

# SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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October 7, 2013

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Mr. Leif Hauge, P.E., P.H.  
Senior Civil Engineer  
Waukesha County Land Resources Division  
515 W. Moreland Boulevard, Room AC 260  
Waukesha, WI 53188

Re: SEWRPC No. CA-737-267

Dear Mr. Hauge:

This will respond to your electronic mail message of June 7, 2013, requesting the Commission staff to conduct a field inspection of a portion of the University of Wisconsin – Waukesha Campus property for the purpose of identifying in the field the boundaries of any wetlands within the project area. In addition, you requested that the Commission staff complete a Wisconsin Department of Natural Resources “Rapid Assessment Methodology for Evaluating Wetland Functional Values” form for wetland contained within the project area. The project area is located in parts of the Northeast and Southeast one-quarters of U.S. Public Land Survey Section 32, Township 7 North, Range 19 East, City of Waukesha, Waukesha County, Wisconsin.

Pursuant to your request, Dr. Donald M. Reed, Chief Biologist of the Commission staff, identified and staked the wetland boundaries within the project area on August 1, 2013. A description of the study area, wetland delineation methods used, and results are attached hereto as Exhibit A. A list of plant species identified within the subject wetland is attached hereto as Exhibit A1. Seven representative sample sites were examined and are summarized on the attached Exhibit A2, Wetland Determination Data Form – Northcentral and Northeast Region. Finally, the Rapid Assessment Methodology for Evaluating Wetland Functional Values form is attached hereto as Exhibit A3.

Should you have any questions regarding this information, please do not hesitate to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth R. Yunker".

Kenneth R. Yunker, P.E.  
Executive Director

KRY/DMR/CJJ/pk  
CA737-267 UW-WAUKESHA LETTER (00213683).DOCX

Enclosures (#213973)

cc: Mr. Jesse M. Jensen, Wisconsin Department of Natural Resources  
Ms. Marie Kopka, U.S. Army Corps of Engineers

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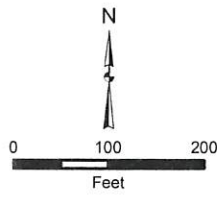
Land Resources



UW Waukesha Campus  
Storm Water Management Plan  
NE and SE Quarter, Section 32, T7N-R19E  
City of Waukesha, Waukesha County

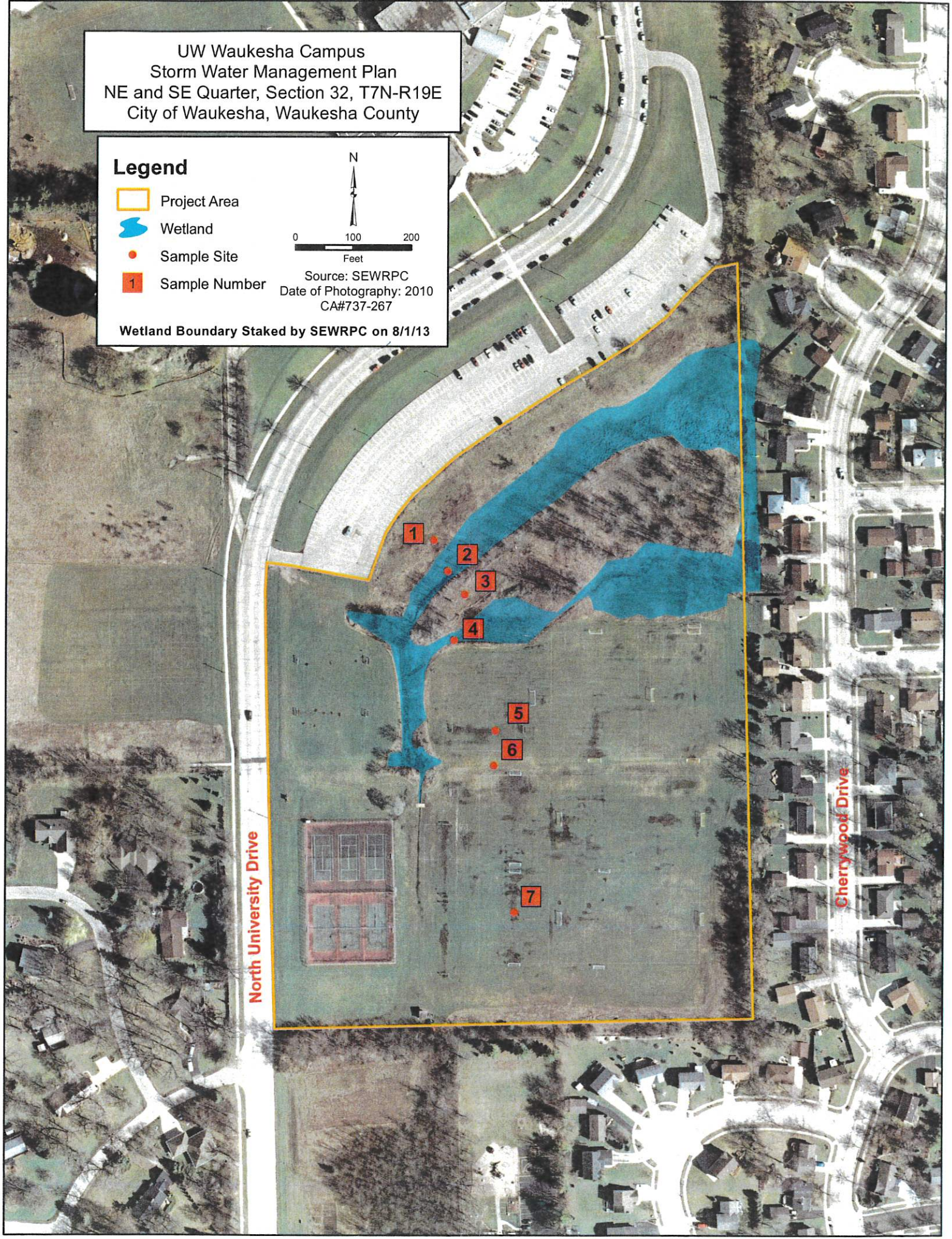
**Legend**

-  Project Area
-  Wetland
-  Sample Site
-  Sample Number



Source: SEWRPC  
Date of Photography: 2010  
CA#737-267

Wetland Boundary Staked by SEWRPC on 8/1/13





## EXHIBIT A

### STUDY AREA

The project area includes a portion of the University of Wisconsin - Waukesha Campus property located in parts of the northeast and southeast one-quarters of U.S. Public Land Survey Section 32, Township 7 North, Range 19 East, City of Waukesha, Waukesha County, Wisconsin.

### METHODS

The wetland boundary determinations were based upon the criteria and methodologies set forth in the 1987 *Corps of Engineers Wetlands Delineation Manual*; the January 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0); and the Wisconsin Department of Administration Coastal Management Program's 1995 *Basic Guide to Wisconsin's Wetlands and their Boundaries*.

The wetland boundary determinations also incorporated use of the Commission's 2010 large-scale Orthophotography, the 2005 Wisconsin Wetland Inventory, Waukesha County's large-scale topographic mapping, and the Natural Resource Conservation Service's (NRCS) soil survey.

Specific methods used to field identify wetland boundaries included the U.S. Department of the Army Corps of Engineers Routine Onsite Determination Method – Plant Community Assessment Procedure. This procedure requires an initial identification of representative plant community types in the project area followed by a characterization of vegetation, soils, and hydrology for each type.

A list of vascular plant species observed during the field inspection was prepared for the wetland plant community areas using a meander method on the day of the field inspection.

In addition, climate data from the National Weather Service and the United States Geological Survey (USGS) were considered in determining ambient hydrology conditions at the project area. Based upon these data, it was determined the antecedent precipitation was 4 to 6 inches above normal for the past 90 days.

The wetland within the project area was field inspected and the boundary identified in the field by flagged stakes on August 1, 2013.

### RESULTS

The results of the wetland delineation field inspection are set forth on the large-scale Orthophotography attached to this Exhibit. One Wetland Plant Community Area was identified and inventoried within the project area. Exhibit A1 contains a list of the vascular plant species observed within the Wetland Plant Community Area.

