



9436 Maltby Road  
Brighton, MI 48116  
810.225.0539 office  
810.225.0653 fax  
[www.niswander-env.com](http://www.niswander-env.com)

July 22, 2015

Mr. Patrick Schaffer  
**Menard, Inc. – Properties Division**  
5101 Menard Drive  
Eau Claire, WI 54703

**Subject:** *Wetland Delineation*  
*38.86-Acre Racer Trust Property*  
*Buena Vista Township, Saginaw County, MI*  
*NE 1424*

Dear Mr. Schaffer:

Niswander Environmental was contracted in July 2015 to complete a wetland delineation on 38.86-acre property (Property) located at 2100 Veterans Memorial Parkway in Section 8 of Buena Vista Township, Saginaw County, Michigan (T12N, R5E). The Property is a former industrial complex that was decommissioned and demolished over 10 years ago. Currently, this disturbed site is a vacant brownfield that is dominated by wetland, old field, meadow, and/or young successional forested habitat. Russian olive and cottonwood dominate much of the land, particularly in the north. The central portions of the site are primarily scrub-shrub wetland. Areas in the south consist of open meadow and old field. Please refer to Photos 1 and 2 in the attached Photographic Log for a representation of the upland portions of the Property.

Niswander Environmental assessed the Property for existing wetlands, watercourses, and floodplains, and delineated the wetland features. During the on-site investigation, **Niswander Environmental identified five (5) wetlands within the Property (Figure 1 – Wetland Location Map)**. The following is a report detailing the results of Niswander Environmental's investigation.

#### **SUPPORTING DOCUMENTATION**

##### *Wetlands and Watercourses*

Prior to the site investigation, Niswander Environmental completed a thorough review of available State and County GIS data, online resources, wetland maps, historic aerial photos, topographic maps, soil maps, and other materials. Infrared and color aerial photographs (Michigan Geospatial Digital Library – MiGDL, 1998, 2005, and 2012) and 2014 color aerial photographs (GoogleEarth) were obtained and evaluated for any remarkable features. A review of National Wetland Inventory (NWI), Michigan Department of Environmental Quality (MDEQ) Final Wetland Inventory Map, and Saginaw County GIS data was conducted to determine the likely presence, location, size and type of wetlands that may be located on the Property. The United States Fish and Wildlife Service (USFWS) produce the NWI data

through aerial photograph interpretation. The MDEQ Final Wetland Inventory Map was created from the NWI, USDA Soils Map, and Land Cover, as mapped by the Michigan Resource Inventory System (MIRIS).

Review of the available wetland maps, including the NWI and MDEQ Final Wetland Inventory Map for Saginaw County, did not identify wetlands or hydric soil on the Property, likely because this Property contained an industrial facility until recently. These maps, however, may not always accurately show the extent or existence of wetland systems in a specific area or correctly identify the wetlands present since they were primarily generated through aerial interpretation. Wetland inventory maps are utilized for preliminary analysis only. Field investigations are always necessary to determine the actual existence and type of wetlands in a given area.

## **METHODS**

### *Wetlands and Watercourses*

Potential wetland areas within the Property were evaluated in the field using the procedures outlined in the US Army Corps of Engineers *1987 Wetland Delineation Manual* (“87 Manual”), and the Northeast/NorthCentral Supplement to the “87 Manual” as required by the State of Michigan, Department of Environmental Quality, under Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, PA451 of 1994, as amended (NREPA). According to these procedures, wetlands are identified by the presence of hydric soils, signs of hydrology indicators, and dominant hydrophytic vegetation.

Hydric soil indicators were assessed in the field through soil pits that were dug in and around potential wetland areas. A soil is considered hydric if it meets requirements as stated in the Natural Resources Conservation Service *Field Indicators of Hydric Soils in the United States* (Version 7.0, 2010), which specifies parameters such as soil matrix color, amount and contrast of redox concentrations or depletions, and depth and thickness for a specific soil type such as loamy, clayey, or sandy soils. Soils were not reviewed in areas with standing or flowing water since these areas are assumed to be hydric.

