# Wetland Delineation Report

Hahn Property
Town of Nepeuskun | Winnebago County, Wisconsin

Prepared For

DAVE HAHN

DECEMBER 13, 2016 McM. No. H1043-9-16-00878.00

#### **TABLE OF CONTENTS**

I. INTRODUCTION

II. METHODS

III. RESULTS & DISCUSSION

IV. CONCLUSIONS

V. LITERATURE CITED

**FIGURES** 

Figure 1 Site Location & Topographic Map

Figure 2 Winnebago County Soil Survey & WDNR Wetland Inventory Map

Figure 3 Wetland Delineation Map

**APPENDICES** 

Appendix A COE Wetland Determination Data Forms

Appendix B Wetland Photographs

Appendix C Winnebago County Soil Resource Map & Hydric Soil Report



# Wetland Delineation Report

Hahn Property
Town of Nepeuskun | Winnebago County, Wisconsin

Prepared For

**DAVE HAHN** 

DECEMBER 13, 2016 McM. No. H1043-9-16-00878.00

#### I. INTRODUCTION

The project objective was to delineate wetlands located within the project area located on the western shore of Rush Lake off of an easement driveway accessed from CTH 'E'. The site is approximately 4.80 acres located in Section Twenty-Seven (27), Township Seventeen (17) North, Range Fourteen (14) East, Town of Nepeuskun, Winnebago County, Wisconsin. The location of the project and regional topography is shown on Figure 1. The contact person and address for this project is provided below:

Dave Hahn N6919 Wilderness Way Sussex, WI 53089

Phone: 262-527-8513

Email: mercrestor@hotmail.com

The wetland delineation was completed by Garek Holley, Environmental Scientist of McMAHON, on October 28, 2016. Mr. Holley has completed 38 hours of wetland delineation training that was sponsored by various regulatory agencies, including the Wisconsin Department of Natural Resources (DNR) and U.S. Army Corps of Engineers.

This report consists of a description of the methods used, results, conclusions and supporting documentation.

#### II. METHODS

The Winnebago County Soil Survey Map and Wisconsin DNR Wetland Inventory Map are shown on Figure 2. The wetland and project area are shown on Figure 3.

The wetland delineation was performed using the routine determination method in the Corps of Engineers Wetland Delineation Manual, 1987 and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, January, 2012. Furthermore, the resource, "Field Indicators of Hydric Soils in the United States, Guide for Identifying and Delineating Hydric Soils", Version 7.0, 2010, and the Version 7.0, 2015 Errata was also used for determining whether the soils were hydric. The report was prepared in accordance with document titled "Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and the Wisconsin Department of Natural Resources", March 4, 2015.

Percent cover was used to measure dominant species of vegetation. The sampling plots were a 5 feet radius for herbaceous plants, 15 feet for shrubs and saplings which measure less than 3.5 inches DBH, and 30 feet for trees and woody vines. The "50/20 Rule" was used to determine the dominant species for each stratum.

Soil pits were completed in the field using a 16-inch spade shovel and a hand auger to a minimum depth of 20 inches, unless refusal was encountered. Test pits were left open to observe hydrologic conditions and later backfilled when activities were completed.

The wetland boundary was delineated based upon changes in vegetation, soil, hydrology, topography and professional judgment. The following documents were reviewed to aid in characterizing the vegetation, soil and hydrology of the project area prior to field delineation activities.

- Winnebago County Soil Survey
- 7.5 Minute Series Topographic Map
- Wisconsin Wetland Inventory Map
- USDA Field Office Climate Data

A total of five transects were completed to delineate wetlands within the project area. A total of nineteen sampling points were documented using COE Wetland Determination Forms. Copies of the forms are presented in Appendix A. The wetland boundaries and test pits were marked with labeled pin flags. Each pin flag was subsequently located with a Global Positioning System (GPS) capable of sub-foot accuracy. The points were then mapped using Geographic Information System (GIS) software to produce a wetland delineation map.

#### III. RESULTS & DISCUSSION

The project objective was to delineate wetlands located within on Hahn Property. The project area is 4.80 acres. Photographs of the wetlands are presented in Appendix B. The photos were taken on December 5, 2016; approximately a month and a half after field work was completed. Five wetlands, a total of 1.92 acres were delineated.

A USDA Wetness Evaluation Table was used to determine antecedent precipitation. This USDA climate data provides a range of normal precipitation for each month. The actual monthly precipitation is compared with this range to determine wetness conditions at the time of the wetland delineation. The Oshkosh WETS station received 2.55-inches of precipitation in October, indicating normal conditions. In September, 6.58-inches of precipitation were recorded, indicating wetter than normal conditions. In the month of August the station received 2.44-inches, indicating drier than normal conditions. Based on this data, the period prior to the field work was normal.

