



**WETLAND DELINEATION**

**PROPOSED DEVELOPMENT SITE  
RACER SITE 11110  
95.2 ACRE PROPERTY  
1400 LOWELL STREET  
ELYRIA, OHIO 44035**

**CARDNO ATC JOB NUMBER 008.75528.0001**

**JUNE 13, 2014**

**PREPARED FOR:**

**Ms. PAMELA L. BARNETT, PG  
ASSEMBLY REGION CLEANUP MANAGER  
RACER TRUST  
500 WOODWARD AVENUE  
SUITE 1510  
DETROIT, MICHIGAN 48226**

WETLAND DELINEATION  
95.2-Acre Property  
1400 Lowell Street  
Elyria, Ohio 44035

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## 1.0 INTRODUCTION

### 1.1 Purpose

This report documents the findings of a Wetland Delineation at a 95.2-acre property located at 1400 Lowell Street, Elyria, Lorain County, Ohio, (the property). A Site Location Map (Figure 1) and a Wetlands Map (Figure 2) are attached. Authorization to perform the Delineation was given by RACER Trust.

The purpose of this Wetland Delineation was to identify and locate areas defined as wetlands as well as all other “waters of the United States” and “waters of the State of Ohio,” including streams and deepwater aquatic habitats. The USACE (*Federal Register 1982*) and the United States Environmental Protection Agency (EPA) (*Federal Register 1980*) jointly define “wetlands” as: *those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.*

### 1.2 Methods of Investigation

In accordance with procedures outlined in Part IV of the “Corps of Engineers Wetland Delineation Manual,” Technical Report Y-87-1, prepared by the USACE (1987 Manual), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (January 2012)*, the following methods were used to complete the Wetland Determination:

- Completion of a review of available mapping resources to identify any areas on the property that may contain jurisdictional wetlands and/or other jurisdictional waterways (lakes, ponds and streams). These mapping resources included the current U.S. Geological Survey (USGS) Topographic map (Figure 1) and a Wetlands Map (Figure 2), National Wetlands Inventory (NWI) maps (Appendix C), the local Soil Survey (Appendix C), and FEMA flood maps (Appendix C).
- Completion of field identification of wetland areas based upon the recognition of the following three diagnostic environmental characteristics: dominance of hydrophytic vegetation (areas deemed to be dominated by facultative (FAC), facultative wetland (FACW) and/or obligate wetland (OBL) vegetation), presence of hydric soils (visual analysis of soil samples taken with a manual soil probe), and presence of primary or secondary indicators of wetland hydrology (including visual observations of surface area and 16-24” deep soil test pits). Data forms provided in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region for a routine wetland determination were used in order to document the presence or absence of these three characteristics at each observation point location as well as to document general habitat conditions throughout the property.
- Completion of field identification of all other surface water features on the property including streams, ponds, lakes, ditches, drainage areas, etc. Intermittent and ephemeral streams are identified by a lack of vegetation, the presence of an ordinary high water mark (OHWM), and a bed and bank.
- Marking of the wetland boundaries was completed by field flagging and subsequent mapping of the boundaries using a Trimble® GeoXT Global Positioning System (GPS) unit, which has an accuracy of less than one meter.

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- A photographic log depicting each observation point and other pertinent features located within the boundaries of the property was prepared (Appendix A).

During the site visits, a new observation point was established when a different vegetative community or a change in hydrology was encountered as deemed necessary to delineate the wetland. A photographic log depicting observation points and other pertinent features located within the boundaries of the property is presented in Appendix A. Data forms documenting the conditions at each observation point are presented in Appendix B. A brief description of the wetland areas and non-wetland areas discovered on the property are provided separately below. A Wetlands Map depicting the location of wetlands on the property was prepared from the field data and is presented as Figure 2.

## **2.0 PROPERTY DESCRIPTION**

### **2.1 Location**

The property consists of tax parcel 06-24-012-102-004 which forms an irregular-shaped 95.2-acre lot. The property is located in Lorain County southwest of the intersection of Lowell Street and Saddler Drive in Elyria, Ohio. A Site Location Map, attached as Figure 1, shows the property located on the *Oberlin, Ohio* 7.5 minute quadrangle map.

### **2.2 Current Use of the Property**

The property currently consists of a Resource Conservation and Recovery Act (RCRA) landfill with areas of wooded and overgrown undeveloped land. Isolated concrete paved areas are located onsite along with several rail spurs. Multiple drainage ditches bisect the property flowing in multiple directions to adjacent properties. The property was formerly used by General Motors (GM) as a waste disposal area. A site map showing former GM usage is include in Appendix C.

### **2.3 Surrounding Area General Characteristics**

Current uses of the adjoining properties were observed to be as follows: the property is bordered to the north by railroad lines running west and east on Lowell Street; the property is bordered to the east by undeveloped land; the property is bordered to the south by farm fields/undeveloped land; and the property is bordered to the west by farm fields and an industrial complex.

## **3.0 BACKGROUND RESOURCES**

### **3.1 U.S. Geological Survey (USGS) Topographic Map**

Cardno ATC reviewed the USGS *Oberlin, Ohio* 7.5 Minute Topographic Quadrangle Map (1969, photorevised 1979), which is presented as Figure 1. The property is shown at an elevation of approximately 750 to 745 feet above mean sea level. The property and surrounding area exhibit a gentle slope to the east. An intermittent stream is depicted along a rail spur on the eastern portion of the property. This area was documented as a linear wetland and discussed in Section 4.1. No other water features are depicted on the map.

### **3.2 National Wetlands Inventory Map**

The National Wetlands Inventory's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified

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based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis. The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems. Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site. Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

A review of the U.S. Fish and Wildlife Service's On-line Wetlands Mapper (Appendix C) identified two freshwater forested/shrub wetlands (PF01C) on the southwest and southeast corners of the property, respectively.

### 3.3 Soil Survey

The United States Department of Agriculture (USDA) *Web Soil Survey* indicates that the property is underlain by six soil types:

- BtB: Bogart loam, 2 to 6 percent slopes. The Soil Survey describes BtB as moderately well drained soils that formed in stratified outwash deposits on terraces, beach ridges, and outwash plains. Permeability is moderate or moderately rapid in the solum and rapid in the substratum.
- FcA: Fitchville silt loam, 0 to 2 percent slopes. The Soil Survey describes FcA as somewhat poorly drained soils formed in stratified Wisconsinan age glaciolacustrine sediments on lake plains and slackwater terraces. Permeability is moderate in the surface, moderately slow in the subsoil and moderate or moderately slow in the substratum.
- HsA: Haskins loam, 0 to 2 percent slopes. The Soil Survey describes HsA as somewhat poorly drained soils that are moderately deep or deep to dense till. They formed in loamy water-sorted or glaciolacustrine material 51 to 102 cm (20 to 40 inches) thick and in the underlying till. These soils are on lake plains and till plains. Permeability is moderate in the loamy material and slow or very slow in the underlying till.
- HtA: Haskins-Urban land complex, nearly level slopes. The Soil Survey describes HtA as somewhat poorly drained soils that are moderately deep or deep to dense till. They formed in loamy water-sorted or glaciolacustrine material 51 to 102 cm (20 to 40 inches) thick and in the underlying till. These soils are on lake plains and till plains. Permeability is moderate in the loamy material and slow or very slow in the underlying till.

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- Ly: Luray silty clay loam. The Soil Survey describes Ly as very poorly drained soils formed in silty lacustrine material or slack water sediments. These soils are on lake plains, terraces, outwash plains, and some local areas on till plains. Permeability is moderately slow.
- Mo: Mermill loam. The Soil Survey describes Mo as very poorly drained soils on lake plains and till plains. They formed in loamy glaciolacustrine or water-sorted material 51 to 102 cm (20 to 40 inches) thick and in the underlying till. Mo has moderate permeability in the loamy material and slow or very slow in the underlying till.
- Mr: Miner silty clay loam. The Soil Survey describes Mr as very poorly drained soils formed in low-lime glacial till principally derived from acid shale on lake plains and till plains. Permeability is slow.

Soil Survey information is presented in Appendix C.

### **3.4 Hydric Soils List**

Luray, Mermill, and Miner soils are all listed as hydric soils on the USDA Hydric Soils of Lorain County, Ohio list. Fitchville soils are listed as having possible inclusions of hydric Luray and Sebring soils and Haskins soils are listed as having possible inclusions of hydric Mermill soils. A copy of the hydric soils list is presented in Appendix C.

### **3.5 FEMA Map**

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) of Lorain County, Ohio and Incorporated Areas, Community Panel Numbers 3903500207D and 3903460207D, dated August 19, 2008, the entire property is currently mapped as "Zone X" This area is defined as areas determined to be outside of the 0.2% annual chance floodplain. A copy of the flood plain map is included in Appendix C.

### **3.6 Aerial Photography**

Historical aerial photographs were not obtained for this study. A 2013 aerial photograph obtained from ESRI is included as Figure 2.

## **4.0 FIELD INVESTIGATION**

### **4.1 Wetland Areas**

The delineation was conducted by David Sedlick and Dan King of Cardno ATC on June 3 and 4, 2014. Resumes are included in Appendix D.

A total of 13 areas meeting the criteria of a wetland were observed on the property; Wetlands A, A1, A2, A3, B, B2, C, D, E, F, G, H, and I. A discussion of each of these areas is summarized below. Refer to Appendix A for photographic representation of the Wetlands. Refer to the associated data forms presented in Appendix B for further information with respect to each of these areas.

Wetland A is forested wetland consisting of an irregular depression located on the western portion of the property. Primary indicators of hydrology were observed including evidence of seasonal inundation. Soils were documented as hydric soils. All three diagnostic environmental characteristics of a wetland were present at data point DP-2. Wetlands A1, A2, and A3 are linear

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wetlands apparently constructed as drainage ditches consisting of scrub-shrub vegetation and are hydrologically connected to Wetland A. Wetland A is separated from Wetland B by a gravel roadway.

Wetland B is a large forested wetland complex containing mosaic habitat that is >90% wetland. Wetland B is located within and along the edges of a gravel roadway along the east, west, and southern property boundaries. Primary indicators of hydrology were observed including evidence of seasonal inundation. Soils at these locations were documented as hydric soils. All three diagnostic environmental characteristics of a wetland are present at the data points collected within these areas (DP-14 and DP-17). Two (2) areas mapped on the NWI are located within Wetland B. Wetland B2 is a linear wetland apparently constructed as a drainage ditch consisting of forested and scrub-shrub vegetation and is hydrologically connected to Wetland B.

Wetland C is a forested wetland surrounded by gravel roads and a railroad spur. Primary indicators of hydrology were observed including evidence of seasonal inundation. Soils were documented as hydric soils. All three diagnostic environmental characteristics of a wetland are present at DP-3.

Wetlands D is a linear emergent wetland primarily located in the depressions parallel to a rail spur. These wetlands consist of herbaceous and scrub-shrub habitats. Primary indicators of hydrology were observed including evidence of seasonal inundation. Soils were documented as hydric soils. All three diagnostic environmental characteristics of a wetland are present at DP-12.

Wetland E is a forested/scrub-shrub wetland located in an irregular depression on the northeast corner of the property. Primary indicators of hydrology were observed including evidence of seasonal inundation. Soils were documented as hydric soils. All three diagnostic environmental characteristics of a wetland are present at DP-4.

Wetland F is an emergent/scrub-shrub wetland located in an irregular depression along the north property boundary, south of a gravel roadway. Vegetation observed consisted of primarily herbaceous and scrub-shrub, and saplings. Primary indicators of hydrology were observed including evidence of seasonal inundation. Soils were documented as hydric soils. All three diagnostic environmental characteristics of a wetland are present at DP-6.

Wetlands G is forested/scrub-shrub wetland located in an irregular depression on the northwest portion of the property. Primary indicators of hydrology were observed including evidence of seasonal inundation. Soils were documented as hydric soils. All three diagnostic environmental characteristics of a wetland are present at DP-8.

Wetland H is an emergent wetland surrounding a concrete storage pad and connected to a linear wetland along a rail spur on the west-central portion of the property. Primary indicators of hydrology were observed including evidence of seasonal inundation. Soils were documented as hydric soils. All three diagnostic environmental characteristics of a wetland are present at DP-10.

Wetland I is an emergent wetland located in an irregular depression in the middle of an open field near Wetland B and consists of herbaceous and scrub-shrub habitats. Primary indicators of hydrology were observed including evidence of seasonal inundation. Soils were documented as hydric soils. All three diagnostic environmental characteristics of a wetland are present at DP-15.

#### **4.2 Non-Wetland Areas**

Non-wetland (upland) areas at the property consist primarily of elevated terraces. Visual observations of vegetation, soil probe samples and lack of hydrology were taken throughout the upland areas and adjacent to the delineated wetland areas to aid in establishing the wetland

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boundaries. Upland data points collected were DP-1, DP-5, DP-9, DP-11, DP-13, and DP-16. Data point DP-7 was intentionally omitted. Refer to Appendix B for a photographic representation of these areas.

**4.3 Streams/Non-Jurisdictional Waterways**

Streams, identified by a lack of vegetation, the presence of an ordinary high water mark (OHWM), and a bed and bank, were not observed on the property. As indicated above, the network of drainage ditches onsite were documented to be linear wetlands.

**4.4 Deepwater Aquatic Habitats/Ponds**

No deepwater aquatic habitats/ponds were observed onsite.

**5.0 FINDINGS AND CONCLUSIONS**

**5.1 Waters of the United States/Isolated Waters**

The acreage and Cardno ATC’s opinion of jurisdictional status of each water body are presented in the following tables:

<b>WETLAND ID</b>	<b>SIZE*</b>	<b>JURISDICTIONAL STATUS*</b>
Wetland A	1.99 acres	Jurisdictional
Wetland A1	0.27 acre	Jurisdictional
Wetland A2	0.04 acre	Jurisdictional
Wetland A3	0.56 acre	Jurisdictional
Wetland B	33.20 acres	Jurisdictional
Wetland B2	0.37 acre	Jurisdictional
Wetland C	1.05 acres	Jurisdictional
Wetland D	3.09 acres	Jurisdictional
Wetland E	0.02 acre	Jurisdictional
Wetland F	1.76 acres	Isolated
Wetland G	0.14 acre	Isolated
Wetland H	0.50 acre	Jurisdictional
Wetland I	0.42 acre	Isolated
<b>TOTAL</b>	<b>41.09 acres</b>	<b>Jurisdictional</b>
<b>TOTAL</b>	<b>2.32 acres</b>	<b>Isolated</b>

\*YET TO BE CONFIRMED BY THE USACE

**6.0 DISCUSSION**

Currently, the USACE regulates the discharge of dredged or fill material into areas considered “waters of the United States.” This includes adjacent wetlands and streams. Wetlands that are hydrologically connected either presently or historically to traditional navigable “waters of the United States,” are considered adjacent and are regulated by Section 404 of the Clean Water Act and are therefore under the jurisdiction of the USACE. Non-jurisdictional wetlands in Ohio are regulated by the Ohio EPA.

Wetlands A1, A2, A3, B, B2, C, D, E, and H are all hydrologically connected to a large network of surface and subsurface drainage systems constructed on the property. Based on USGS topographic mapping, this network of drainage systems appears to lead to Martin Run, which is a

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direct tributary of Lake Erie. Based on a review of USGS topographic mapping and onsite observations, Wetlands A1, A2, A3, B, B2, C, D, E, and H appear to be jurisdictional wetlands and would be considered Waters of the United States.

Wetlands F, G, and I appear to be hydrological isolated from the onsite wetlands and other offsite waters.

## 7.0 RECOMMENDATIONS

Cardno ATC was informed that development activities may be anticipated that would result in the discharge of dredged or fill material into the wetlands observed onsite. Thus, the appropriate permits should be obtained from the appropriate agencies prior to commencement of construction activities. A pre-application meeting with the USACE and/or Ohio EPA is recommended.

This Wetland Delineation report should be submitted to the USACE Buffalo District Office for jurisdictional determination to determine applicable permitting for the property. The USACE is responsible for making the final determination as to what constitutes a Jurisdictional Water of the United States.