Signs of hydrology within potential wetland areas were also investigated. Standing water or saturated soils, water marks on trees, drift lines, sediment deposits, and water-stained leaves (among others) are considered primary indicators of hydrology, while secondary signs include drainage patterns, moss trim lines, crayfish burrows, and surface soil cracks. Either one primary or two secondary indicators are necessary in determining the presence of wetland hydrology.

Dominant vegetation for wetland areas are typically determined by estimating the most common species of tree, shrub, and forb layers. The top dominants are visually estimated for each layer or strata, and the indicator status of each dominant species is then determined. An indicator status of obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU) and/or upland (UPL) is typically assigned to each plant species on the U.S. Army Corps of Engineers *National Wetland Plant List* (<http://rsgisias.crrel.usace.army.mil/NWPL/>). An area has hydrophytic (wetland) vegetation when, under normal circumstances, more than 50 percent of the composition of the dominant species from all strata are OBL, FACW, and/or FAC species. An area has non-hydrophytic vegetation when 50 percent or more of the composition of the dominant species from all strata are FACU and/or UPL species. Areas

that meet the three criteria of hydric soils, wetland hydrology, and hydrophytic vegetation are considered wetlands. The perimeter of a wetland is typically determined by locating areas where one of these three criteria is no longer present (*i.e.*, where wetland vegetation transitions to upland vegetation or where signs of hydrology are no longer apparent, etc.).

The wetland boundary was flagged and GPS'd in the field, and then digitized into a GIS database (Figure 1 – Wetland Location Map). The actual wetland boundary should be surveyed and incorporated into any development plans to determine the exact size, shape, and location of the wetland.

Under NREPA, wetlands are regulated if they are greater than 5 acres in size or if they are connected to or within 500 feet of an inland lake, pond, river, drain, or stream (*i.e.*, watercourse). A pond is defined in Part 303 Administrative Rules (R 281.921) as a natural or artificial pond that has permanent open water with a surface area that is more than 1 acre, but less than 5 acres. Other watercourses are regulated by the State under Part 301 (Inland Lakes and Streams) if they exhibit defined banks, a bed, and visible evidence of a continued flow or continued occurrence of water. An inland lake or stream does not include the Great Lakes, Lake St. Clair, or a lake or pond that has a surface area of less than 5 acres. It should be noted that the MDEQ has the final authority on the regulatory status of wetlands and watercourses in the State of Michigan.

## FINDINGS

On July 15 and 16, 2015 Niswander Environmental conducted a wetland delineation on the Property using the *87 Manual*. Five wetlands (Wetland A - E) were identified and flagged on the Property. The limits of the wetland were flagged in the field with pink flagging labeled A1 – A80, B1 – B145, C1 – C24, D1 – D14, and E1 – E 65. The wetland delineation, once surveyed by a registered surveyor, will provide the exact shape, size, and location of the on-site wetland.

### WETLANDS A, B, AND D

Wetlands A, B, and D are similar in terms of habitat type, vegetative composition, soil structure, and hydrologic indicators. They are separated from each other through access roads and driveways, and there does not appear to be a hydrologic connection (Figure 1). Each of these wetlands are classified as emergent/scrub-shrub wetlands, meaning there are portions that are dominated by woody shrubs and small trees, but there are also openings comprised primarily of herbaceous plants. Despite their diversity, these wetlands are considered to be of moderate to moderately low quality because of recent disturbance (*i.e.*, the wetlands have developed since the demolition of the pre-existing buildings and infrastructure on the site) and contain an abundance of invasive vegetation such as Phragmites (*Phragmites australis*), red top (*Agrostis gigantea*), narrow-leaved cattail (*Typha angustifolia*), and purple loosestrife (*Lythrum salicaria*). Other common-to-abundant plants within Wetlands A, B, and D include path rush (*Juncus tenuis*), Torrey's rush (*Juncus torreyi*), sandbar willow (*Salix exigua*), cottonwood (*Populus deltoides*), slender fragrant goldenrod (*Euthamia graminifolia*), and sedge (*Carex* spp.). Wetland A contains a disturbed meadow area in the southern portion of the Property, where wildflowers such as vervain (*Verbena hastata*), late goldenrod (*Solidago gigantea*), swamp milkweed (*Asclepias incarnata*), and swamp aster (*Symphotrichum puniceum*) along with a variety of sedges and rushes. Please refer to Photos 3 – 7 in the attached Photographic Log.



