



**Land Solutions**

## WETLAND AND WATER RESOURCE DELINEATION REPORT

**16.40-Acre (Approximate) Portion of a 369.1-Acre Parcel  
4240 Ira Road  
Akron, Summit County, Ohio  
(Parcel ID 0406882)**

Prepared For:

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ATTN: Ms. Nancy Seger, PE**

April 27, 2023

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## TABLE OF CONTENTS

|            |  |          |
|------------|--|----------|
| <b>1.0</b> | <b>INTRODUCTION .....</b>                          | <b>1</b> |
| <b>2.0</b> | <b>SITE DESCRIPTION .....</b>                      | <b>1</b> |
| 2.1        | Purpose.....                                       | 1        |
| <b>3.0</b> | <b>METHODS.....</b>                                | <b>1</b> |
| 3.1        | Field Practices and Global Positioning System..... | 2        |
| <b>4.0</b> | <b>REVIEW OF EXISTING DOCUMENTATION .....</b>      | <b>3</b> |
| 4.1        | National Wetlands Inventory Map.....               | 3        |
| 4.2        | Topography and Drainage.....                       | 3        |
| 4.3        | Soil Survey for Summit County, Ohio.....           | 3        |
| 4.4        | Aerial Imagery.....                                | 3        |
| <b>5.0</b> | <b>RESULTS AND DISCUSSION .....</b>                | <b>4</b> |
| 5.1        | Findings of Field Investigation .....              | 4        |
| 5.2        | Wetlands.....                                      | 5        |
| 5.3        | Uplands.....                                       | 6        |
| 5.4        | Streams and Other Waters.....                      | 6        |
| <b>6.0</b> | <b>CONCLUSIONS .....</b>                           | <b>6</b> |
| <b>7.0</b> | <b>DISCLAIMER .....</b>                            | <b>7</b> |
| <b>8.0</b> | <b>LITERATURE CITED .....</b>                      | <b>8</b> |

## TABLES

|                                     |   |
|-------------------------------------|---|
| <b>Table 1:</b> Data Point Summary  | 4 |
| <b>Table 2:</b> Summary of Wetlands | 6 |

## APPENDICES

|                    |  |
|--------------------|--|
| <b>APPENDIX A:</b> | Figures  |
|                    | Figure 1: Project Location Map                                 |
|                    | Figure 2: National Wetland Inventory Map                       |
|                    | Figure 3: Topographical Map                                    |
|                    | Figure 4: Soil Survey Map                                      |
|                    | Figure 5: Aerial Imagery                                       |
|                    | Figure 6: Field Data Location Map                              |
|                    | Figure 7: 2013 and 2023 Wetland Delineation Overlay Comparison |
| <b>APPENDIX B:</b> | Wetland Determination Data Form                                |
| <b>APPENDIX C:</b> | Site Photographs   |

## 1.0 INTRODUCTION

This wetland and water resource delineation report provides documentation regarding the habitat characteristics and the associated locations at a 16.40-acre (approximate) portion of a 369.1-acre parcel located at the Bath Township Nature Preserve at 4240 Ira Road, Akron, Summit County, Ohio (herein referred to as the “Project Area”). The study and report were completed by Land Solutions, LLC (herein referred to as “Consultant”) on behalf of Oxbow and River Restoration, Inc., herein referred to as the “Client”. A wetland delineation of this area was completed in 2013, so this report is provided as an update. The data collected includes non-wetland areas, as well as wetlands, streams, and open water (pond) habitats. The following information outlines the review of the background and existing resource materials, existing site conditions, and results of the field investigation.

## 2.0 SITE DESCRIPTION

The Project Area is currently undeveloped. The vegetative habitat largely consists of mixed-age forest with shrub and emergent understory. The surrounding land use consists of passive recreation including dirt, gravel, and paved trails within the 411-acre Bath Nature Preserve. A site location map is included in **Appendix A** as **Figure 1**.

### 2.1 Purpose

The purpose of this report is to present the results of a wetland and water resource delineation of areas considered “Waters of the United States (US)” or “Waters of the State of Ohio”. Qualified wetland scientists conducted a site visit in order to determine if any wetland areas were present and to mark the boundaries. Additionally, any water resources such as streams or open water areas (ponds) were identified and located.

## 3.0 METHODS

The on-site routine criteria were utilized as outlined in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) in conjunction with the United States Army Corps of Engineers (USACE) *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (August 2010). This approach recognizes the three parameters of vegetation, soils, and hydrology to identify and delineate wetlands. Data on soils, vegetation, and hydrology were collected on April 19, 2023, during an on-site investigation conducted by qualified wetland scientists.

Hydrology was considered present if a minimum of one (1) primary indicator or two (2) secondary indicators were identified. Indicators of wetland hydrology (saturated or inundated soils) along with signs of previous prolonged inundation in the upper 12 inches were measured from the ground surface. Consistent with the 1987 Manual and appropriate Regional Supplement, the primary and secondary indicators of hydrology during the growing season were also noted at each sampling location.

Dominant species were determined by visually estimating the percent cover of each species within a plot of an approximately 30-foot (ft) radius for trees, 15-ft radius for saplings/shrubs, 5-ft radius for herbs, and a 30-ft radius for woody vines. Species nomenclature and wetland indicator status follows that of the USACE *National Wetland Plant List* (2021). Hydrophytic species are those wetland plants with an indicator status of OBL (obligate wetland), FACW (facultative wetland), or FAC (facultative). Species listed as FACU (facultative upland) or UPL (upland) are more indicative of upland areas and generally do not occur in wetlands. All wetland and water resource habitats were classified according to definitions provided by the United States Fish and Wildlife Service (USFWS), and *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979).

Soils were examined by using a sharp-shooter shovel to excavate to a depth of approximately 12 to 20 inches or to refusal based on methods outlined in the National Technical Committee for Hydric Soils (1991). Soil colors were determined using a 2010 Munsell® Soil Color Chart and hydric soils were determined using the Hydric Soils Technical Manual Version 8.2 (2018) when soils were moist or wetted. Redoximorphic concentrations (the apparent accumulation of iron and manganese oxides within the soil profile) were noted if observed. Redox depletions where Fe-Mn oxides have been stripped and consist of a low chroma of two (2) or less and a value of four (4) or higher were also noted if observed. These features are usually an indication of periodically, seasonally, or permanently saturated soil conditions (Vepraskas 2015). Indicators of hydric soils characteristics were based on the USDA textures. Hydric soils were considered present if one or more indicators were identified.

A drainage feature is considered jurisdictional if the feature has a continuous bed, bank, and ordinary high-water mark (OHWM). This criterion is put forth by the definitions in Title 33, Codified Federal Regulation 328.8 (Navigation and Navigable Waters 1986) and USACE Regulatory Guidance Letter 05-05 (RGL 2005).

### **3.1 Field Practices and Global Positioning System**

At each data point, information pertaining to vegetation, soils and hydrology were recorded on separate United States Army Corps of Engineers (USACE) wetland determination data forms. Data points were documented via photographs and marked in the field with flagging. If any data point met all three (3) criteria, the wetland was designated with a letter, and the boundaries were delineated. At the Client's request, flagging was not used to mark wetland boundaries or stream locations.

During the site visit, the upland or non-wetland data points, wetland/upland boundaries, streams, erosional features, overland flows, ditches and other features within the Project Area were geolocated using Trimble® Global Positioning System (GPS) Geo 7x receiver. GPS Pathfinder Office software was used to improve the accuracy of the collected positions via differential correction. Corrected files were obtained from a local dedicated base station. The acquired data taken with the GPS receiver and post-processed provides locations within sub-meter accuracy. AutoCAD software was used to prepare the field data mapping. Available topographic data is incorporated into the data analysis to ensure recorded geolocations are accurate.

## 4.0 REVIEW OF BACKGROUND RESOURCES AND EXISTING DOCUMENTATION

### 4.1 National Wetlands Inventory Map

A review of the USFWS National Wetlands Inventory (NWI) map of West Richfield, Ohio indicated the presence of one (1) PFO1C wetland within the Project Area (**Appendix A, Figure 2**). PFO1C is defined as a palustrine system dominated by broad-leaved, forested vegetation that is seasonally flooded. No streams are indicated on NWI mapping. Note that NWI maps were derived from aerial photo interpretation and are designed for general planning purposes only.

### 4.2 Topography and Drainage

The Project Area is comprised of a bowl-shaped topography. Review of the West Richfield, Ohio USGS 7.5-minute Topographic Quadrangle map (2019) and the Summit County Geographic Information System (GIS) mapping indicates that the existing topography on the site ranges between 996 to 1022 feet in elevation above the National Geodetic Vertical Datum (NGVD). The portion of the USGS Topographic map showing the Project Area is included in **Appendix A as Figure 3**.

The hydrology on-site is generally directed in a southeasterly direction towards a culvert that conveys hydrology off-site. The Project Area is located within the drainage area of North Fork Yellow Creek. Prior to entering Yellow Creek, North Fork Yellow Creek drains 6.24 square miles of Summit County and is located within the Cuyahoga watershed, designated with the 8-digit Hydrologic Unit Code (HUC-8) 04110002.

### 4.3 Soil Survey

The Soil Survey of Summit County, Ohio (<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>) indicates that four (4) soils are mapped within the Project Area: Carlisle muck (Cg); Ellsworth silt loam, 6 to 12% slopes, eroded (EIC2); Ellsworth silt loam, 12 to 25% slopes, eroded (EIE2); and Sebring silt loam, 0 to 2% slopes (Sb). EIC2 and EIE2 are considered moderately well drained soils. Sb is considered poorly drained, and Cg is considered very poorly drained. The Summit County Natural Resource Conservation Service (NRCS) designates EIC2 and EIE2 as non-hydric, and Cg and Sb as hydric. The area designated as Cg on the soil survey corresponds with the bowl-shape observed on topographic mapping. The portion of the soil survey showing the Project Area is included in **Appendix A as Figure 4**.

### 4.4 Aerial Imagery

A review of aerial imagery from the Summit County GIS and Google Earth shows that the Project Area is undeveloped and primarily comprised of mixed-age forest with shrub and emergent understory. The Project Area has remained undeveloped since before 1952. A large dark spot (an indicator of potential wetlands) in the central portion is apparent throughout all of the historical aerial imagery reviewed. Aerial imagery from 1952 and 1962 show an open water habitat and an associated stream in the southeastern portion of the Project Area. This open water habitat and stream are no longer apparent on aerial

imagery after 1962. A maintained trail (likely a gas easement) separating the northern and southern portions appears in 1962 and is apparent on current imagery. Aerial imagery from 1969 shows apparent ditching within the dark spot in the central portion. A boardwalk was constructed in 2015 in the southern portion of the Project Area. Aerial imagery from OSIP III (2021) is provided in **Appendix A** as **Figure 5**.

## 5.0 RESULTS AND DISCUSSION

The Project Area is located within the physiographic region of the Glaciated Allegheny Plateaus, Killbuck-Glaciated Pittsburgh Plateau (Brockman 1998); and the Erie/Ontario Drift and Lake Plain, Low Lime Drift Plain Level IV Ecoregion (Woods et al. 1998). The field investigation was conducted on April 19, 2023. The weather at the time of the investigation was partly cloudy with an average temperature of 40° Fahrenheit (F). There was a total of 0.60 inches of precipitation in the five days prior to the field visit.

The background resources indicate the potential for wetlands within the Project Area. A PFO1C wetland is apparent on NWI mapping. Additionally, the topography of the Project Area is bowl-shaped, indicative of a concentration of hydrology being conveyed to one central area. Furthermore, two (2) of the four (4) mapped soil types (Cg and Sb) are designated as hydric. This designation is an indicator of potential wetlands. Lastly, aerial imagery shows a large dark spot within the Project Area.

### 5.1 Findings of the Field Investigation

Ten (10) data points (designated as “DP1” to “DP10”) were collected within the Project Area. The Field Data Location Map depicting the surveyed data point locations and photograph locations with directions is provided in **Appendix A, Figure 6**. A comparison drawing of the previous wetland delineation overlaid with the current data is provided as **Appendix A, Figure 7**. The data points collected within the Project Area were each recorded on a Wetland Determination Data Form provided in **Appendix B**. Site photographs are located in **Appendix C**. The following descriptions provide a summary of each data point, including the location and characteristics.

| <b>Data Point</b> | <b>Hydrology</b> | <b>Hydrophytic Vegetation</b> | <b>Hydric Soils</b> | <b>Wetland Designation</b> | <b>Photo Numbers</b> |
|-------------------|------------------|-------------------------------|---------------------|----------------------------|----------------------|
| DP1               |                  |                               |                     |                            | 1                    |
| DP2               | X                | X                             | X                   | Wetland A                  | 2                    |
| DP3               |                  |                               | X                   |                            | 3                    |
| DP4               | X                | X                             | X                   | Wetland A                  | 4                    |
| DP5               |                  |                               |                     |                            | 5                    |
| DP6               | X                | X                             | X                   | Wetland A                  | 6                    |
| DP7               |                  |                               |                     |                            | 7                    |
| DP8               | X                | X                             | X                   | Wetland A                  | 8                    |
| DP9               |                  |                               |                     |                            | 9                    |
| DP10              | X                | X                             | X                   | Wetland A                  | 10                   |

## 5.2 Wetlands

Five (5) data points met all three (3) criteria of a wetland, and the characteristics are discussed below.

### Wetland A

Wetland A was designated as Palustrine Forested which is consistent with the Cowardin (1979) classification of PFO. Minor components of Palustrine Emergent (PEM) and Palustrine Scrub-Shrub (PSS) were also present. Wetland A totals 8.79 acres on-site and is located in the central portion of the Project Area.