Figure 2 shows the Wisconsin Wetland Inventory Map for the project area. Wetlands are mapped within a majority of the project area, except for the western quarter. Rush Lake is located just east of the project area. Figure 2 also shows the Winnebago County Soil Survey Map. Soil Resource & Hydric Soil Reports are presented in Appendix C. The Soil Survey Map shows three different soil map units in the project area. The map units are listed below:

- Fox Silt Loam, 2 to 6% Slopes (FsB) This soil is well drained. The map unit hydric category is nonhydric. It is not included on the County Hydric Soil List.
- Houghton Muck, Ponded, 0 to 2% Slopes (HW) This soil is very poorly drained. The map unit hydric category is hydric; the cumulative percentage of components that meet the criteria for hydric soils is 100%. The component soil is included on the County Hydric Soil List.
- Ossian Silt Loam (Os) This soil is poorly drained. The map unit hydric category is hydric; the cumulative percentage of components that meet the criteria for hydric soils is 100%. The component soil is included on the County Hydric Soil List.

Wetland #1 (0.20 acres), is a wooded swale extending from an emergent wetland. The wetland is surrounded by relatively significant contour breaks which help define the boundary. Indicators of hydrology found within Wetland 1 included Geomorphic Position (D2), FAC Neutral Test (D5), and Saturation (A3) in the northern section of the wetland. Soils consisted of a Depleted Matrix (F3) in the northern section and Thick Dark Surface (A12) up-gradient to the south. Vegetation within the wetland included *Populus tremuloides* and *Fraxinus pennsylvanica* in the tree layer and *Rhamnus cathartica* in the shrub and herbaceous layer. *Phalaris arundinacea* and *Pilea pumila* are found to the north near a clearing on the border of the project area. Defining the wetland extent was done in large part using the tree canopy and hydrology.

A profound break from wetland area was observed where vegetation transitioned to *Quercus spp.*, *Carya ovata*, *Prunus serotina*, and *Anemone quinquefolia*.

Wetland #2 (188 ft²) is a small extension of a wet meadow north of the project area. Observed hydrology indicators included Geomorphic Position (D3) and FAC Neutral Test (D5). Vegetation included *Fraxinus pennsylvanica, Rhamnus cathartica*, and *Phalaris arundinacea*.

Wetland #3 (241 ft²) is a depression in a topographically low wooded area. Like Wetland 1, Wetland 3 is defined by a steep contour break in addition to the tree and herbaceous vegetation. Hydrology indicators in the wetland included Dry-Season Water Table (C2), Geomorphic Position (D3), and the FAC Neutral Test (D5). Soils consisted of a thick dark surface described as a 20 inch A horizon, followed by a depleted B horizon. Vegetation within the wetland included *Fraxinus pennsylvanica* and *Rhamnus cathartica*. Adjacent upland species included *Quercus macrocarpa*, *Anemone quinquefolia*, *Prunus serotina*, and *Carya ovata*.

Wetland #4 (0.20 acres) is an emergent/wet meadow wetland located on the shore of Rush Lake. The wetland extends along the entire eastern shore of the property. A significant topographic break and hydrophytic vegetation were used to denote the boundary. Vegetation was primarily comprised of *Phalaris arundinacea* and *Typha angustifolia*.

Wetland #5 (1.51 acres) is an emergent/wet meadow wetland located on the shore of Rush Lake. The wetland extends along the entire southern shore of the property. A significant topographic break and hydrophytic vegetation were used to denote the boundary. Vegetation was primarily comprised of *Phalaris arundinacea* and *Typha angustifolia*. Soils, like much of the rest of the property, met the Thick Dark Surface (A12) hydric soil indicator.

The uplands within the project area consisted largely of a mature Oak/Hickory tree stand, with buckthorn in a majority of the understory. Since trees are good indicators of historic hydrology, it can be deduced that areas which are comprised primarily of Oak, Hickory, and Cherry are not susceptible to seasonal wetland conditions. Furthermore, in some upland areas, wetland criteria for vegetation and soils are met, however, the vegetation is skewed by the presence of buckthorn. Since buckthorn was established in the herbaceous layer and shrub layer, these pits automatically passed the Dominance Test despite the limited diversity and presence of upland trees. Thus, wetlands were primarily mapped by the presence hydrology indicators, and hydrophytic trees.

### IV. CONCLUSIONS

McMAHON completed a wetland delineation on Hahn Property. Five wetlands, a total of 1.92 acres were mapped within the 4.80 acre project area. The final authorities for the wetland area are the appropriate State and Federal authorities.