The approximately 2.75-acre wetland plant community area consists of shallow marsh, fresh (wet) meadow, shrub-carr (willow thicket), and second growth, Southern wet to wet-mesic lowland hardwoods. Disturbances to the plant community area include past agricultural land management activities, dumping, filling, mowing, siltation and sedimentation due to stormwater runoff from adjacent lands, excavation and grading, and water level changes due to past ditching, draining, and storm sewer construction. No Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection.

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In addition, seven representative sample sites were identified within the project area. The Wetland Determination Data Forms describing the findings at each sample site is attached as Exhibit A2. The locations of the sample sites are shown on the aforementioned Orthophotography.

Finally, a Wisconsin Department of Natural Resources "Rapid Assessment Methodology for Evaluating Wetland Functional Values" form was completed for Plant Community Area No. 1 and is attached hereto as Exhibit A3.

CA737-267 UW-Waukesha Exhibit A (00212611).DOC



SVY4015  
CA737-267

EXHIBIT A1

PRELIMINARY VEGETATION SURVEY  
UW WAUKESHA CAMPUS STORM WATER MANAGEMENT PLAN

Date: August 1, 2013

Observers: Donald M. Reed, Ph.D., Chief Biologist  
Daniel L. Carter, Ph.D., Senior Biologist  
Christopher J. Jors, Biologist  
Southeastern Wisconsin Regional Planning Commission

Location: City of Waukesha in parts of the Northeast and Southeast one-quarters of  
U.S. Public Land Survey Section 32, Township 7 North, Range 19 East,  
Waukesha County, Wisconsin.

Species List:

TYPHACEAE

Typha angustifolia<sup>1</sup>--Narrow-leaved cat-tail

GRAMINEAE

Bromus inermis<sup>2</sup>--Smooth brome grass  
Festuca elatior<sup>2</sup>--Tall fescue  
Poa pratensis<sup>2</sup>--Kentucky bluegrass  
Poa palustris--Marsh bluegrass  
Agropyron repens<sup>2</sup>--Quack grass  
Agrostis gigantea<sup>2</sup>--Redtop grass  
Phleum pratense<sup>2</sup>--Timothy grass  
Phalaris arundinacea<sup>1,2</sup>--Reed canary grass

CYPERACEAE

Eleocharis erythropoda--Red-root spike-rush  
Carex granularis--Pale sedge  
Carex pellita<sup>1</sup>--Woolly sedge

JUNCACEAE

Juncus dudleyi--Dudley's rush

SALICACEAE

Populus deltoides<sup>1</sup>--Cottonwood  
Salix nigra--Black willow  
Salix interior<sup>1</sup>--Sandbar willow

JUGLANDACEAE

Juglans nigra--Black walnut

MORACEAE

Morus alba<sup>2</sup>--White mulberry

URTICACEAE

Urtica dioica--Stinging nettle

POLYGONACEAE

Polygonum amphibium--Water smartweed

CRUCIFERAE

Barbarea vulgaris<sup>2</sup>--Yellow rocket  
Alliaria officinalis<sup>2</sup>--Garlic-mustard



## ROSACEAE

Potentilla simplex--Old field cinquefoil  
Geum canadense--White avens  
Rubus strigosus--Red raspberry  
Malus sp.<sup>2</sup>--Apple

## FABACEAE

Melilotus officinalis<sup>2</sup>--Yellow sweet clover  
Coronilla varia<sup>2</sup>--Crown-vetch

## ANACARDIACEAE

Rhus typhina--Staghorn sumac

## ACERACEAE

Acer saccharinum--Silver maple  
Acer negundo--Boxelder

## RHAMNACEAE

Rhamnus cathartica<sup>1,2</sup>--Common buckthorn

## VITACEAE

Vitis riparia--Riverbank grape  
Parthenocissus inserta--Virginia creeper

## VIOLACEAE

Viola sororia--Woolly blue violet

## ELAEAGNACEAE

Elaeagnus angustifolia<sup>2</sup>--Russian-olive

## LYTHRACEAE

Lythrum salicaria<sup>1,2</sup>--Purple loosestrife

## ONAGRACEAE

Oenothera biennis--Evening-primrose

## UMBELLIFERAE

Daucus carota<sup>2</sup>--Queen Anne's lace

## CORNACEAE

Cornus amomum--Silky dogwood  
Cornus stolonifera--Red-osier dogwood  
Cornus racemosa--Grey dogwood

## OLEACEAE

Fraxinus pennsylvanica--Green ash

## ASCLEPIADACEAE

Asclepias syriaca--Common milkweed

## VERBENACEAE

Verbena hastata--Blue vervain

## LABIATAE

Lycopus uniflorus--Northern bugleweed

## SOLANACEAE

Solanum dulcamara<sup>2</sup>--Deadly nightshade

## SCROPHULARIACEAE

Verbascum thapsus<sup>2</sup>--Mullein



## PLANTAGINACEAE

Plantago major<sup>2</sup>--Common plantain

## CAPRIFOLIACEAE

Viburnum opulus<sup>2</sup>--European highbush-cranberry

Lonicera X bella<sup>2</sup>--Hybrid honeysuckle

## DIPSACACEAE

Dipsacus laciniatus<sup>1,2</sup>--Cut-leaved teasel

## COMPOSITAE

Ambrosia trifida--Giant ragweed

Solidago gigantea--Giant goldenrod

Solidago altissima<sup>1</sup>--Tall goldenrod

Solidago graminifolia--Grassleaf goldenrod

Aster lucidulus--Swamp aster

Aster pilosus--Frost aster

Aster simplex--Marsh aster

Erigeron strigosus--Daisy fleabane

Cirsium arvense<sup>2</sup>--Canada thistle

Sonchus arvensis<sup>2</sup>--Sow thistle

Total number of plant species: 62

Number of alien, or non-native, plant species: 25 (40 percent)

This approximately 2.75-acre wetland plant community area consists of shallow marsh, fresh (wet) meadow, shrub-carr (willow thicket), and second growth, Southern wet to wet-mesic lowland hardwoods. Disturbances to the plant community area include past agricultural land management activities, dumping, filling, mowing, siltation and sedimentation due to stormwater runoff from adjacent lands, excavation and grading, and water level changes due to past ditching, draining, and storm sewer construction. No Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection.

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<sup>1</sup> Co-dominant plant species

<sup>2</sup> Alien or non-native plant species



**EXHIBIT A2**

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

Project/Site: UW Waukesha Campus City/County: City of Waukesha/Waukesha County Sampling Date: 08/01/2013  
 Applicant/Owner: \_\_\_\_\_ State: WI Sampling Point: 1  
 Investigator(s): Donald M. Reed, PhD., and Jennifer Dietl; SEWRPC Section, Township, Range: NE 1/4 Section 32, T7N, R19E  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0-2%  
 Subregion (LRR or MLRA): LRR K Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Pella silt loam (Ph) NWI classification: E1K  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks)  
 Are Vegetation\_\_\_\_, Soil\_\_\_\_, or Hydrology \_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation\_\_\_\_, Soil\_\_\_\_, or Hydrology \_\_\_\_ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Above average (4 to 6 inches) precipitation for the past 90 days.	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>	<u>Secondary Indicators (minimum of two required)</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)	<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 checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>21</u> (includes capillary fringe)	Wetland Hydrology Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators present.