At data point DP2, the dominant tree stratum consisted of *Acer rubrum* (red maple) and *Crataegus crus-galli* (cockspur hawthorn). The shrub stratum consisted of *Ligustrum vulgare* (European privet). The herbaceous stratum consisted of *Floerkea proserpinacoides* (false mermaidweed) and *Lysimachia nummularia* (creeping jenny). A positive primary hydrology indicator of saturation (A3) was present. The hydric soil criterion was met with redox dark surface (F6).

At data point DP4, the tree stratum consisted of *Acer rubrum* (red maple). The shrub stratum consisted of *Acer rubrum* (red maple) and *Ligustrum vulgare* (European privet). The dominant herbaceous stratum consisted of *Floerkea proserpinacoides* (false mermaidweed) and *Lysimachia nummularia* (creeping jenny). A positive primary hydrology indicator of saturation (A3) was present. The hydric soil criterion was met with depleted below dark surface (A11), depleted matrix (F3), and redox dark surface (F6).

At data point DP6, the tree stratum consisted of *Ulmus americana* (American elm). The shrub stratum consisted of a *Malus* species. The dominant herbaceous stratum consisted of *Juncus effusus* (soft rush), *Carex bromoides* (brome sedge), and *Dulichium arundinaceum* (three-way sedge). Positive primary hydrology indicators of high water table (A2), saturation (A3), and hydrogen sulfide odor (C1) were present. The hydric soil criterion was met with depleted matrix (F3).

At data point DP8, the tree stratum did not consist of any plants. The shrub stratum consisted of *Rosa palustris* (swamp rose) and *Lonicera tatarica* (Tatarian honeysuckle). The dominant herbaceous stratum consisted of *Phalaris arundinacea* (reed canary grass) and *Typha X glauca* (hybrid cattail). Positive primary hydrology indicators of surface water (A1), high water table (A2), saturation (A3), water marks (B1), and water-stained leaves (B9) were present. The hydric soil criterion was met with histosol (A1).

At data point DP10, the tree stratum consisted of *Acer rubrum* (red maple). The shrub stratum did not consist of any plants. The herbaceous stratum consisted of *Floerka proserpinacoides* (false mermaidweed) and *Persicaria sagittata* (arrow-leaved tearthumb). A positive primary hydrology indicator of saturation (A3) was present. The hydric soil criterion was met with redox dark surface (F6).

### 5.3 Uplands

Several portions of the Project Area exhibited upland characteristics. One (1) data point lacked two (2) of the three (3) wetland criteria, and four (4) data points lacked all of the three (3) wetland criteria. Five (5) data points were considered non-wetland.

### 5.4 Streams and Other Waters

Streams were observed within the Project Area. However, based on the focus of this study, stream location data was not collected and is not indicated on the Field Data Location Map (**Appendix A, Figure 6**).

## 6.0 CONCLUSIONS

There was one (1) wetland identified within the Project Area. The data points and delineated boundaries are shown on the Field Data Location Map (**Appendix A, Figure 6**). A summary of the wetland features and the preliminary jurisdictional status is provided in **Table 2**.

| <b>Wetland Designation</b> | <b>Type</b> | <b>Jurisdictional Status</b> | <b>Size (Acres)</b> |
|----------------------------|-------------|------------------------------|---------------------|
| Wetland A                  | PFO         | Jurisdictional               | 8.79                |
| <b>Total Area (Acres)</b>  |             |                              | <b>8.79</b>         |

Data on which this report is based are on file with the Consultant. The wetland resources may be regulated under federal or state jurisdiction. No filling or disturbance (including restoration or enhancement) may occur in jurisdictional areas without verification by the USACE and obtaining a permit prior to activity. The USACE, Buffalo District should be contacted by either the Consultant or the Client before working in any wetlands or streams.

Based on the findings of the field investigation, the Consultant presents the following recommendations for consideration at the Project Area.

- 1) Submit a copy of this report to the USACE, Buffalo District to have the wetland boundaries and water resources verified and to determine jurisdiction of all of the features.
- 2) If the regulated features such as wetlands or streams cannot be avoided, submit and obtain a federal and/or state permit application prior to conducting any impacts, including restoration or enhancement.



## 7.0 DISCLAIMER

The terms “wetlands” and “waters of the United States” and “waters of the State of Ohio” as used in this report are the Consultant’s interpretation of state and federal laws concerning wetlands and water resource identification.

The definition and delineation of wetlands on any specific site are subject to interpretation by various regulatory agencies. The Consultant has, to the best of its ability, accurately delineated any jurisdictional limits based on current regulations and the experience with the regulatory agencies. There is no guarantee that the regulatory agencies involved will agree with those limits. All jurisdictional boundaries are based on the accuracy of the GPS equipment that was used to collect the data.

All mention of regulations and laws are the Consultant’s interpretation of state and federal regulations and/or laws and should not be taken as legal advice.

The report was prepared by the Consultant solely for the use of the Client in accordance with an approved contract and scope of work. The Client’s use of the reliance on this report is limited by the terms and conditions of the contract between the Consultant and the Client, and by the qualifications and limitations stated in the report. It is also acknowledged that the Client’s use of and reliance on this report is limited because: actual site conditions may change with time; hidden conditions, not discoverable within the scope of the assessment, may exist at the site; and the scope of the investigation may have been limited by time, budget, and other constraints imposed by the Client. Neither the report nor its contents are intended for the use or conclusions, or recommendations by such unauthorized use, or else the intended user is at the risk of said user and the Consultant and the Client assume no liability for any reliance placed on this report by such user. Any party other than the Client who uses or relies upon this report or its content is not covered by the contract between the Consultant or the Client and the party by such use or reliance. The rights of the Client under its contract with the Consultant may not be assigned to any person or entity, without the consent of the Consultant which consent shall not be unreasonably withheld. Regardless of the findings stated in the report, the Consultant and the Client make no warranty that the site is free from existing or threatened pollution, and the Consultant and the Client are not responsible for consequences or conditions arising from facts that were concealed, withheld, or not fully disclosed at the time the assessment was conducted. No other warranties are made, either expressed or implied.

## 8.0 LITERATURE CITED

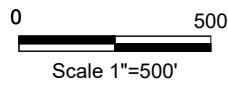
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## **APPENDIX A**

### **FIGURES**

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Land Solutions, LLC  
34600 Chardon Road, Suite C  
Willoughby Hills, Ohio 44094

**FIGURE 1**  
SITE LOCATION MAP  
**OXBOW AND RIVER RESTORATION, INC.**  
4240 IRA RD., AKRON, SUMMIT COUNTY, OHIO

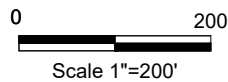
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# U.S. Fish and Wildlife Service National Wetlands Inventory



WATERSHED - HUC 04110002 - CUYAHOGA



### Wetlands

- |  |                                |  |                                   |  |       |
|--|--------------------------------|--|-----------------------------------|--|-------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland       |  | Lake  |
|  | Estuarine and Marine Wetland   |  | Freshwater Forested/Shrub Wetland |  | Other |
|  | Freshwater Pond                |  | Riverine                          |  |       |

L:\2023 PROJECTS\230113 OXBOW AND RIVER RESTORATION, INC. - 4240 IRA ROAD - AKRON\MAPPING\CAD\230113 6 FIGURES.DWG

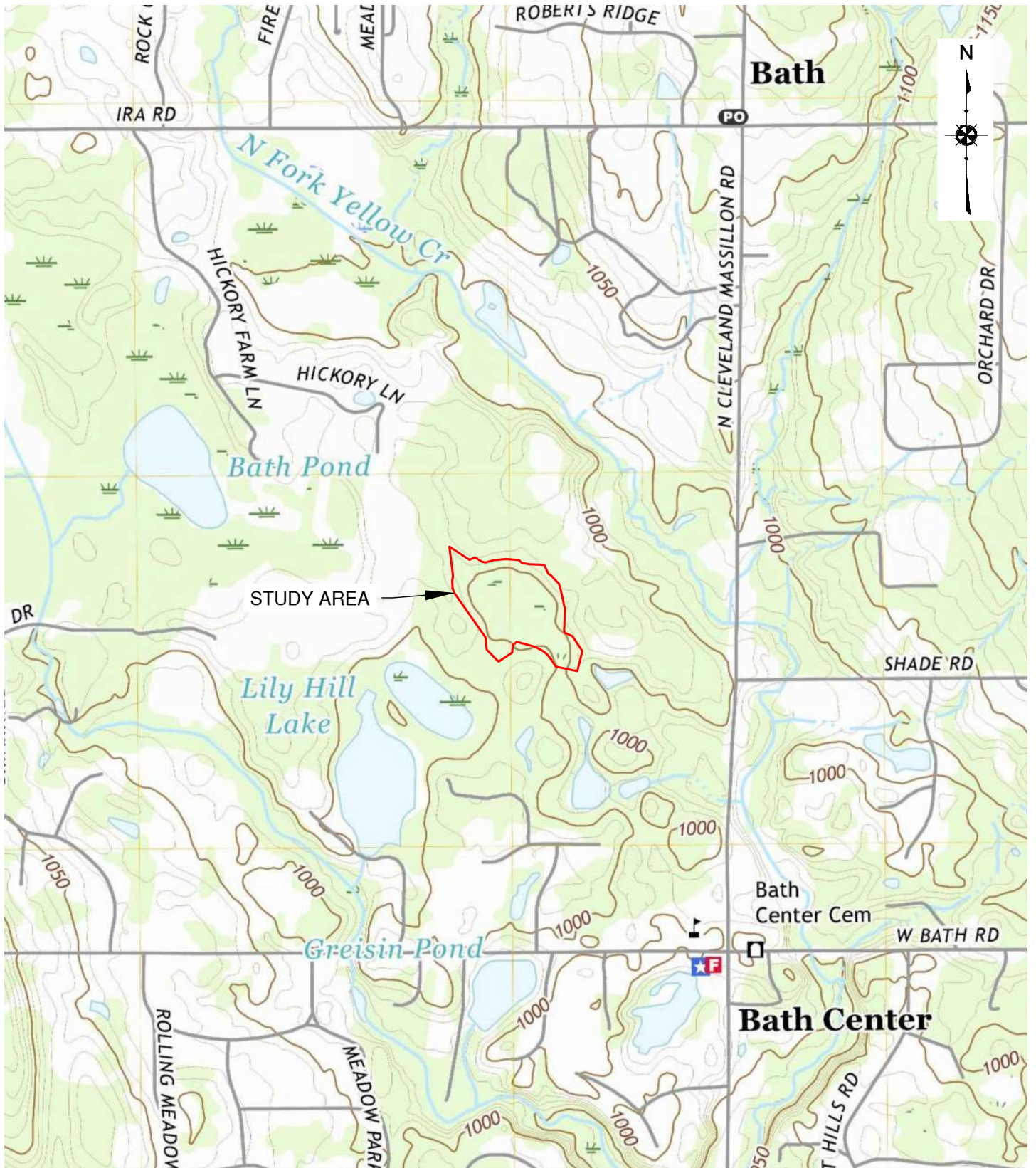


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34600 Chardon Road, Suite C  
Willoughby Hills, Ohio 44094

**FIGURE 2**  
NATIONAL WETLANDS INVENTORY MAP  
OXBOW AND RIVER RESTORATION, INC.  
4240 IRA RD., AKRON, SUMMIT COUNTY, OHIO

Date: 2023-04-26  
Scale: AS SHOWN  
Filename: 23013  
Drawn by: SRB



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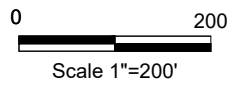
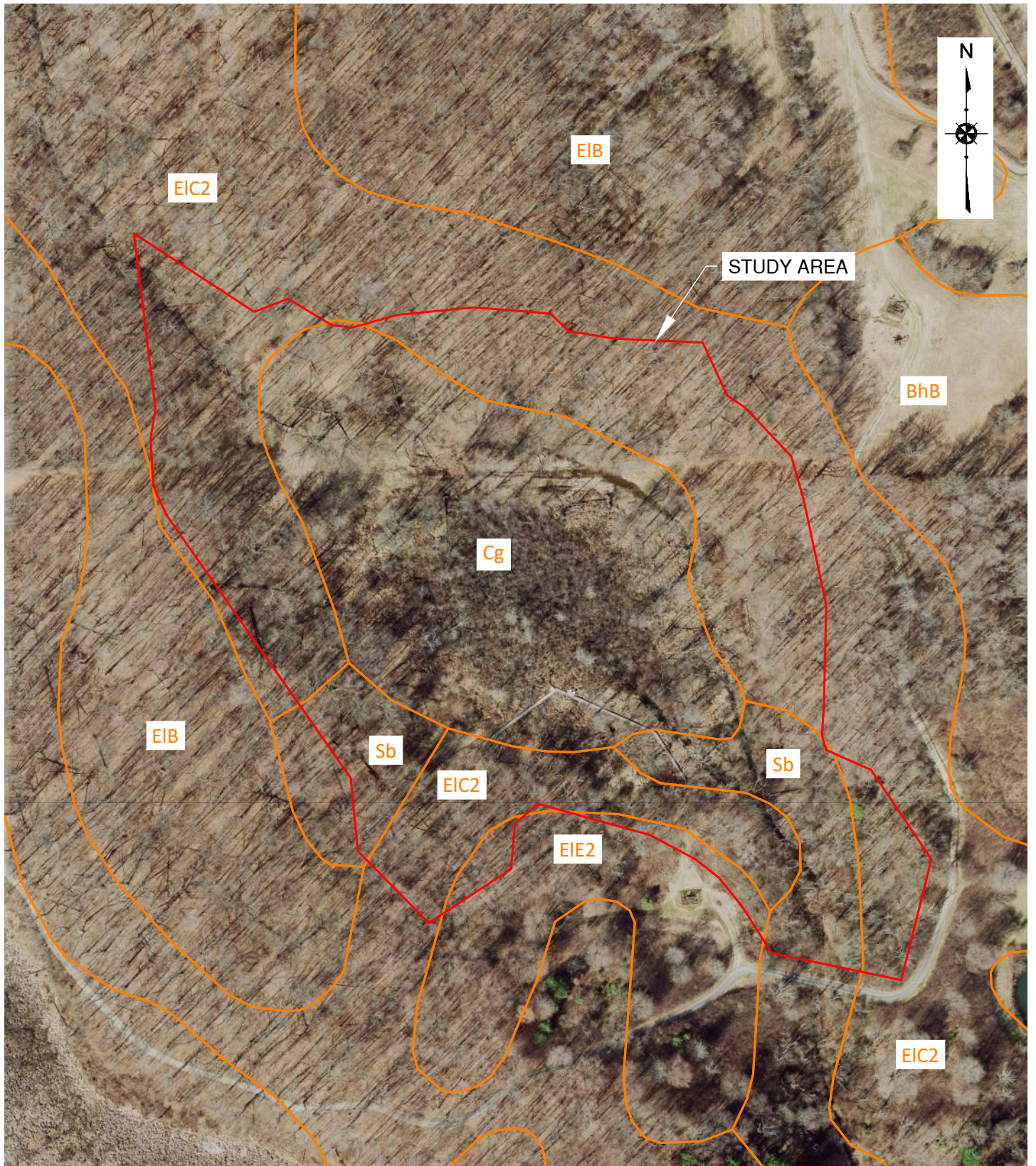