## 8.0 SIGNATURES

Cardno ATC has performed a Wetland Determination of a 95.2-acre property located at 1400 Lowell Street, Elyria, Lorain County, Ohio. This study was conducted in accordance with procedures outlined in Part IV of the "Corps of Engineers Wetland Delineation Manual," Technical Report Y-87-1, prepared by the USACE (1987 Manual), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (January 2012)*.



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David J. Sedlick  
Project Manager  
for Cardno ATC  
Direct Line +1 614.367.7840 ext. 102  
Email: david.sedlick@cardno.com



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Daniel J. King  
Staff Scientist  
for Cardno ATC  
Direct Line +1 440.838.7177 ext. 108  
Email: dan.king@cardno.com

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## 9.0 REFERENCES

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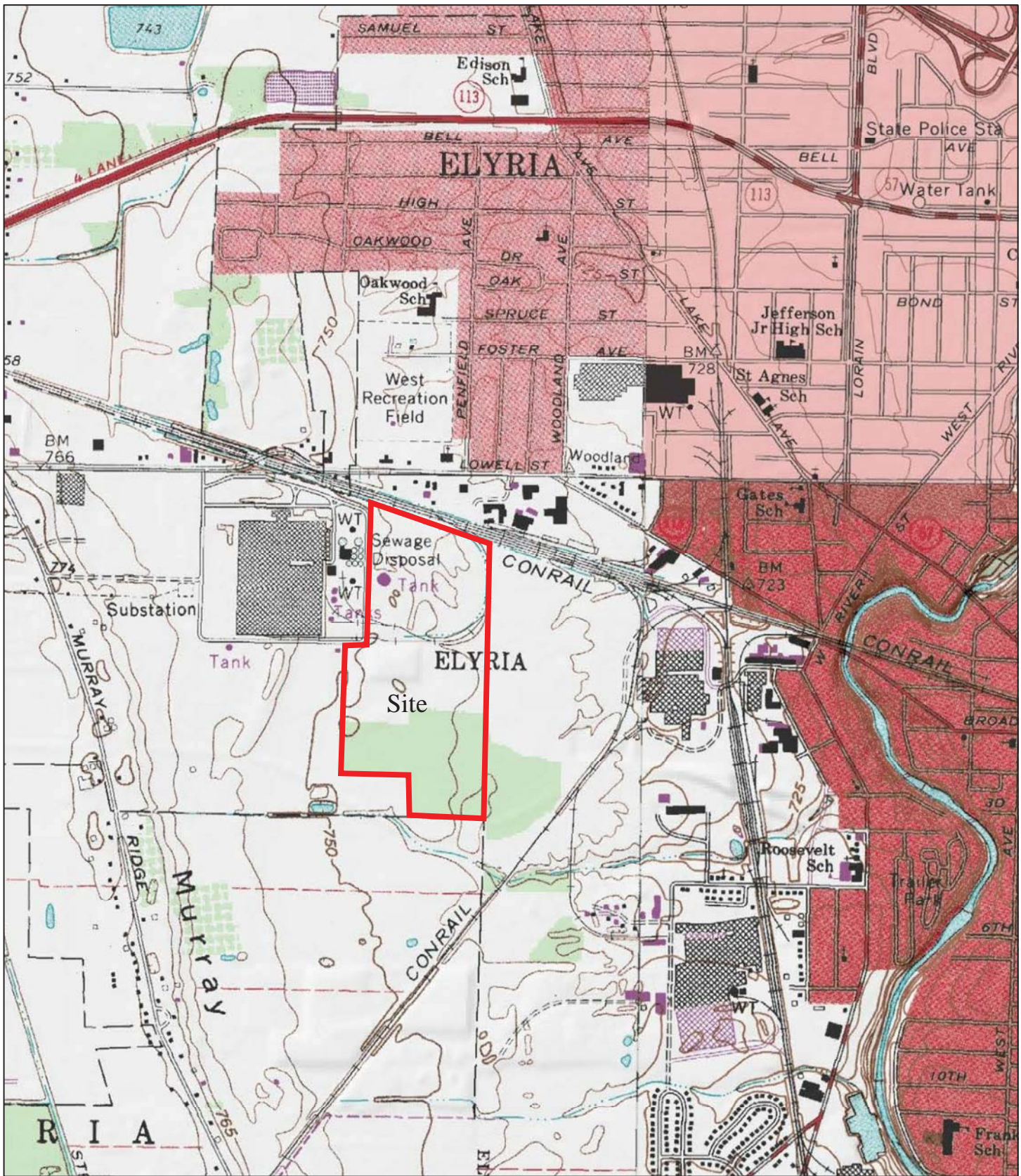
United States Department of Agriculture (USDA) Plant List, <http://plants.usda.gov/checklist.html>.

United States Department of the Interior, Fish and Wildlife Service, National Wetlands Inventory (<http://wetlandsfws.er.usgs.gov>)

United States Geological Survey, 7.5' Topographic Map of Elyria, Ohio Oberlin Quadrangle, dated 1994, Scale 1:24,000.

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**FIGURE 1**  
**SITE LOCATION MAP (TOPOGRAPHIC)**



QUADRANGLE:  
1994 Oberlin, Ohio

SERIES/SCALE:  
7.5/1:24,000

PROJECT NO.:  
08.75528.0001



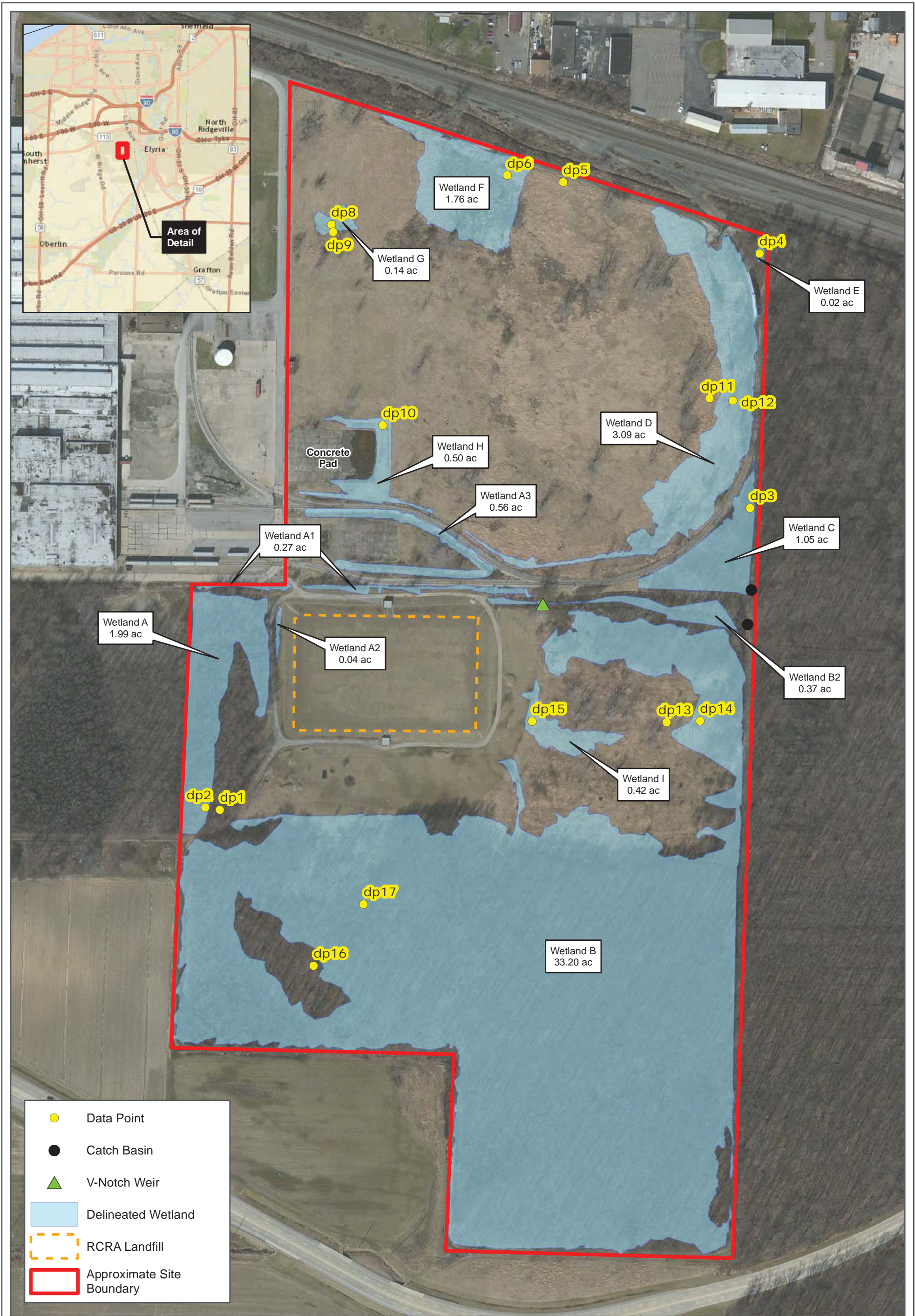
FIGURE 1

PROPERTY VICINITY MAP

RACER SITE #11110  
1400 LOWELL STREET  
ELYRIA, OHIO

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**FIGURE 2**  
**WETLANDS MAP**



- Data Point
- Catch Basin
- ▲ V-Notch Weir
- Delineated Wetland
- RCRA Landfill
- Approximate Site Boundary

Township: 06 N  
 Range: 17 W  
 Project No. 008.75528.0001

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

**Figure 2: Wetland Delineation Map**

Elyria Site  
 Racer Properties LLC  
 Lorain County, Ohio



950 Taylor Station Rd, Suite V, Gahanna, OH 43230 USA  
 Phone (+1) 614-367-7840 Fax (+1) 614-367-7846  
 www.cardnoatc.com

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**APPENDIX A**  
**PHOTOGRAPHIC DOCUMENTATION**

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Photo 1: DP-1 (upland point) looking west into Wetland A.



Photo 2: Wetland A (DP-2)



Photo 3: Former RCRA Landfill looking south (wetland A2 to left and A to right).



Photo 4: Former RCRA Landfill looking east.



Photo 5: Wetland A looking east towards former RCRA Landfill.



Photo 6: Adjacent eastern property. South of Wetland A.

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Photo 7: Eastern border of property facing south. Edge of Wetland B on left.



Photo 8: Wetland B looking north.



Photo 9: Adjacent property looking south.



Photo 10: Adjacent property on left looking southwest.



Photo 11: Property looking north, Wetland B on left.



Photo 12: Railroad crossing looking north (wetland D in background).

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Photo 13: Storm water management weir on the western side of property in wetland B2.



Photo 14: Wetland C (DP-3) looking northeast.



Photo 15: Wetland C looking south.



Photo 16: Wetland E (DP-4) looking north.



Photo 17: DP-5 (upland point) looking south.



Photo 18: Wetland F looking west.

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Photo 19: Wetland F (DP-6) looking east.



Photo 20: Wetland F looking north. Eastern adjacent property on right.



Photo 21: Wetland G (DP-8) looking south.



Photo 22: DP-8 (Wetland G).



Photo 23: DP-9 (upland point) looking north.



Photo 24: Property looking south.

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Photo 25: Wetland H looking north.



Photo 26: Wetland H (DP-10).



Photo 27: DP-11 upland point.



Photo 28: Wetland D (DP-12) looking south.



Photo 29: DP-13 (upland point).



Photo 30: Wetland B (DP-14).

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Photo 31: Wetland I (DP-15) looking west.



Photo 32: DP-16 (upland point) looking east.



Photo 33: Wetland B (DP-17).



Photo 34: *Ambystoma jeffersonianum* found in Wetland B.



Photo 35: Male and female *Anas platyrhynchos* found in Wetland B.



Photo 36 Wetland A1 looking west

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Photo 37: Wetland A1 looming east.



Photo 38: Wetland A3 left of RR looking east

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**APPENDIX B**  
**DATA FORMS**

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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/3/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-1  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.368480 Long: -82.136200 Datum: WGS 84  
 Soil Map Unit Name: Bogart loam NWI classification: None

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? No Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

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

Sampling Point: DP-1

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )					
1. <u>Acer rubrum</u>	<u>85</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)  Total Number of Dominant Species Across All Strata: <u>5</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. <u>Ulmus americana</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>95</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )					
1. <u>Acer rubrum</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		
2. <u>Lindera benzoin</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>10</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
<u>5</u> = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )					
1. <u>Vitis riparia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>		
2. _____					
3. _____					
4. _____					
<u>5</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
Remarks: (Include photo numbers here or on a separate sheet.)					

**SOIL**

Sampling Point: DP-1

**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>		
0-10	10YR 3/3	100					loamy clay	
10-16	10YR 5/4	85	10YR 5/2	10	D	M	loamy clay	
	10YR 3/2	5					loamy 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.

- |  |  |   |
|--|--|---|
| <p><b>Hydric Soil Indicators:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</li> <li><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> </ul> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</li> <li><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</li> <li><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</li> <li><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</li> <li><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</li> <li><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</li> <li><input type="checkbox"/> Red Parent Material (F21)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul> |
|--|--|---|

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

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b>    Yes _____    No <u>X</u></p>
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Remarks:

Upland data point, no hydric soil indicators.

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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/3/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-2  
 Investigator(s): David Sedlick Section, Township, Range: T6N R 17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.368495 Long: -82.136345 Datum: WGS 84  
 Soil Map Unit Name: Bogart loam NWI classification: None

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? No Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland A</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

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

Sampling Point: DP-2

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>~70 sf. linear</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>Acer rubrum</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Ulmus americana</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>85</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )				
1. <u>Ulmus americana</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>5</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Elymus virginicus</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Poa sp.</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Carex granularis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
4. <u>Toxicodendron radicans</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>45</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>Toxicodendron radicans</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
<u>5</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
Remarks: (Include photo numbers here or on a separate sheet.)   Genus-only identified species have assumed indicator status based on typical status for that species.				

**SOIL**

Sampling Point: DP-2

**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 - 6	10YR 3/2	75	10YR 5/2	20	D	M	loamy clay	
			10YR 5/6	5	C	M	loamy clay	
6 - 16	10YR 5/2	60	10YR 5/6	40	C	M	loamy 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:

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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-3  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.37085 Long: -82.13075 Datum: WGS 84  
 Soil Map Unit Name: Haskins Urban Land Complex NWI classification: None

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? No Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland C</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

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

Sampling Point: DP-3

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )					
1. <u>Quercus palustris</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>40</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )					
1. <u>Ulmus americana</u>	<u>70</u>	<u>Y</u>	<u>FACW</u>		
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>70</u> = Total Cover					
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>Glyceria septentrionalis</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
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' r</u> )					
1. <u>Vitis riparia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
2. _____					
3. _____					
4. _____					
<u>5</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
Remarks: (Include photo numbers here or on a separate sheet.)					



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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-4  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.372806 Long: -82.130770 Datum: WGS 84  
 Soil Map Unit Name: Haskins Urban Land Complex NWI classification: None

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? Yes  No  Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No  (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland E</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

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

Sampling Point: DP-4

<u>Tree Stratum</u> (Plot size: <u>Area</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus palustris</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Rhamnus lanceolata</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Ulmus americana</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. _____				
5. _____				
6. _____				
7. _____				
<u>75</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' r</u> )				
1. <u>Quercus palustris</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Cornus racemosa</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. _____				
4. _____				
7. _____				
<u>10</u> = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5' r</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Glyceria septentrionalis</u>	<u>5</u>	<u>Y</u>	<u>OBL</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
12. _____				
<u>5</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30' r</u> )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>Vitis riparia</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
<u>5</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____



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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-5  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.373333 Long: -82.132780 Datum: WGS 84  
 Soil Map Unit Name: Haskins Urban Land Complex NWI classification: None

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?  No Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic?  No (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: DP-5

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>None</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>			<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )				
1. <u>None</u>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>Phalaris arundinacea</u>	<u>95</u>	<u>Y</u>	<u>FACW</u>	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. <u>Cirsium arvense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>100</u>			
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>None</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
2. _____				
3. _____				
4. _____				
	<u>0</u>			
Remarks: (Include photo numbers here or on a separate sheet.)				