Hydrologic indicators present at the time of inspection include standing water, saturated soils, aquatic fauna, algal mats, and a positive FAC-Neutral test. Soils within each wetland proved to be similar, consisting of a sandy mucky mineral that is hydric. The upland/wetland interface was determined through topographical differences and the presence/absence of upland species such as common buckthorn (*Rhamnus cathartica*), Virginia creeper (*Parthenocissus quinquefolia*), Russian olive (*Elaeagnus angustifolia*), thistle (*Cirsium arvense*), tall goldenrod (*Solidago altissima*), Queen Anne's lace (*Daucus carota*), spotted knapweed (*Centaurea stoebe*) and various upland grasses. Upland areas generally contained a few wetland species intermixed with an abundance of upland plants, and also lacked primary indicators of hydrology. Please refer to the attached Wetland Determination Data Form for more details pertaining to Wetlands A, B, and D.

Wetland B is likely regulated by the MDEQ due to the fact that it is greater than five acres in size. Wetlands A and D are likely not regulated since they are smaller than five acres and are hydrologically isolated.

#### WETLAND C

Wetland C is a small, depressional wetland located within a disturbed field along Veterans Memorial Parkway (Figure 1). This emergent wetland is dominated by scouring rush (*Equisetum hymale*), meadow sedge (*Carex granularis*), and taper-tip rush (*Juncus articulatis*). Other species present within this wetland include fowl bluegrass (*Poa palustris*), Torrey's rush, spikerush (*Eleocharis obtusa*), and swamp milkweed (Photo 8; Photographic Log).

Although the interior of the wetland contained standing water, a majority of the wetland was only saturated at the time of inspection. Hydric soils were confirmed when a mucky sand was revealed. Please refer to the attached Wetland Determination Data Form for more details pertaining to Wetland C.

Wetland C is likely not regulated by the MDEQ since it is less than five acres in size and is not hydrologically connected to a regulating body of water.

#### WETLAND D

Wetland E is a small (~1 ac) wetland located in the northwest portion of the Property, beginning just north of the access drive (Figure 1). Like the other on-site wetlands, this wetland is disturbed but is becoming more naturalized as the years pass. Most of the wetland is classified as scrub-shrub due to the abundance of sapling cottonwood, but other portions are more open and resemble a meadow (Photos 9 and 10; Photographic Log). While no single species truly dominates, the most abundant plants within this wetland include cottonwood, sandbar willow, purple loosestrife, scouring rush, vervain, late goldenrod, slender-fragrant goldenrod, and riverbank grape (*Vitis riparia*).

Wetland E contained a few pockets of standing water, but in general was saturated at or just below the surface. Please refer to the attached Wetland Determination Data Form for more details pertaining to Wetland E.

Wetland E is likely not regulated by the MDEQ since it is less than five acres in size and is hydrologically isolated.




## CONCLUSIONS

Niswander Environmental identified five wetlands (Wetlands A, B, C, D, and E) on the Property. The approximate size and shape of the wetland is represented in Figure 1 (Wetland Location Map). A survey of the wetland delineation should be conducted to accurately determine the wetland boundaries and any potential impacts resulting from future work within this area.

**It is Niswander Environmental's professional opinion that Wetland B is regulated by the MDEQ due to the fact that it is greater than 5 acres in size.** The remaining four wetlands are less than 5 acres in size, and are hydrologically isolated. However, since the MDEQ has the final regulatory authority, we recommend that a Pre-Application Meeting with the MDEQ be held prior to moving forward with any potential development. A MDEQ Part 303 Permit will be necessary if impacts to regulated wetland are proposed.

We look forward to working with you to make this project a success. If you have any questions or require additional information please call us at your convenience.

Sincerely,



Jeff W. Bridgland  
Ecologist

*Professional Wetland Scientist #1810*



Steven F. Niswander  
Principal

*Professional Wetland Scientist #1276*

Attachments: Figure 1 – Wetland Location Map  
Photographic Log  
Wetland Determination Data Forms



**Photographic Log**



**Photo 1**

The Racer Trust property is a 38.86-acre site that was a former industrial facility that was demolished roughly 10-15 years ago and left fallow.