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 Willoughby Hills, Ohio 44094

**FIGURE 3**  
 USGS TOPOGRAPHIC MAP  
**OXBOW AND RIVER RESTORATION, INC.**  
 4240 IRA RD., AKRON, SUMMIT COUNTY, OHIO

Date: 2023-04-26  
 Scale: AS SHOWN  
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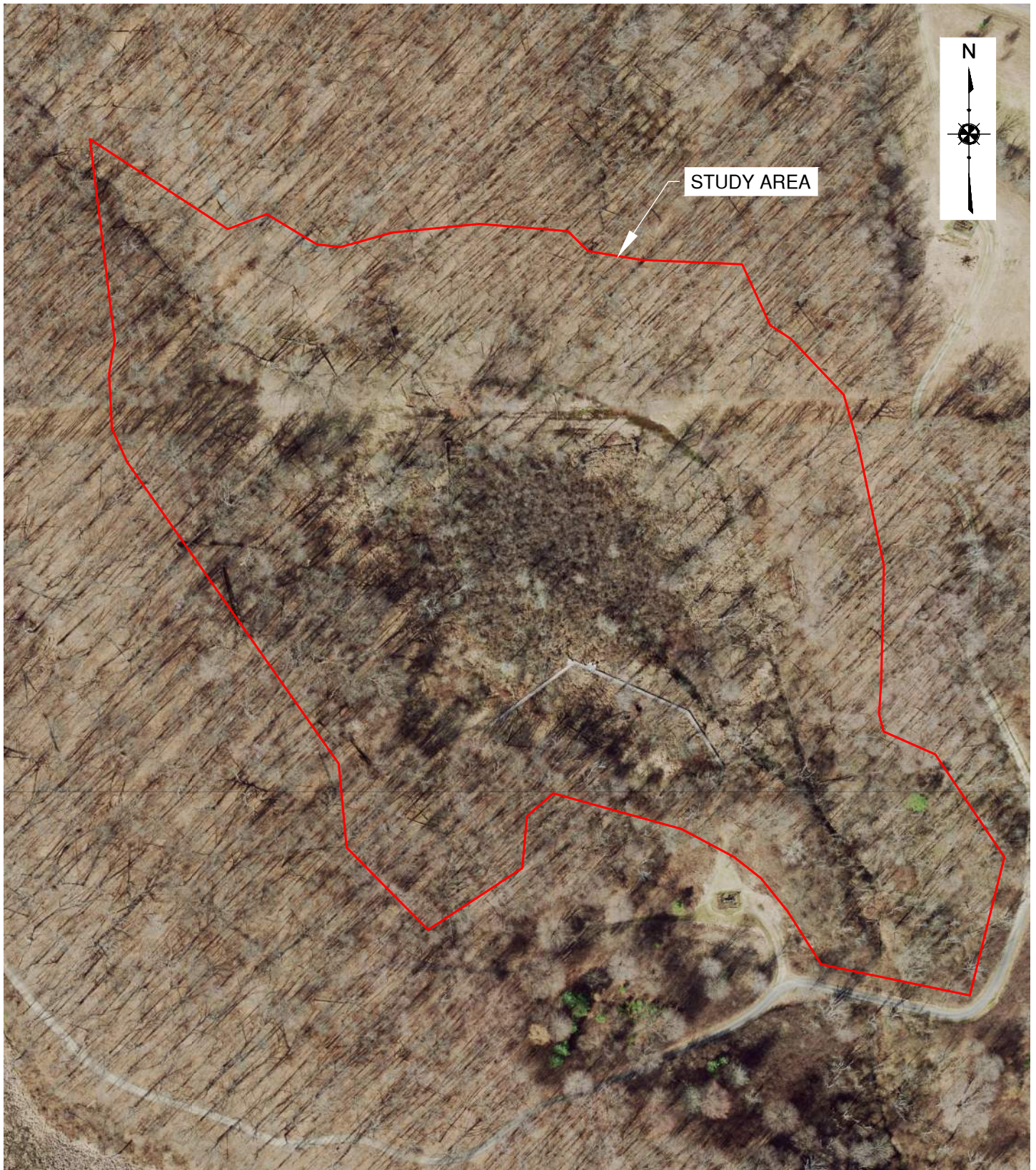
**Land Solutions**  
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 Willoughby Hills, Ohio 44094

**FIGURE 4**  
 NRCS SOIL SURVEY MAP  
**OXBOW AND RIVER RESTORATION, INC.**  
 4240 IRA RD., AKRON, SUMMIT COUNTY, OHIO

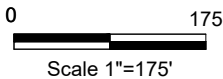
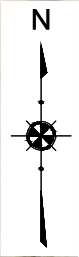
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L:\2023 PROJECTS\23013 OXBOW AND RIVER RESTORATION, INC. - 4240 IRA ROAD - AKRON\MAPPING\CAD\23013\_6 FIGURES.DWG



STUDY AREA



IMAGERY SOURCE - OSIP III  
IMAGERY YEAR - 2021

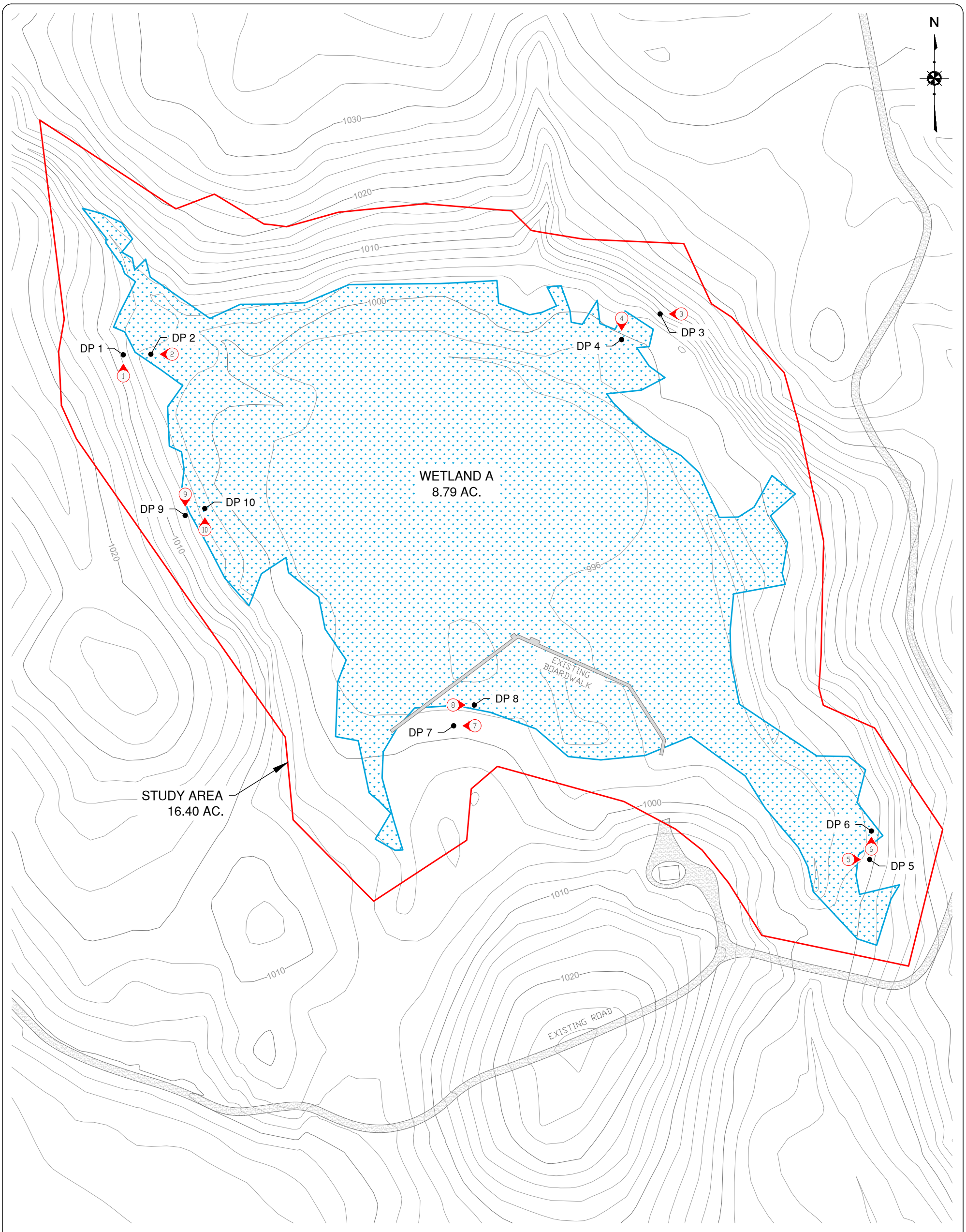


Land Solutions

Land Solutions, LLC  
34600 Chardon Road, Suite C  
Willoughby Hills, Ohio 44094

**FIGURE 5**  
AERIAL PHOTOGRAPH MAP  
**OXBOW AND RIVER RESTORATION, INC.**  
4240 IRA RD., AKRON, SUMMIT COUNTY, OHIO

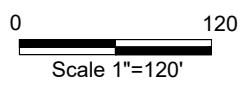
Date: 2023-04-26  
Scale: AS SHOWN  
Filename: 23013  
Drawn by: SRB



**LEGEND**

- DP DATA POINT LOCATION
- PHOTOGRAPH LOCATION
- WETLAND

NOTE: STREAMS WERE PRESENT ON SITE, HOWEVER THEY WERE NOT THE FOCUS OF THE STUDY



STUDY AREA IS PORTION OF PARCEL NUMBER: 0406876  
 PROPERTY BOUNDARIES AND TWO FOOT CONTOURS  
 PROVIDED BY SUMMIT COUNTY GIS

|           |          |
|-----------|----------|
| WETLAND A | 8.79 AC. |
|-----------|----------|

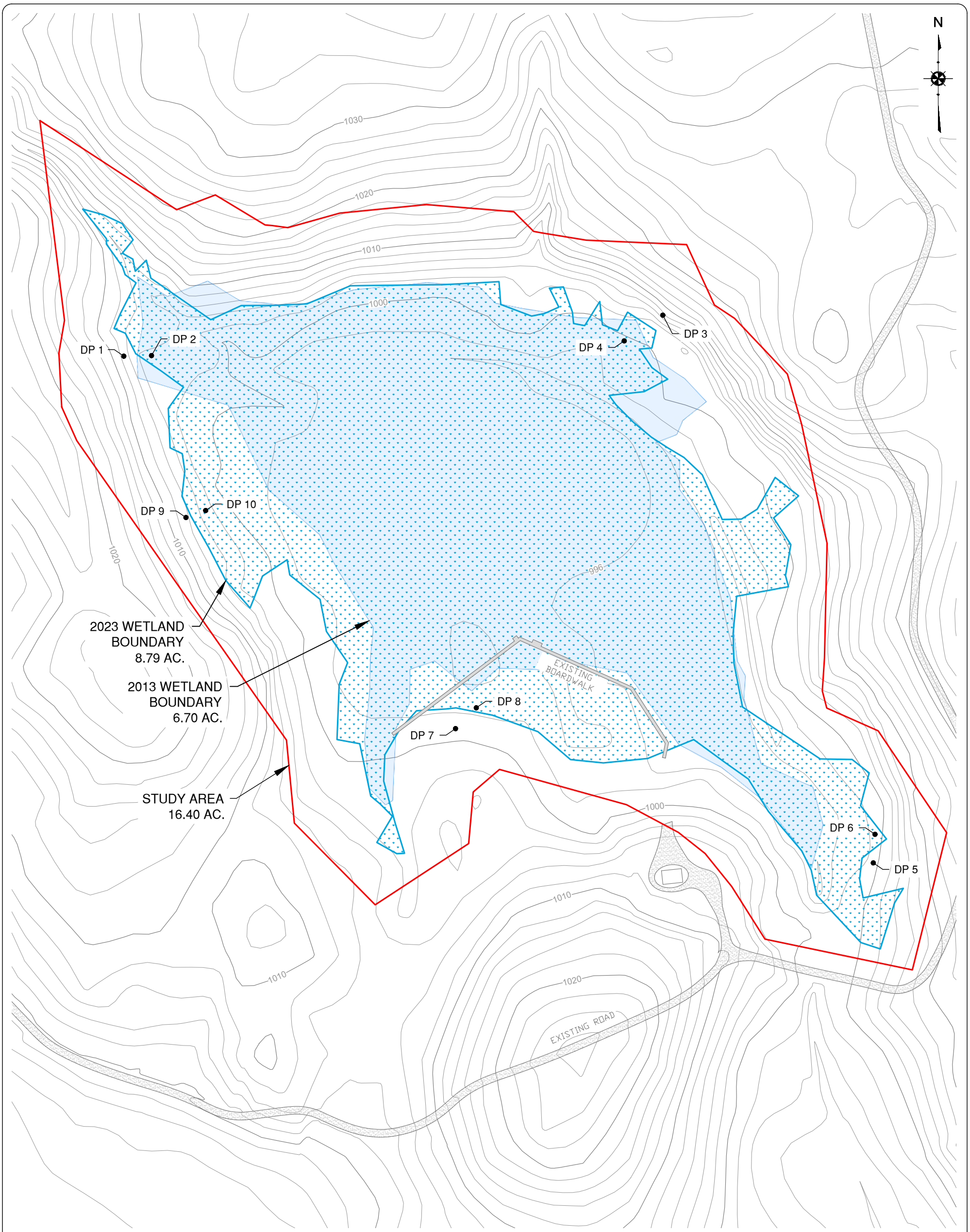
NOTE: WETLAND AREAS BASED ON PORTIONS WITHIN THE STUDY AREA