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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-6  
 Investigator(s): David Sedlick Section, Township, Range: R6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.373.379 Long: -82.133353 Datum: WGS 84  
 Soil Map Unit Name: Haskins Urban Land Complex NWI classification: None

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? Yes Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland F</u>
Remarks: (Explain alternative procedures here or in a separate report.)    	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>13</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

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

Sampling Point: DP-6

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>Populus deltoides</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>25</u> = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )				
1. <u>Salix interior</u>	<u>45</u>	<u>Y</u>	<u>FACW</u>	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>45</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>100</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>None</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: DP-6

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 - 6	10YR 2/1	100					loamy clay	
6 - 14	10YR 4/2	85	10YR 5/6	5	C	M	loamy clay	
			10YR 5/2	10	RM	M	loamy 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:	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
	<input type="checkbox"/> Other (Explain in Remarks)

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

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-8  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.372984 Long: -82.135138 Datum: WGS 84  
 Soil Map Unit Name: Haskins Urban Land Complex NWI classification: None

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? No  Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No  (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland G</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

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

Sampling Point: DP-8

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )				
1. <u>Salix interior</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>10</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Phalaris arundinacea</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Apocynum cannabinum</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>65</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

**SOIL**

Sampling Point: DP-8

**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 - 6	10YR 3/1	85	10YR 4/2	5	M	M	loamy clay	
			10YR 5/6	10	C	M	loamy clay	
6 - 16	10YR 4/3	10	10YR 5/6	10	C	M	loamy clay	
			10YR 4/2	5	RM	M	loamy 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 X No \_\_\_\_\_

Remarks:

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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-9  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.372930 Long: -82.135118 Datum: WGS 84  
 Soil Map Unit Name: Haskins Urban Land Complex NWI classification: None

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? No Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No (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 type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: DP-9

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>Populus deltoides</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>20</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )				
1. <u>None</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species _____ x 5 = _____ Column Totals: <u>120</u> (A) <u>440</u> (B)  Prevalence Index = B/A = <u>3.67</u>
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>Poa pratensis</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Apocynum cannabinum</u>	<u>20</u>	<u>N</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>100</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>None</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>

**SOIL**

Sampling Point: DP-9

**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 - 8	10YR 3/2	100					loamy clay	
8 - 12	10YR 4/3	50					gravelly fill	former excavation area-disturbed

<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 X

Remarks:

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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-10  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.371450 Long: 82.134586 Datum: WGS 84  
 Soil Map Unit Name: Haskins Urban Land Complex NWI classification: None

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? Yes  No  Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No  (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland H</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

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

Sampling Point: DP-10

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>Populus deltoides</u>	5	Y	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>5</u> = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )				
1. <u>None</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>0</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>Carex scoparia</u>	90	Y	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Phalaris arundinacea</u>	10	N	FACW	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>100</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>None</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: DP-10

**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 - 2	Thin muck layer	100						
2 - 4	10YR 5/1	100					loamy clay	
4-16	10YR 5/1	60	10YR 5/6	20	C	M	loamy clay	Fill material/debris
	10YR 4/1	10					loamy clay	
	10YR 4/2	10						

<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:

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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-11  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.371690 Long: -82.131259 Datum: WGS 84  
 Soil Map Unit Name: Haskins Urban Land Complex NWI classification: None

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?  No  Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic?  No  (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Sampling Point: DP-11

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>None</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )				
1. <u>None</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>Phalaris arundinacea</u>	<u>70</u>	<u>Y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Apocynum cannabinum</u>	<u>30</u>	<u>N</u>	<u>FAC</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>100</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>None</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____



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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-12  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.371676 Long: -82.131023 Datum: WGS 84  
 Soil Map Unit Name: Haskins Urban Land Complex NWI classification: None

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?  No Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic?  No (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland D</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

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

Sampling Point: DP-12

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )					
1. <u>Quercus palustris</u>	30	Y	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. <u>Populus deltoides</u>	30	Y	FAC		
3. <u>Salix sericea</u>	10	N	OBL		
4. _____					
5. _____					
6. _____					
7. _____					
	<u>70</u>			<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )					
1. <u>None</u>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
	<u>0</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>Phalaris arundinacea</u>	60	Y	FACW	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
2. <u>Juncus effusus</u>	15	N	FAC		
3. <u>Carex scoparia</u>	10	N	FACW		
4. <u>Equisetum arvense</u>	5	N	FAC		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
	<u>90</u>			<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )					
1. <u>None</u>					
2. _____					
3. _____					
4. _____					
	<u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)					



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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-13  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.369194 Long: -82.131657 Datum: WGS 84  
 Soil Map Unit Name: Luray silty clay loam NWI classification: None

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? No Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No (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 type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)    	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:	

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

Sampling Point: DP-13

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>None</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>37.5</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )				
1. <u>None</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>80</u> (A) <u>290</u> (B)  Prevalence Index = B/A = <u>3.625</u>
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>Phalaris arundinacea</u>	10	Y	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Trifolium repens</u>	10	Y	FACU	
3. <u>Leucanthemum vulgare</u>	10	Y	UPL	
4. <u>Solidago sp.</u>	10	Y	FAC	
5. <u>Lotus corniculatus</u>	10	Y	FACU	
6. <u>Cornus racemosa</u>	10	Y	FAC	
7. <u>Taraxacum officinale</u>	10	Y	FACU	
8. <u>Dipsacus fullonum</u>	10	Y	FACU	
9. _____				
10. _____				
11. _____				
12. _____				
	<u>80</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>None</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>				
Remarks: (Include photo numbers here or on a separate sheet.)  Genus-only identified species have assumed indicator status based on typical status for that species.				

**SOIL**

Sampling Point: DP-13

**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 - 10	10YR 4/2	75	10YR 5/1	15	RM	M	loamy clay	
			10YR 5/6	10	C	M	loamy 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 X No \_\_\_\_\_

Remarks:

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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-14  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.369212 Long: -82.131315 Datum: WGS 84  
 Soil Map Unit Name: Luray silty clay loam NWI classification: None

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? No Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland B</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u>	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

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

Sampling Point: DP-14

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )					
1. <u>None</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )					
1. <u>Cornus racemosa</u>	5	Y	FAC		
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>5</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>Phalaris arundinacea</u>	70	Y	FACW		
2. <u>Carex stipata</u>	15	N	OBL		
3. <u>Equisetum arvense</u>	5	N	FAC		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
<u>90</u> = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )					
1. <u>None</u>					
2. _____					
3. _____					
4. _____					
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
Remarks: (Include photo numbers here or on a separate sheet.)					

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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-15  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.369192 Long: -82.133026 Datum: WGS 84  
 Soil Map Unit Name: Luray silty clay loam NWI classification: None

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? No Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland I</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

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

Sampling Point: DP-15

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>None</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )				
1. <u>None</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )				
1. <u>Phalaris arundinacea</u>	50	Y	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Eleocharis palustris</u>	30	Y	OBL	
3. <u>Carex vulpinoidea</u>	10	N	OBL	
4. <u>Juncus effusus</u>	10	N	OBL	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>100</u>	= Total Cover		
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )				
1. <u>None</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
	<u>0</u>	= Total Cover		
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: DP-15

**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 - 4	10YR 5/1	50	10YR 5/4	50	C	M	loamy clay	
4 - 12	10YR 4/1	70	10YR 5/1	10	RM	M	loamy clay	
			10YR 5/4	10	C	M	loamy clay	
			10YR 3/1	10	RM	M	loamy 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 X No \_\_\_\_\_

Remarks:

**SOIL**

Sampling Point: DP-14

**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 - 10	10YR 4/2	75	10YR 5/1	15	RM	M	loamy clay	
			10YR 5/6	10	C	M	loamy 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 X    No \_\_\_\_\_

Remarks:

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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-15  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.369192 Long: -82.133026 Datum: WGS 84  
 Soil Map Unit Name: Luray silty clay loam NWI classification: None

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? No Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland I</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

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

Sampling Point: DP-15

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )					
1. <u>None</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )					
1. <u>None</u>					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>0</u> = Total Cover					
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>Phalaris arundinacea</u>	50	Y	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Eleocharis palustris</u>	30	Y	OBL		
3. <u>Carex vulpinoidea</u>	10	N	OBL		
4. <u>Juncus effusus</u>	10	N	OBL		
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
<u>100</u> = Total Cover					
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )					
1. <u>None</u>				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
2. _____					
3. _____					
4. _____					
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
Remarks: (Include photo numbers here or on a separate sheet.)					



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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-16  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: WGS 84  
 Soil Map Unit Name: Miner silty clay loam NWI classification: None

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? Yes \_\_\_\_\_ Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? No \_\_\_\_\_ (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"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)    	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (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:	

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

Sampling Point: DP-16

<u>Tree Stratum</u> (Plot size: <u>30' r</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fagus grandifolia</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>6</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16.6</u> (A/B)
2. <u>Quercus rubra</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Acer saccharum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
<u>100</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>130</u> x 4 = <u>520</u> UPL species _____ x 5 = _____ Column Totals: <u>160</u> (A) <u>610</u> (B)  Prevalence Index = B/A = <u>3.81</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' r</u> )				
1. <u>Smilax sp.</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Fagus grandifolia</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Acer saccharum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
<u>100</u> = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5' r</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>0</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30' r</u> )				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
Remarks: (Include photo numbers here or on a separate sheet.)				



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

Project/Site: RACER Site 11110/95.2-Acre Property City/County: Elyria/Lorain Sampling Date: 6/4/2014  
 Applicant/Owner: RACER TRUST/RACER Properties LLC State: OH Sampling Point: DP-17  
 Investigator(s): David Sedlick Section, Township, Range: T6N R17W  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR or MLRA): LRR R Lat: 41.36777 Long: -82.13472 Datum: WGS 84  
 Soil Map Unit Name: Haskins silt loam NWI classification: none

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? Yes Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? No (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland B</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>-</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	

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

Sampling Point: DP-17

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30' r</u> )					
1. <u>Quercus palustris</u>	<u>70</u>	<u>Y</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. <u>Quercus rubra</u>	<u>15</u>	<u>N</u>	<u>FACU</u>		
3. <u>Quercus bicolor</u>	<u>5</u>	<u>N</u>	<u>FACW</u>		
4. _____					
5. _____					
6. _____					
7. _____					
<u>90</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B)  Prevalence Index = B/A = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' r</u> )					
1. <u>Ulmus americana</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>		
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
<u>20</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Herb Stratum</b> (Plot size: <u>5' r</u> )					
1. <u>Carex sp.</u>	<u>8</u>	<u>Y</u>	<u>OBL</u>		
2. <u>Glyceria septentrionalis</u>	<u>6</u>	<u>Y</u>	<u>OBL</u>		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
<u>14</u> = Total Cover				<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.	
<b>Woody Vine Stratum</b> (Plot size: <u>30' r</u> )					
1. <u>None</u>					
2. _____					
3. _____					
4. _____					
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
Remarks: (Include photo numbers here or on a separate sheet.)					

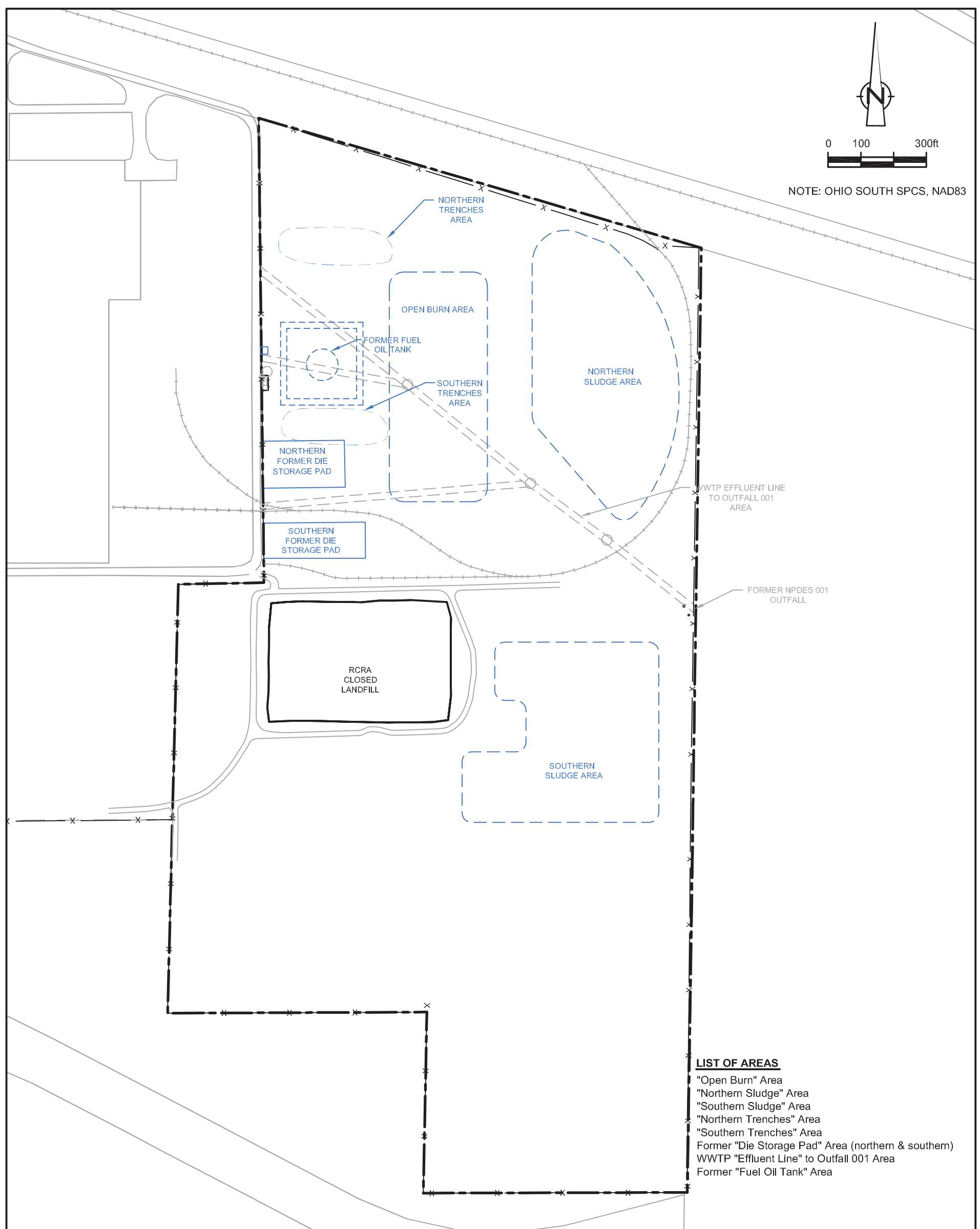


WETLAND DELINEATION  
95.2-Acre Property  
1400 Lowell Street  
Elyria, Ohio 44035

**APPENDIX C**  
**SUPPORTING DOCUMENTATION**



NOTE: OHIO SOUTH SPCS, NAD83



**LIST OF AREAS**

- "Open Burn" Area
- "Northern Sludge" Area
- "Southern Sludge" Area
- "Northern Trenches" Area
- "Southern Trenches" Area
- Former "Die Storage Pad" Area (northern & southern)
- WWTP "Effluent Line" to Outfall 001 Area
- Former "Fuel Oil Tank" Area

**LEGEND**

- BUILDING
- x - FENCE LINE
- - - SITE BOUNDARY
- + - RAILROAD
- - - FORMER FACILITY AREA
- o MANHOLE
- CATCH BASIN

figure 1.2  
SITE LAYOUT  
CLOSED LANDFILL  
RACER  
Elyria, Ohio





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

Jun 2, 2014



## Wetlands

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

User Remarks:

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



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

Jun 2, 2014



## Wetlands

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

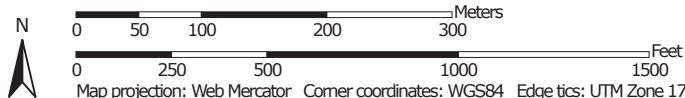
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

Soil Map—Lorain County, Ohio  
(RACER Site 11110)




Map Scale: 1:6,030 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lorain County, Ohio  
Survey Area Data: Version 12, Nov 26, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 3, 2012—Mar 11, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Lorain County, Ohio (OH093)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BtB	Bogart loam, 2 to 6 percent slopes	2.8	2.9%
FcA	Fitchville silt loam, 0 to 2 percent slopes	2.0	2.0%
HsA	Haskins loam, 0 to 2 percent slopes	7.0	7.3%
HtA	Haskins-Urban land complex, nearly level	40.3	41.8%
Ly	Luray silty clay loam	34.4	35.7%
Mo	Mermill loam	5.3	5.5%
Mr	Miner silty clay loam	4.7	4.8%
<b>Totals for Area of Interest</b>		<b>96.4</b>	<b>100.0%</b>

LOCATION MINER

OH+PA

Established Series

Rev. JAG

06/2011

## MINER SERIES

The Miner series consists of very deep, very poorly drained soils formed in low-lime glacial till principally derived from acid shale on lake plains and till plains. Permeability is slow. Slopes range from 0 to 2 percent. Mean annual precipitation is about 38 inches, and mean annual temperature is about 51 degrees F.