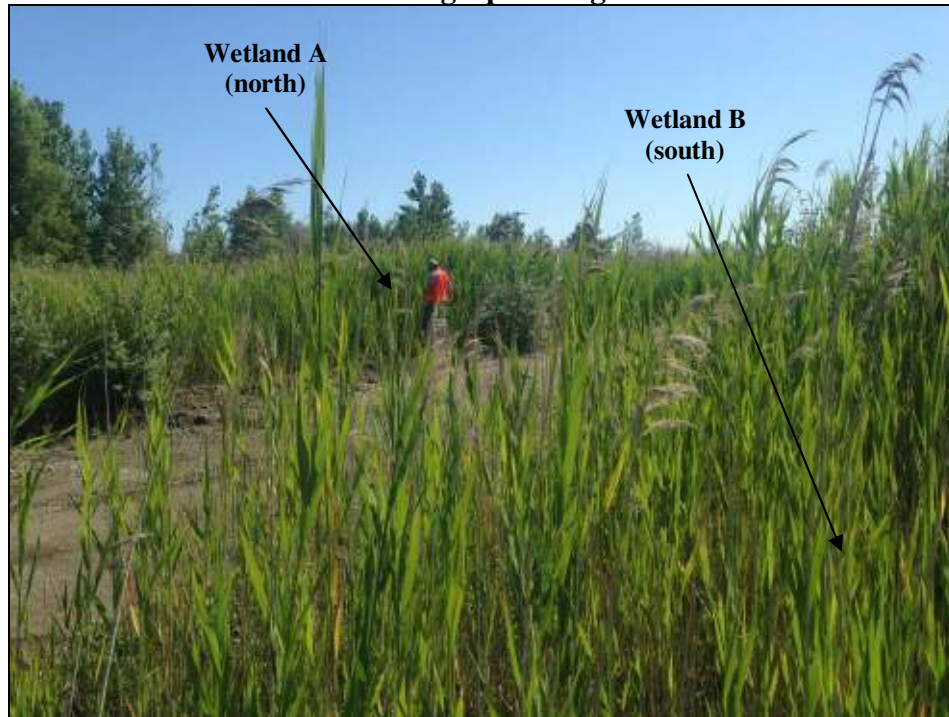


**Photo 2**

This disturbed property is dominated by pioneer species such as cottonwood, willow, and Russian olive.



**Photographic Log**



**Photo 3**

An access driveway splits Wetlands A and B, but there does not appear to be a hydrologic connection between the two. Along the road, these wetlands contain an abundance of invasive Phragmites.



**Photo 4**

Wetland A, located on the north side of the access drive, is dominated by Phragmites (although other species are present throughout).

**Photographic Log**



**Photo 5**

View facing south showing Wetland B, a large (~7+ acre) scrub-shrub wetland. This wetland is likely regulated by the MDEQ.



**Photo 6**

The southern portion of Wetland B is comprised primarily of meadow species as opposed to woody species that dominate further north.



**Photographic Log**



**Photo 7**

Wetland D, located in the northeast portion of the property, is primarily an emergent wetland dominated by Phragmites, cattail, sedge, and rush.



**Photo 8**

Wetland C is a small, isolated emergent wetland located along Veterans Memorial Highway.