Land Solutions, LLC  
 34600 Chardon Road, Suite C  
 Willoughby Hills, Ohio 44094

**FIGURE 6**  
 FIELD DATA LOCATION MAP  
**OXBOW AND RIVER RESTORATION, INC.**  
 4240 IRA RD., AKRON, SUMMIT COUNTY, OHIO

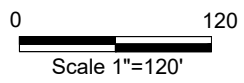
Date: 2023-04-26  
 Scale: AS SHOWN  
 Filename: 23013  
 Drawn by: SRB



**LEGEND**

- DP DATA POINT LOCATION
- ▨ WETLAND
- ▨ PREVIOUSLY DELINEATED WETLAND

NOTE: STREAMS WERE PRESENT ON SITE, HOWEVER THEY WERE NOT THE FOCUS OF THE STUDY



STUDY AREA IS PORTION OF PARCEL NUMBER: 0406876  
 PROPERTY BOUNDARIES AND TWO FOOT CONTOURS  
 PROVIDED BY SUMMIT COUNTY GIS

|                 |                 |
|-----------------|-----------------|
| 2013 WETLAND    | 6.70 AC.        |
| 2023 WETLAND    | 8.79 AC.        |
| <b>INCREASE</b> | <b>2.09 AC.</b> |

NOTE: WETLAND AREAS BASED ON PORTIONS WITHIN THE STUDY AREA



Land Solutions, LLC  
 34600 Chardon Road, Suite C  
 Willoughby Hills, Ohio 44094

**FIGURE 7**  
 2013 AND 2023 WETLAND DELINEATION OVERLAY COMPARISON  
**OXBOW AND RIVER RESTORATION, INC.**  
 4240 IRA RD., AKRON, SUMMIT COUNTY, OHIO

Date: 2023-04-26  
 Scale: AS SHOWN  
 Filename: 23013  
 Drawn by: SRB

**APPENDIX B**

**WETLAND DETERMINATION DATA FORMS**

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: 23013 Tamarack Bog City/County: Akron/Summit Sampling Date: 2023-04-19  
 Applicant/Owner: Oxbow and River Restoration, Inc. State: Ohio Sampling Point: DP1  
 Investigator(s): Alexander Kozak, Melia DeJongh Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Linear Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): R 139 Lat: 41.1780322 Long: -81.6454624 Datum: WGS 84  
 Soil Map Unit Name: EIC2 - Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI classification: \_\_\_\_\_

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

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

|  |  |
|--|--|
| Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/><br>Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/><br>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/><br>If yes, optional Wetland Site ID: _____ |
|--|--|

Remarks: (Explain alternative procedures here or in a separate report.)

**A non-wetland point located in a forested habitat and near the northwestern portion of the Project Area.**

**HYDROLOGY**

|  |   |
|--|---|
| <b>Wetland Hydrology Indicators:</b><br><u>Primary Indicators (minimum of one is required; check all that apply)</u><br>___ Surface Water (A1)      ___ Water-Stained Leaves (B9)<br>___ High Water Table (A2)      ___ Aquatic Fauna (B13)<br>___ Saturation (A3)      ___ Marl Deposits (B15)<br>___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1)<br>___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3)<br>___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4)<br>___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6)<br>___ Iron Deposits (B5)      ___ Thin Muck Surface (C7)<br>___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks)<br>___ Sparsely Vegetated Concave Surface (B8) | <u>Secondary Indicators (minimum of two required)</u><br>___ Surface Soil Cracks (B6)<br>___ Drainage Patterns (B10)<br>___ Moss Trim Lines (B16)<br>___ Dry-Season Water Table (C2)<br>___ Crayfish Burrows (C8)<br>___ Saturation Visible on Aerial Imagery (C9)<br>___ Stunted or Stressed Plants (D1)<br>___ Geomorphic Position (D2)<br>___ Shallow Aquitard (D3)<br>___ Microtopographic Relief (D4)<br>___ FAC-Neutral Test (D5) |
|--|---|

|   |  |
|---|--|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/> |
|---|--|

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

Remarks:

**No positive indication of wetland hydrology was observed.**

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

Sampling Point: DP1

|   | Absolute % Cover | Dominant Species?                   | Indicator Status |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
|---|------------------|-------------------------------------|------------------|---|-------------------|--------------|----------------------|----------------|-----------------------|----------------|----------------------|----------------|------------------------|------------------|-----------------------|-----------------|------------------------------|----------------|
| <b>Tree Stratum</b> (Plot size: <u>30 ft r</u> )          |                  |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 1. <u>Quercus alba</u>                                    | <u>20</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0</u> (A/B)<br><br><b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>37</u></td> <td>x 4 = <u>148</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>47</u> (A)</td> <td><u>198</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.21</u> | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>0</u> | x 2 = <u>0</u> | FAC species <u>0</u> | x 3 = <u>0</u> | FACU species <u>37</u> | x 4 = <u>148</u> | UPL species <u>10</u> | x 5 = <u>50</u> | Column Totals: <u>47</u> (A) | <u>198</u> (B) |
| Total % Cover of:   | Multiply by:     |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| OBL species <u>0</u>                                      | x 1 = <u>0</u>   |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| FACW species <u>0</u>                                     | x 2 = <u>0</u>   |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| FAC species <u>0</u>                                      | x 3 = <u>0</u>   |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| FACU species <u>37</u>                                    | x 4 = <u>148</u> |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| UPL species <u>10</u>                                     | x 5 = <u>50</u>  |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| Column Totals: <u>47</u> (A)                              | <u>198</u> (B)   |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 2. <u>Acer saccharum</u>                                  | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 3. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 4. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 5. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 6. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 7. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| <u>30%</u> = Total Cover                                  |                  |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| <b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft r</u> ) |                  |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 1. <u>Lonicera tatarica</u>                               | <u>7</u>         | <input checked="" type="checkbox"/> | <u>FACU</u>      | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> 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.   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 2. <u>Euonymus alatus</u>                                 | <u>5</u>         | <input checked="" type="checkbox"/> | <u>UPL</u>       |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 3. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 4. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 5. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 6. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 7. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| <u>12%</u> = Total Cover                                  |                  |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| <b>Herb Stratum</b> (Plot size: <u>5 ft r</u> )           |                  |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 1. <u>Erythronium americanum</u>                          | <u>5</u>         | <input checked="" type="checkbox"/> | <u>UPL</u>       | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.<br><br><br><b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 2. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 3. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 4. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 5. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 6. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 7. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 8. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 9. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 10. _____   | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 11. _____   | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 12. _____   | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| <u>5%</u> = Total Cover                                   |                  |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| <b>Woody Vine Stratum</b> (Plot size: <u>30 ft r</u> )    |                  |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 1. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 2. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 3. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| 4. _____  | _____            | _____                               | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |
| _____ = Total Cover                                       |                  |                                     |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                       |                 |                              |                |

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

**The hydrophytic vegetation criterion has not been met. E. alatus assumed UPL**

**SOIL**

Sampling Point: DP1

**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            | 7.5YR 3/2     | 100 |                |    |                   |                  | Clay Loam |         |
| 10 - 18           | 10YR 4/2      | 80  | 10YR 5/3       | 20 | C                 | M                | Clay 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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

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

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

No positive indication of hydric soil was observed.

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: 23013 Tamarack Bog City/County: Akron/Summit Sampling Date: 2023-04-19  
 Applicant/Owner: Oxbow and River Restoration, Inc. State: Ohio Sampling Point: DP2 WLA  
 Investigator(s): Alexander Kozak, Melia DeJongh Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): R 139 Lat: 41.1780332 Long: -81.6453329 Datum: WGS 84  
 Soil Map Unit Name: EIC2 - Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI classification: \_\_\_\_\_

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

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

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____<br>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____<br>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____<br>If yes, optional Wetland Site ID: <u>Wetland A</u> |
|--|---|

Remarks: (Explain alternative procedures here or in a separate report.)

**A wetland point taken in the PFO portion of Wetland A located near the northwestern portion of the Project Area.**

**HYDROLOGY**

|  |   |
|--|---|
| <b>Wetland Hydrology Indicators:</b><br><u>Primary Indicators (minimum of one is required; check all that apply)</u><br>___ Surface Water (A1)      ___ Water-Stained Leaves (B9)<br>___ High Water Table (A2)      ___ Aquatic Fauna (B13)<br><input checked="" type="checkbox"/> Saturation (A3)      ___ Marl Deposits (B15)<br>___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1)<br>___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3)<br>___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4)<br>___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6)<br>___ Iron Deposits (B5)      ___ Thin Muck Surface (C7)<br>___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks)<br>___ Sparsely Vegetated Concave Surface (B8) | <u>Secondary Indicators (minimum of two required)</u><br>___ Surface Soil Cracks (B6)<br>___ Drainage Patterns (B10)<br>___ Moss Trim Lines (B16)<br>___ Dry-Season Water Table (C2)<br>___ Crayfish Burrows (C8)<br>___ Saturation Visible on Aerial Imagery (C9)<br>___ Stunted or Stressed Plants (D1)<br><input checked="" type="checkbox"/> Geomorphic Position (D2)<br>___ Shallow Aquitard (D3)<br>___ Microtopographic Relief (D4)<br>___ FAC-Neutral Test (D5) |
|--|---|

|  |  |
|--|--|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>14</u><br>Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>7</u><br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____ |
|--|--|

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

Remarks:

**A positive indication of wetland hydrology was observed.**



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

Sampling Point: DP2 WLA

|   | Absolute % Cover | Dominant Species?                   | Indicator Status |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
|---|------------------|-------------------------------------|------------------|--|-------------------|--------------|----------------------|----------------|------------------------|-----------------|-----------------------|------------------|------------------------|-----------------|----------------------|----------------|------------------------------|----------------|
| <b>Tree Stratum</b> (Plot size: <u>30 ft r</u> )          |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 1. <u>Acer rubrum</u>                                     | <u>15</u>        | <input checked="" type="checkbox"/> | <u>FAC</u>       | <b>Dominance Test worksheet:</b><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</u> (A/B)   |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 2. <u>Crataegus crus-galli</u>                            | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FAC</u>       |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 3. <u>Fraxinus americana</u>                              | <u>5</u>         |                                     | <u>FACU</u>      |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 4. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 5. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 6. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 7. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
|   | <u>30%</u>       |                                     |                  | <b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td>x 3 = <u>165</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>245</u> (B)</td> </tr> </table><br>Prevalence Index = B/A = <u>2.88</u> | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>20</u> | x 2 = <u>40</u> | FAC species <u>55</u> | x 3 = <u>165</u> | FACU species <u>10</u> | x 4 = <u>40</u> | UPL species <u>0</u> | x 5 = <u>0</u> | Column Totals: <u>85</u> (A) | <u>245</u> (B) |
| Total % Cover of:   | Multiply by:     |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| OBL species <u>0</u>                                      | x 1 = <u>0</u>   |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| FACW species <u>20</u>                                    | x 2 = <u>40</u>  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| FAC species <u>55</u>                                     | x 3 = <u>165</u> |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| FACU species <u>10</u>                                    | x 4 = <u>40</u>  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| UPL species <u>0</u>                                      | x 5 = <u>0</u>   |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| Column Totals: <u>85</u> (A)                              | <u>245</u> (B)   |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| <b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft r</u> ) |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 1. <u>Ligustrum vulgare</u>                               | <u>5</u>         | <input checked="" type="checkbox"/> | <u>FACU</u>      |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 2. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 3. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 4. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 5. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 6. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 7. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
|   | <u>5%</u>        |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| <b>Herb Stratum</b> (Plot size: <u>5 ft r</u> )           |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 1. <u>Floerkea proserpinacoides</u>                       | <u>30</u>        | <input checked="" type="checkbox"/> | <u>FAC</u>       | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 2. <u>Lysimachia nummularia</u>                           | <u>15</u>        | <input checked="" type="checkbox"/> | <u>FACW</u>      |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 3. <u>Carex bromoides</u>                                 | <u>5</u>         |                                     | <u>FACW</u>      |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 4. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 5. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 6. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 7. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 8. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 9. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 10. _____   |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 11. _____   |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 12. _____   |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
|   | <u>50%</u>       |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| <b>Woody Vine Stratum</b> (Plot size: <u>30 ft r</u> )    |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 1. _____  |                  |                                     |                  | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.   |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 2. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 3. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
| 4. _____  |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
|   |                  |                                     |                  |  |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |
|   |                  |                                     |                  | <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>   |                   |              |                      |                |                        |                 |                       |                  |                        |                 |                      |                |                              |                |

