO  
 BACKGROUND ENVIRONMENTAL DATA MAP

|           |           |             |           |              |         |         |   |
|-----------|-----------|-------------|-----------|--------------|---------|---------|---|
| DRAWN BY: | MAD       | CHECKED BY: | MRH       | APPROVED BY: | JCD*    | FIGURE: | 2 |
| DATE:     | 7/21/2016 | MAP SCALE:  | 1" = 250' | PROJECT NO:  | 162-707 |         |   |

\*Hand signature on file

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## **ECOLOGICAL SURVEY MAP**

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**LEGEND**

APPROXIMATE SITE BOUNDARY

DELINEATED PEM WETLAND

DRY DETENTION BASIN

RETENTION BASIN

PROPOSED BRITTON-DAVIDSON TAP LINE CENTERLINE

EPHEMERAL STREAM

PERENNIAL STREAM

DITCH

WETLAND DETERMINATION SAMPLE POINT (SP)

CULVERT



**REFERENCE**  
 OHIO GEOGRAPHICALLY REFERENCED  
 INFORMATION  
 PROGRAM (OGRIIP), OHIO STATEWIDE IMAGERY  
 PROGRAM (OSIP), FRANKLIN COUNTY 12 INCH  
 RESOLUTION ORTHOPHOTO, IMAGERY, DATE: 2013.

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| DRAWN BY: | MAD/DNB   | CHECKED BY: | MRH       | APPROVED BY: | JCD*    | FIGURE: | <b>3</b> |
| DATE:     | 7/21/2016 | MAP SCALE:  | 1" = 250' | PROJECT NO:  | 162-707 |         |          |

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 FRANKLIN COUNTY, OHIO

ECOLOGICAL SURVEY MAP

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\*Hand signature on file



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## **SITE PHOTOGRAPHS**

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Photograph 1: View of Britton Parkway AEP Facility in the northern portion of the Site, looking east.



Photograph 2: View of typical ditch.



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Photograph 3: View of typical wooded area, looking southeast.



Photograph 4: View of old access road, looking west.



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Photograph 5: View of emergent wetland, looking north.



Photograph 6: View of ephemeral stream, looking west.



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Photograph 7: View of maintained lawn, looking south.



Photograph 8: View of perennial stream, looking west.



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Photograph 9: View of retention basin, looking northeast



Photograph 10: View of baseball field, looking south.



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Photograph 11: View of dry detention basin, looking north.



Photograph 12: View of maintained lawn area west of Davidson Road AEP Facility, looking south.



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September 26, 2016

Mr. Dan Everson  
U.S. Fish and Wildlife Service  
4625 Morse Road, Suite 401  
Columbus, OH 43230

Dear Mr. Everson:

Subject: Request for Information  
Britton-Davidson Tap Line  
City of Hilliard, Franklin County, Ohio  
CEC Project 162-707

On behalf of American Electric Power, Civil & Environmental Consultants, Inc. (CEC) is inquiring whether there are any known occurrences of federally listed endangered, threatened, or candidate species relative to the above referenced site.

## 1.0 SITE DESCRIPTION

The approximately 27.8-acre Site is located in the northeastern quadrant of the intersection of Davidson Road and Britton Parkway and extending north to a business facility in the City of Hilliard, Franklin County, Ohio (the Site). The location of the Site is indicated on the attached topographic map (Figure 1). Coordinates to a point in the central portion of the Site are: 40.053664, -83.134786.

The majority of the Site consists of maintained lawn areas and forested areas. The forested areas within the Site are dominated by the following tree species: shag-bark hickory (*Carya ovata*), American basswood (*Tilia americana*), black walnut (*Juglans nigra*), Northern red oak (*Quercus rubra*), sugar maple (*Acer saccharum*) and eastern cottonwood (*Populus deltoides*). Surrounding land uses include I-71, residential properties, commercial/retail properties, and agricultural land. CEC identified one wetland, two streams, two ditches, one retention basin and one dry detention basin within the Site during an ecological survey. A Site Location Map (Figure 1), a Background Environmental Data Map (Figure 2), an Ecological Survey Map (Figure 3) and site photographs are attached for your use.



Mr. Mr. Dan Everson-USFWS  
CEC Project 162-707  
Page 2  
September 26, 2016

## 2.0 CLOSING

If you have any questions or need other information, please contact Ms. Jamie VanDusen at 614-310-0175 or e-mail at [jvandusen@cecinc.com](mailto:jvandusen@cecinc.com). Thank you for your time and I look forward to hearing from you soon.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Jamie VanDusen  
Project Manager



Bill Acton  
Vice President

Enclosures (4):      Figure 1 – Site Location Map (USGS)  
                             Figure 2 – Background Environmental Data Map  
                             Figure 3 – Ecological Survey Map  
                             Site Photographs

cc: Mr. Ron Howard – American Electric Power (email)

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## **SITE LOCATION MAP (USGS)**

---





**REFERENCE**  
HTTP://GOTO.ARCGISONLINE.COM/MAPS/  
USA\_TOPO\_MAPS, ACCESSED 7/21/2016  
  
USGS 7.5 MINUTE TOPOGRAPHIC MAP:  
HILLIARD, OHIO QUADRANGLE  
PUBLISHED 1974.