#### V. LITERATURE CITED

- 1. Borman, Susan, Robert Korth and Jo Temte. 1997. <u>Through the Looking Glass</u>. Wisconsin Lakes Partnership, University of Wisconsin Stevens Point, Stevens Point, Wisconsin. 248 pp.
- 2. Crow, Garrett E. and C. Barre Hellquist. 2000. <u>Aquatic and Wetland Plants of Northeastern North America</u>. Volume One Pteridophytes, Gymnosperms, and Angiosperms: <u>Dicotyledons</u>. The University of Wisconsin Press, Madison, Wisconsin. 480 pp.
- 3. Crow, Garrett E. and C. Barre Hellquist. 2000. <u>Aquatic and Wetland Plants of North America</u>. Volume Two Angiosperms: Monocotyledons. The University of Wisconsin Press, Madison, Wisconsin. 400 pp.
- 4. Courtnenay, Booth and Zimmerman, James H. 1972. Wild Flowers and Weeds. D. Van Nostrand Company, New York, New York. 144 pp.
- Eggers, Steve D. and Reed, Donald M. 1997 (Second Edition). Wetland Plants and Plant
   Communities of Minnesota & Wisconsin.
   U.S. Army Corps of Engineers St. Paul District. 263 pp.
- 6. Environmental Laboratory. 1987. <u>Corps of Engineers Wetlands Delineation Manual</u>, Technical Report Y-87-1, U.S. Army Corps of Engineer Waterways Experiment Station, Vicksburg, Miss.
- 7. Fassett, Norman C. 1951. <u>Grasses of Wisconsin</u>. The University of Wisconsin Press, 173 pp.
- 8. National Audebon Society. 1980. <u>The Audubon Society Field Guide to North American Trees, Eastern Region</u>. 714 pp.
- Petrides, George A. and Wehr, Janet. 1988. (First Edition Expanded). <u>Eastern Trees</u>. Houghton Mifflin Company, Boston, New York. 424 pp.
- 10. Lichvar, R.W. 2012. <u>The National Wetland Plant List.</u> ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory.
- 11. Tekiela Stan. 2000. <u>Wildflowers Of Wisconsin</u>. Adventure Publications, Inc., Cambridge, Minnesota. 410 pp.
- 12. Voss, Edward G. 1972. <u>Michigan Flora</u>. <u>Part I Gymnosperms and Monocots</u>. Cranbrook Institute of Science, Bloomfield Hills, Michigan. 488 pp.

- 13. Voss, Edward G. 1985. <u>Michigan Flora. Part II Dicots</u>. Cranbrook Institute of Science, Bloomfield Hills, Michigan. 724 pp.
- 14. Voss, Edward G. 1996. <u>Michigan Flora. Part III Dicots</u>. Cranbrook Institute of Science, Bloomfield Hills, Michigan. 622 pp.
- 15. Wetter, Mark A., Theodore S. Chochrane, Merel R. Black, Hugh. H. Iltis, and Paul E. Berry. 2001. <u>Checklist of the Vascular Plants of Wisconsin</u>. Wisconsin State Herbarium, Madison, Wisconsin. 258 pp.
- 16. Wisconsin Administrative Code. 1998. <u>Chapter NR 103 Water Quality Standards for Wetlands</u>. 3 pp.
- 17. WI Department of Administration. 1995. <u>Basic Guide to Wisconsin's Wetlands and Their Boundaries</u>. PUBL-WZ-029-94. 87 pp.