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

**The hydrophytic vegetation criterion has been met.**

**SOIL**

Sampling Point: DP2 WLA

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

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture   | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0 - 5          | 10YR 2/1      | 100 |                |    |                   |                  | Clay Loam |         |
| 5 - 13         | 10YR 2/1      | 90  | 10YR 4/4       | 10 | C                 | M                | Clay      |         |
| 13 - 18        | 10YR 3/2      | 80  | 10YR 4/6       | 20 | C                 | M                | Clay      |         |
| -              |               |     |                |    |                   |                  |           |         |
| -              |               |     |                |    |                   |                  |           |         |
| -              |               |     |                |    |                   |                  |           |         |
| -              |               |     |                |    |                   |                  |           |         |
| -              |               |     |                |    |                   |                  |           |         |
| -              |               |     |                |    |                   |                  |           |         |
| -              |               |     |                |    |                   |                  |           |         |
| -              |               |     |                |    |                   |                  |           |         |
| -              |               |     |                |    |                   |                  |           |         |
| -              |               |     |                |    |                   |                  |           |         |

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

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

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

Hydric Soil Present? Yes  No

Remarks:

**A positive indication of hydric soil was observed.**

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: 23013 Tamarack Bog City/County: Akron/Summit Sampling Date: 2023-04-19  
 Applicant/Owner: Oxbow and River Restoration, Inc. State: Ohio Sampling Point: DP3  
 Investigator(s): Alexander Kozak, Melia DeJongh Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Linear Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): R 139 Lat: 41.1781582 Long: -81.6429397 Datum: WGS 84  
 Soil Map Unit Name: EIC2 - Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI classification: \_\_\_\_\_

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

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

|  |  |
|--|--|
| Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/><br>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____<br>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/><br>If yes, optional Wetland Site ID: _____ |
|--|--|

Remarks: (Explain alternative procedures here or in a separate report.)

**A non-wetland point located in a forested habitat and near the northeastern portion of the Project Area.**

**HYDROLOGY**

|  |   |
|--|---|
| <b>Wetland Hydrology Indicators:</b><br><u>Primary Indicators (minimum of one is required; check all that apply)</u><br>___ Surface Water (A1)      ___ Water-Stained Leaves (B9)<br>___ High Water Table (A2)      ___ Aquatic Fauna (B13)<br>___ Saturation (A3)      ___ Marl Deposits (B15)<br>___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1)<br>___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3)<br>___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4)<br>___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6)<br>___ Iron Deposits (B5)      ___ Thin Muck Surface (C7)<br>___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks)<br>___ Sparsely Vegetated Concave Surface (B8) | <u>Secondary Indicators (minimum of two required)</u><br>___ Surface Soil Cracks (B6)<br>___ Drainage Patterns (B10)<br>___ Moss Trim Lines (B16)<br>___ Dry-Season Water Table (C2)<br>___ Crayfish Burrows (C8)<br>___ Saturation Visible on Aerial Imagery (C9)<br>___ Stunted or Stressed Plants (D1)<br>___ Geomorphic Position (D2)<br>___ Shallow Aquitard (D3)<br>___ Microtopographic Relief (D4)<br>___ FAC-Neutral Test (D5) |
|--|---|

|   |  |
|---|--|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/> |
|---|--|

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

Remarks:

**No positive indication of wetland hydrology was observed.**

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

Sampling Point: DP3

|   | Absolute % Cover | Dominant Species?                   | Indicator Status |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
|---|------------------|-------------------------------------|------------------|--|-------------------|--------------|----------------------|----------------|-----------------------|----------------|----------------------|----------------|------------------------|------------------|----------------------|-----------------|------------------------------|----------------|
| <b>Tree Stratum</b> (Plot size: <u>30 ft r</u> )          |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 1. <u>Quercus alba</u>                                    | <u>20</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0</u> (A/B)<br><br><b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>40</u></td> <td>x 4 = <u>160</u></td> </tr> <tr> <td>UPL species <u>7</u></td> <td>x 5 = <u>35</u></td> </tr> <tr> <td>Column Totals: <u>47</u> (A)</td> <td><u>195</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.15</u> | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>0</u> | x 2 = <u>0</u> | FAC species <u>0</u> | x 3 = <u>0</u> | FACU species <u>40</u> | x 4 = <u>160</u> | UPL species <u>7</u> | x 5 = <u>35</u> | Column Totals: <u>47</u> (A) | <u>195</u> (B) |
| Total % Cover of:   | Multiply by:     |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| OBL species <u>0</u>                                      | x 1 = <u>0</u>   |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| FACW species <u>0</u>                                     | x 2 = <u>0</u>   |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| FAC species <u>0</u>                                      | x 3 = <u>0</u>   |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| FACU species <u>40</u>                                    | x 4 = <u>160</u> |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| UPL species <u>7</u>                                      | x 5 = <u>35</u>  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| Column Totals: <u>47</u> (A)                              | <u>195</u> (B)   |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 2. <u>Carya ovata</u>                                     | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 3. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 4. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 5. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 6. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 7. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| <u>30%</u> = Total Cover                                  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| <b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft r</u> ) |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 1. <u>Carya ovata</u>                                     | <u>5</u>         | <input checked="" type="checkbox"/> | <u>FACU</u>      | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> 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.  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 2. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 3. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 4. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 5. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 6. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 7. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| <u>5%</u> = Total Cover                                   |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| <b>Herb Stratum</b> (Plot size: <u>5 ft r</u> )           |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 1. <u>Erythronium americanum</u>                          | <u>7</u>         | <input checked="" type="checkbox"/> | <u>UPL</u>       | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.<br><br><br><b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 2. <u>Podophyllum peltatum</u>                            | <u>5</u>         | <input checked="" type="checkbox"/> | <u>FACU</u>      |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 3. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 4. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 5. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 6. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 7. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 8. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 9. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 10. _____   | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 11. _____   | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 12. _____   | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| <u>12%</u> = Total Cover                                  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| <b>Woody Vine Stratum</b> (Plot size: <u>30 ft r</u> )    |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 1. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 2. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 3. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| 4. _____  | _____            | _____                               | _____            |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |
| _____ = Total Cover                                       |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                 |                              |                |

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

**The hydrophytic vegetation criterion has not been met. E. americanism assumed UPL**

**SOIL**

Sampling Point: DP3

**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 - 7             | 10YR 4/2      | 100 |                |    |                   |                  | Silty Clay Loam |         |
| 7 - 18            | 2.5Y 6/2      | 70  | 10YR 6/8       | 30 | C                 | M                | Clay 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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

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

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

Hydric Soil Present? Yes  No

Remarks:

**A positive indication of hydric soil was observed.**

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: 23013 Tamarack Bog City/County: Akron/Summit Sampling Date: 2023-04-19  
 Applicant/Owner: Oxbow and River Restoration, Inc. State: Ohio Sampling Point: DP4 WLA  
 Investigator(s): Alexander Kozak, Melia DeJongh Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): R 139 Lat: 41.1780688 Long: -81.6431214 Datum: WGS 84  
 Soil Map Unit Name: EIC2 - Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI classification: \_\_\_\_\_

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

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

|  |  |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____<br>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____<br>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____<br>If yes, optional Wetland Site ID: _____ |
|--|--|

Remarks: (Explain alternative procedures here or in a separate report.)

**A wetland point taken in the PEM portion of Wetland A located near the northeastern portion of the Project Area.**

**HYDROLOGY**

|  |   |
|--|---|
| <b>Wetland Hydrology Indicators:</b><br><u>Primary Indicators (minimum of one is required; check all that apply)</u><br>___ Surface Water (A1)      ___ Water-Stained Leaves (B9)<br>___ High Water Table (A2)      ___ Aquatic Fauna (B13)<br><input checked="" type="checkbox"/> Saturation (A3)      ___ Marl Deposits (B15)<br>___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1)<br>___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3)<br>___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4)<br>___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6)<br>___ Iron Deposits (B5)      ___ Thin Muck Surface (C7)<br>___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks)<br>___ Sparsely Vegetated Concave Surface (B8) | <u>Secondary Indicators (minimum of two required)</u><br>___ Surface Soil Cracks (B6)<br><input checked="" type="checkbox"/> Drainage Patterns (B10)<br>___ Moss Trim Lines (B16)<br>___ Dry-Season Water Table (C2)<br>___ Crayfish Burrows (C8)<br>___ Saturation Visible on Aerial Imagery (C9)<br>___ Stunted or Stressed Plants (D1)<br>___ Geomorphic Position (D2)<br>___ Shallow Aquitard (D3)<br>___ Microtopographic Relief (D4)<br><input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
|--|---|

|  |  |
|--|--|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>15</u><br>Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>8</u><br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____ |
|--|--|

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

Remarks:

**A positive indication of wetland hydrology was observed.**

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

Sampling Point: DP4 WLA

|  | Absolute % Cover                        | Dominant Species?                   | Indicator Status |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
|--|---|-------------------------------------|------------------|--|--|---|----------|--------------|-------------|-----------|-------|-----------|--------------|-----------|-------|-----------|-------------|-----------|-------|------------|--------------|----------|-------|-----------|-------------|----------|-------|----------|----------------|------------|-----|----------------|--------------------------------------|--|--|--|
| <b>Tree Stratum</b> (Plot size: <u>30 ft r</u> )   |   |                                     |                  |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 1. <u>Acer rubrum</u>  | <u>20</u>                               | <input checked="" type="checkbox"/> | <u>FAC</u>       | <b>Dominance Test worksheet:</b><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</u> (A/B)   |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 2. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 3. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 4. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 5. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 6. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 7. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
|  | <u>20%</u>                              | = Total Cover                       |                  |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| <b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft r</u> )  |   |                                     |                  |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 1. <u>Acer rubrum</u>  | <u>10</u>                               | <input checked="" type="checkbox"/> | <u>FAC</u>       | <b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%;"></td> <td style="text-align:center;">Total % Cover of:</td> <td style="width:50%;"></td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align:center;"><u>10</u></td> <td>x 1 =</td> <td style="text-align:center;"><u>10</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>42</u></td> <td>x 2 =</td> <td style="text-align:center;"><u>84</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>65</u></td> <td>x 3 =</td> <td style="text-align:center;"><u>195</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>9</u></td> <td>x 4 =</td> <td style="text-align:center;"><u>36</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center;"><u>126</u></td> <td>(A)</td> <td style="text-align:center;"><u>325</u> (B)</td> </tr> <tr> <td colspan="4" style="text-align:center;">Prevalence Index = B/A = <u>2.58</u></td> </tr> </table> |  | Total % Cover of:                       |          | Multiply by: | OBL species | <u>10</u> | x 1 = | <u>10</u> | FACW species | <u>42</u> | x 2 = | <u>84</u> | FAC species | <u>65</u> | x 3 = | <u>195</u> | FACU species | <u>9</u> | x 4 = | <u>36</u> | UPL species | <u>0</u> | x 5 = | <u>0</u> | Column Totals: | <u>126</u> | (A) | <u>325</u> (B) | Prevalence Index = B/A = <u>2.58</u> |  |  |  |
|  | Total % Cover of:                       |                                     | Multiply by:     |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| OBL species  | <u>10</u>                               | x 1 =                               | <u>10</u>        |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| FACW species   | <u>42</u>                               | x 2 =                               | <u>84</u>        |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| FAC species  | <u>65</u>                               | x 3 =                               | <u>195</u>       |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| FACU species   | <u>9</u>                                | x 4 =                               | <u>36</u>        |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| UPL species  | <u>0</u>                                | x 5 =                               | <u>0</u>         |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| Column Totals:   | <u>126</u>                              | (A)                                 | <u>325</u> (B)   |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| Prevalence Index = B/A = <u>2.58</u>   |   |                                     |                  |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 2. <u>Ligustrum vulgare</u>  | <u>5</u>                                | <input checked="" type="checkbox"/> | <u>FACU</u>      |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 3. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 4. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 5. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 6. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 7. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
|  | <u>15%</u>                              | = Total Cover                       |                  |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| <b>Herb Stratum</b> (Plot size: <u>5 ft r</u> )  |   |                                     |                  |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 1. <u>Floerkea proserpinacoides</u>  | <u>30</u>                               | <input checked="" type="checkbox"/> | <u>FAC</u>       | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 2. <u>Lysimachia nummularia</u>  | <u>20</u>                               | <input checked="" type="checkbox"/> | <u>FACW</u>      |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 3. <u>Carex bromoides</u>  | <u>15</u>                               | _____                               | <u>FACW</u>      |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 4. <u>Solidago patula</u>  | <u>10</u>                               | _____                               | <u>OBL</u>       |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 5. <u>Phragmites australis</u>   | <u>7</u>                                | _____                               | <u>FACW</u>      |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 6. <u>Penstemon digitalis</u>  | <u>5</u>                                | _____                               | <u>FAC</u>       |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 7. <u>Claytonia virginica</u>  | <u>4</u>                                | _____                               | <u>FACU</u>      |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 8. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 9. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 10. _____  | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 11. _____  | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 12. _____  | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
|  | <u>91%</u>                              | = Total Cover                       |                  |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| <b>Woody Vine Stratum</b> (Plot size: <u>30 ft r</u> )   |   |                                     |                  |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 1. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 2. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 3. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| 4. _____   | _____                                   | _____                               | _____            |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
|  | _____ = Total Cover                     |                                     |                  |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| <table style="width:100%; border:none;"> <tr> <td style="width:60%;"><b>Hydrophytic Vegetation Present?</b></td> <td style="width:20%; text-align:center;">Yes <input checked="" type="checkbox"/></td> <td style="width:20%; text-align:center;">No _____</td> </tr> </table> |   |                                     |                  |  | <b>Hydrophytic Vegetation Present?</b> | Yes <input checked="" type="checkbox"/> | No _____ |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| <b>Hydrophytic Vegetation Present?</b>   | Yes <input checked="" type="checkbox"/> | No _____                            |                  |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |
| Remarks: (Include photo numbers here or on a separate sheet.)<br><br><b>The hydrophytic vegetation criterion has been met.</b>   |   |                                     |                  |  |  |   |          |              |             |           |       |           |              |           |       |           |             |           |       |            |              |          |       |           |             |          |       |          |                |            |     |                |                                      |  |  |  |