**TAXONOMIC CLASS:** Fine, illitic, mesic Mollic Epiaqualfs

**TYPICAL PEDON:** Miner silty clay loam on a 0 to 2 percent slope in a cultivated field at an elevation of 854 feet. (Colors are for moist soil unless otherwise stated.)

**Ap**--0 to 8 inches; very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium and fine granular structure; friable; many fine roots; few rock fragments; slightly acid; clear smooth boundary. (7 to 9 inches thick)

**Btg1**--8 to 13 inches; dark gray (10YR 4/1) silty clay; weak medium and fine subangular blocky structure; firm; common fine roots; common faint dark gray (10YR 4/1) clay films and very dark gray (10YR 3/1) organic coatings on faces of peds; few rock fragments; few prominent reddish brown (5YR 4/4) stains; common medium prominent strong brown (7.5YR 5/6) and few medium prominent brown (7.5YR 4/4) masses of iron accumulation in the matrix; slightly acid; clear wavy boundary.

**Btg2**--13 to 22 inches; gray (10YR 5/1) silty clay; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; common faint dark gray (10YR 4/1) clay films and many faint gray (10YR 5/1) coatings on faces of peds; few rock fragments; few prominent reddish brown (5YR 4/4) stains; many medium prominent yellowish brown (10YR 5/6) and common medium distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; very dark gray (10YR 3/1) krotovinas; slightly acid; clear wavy boundary.

**Btg3**--22 to 36 inches; gray (10YR 5/1) silty clay; moderate medium and coarse subangular blocky structure; firm; few fine roots; common faint gray (10YR 5/1) clay films and coatings on faces of peds; few rock fragments; few distinct black (10YR 2/1) stains of iron and manganese oxide; many medium distinct dark yellowish brown (10YR 4/4) and common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; very dark gray (10YR 3/1) krotovinas; slightly acid; gradual wavy boundary. (Combined thickness of the Btg horizons is 14 to 40 inches.)

**BCg**--36 to 58 inches; gray (10YR 5/1) silty clay loam; weak coarse subangular blocky structure; firm; few fine roots; common faint gray (10YR 5/1) coatings on faces of peds; few rock fragments; many medium distinct dark yellowish brown (10YR 4/4) and common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly acid; gradual wavy boundary. (0 to 25 inches thick)

**C**--58 to 60 inches; brown (10YR 4/3) silty clay loam; massive; firm; common coarse distinct yellowish

brown (10YR 5/6) and common medium distinct gray (10YR 5/1) coatings on faces of vertical partings; few rock fragments; strongly effervescent; moderately alkaline.

**TYPE LOCATION:** Huron County, Ohio; Wakeman Township; about 2 miles north of Wakeman; 1,240 feet west and 750 feet south of the intersection of State Route 60 and Township Road 192; USGS Berlin Heights, Ohio topographic quadrangle; latitude 41 degrees, 16 minutes, 28.3 seconds N. and longitude 82 degrees, 23 minutes, and 32.7 seconds W. NAD 1927.

**RANGE IN CHARACTERISTICS:** Thickness of the solum ranges from 30 to 60 inches. The depth to carbonates ranges from 36 to 60 inches. Rock fragments are mainly shale with some sandstone, limestone, and crystalline rocks. Clay content averages 35 to 45 percent in the particle-size control section.

The Ap horizon has hue of 10YR or 2.5Y, value of 2 or 3 (5 or less dry), and chroma of 1 or 2. Some pedons have an A horizon 6 to 8 inches thick that has hue of 10YR or 2.5Y, value of 2 or 3 (4 or 5 dry), and chroma of 1 or 2. They are silt loam or silty clay loam. Rock fragment content ranges from 0 to 2 percent. They are slightly acid or neutral.

The Btg and Bg horizons have hue of 10YR, 2.5Y, 5Y, or are neutral; value of 4 to 6; and chroma of 0 to 2. They are silty clay, clay, clay loam, or silty clay loam. Rock fragment content ranges from 0 to 10 percent in the upper part and from 2 to 10 percent in the lower part. They are moderately acid or slightly acid in upper part and moderately acid to neutral in the lower part.

The BCg or BC horizon has hue of 10YR, 2.5Y, 5Y, or is neutral, value of 4 to 6, and chroma of 0 to 4. It is silty clay, silty clay loam, or clay loam. Rock fragment content ranges from 2 to 10 percent. Reaction ranges from slightly acid to slightly alkaline.

The C horizon has hue of 10YR, 2.5Y, 5Y, or is neutral; value of 4 or 5; and chroma of 0 to 4. It is silty clay, silty clay loam, or clay loam. Rock fragment content ranges from 2 to 10 percent. Reaction ranges from slightly acid to moderately alkaline. Calcium carbonate content in horizons that contain free carbonates ranges from 5 to 15 percent. Some subhorizons below 60 inches have 10 to 15 percent rock fragments.

**COMPETING SERIES:** These are the [Hoytville](#), [Lorain](#), and [Monee](#) series. Hoytville soils have a calcium carbonate content of 15 to 30 percent in the C horizon. Lorain soils have less than 2 percent rock fragments in the lower part of the series control section. Monee soils average more than 45 percent clay in the particle-size control section.

**GEOGRAPHIC SETTING:** Miner soils are on lake plains which have been modified by lake action, and in shallow depressions and narrow drainageways on till plains. They formed in till principally derived from acid shale. The slope gradient ranges from 0 to 2 percent. Elevation ranges from 700 to 910 feet. Mean annual precipitation ranges from 34 to 42 inches, and mean annual temperature ranges from 47 to 56 degrees F. The frost-free period is 135 to 165 days.

**GEOGRAPHICALLY ASSOCIATED SOILS:** Miner soils are in a toposequence with the moderately well drained [Ellsworth](#), somewhat poorly drained [Mahoning](#), and poorly drained [Trumbull](#) soils. The Ellsworth and Mahoning soils are in higher positions on the landscape than Miner soils. The lighter-colored Trumbull soils are in similar landscape positions as Miner soils.

**DRAINAGE AND PERMEABILITY:** Very poorly drained. The depth to an intermittent perched water table is 1 foot above the surface to 1 foot below the surface between November and June in most

years. Permeability is slow. The potential for surface runoff is negligible or low.

**USE AND VEGETATION:** Cleared areas are used for small grain, soybeans, hay, and pasture with smaller amounts of corn. A large acreage remains in woodland in which elm, soft maple, and ash are the major species. Many areas adjacent to urban areas are in nonagricultural uses.

**DISTRIBUTION AND EXTENT:** North-central and northeastern Ohio and northwestern Pennsylvania. MLRAs 111, 139, 140. The series is of moderate extent.

**MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE:** Amherst, Massachusetts.

**SERIES ESTABLISHED:** Huron County, Ohio, 1948.

**REMARKS:** This revision moves the typical pedon from Erie County to Huron County, Ohio.

Diagnostic horizons and features recognized in this pedon are:

- a). ochric epipedon - 0 to 8 inches (Ap horizon).
- b). argillic horizon - 8 to 36 inches (Btg1, Btg2, Btg3 horizons).
- c). aquic conditions - 0 to 58 inches.

The shale substratum phase correlated in earlier surveys will be recorrelated to new series when its area of use is updated.

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National Cooperative Soil Survey  
U.S.A.

LOCATION MERMILL

OH+IN

Established Series

Rev. RAR-RMG

09/2012

## MERMILL SERIES

The Mermill series consists of very deep, very poorly drained soils on lake plains and till plains. They formed in loamy glaciolacustrine or water-sorted material 51 to 102 cm (20 to 40 inches) thick and in the underlying till. Slope ranges from 0 to 2 percent. Mean annual precipitation is about 864 mm (34 inches), and mean annual air temperature is about 11 degrees C (51 degrees F).

**TAXONOMIC CLASS:** Fine-loamy, mixed, active, mesic Mollic Epiaqualfs

**TYPICAL PEDON:** Mermill loam, on a slope of less than 1 percent in a cultivated field at an elevation of 228 meters (749 feet) above mean sea level. (Colors are for moist soil unless otherwise stated.)

**Ap**--0 to 23 cm (0 to 9 inches); very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak medium and coarse subangular blocky structure parting to moderate fine and medium granular; friable; common fine roots; 1 percent rock fragments; moderately acid; clear wavy boundary. [18 to 23 cm (7 to 9 inches) thick]

**Btg1**--23 to 36 cm (9 to 14 inches); gray (10YR 5/1) clay loam; weak fine and medium subangular blocky structure; friable; few fine roots; common faint gray (10YR 5/1) clay films on faces of peds; few distinct very dark grayish brown (10YR 3/2) organic coatings on vertical faces of peds; common medium prominent yellowish brown (10YR 5/6) and few fine and medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine and medium faint very dark grayish brown (10YR 3/2) moderately cemented iron and manganese oxide concretions in the matrix; 1 percent rock fragments; neutral; gradual wavy boundary.

**Btg2**--36 to 53 cm (14 to 21 inches); grayish brown (2.5Y 5/2) clay loam; weak medium subangular blocky structure; friable; few fine roots; common distinct gray (10YR 5/1) clay films on faces of peds; common medium faint gray (10YR 5/1) iron depletions in the matrix; common medium prominent yellowish brown (10YR 5/6) and few fine and medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine and medium distinct very dark grayish brown (10YR 3/2) moderately cemented iron and manganese oxide concretions in the matrix; 1 percent rock fragments; neutral; gradual wavy boundary.

**Btg3**--53 to 71 cm (21 to 28 inches); grayish brown (2.5Y 5/2) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; thin strata of fine sandy loam; common distinct gray (10YR 5/1) clay films on faces of peds; common medium faint gray (10YR 5/1) iron depletions in the matrix; common fine and medium prominent yellowish brown (10YR 5/6) and common medium and coarse faint brown (10YR 5/3) masses of iron accumulation in the matrix; common fine and medium distinct very dark grayish brown (10YR 3/2) moderately cemented iron and manganese oxide concretions in the matrix; 1 percent rock fragments; neutral; clear smooth boundary. [Combined thickness of the Bt horizon is 28 to 84 cm (11 to 33 inches).]

**2Btg4**--71 to 91 cm (28 to 36 inches); grayish brown (10YR 5/2) clay loam; moderate medium

subangular blocky structure; firm; few fine roots; common faint gray (10YR 5/1) clay films on faces of peds; many medium and coarse distinct dark yellowish brown (10YR 4/4) and common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium faint very dark grayish brown (10YR 3/2) moderately cemented iron and manganese oxide concretions in the matrix; few medium faint light gray (10YR 7/2) calcium carbonate concretions in the matrix; 5 percent rock fragments; strongly effervescent; slightly alkaline; gradual wavy boundary. [15 to 30 cm (6 to 12 inches) thick]

**2BC**--91 to 145 cm (36 to 57 inches); dark yellowish brown (10YR 4/4) clay loam; weak medium and coarse subangular blocky structure; firm; few fine roots in the upper part; common distinct gray (10YR 5/1) coatings on faces of peds; common fine and medium distinct gray (10YR 5/1) iron depletions in the matrix; common medium and coarse distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few medium distinct light gray (10YR 7/2) calcium carbonate concretions in the matrix; 5 percent rock fragments; strongly effervescent; moderately alkaline; gradual irregular boundary. [8 to 56 cm (3 to 22 inches) thick]

**2C**--145 to 203 cm (57 to 80 inches); brown (10YR 4/3) clay loam; massive, with widely spaced vertical fractures; firm; few distinct gray (10YR 5/1) coatings on faces of fractures; common fine and medium distinct gray (10YR 5/1) iron depletions and few medium distinct yellowish brown (10YR 5/6) masses of iron accumulation oriented along fractures; 5 percent rock fragments; strongly effervescent; moderately alkaline.

**TYPE LOCATION:** Hancock County, Ohio; about 1.75 miles northeast of McComb, in Portage Township; 1,520 feet north and 2,180 feet east of the southwest corner of sec. 18, T. 2 N., R. 10 E.; USGS Hoytville, Ohio topographic quadrangle; lat. 41 degrees 07 minutes 41.8 seconds N. and long. 83 degrees 45 minutes 25.9 seconds W., NAD 27.

**RANGE IN CHARACTERISTICS:**

Thickness of the solum: 61 to 152 cm (24 to 60 inches) and typically extends into the till

Depth to the base of the argillic horizon: 53 to 107 cm (21 to 42 inches)

Depth to carbonates: 61 to 127 cm (24 to 50 inches)

Depth to till: 51 to 102 cm (20 to 40 inches)

Rock fragments: glacial pebbles, primarily of limestone, dolostone, and crystalline lithology

Ap horizon:

Hue: 10YR

Value: 2 or 3 (5 or less dry)

Chroma: 1 or 2

Texture: sandy clay loam, silt loam, loam, fine sandy loam, clay loam, or silty clay loam

Rock fragment content: 0 to 10 percent

Reaction: moderately acid to neutral

Some pedons have a BEg horizon.

Btg horizon:

Hue: 10YR to 5Y, or is neutral

Value: 4 to 6

Chroma: 0 to 2

Texture: loam, sandy clay loam, or clay loam; some pedons have thin subhorizons of sandy clay to fine sandy loam

Rock fragment content: 0 to 10 percent

Reaction: moderately acid to neutral

2Btg, 2Bt, 2BCg, or 2BC horizon:

Hue: 10YR to 5Y, or is neutral

Value: 4 to 6

Chroma: 0 to 4

Texture: clay, silty clay, clay loam, or silty clay loam

Clay content: 27 to 42 percent

Rock fragment content: 1 to 10 percent

Reaction: neutral to moderately alkaline

2C or 2Cg horizon:

Hue: 10YR to 5Y

Value: 4 to 6

Chroma: 1 to 6

Texture: clay, silty clay, clay loam, or silty clay loam

Clay content: 27 to 42 percent

Rock fragment content: 1 to 10 percent

Reaction: slightly alkaline or moderately alkaline and carbonates are present

**COMPETING SERIES:** There are no other series in this family.

**GEOGRAPHIC SETTING:** Mermill soils are on lake plains, and less commonly on till plains of late Wisconsinan age. They have a plane or concave surface with a slope gradient of 0 to 2 percent. The soils formed in 51 to 102 cm (20 to 40 inches) of loamy glaciolacustrine or water-sorted material and in the underlying till. Mean annual precipitation ranges from 686 to 1067 mm (27 to 42 inches). Mean annual air temperature ranges from 7 to 13 degrees C (45 to 55 degrees F). Frost-free period is 140 to 180 days. Elevation is 183 to 244 meters (600 to 800 feet) above mean sea level.

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are the [Aurand](#), [Haskins](#), [Houcktown](#), and [Rawson](#) soils. These soils form a toposequence with Mermill soils. The somewhat poorly drained Aurand and Haskins soils are on slightly higher landscape positions. The moderately well drained Houcktown and the well drained Rawson soils are on higher or more sloping landscape positions.

**DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY:** Very poorly drained. The depth to the top of an intermittent perched high water table ranges from 30 cm (1 foot) above the surface to 30 cm (1 foot) below the surface between December and May in normal years. The potential for surface runoff is negligible or very low. Saturated hydraulic conductivity is moderately high in the loamy material and moderately low or low in the underlying till. Permeability is moderate in the loamy material and slow or very slow in the underlying till.

**USE AND VEGETATION:** Nearly all of the Mermill soils have been drained and are used for cropland. Principal crops are corn, soybeans, oats, wheat, alfalfa, tomatoes, and sugar beets. Native vegetation is deciduous swamp forest with swamp white oak, bur oak, pin oak, elm, hickory, and ash.