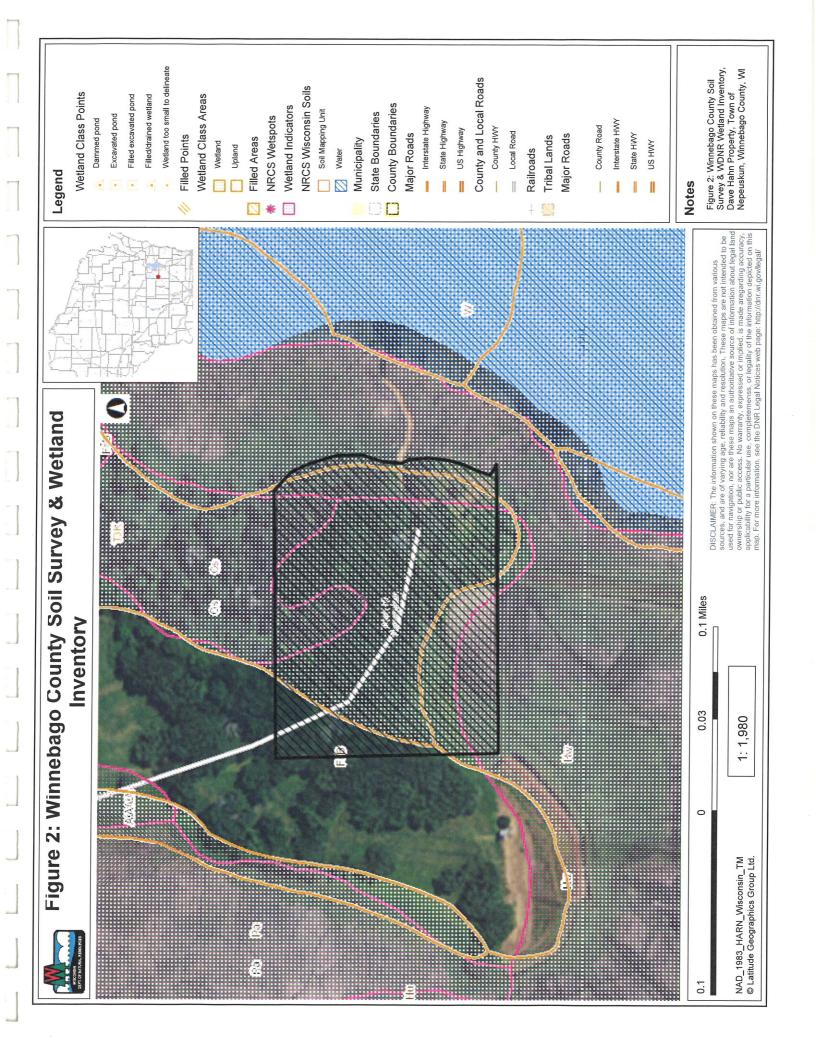


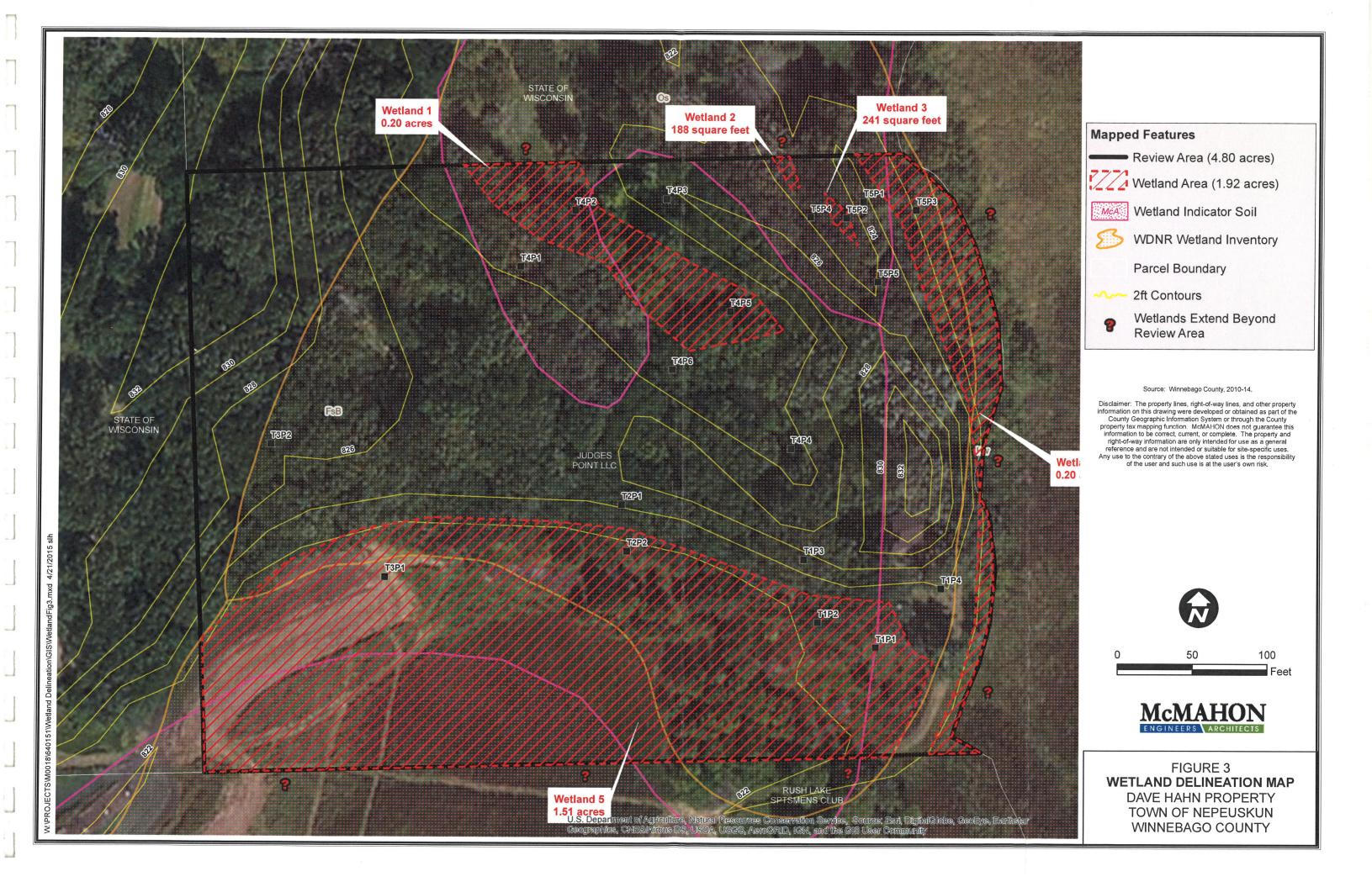
1 inch = 2,000 feet

McMAHON provides this drawing and data, regardless of form; as instruments of service. All rights including copyrights are retained by McMAHON. This client and/or recpipeint agress to the fullest extent permitted by law to indemnify and hold McMAHON harmless for any reuse of or changes made to the original drawing or data without prior written consent by McMAHON.