**SOIL**

Sampling Point: DP4 WLA

**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 3/1      | 85 | 10YR 3/6       | 15 | C                 | M                | Silty Clay Loam |         |
| 10 - 20           | 10YR 5/1      | 80 | 10YR 5/6       | 20 | C                 | M                | Clay 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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

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

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

Hydric Soil Present? Yes  No

Remarks:

**A positive indication of hydric soil was observed.**



**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: 23013 Tamarack Bog City/County: Akron/Summit Sampling Date: 2023-04-19  
 Applicant/Owner: Oxbow and River Restoration, Inc. State: Ohio Sampling Point: DP5  
 Investigator(s): Alexander Kozak, Melia DeJongh Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): R 139 Lat: 41.1762163 Long: -81.6419808 Datum: WGS 84  
 Soil Map Unit Name: EIC2 - Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI classification: PFO1C

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

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

|  |  |
|--|--|
| Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/><br>Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/><br>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/><br>If yes, optional Wetland Site ID: _____ |
|--|--|

Remarks: (Explain alternative procedures here or in a separate report.)

**A non-wetland point located in a forested habitat and near the southeastern portion of the Project Area.**

**HYDROLOGY**

|  |   |
|--|---|
| <b>Wetland Hydrology Indicators:</b><br><u>Primary Indicators (minimum of one is required; check all that apply)</u><br>___ Surface Water (A1)      ___ Water-Stained Leaves (B9)<br>___ High Water Table (A2)      ___ Aquatic Fauna (B13)<br>___ Saturation (A3)      ___ Marl Deposits (B15)<br>___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1)<br>___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3)<br>___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4)<br>___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6)<br>___ Iron Deposits (B5)      ___ Thin Muck Surface (C7)<br>___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks)<br>___ Sparsely Vegetated Concave Surface (B8) | <u>Secondary Indicators (minimum of two required)</u><br>___ Surface Soil Cracks (B6)<br>___ Drainage Patterns (B10)<br>___ Moss Trim Lines (B16)<br>___ Dry-Season Water Table (C2)<br>___ Crayfish Burrows (C8)<br>___ Saturation Visible on Aerial Imagery (C9)<br>___ Stunted or Stressed Plants (D1)<br>___ Geomorphic Position (D2)<br>___ Shallow Aquitard (D3)<br>___ Microtopographic Relief (D4)<br>___ FAC-Neutral Test (D5) |
|--|---|

|   |  |
|---|--|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/> |
|---|--|

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

Remarks:

**No positive indication of wetland hydrology was observed.**

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

Sampling Point: DP5

|   | Absolute % Cover | Dominant Species?                   | Indicator Status |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
|---|------------------|-------------------------------------|------------------|--|-------------------|--------------|----------------------|----------------|-----------------------|----------------|----------------------|----------------|------------------------|------------------|----------------------|----------------|------------------------------|----------------|
| <b>Tree Stratum</b> (Plot size: <u>30 ft r</u> )          |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 1. <u>Prunus serotina</u>                                 | <u>20</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>7</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)<br><br><b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%; border:none;">Total % Cover of:</td> <td style="width:50%; border:none;">Multiply by:</td> </tr> <tr> <td style="border:none;">OBL species <u>0</u></td> <td style="border:none;">x 1 = <u>0</u></td> </tr> <tr> <td style="border:none;">FACW species <u>0</u></td> <td style="border:none;">x 2 = <u>0</u></td> </tr> <tr> <td style="border:none;">FAC species <u>0</u></td> <td style="border:none;">x 3 = <u>0</u></td> </tr> <tr> <td style="border:none;">FACU species <u>67</u></td> <td style="border:none;">x 4 = <u>268</u></td> </tr> <tr> <td style="border:none;">UPL species <u>0</u></td> <td style="border:none;">x 5 = <u>0</u></td> </tr> <tr> <td style="border:none;">Column Totals: <u>67</u> (A)</td> <td style="border:none;"><u>268</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u> | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>0</u> | x 2 = <u>0</u> | FAC species <u>0</u> | x 3 = <u>0</u> | FACU species <u>67</u> | x 4 = <u>268</u> | UPL species <u>0</u> | x 5 = <u>0</u> | Column Totals: <u>67</u> (A) | <u>268</u> (B) |
| Total % Cover of:   | Multiply by:     |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| OBL species <u>0</u>                                      | x 1 = <u>0</u>   |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| FACW species <u>0</u>                                     | x 2 = <u>0</u>   |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| FAC species <u>0</u>                                      | x 3 = <u>0</u>   |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| FACU species <u>67</u>                                    | x 4 = <u>268</u> |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| UPL species <u>0</u>                                      | x 5 = <u>0</u>   |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| Column Totals: <u>67</u> (A)                              | <u>268</u> (B)   |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 2. <u>Acer saccharum</u>                                  | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 3. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 4. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 5. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 6. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 7. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| <u>30%</u> = Total Cover                                  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| <b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft r</u> ) |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 1. <u>Acer saccharum</u>                                  | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> 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.  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 2. <u>Rosa multiflora</u>                                 | <u>5</u>         | <input checked="" type="checkbox"/> | <u>FACU</u>      |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 3. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 4. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 5. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 6. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 7. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| <u>15%</u> = Total Cover                                  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| <b>Herb Stratum</b> (Plot size: <u>5 ft r</u> )           |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 1. <u>Festuca rubra</u>                                   | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.<br><br><br><b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 2. <u>Trifolium repens</u>                                | <u>7</u>         | <input checked="" type="checkbox"/> | <u>FACU</u>      |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 3. <u>Fragaria virginiana</u>                             | <u>5</u>         | <input checked="" type="checkbox"/> | <u>FACU</u>      |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 4. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 5. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 6. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 7. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 8. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 9. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 10. _____   |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 11. _____   |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 12. _____   |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| <u>22%</u> = Total Cover                                  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| <b>Woody Vine Stratum</b> (Plot size: <u>30 ft r</u> )    |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 1. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 2. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 3. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| 4. _____  |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |
| _____ = Total Cover                                       |                  |                                     |                  |  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |

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

**The hydrophytic vegetation criterion has not been met.**

**SOIL**

Sampling Point: DP5

**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      | 100 |                |    |                   |                  | Silty Clay Loam |         |
| 4 - 14            | 10YR 4/3      | 100 |                |    |                   |                  | Silty Clay Loam |         |
| 14 - 18           | 10YR 5/1      | 80  | 7.5YR 4/6      | 20 | C                 | M                | Clay 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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

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

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

**No positive indication of hydric soil was observed.**

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: 23013 Tamarack Bog City/County: Akron/Summit Sampling Date: 2023-04-19  
 Applicant/Owner: Oxbow and River Restoration, Inc. State: Ohio Sampling Point: DP6 WLA  
 Investigator(s): Alexander Kozak, Melia DeJongh Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): R 139 Lat: 41.1763172 Long: -81.6419716 Datum: WGS 84  
 Soil Map Unit Name: EIC2 - Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI classification: PFO1C

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

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

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____<br>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____<br>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____<br>If yes, optional Wetland Site ID: <u>Wetland A</u> |
|--|---|

Remarks: (Explain alternative procedures here or in a separate report.)

**A wetland point taken in the PEM portion of Wetland A located near the southeastern portion of the Project Area.**

**HYDROLOGY**

|   |   |
|---|---|
| <b>Wetland Hydrology Indicators:</b><br><u>Primary Indicators (minimum of one is required; check all that apply)</u><br>___ Surface Water (A1)      ___ Water-Stained Leaves (B9)<br><input checked="" type="checkbox"/> High Water Table (A2)      ___ Aquatic Fauna (B13)<br><input checked="" type="checkbox"/> Saturation (A3)      ___ Marl Deposits (B15)<br>___ Water Marks (B1) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)<br>___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3)<br>___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4)<br>___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6)<br>___ Iron Deposits (B5)      ___ Thin Muck Surface (C7)<br>___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks)<br>___ Sparsely Vegetated Concave Surface (B8) | <u>Secondary Indicators (minimum of two required)</u><br>___ Surface Soil Cracks (B6)<br>___ Drainage Patterns (B10)<br>___ Moss Trim Lines (B16)<br>___ Dry-Season Water Table (C2)<br>___ Crayfish Burrows (C8)<br>___ Saturation Visible on Aerial Imagery (C9)<br>___ Stunted or Stressed Plants (D1)<br>___ Geomorphic Position (D2)<br>___ Shallow Aquitard (D3)<br>___ Microtopographic Relief (D4)<br><input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
|---|---|

|  |  |
|--|--|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>12</u><br>Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>7</u><br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____ |
|--|--|

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

Remarks:

**A positive indication of wetland hydrology was observed.**

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

Sampling Point: DP6 WLA

|   | Absolute % Cover | Dominant Species?                   | Indicator Status |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
|---|------------------|-------------------------------------|------------------|---|-------------------|--------------|-----------------------|-----------------|------------------------|-----------------|-----------------------|-----------------|-----------------------|----------------|-----------------------|-----------------|------------------------------|----------------|
| <b>Tree Stratum</b> (Plot size: <u>30 ft r</u> )          |                  |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 1. <u>Ulmus americana</u>                                 | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FACW</u>      | <b>Dominance Test worksheet:</b><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</u> (A/B)  |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 2. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 3. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 4. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 5. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 6. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 7. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| <u>10%</u> = Total Cover                                  |                  |                                     |                  | <b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>33</u></td> <td>x 1 = <u>33</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>83</u> (A)</td> <td><u>188</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.27</u> | Total % Cover of: | Multiply by: | OBL species <u>33</u> | x 1 = <u>33</u> | FACW species <u>25</u> | x 2 = <u>50</u> | FAC species <u>10</u> | x 3 = <u>30</u> | FACU species <u>0</u> | x 4 = <u>0</u> | UPL species <u>15</u> | x 5 = <u>75</u> | Column Totals: <u>83</u> (A) | <u>188</u> (B) |
| Total % Cover of:   | Multiply by:     |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| OBL species <u>33</u>                                     | x 1 = <u>33</u>  |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| FACW species <u>25</u>                                    | x 2 = <u>50</u>  |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| FAC species <u>10</u>                                     | x 3 = <u>30</u>  |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| FACU species <u>0</u>                                     | x 4 = <u>0</u>   |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| UPL species <u>15</u>                                     | x 5 = <u>75</u>  |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| Column Totals: <u>83</u> (A)                              | <u>188</u> (B)   |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| <b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft r</u> ) |                  |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 1. <u>Malus sp.</u>                                       | <u>15</u>        | <input checked="" type="checkbox"/> | <u>UPL</u>       |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 2. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 3. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 4. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 5. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 6. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 7. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| <u>15%</u> = Total Cover                                  |                  |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| <b>Herb Stratum</b> (Plot size: <u>5 ft r</u> )           |                  |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 1. <u>Juncus effusus</u>                                  | <u>20</u>        | <input checked="" type="checkbox"/> | <u>OBL</u>       | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 2. <u>Carex bromoides</u>                                 | <u>15</u>        | <input checked="" type="checkbox"/> | <u>FACW</u>      |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 3. <u>Dulichium arundinaceum</u>                          | <u>13</u>        | <input checked="" type="checkbox"/> | <u>OBL</u>       |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 4. <u>Geum canadense</u>                                  | <u>10</u>        | _____                               | <u>FAC</u>       |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 5. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 6. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 7. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 8. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 9. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 10. _____   | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 11. _____   | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 12. _____   | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| <u>58%</u> = Total Cover                                  |                  |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| <b>Woody Vine Stratum</b> (Plot size: <u>30 ft r</u> )    |                  |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 1. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 2. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 3. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| 4. _____  | _____            | _____                               | _____            |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
| _____ = Total Cover                                       |                  |                                     |                  | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.  |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
|   |                  |                                     |                  |   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |
|   |                  |                                     |                  | <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____   |                   |              |                       |                 |                        |                 |                       |                 |                       |                |                       |                 |                              |                |

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

**The hydrophytic vegetation criterion has been met. Malus sp. assumed UPL**

**SOIL**

Sampling Point: DP6 WLA

**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 - 8             | 10YR 4/1      | 90 | 10YR 4/6       | 10 | C                 | M                | Clay Loam |         |
| 8 - 19            | 10YR 5/8      | 90 | 10YR 5/2       | 10 | D                 | M                | Clay      |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

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

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

Hydric Soil Present? Yes  No

Remarks:

**A positive indication of hydric soil was observed.**

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: 23013 Tamarack Bog City/County: Akron/Summit Sampling Date: 2023-04-19  
 Applicant/Owner: Oxbow and River Restoration, Inc. State: Ohio Sampling Point: DP7  
 Investigator(s): Alexander Kozak, Melia DeJongh Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Linear Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): R 139 Lat: 41.176705 Long: -81.6439282 Datum: WGS 84  
 Soil Map Unit Name: EIC2 - Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI classification: \_\_\_\_\_

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

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

|  |  |
|--|--|
| Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/><br>Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/><br>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/><br>If yes, optional Wetland Site ID: _____ |
|--|--|

Remarks: (Explain alternative procedures here or in a separate report.)