### Photographic Log



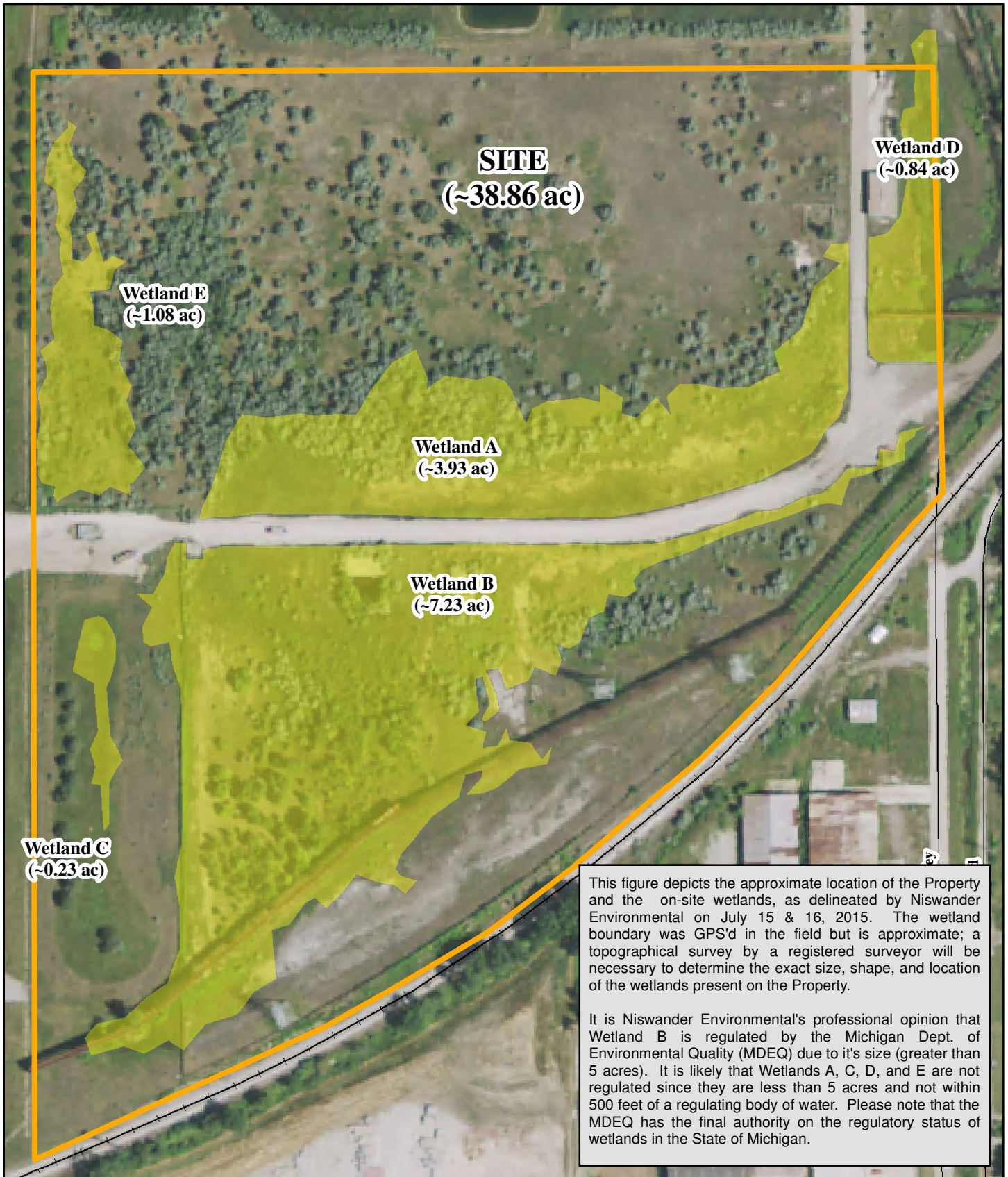
**Photo 9**

View facing north showing the scrub-shrub portion of Wetland E. This wetland contains both meadow and scrub-shrub characteristics, and is very diverse.



**Photo 10**

Pockets of open meadow are common throughout Wetland E. These areas contain an abundance of sedges, rushes and wildflowers such as vervain, goldenrod, milkweed, and aster.



**Figure 1. Wetland Location Map**

NE 1424 Racer Trust Industrial Park

Client: Menard, Inc.

38.86-Acre Property at 2100 Veterans Memorial Parkway  
Section 8 of Buena VistaTwp., Saginaw Co., MI (T12N, R5E)

Delineation Date: July 15 & 16, 2015

Map Created: July 16, 2015

Feet 0 100 200 400



**NISWANDER**  
**ENVIRONMENTAL**

9436 Maltby Road, Brighton, MI 48116  
810.225.0539 office | 810.225.0653 fax

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Menard's Saginaw City/County: Buena Vista Twp., Saginaw Co. Sampling Date: 7/15/2015  
 Applicant/Owner: Racer Trust State: MI Sampling Point: A, B, D  
 Investigator(s): J. Bridgland, T. Smith - Niswander Environmental Section, Township, Range: Sec. 8, T12N, R5E  
 Landform (hillside, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope %: \_\_\_\_\_  
 Subregion (LRR or MLRA):                      Lat: 43 27' 25.00"N Long: 83 54' 32.82"W Datum: GoogleEarth  
 Soil Map Unit Name: Urban Land (74) NWI classification: NA