McMAHON ENGINEERS ARCHITECTS FIGURE 1
SITE LOCATION & TOPOGRAPHIC MAP
DAVE HAHN PROPERTY
TOWN OF NEPEUSKUN
WINNEBAGO COUNTY, WI

H1043-9-16-00878.00 OCTOBER, 2016





COE WETLAND DETERMINATION DATA FORMS

Project/Site: Dave Hahn Property	City/County: Rush Lake/Winnebago Sampling Date: 10/28/2016
Applicant/Owner: Dave Hahn	State: WI Sampling Point T1P1
Investigator(s): Stacey Henk, Garek Holley	Section, Township, Range: Sec 27, T17N, R14E
Landform (hillslope, terrace, etc.): Footslope	Local relief (concave, convex, none): concave
Slope (%): 0-1 Lat.:Lon	
Soil Map Unit Nam(FsB	NWI Classification:
Are climatic/hydrologic conditions of the site typical for Are vegetation X, soil, or hydrology	
(If needed, explain any answers in remarks)	naturally problematic? circumstances" present? No
(ii riceded, explain any answers in remarks)	
SUMMARY OF FINDINGS	
Hydrophytic vegetation present? Y	Is the sampled area within a wetland?
Hydric soil present?	
Indicators of wetland hydrology present? Y	If yes, optional wetland site ID:
Remarks: (Explain alternative procedures here or in a s	separate report.)
Mowed Lawn	
Movod Edwi	
HYDROLOGY	
HIDROLOGI	
Deignam Indianton (minimum of an allowed by lands of allowed	Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check and Surface Water (A1)  Water-S	11 37
	tained Leaves (B9)  Surface Soil Cracks (B6)  Fauna (B13)  Drainage Patterns (B10)
	posits (B15)  Moss Trim Lines (B16)
	n Sulfide Odor (C1)  Dry-Season Water Table (C2)
	Rhizospheres on Crayfish Burrows (C8)
	pots (C3) Saturation Visible on Aerial Imagery
	e of Reduced Iron (C4) (C9)
	ron Reduction in Tilled Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (Co	
	ck Surface (C7) Shallow Aquitard (D3)
	xplain in Remarks) X FAC-Neutral Test (D5)
Surface (B8)	Microtopographic Relief (D4)
Field Observations:	
Surface water present? Yes NoX	
Water table present? Yes X No	Depth (inches): 7 wetland
Saturation present? Yes X No	Depth (inches):0 hydrology
(includes capillary fringe)	present? Y
Describe recorded data (at	
Describe recorded data (stream gauge, monitoring well,	aeriai pnotos, previous inspections), if available:
Remarks:	

SOIL							S	Sampling Point:	T1P1
Profile Des	cription: (Descr	ibe to th	ne depth needed	to docu	ument th	ne indica	tor or confirm the abse	ence of indicators.)	
Depth	Matrix		Redox Features				Texture	Remarks	
(Inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type*	Loc**		Tremano	
0-12	10YR 2/1	100			—		SL		
12-20	2.5Y 7/1	60	5Y 8/1	20	D	М	LS		
			7.5YR 5/6	20	С	М			
	V.								
*Type: C=C	oncentration, D	=Deplet	ion, RM=Reduc	ed Matr	ix, CS=0	Covered	or Coated Sand Grain	S	
**Location:	PL=Pore Lining	, M=Ma	trix						
Hydric Soil	Indicators:						Indicators for Pro	oblematic Hydric Soils	 3:
Hydric Soil Indicators:  Histisol (A1) Histisol (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Dark Surface (S7) (LRR R, MLRA Stratified Dark Surface (A12) Sandy Redox (S5) Dark Surface (S7) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA MLRA L08  Histisol (A1) Polyvalue Below Surface (A16) (LRR K, L, MLRA 149 Dark Surface (S9) Chark K, L Dark Surface (S9) Chark K, L Dark Surface (S7) (LRR K, L) Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K) Piedmont Floodplain Soils (F19) (MLRA Mesic Spodic (TA6) (MLRA 144A, 145, 145, 149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic							., R) K, L, R) K, L) K, L, R) RA 149B)		
Type: Depth (inch	Layer (if observe	∍d):					Hydric soil prese	ent? <u>Y</u>	
Remarks:									