**DISTRIBUTION AND EXTENT:** MLRA 99 in northwestern Ohio and northeastern Indiana, and to a lesser extent in MLRAs 111B, 111C, and 139 in west-central Ohio and northern Indiana. The type location is in MLRA 99. The series is of large extent, over 130,000 acres.

**MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE:** AMHERST,  
MASSACHUSETTS

**SERIES ESTABLISHED:** Paulding County, Ohio, 1957.

**REMARKS:** Some acreage of the Mermill series is being converted to the Alvada and Aurand series during modernization projects. The previous Mermill series concept allowed for fine-textured lacustrine sediments in the 2B and 2C horizons. A new series will be established to address these soils during modernization projects in MLRA 99. An evaluation of existing lab data supports the redefinition of the clay content in the till.

Diagnostic horizons and features recognized in this pedon are:

Ochric epipedon: from the surface to a depth of 23 cm (Ap horizon).

Argillic horizon: from a depth of 23 to 91 cm (Btg, 2Btg horizons).

Aquic conditions: redox features in all horizons below a depth of 23 cm.

Representative data mapunit is DMU ID 130014 in MO 11.

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National Cooperative Soil Survey  
U.S.A.

LOCATION LURAY

OH

Established Series  
Rev. AR-DRM  
05/2007

## LURAY SERIES

The Luray series consists of very deep, very poorly drained soils formed in silty lacustrine material or slack water sediments. These soils are on lake plains, terraces, outwash plains, and some local areas on till plains. Slope ranges from 0 to 2 percent. Mean annual precipitation is about 940 mm (37 inches), and mean annual air temperature is about 11 degrees C (51 degrees F).

**TAXONOMIC CLASS:** Fine-silty, mixed, superactive, mesic Typic Argiaquolls

**TYPICAL PEDON:** Luray silty clay loam, on a nearly level area in a cultivated field. (Colors are for moist soil unless otherwise stated.)

**Ap**--0 to 23 cm (0 to 9 inches); black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak medium granular structure; firm; slightly acid; abrupt smooth boundary. [15 to 30 cm (6 to 12 inches) thick]

**AB**--23 to 36 cm (9 to 14 inches); very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; strong fine subangular blocky structure; firm; few fine faint dark grayish brown (2.5Y 4/2) iron depletions; common medium prominent yellowish red (5YR 4/6) iron stains and concretions; neutral; clear irregular boundary. [0 to 25 cm (10 inches) thick]

**Btg1**--36 to 51 cm (14 to 20 inches); dark gray (10YR 4/1) silty clay loam; weak medium prismatic structure parting to strong fine angular blocky; firm; prominent very dark gray (N 3/) organo-clay films on faces of peds; common dark yellowish brown (10YR 4/4) iron concretions and root channel fillings; neutral; clear wavy boundary.

**Btg2**--51 to 63 cm (20 to 25 inches); grayish brown (2.5Y 5/2) silty clay loam; weak very coarse [25 to 30 cm (10 to 12 inches) in diameter] prismatic structure parting to moderate medium prismatic which further parts to weak coarse subangular blocky; firm; prominent dark gray (N 4/) organo-clay films on faces of larger peds; gray (5Y 5/1) clay films on faces of smaller peds; common coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation; few very dark gray (5Y 3/1) and brown (7.5YR 4/4) root channels; neutral; clear wavy boundary.

**Btg3**--63 to 81 cm (25 to 32 inches); gray (10YR 5/1) silt loam; moderate medium subangular blocky structure; firm; dark gray (10YR 4/1) organo-clay films on vertical faces of peds; gray (5Y 5/1) clay films on horizontal faces of peds; many coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation; weak stratification evident; neutral; clear wavy boundary. [Combined thickness of the Btg horizon is 38 to 96 cm (15 to 38 inches).]

**Cg1**--81 to 114 cm (32 to 45 inches); mottled grayish brown (10YR 5/2) and yellowish brown (10YR 5/4, 5/6, and 5/8) silt loam with few thin strata of very fine sandy loam and silty clay loam; massive; friable; neutral.

**Cg2**--114 to 152 cm (45 to 60 inches); gray (N 5/) stratified silt loam and loam; massive; friable; common medium prominent yellowish brown (10YR 5/4 and 5/6) masses of iron accumulation; slightly effervescent; moderately alkaline.

**TYPE LOCATION:** Ashland County, Ohio; Mohican Township; 600 feet south and 200 feet east of the northwest corner of sec. 16, T. 21 N., R. 15 W.

**RANGE IN CHARACTERISTICS:**

Thickness of the solum: 76 to 152 cm (30 to 60 inches)

Thickness of the mollic epipedon: commonly 25 to 36 cm (10 to 14 inches) but ranges to 46 cm (18 inches) and includes the upper part of the argillic horizon in some pedons

Particle-size control section: averages 25 to 35 percent clay

Ap or A horizon:

Hue: 10YR

Value: 2 or 3 (4 or 5 dry)

Chroma: 1 or 2

Texture: silt loam or silty clay loam

Reaction: moderately acid to neutral

Btg horizon:

Hue: 10YR, 2.5Y, 5Y, or is neutral

Value: 4 to 6 (3 in the upper part of some pedons)

Chroma: 0 to 2 to a depth of 76 cm (30 inches) and 0 to 6 below

Texture: commonly silty clay loam or silt loam with subhorizons of silty clay in some pedons

Reaction: moderately acid to neutral

Cg horizon:

Hue: 10YR, 2.5Y, 5Y, or is neutral

Value: 4 to 6

Chroma: 0 to 8

Texture: dominantly silt loam or silty clay loam and commonly has thin strata of loam, fine sandy loam, or sandy loam

Rock fragment content: 0 to 2 percent

Reaction: slightly acid to moderately alkaline; some pedons have carbonates

**COMPETING SERIES:** These are the [Cyclone](#), [Gabriel](#), [Mahalaland](#), [Mahalasville](#), [Ragsdale](#), and [Treaty](#) series. Cyclone, Mahalasville, and Treaty soils have 2B horizons that contain rock fragments. Gabriel soils have a mollic epipedon that is thicker than 46 cm (18 inches). Mahalaland soils have more than 2 percent rock fragments in the lower part of the series control section. Ragsdale soils formed entirely in loess and lack stratification in the lower part of the series control section.

**GEOGRAPHIC SETTING:** Luray soils are in slight depressions or on level areas on lake plains, terraces, outwash plains, and in small local areas on till plains. Slope ranges from 0 to 2 percent. The soils formed in stratified lacustrine material or slack water sediments of Wisconsinan age with dominant textures of silt loam and silty clay loam. Mean annual precipitation ranges from 864 to 1016 mm (34 to 40 inches). Mean annual air temperature ranges from 10 to 12 degrees C (50 to 54 degrees F).

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are the [Fitchville](#), [Glenford](#), [Mentor](#), and [Sebring](#) soils in a toposequence with Luray soils and the [Bennington](#), [Bogart](#), [Canfield](#), [Chili](#), [Conotton](#), [Damascus](#), [Jimtown](#), [Linwood](#), [Mahoning](#), [Olmsted](#), and [Rittman](#) soils. The somewhat poorly drained

Fitchville soils, the moderately well drained Glenford soils, and the well drained Mentor soils are on higher landscape positions. The poorly drained Sebring soils are on similar positions as Luray soils but lack a mollic epipedon. Bennington, Canfield, Mahoning, and Rittman soils are on nearby till plains. Bogart, Chili, Conotton, Damascus, Jimtown, and Olmsted soils formed in stratified gravelly and loamy materials. Linwood soils are on similar landscape positions as Luray soils but have organic material overlying loamy mineral deposits.

**DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY:** Very poorly drained. The depth to the top of an intermittent perched high water table ranges from 30 cm (1 foot) above the surface to 30 cm (1 foot) below the surface during periods of high rainfall in normal years. The potential for surface runoff is negligible to medium. Saturated hydraulic conductivity is moderately high. Permeability is moderately slow.

**USE AND VEGETATION:** More than half of the Luray soils are cultivated. Corn, soybeans, wheat, oats, and mixed hay are the principal crops. Some areas are pastured and some are wooded. Native vegetation is swamp grasses and sedges or deciduous swamp forest.

**DISTRIBUTION AND EXTENT:** Northeastern to central Ohio; MLRAs 111B, 111E, 114A, 124, and 139. The type location is in MLRA 139. The series is of moderate extent, about 50,000 acres.

**MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE:** Indianapolis, Indiana.

**SERIES ESTABLISHED:** Licking County, Ohio, 1930.

**REMARKS:** Diagnostic horizons and features recognized in this pedon are:

Mollic epipedon: from the surface to a depth of 36 cm (Ap, AB horizons).

Argillic horizon: from a depth of 36 to 63 cm (Btg1, Btg2, horizons).

Aquic conditions: redox features visible in the lower part of the mollic epipedon and in all underlying horizons.

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National Cooperative Soil Survey  
U.S.A.

LOCATION HASKINS

OH+IN IL

Established Series  
Rev. RAR-RMG  
05/2007

## HASKINS SERIES

The Haskins series consists of very deep, somewhat poorly drained soils that are moderately deep or deep to dense till. They formed in loamy water-sorted or glaciolacustrine material 51 to 102 cm (20 to 40 inches) thick and in the underlying till. These soils are on lake plains and till plains. Slope ranges from 0 to 6 percent. Mean annual precipitation is about 838 mm (33 inches), and mean annual air temperature is about 11 degrees C (51 degrees F).

**TAXONOMIC CLASS:** Fine-loamy, mixed, active, mesic Aeric Epiaqualfs

**TYPICAL PEDON:** Haskins loam, on a nearly level slope in a cultivated field at an elevation of 230 meters (755 feet) above mean sea level. (Colors are for moist soil unless otherwise stated.)

**Ap**--0 to 23 cm (0 to 9 inches); dark brown (10YR 3/3) loam, light brownish gray (10YR 6/2) dry; weak fine and medium granular structure; friable; common fine roots; 5 percent intermixing of grayish brown (10YR 5/2) BEg material; 2 percent rock fragments; moderately acid; abrupt smooth boundary. [15 to 28 cm (6 to 11 inches) thick]

**BEg**--23 to 33 cm (9 to 13 inches); grayish brown (10YR 5/2) loam; moderate fine and medium subangular blocky structure; friable; few fine roots; few faint light brownish gray (10YR 6/2) clay films on faces of peds; few faint dark grayish brown (10YR 4/2) worm casts and as organic coatings in pores; few medium prominent strong brown (7.5YR 5/6) and many medium faint brown (10YR 5/3) masses of iron accumulation in the matrix; common distinct brown (7.5YR 4/4) masses of iron and manganese oxide accumulation on faces of peds; 2 percent rock fragments; moderately acid; clear wavy boundary. [0 to 10 cm (4 inches) thick in cultivated pedons and 8 to 25 cm (3 to 10 inches) thick in undisturbed pedons.]

**Btg**--33 to 46 cm (13 to 18 inches); grayish brown (10YR 5/2) clay loam; moderate fine and medium subangular blocky structure; friable; few fine roots; many faint grayish brown (10YR 5/2) and dark grayish brown (10YR 4/2) clay films on faces of peds; few faint dark grayish brown (10YR 4/2) worm casts and as organic coatings in pores; many medium prominent yellowish brown (10YR 5/6) and few medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few distinct dark brown (7.5YR 3/2) masses of iron and manganese oxide accumulation on faces of peds; 3 percent rock fragments; slightly acid; clear wavy boundary.

**Bt1**--46 to 61 cm (18 to 24 inches); brown (10YR 5/3) clay loam; moderate fine and medium subangular blocky structure; friable; few fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds and lining old root channels; common medium faint grayish brown (10YR 5/2) iron depletions in the matrix; common medium faint yellowish brown (10YR 5/4) and common coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few distinct dark brown (7.5YR 3/2) masses of iron and manganese oxide accumulation on faces of peds; 3 percent rock fragments; slightly acid; gradual wavy boundary.

**Bt2**--61 to 76 cm (24 to 30 inches); yellowish brown (10YR 5/6) clay loam; moderate fine and medium subangular blocky structure; friable; few fine roots; common prominent dark grayish brown (10YR 4/2) clay films on faces of peds and lining old root channels; common medium prominent dark grayish brown (10YR 4/2) iron depletions in the matrix; common medium distinct yellowish brown (10YR 5/4) and few medium faint strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few prominent dark brown (7.5YR 3/2) masses of iron and manganese oxide accumulation on faces of peds; 3 percent rock fragments; neutral; clear smooth boundary.

**B'tg**--76 to 91 cm (30 to 36 inches); dark grayish brown (10YR 4/2) loam with strata of yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable; few fine roots; few faint dark grayish brown (10YR 4/2) clay films on faces of peds and bridging between sand grains in the loam material; common medium prominent yellowish brown (10YR 5/6) and distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; few faint dark brown (7.5YR 3/2) masses of iron and manganese oxide accumulation on faces of peds; 5 percent rock fragments in the loam material and 1 percent rock fragments in the fine sandy loam strata; neutral; abrupt smooth boundary. [Combined thickness of the Btg and Bt horizons is 25 to 89 cm (10 to 35 inches).]

**2BC**--91 to 132 cm (36 to 52 inches); yellowish brown (10YR 5/4) clay; weak medium and coarse subangular blocky structure; very firm; common distinct gray (10YR 6/1) coatings on vertical faces of peds; common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; few medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few medium distinct light gray (10YR 7/2) calcium carbonate concretions in the matrix; 5 percent rock fragments; strongly effervescent; slightly alkaline; gradual irregular boundary. [0 to 46 cm (18 inches) thick]

**2Cd**--132 to 203 cm (52 to 80 inches); dark yellowish brown (10YR 4/4) clay; massive, with widely spaced vertical fractures; very firm; few distinct gray (10YR 6/1) coatings on faces of fractures; few fine distinct grayish brown (10YR 5/2) iron depletions and few medium distinct yellowish brown (10YR 5/6) masses of iron accumulation oriented along fractures; 5 percent rock fragments; strongly effervescent; moderately alkaline.

**TYPE LOCATION:** Hancock County, Ohio; approximately 1 mile west-northwest of McComb, in Pleasant Township; 1,040 feet north and 1,840 feet west of the southeast corner of sec. 22, T. 2 N., R. 9 E.; USGS McComb, Ohio topographic quadrangle; lat. 41 degrees 06 minutes 44.6 seconds N., and long. 83 degrees 48 minutes 37.1 seconds W., NAD 27.

#### **RANGE IN CHARACTERISTICS:**

Thickness of the solum: 63 to 140 cm (25 to 55 inches) and typically extends into the underlying till

Depth to the base of the argillic horizon: 51 to 127 cm (20 to 50 inches)

Depth to carbonates: 63 to 102 cm (25 to 40 inches)

Depth to the underlying till: 51 to 102 cm (20 to 40 inches)

Depth to the densic contact: 76 to 152 cm (30 to 60 inches)

Rock fragments: glacial erratics, primarily of limestone, dolostone, and crystalline lithology

Ap horizon:

Hue: 10YR or 2.5Y

Value: 3 to 5 (6 or more dry)

Chroma: 1 to 3

Texture: loam, silt loam, sandy loam, or fine sandy loam

Rock fragment content: 0 to 10 percent

Reaction: strongly acid to neutral

A horizon, where present:

Thickness: 2.5 to 15 cm (1 to 6 inches)

Value: 2

Texture: loam, silt loam, sandy loam, or fine sandy loam

Rock fragment content: 0 to 10 percent

Reaction: strongly acid to neutral

E or BE horizon:

Hue: 10YR or 2.5Y

Value: 5 or 6

Chroma: 2 or 3

Texture: loam, silt loam, sandy loam, or fine sandy loam

Rock fragment content: 0 to 10 percent

Reaction: commonly strongly acid or moderately acid but ranges to very strongly acid

Bt, Btg, B't, or B'tg horizon:

Hue: 10YR or 2.5Y

Value: 4 to 6

Chroma: 1 to 6

Texture: dominantly clay loam or sandy clay loam, or less commonly loam or the gravelly analogs of these textures; some pedons have thin strata of sandy loam or fine sandy loam, or thin subhorizons with more than 35 percent clay

Rock fragment content: 0 to 20 percent

Reaction: strongly acid to neutral

2Bt, 2Btg, 2BCtg, 2BC, or 2BCg horizon:

Hue: 10YR, 2.5Y, or 5Y, or is neutral

Value: 4 or 5

Chroma: 0 to 4

Texture: clay, silty clay, clay loam, or silty clay loam

Clay content: 27 to 42 percent

Rock fragment content: 1 to 10 percent

Reaction: slightly acid to slightly alkaline

2Cd or 2Cdg horizon:

Hue: 10YR, 2.5Y, or 5Y, or is neutral

Value: 4 or 5

Chroma: 0 to 4

Texture: clay, silty clay, clay loam, or silty clay loam

Clay content: 27 to 42 percent

Rock fragment content: 1 to 10 percent

Calcium carbonate equivalent: 18 to 30 percent

Reaction: slightly alkaline or moderately alkaline

**COMPETING SERIES:** These are the [Aubbeenaubbee](#), [Baugo](#), [Crosier](#), [Lamberjack](#), and [Shebeon](#) series. Aubbeenaubbee, Baugo, Crosier, and Shebeon soils have less than 27 percent clay in the lower part of the series control section. Lamberjack soils have more than 10 percent rock fragments in the lower part of the series control section.