	Absolute % Cover	Dominant Species?	Indicator Status	
<u>Tree Stratum</u> (Plot size: <u>30'</u> radius)				<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>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. _____	_____	<input type="checkbox"/>	_____	
2. _____	_____	<input type="checkbox"/>	_____	
3. _____	_____	<input type="checkbox"/>	_____	
4. _____	_____	<input type="checkbox"/>	_____	
5. _____	_____	<input type="checkbox"/>	_____	
6. _____	_____	<input type="checkbox"/>	_____	
7. _____	_____	<input type="checkbox"/>	_____	
	<u>0</u>	= Total Cover		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30'</u> radius)				
1. <u>Salix interior</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. _____	_____	<input type="checkbox"/>	_____	
3. _____	_____	<input type="checkbox"/>	_____	
4. _____	_____	<input type="checkbox"/>	_____	
5. _____	_____	<input type="checkbox"/>	_____	
6. _____	_____	<input type="checkbox"/>	_____	
7. _____	_____	<input type="checkbox"/>	_____	
	<u>5</u>	= Total Cover		
<u>Herb Stratum</u> (Plot size: <u>5'</u> radius)				
1. <u>Poa pratensis</u>	<u>75</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Solidago altissima</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. <u>Cirsium arvense</u>	<u>20</u>	<input type="checkbox"/>	<u>FACU</u>	
4. <u>Agropyron repens</u>	<u>15</u>	<input type="checkbox"/>	<u>FACU</u>	
5. <u>Bromus inermis</u>	<u>3</u>	<input type="checkbox"/>	<u>UPL</u>	
6. <u>Ailanthus altissima</u>	<u>2</u>	<input type="checkbox"/>	<u>UPL</u>	
7. <u>Dipsacus lacineatus</u>	<u>2</u>	<input type="checkbox"/>	<u>FACU</u>	
8. _____	_____	<input type="checkbox"/>	_____	
9. _____	_____	<input type="checkbox"/>	_____	
10. _____	_____	<input type="checkbox"/>	_____	
11. _____	_____	<input type="checkbox"/>	_____	
12. _____	_____	<input type="checkbox"/>	_____	
	<u>157</u>	= Total Cover		
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u> radius)				
1. _____	_____	<input type="checkbox"/>	_____	
2. _____	_____	<input type="checkbox"/>	_____	
3. _____	_____	<input type="checkbox"/>	_____	
4. _____	_____	<input type="checkbox"/>	_____	
	<u>0</u>	= Total Cover		

<b>Prevalence Index worksheet:</b>	
<u>Total % Cover of:</u>	<u>Multiply by:</u>
OBL species _____ x 1 = _____	
FACW species _____ x 2 = _____	
FAC species _____ x 3 = _____	
FACU species _____ x 4 = _____	
UPL species _____ x 5 = _____	
Column Totals: _____ (A)	_____ (B)
Prevalence Index = B/A = _____	
<b>Hydrophytic Vegetation Indicators:</b>	
<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation	
<input type="checkbox"/> Dominance Test is >50%	
<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<b>Definitions of Vegetation Strata:</b>	
<b>Tree</b> – Woody plants 3in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height	
<b>Sapling/shrub</b> – Woody plants less than 3in. DBH and greater than 3.28 ft (1 m) tall.	
<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
<b>Woody vines</b> – All woody vines greater than 3.28 ft in height	
<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks: (include photo number here or on a separate sheet.) Upland meadow with some shrub invasion.

**SOIL**

Sampling Point: 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>		
0-8	N 2.5/0	100					Clay loam	
8-12	N 2.5/0	50					Clay	
	10YR 4/3	40						
	10YR 4/2	10						
12-13	10YR 4/3	50	7.5YR 4/6	c/p	C	M	Clay	
	N 2.5/0	50						
13-22	10Y 2.5/1	100					Silty clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains      <sup>2</sup>Location: PL=Pore Lining, M=Matrix

- |   |  |  |  |
|---|--|--|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>          |  |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)       |  |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> Coast Prairie Redox (A16) (LLR K, L, R)     |  |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LLR K, L, R)  |  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Dark Surface (S7) (LRR K, L)                |  |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)     |  |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |  |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)   |  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |  |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)   |  |
| <input type="checkbox"/> Sandy Redox (S5)                     |  | <input type="checkbox"/> Red Parent Material (F21)                   |  |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  | <input type="checkbox"/> Very Shallow Dark Surface (TF12)            |  |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  | <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): _____	Hydric Soil Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks: Buried horizon at 13 inches. No hydric soil indicators present.

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: UW Waukesha Campus City/County: City of Waukesha/Waukesha County Sampling Date: 08/01/2013  
 Applicant/Owner: \_\_\_\_\_ State: WI Sampling Point: 2  
 Investigator(s): Donald M. Reed, PhD., and Jennifer Dietl; SEWRPC Section, Township, Range: NE 1/4 Section 32, T7N, R19E  
 Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): none Slope (%): 0-2%  
 Subregion (LRR or MLRA): LRR K Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Pella silt loam (Ph) NWI classification: E1K  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Above average (4 to 6 inches) precipitation for the past 90 days.	

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<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 checked="" 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)	<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): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>17</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0 (at surface)</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Although the site meets the C2. Dry-Season Water Table indicator, above average precipitation has occurred over the past 90 days. Subsequently, this indicator was not identified. Two primary and two secondary wetland hydrology indicators present.



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

Sampling Point: 2

	Absolute % Cover	Dominant Species?	Indicator Status																	
<b>Tree Stratum</b> (Plot size: 30' radius)																				
1. <u>Populus deltoides</u>	25	<input checked="" type="checkbox"/>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>7</u> (A)  Total Number of Dominant Species Across All Strata: <u>7</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)																
2. _____	_____	<input type="checkbox"/>	_____																	
3. _____	_____	<input type="checkbox"/>	_____																	
4. _____	_____	<input type="checkbox"/>	_____																	
5. _____	_____	<input type="checkbox"/>	_____																	
6. _____	_____	<input type="checkbox"/>	_____																	
7. _____	_____	<input type="checkbox"/>	_____																	
	<u>25</u>	= Total Cover																		
<b>Sapling/Shrub Stratum</b> (Plot size: 30' radius)																				
1. <u>Populus deltoides</u>	2	<input checked="" type="checkbox"/>	<u>FAC</u>	<b>Prevalence Index worksheet:</b>  <table style="width:100%; border:none;"> <tr> <td style="text-align:right;"><u>Total % Cover of:</u></td> <td style="text-align:right;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species _____ x 1 = _____</td> <td></td> </tr> <tr> <td>FACW species _____ x 2 = _____</td> <td></td> </tr> <tr> <td>FAC species _____ x 3 = _____</td> <td></td> </tr> <tr> <td>FACU species _____ x 4 = _____</td> <td></td> </tr> <tr> <td>UPL species _____ x 5 = _____</td> <td></td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = _____</td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	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>Total % Cover of:</u>	<u>Multiply by:</u>																			
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. <u>Rhamnus cathartica</u>	2	<input checked="" type="checkbox"/>	<u>FAC</u>																	
3. <u>Cornus stolonifera</u>	1	<input type="checkbox"/>	<u>FACW</u>																	
4. <u>Salix interior</u>	1	<input type="checkbox"/>	<u>FACW</u>																	
5. _____	_____	<input type="checkbox"/>	_____																	
6. _____	_____	<input type="checkbox"/>	_____																	
7. _____	_____	<input type="checkbox"/>	_____																	
	<u>6</u>	= Total Cover																		
<b>Herb Stratum</b> (Plot size: 5' radius)																				
1. <u>Lythrum salicaria</u>	25	<input checked="" type="checkbox"/>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 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>Typha angustifolia</u>	25	<input checked="" type="checkbox"/>	<u>OBL</u>																	
3. <u>Carex pellita</u>	20	<input checked="" type="checkbox"/>	<u>OBL</u>																	
4. <u>Polygonum amphibium</u>	20	<input checked="" type="checkbox"/>	<u>OBL</u>																	
5. <u>Eleocharis erythropoda</u>	10	<input type="checkbox"/>	<u>OBL</u>																	
6. <u>Salix interior</u>	3	<input type="checkbox"/>	<u>FACW</u>																	
7. <u>Poa palustris</u>	2	<input type="checkbox"/>	<u>FACW</u>																	
8. <u>Festuca elatior</u>	1	<input type="checkbox"/>	<u>NI</u>																	
9. _____	_____	<input type="checkbox"/>	_____																	
10. _____	_____	<input type="checkbox"/>	_____																	
11. _____	_____	<input type="checkbox"/>	_____																	
12. _____	_____	<input type="checkbox"/>	_____																	
	<u>106</u>	= Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: 30' radius)																				
1. _____	_____	<input type="checkbox"/>	_____	<b>Definitions of Vegetation Strata:</b>  <b>Tree</b> – Woody plants 3in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height  <b>Sapling/shrub</b> – Woody plants less than 3in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height																
2. _____	_____	<input type="checkbox"/>	_____																	
3. _____	_____	<input type="checkbox"/>	_____																	
4. _____	_____	<input type="checkbox"/>	_____																	
	<u>0</u>	= Total Cover																		

Remarks: (include photo number here or on a separate sheet.) Shallow marsh with scattered, lowland shrubs and hardwoods.