VEGETATION - Use scientific names of pla	nts	Sampling Point: T1P1
Tree Stratum Plot Size ( 30 )  1	Absolute Dominant Indicat % Cover Species Statu 10 Y FACV 5 Y FAC	Tree Stratum
5 6 7 8 9 10 Sapling/Shrub Plot Size ( 15 )		100:0070 (745)
1		Prevalence Index Worksheet           Total % Cover of:         OBL species 0 x 1 = 0           OBL species 90 x 2 = 180         FACW species 5 x 3 = 15           FAC species 30 x 4 = 120         VA = 120           UPL species 0 x 5 = 0         VA = 0           Column totals 125 (A)         VA = 0           Prevalence Index = B/A = 2.52         VA = 0
Herb Stratum Plot Size ( 5 )  1	Absolute         Dominant         Indicate           % Cover         Species         Status           50         Y         FACW           30         Y         FACU           10         N         FACU           5         N         FACU           5         N         FACU           5         N         FACU	X   Dominance test is >50%   X   Prevalence index is ≤3.0*   Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)   Problemalic hydrophytic vegetation*
10 11 12 13 14		Definitions of Vegetation Strata:  Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Woody Vine Plot Size ( 30 )  Stratum Plot Size ( 30 )	Absolute Dominant Indicate % Cover Species Status	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
3 4 5	0 = Total Cover	Hydrophytic vegetation present? Y
Remarks: (Include photo numbers here or on a sep	arate sheet)	

Project/Site: Dave Hahn Property	City/County: Rush Lake/Winnebago Sampling Date: 10/28/2016
Applicant/Owner: Dave Hahn	State: WI Sampling Point T1P2
Investigator(s): Stacey Henk, Garek Holley	Section, Township, Range: Sec 27, T17N, R14E
	W of T1P1 Local relief (concave, convex, none): concave
Slope (%): <u>0-2</u> Lat.:Long.	
Soil Map Unit NameFsB	NWI Classification:
Are climatic/hydrologic conditions of the site typical for th	
Are vegetation X, soil, or hydrology	significantly disturbed? Are "normal
	naturally problematic? circumstances" present? No
(If needed, explain any answers in remarks)	
SUMMARY OF FINDINGS	
Hydrophytic vegetation present?	Is the sampled area within a wetland?
Hydric soil present?	- The samples area maint a woulder.
Indicators of wetland hydrology present? Y	If yes, optional wetland site ID:
Demorks: (Eyplain alternative presedures have a in	
Remarks: (Explain alternative procedures here or in a sep	parate report.)
Mowed Lawn	
Moved Edwi	
HYDROLOGY	
	Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check all	that apply) required)
	ined Leaves (B9) Surface Soil Cracks (B6)
X High Water Table (A2) Aquatic Fa	
X Saturation (A3)Marl Depo	
Water Marks (B1) Hydrogen	Sulfide Odor (C1)  Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	of Reduced Iron (C4)(C9)  n Reduction in Tilled Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (C6)	X Geomorphic Position (D2)
	Surface (C7)  Shallow Aguitard (D3)
	lain in Remarks)  X FAC-Neutral Test (D5)
Surface (B8)	Microtopographic Relief (D4)
	maiotopogiaphilo (tolio) (5 1)
Field Observations:	
Surface water present? Yes No _X	
Water table present? Yes X No	Depth (inches): 10 wetland
Saturation present? Yes X No	Depth (inches): 2 hydrology
(includes capillary fringe)	present? Y
Describe recorded data (stream gauge, monitoring well, a	erial photos, previous inspections), if available:
( 0.07 - 0.07	, , , , , , , , , , , , , , , , , , , ,
Remarks:	

SOIL								Sampling Point: T1P2	
					5174				_
Profile Des	cription: (Descr	ribe to tr				ne indica	tor or confirm the abso	ence of indicators.)	
Depth (Inches)	Matrix	%		dox Fea		1 - 0**	Texture	Remarks	
(Inches) 0-11	Color (moist) 10YR 2/1	100	Color (moist)	<u>%</u>	Type*	Loc**			
	and the second s		57,04	- 20	+	+	SIL		
11-20	2.5Y 7/1	60	5Y 8/1	20	D	M	С		
		—	7.5YR 5/6	20	С	М			
			<u> </u>	<u> </u>					
									_
									_
									_
			1						
*Type: C=C	Concentration, D	Deplet	tion, RM=Reduc	ed Matr	rix, CS=0	Covered	or Coated Sand Grain	ns	_
	PL=Pore Lining								
Hydric Soil	I Indicators:						Indicators for Pr	roblematic Hydric Soils:	
Hydric Soil Indicators:  Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Thin Dark Surface (S9) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Dark Surface (F6) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  *Indicators for Problematic Hydric  1							A10) (LRR K, L, MLRA 149B Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, F) (S7) (LRR K, L Redow Surface (S8) (LRR K, L) Irface (S9) (LRR K, L) Rese Masses (F12) (LRR K, L, R) Redodplain Soils (F19) (MLRA 144 (TA6) (MLRA 144A, 145, 149 (Material (F21) Dark Surface (TF12) In in Remarks)	R) 9B	
Type: Depth (inche	Layer (if observe	ed):			-		Hydric soil pres	ent?Y	
Remarks:									