**GEOGRAPHIC SETTING:** Haskins soils are on lake plains and on till plains of late Wisconsinan age. Slope ranges from 0 to 6 percent. Haskins soils formed in loamy water-sorted material 51 to 102 cm (20

to 40 inches) thick and in the underlying till. Mean annual precipitation ranges from 686 to 1067 mm (27 to 42 inches). Mean annual air temperature ranges from 7 to 13 degrees C (45 to 55 degrees F). Frost-free period is 130 to 200 days. Elevation is 183 to 386 meters (600 to 1300 feet) above mean sea level.

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are the somewhat poorly drained [Aurand](#), very poorly drained [Mermill](#), and moderately well drained [Houcktown](#) and [Rawson](#) soils that comprise a toposequence with the Haskins soils. Aurand soils have a mollic epipedon and are on similar landscape positions. Mermill soils are on flats or in depressions, and the Houcktown and Rawson soils are on higher landscape positions. The very poorly drained, clayey [Hoytville](#) and [Latty](#) soils are on nearby planar landscapes.

**DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY:** Somewhat poorly drained. The depth to the top of an intermittent perched high water table ranges from 15 to 46 cm (0.5 to 1.5 feet) between November and April in normal years. The potential for surface runoff is low to high. Saturated hydraulic conductivity is moderately high in the loamy material and moderately low or low in the underlying till. Permeability is moderate in the loamy material and slow or very slow in the underlying till.

**USE AND VEGETATION:** A large proportion is under cultivation, primarily corn, soybeans, wheat, oats, and hay. Some areas are used for tomatoes and sugar beets. Native vegetation is deciduous, mixed hardwood forest.

**DISTRIBUTION AND EXTENT:** MLRAs 98, 99, 111B, 111C, and 139 in northwestern Ohio and northern Indiana; MLRA 110 in eastern Illinois. The type location is in MLRA 99. The series is of large extent, with about 200,000 acres.

**MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE:** Indianapolis, Indiana.

**SERIES ESTABLISHED:** Paulding County, Ohio, 1957.

**REMARKS:** Diagnostic horizons and features recognized in this pedon are:  
Ochric epipedon: from the surface to a depth of 33 cm (Ap, BEg) horizon.  
Argillic horizon: from a depth of 33 to 96 cm (Btg, Bt, B'tg horizons).  
Densic contact: at 132 cm (top of the 2Cd horizon).  
Aquic conditions: redox features in all horizons below a depth of 23 cm.

The previous Haskins series concept allowed for fine-textured lacustrine sediments in the 2B and 2Cd horizons. A new series will be established during modernization projects in MLRA 99 to define these soils.

An evaluation of existing lab data supports the redefinition of clay content in the till. Further evaluation for densic materials is needed to better define the series concept.

The addition of the densic contact is based on data from associated soils. More supporting bulk density data is needed.

The sandy surface phase correlated in an earlier survey does not meet the series concept. A new series will be established during modernization projects in MLRA 99 to define these soils.

**ADDITIONAL DATA:** Representative data mapunit is DMU ID 129997 in MO 11.

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National Cooperative Soil Survey  
U.S.A.

LOCATION FITCHVILLE

OH+PA

Established Series  
Rev. DRM-JRS-LER  
02/2012

## FITCHVILLE SERIES

The Fitchville series consists of very deep, somewhat poorly drained soils formed in stratified Wisconsinan age glaciolacustrine sediments on lake plains and slackwater terraces. Permeability is moderate in the surface, moderately slow in the subsoil and moderate or moderately slow in the substratum. Slope ranges from 0 to 12 percent. The mean annual precipitation is about 39 inches, and the mean annual temperature is about 51 degrees F.

**TAXONOMIC CLASS:** Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs

**TYPICAL PEDON:** Fitchville silt loam, on a convex, 2 percent slope in a cultivated field at an elevation of about 975 feet above msl. (Colors are for moist soil unless otherwise noted.)

**Ap** -- 0 to 7 inches; dark grayish brown (2.5Y 4/2) silt loam, light brownish gray (2.5Y 6/2) dry; moderate medium granular structure; friable; slightly acid; abrupt smooth boundary. (6 to 10 inches thick.)

**BE** -- 7 to 10 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; many fine pores; many prominent light brownish gray (2.5Y 6/2) clay depletions on faces of peds; many fine prominent light brownish gray (2.5Y 6/2) areas of iron depletion in the matrix; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; very strongly acid; clear smooth boundary. (0 to 8 inches thick.)

**Bt1** -- 10 to 18 inches; yellowish brown (10YR 5/6) silty clay loam; moderate coarse subangular blocky structure; firm; common faint clay films on faces of peds; prominent gray (5Y 5/1) coatings on faces of peds; many medium prominent gray (5Y 5/1) areas of iron depletion in the matrix; very strongly acid; clear smooth boundary.

**Bt2** -- 18 to 29 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate coarse prismatic structure parting to weak coarse subangular blocky; firm; common faint clay films on faces of peds and in pores; continuous gray (5Y 5/1) coatings on faces of peds; common medium prominent gray (5Y 5/1) areas of iron depletion in the matrix; few black (10YR 2/1) iron-manganese oxide accumulations in ped interiors; strongly acid; clear wavy boundary. (Combined thickness of the Bt horizons is 12 to 42 inches.)

**BCt** -- 29 to 40 inches; brown (10YR 4/3) silt loam; weak coarse prismatic structure with thin horizontal bedding planes; friable; very few faint clay films on vertical faces of peds and in pores; common gray (5Y 5/1) clay depletions on vertical faces of peds; common medium prominent gray (5Y 5/1) areas of iron depletion in the matrix; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; gradual smooth boundary. (0 to 14 inches thick.)

**C** --40 to 60 inches; brown (10YR 4/3) silt loam; massive, stratification of thick horizontal bedding planes; friable; common medium distinct gray (10YR 5/1) areas of iron depletion in the matrix; common

medium distinct yellowish brown (10YR 5/6) and yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; neutral.

**TYPE LOCATION:** Summit County, Ohio; Twinsburg Township, about 0.75 mile northeast of Twinsburg, 1600 feet west of State Route 91 and 600 feet east of Tinkers Creek along East Ohio Gas Company pipeline right-of-way, T. 5 N., R. 10 W.; USGS Twinsburg, Ohio topographic quadrangle; Latitude 41 degrees, 19 minutes, 34 seconds N. and Longitude 81 degrees, 26 minutes, 47 seconds W., NAD 1927.

**RANGE IN CHARACTERISTICS:** Thickness of the solum ranges from 30 to 70 inches. Most pedons lack rock fragments, but the C horizon can have up to 5 percent. Some pedons have carbonates within a depth of 30 inches. Bedding plane stratification or lamination is evident within the series control section.

The Ap horizon has hue of 2.5Y or 10YR, value of 4 or 5 (6 or more dry), and chroma of 2 or 3. Some pedons have A horizons 1 to 4 inches thick with value of 2 or 3 (4 or 5 dry), and chroma of 1 or 2. Structure is weak or moderate, fine to coarse, granular. Reaction ranges from very strongly acid to moderately acid. Areas that have been limed range to neutral.

E horizons, where present, are 3 to 8 inches thick, and have hue of 10YR, value of 5 or 6 (7 or 8 dry), and chroma of 2 or 3. Reaction ranges from very strongly acid to moderately acid.

The BE horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 6. Texture is silt loam or silty clay loam. Structure is weak, fine to coarse, subangular blocky. Reaction ranges from very strongly acid to moderately acid. Some pedons have E/B or B/E horizons rather than a BE horizon.

The Bt horizon has hue of 10YR, 2.5Y, or 7.5YR, value of 4 to 6, and chroma of 1 to 8. Texture is silt loam or silty clay loam. Some pedons have thin subhorizons of loam or clay loam, or thin lenses of fine sandy loam. Average clay content ranges from 20 to 35 percent. Structure is weak to strong, subangular or angular blocky. Some pedons have weak to strong, medium or coarse, prismatic structure, parting to subangular blocky or platy in some pedons. Reaction ranges from very strongly acid to moderately acid. Some pedons have a thin, very firm, slightly brittle layer in the lower part of the Bt horizon that is not sufficient to meet the requirements for a fragipan horizon.

The BC horizon has hue of 10YR, 2.5Y or 7.5YR, value of 4 to 6, and chroma of 2 to 6. Texture is silt loam or silt clay loam. Some pedons have thin strata of loam, fine sandy loam, clay loam or silty clay, or lenses of very fine and fine sand. Sand content averages 7 to 15 percent. Structure is weak, medium to very coarse, subangular blocky, angular blocky or prismatic; weak or moderate, thin to thick, platy. Rock fragments are commonly absent, but some pedons have up to 3 percent. Reaction ranges from moderately acid to neutral.

The C horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 6. Texture is commonly laminated or stratified silt loam or silty clay loam. Sand content averages 7 to 15 percent. Some pedons have thin strata of loam, fine sandy loam, clay loam or silty clay, or lenses of very fine and fine sand within the series control section. Below the series control section may be textures of loam, clay loam, silty clay loam, silty clay or clay. Reaction ranges from moderately acid to slightly alkaline.

**COMPETING SERIES:** These are the [Aptakisic](#), [Caseyville](#), [Creal](#), [Gavers](#)(T), [Iva](#), [Kendall](#), [Starks](#), [Stronghurst](#), [Waynetown](#), and [Yeddo](#) series. Aptakisic soils have more sand in the lower part of the series control section. Caseyville soils formed in loess and contain less than 7 percent sand in the lower part of the series control section. Creal soils are more than 24 inches to the top of the argillic horizon.

Gavers(T) soils have more coarse fragment in the lower part of the series control section. Iva soils have a higher mean annual temperature. Kendall soils average more than 15 percent sand at least one subhorizon within a depth of 60 inches. Starks soils average 15 to 55 percent sand in the lower part of the subsoil. Stronghurst soils lack stratification or lamination within the series control section. Waynetown soils have gravel content greater than 15 percent in the lower solum and substratum. Yeddo soils formed in loess more than 60 inches thick and the sand content is less than 10 percent throughout the series control section.

**GEOGRAPHIC SETTING:** Fitchville soils formed in stratified Wisconsinan age glaciolacustrine sediments that are derived mainly from materials high in sandstone and shale and are on summits and shoulders on lake plains and are on treads on terraces. Slope ranges from 0 to 12 percent. The mean annual precipitation ranges from 32 to 45 inches, and the mean annual temperature ranges from 47 to 54 degrees F. The frost free period is 133 to 167 days, and elevation ranges from 720 to 1,200 feet above msl.

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are the [Canadice](#), [Caneadea](#) [Damascus](#), [Glenford](#), [Jimtown](#), [Luray](#), [Mentor](#) and [Sebring](#) soils. The well drained Mentor soils, moderately well drained Glenford soils, poorly drained Sebring soils and the very poorly drained Luray soils are in a toposequence with Fitchville soils. The Mentor and Glenford soils are on higher landscape positions. The Sebring and Luray soils are in shallow, wet depressions. The nearby Jimtown and Damascus soils formed in loamy outwash deposits and the nearby Caneadea and Canadice soils formed in clayey lacustrine sediments.

**DRAINAGE AND PERMEABILITY:** Somewhat poorly drained. The potential for surface runoff is low to high. Permeability is moderate in the surface, moderately slow in the subsoil and moderate or moderately slow in the substratum. Depth to the top of an intermittent apparent seasonal high water table ranges from 0.5 to 1.0 foot from November to May in normal years.

**USE AND VEGETATION:** Most areas of Fitchville soils have been cleared. Some of the cleared areas are used for permanent pasture, but most are used for cultivated crops with corn, oats, wheat, soybeans, and mixed hay. Some areas are still wooded. Sugar maple, beech, red oak, pin oak, elm, and hickory are the main tree species.

**DISTRIBUTION AND EXTENT:** Northeastern, north central, southeastern and southwestern Ohio and in northwestern Pennsylvania. MLRA's 111, 114, 124, 126, 139, and 140. The series is of large extent with about 178,000 acres.

**MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE:** Amherst, Massachusetts.

**SERIES ESTABLISHED:** Huron County, Ohio, 1948.

**REMARKS:** Diagnostic horizons and features recognized in this pedon are:

1. Ochric epipedon - from a depth of 0 to 10 inches (Ap and BE horizons).
2. Argillic horizon - from a depth of 10 to 29 inches (Bt1 and Bt2 horizons).
3. Aquic conditions - from a depth of 7 to 80 inches.

Till substratum phases and clayey lacustrine substratum phases recognized at a depth of 40 to 60 inches were mapped in some earlier surveys. These phases do not meet current criteria for substratum phases, and will be evaluated for correlation as new series in future investigations.

Fitchville soils mapped on 6 to 12 percent slopes could possibly be re-correlated to the moderately well

drained Glenford soil in future evaluations.

**ADDITIONAL DATA:** Characterization data is available for the following pedons in Ohio: AB-51, CA-35, LK-19, LR-35, MD-21, MH-44, SA-32, SK-9, and TU-12; analysis by the Ohio State University Soil Characterization Laboratory, Columbus, Ohio.

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National Cooperative Soil Survey  
U.S.A.

LOCATION BOGART                      OH

Established Series  
Rev. STP-ELM  
05/2011

## BOGART SERIES

The Bogart series consists of very deep, moderately well drained soils that formed in stratified outwash deposits on terraces, beach ridges, and outwash plains. Permeability is moderate or moderately rapid in the solum and rapid in the substratum. Slopes range from 0 to 12 percent. Mean annual precipitation is about 35 inches, and mean annual temperature is about 51 degrees F.

**TAXONOMIC CLASS:** Fine-loamy, mixed, active, mesic Aquic Hapludalfs

**TYPICAL PEDON:** Bogart loam - 0 to 2 percent slopes in a cultivated field at elevation of about 775 feet above msl. (Colors are for moist soil unless otherwise noted.)

**Ap1** -- 0 to 8 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many roots; neutral; abrupt smooth boundary.

**Ap2** -- 8 to 10 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many roots; about 3 percent rock fragments; slightly acid; abrupt wavy boundary. (Combined thickness of the A horizons is 4 to 14 inches.)

**Bt1** -- 10 to 17 inches; dark yellowish brown (10YR 4/4) loam; many medium faint dark grayish brown (10YR 4/2) organic stains in the matrix; weak coarse subangular blocky structure; firm; common roots; brown (10YR 4/3) common faint clay films on faces of peds and bridging sand grains; about 5 percent rock fragments; moderately acid; clear wavy boundary.

**Bt2** -- 17 to 26 inches; yellowish brown (10YR 5/4) loam; weak medium and coarse subangular blocky structure; firm; few roots; brown (10YR 4/3) common faint clay films on faces of peds; many fine and medium distinct gray (10YR 6/1) areas of iron depletion in the matrix; many fine faint yellowish brown (10YR 5/6) soft masses of iron accumulation in the matrix; about 10 percent rock fragments; moderately acid; clear wavy boundary.