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
---	---

Remarks: (Explain alternative procedures here or in a separate report.)  
 Wetland Data Form for Wetlands A, B, and D. Each of these three wetlands exhibit similar habitat types, vegetative composition, soils, and hydrology. Separated by an access driveway, but no apparent hydrologic connection (no culverts observed). Highly disturbed - former industrial facility that was demolished roughly 10-15 years ago, capped with soil, and left to naturally vegetate. Wetland A = ~3.93 acres (80 flags); Wetland B = ~7.23ac (145 flags); Wetland C = ~ 0.23 ac (24 flags); Wetland D = ~0.84 ac (14 flags); Wetland E = ~ 1.08 ac (65 flags). Wetland B is likely regulated due to size. It is Niswander Environmental's professional opinion that Wetlands A, C, D, and E are hydrologically isolated and smaller than five acres in size and therefore are likely not regulated by the MDEQ.

### HYDROLOGY

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

<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>3</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>10</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
--	---

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

Remarks:  
 Wetlands A, B, and D exhibited standing water throughout much of the wetland at the time of the inspection. Much of the remainder of each wetland was saturated at the surface.

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

Sampling Point:     A, B, D    

<u>Tree Stratum</u> (Plot size: <u>    30 ft.    </u> )	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Eastern Cottonwood</u>	<u>10</u>	<u>Yes</u>	<u>FAC</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>    8    </u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>    75.0%    </u> (A/B)																																
2. <u>Russian-Olive</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																																	
3. <u>Black Willow</u>	<u>2</u>	<u>No</u>	<u>OBL</u>																																	
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
	<u>22</u>	=Total Cover																																		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>    15 ft.    </u> )				<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">_____</td> <td style="text-align:right;">Multiply by:</td> <td style="text-align:center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align:center;"><u>117</u></td> <td>x 1 =</td> <td style="text-align:center;"><u>117</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>175</u></td> <td>x 2 =</td> <td style="text-align:center;"><u>350</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>45</u></td> <td>x 3 =</td> <td style="text-align:center;"><u>135</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>10</u></td> <td>x 4 =</td> <td style="text-align:center;"><u>40</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center;"><u>347</u></td> <td>(A)</td> <td style="text-align:center;"><u>642</u></td> </tr> <tr> <td colspan="2" style="text-align:right;">Prevalence Index = B/A =</td> <td></td> <td style="text-align:center;"><u>1.85</u></td> </tr> </table>	Total % Cover of:	_____	Multiply by:	_____	OBL species	<u>117</u>	x 1 =	<u>117</u>	FACW species	<u>175</u>	x 2 =	<u>350</u>	FAC species	<u>45</u>	x 3 =	<u>135</u>	FACU species	<u>10</u>	x 4 =	<u>40</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>347</u>	(A)	<u>642</u>	Prevalence Index = B/A =			<u>1.85</u>
Total % Cover of:	_____	Multiply by:	_____																																	
OBL species	<u>117</u>	x 1 =	<u>117</u>																																	
FACW species	<u>175</u>	x 2 =	<u>350</u>																																	
FAC species	<u>45</u>	x 3 =	<u>135</u>																																	
FACU species	<u>10</u>	x 4 =	<u>40</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>347</u>	(A)	<u>642</u>																																	
Prevalence Index = B/A =			<u>1.85</u>																																	
1. <u>Sandbar Willow</u>	<u>65</u>	<u>Yes</u>																																		
2. <u>Silky Dogwood</u>	<u>10</u>	<u>No</u>																																		
3. <u>European Buckthorn</u>	<u>10</u>	<u>No</u>																																		
4. <u>Russian-Olive</u>	<u>10</u>	<u>No</u>																																		
5. _____																																				
6. _____																																				
7. _____																																				
	<u>95</u>	=Total Cover																																		
<u>Herb Stratum</u> (Plot size: <u>    5 ft.    </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 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.																																
1. <u>Common Reed</u>	<u>80</u>	<u>Yes</u>	<u>FACW</u>																																	
2. <u>Purple Loosestrife</u>	<u>50</u>	<u>Yes</u>	<u>OBL</u>																																	
3. <u>Narrow-Leaf Cat-Tail</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>																																	
4. <u>Torrey's Rush</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>																																	
5. <u>Late Goldenrod</u>	<u>25</u>	<u>No</u>	<u>FACW</u>																																	
6. <u>Juncus tenuis</u>	<u>25</u>	<u>No</u>	<u>FAC</u>																																	
7. <u>Agrostis gigantea</u>	<u>20</u>	<u>No</u>	<u>FACW</u>																																	
8. <u>Common Fox Sedge</u>	<u>10</u>	<u>No</u>	<u>OBL</u>																																	
9. <u>Flat-Top Goldentop</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																																	
10. <u>Swamp Milkweed</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																																	
11. <u>water plantain</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																																	
12. <u>Bebb's Sedge</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																																	
	<u>315</u>	=Total Cover																																		
<u>Woody Vine Stratum</u> (Plot size: <u>    15 ft.    </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>10</u>	<u>Yes</u>	<u>FAC</u>																																	
2. _____																																				
3. _____																																				
4. _____																																				
	<u>10</u>	=Total Cover																																		