**SOIL**

Sampling Point: 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>		
0-5	10YR 2/1	100					Muck	
5-10	5Y 5/2	90	7.5YR 4/6	c/p	C	M	Clay	
	5Y 3/1	10						
10-20	5GY 5/1	100	10YR 5/8	m/p	C	M	Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains      <sup>2</sup>Location: PL=Pore Lining, M=Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input checked="" type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LLR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LLR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<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: Three hydric soil indicators present - A11: Depleted Below Dark Surface, F2: Loamy Gleyed Matrix, and A10: 2cm Muck.

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: UW Waukesha Campus City/County: City of Waukesha/Waukesha County State: WI Sampling Date: 08/01/2013  
 Applicant/Owner: \_\_\_\_\_ Sampling Point: 3  
 Investigator(s): Donald M. Reed, PhD., and Jennifer Dietl; SEWRPC Section, Township, Range: NE 1/4 Section 32, T7N, R19E  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0-2%  
 Subregion (LRR or MLRA): LRR K Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Pella silt loam (Ph) 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 X, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.) Above average (4 to 6 inches) precipitation for the past 90 days. Disturbed soils due to glacial till/gravel fill material.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> 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)	<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)	Wetland Hydrology Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators present.



	Absolute % Cover	Dominant Species?	Indicator Status																	
<b>Tree Stratum</b> (Plot size: <u>30'</u> radius)																				
1. <u>Populus deltoides</u>	<u>12</u>	<input checked="" type="checkbox"/>	<u>FAC</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>4</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)																
2. _____	_____	<input type="checkbox"/>	_____																	
3. _____	_____	<input type="checkbox"/>	_____																	
4. _____	_____	<input type="checkbox"/>	_____																	
5. _____	_____	<input type="checkbox"/>	_____																	
6. _____	_____	<input type="checkbox"/>	_____																	
7. _____	_____	<input type="checkbox"/>	_____																	
	<u>12</u>	= Total Cover																		
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30'</u> radius)																				
1. <u>Rhamnus cathartica</u>	<u>17</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	<b>Prevalence Index worksheet:</b>  <table style="width:100%; border:none;"> <tr> <td style="text-align:right;"><u>Total % Cover of:</u></td> <td style="text-align:right;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>3</u></td> <td>x 2 = <u>6</u></td> </tr> <tr> <td>FAC species <u>38</u></td> <td>x 3 = <u>114</u></td> </tr> <tr> <td>FACU species <u>128</u></td> <td>x 4 = <u>512</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>174</u></td> <td>(A) <u>657</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.8</u></td> </tr> </table>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>3</u>	x 2 = <u>6</u>	FAC species <u>38</u>	x 3 = <u>114</u>	FACU species <u>128</u>	x 4 = <u>512</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>174</u>	(A) <u>657</u> (B)	Prevalence Index = B/A = <u>3.8</u>	
<u>Total % Cover of:</u>	<u>Multiply by:</u>																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>3</u>	x 2 = <u>6</u>																			
FAC species <u>38</u>	x 3 = <u>114</u>																			
FACU species <u>128</u>	x 4 = <u>512</u>																			
UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>174</u>	(A) <u>657</u> (B)																			
Prevalence Index = B/A = <u>3.8</u>																				
2. <u>Lonicera x bella</u>	<u>3</u>	<input type="checkbox"/>	<u>FACU</u>																	
3. <u>Acer negundo</u>	<u>1</u>	<input type="checkbox"/>	<u>FAC</u>																	
4. _____	_____	<input type="checkbox"/>	_____																	
5. _____	_____	<input type="checkbox"/>	_____																	
6. _____	_____	<input type="checkbox"/>	_____																	
7. _____	_____	<input type="checkbox"/>	_____																	
	<u>21</u>	= Total Cover																		
<b>Herb Stratum</b> (Plot size: <u>5'</u> radius)																				
1. <u>Poa pratensis</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 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>Dipsacus lacineatus</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACU</u>																	
3. <u>Solidago altissima</u>	<u>10</u>	<input type="checkbox"/>	<u>FACU</u>																	
4. <u>Rhamnus cathartica</u>	<u>6</u>	<input type="checkbox"/>	<u>FAC</u>																	
5. <u>Festuca elatior</u>	<u>5</u>	<input type="checkbox"/>	<u>NI</u>																	
6. <u>Melilotus alba</u>	<u>5</u>	<input type="checkbox"/>	<u>FACU</u>																	
7. <u>Agrostis stolonifera</u>	<u>3</u>	<input type="checkbox"/>	<u>FACW</u>																	
8. <u>Cornus racemosa</u>	<u>2</u>	<input type="checkbox"/>	<u>FAC</u>																	
9. _____	_____	<input type="checkbox"/>	_____																	
10. _____	_____	<input type="checkbox"/>	_____																	
11. _____	_____	<input type="checkbox"/>	_____																	
12. _____	_____	<input type="checkbox"/>	_____																	
	<u>141</u>	= Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> radius)																				
1. _____	_____	<input type="checkbox"/>	_____																	
2. _____	_____	<input type="checkbox"/>	_____																	
3. _____	_____	<input type="checkbox"/>	_____																	
4. _____	_____	<input type="checkbox"/>	_____																	
	<u>0</u>	= Total Cover																		

**Definitions of Vegetation Strata:**

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

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

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

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

**Hydrophytic Vegetation Present?**      Yes       No

Remarks: (include photo number here or on a separate sheet.) Upland meadow with scattered shrubs and trees.

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 3/2	100					Sandy clay loam	
4								Refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains      <sup>2</sup>Location: PL=Pore Lining, M=Matrix

- |   |  |   |  |
|---|--|---|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>         |  |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)      | <input type="checkbox"/> Coast Prairie Redox (A16) (LLR K, L, R)     |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LLR K, L, R) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L)                |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)    | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)  | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Very Shallow Dark Surface (TF12)           | <input type="checkbox"/> Other (Explain in Remarks)                  |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      |   |  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          |   |  |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  |   |  |
| <input type="checkbox"/> Sandy Redox (S5)                     |  |   |  |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  |   |  |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  |   |  |

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

<b>Restrictive Layer (if observed):</b> Type: <u>Glacial till/gravel fill material</u> Depth (inches): <u>4</u>	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks: No hydric soil indicators observed. Landscape position also makes it unlikely that the sample site currently supports hydric soils.

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: UW Waukesha Campus City/County: City of Waukesha/Waukesha County Sampling Date: 08/01/2013  
 Applicant/Owner: \_\_\_\_\_ State: WI Sampling Point: 4  
 Investigator(s): Donald M. Reed, PhD., and Jennifer Dietl; SEWRPC Section, Township, Range: NE 1/4 Section 32, T7N, R19E  
 Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): none Slope (%): 0-2%  
 Subregion (LRR or MLRA): LRR K Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Pella silt loam (Ph) NWI classification: E1K  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the Sampled Area within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.) Above average (4 to 6 inches) precipitation for the past 90 days.

## HYDROLOGY

<b>Wetland Hydrology Indicators:</b> Primary Indicators (minimum of one is required; check all that apply)	<b>Secondary Indicators (minimum of two required)</b>
<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 checked="" 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 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)	<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): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4 to 15</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Oxidized rhizospheres from 0 to 9 inches. Perched saturation from 4 to 15 inches. Four primary and two secondary wetland hydrology indicators present.