VEGETATION - Use scientific names of pla	nts		Sampling Poi	nt: T1P2
Tree Stratum Plot Size ( 30 )  1 Fraxinus pennsylvanica 2 Populus tremuloides 3 4 5	Absolute % Cover 10 5 Y	Indicator Status FACW FAC	50/20 Thresholds  Tree Stratum Sapling/Shrub Stratum Herb Stratum Woody Vine Stratum  Dominance Test Worksh	20% 50% 3 8 0 0 22 55 0 0
6 7 8 9 10			Number of Dominant Species that are OBL, FACW, or FAC: Total Number of Dominant Species Across	4(A) 5(B)
Sapling/Shrub Plot Size ( 15 )	Absolute Dominant % Cover Species		Percent of Dominant Species that are OBL, FACW, or FAC:	80.00% (A/B)
1 2 3 4 5 6 7 8 9			Total % Cover of:   OBL species	= 0 = 160 = 15 = 160
Herb Stratum Plot Size ( 5 )  1	O	Indicator Status FACW FACW FACU FACU FACU	Hydrophytic Vegetation In  Rapid test for hydrophy  X Dominance test is >50%  X Prevalence index is ≤3.  Morphogical adaptation supporting data in Rem separate sheet) Problematic hydrophytic (explain)  *Indicators of hydric soil and wetla present, unless disturbed or proble	rtic vegetation % .0* .0* is* (provide larks or on a consection*
10 11 12 13			Definitions of Vegetation Tree - Woody plants 3 in. (7.6 cm, at breast height (DBH), regardless	) or more in diameter s of height.
14 15	= Total Cove	r ——	Sapling/shrub - Woody plants les greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody	
Woody Vine Stratum Plot Size ( 30 )	Absolute Dominant Species	Indicator Status	size, and woody plants less than 3  Woody vines - All woody vines gr height.	3.28 ft tall.
3 4 5	0 = Total Cove		Hydrophytic vegetation present? Y	
Remarks: (Include photo numbers here or on a sep	arate sheet)			

Project/Site: Dave Hahn Property	City/County	: Rush Lake/Winnebago	Sampling Date: 10/28/2016
Applicant/Owner: Dave Hahn		State: WI	Sampling Point T1P3
Investigator(s): Stacey Henk, Garek Holle		Section, Township,	Range: Sec 27, T17N, R14E
Landform (hillslope, terrace, etc.): Backs		Local relief (concave, c	convex, none): none
Slope (%): 6 Lat.:	Long.:	Datum:	
Soil Map Unit NameFsB			assification:
Are climatic/hydrologic conditions of the s	ite typical for this time of the	/ear? Yes (If no, e	explain in remarks)
Are vegetation, soil, o	r hydrology significa	intly disturbed?	Are "normal
(If needed, explain any answers in remark		problematic?	circumstances" present? Yes
(ii riceded, explain any answers in remark	3)		
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? Hydric soil present?	N Is the samp	led area within a wetla	nd? <u>N</u>
Indicators of wetland hydrology present?	N If yes, option	nal wetland site ID:	
Remarks: (Explain alternative procedures	here or in a separate report.)		
HYDROLOGY			
		Second	lary Indicators (minimum of two
Primary Indicators (minimum of one is req	uired: check all that apply)	required	
Surface Water (A1)	Water-Stained Leaves (B	•	face Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)		inage Patterns (B10)
Saturation (A3)	Marl Deposits (B15)		ss Trim Lines (B16)
— Water Marks (B1)	Hydrogen Sulfide Odor (C		-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres of		yfish Burrows (C8)
Drift Deposits (B3)	Living Roots (C3)	Satu	uration Visible on Aerial Imagery
Algal Mat or Crust (B4) Iron Deposits (B5)	Presence of Reduced Iron		
Inundation Visible on Aerial	Recent Iron Reduction in		nted or Stressed Plants (D1)
Imagery (B7)	Soils (C6) Thin Muck Surface (C7)		omorphic Position (D2) Ilow Aquitard (D3)
Sparsely Vegetated Concave	Other (Explain in Remark		C-Neutral Test (D5)
Surface (B8)	Other (Explain in Remark		rotopographic Relief (D4)
			otopograpine (tener (b4)
Field Observations:			
Surface water present? Yes	No X Depth (inche		Indicators of
Water table present? Yes	No X Depth (inche		wetland
Saturation present? Yes	No X Depth (inche	es):	hydrology
(includes capillary fringe)			present? N_
Describe recorded data (atracas access	onitoring well carial alast	mandana haaran ilaan 19	
Describe recorded data (stream gauge, mo	mitoring well, aerial photos, p	revious inspections), if	avaliable:
Remarks:			
Approximately 2ft upgradient of T1	P2		