Remarks: (Include photo numbers here or on a separate sheet.)  
 Other species present include vervain, swamp aster, chairmakers rush, soft rush, green bulrush, joe-pye weed, boneset, taper-tip rush, and Indian hemp. Northern portions of Wetland A dominated 99% by Phragmites. Southern portions of Wetland B contain disturbed meadow. Upland/Wetland interface determined by presence of upland species such as spotted knapweed, russian olive, tall goldenrod, Virginia creeper, orchard grass, Queen Anne's lace, and/or thistle.



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

Project/Site: Menard's Saginaw City/County: Buena Vista Twp., Saginaw Co. Sampling Date: 7/15/2015  
 Applicant/Owner: Racer Trust State: MI Sampling Point: C  
 Investigator(s): J. Bridgland, T. Smith - Niswander Environmental Section, Township, Range: Sec. 8, T12N, R5E  
 Landform (hillside, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope %: \_\_\_\_\_  
 Subregion (LRR or MLRA):                      Lat: 43 27' 25.00"N Long: 83 54' 32.82"W Datum: GoogleEarth  
 Soil Map Unit Name: Urban Land (74) NWI classification: NA

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Small, depressionnal PEM located within overgrown grassy field. Roughly 0.23 acres (24 flags). Likely not regulated due to lack of size and hydrologically isolated.	

**HYDROLOGY**

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

<b>Field Observations:</b> Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>1</u> Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
---	---

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

Remarks:  
 Interior portions of Wetland C contained standing water, but a majority of the wetland was saturated at the surface at the time of inspection





## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Menard's Saginaw City/County: Buena Vista Twp., Saginaw Co. Sampling Date: 7/16/2015  
 Applicant/Owner: Racer Trust State: MI Sampling Point: E  
 Investigator(s): J. Bridgland - Niswander Environmental Section, Township, Range: Sec. 8, T12N, R5E  
 Landform (hillside, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope %: \_\_\_\_\_  
 Subregion (LRR or MLRA):                      Lat: 43 27' 25.00"N Long: 83 54' 32.82"W Datum: GoogleEarth  
 Soil Map Unit Name: Urban Land (74) NWI classification: NA

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) PSS wetland with open meadow portions; diverse; hummocky, portions marginally wetland (mesic); Approximately 1.08 ac (65 flags). Likely not regulated due to size and lack of hydrologic connectivity.	