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

Sampling Point: 4

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	<input type="checkbox"/>	_____
2. _____	_____	<input type="checkbox"/>	_____
3. _____	_____	<input type="checkbox"/>	_____
4. _____	_____	<input type="checkbox"/>	_____
5. _____	_____	<input type="checkbox"/>	_____
6. _____	_____	<input type="checkbox"/>	_____
7. _____	_____	<input type="checkbox"/>	_____
	<u>0</u>	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. <u>Salix interior</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
2. _____	_____	<input type="checkbox"/>	_____
3. _____	_____	<input type="checkbox"/>	_____
4. _____	_____	<input type="checkbox"/>	_____
5. _____	_____	<input type="checkbox"/>	_____
6. _____	_____	<input type="checkbox"/>	_____
7. _____	_____	<input type="checkbox"/>	_____
	_____	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. <u>Dipsacus lacineatus</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. <u>Phalaris arundinacea</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
3. <u>Solidago gigantea</u>	<u>10</u>	<input type="checkbox"/>	<u>FACW</u>
4. <u>Carex pellita</u>	<u>5</u>	<input type="checkbox"/>	<u>OBL</u>
5. <u>Lythrum salicaria</u>	<u>3</u>	<input type="checkbox"/>	<u>OBL</u>
6. _____	_____	<input type="checkbox"/>	_____
7. _____	_____	<input type="checkbox"/>	_____
8. _____	_____	<input type="checkbox"/>	_____
9. _____	_____	<input type="checkbox"/>	_____
10. _____	_____	<input type="checkbox"/>	_____
11. _____	_____	<input type="checkbox"/>	_____
12. _____	_____	<input type="checkbox"/>	_____
	<u>78</u>	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1. <u>Vitis riparia</u>	<u>3</u>	<input type="checkbox"/>	<u>FAC</u>
2. _____	_____	<input type="checkbox"/>	_____
3. _____	_____	<input type="checkbox"/>	_____
4. _____	_____	<input type="checkbox"/>	_____
	<u>3</u>	= Total Cover	

**Dominance Test worksheet:**

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

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**Prevalence Index worksheet:**

<u>Total % Cover of:</u>	<u>Multiply by:</u>
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 = _____	

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**Hydrophytic Vegetation Indicators:**

Rapid Test for Hydrophytic Vegetation

Dominance Test is >50%

Prevalence Index is ≤3.0<sup>1</sup>

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

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

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

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**Definitions of Vegetation Strata:**

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

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

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

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

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**Hydrophytic Vegetation Present?** Yes  No

Remarks: (include photo number here or on a separate sheet.) Shrub-carr (willow thicket).

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>		
0-9	10YR 2/1	75	7.5YR 4/6	c/p	C	PL	Clay loam	Fill material
	10YR 4/2	25						
9-13	10Y 2.5/1	60	10YR 5/6	c/p	C	PL M	Clay	Fill material
	5Y 4/2 to 5/2	40						
13-15	10Y 2.5/1	100					Silty clay loam	
15-20.5	N 2.5/0	80	7.5YR 4/6	c/p	C	PL M	Clay loam	
	5Y 3/1	20						
20.5-22	5Y 5/2	80	10YR 5/8	c/p	C	PL M	Clay	
	5Y 3/1	20						

<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) (LLR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LLR 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: Buried horizon at 13 inches. One hydric soil indicator present - F6: Redox Dark Surface.

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: UW Waukesha Campus City/County: City of Waukesha/Waukesha County Sampling Date: 08/01/2013  
 Applicant/Owner: \_\_\_\_\_ State: WI Sampling Point: 5  
 Investigator(s): Donald M. Reed, PhD., and Jennifer Dietl; SEWRPC Section, Township, Range: NE 1/4 Section 32, T7N, R19E  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0-2%  
 Subregion (LRR or MLRA): LRR K Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Pella silt loam (Ph) 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 X, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, optional Wetland Site ID: _____
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Remarks: (Explain alternative procedures here or in a separate report.) Above average (4 to 6 inches) precipitation for the past 90 days. Disturbed vegetation due to regular mowing.

## HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<b>Primary Indicators (minimum of one is required; check all that apply)</b> <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)	<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)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sample site area is effectively drained. No wetland hydrology indicators present.



	Absolute % Cover	Dominant Species?	Indicator Status	
<u>Tree Stratum</u> (Plot size: <u>30'</u> radius)				<p><b>Dominance Test worksheet:</b></p> <p>Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>2</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)</p> <hr/> <p><b>Prevalence Index worksheet:</b></p> <p style="text-align: center;"><u>Total % Cover of:</u>                      <u>Multiply by:</u></p> <p>OBL species            <u>      </u> x 1 = <u>      </u></p> <p>FACW species           <u>      </u> x 2 = <u>      </u></p> <p>FAC species             <u>      </u> x 3 = <u>      </u></p> <p>FACU species           <u>      </u> x 4 = <u>      </u></p> <p>UPL species            <u>      </u> x 5 = <u>      </u></p> <p>Column Totals:        <u>      </u> (A)            <u>      </u> (B)</p> <p style="text-align: right;">Prevalence Index = B/A = <u>      </u></p> <hr/> <p><b>Hydrophytic Vegetation Indicators:</b></p> <p><input type="checkbox"/> Rapid Test for Hydrophytic Vegetation</p> <p><input type="checkbox"/> Dominance Test is &gt;50%</p> <p><input type="checkbox"/> Prevalence Index is ≤3.0<sup>1</sup></p> <p><input type="checkbox"/> Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><sup>1</sup> Indicators of hydric soil and wetland hydrology must Be present, unless disturbed or problematic.</p> <hr/> <p><b>Definitions of Vegetation Strata:</b></p> <p><b>Tree</b> – Woody plants 3in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height</p> <p><b>Sapling/shrub</b> – Woody plants less than 3in. DBH and greater than 3.28 ft (1 m) tall.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p><b>Woody vines</b> – All woody vines greater than 3.28 ft in height</p> <hr/> <p><b>Hydrophytic Vegetation Present?</b>            Yes <input type="checkbox"/>            No <input checked="" type="checkbox"/></p>
1. _____	_____	<input type="checkbox"/>	_____	
2. _____	_____	<input type="checkbox"/>	_____	
3. _____	_____	<input type="checkbox"/>	_____	
4. _____	_____	<input type="checkbox"/>	_____	
5. _____	_____	<input type="checkbox"/>	_____	
6. _____	_____	<input type="checkbox"/>	_____	
7. _____	_____	<input type="checkbox"/>	_____	
	<u>0</u>	= Total Cover		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30'</u> radius)				
1. _____	_____	<input type="checkbox"/>	_____	
2. _____	_____	<input type="checkbox"/>	_____	
3. _____	_____	<input type="checkbox"/>	_____	
4. _____	_____	<input type="checkbox"/>	_____	
5. _____	_____	<input type="checkbox"/>	_____	
6. _____	_____	<input type="checkbox"/>	_____	
7. _____	_____	<input type="checkbox"/>	_____	
	<u>0</u>	= Total Cover		
<u>Herb Stratum</u> (Plot size: <u>5'</u> radius)				
1. <u>Poa pratensis</u>	<u>75</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Agropyron repens</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. _____	_____	<input type="checkbox"/>	_____	
4. _____	_____	<input type="checkbox"/>	_____	
5. _____	_____	<input type="checkbox"/>	_____	
6. _____	_____	<input type="checkbox"/>	_____	
7. _____	_____	<input type="checkbox"/>	_____	
8. _____	_____	<input type="checkbox"/>	_____	
9. _____	_____	<input type="checkbox"/>	_____	
10. _____	_____	<input type="checkbox"/>	_____	
11. _____	_____	<input type="checkbox"/>	_____	
12. _____	_____	<input type="checkbox"/>	_____	
	<u>100</u>	= Total Cover		
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u> radius)				
1. _____	_____	<input type="checkbox"/>	_____	
2. _____	_____	<input type="checkbox"/>	_____	
3. _____	_____	<input type="checkbox"/>	_____	
4. _____	_____	<input type="checkbox"/>	_____	
	<u>0</u>	= Total Cover		

Remarks: (include photo number here or on a separate sheet.) Mowed lawn.