**A non-wetland point located in a forested habitat and near the southwestern portion of the Project Area.**

**HYDROLOGY**

|  |   |
|--|---|
| <b>Wetland Hydrology Indicators:</b><br><u>Primary Indicators (minimum of one is required; check all that apply)</u><br>___ Surface Water (A1)      ___ Water-Stained Leaves (B9)<br>___ High Water Table (A2)      ___ Aquatic Fauna (B13)<br>___ Saturation (A3)      ___ Marl Deposits (B15)<br>___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1)<br>___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3)<br>___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4)<br>___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6)<br>___ Iron Deposits (B5)      ___ Thin Muck Surface (C7)<br>___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks)<br>___ Sparsely Vegetated Concave Surface (B8) | <u>Secondary Indicators (minimum of two required)</u><br>___ Surface Soil Cracks (B6)<br>___ Drainage Patterns (B10)<br>___ Moss Trim Lines (B16)<br>___ Dry-Season Water Table (C2)<br>___ Crayfish Burrows (C8)<br>___ Saturation Visible on Aerial Imagery (C9)<br>___ Stunted or Stressed Plants (D1)<br>___ Geomorphic Position (D2)<br>___ Shallow Aquitard (D3)<br>___ Microtopographic Relief (D4)<br>___ FAC-Neutral Test (D5) |
|--|---|

|   |  |
|---|--|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/> |
|---|--|

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

Remarks:

**No positive indication of wetland hydrology was observed.**

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

Sampling Point: DP7

| Tree Stratum (Plot size: <u>30 ft r</u> ) | Absolute % Cover | Dominant Species?                   | Indicator Status |
|---|------------------|-------------------------------------|------------------|
| 1. <u>Acer saccharum</u>                  | <u>15</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      |
| 2. <u>Quercus rubra</u>                   | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      |
| 3. <u>Quercus alba</u>                    | <u>7</u>         |                                     | <u>FACU</u>      |
| 4. <u>Crataegus crus-galli</u>            | <u>5</u>         |                                     | <u>FAC</u>       |
| 5. _____                                  | _____            |                                     |                  |
| 6. _____                                  | _____            |                                     |                  |
| 7. _____                                  | _____            |                                     |                  |

37% = Total Cover

| Sapling/Shrub Stratum (Plot size: <u>15 ft r</u> ) | Absolute % Cover | Dominant Species?                   | Indicator Status |
|--|------------------|-------------------------------------|------------------|
| 1. <u>Cornus racemosa</u>                          | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FAC</u>       |
| 2. _____   | _____            |                                     |                  |
| 3. _____   | _____            |                                     |                  |
| 4. _____   | _____            |                                     |                  |
| 5. _____   | _____            |                                     |                  |
| 6. _____   | _____            |                                     |                  |
| 7. _____   | _____            |                                     |                  |

10% = Total Cover

| Herb Stratum (Plot size: <u>5 ft r</u> ) | Absolute % Cover | Dominant Species?                   | Indicator Status |
|--|------------------|-------------------------------------|------------------|
| 1. <u>Impatiens capensis</u>             | <u>5</u>         | <input checked="" type="checkbox"/> | <u>FACW</u>      |
| 2. _____                                 | _____            |                                     |                  |
| 3. _____                                 | _____            |                                     |                  |
| 4. _____                                 | _____            |                                     |                  |
| 5. _____                                 | _____            |                                     |                  |
| 6. _____                                 | _____            |                                     |                  |
| 7. _____                                 | _____            |                                     |                  |
| 8. _____                                 | _____            |                                     |                  |
| 9. _____                                 | _____            |                                     |                  |
| 10. _____                                | _____            |                                     |                  |
| 11. _____                                | _____            |                                     |                  |
| 12. _____                                | _____            |                                     |                  |

5% = Total Cover

| Woody Vine Stratum (Plot size: <u>30 ft r</u> ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|------------------|-------------------|------------------|
| 1. _____  | _____            |                   |                  |
| 2. _____  | _____            |                   |                  |
| 3. _____  | _____            |                   |                  |
| 4. _____  | _____            |                   |                  |

\_\_\_\_\_ = Total Cover

**Dominance Test worksheet:**

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of:            | Multiply by:     |
|------------------------------|------------------|
| OBL species <u>0</u>         | x 1 = <u>0</u>   |
| FACW species <u>5</u>        | x 2 = <u>10</u>  |
| FAC species <u>15</u>        | x 3 = <u>45</u>  |
| FACU species <u>32</u>       | x 4 = <u>128</u> |
| UPL species <u>0</u>         | x 5 = <u>0</u>   |
| Column Totals: <u>52</u> (A) | <u>183</u> (B)   |

Prevalence Index = B/A = 3.52

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

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

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

**Woody vines** – All woody vines greater than 3.28 ft in height.

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

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

**The hydrophytic vegetation criterion has not been met.**



**SOIL**

Sampling Point: DP7

**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 - 13            | 10YR 2/1      | 100 |                |    |                   |                  | Silty Clay Loam |         |
| 13 - 18           | 10YR 5/1      | 75  | 10YR 5/6       | 25 | C                 | M                | Clay            |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |
| -                 |               |     |                |    |                   |                  |                 |         |

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

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

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

No positive indication of hydric soil was observed.

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: 23013 Tamarack Bog City/County: Akron/Summit Sampling Date: 2023-04-19  
 Applicant/Owner: Oxbow and River Restoration, Inc. State: Ohio Sampling Point: DP8 WLA  
 Investigator(s): Alexander Kozak, Melia DeJongh Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): R 139 Lat: 41.1767779 Long: -81.6438302 Datum: WGS 84  
 Soil Map Unit Name: EIC2 - Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI classification: \_\_\_\_\_

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

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

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____<br>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____<br>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____<br>If yes, optional Wetland Site ID: <u>Wetland A</u> |
|--|---|

Remarks: (Explain alternative procedures here or in a separate report.)

**A wetland point taken in the PEM portion of Wetland A located near the southwestern portion of the Project Area.**

**HYDROLOGY**

|  |  |
|--|--|
| <b>Wetland Hydrology Indicators:</b><br>Primary Indicators (minimum of one is required; check all that apply)  | Secondary Indicators (minimum of two required)   |
| <input checked="" type="checkbox"/> Surface Water (A1) _____<br><input checked="" type="checkbox"/> High Water Table (A2) _____<br><input checked="" type="checkbox"/> Saturation (A3) _____<br><input checked="" type="checkbox"/> Water Marks (B1) _____<br>_____ Sediment Deposits (B2) _____<br>_____ Drift Deposits (B3) _____<br>_____ Algal Mat or Crust (B4) _____<br>_____ Iron Deposits (B5) _____<br>_____ Inundation Visible on Aerial Imagery (B7) _____<br>_____ Sparsely Vegetated Concave Surface (B8) _____ | _____ Surface Soil Cracks (B6)<br>_____ Drainage Patterns (B10)<br>_____ Moss Trim Lines (B16)<br>_____ Dry-Season Water Table (C2)<br>_____ Crayfish Burrows (C8)<br>_____ Saturation Visible on Aerial Imagery (C9)<br>_____ Stunted or Stressed Plants (D1)<br>_____ Geomorphic Position (D2)<br>_____ Shallow Aquitard (D3)<br>_____ Microtopographic Relief (D4)<br><input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <b>Field Observations:</b><br>Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1</u><br>Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1</u><br>Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u><br>(includes capillary fringe)   | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____   |

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

Remarks:

**A positive indication of wetland hydrology was observed.**

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

Sampling Point: DP8 WLA

| <u>Tree Stratum</u> (Plot size: <u>30 ft r</u> )          | Absolute % Cover | Dominant Species?                   | Indicator Status |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
|---|------------------|-------------------------------------|------------------|---|---|--------------|-----------------------|-----------------|------------------------|-----------------|----------------------|----------------|-----------------------|-----------------|----------------------|----------------|------------------------------|---------------|
| 1. _____  | _____            | _____                               | _____            | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>4</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)  |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 2. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 3. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 4. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 5. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 6. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 7. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| _____ = Total Cover                                       |                  |                                     |                  | <b>Prevalence Index worksheet:</b><br><table style="width:100%; border: none;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>32</u></td> <td>x 1 = <u>32</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>57</u> (A)</td> <td><u>92</u> (B)</td> </tr> </table><br>Prevalence Index = B/A = <u>1.61</u> | Total % Cover of:   | Multiply by: | OBL species <u>32</u> | x 1 = <u>32</u> | FACW species <u>20</u> | x 2 = <u>40</u> | FAC species <u>0</u> | x 3 = <u>0</u> | FACU species <u>5</u> | x 4 = <u>20</u> | UPL species <u>0</u> | x 5 = <u>0</u> | Column Totals: <u>57</u> (A) | <u>92</u> (B) |
| Total % Cover of:   | Multiply by:     |                                     |                  |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| OBL species <u>32</u>                                     | x 1 = <u>32</u>  |                                     |                  |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| FACW species <u>20</u>                                    | x 2 = <u>40</u>  |                                     |                  |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| FAC species <u>0</u>                                      | x 3 = <u>0</u>   |                                     |                  |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| FACU species <u>5</u>                                     | x 4 = <u>20</u>  |                                     |                  |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| UPL species <u>0</u>                                      | x 5 = <u>0</u>   |                                     |                  |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| Column Totals: <u>57</u> (A)                              | <u>92</u> (B)    |                                     |                  |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| <u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft r</u> ) | Absolute % Cover | Dominant Species?                   | Indicator Status |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 1. <u>Rosa palustris</u>                                  | <u>15</u>        | <input checked="" type="checkbox"/> | <u>OBL</u>       | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 2. <u>Lonicera tatarica</u>                               | <u>5</u>         | <input checked="" type="checkbox"/> | <u>FACU</u>      |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 3. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 4. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 5. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 6. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 7. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| <u>20%</u> = Total Cover                                  |                  |                                     |                  | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.<br><br><br><b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| <u>Herb Stratum</u> (Plot size: <u>5 ft r</u> )           | Absolute % Cover | Dominant Species?                   | Indicator Status |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 1. <u>Phalaris arundinacea</u>                            | <u>15</u>        | <input checked="" type="checkbox"/> | <u>FACW</u>      |   | <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____ |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 2. <u>Typha X glauca</u>                                  | <u>10</u>        | <input checked="" type="checkbox"/> | <u>OBL</u>       |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 3. <u>Symplocarpus foetidus</u>                           | <u>7</u>         | _____                               | <u>OBL</u>       |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 4. <u>Onoclea sensibilis</u>                              | <u>5</u>         | _____                               | <u>FACW</u>      |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 5. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 6. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 7. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 8. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 9. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 10. _____   | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 11. _____   | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 12. _____   | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| <u>37%</u> = Total Cover                                  |                  |                                     |                  |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| <u>Woody Vine Stratum</u> (Plot size: <u>30 ft r</u> )    | Absolute % Cover | Dominant Species?                   | Indicator Status |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 1. _____  | _____            | _____                               | _____            | <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 2. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 3. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| 4. _____  | _____            | _____                               | _____            |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |
| _____ = Total Cover                                       |                  |                                     |                  |   |   |              |                       |                 |                        |                 |                      |                |                       |                 |                      |                |                              |               |

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

**The hydrophytic vegetation criterion has been met.**

**SOIL**

Sampling Point: DP8 WLA

**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 - 20            | 10YR 2/1      | 100 |                |   |                   |                  | Muck    |         |
| -                 |               |     |                |   |                   |                  |         |         |
| -                 |               |     |                |   |                   |                  |         |         |
| -                 |               |     |                |   |                   |                  |         |         |
| -                 |               |     |                |   |                   |                  |         |         |
| -                 |               |     |                |   |                   |                  |         |         |
| -                 |               |     |                |   |                   |                  |         |         |
| -                 |               |     |                |   |                   |                  |         |         |
| -                 |               |     |                |   |                   |                  |         |         |
| -                 |               |     |                |   |                   |                  |         |         |
| -                 |               |     |                |   |                   |                  |         |         |
| -                 |               |     |                |   |                   |                  |         |         |
| -                 |               |     |                |   |                   |                  |         |         |

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

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

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

Hydric Soil Present? Yes  No

Remarks:

**A positive indication of hydric soil was observed.**

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: 23013 Tamarack Bog City/County: Akron/Summit Sampling Date: 2023-04-19  
 Applicant/Owner: Oxbow and River Restoration, Inc. State: Ohio Sampling Point: DP9  
 Investigator(s): Alexander Kozak, Melia DeJongh Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Linear Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): R 139 Lat: 41.1774601 Long: -81.6451793 Datum: WGS 84  
 Soil Map Unit Name: EIC2 - Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI classification: \_\_\_\_\_

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

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

|  |  |
|--|--|
| Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/><br>Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/><br>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/> | <b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/><br>If yes, optional Wetland Site ID: _____ |
|--|--|

Remarks: (Explain alternative procedures here or in a separate report.)