### HYDROLOGY

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

<b>Field Observations:</b> Surface Water Present? Yes _____ No _____ Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>10</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>4</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No _____
--	---

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

Remarks:  
 Very few pockets of standing water; portions saturated at surface, but mostly below the surface (@ roughly 4")

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

Sampling Point:     E    

<u>Tree Stratum</u> (Plot size: <u>    30 ft.    </u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Populus deltoides</u>	<u>    30    </u>	Yes	FAC	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>    9    </u> (A)  Total Number of Dominant Species Across All Strata: <u>    9    </u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>    100.0%    </u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>    30    </u> =Total Cover			<b>Prevalence Index worksheet:</b> <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>    55    </u></td> <td>x 1 = <u>    55    </u></td> </tr> <tr> <td>FACW species <u>   140   </u></td> <td>x 2 = <u>   280   </u></td> </tr> <tr> <td>FAC species <u>   135   </u></td> <td>x 3 = <u>   405   </u></td> </tr> <tr> <td>FACU species <u>    10    </u></td> <td>x 4 = <u>    40    </u></td> </tr> <tr> <td>UPL species <u>    0    </u></td> <td>x 5 = <u>    0    </u></td> </tr> <tr> <td>Column Totals: <u>   340   </u></td> <td>(A) <u>   780   </u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>    2.29    </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>    55    </u>	x 1 = <u>    55    </u>	FACW species <u>   140   </u>	x 2 = <u>   280   </u>	FAC species <u>   135   </u>	x 3 = <u>   405   </u>	FACU species <u>    10    </u>	x 4 = <u>    40    </u>	UPL species <u>    0    </u>	x 5 = <u>    0    </u>	Column Totals: <u>   340   </u>	(A) <u>   780   </u> (B)	Prevalence Index = B/A = <u>    2.29    </u>	
Total % Cover of:	Multiply by:																			
OBL species <u>    55    </u>	x 1 = <u>    55    </u>																			
FACW species <u>   140   </u>	x 2 = <u>   280   </u>																			
FAC species <u>   135   </u>	x 3 = <u>   405   </u>																			
FACU species <u>    10    </u>	x 4 = <u>    40    </u>																			
UPL species <u>    0    </u>	x 5 = <u>    0    </u>																			
Column Totals: <u>   340   </u>	(A) <u>   780   </u> (B)																			
Prevalence Index = B/A = <u>    2.29    </u>																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>    15 ft.    </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 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)																
1. <u>Populus deltoides</u>	<u>    50    </u>	Yes	FAC																	
2. <u>Salix interior</u>	<u>    20    </u>	Yes	FACW																	
3. <u>Russian olive</u>	<u>    10    </u>	No	FACU																	
4. <u>Cornus amomum</u>	<u>    5    </u>	No	FACW																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
	<u>    85    </u> =Total Cover			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
<u>Herb Stratum</u> (Plot size: <u>    5 ft.    </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>Lythrum salicaria</u>	<u>    35    </u>	Yes	OBL																	
2. <u>Equisetum hyemale</u>	<u>    25    </u>	Yes	FAC																	
3. <u>Verbena hastata</u>	<u>    25    </u>	Yes	FACW																	
4. <u>Solidago gigantea</u>	<u>    20    </u>	Yes	FACW																	
5. <u>Euthamia graminifolia</u>	<u>    20    </u>	Yes	FACW																	
6. <u>Agrostis gigantea</u>	<u>    15    </u>	No	FACW																	
7. <u>Carex vulpinoidea</u>	<u>    15    </u>	No	OBL																	
8. <u>Apocynum cannabinum</u>	<u>    15    </u>	No	FACW																	
9. <u>Juncus torreyi</u>	<u>    10    </u>	No	FACW																	
10. <u>Phragmites australis</u>	<u>    10    </u>	No	FACW																	
11. <u>Juncus tenuis</u>	<u>    10    </u>	No	FAC																	
12. <u>Juncus articulatus</u>	<u>    5    </u>	No	OBL																	
	<u>   205   </u> =Total Cover			<b>Hydrophytic Vegetation Present?</b> Yes <u>  X  </u> No <u>      </u>																
<u>Woody Vine Stratum</u> (Plot size: <u>    15 ft.    </u> )																				
1. <u>Vitis riparia</u>	<u>    20    </u>	Yes	FAC																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
	<u>    20    </u> =Total Cover																			

Remarks: (Include photo numbers here or on a separate sheet.)  
 Wetland E is dominated by cottonwood, sandbar willow, purple loosestrife, and grapevine. Abundant and common species include vervain, late goldenrod, scouring rush, slender-fragrant goldenrod, fox sedge, red top, and Indian hemp. Upland/Wetland interface marked by presence of Virginia creeper, russian olive, tall goldenrod, thistle, and poison ivy.