**SOIL**

Sampling Point: 5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 3/1	100					Clay loam	
5-12	5Y 2.5/1	90	7.5YR 4/6	c/p	C	M	Silty clay loam	
	5Y 5/2	10						
12-22	5Y 4/1	50	7.5YR 4/6 to	c/p	C	M	Clay	
	5Y 5/2	50	10YR 5/8					

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains                      <sup>2</sup>Location: PL=Pore Lining, M=Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LLR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LLR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)		<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: One hydric soil indicator present - F6: Redox Dark Surface.

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: UW Waukesha Campus City/County: City of Waukesha/Waukesha County Sampling Date: 08/01/2013  
 Applicant/Owner: \_\_\_\_\_ State: WI Sampling Point: 6  
 Investigator(s): Donald M. Reed, PhD., and Jennifer Dietl; SEWRPC Section, Township, Range: NE 1/4 Section 32, T7N, R19E  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0-2%  
 Subregion (LRR or MLRA): LRR K Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_ NWI classification: none  
 Soil Map Unit Name: Pella silt loam (Ph)  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks)  
 Are Vegetation X, Soil X, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Above average (4 to 6 inches) precipitation for the past 90 days. Disturbed vegetation due to regular mowing. Disturbed soils due to past filling for storm sewer.	

**HYDROLOGY**

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<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)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sample site area is effectively drained. No wetland hydrology indicators present.

	Absolute % Cover	Dominant Species?	Indicator Status																	
<b>Tree Stratum</b> (Plot size: 30' radius)				<p><b>Dominance Test worksheet:</b></p> <p>Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>1</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)</p> <hr/> <p><b>Prevalence Index worksheet:</b></p> <table style="width:100%;"> <tr> <td style="width:50%;"><u>Total % Cover of:</u></td> <td style="width:50%;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species _____ x 1 = _____</td> <td></td> </tr> <tr> <td>FACW species _____ x 2 = _____</td> <td></td> </tr> <tr> <td>FAC species _____ x 3 = _____</td> <td></td> </tr> <tr> <td>FACU species _____ x 4 = _____</td> <td></td> </tr> <tr> <td>UPL species _____ x 5 = _____</td> <td></td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table> <hr/> <p><b>Hydrophytic Vegetation Indicators:</b></p> <p><input type="checkbox"/> Rapid Test for Hydrophytic Vegetation</p> <p><input type="checkbox"/> Dominance Test is &gt;50%</p> <p><input type="checkbox"/> Prevalence Index is ≤3.0<sup>1</sup></p> <p><input type="checkbox"/> Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <hr/> <p><b>Definitions of Vegetation Strata:</b></p> <p><b>Tree</b> – Woody plants 3in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height</p> <p><b>Sapling/shrub</b> – Woody plants less than 3in. DBH and greater than 3.28 ft (1 m) tall.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p><b>Woody vines</b> – All woody vines greater than 3.28 ft in height</p> <hr/> <p><b>Hydrophytic Vegetation Present?</b>      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/></p>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	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 = _____	
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1. _____	_____	<input type="checkbox"/>	_____																	
2. _____	_____	<input type="checkbox"/>	_____																	
3. _____	_____	<input type="checkbox"/>	_____																	
4. _____	_____	<input type="checkbox"/>	_____																	
5. _____	_____	<input type="checkbox"/>	_____																	
6. _____	_____	<input type="checkbox"/>	_____																	
7. _____	_____	<input type="checkbox"/>	_____																	
	<u>0</u>	= Total Cover																		
<b>Sapling/Shrub Stratum</b> (Plot size: 30' radius)																				
1. _____	_____	<input type="checkbox"/>	_____																	
2. _____	_____	<input type="checkbox"/>	_____																	
3. _____	_____	<input type="checkbox"/>	_____																	
4. _____	_____	<input type="checkbox"/>	_____																	
5. _____	_____	<input type="checkbox"/>	_____																	
6. _____	_____	<input type="checkbox"/>	_____																	
7. _____	_____	<input type="checkbox"/>	_____																	
	<u>0</u>	= Total Cover																		
<b>Herb Stratum</b> (Plot size: 5' radius)																				
1. <u>Festuca elatior</u>	<u>90</u>	<input checked="" type="checkbox"/>	<u>NI</u>																	
2. <u>Poa pratensis</u>	<u>10</u>	<input type="checkbox"/>	<u>FACU</u>																	
3. _____	_____	<input type="checkbox"/>	_____																	
4. _____	_____	<input type="checkbox"/>	_____																	
5. _____	_____	<input type="checkbox"/>	_____																	
6. _____	_____	<input type="checkbox"/>	_____																	
7. _____	_____	<input type="checkbox"/>	_____																	
8. _____	_____	<input type="checkbox"/>	_____																	
9. _____	_____	<input type="checkbox"/>	_____																	
10. _____	_____	<input type="checkbox"/>	_____																	
11. _____	_____	<input type="checkbox"/>	_____																	
12. _____	_____	<input type="checkbox"/>	_____																	
	<u>100</u>	= Total Cover																		
<b>Woody Vine Stratum</b> (Plot size: 30' radius)																				
1. _____	_____	<input type="checkbox"/>	_____																	
2. _____	_____	<input type="checkbox"/>	_____																	
3. _____	_____	<input type="checkbox"/>	_____																	
4. _____	_____	<input type="checkbox"/>	_____																	
	<u>0</u>	= Total Cover																		

Remarks: (include photo number here or on a separate sheet.) Mowed lawn.



**SOIL**

Sampling Point: 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>		
0-5	10YR 3/1	100					Clay loam	
5-8	5Y 4/1	100	7.5YR 4/6	m/p	C	M	Clay loam	
8								Refusal

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains      <sup>2</sup>Location: PL=Pore Lining, M=Matrix

<b>Hydric Soil Indicators:</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LLR K, L, R)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LLR K, L, R)	<input type="checkbox"/> Dark Surface (S7) (LRR K, L)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			
<input type="checkbox"/> Sandy Redox (S5)			
<input type="checkbox"/> Stripped Matrix (S6)			
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)			

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

<b>Restrictive Layer (if observed):</b> Type: <u>Fill material for storm sewer</u> Depth (inches): <u>8</u>	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks: No hydric soil indicators present. Although, may meet the A11. Depleted Below Dark Surface indicator. Sample could not be confirmed due to refusal as a result of fill material placed for storm sewer.

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: UW Waukesha Campus City/County: City of Waukesha/Waukesha County Sampling Date: 08/01/2013  
 Applicant/Owner: \_\_\_\_\_ State: WI Sampling Point: I  
 Investigator(s): Donald M. Reed, PhD., and Jennifer Dietl; SEWRPC Section, Township, Range: SE 1/4 Section 32, T7N, R19E  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1-3%  
 Subregion (LRR or MLRA): LRR K Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Kendall silt loam (KIA) 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 X, Soil X, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the Sampled Area within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Above average (4 to 6 inches) precipitation for the past 90 days. Disturbed vegetation due to regular mowing. Disturbed soils due to placement of sand and gravel fill material.	

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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: No wetland hydrology indicators present.																																