**A non-wetland point taken in a forested habitat and near the western portion of the Project Area.**

**HYDROLOGY**

|  |   |
|--|---|
| <b>Wetland Hydrology Indicators:</b><br><u>Primary Indicators (minimum of one is required; check all that apply)</u><br>___ Surface Water (A1)      ___ Water-Stained Leaves (B9)<br>___ High Water Table (A2)      ___ Aquatic Fauna (B13)<br>___ Saturation (A3)      ___ Marl Deposits (B15)<br>___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1)<br>___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3)<br>___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4)<br>___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6)<br>___ Iron Deposits (B5)      ___ Thin Muck Surface (C7)<br>___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks)<br>___ Sparsely Vegetated Concave Surface (B8) | <u>Secondary Indicators (minimum of two required)</u><br>___ Surface Soil Cracks (B6)<br>___ Drainage Patterns (B10)<br>___ Moss Trim Lines (B16)<br>___ Dry-Season Water Table (C2)<br>___ Crayfish Burrows (C8)<br>___ Saturation Visible on Aerial Imagery (C9)<br>___ Stunted or Stressed Plants (D1)<br>___ Geomorphic Position (D2)<br>___ Shallow Aquitard (D3)<br>___ Microtopographic Relief (D4)<br>___ FAC-Neutral Test (D5) |
|--|---|

|   |  |
|---|--|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/> |
|---|--|

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

Remarks:

**No positive indication of wetland hydrology was observed.**

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

Sampling Point: DP9

| Tree Stratum (Plot size: <u>30 ft r</u> )          | Absolute % Cover | Dominant Species?                   | Indicator Status |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
|--|------------------|-------------------------------------|------------------|---|--|--------------|----------------------|----------------|-----------------------|-----------------|----------------------|----------------|------------------------|------------------|----------------------|----------------|------------------------------|----------------|
| 1. <u>Quercus rubra</u>                            | <u>20</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>6</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 2. <u>Acer saccharum</u>                           | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 3. <u>Ulmus americana</u>                          | <u>5</u>         |                                     | <u>FACW</u>      |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 4. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 5. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 6. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 7. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| <u>35%</u> = Total Cover                           |                  |                                     |                  | <b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>3</u></td> <td>x 3 = <u>9</u></td> </tr> <tr> <td>FACU species <u>67</u></td> <td>x 4 = <u>268</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>75</u> (A)</td> <td><u>287</u> (B)</td> </tr> </table><br>Prevalence Index = B/A = <u>3.83</u> | Total % Cover of:  | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>5</u> | x 2 = <u>10</u> | FAC species <u>3</u> | x 3 = <u>9</u> | FACU species <u>67</u> | x 4 = <u>268</u> | UPL species <u>0</u> | x 5 = <u>0</u> | Column Totals: <u>75</u> (A) | <u>287</u> (B) |
| Total % Cover of:                                  | Multiply by:     |                                     |                  |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| OBL species <u>0</u>                               | x 1 = <u>0</u>   |                                     |                  |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| FACW species <u>5</u>                              | x 2 = <u>10</u>  |                                     |                  |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| FAC species <u>3</u>                               | x 3 = <u>9</u>   |                                     |                  |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| FACU species <u>67</u>                             | x 4 = <u>268</u> |                                     |                  |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| UPL species <u>0</u>                               | x 5 = <u>0</u>   |                                     |                  |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| Column Totals: <u>75</u> (A)                       | <u>287</u> (B)   |                                     |                  |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| Sapling/Shrub Stratum (Plot size: <u>15 ft r</u> ) | Absolute % Cover | Dominant Species?                   | Indicator Status |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 1. <u>Acer saccharum</u>                           | <u>15</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 2. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 3. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 4. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 5. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 6. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 7. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| <u>15%</u> = Total Cover                           |                  |                                     |                  | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| Herb Stratum (Plot size: <u>5 ft r</u> )           | Absolute % Cover | Dominant Species?                   | Indicator Status |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 1. <u>Claytonia virginica</u>                      | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FACU</u>      |   | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height. |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 2. <u>Rosa multiflora</u>                          | <u>7</u>         | <input checked="" type="checkbox"/> | <u>FACU</u>      |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 3. <u>Taraxacum officinale</u>                     | <u>5</u>         | <input checked="" type="checkbox"/> | <u>FACU</u>      |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 4. <u>Geum canadense</u>                           | <u>3</u>         |                                     | <u>FAC</u>       |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 5. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 6. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 7. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 8. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 9. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 10. _____  | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 11. _____  | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 12. _____  | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| <u>25%</u> = Total Cover                           |                  |                                     |                  |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| Woody Vine Stratum (Plot size: <u>30 ft r</u> )    | Absolute % Cover | Dominant Species?                   | Indicator Status |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 1. _____   | _____            |                                     | _____            | <b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 2. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 3. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| 4. _____   | _____            |                                     | _____            |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |
| _____ = Total Cover                                |                  |                                     |                  |   |  |              |                      |                |                       |                 |                      |                |                        |                  |                      |                |                              |                |

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

**The hydrophytic vegetation criterion has not been met.**

**SOIL**

Sampling Point: DP9

**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 4/1      | 100 |                |    |                   |                  | Clay Loam |         |
| 10 - 18           | 10YR 5/4      | 60  | 10YR 6/1       | 40 | D                 | M                | Clay      |         |
| -                 |               |     |                |    |                   |                  |           |         |
| -                 |               |     |                |    |                   |                  |           |         |
| -                 |               |     |                |    |                   |                  |           |         |
| -                 |               |     |                |    |                   |                  |           |         |
| -                 |               |     |                |    |                   |                  |           |         |
| -                 |               |     |                |    |                   |                  |           |         |
| -                 |               |     |                |    |                   |                  |           |         |
| -                 |               |     |                |    |                   |                  |           |         |
| -                 |               |     |                |    |                   |                  |           |         |
| -                 |               |     |                |    |                   |                  |           |         |
| -                 |               |     |                |    |                   |                  |           |         |

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

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

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

No positive indication of hydric soil was observed.

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: 23013 Tamarack Bog City/County: Akron/Summit Sampling Date: 2023-04-19  
 Applicant/Owner: Oxbow and River Restoration, Inc. State: Ohio Sampling Point: DP10 WLA  
 Investigator(s): Alexander Kozak, Melia DeJongh Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): R 139 Lat: 41.1774842 Long: -81.6450867 Datum: WGS 84  
 Soil Map Unit Name: EIC2 - Ellsworth silt loam, 6 to 12 percent slopes, eroded NWI classification: \_\_\_\_\_

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

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

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____<br>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____<br>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | <b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____<br>If yes, optional Wetland Site ID: <u>Wetland A</u> |
|--|---|

Remarks: (Explain alternative procedures here or in a separate report.)

**A wetland point taken in the PEM portion of Wetland A located near the western portion of the Project Area.**

**HYDROLOGY**

|  |   |
|--|---|
| <b>Wetland Hydrology Indicators:</b><br><u>Primary Indicators (minimum of one is required; check all that apply)</u><br>___ Surface Water (A1)      ___ Water-Stained Leaves (B9)<br>___ High Water Table (A2)      ___ Aquatic Fauna (B13)<br><input checked="" type="checkbox"/> Saturation (A3)      ___ Marl Deposits (B15)<br>___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1)<br>___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3)<br>___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4)<br>___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6)<br>___ Iron Deposits (B5)      ___ Thin Muck Surface (C7)<br>___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks)<br>___ Sparsely Vegetated Concave Surface (B8) | <u>Secondary Indicators (minimum of two required)</u><br>___ Surface Soil Cracks (B6)<br>___ Drainage Patterns (B10)<br>___ Moss Trim Lines (B16)<br>___ Dry-Season Water Table (C2)<br>___ Crayfish Burrows (C8)<br>___ Saturation Visible on Aerial Imagery (C9)<br>___ Stunted or Stressed Plants (D1)<br>___ Geomorphic Position (D2)<br>___ Shallow Aquitard (D3)<br>___ Microtopographic Relief (D4)<br><input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
|--|---|

|  |  |
|--|--|
| <b>Field Observations:</b><br>Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____<br>Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>8</u><br>(includes capillary fringe) | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____ |
|--|--|

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

Remarks:

**A positive indication of wetland hydrology was observed.**



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

Sampling Point: DP10 WLA

|   | Absolute % Cover | Dominant Species?                   | Indicator Status |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
|---|------------------|-------------------------------------|------------------|--|-------------------|--------------|-----------------------|-----------------|------------------------|-----------------|-----------------------|------------------|-----------------------|----------------|----------------------|----------------|------------------------------|----------------|
| <b>Tree Stratum</b> (Plot size: <u>30 ft r</u> )  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 1. <u>Acer rubrum</u>   | <u>10</u>        | <input checked="" type="checkbox"/> | <u>FAC</u>       | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 2. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 3. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 4. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 5. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 6. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 7. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
|   | <u>10%</u>       | = Total Cover                       |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| <b>Sapling/Shrub Stratum</b> (Plot size: <u>15 ft r</u> )                               |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 1. _____  |                  |                                     |                  | <b>Prevalence Index worksheet:</b><br><table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>12</u></td> <td>x 1 = <u>12</u></td> </tr> <tr> <td>FACW species <u>12</u></td> <td>x 2 = <u>24</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>64</u> (A)</td> <td><u>156</u> (B)</td> </tr> </table><br>Prevalence Index = B/A = <u>2.44</u> | Total % Cover of: | Multiply by: | OBL species <u>12</u> | x 1 = <u>12</u> | FACW species <u>12</u> | x 2 = <u>24</u> | FAC species <u>40</u> | x 3 = <u>120</u> | FACU species <u>0</u> | x 4 = <u>0</u> | UPL species <u>0</u> | x 5 = <u>0</u> | Column Totals: <u>64</u> (A) | <u>156</u> (B) |
| Total % Cover of:   | Multiply by:     |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| OBL species <u>12</u>   | x 1 = <u>12</u>  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| FACW species <u>12</u>  | x 2 = <u>24</u>  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| FAC species <u>40</u>   | x 3 = <u>120</u> |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| FACU species <u>0</u>   | x 4 = <u>0</u>   |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| UPL species <u>0</u>  | x 5 = <u>0</u>   |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| Column Totals: <u>64</u> (A)  | <u>156</u> (B)   |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 2. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 3. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 4. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 5. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 6. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 7. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
|   |                  | = Total Cover                       |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| <b>Herb Stratum</b> (Plot size: <u>5 ft r</u> )   |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 1. <u>Floerkea proserpinacoides</u>   | <u>20</u>        | <input checked="" type="checkbox"/> | <u>FAC</u>       | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 2. <u>Persicaria sagittata</u>  | <u>12</u>        | <input checked="" type="checkbox"/> | <u>OBL</u>       |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 3. <u>Geum canadense</u>  | <u>10</u>        |                                     | <u>FAC</u>       |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 4. <u>Epilobium ciliatum</u>  | <u>7</u>         |                                     | <u>FACW</u>      |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 5. <u>Phalaris arundinacea</u>  | <u>5</u>         |                                     | <u>FACW</u>      |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 6. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 7. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 8. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 9. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 10. _____   |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 11. _____   |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 12. _____   |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
|   | <u>54%</u>       | = Total Cover                       |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| <b>Woody Vine Stratum</b> (Plot size: <u>30 ft r</u> )                                  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 1. _____  |                  |                                     |                  | <b>Definitions of Vegetation Strata:</b><br><br><b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.<br><br><b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.<br><br><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.<br><br><b>Woody vines</b> – All woody vines greater than 3.28 ft in height.   |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 2. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 3. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| 4. _____  |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
|   |                  | = Total Cover                       |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |
| <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____ |                  |                                     |                  |  |                   |              |                       |                 |                        |                 |                       |                  |                       |                |                      |                |                              |                |

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

**The hydrophytic vegetation criterion has been met.**

**SOIL**

Sampling Point: DP10 WLA

**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 3/1      | 95 | 10YR 3/4       | 5  | C                 | M                | Clay Loam |         |
| 10 - 19           | 10YR 4/4      | 70 | 10YR 4/1       | 30 | D                 | M                | Clay      |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |
| -                 |               |    |                |    |                   |                  |           |         |

<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:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

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

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

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

Hydric Soil Present? Yes  No

Remarks:

**A positive indication of hydric soil was observed.**

**APPENDIX C**

**SITE PHOTOGRAPHS**



Photograph 1

View facing north showing the forested habitat at non-wetland data point DP1, captured in the northwestern portion of the Project Area.



Photograph 2

View facing west showing the forested habitat with emergent understory of Wetland A at data point DP2, captured in the northwestern portion of the Project Area.

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Photograph 3

View facing west showing the forested habitat at non-wetland data point DP3, captured in the northeastern portion of the Project Area.



Photograph 4

View facing south showing the emergent habitat of Wetland A at data point DP4, captured in the northeastern portion of the Project Area.

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Photograph 5

View facing east showing the forested habitat at non-wetland data point DP5, captured in the southeastern portion of the Project Area.



Photograph 6

View facing north showing the emergent habitat of Wetland A at data point DP6, captured in the southeastern portion of the Project Area.

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Photograph 7

View facing west showing the forested habitat at non-wetland data point DP7, captured in the southwestern portion of the Project Area.



Photograph 8

View facing east showing the emergent habitat of Wetland A at data point DP8, captured in the southwestern portion of the Project Area.

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Photograph 9

View facing south showing the forested habitat at non-wetland data point DP9, captured in the western portion of the Project Area.



Photograph 10

View facing north showing the emergent habitat of Wetland A at data point DP10, captured in the western portion of the Project Area.

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