**Bt3** -- 26 to 30 inches; yellowish brown (10YR 5/4) gravelly loam; weak coarse subangular blocky structure; friable; few roots; few fine dark grayish brown (10YR 4/2) coatings in root channels; brown (10YR 4/3) common faint patchy clay films as bridging and coatings on sand and gravel; about 25 percent rock fragments; moderately acid; clear wavy boundary. (Combined thickness of the Bt horizon is 12 to 36 inches.)

**BC** -- 30 to 42 inches; dark yellowish brown (10YR 4/4) gravelly clay loam; massive; common fine and medium distinct pale brown (10YR 6/3) soft masses of iron accumulation in the matrix which have strong brown (7.5YR 5/8) soft masses of iron accumulation as rinds; about 15 percent rock fragments; moderately acid; clear wavy boundary. (0 to 13 inches thick.)

**C** -- 42 to 60 inches; grayish brown (2.5Y 5/2) gravelly loamy sand; single grain; about 40 percent rock fragments; moderately acid.

**TYPE LOCATION:** Lorain County, Ohio; Carlisle Township, 2 1/4 miles southwest of Elyria; 300 feet south of Albrecht Road and 300 feet east of West Ridge Road; T. 5 N., R. 17 W. USGS Oberlin, Ohio topographic quadrangle; Latitude 41 degrees, 21 minutes, 05.3 seconds N. and Longitude 82 degrees, 09 minutes, 17.4 seconds W. NAD 1927.

**RANGE IN CHARACTERISTICS:** Thickness of the solum ranges from 30 to 60 inches. Stratification is present throughout the soil profile with rock fragment percentages, on average, ranging from 0 to 30 percent in the A horizon and the B horizon above 20 inches. Rock fragments, on average, range from 15 to 50 percent from 20 to 40 inches and 10 to 60 percent below 40 inches. Some individual subhorizons may have greater or lesser amounts.

The Ap horizon has hue of 10YR, value of 4 (more than 6 dry), and chroma of 2 or 3. Some pedons have an A horizon up to 5 inches thick that has hue of 10YR, value of 2 or 3 (3 to 5 dry), and chroma of 1 or 2. The E horizon, where present, is up to 8 inches thick, has hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 3 or 4. The Ap, A, and E horizons are loam, sandy loam, and silt loam or their gravelly analogues. Reaction ranges from very strongly acid to neutral.

Some pedons have BE or BA horizons.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, chroma of 3 to 6. Textures are commonly sandy loam, loam, sandy clay loam, clay loam, or their gravelly and very gravelly analogues, and less commonly silt loam or silty clay loam to a maximum depth of 24 inches, except as thin subhorizons in some pedons. The control section averages from 18 to 30 percent clay. Reaction ranges from very strongly acid to slightly acid.

The BC horizon has hue of 10YR or 7.5YR, value of 4 or 5, chroma of 2 to 6. Textures are sandy loam, loamy sand, sandy clay loam, clay loam, loam, or their gravelly and very gravelly analogues. Reaction ranges from very strongly acid to slightly acid.

The C horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 2 to 4. Textures are commonly gravelly or very gravelly analogues of loam, sandy loam, loamy sand, and less commonly sandy loam, loamy sand, or sand with thin strata of gravel in some pedons. Stratification of other textures is present in some pedons. The C horizon commonly is strongly acid to slightly acid, and less commonly neutral or slightly alkaline. The lower part contains free carbonates in some pedons.

**COMPETING SERIES:** These are the [Centerburg](#), [Cygnet](#), [Haney](#), [Houcktown](#), [Jenera](#), [Jugtown](#), [Nicely](#), [Reaville](#), [Scattersville](#), [Swampoodle](#), [Thackery](#), [Tuscola](#), [Vanlue](#), and [Williamstown](#) series. Centerburg, Cygnet, Jenera, Jugtown, Nicely, Swampoodle, Tuscola, and Vanlue soils have less rock fragments in the series control section. Haney and Thackery soils are more alkaline in the series control section. Houcktown and Williamstown soils have a densic contact within the series control section. Reaville soils have a lithic contact within 40 inches. Scattersville soils have a higher mean annual temperature.

**GEOGRAPHIC SETTING:** Bogart soils formed in Wisconsinan age stratified outwash deposits and are on convex slopes in areas of low relief on stream terraces, beach ridges, and outwash plains. Slope range is from 0 to 12 percent. Mean annual temperature ranges from 49 to 52 degrees F., mean annual precipitation ranges from 29 to 43 inches, frost free days range from 133 to 198 days, and elevation ranges from 700 feet to 1300 feet above sea level.

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are the [Canfield](#), [Chagrin](#), [Chili](#), [Damascus](#),

[Ellsworth](#), [Fitchville](#), [Glenford](#), [Jimtown](#), [Lobdell](#), [Olmsted](#), [Rittman](#), and [Wadsworth](#) soils. The moderately well drained Canfield, Ellsworth, and Rittman and somewhat poorly drained Wadsworth are adjacent soils on till plains. The well drained Chagrin and moderately well drained Lobdell soils are on flood plains. The well drained Chili on higher landscape positions, somewhat poorly drained Jimtown soils on lower landscape positions, and poorly drained Damascus and very poorly drained [Olmstead](#) soils on lower landscape positions and in depressions are in toposequence with Bogart soils. The somewhat poorly drained Fitchville and moderately well drained Glenford soils are on adjacent deposits of silty lacustrine sediments.

**DRAINAGE AND PERMEABILITY:** Moderately well drained. The depth to an intermittent apparent water table is 1.0 to 2.0 feet between November to April in most years. Permeability is moderate or moderately rapid in the solum and rapid in the underlying material. The potential for surface runoff is medium.

**USE AND VEGETATION:** About one-half is cultivated. Corn, oats, and mixed hay are the main crops. About one-fourth is forested with sugar maple, beech, and oak the dominant species. The remaining one-fourth is used for pasture or for nonagricultural purposes.

**DISTRIBUTION AND EXTENT:** Northeastern and central Ohio. MLRAs 111 and 139. The Bogart series is of moderate extent; about 59,000 acres.

**MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE:** Amherst, Massachusetts

**SERIES ESTABLISHED:** Huron County, Ohio, 1948.

**REMARKS:** Diagnostic horizons and features recognized in this pedon are:

1. Ochric epipedon - from the surface to a depth of about 10 inches (Ap1, Ap2 horizons);
2. Argillic horizon - from about 9 to 30 inches (Bt1, Bt2, Bt3 horizons).

A till substratum phase is recognized. It will be recorrelated upon further investigation of MLRA work. Acreage based on 2004 data.

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National Cooperative Soil Survey  
U.S.A.

# Hydric Soils

Lorain County, Ohio

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>AkA:</b>					
Allis loam, 0 to 2 percent slopes	Allis	95	Depressions	Yes	2B3
	Areas 40-60 inches deep over shale bedrock	5	Depressions	Yes	2B3
<b>AIA:</b>					
Allis silty clay loam, 0 to 2 percent slopes	Allis	94	Depressions	Yes	2B3
	Areas with a darker surface layer	3	Depressions	Yes	2B3
	Areas with thin layer of glacial till over shale bedrock	3	Depressions	Yes	2B3
<b>AmA:</b>					
Allis-Urban land complex, nearly level	Allis	60	Depressions	Yes	2B3
	Miner, shale substratum	5	Depressions	Yes	2B3
<b>BgA:</b>					
Bennington silt loam, 0 to 2 percent slopes	Condit	3	Depressions	Yes	2B3, 3
<b>BgB:</b>					
Bennington silt loam, 2 to 6 percent slopes	Condit	5	Depressions	Yes	2B3, 3
<b>CdB:</b>					
Cardington silt loam, 2 to 6 percent slopes	Condit	5	Depressions	Yes	2B3, 3
<b>CdC2:</b>					
Cardington silt loam, 6 to 12 percent slopes, eroded	Condit	3	Depressions	Yes	2B3, 3
<b>Cg:</b>					
Carlisle mucky silt loam	Carlisle	95	Depressions	Yes	1
	Areas with less than 42 inches of organic material	5	Depressions	Yes	1
<b>Ch:</b>					
Chagrin silt loam	Holly	4	Depressions	Yes	2B3, 4

# Hydric Soils

Lorain County, Ohio

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>Cp:</b>					
Condit silty clay loam	Condit	90	Depressions	Yes	2B3, 3
	Colwood	2	Flats	Yes	2B3, 3
	Lenawee	2	Flats	Yes	2B3, 3
	Pewamo	2	Flats	Yes	2B3, 3
	small wet spots and closed depressions	2	Depressions	Yes	2B3, 3
<b>Cq:</b>					
Condit silt loam	Condit	95	Depressions	Yes	2B3, 3
	less clay in the upper 1 to 2 feet	---	Depressions	Yes	2B3, 3
	Pewamo	---	Depressions	Yes	2B3, 3
	silty clay loam surface layer and silty clay subsoil	---	Depressions	Yes	2B3, 3
<b>EIB:</b>					
Ellsworth silt loam, 2 to 6 percent slopes	Trumbull	5	Drainageways	Yes	2B3, 3
<b>EIB2:</b>					
Ellsworth silt loam, 2 to 6 percent slopes, moderately eroded	Trumbull	5	Drainageways	Yes	2B3, 3
<b>EIC2:</b>					
Ellsworth silt loam, 6 to 12 percent slopes, moderately eroded	Trumbull	5	Drainageways	Yes	2B3, 3
<b>FcA:</b>					
Fitchville silt loam, 0 to 2 percent slopes	Luray	3	Depressions	Yes	2B3, 3
	Sebring	3	Depressions	Yes	2B3
<b>FeA:</b>					
Fitchville-Urban land complex, nearly level	Sebring	5	Depressions	Yes	2B3
<b>FvA:</b>					
Fulton silt loam, sandy substratum, 0 to 2 percent slopes	Areas that are wet with a darker surface	5	Depressions	Yes	2B3
<b>HsA:</b>					
Haskins loam, 0 to 2 percent slopes	Mermill	3	Depressions	Yes	2B3, 3

# Hydric Soils

Lorain County, Ohio

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
HtA: Haskins-Urban land complex, nearly level	Mermill	5	Depressions	Yes	2B3, 3
Hy: Holly silt loam	Holly	95	Flood plains	Yes	2B3, 4
	Areas with a sandy loam, loam or silty clay surface	---	Flood plains	Yes	2B3, 4
HzA: Hornell silt loam, 0 to 2 percent slopes	Allis	4	Depressions	Yes	2B3
	Miner, shale substratum	4	Depressions	Yes	2B3, 3
HzB: Hornell silt loam, 2 to 6 percent slopes	Allis	5	Depressions	Yes	2B3
	Miner, shale substratum	5	Depressions	Yes	2B3, 3
JtB: Jimtown loam, 2 to 6 percent slopes	Olmsted	5	Depressions	Yes	2B3
JuA: Jimtown-Urban land complex, nearly level	Olmsted	5	Depressions	Yes	2B3
La: Lobdell silt loam, frequently flooded	ponded areas	6	Depressions	Yes	3
Ln: Lorain silty clay loam	Lorain	90	Depressions	Yes	2B3
	Areas with an organic surface	4	Depressions	Yes	2B3
	Areas with a thick dark surface	3	Depressions	Yes	2B3
	Areas with stones or boulders on the surface	3	Depressions	Yes	2B3
Ls: Lorain silty clay loam, sandy substratum	Lorain	97	Depressions	Yes	2B3
	Areas with sandy material above 40 inches	3	Depressions	Yes	2B3

# Hydric Soils

Lorain County, Ohio

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>Lu:</b>					
Luray silt loam	Luray	100	Depressions, Terraces	Yes	2B3
	loam or sandy loam in the subsoil	---	Depressions, Terraces	Yes	2B3
	muck surface layer	---	Depressions, Terraces	Yes	2B3
	silty clay loam surface layer	---	Depressions, Terraces	Yes	2B3
	thinner surface layer	---	Depressions, Terraces	Yes	2B3
<b>Ly:</b>					
Luray silty clay loam	Luray	90	Depressions	Yes	2B3, 3
	Lorain	4	Depressions	Yes	2B3
	Sebring	4	Depressions	Yes	2B3
	Areas of soil more acid than is typical for Luray	2	Depressions	Yes	2B3
<b>MgA:</b>					
Mahoning silt loam, 0 to 2 percent slopes	Lorain	5	Depressions	Yes	2B3
	Miner	5	Depressions	Yes	2B3, 3
	Trumbull	5	Depressions	Yes	2B3, 3
<b>MgB:</b>					
Mahoning silt loam, 2 to 6 percent slopes	Miner	4	Depressions	Yes	2B3, 3
	Trumbull	4	Depressions	Yes	2B3, 3
<b>MgB2:</b>					
Mahoning silt loam, 2 to 6 percent slopes, moderately eroded	Miner	5	Depressions	Yes	2B3, 3
	Trumbull	5	Depressions	Yes	2B3, 3
<b>MhA:</b>					
Mahoning silt loam, sandstone substratum, 0 to 2 percent slopes	Allis	5	Depressions	Yes	2B3
<b>MkA:</b>					
Mahoning-Tiro silt loams, 0 to 2 percent slopes	Sebring	5	Depressions	Yes	2B3
	Trumbull	5	Depressions	Yes	2B3, 3

# Hydric Soils

Lorain County, Ohio

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>MkB:</b>					
Mahoning-Tiro silt loams, 2 to 6 percent slopes	Sebring	4	Depressions	Yes	2B3
	Trumbull	4	Depressions	Yes	2B3, 3
<b>MmA:</b>					
Mahoning-Urban land complex, nearly level	Trumbull	5	Depressions	Yes	2B3, 3
<b>Mo:</b>					
Mermill loam	Mermill	90	Depressions	Yes	2B3, 3
	Lorain	4	Depressions	Yes	2B3
	Areas with a silt loam or fine sandy loam surface	2	Depressions	Yes	2B3
<b>Mr:</b>					
Miner silty clay loam	Miner	85	Depressions	Yes	2B3, 3
	Lorain	3	Depressions	Yes	2B3
	Luray	3	Depressions	Yes	2B3
	Trumbull	3	Depressions	Yes	2B3
	Areas of muck surface 4 to 20 inches over mineral material	1	Depressions	Yes	2B3
	Areas with a darker thicker surface	1	Depressions	Yes	2B3
	Areas with carbonates deeper than is typical	1	Depressions	Yes	2B3
<b>Ms:</b>					
Miner silty clay loam, shale substratum	Miner	85	Depressions	Yes	2B3, 3
	Lorain	5	Depressions	Yes	2B3
	Allis	4	Depressions	Yes	2B3
	Luray	4	Depressions	Yes	2B3
	Areas with a muck surface	1	Depressions	Yes	2B3
	Areas with shale bedrock between 30 and 72 inches	1	Depressions	Yes	2B3

# Hydric Soils

Lorain County, Ohio

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>Om:</b>					
Olmsted fine sandy loam	Olmsted	92	Depressions	Yes	2B3
	Mermill	5	Depressions	Yes	2B3
	Areas with a silty clay loam, silt loam or loam surface	3	Depressions	Yes	2B3
<b>On:</b>					
Olmsted loam, sandstone substratum	Olmsted	95	Depressions	Yes	2B3
	Areas of silty clay loam, silt loam or channery loam surface	3	Depressions	Yes	2B3
	Areas where bedrock is slightly shallower than 40 inches	2	Depressions	Yes	2B3
<b>Or:</b>					
Orrville silt loam	Holly	5	Drainageways	Yes	2B3, 4
<b>Sb:</b>					
Sebring silt loam	Sebring	85	Depressions	Yes	2B3
	Luray	4	Depressions	Yes	2B3
	Areas where bedrock is at 30 inches	2	Depressions	Yes	2B3
	Areas with a finer textured solum	2	Depressions	Yes	2B3
	Areas with mildly alkaline material at 36 inches	2	Depressions	Yes	2B3
	Areas with sandstone fragments on the surface	1	Depressions	Yes	2B3
<b>Sd:</b>					
Sebring silt loam, sandstone substratum	Sebring	97	Depressions	Yes	2B3
	Areas with bedrock slightly shallower or deeper than typical	3	Depressions	Yes	2B3
<b>Sw:</b>					
Stafford fine sandy loam	Poorly drained darker colored soils	4	Depressions	Yes	2B3

# Hydric Soils

Lorain County, Ohio

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
TrA: Trumbull silty clay loam, 0 to 2 percent slopes	Trumbull	94	Depressions	Yes	2B3, 3
	Areas with a silt loam surface	3	Depressions	Yes	2B3
	Areas with silt deposited on the surface	3	Depressions	Yes	2B3

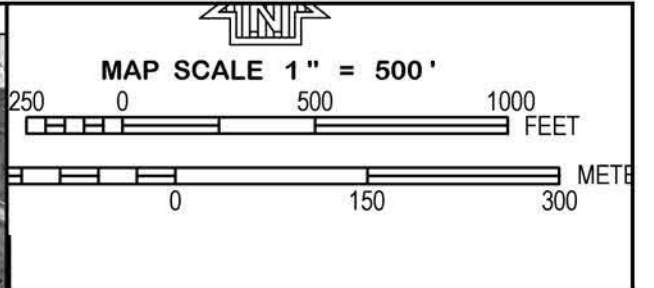
## Explanation of hydric criteria codes:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
  - B. are poorly drained or very poorly drained and have either:
    - 1.) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
    - 2.) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
    - 3.) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

JOINS PANEL 0119



NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 5 NORTH, RANGE 17 WEST AND TOWNSHIP 6 NORTH, RANGE 17 WEST.