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

Sampling Point: Z

	Absolute % Cover	Dominant Species?	Indicator Status																	
<u>Tree Stratum</u> (Plot size: 30' radius)				<p><b>Dominance Test worksheet:</b></p> <p>Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>1</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)</p> <hr/> <p><b>Prevalence Index worksheet:</b></p> <table style="width:100%;"> <tr> <td style="text-align: center;"><u>Total % Cover of:</u></td> <td style="text-align: center;"><u>Multiply by:</u></td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table> <hr/> <p><b>Hydrophytic Vegetation Indicators:</b></p> <p><input type="checkbox"/> Rapid Test for Hydrophytic Vegetation</p> <p><input type="checkbox"/> Dominance Test is &gt;50%</p> <p><input type="checkbox"/> Prevalence Index is ≤3.0<sup>1</sup></p> <p><input type="checkbox"/> Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</p> <p><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <hr/> <p><b>Definitions of Vegetation Strata:</b></p> <p><b>Tree</b> – Woody plants 3in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height</p> <p><b>Sapling/shrub</b> – Woody plants less than 3in. DBH and greater than 3.28 ft (1 m) tall.</p> <p><b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p><b>Woody vines</b> – All woody vines greater than 3.28 ft in height</p> <hr/> <p><b>Hydrophytic Vegetation Present?</b>      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/></p>	<u>Total % Cover of:</u>	<u>Multiply by:</u>	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>Total % Cover of:</u>	<u>Multiply by:</u>																			
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 = _____																				
1. _____	_____	<input type="checkbox"/>	_____																	
2. _____	_____	<input type="checkbox"/>	_____																	
3. _____	_____	<input type="checkbox"/>	_____																	
4. _____	_____	<input type="checkbox"/>	_____																	
5. _____	_____	<input type="checkbox"/>	_____																	
6. _____	_____	<input type="checkbox"/>	_____																	
7. _____	_____	<input type="checkbox"/>	_____																	
	<u>0</u>	= Total Cover																		
<u>Sapling/Shrub Stratum</u> (Plot size: 30' radius)																				
1. _____	_____	<input type="checkbox"/>	_____																	
2. _____	_____	<input type="checkbox"/>	_____																	
3. _____	_____	<input type="checkbox"/>	_____																	
4. _____	_____	<input type="checkbox"/>	_____																	
5. _____	_____	<input type="checkbox"/>	_____																	
6. _____	_____	<input type="checkbox"/>	_____																	
7. _____	_____	<input type="checkbox"/>	_____																	
	<u>0</u>	= Total Cover																		
<u>Herb Stratum</u> (Plot size: 5' radius)																				
1. <u>Poa pratensis</u>	<u>100</u>	<input checked="" type="checkbox"/>	<u>FACU</u>																	
2. _____	_____	<input type="checkbox"/>	_____																	
3. _____	_____	<input type="checkbox"/>	_____																	
4. _____	_____	<input type="checkbox"/>	_____																	
5. _____	_____	<input type="checkbox"/>	_____																	
6. _____	_____	<input type="checkbox"/>	_____																	
7. _____	_____	<input type="checkbox"/>	_____																	
8. _____	_____	<input type="checkbox"/>	_____																	
9. _____	_____	<input type="checkbox"/>	_____																	
10. _____	_____	<input type="checkbox"/>	_____																	
11. _____	_____	<input type="checkbox"/>	_____																	
12. _____	_____	<input type="checkbox"/>	_____																	
	<u>100</u>	= Total Cover																		
<u>Woody Vine Stratum</u> (Plot size: 30' radius)																				
1. _____	_____	<input type="checkbox"/>	_____																	
2. _____	_____	<input type="checkbox"/>	_____																	
3. _____	_____	<input type="checkbox"/>	_____																	
4. _____	_____	<input type="checkbox"/>	_____																	
	<u>0</u>	= Total Cover																		

Remarks: (include photo number here or on a separate sheet.) Mowed lawn.

**SOIL**

Sampling Point: 7

**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	2.5 2.5/1	100					Silty clay loam	
6+	10YR 2/1	50					Clay loam	Refusal
	10YR 5/4	50						

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS= Masked Sand Grains      <sup>2</sup>Location: PL=Pore Lining, M=Matrix

- |   |  |   |  |
|---|--|---|--|
| <b>Hydric Soil Indicators:</b>                                |  | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>         |  |
| <input type="checkbox"/> Histosol (A1)                        | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)      | <input type="checkbox"/> Coast Prairie Redox (A16) (LLR K, L, R)     |
| <input type="checkbox"/> Histic Epipedon (A2)                 | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)       | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LLR K, L, R) | <input type="checkbox"/> Dark Surface (S7) (LRR K, L)                |
| <input type="checkbox"/> Black Histic (A3)                    | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)             | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)    | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)           |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                        | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)  | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Stratified Layers (A5)               | <input type="checkbox"/> Depleted Matrix (F3)                            | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)  | <input type="checkbox"/> Red Parent Material (F21)                   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)    | <input type="checkbox"/> Redox Dark Surface (F6)                         | <input type="checkbox"/> Very Shallow Dark Surface (TF12)           | <input type="checkbox"/> Other (Explain in Remarks)                  |
| <input type="checkbox"/> Thick Dark Surface (A12)             | <input type="checkbox"/> Depleted Dark Surface (F7)                      |   |  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)             | <input type="checkbox"/> Redox Depressions (F8)                          |   |  |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)             |  |   |  |
| <input type="checkbox"/> Sandy Redox (S5)                     |  |   |  |
| <input type="checkbox"/> Stripped Matrix (S6)                 |  |   |  |
| <input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) |  |   |  |

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

<b>Restrictive Layer (if observed):</b> Type: <u>Sand and gravel fill material</u> Depth (inches): <u>6</u>	Hydric Soil Present?    Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Remarks: No hydric soil indicators present.



EXHIBIT A3  
Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland: <b>Plant Community Area No. 1</b>
Owner(s): <b>Waukesha County – University of Wisconsin - Waukesha</b>
Location: <b>Waukesha County; NE¼ &amp; SE ¼ Section 32, Township 7N, Range 19E</b>
Project Name: <b>Proposed Stormwater Management Plan at UW-Waukesha Campus</b>
Evaluator(s): <b>Donald M. Reed, PhD., Chief Biologist; Christopher J. Jors, Biologist, Southeastern Wisconsin Regional Planning Commission</b>
Date(s) of Site Visit(s): <b>August 1, 2013</b>

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration): **Precipitation records in 2013 indicate above normal precipitation (4 TO 6 inches) for the 90 day period prior to the August 1, 2013 site visit.**

WETLAND DESCRIPTION

Wisconsin Wetlands Inventory classification: <b>E1K</b>
Wetland Type: shallow open water deep marsh <u>shallow marsh</u> seasonally flooded basin bog floodplain forest <u>alder thicket</u> sedge meadow coniferous swamp fen <u>wet meadow</u> <u>shrub-carr</u> low prairie <u>hardwood swamp</u>
Estimated size of wetland in acres: <b>Study area wetland = 2.75 acre</b>

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	N/A
Floral Diversity		X			
Wildlife Habitat	X				
Fishery Habitat					X
Flood/Stormwater Attenuation	X				
Water Quality Protection		X			
Shoreline Protection					X
Groundwater	X				
Aesthetics/Recreation/Education		X			

List any Special Features/"Red Flags": **Natural Heritage Inventory (NHI) and SEWRPC have records for Butler's gartersnake (*Thamnophis butleri*), a State-designated Threatened species, within 3 miles of project area; SEWRPC has a record for Blanding's turtle (*Emydoidea blandingii*), a State-designated Threatened species, within 3 miles of this location; and NHI identifies a broad area (Waukesha Township, T6N R19E, immediately south of the project area), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species.**

## SITE DESCRIPTION

### I. HYDROLOGIC SETTING

A. Describe the geomorphology of the wetland:

- Depressional (includes slopes, potholes, small lakes, kettles, etc.)
- Riverine
- Lake Fringe
- Extensive Peatland

B. **Y** **N** Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (circle those that apply)?  
**Alterations to hydrology include ditching in wetland proper, installation of a storm sewer carrying surface water flows to the west side of the project area from the soccer fields and from the residential development east of the project area. In addition, a large parking lot north of the wetland contributes runoff to the subject wetland.**

C. **Y** **N** Does the wetland have an inlet, outlet, or both (circle those that apply)?  
**Outlet into storm sewer a south end of wetland.**

D. **Y** **N** Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling, gleying, organic soils layer, or oxidized rhizospheres (circle those that apply)? **Other hydrology indicators observed include saturation in the root zone, sediment deposits, geomorphic position, shallow aquitard, and a positive FAC-Neutral test.**

E. **Y** **N** Does the wetland have standing water, and if so what is the average depth in inches? Approximately how much of the wetland is inundated? **Likely only standing water in the early growing season.**

F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?