Britton-Davidson Tap  
Stop  
(Lat: N40.058783  
Lon: W83.131967)

Britton-Davidson Tap  
Start  
(Lat: N40.051153  
Lon: W83.130904)

**LEGEND**

 APPROXIMATE SITE BOUNDARY

 PROPOSED BRITTON-DAVIDSON  
TAP LINE CENTERLINE



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CITY OF HILLIARD  
FRANKLIN COUNTY, OHIO

**SITE LOCATION MAP (USGS)**

|           |           |             |             |              |         |         |   |
|-----------|-----------|-------------|-------------|--------------|---------|---------|---|
| DRAWN BY: | MAD       | CHECKED BY: | MRH         | APPROVED BY: | JCD*    | FIGURE: | 1 |
| DATE:     | 7/21/2016 | MAP SCALE:  | 1" = 2,000' | PROJECT NO:  | 162-707 |         |   |

\*Hand Signature on File

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## **BACKGROUND ENVIRONMENTAL DATA MAP**

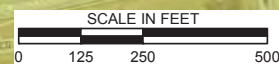
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**REFERENCE**  
 USDA NRCS SOIL SURVEY GEOGRAPHIC (SSURGO) DATABASE FOR FRANKLIN COUNTY, OH. 2015  
 USFWS NATIONAL WETLANDS INVENTORY (NWI) DATA BY STATE - OHIO, REVISED 2014.  
 USGS NATIONAL HYDROGRAPHY DATASET (NHD) FRAMEWORK WEB SERVICE:  
<http://frameworkhws.usgs.gov/framework/wms/wms.cgi>  
 FEMA D-FIRM NATIONAL FLOOD HAZARD LAYER FOR OHIO - DATED 10/16/2012.  
 OHIO EPA - DIVISION OF SURFACE WATER - WATER BODY USE DESIGNATION - DATED 01/14/2010.  
 OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (OGRIP), OHIO STATEWIDE IMAGERY PROGRAM (OSIP), FRANKLIN COUNTY 12 INCH RESOLUTION ORTHOPHOTO, IMAGERY, DATE: 2013.



| SOIL MAP UNITS |   |
|----------------|---|
| CeB            | Celina silt loam, 2 to 6 percent slopes                           |
| CrA            | Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes |
| Ko             | Kokomo silty clay loam, 0 to 2 percent slopes                     |
| LeB            | Lewisburg-Crosby complex, 2 to 6 percent slopes                   |
| Ut             | Udorthents-Urban land complex, gently rolling                     |

| LEGEND       |   |
|--------------|---|
|              | APPROXIMATE SITE BOUNDARY                     |
| NWI FEATURES |   |
|              | FRESHWATER EMERGENT WETLAND                   |
|              | FRESHWATER FORESTED/SHRUB WETLAND             |
|              | FRESHWATER POND                               |
|              | SOIL MAP UNIT                                 |
|              | HYDRIC SOIL MAP UNIT                          |
|              | PROPOSED BRITTON-DAVIDSON TAP LINE CENTERLINE |
|              | NHD STREAM                                    |



THIS MAP WAS DEVELOPED FOR PLANNING PURPOSES ONLY AND MAY NOT BE SUITABLE FOR CERTAIN LEGAL, ENGINEERING, OR SURVEYING PURPOSES. USERS OF THIS INFORMATION SHOULD REVIEW OR CONSULT THE PRIMARY DATA AND INFORMATION SOURCES TO ASCERTAIN THE USABILITY OF THE INFORMATION.  
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|-----------|-----------|-------------|-----------|--------------|---------|---------|---|
| DRAWN BY: | MAD       | CHECKED BY: | MRH       | APPROVED BY: | JCD*    | FIGURE: | 2 |
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## **ECOLOGICAL SURVEY MAP**

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**LEGEND**

APPROXIMATE SITE BOUNDARY

DELINEATED PEM WETLAND

DRY DETENTION BASIN

RETENTION BASIN

PROPOSED BRITTON-DAVIDSON TAP LINE CENTERLINE

EPHEMERAL STREAM

PERENNIAL STREAM

DITCH

WETLAND DETERMINATION SAMPLE POINT (SP)

CULVERT



**REFERENCE**  
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|-----------|-----------|-------------|-----------|--------------|---------|---------|----------|
| DRAWN BY: | MAD/DNB   | CHECKED BY: | MRH       | APPROVED BY: | JCD*    | FIGURE: | <b>3</b> |
| DATE:     | 7/21/2016 | MAP SCALE:  | 1" = 250' | PROJECT NO:  | 162-707 |         |          |

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ECOLOGICAL SURVEY MAP

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\*Hand signature on file

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## **SITE PHOTOGRAPHS**

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Photograph 1: View of Britton Parkway AEP Facility in the northern portion of the Site, looking east.



Photograph 2: View of typical ditch.



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Photograph 3: View of typical wooded area, looking southeast.



Photograph 4: View of old access road, looking west.



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Photograph 7: View of maintained lawn, looking south.



Photograph 8: View of perennial stream, looking west.



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**in**

**Case No(s). 16-2122-EL-BNR**

Summary: Notice (2) electronically filed by Mr. Hector Garcia on behalf of AEP Ohio Transmission Company