**NFIP**

**NATIONAL FLOOD INSURANCE PROGRAM**

PANEL 0207D


**FIRM**  
FLOOD INSURANCE RATE MAP  
LORAIN COUNTY,  
OHIO  
AND INCORPORATED AREAS

PANEL 207 OF 410  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ELYRIA, CITY OF	390350	0207	D
LORAIN COUNTY	390346	0207	D

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

 **MAP NUMBER**  
39093C0207D  
**EFFECTIVE DATE**  
AUGUST 19, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)



Craig Snodgrass, CPA, CGFM  
Lorain County Auditor  
Lorain County Admin. Building  
226 Middle Ave., 2nd Floor  
Elyria, OH 44035  
Phone: (440) 329-5207

### Owner Information

Parcel Number	06-24-012-102-004
Owner Name & Address	RACER PROPERTIES LLC
Tax Bill Mailed to	RACER PROPERTIES LLC 2930 ECORSE ROAD YPSILANTI, MI 48198

### Property Information

Location Address	REAR LAND ELYRIA, OH 44035
Property Description	FROM -001
	95.22 A. AC.CORR. PER PRIOR DEEDS #11-2345-A
Tax District	33 - ELYRIA CITY / ELYRIA CSD
Land Use	399 - OTHER INDUSTRL STRUCTURES
Neighborhood	90600 - LAKE AV- FURNACE - W RIVER
Acres	95.2200
Instrument Number	

### Value Information:

Market Land Value	\$1,466,390
Market Building Value	\$3,000
Market Total Value	\$1,469,390
Market CAUV	\$0
Assessed Land Value	\$513,240
Assessed Building Value	\$1,050
Assessed Total Value	\$514,290
Assessed CAUV	\$0

### 2013 Full Year Tax Information

Full Year Tax Before Adjustments	\$48,601.44
-State Credit	\$12,058.48
Subtotal	\$36,542.96
-Non-business Credit	\$0.00
-Owner Occupancy Credit	\$0.00
-Homestead Credit	\$0.00
Annual Real Estate Tax	\$36,542.96
Current Special Assessments	\$0.00
Delinquent Special Assessments	\$0.00
Unpaid Taxes	\$0.00
Full Year Tax (includes any unpaid taxes & special assessments)	\$36,542.96
Total Taxes Paid to Date	\$18,271.48
Special Assessments (YES/NO)	NO

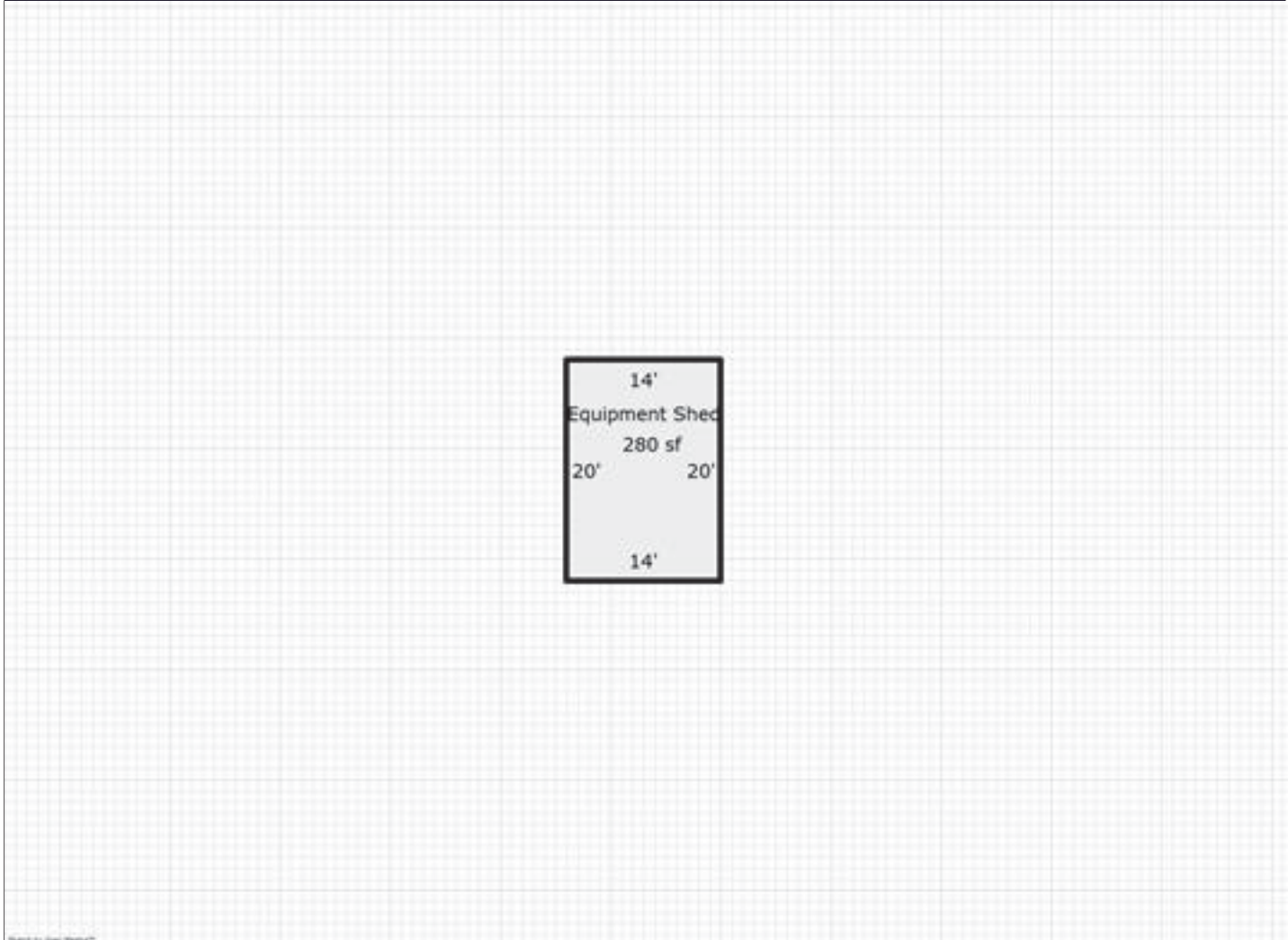
### Tax Disclaimer

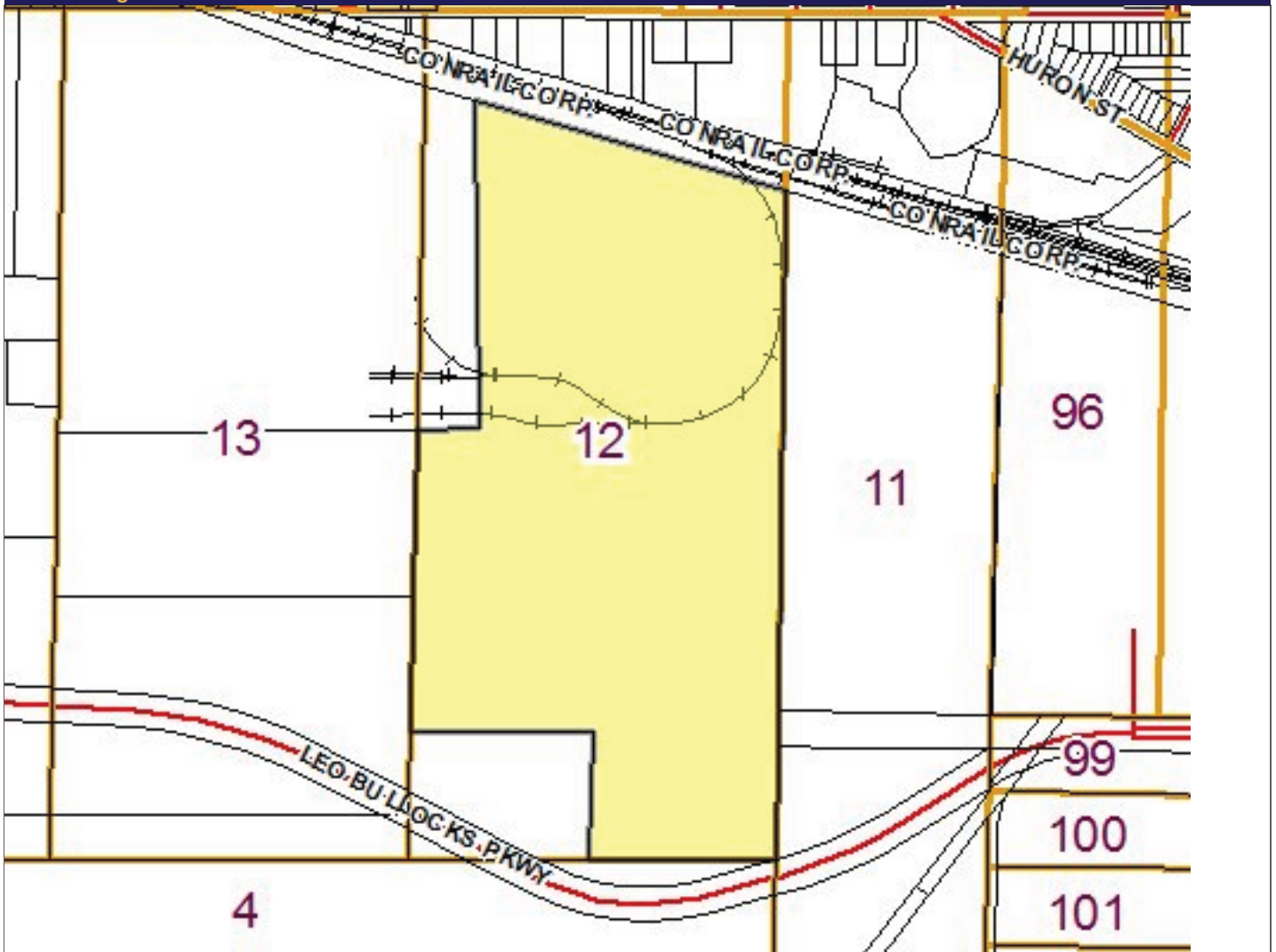
Your 2013 taxes were certified on December 30, 2013. The full year tax includes all unpaid taxes and special assessments. Please verify the actual tax amount due through the Lorain County Treasurer's Office at 440-329-5787. Taxes and payments are listed for Tax Year 2013, payable in 2014.

**Transfer History - 2011092063**

Sale Date	Sale Amount	Conveyance/Exempt	# of Parcels
6/24/2011	\$0	2011092063	1
Parcel	Grantor	Grantee	
0624012102004	REMEDATION & LIABILITY MANAGEMENT COMPANY INC	RACER PROPERTIES LLC	

**Building Sketch: 1**





WETLAND DELINEATION  
95.2-Acre Property  
1400 Lowell Street  
Elyria, Ohio 44035

**APPENDIX D**

**RESUMES**

# David J. Sedlick

## Current Position

Project Manager,  
Wetlands Group

## Discipline Areas

- > Environmental Consulting
- > Site Assessment
- > Wetlands and Ecological Investigations

## Years' Experience

17 years

## Joined Cardno

2007

## Education

- > BS, Natural Resources Development, The Ohio State University, 1994

## Summary of Experience

Mr. Sedlick has more than 17 years of experience specializing in Wetlands and Ecological Services and Phase I Environmental Site Assessments (ESAs) for financial institutions, real estate developers, architects, attorneys and public officials. He has also conducted numerous Ohio EPA AHERA and NESHAP Asbestos Surveys as well as Lead-Based Paint Risk Assessments and Inspections.

## Significant Projects

### *Project Manager – Wetland and Stream Mitigation – Brunswick, Ohio*

Mr. Sedlick was the Project Manager of a 4.5+ acre wetland and stream mitigation site created 2006. This wetland creation and stream enhancement project was conducted in conjunction with a US Army Corps of Engineers (USACE) Nationwide Permit (NWP) project for a 100+ lot residential subdivision. The mitigation allowed for an onsite mitigation plan that minimized environmental impacts while maximizing developable acreage.

### *Project Manager – Wetland Mitigation Project – Fredericktown, Ohio*

Mr. Sedlick was the Project Manager of a 6.696 acre wetland mitigation site created in 2004. This wetland creation / restoration project was conducted in conjunction with a USACE NWP project for a mixed use commercial / residential development site. Offsite mitigation was negotiated in order to provide the optimal site development plan for this site.

### *Project Manager – Wetland and Stream Mitigation Project – Independence, Ohio*

Mr. Sedlick was the Project Manager of a wetland and stream delineation and assessment in 2002 resulting in a successful USACE Individual Section 404 Permit/Ohio EPA Section 401 Water Quality Certification for a large public facility. Offsite mitigation was negotiated in order to provide the optimal site development plan for the community.

### *Wetlands – Ohio*

Mr. Sedlick conducted numerous Y-87-1 Wetland Delineations and Ohio EPA wetland and stream quality assessments helping clients attain jurisdictional determinations through the USACE.

### *Environmental – Ohio*

Mr. Sedlick conducted Ohio Department of Transportation (ODOT) Office of Environmental Services (OES) Memorandum of Agreement (MOA) projects and Indiana bat (*Myotis sodalis*) habitat surveys.

### *Project Manager – Environmental Site Assessments – Nationwide*

Mr. Sedlick was the Project Manager of over 500 Phase I ESAs of industrial, commercial, residential, agricultural and undeveloped properties. Conducted Phase I ESAs in Ohio, Michigan, Pennsylvania, West Virginia Kentucky, Indiana, Florida, Mississippi, Iowa, Nebraska, Nevada, and California.

### *Environmental – Ohio*

Mr. Sedlick protected numerous clients by identifying environmental issues including underground storage tanks (USTs), hazardous materials storage and historic recognized environmental conditions. Recommendations were formulated to resolve these issues through further environmental investigation.

## Training/Certifications

- > USACE 38-Hour Wetland Delineation and Management Training Program
- > US Department of Housing and Urban Development (HUD) Multifamily Accelerated Processing
- > Wetlands Training Institute Wetland Vegetation 4-Day Course
- > Sedges of Northwestern Ohio 4-Day Course
- > Ohio EPA Ohio Rapid Assessment Method for Wetlands (ORAM)
- > Ohio EPA Wetland Biocriteria Training - Vegetation Index of Biotic Integrity (VIBI) / Amphibian Index of Biotic Integrity (AmphIBI)
- > Ohio EPA Headwater Habitat Evaluation Index (HHEI) and Qualitative Habitat Evaluation Index (QHEI)
- > Ohio Department of Transportation (ODOT) Office of Environmental Services (OES) Waterway Permits and Ecological Surveys
- > Member of Society of Wetland Scientists
- > Asbestos Building Inspection/Management Planner
- > Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist
- > Ohio Department of Health Lead Risk Assessor Training
- > Niton XRF Lead-Based Paint Detection/Radiation Safety Training