- Permanently Flooded
- Seasonally Flooded (water absent at end of growing season)
- Saturated (surface water seldom present)
- Artificially Flooded
- Artificially Drained

G. **Y** **N** Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high-water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.  
**No part of this wetland is navigable. This wetland does not have a surface water connection to other wetlands.**

**II. VEGETATION**

A. Identify the vegetation communities present and the dominant species.

	floating leaved community dominated by:
	submerged aquatic community dominated by:
X	emergent community dominated by: <b>Typha angustifolia, Phalaris arundinacea, Lythrum salicaria, Dipsacus laciniatus, and Solidago altissima</b>
X	shrub community dominated by: <b>Salix interior</b>
X	deciduous broad-leaved tree community dominated by: <b>Populus deltoides and Rhamnus cathartica</b>
	coniferous tree community dominated by:
	open sphagnum mat or bog
	sedge meadow/wet prairie community dominated by:
X	other (explain): <b>Wet meadow community dominated by Carex pellita</b>

B. Other plant species identified during site visit:

**See attached species list**

**III. SOILS**

A. NRCS Soil Map Classification: **Pella silt loam (Ph) – Poorly drained and Kendall silt loam (KIA) – Somewhat poorly drained**

B. Field description: **See attached Sample Site Nos. 2 and 4 (Wetland Delineation Data Forms – Northcentral and Northeast Region) recorded on August 1, 2013.**

Organic (histosol)? If so, is it a muck or a peat? **5 inch muck surface layer at Sample Site No. 2**

Mineral soil?

- Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (circle those that apply)

- Soil Description:
- Depth of mottling/gleying:
- Depth of A Horizon:
- Munsell Color of matrix and mottles
  - Matrix below the A horizon:
  - Mottles:

## V. SURROUNDING LAND USES

A. What is the estimated area of the wetland watershed in acres? **81.5**

B. What are the surrounding land uses?

LAND-USE	ESTIMATED % OF WETLAND WATERSHED
Developed (Industrial/Commercial/Residential)	51
Agricultural/cropland	--
Agricultural/grazing	--
Forested (Upland)	1
Grassed recreation areas/parks	23
Old field	4
Highways, roads, bike trails	17
Other (specify) : Wetland	4

## VI. SITE SKETCH

See attached aerial map exhibit

## FUNCTIONAL ASSESSMENT

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.



## SPECIAL FEATURES/"RED FLAGS"

1.  **Y**  **N** Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:
  - Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes
  - Lakes Michigan and Superior and the Mississippi River
  - State or federal designated wild and scenic river
  - Designated state riverway
  - Designated state scenic urban waterway
  - Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study – **Isolated Natural Resource Area**
  - Calcareous fen
  - State park, forest, trail or recreation area
  - State and federal fish and wildlife refuges and fish and wildlife management areas
  - State or federal designated wilderness area
  - Designated or dedicated state natural area
  - Wild rice water listed in ch. NR 19.09, Wis. Adm. Code
  - Surface water identified as an outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code
2.  **Y**  **N** According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern: **Natural Heritage Inventory (NHI) and SEWRPC have records for Butler's gartersnake (*Thamnophis butleri*), a State-designated Threatened species, within 3 miles of project area; SEWRPC has a record for Blanding's turtle (*Emydoidea blandingii*), a State-designated Threatened species, within 3 miles of this location; and NHI identifies a broad area (Waukesha Township, T6N R19E, immediately south of the project area), as having the potential to contain Rough rattlesnake root (*Prenanthes aspera*), a State-designated Endangered species. This broad NHI finding is based upon an 1845 record for *P. aspera* typically found in dry prairies. Accordingly, it is very unlikely that this plant community area would support this plant species.**
3.  **Y**  **N** Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination?

## Floral Diversity

1.  **Y**  **N** Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?
2.  **Y**  **N** Is the wetland plant community regionally scarce or rare?

## Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrow, calls), or expected to utilize the wetland: **Raccoon, White-tailed deer, small mammals, and song and marsh birds utilize this wetland.**
2.  **Y**  **N** Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersed of those vegetation types?
3.  **Y**  **N** Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? **0%**

4.  **N** Does the surrounding upland habitat likely support a variety of animal species? **Isolated from other habitat areas.**
5.  **N** Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?
6.  **N** Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that requires large home ranges (e.g. bear, woodland passerines)?
7.  **Y** **N** Is the surrounding habitat and/or the wetland itself a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?
8.  **N** Are there other wetland areas near the subject wetland that may be important to wildlife?
9.  **N** Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?
10.  **N** Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?
11.  **N** Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?
12.  **N** Is the wetland providing habitat that is scarce to the region?

#### Flood and Stormwater Storage/Attenuation

1.  **Y** **N** Are there steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (circle those that apply)? **Steeply sloped lands north of wetland as well as a large impervious parking lot immediately north of wetland.**
2.  **N** Does the wetland significantly reduce run-off velocity due to its size, configuration, braided flow patterns, or vegetation type and density? **Storm sewers and ditches remove water rapidly.**
3.  **N** Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?
4.  **N** Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?
5.  **N** Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.] **While it may reach capacity during significant events, the existing system storm sewer removes water rapidly.**
6.  **N** Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)? **Storm sewers have limited the capacity of the wetland for attenuating/storing stormwater.**

#### Water Quality Protection

1.  **Y** **N** Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (circle that which applies)?

2.  **Y**  **N** Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland? **Road salt from roadways & parking lots. Surrounding development contributes fertilizer loads.**
3.  **Y**  **N** Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?
4.  **Y**  **N** Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?
5.  **Y**  **N** Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?
6.  **Y**  **N** Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

### Shoreline Protection

1.  **Y**  **N** Is the wetland in a lake fringe or riverine setting? If NO, STOP and enter "not applicable" for this function. If YES, then answer the applicable questions.
2. **Y N** Is the shoreline exposed to constant wave action caused by long wind fetch or boat traffic?
3. **Y N** Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decrease wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?
4. **Y N** Is the stream bank prone to erosion due to unstable soils, land uses, or ice floes?
5. **Y N** Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

### Groundwater Recharge and Discharge

1.  **Y**  **N** Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as watercress or marsh marigold present that tend to indicate the presence of groundwater springs?
2.  **Y**  **N** Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?
3.  **Y**  **N** Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

### Aesthetics/Recreation/Education and Science

1.  **Y**  **N** Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Circle all that apply.) **Also from parking lots and athletic fields.**
2.  **Y**  **N** Is the wetland in or near any population centers? **City of Waukesha**
3.  **Y**  **N** Is any part of the wetland in public or conservation ownership? **Waukesha County**
4.  **Y**  **N** Does the public have direct access to the wetland from public roads or waterways? (Circle those that apply.)
5. Is the wetland itself relatively free of obvious human influences, such as:

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 Land Resources

- a.  Y  N Buildings?
- b.  Y  N Roads?
- c.  Y  N Other structures?
- d.  Y  N Trash?
- e.  Y  N Pollution?
- f.  Y  N Filling?
- g.  Y  N Dredging/drainage?
- h.  Y  N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:
- a.  Y  N Buildings?
  - b.  Y  N Roads?
  - c.  Y  N Other structures?
7.  Y  N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?
8.  Y  N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?
9. Does the wetland encourage exploration because any of the following factors are present:
- a.  Y  N Long views within the wetland?
  - b.  Y  N Long views in the viewshed adjacent to the wetland?
  - c.  Y  N Convoluted edges within and/or around the wetland border?
  - d.  Y  N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?
10.  Y  N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.) **Waukesha County ownership combined with its proximity to the UW-Waukesha Campus, offers potential for students and/or general public to utilize.**

ACTIVITY	CURRENT USE	POTENTIAL USE
Nature study/photography		X
Hiking/biking/skiing		X
Hunting/fishing/trapping		
Boating/canoeing		
Food harvesting		
Others (list)		

11.  Y  N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (circle that which applies)?