SOIL							Sa	ampling Point:	T1P3
Destila Dag		''- 4- 4l	J (1) 1 1			1 17 -			
Depth	Cription: (Descr Matrix	ibe to tr		to docu		ne indica	tor or confirm the abser	nce of indicators.)	
(Inches)	Color (moist)	%	Color (moist)	ox real %	Type*	Loc**	Texture	Rema	rks
0-10	10YR 2/1	100	Color (moiot,	/0	T	T	SIL	Rock at 10"	
0=10	1011(2/1	100			<del>                                     </del>	-	SIL	RUCK at 10	
	-				├──				
					├──			ļ	
					—				
					<u> </u>				
	Concentration, D: PL=Pore Lining,			ed Matr	ix, CS=0	Covered	or Coated Sand Grains	ſ	
Hydric Soil	I Indicators:						Indicators for Pro	blematic Hydric (	Soils:
Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Suface (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) *Indicators of hydrophytic vegetation and weltand hydrology must be pres						A (S9) 9B eral rix (F2) 3) ee (F6) face (F7) s (F8)	Coast Prairie R 5 cm Mucky Pe Dark Surface (\$ Polyvalue Belo* Thin Dark Surfa Iron-Manganes Piedmont Flood Mesic Spodic (\$ Red Parent Ma Very Shallow D Other (Explain	w Surface (S8) (LI ace (S9) (LRR K, I se Masses (F12) (L dplain Soils (F19) ( TA6) (MLRA 144A sterial (F21) Dark Surface (TF12 in Remarks)	K, L, R) .RR K, L, R) RR K, L) L) LRR K, L, R) (MLRA 149B) A, 145, 149B)
Restrictive L Type: Depth (inche	_ayer (if observe	ed):					Hydric soil prese	nt? <u>N</u>	
Remarks:	W. College Barrier								

VEGETATION - US	se scientific i	names o	t plai	nts			Sampling Point: T1P3
Tree Stratum  1 Quercus alba 2 3	Plot Size (	30	)	Absolute % Cover 30	Dominant Species Y	Indicator Status FACU	50/20 Thresholds           20%         50%           Tree Stratum         6         15           Sapling/Shrub Stratum         0         0           Herb Stratum         23         58           Woody Vine Stratum         0         0
Sapling/Shrub Stratum	Plot Size (	15	)	30 = Absolute % Cover	Total Cover  Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: Total Number of Dominant Species Across 3 (B) Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)  Prevalence Index Worksheet
2 3 4 5 6 7 8 9					Total Cover		Total % Cover of:  OBL species 0 x 1 = 0  FACW species 45 x 2 = 90  FAC species 0 x 3 = 0  FACU species 100 x 4 = 400  UPL species 0 x 5 = 0  Column totals 145 (A) 490  Prevalence Index = B/A = 3.38
Herb Stratum  1 Poa pratensis 2 Phalaris arundin 3 Solidago canade 4 Fraxinus pennsy 5 6 7 8	ensis	5	)	Absolute % Cover 60 40 10 5	Dominant Species Y Y N N	Indicator Status FACU FACW FACU FACW	Hydrophytic Vegetation Indicators:  Rapid test for hydrophytic vegetation Dominance test is >50%  Prevalence index is ≤3.0*  Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)  Problematic hydrophytic vegetation* (explain)  *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
10 11 12 13							Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Woody Vine Stratum 1	Plot Size (	30	)	115 = Absolute % Cover	Dominant Species	Indicator Status	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.
3 4 5			_		Total Cover		Hydrophytic vegetation present? N
Remarks: (Include pho	to numbers ne	ne or on a	а ѕера	arate sneet)			

Project/Site: Dave Hahn Property	City/County	: Rush Lake/Winneba	go Sampling Date: 10/28/	2016
Applicant/Owner: Dave Hahn		State: WI	Sampling Point	T1P4
Investigator(s): Stacey Henk, Garek Holle	у	Section, Townsh	ip. Range: Sec 27, T17N.	. R14E
Landform (hillslope, terrace, etc.): Backsl	ope-upgradient N of T1P1	Local relief (concave	, convex, none): none	
Slope (%): 4 Lat.:	Long.:	Datum:		
Soil Map Unit NameHw			Classification:	
Are climatic/hydrologic conditions of the si	te typical for this time of the	year? Yes (If no	, explain in remarks)	
Are vegetation X, soil, o	r hydrologysignific	antly disturbed?	Are "normal	
Are vegetation, soil, o	r hydrologynaturall	y problematic?	circumstances" preser	nt? No
(If needed, explain any answers in remark	5)			
SUMMARY OF FINDINGS				
Hydrophytic vegetation present?	N Is the same	oled area within a wet	land? N	
Hydric soil present?	Y Is the same	neu area witiiiii a wet	ialiu!	
Indicators of wetland hydrology present?		nal wetland site ID:		
maleators of wetland hydrology present:	II yes, optio	nai welland site iD: _		
Remarks: (Explain alternative procedures	here or in a separate report.	)		
(	north or man departate reports			
Mowed lawn				
Mowed lawii				
HADBOLOCA				
HYDROLOGY				
			ndary Indicators (minimur	m of two
Primary Indicators (minimum of one is requ		requi	,	
Surface Water (A1)	Water-Stained Leaves (E		urface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)		rainage Patterns (B10)	
Saturation (A3)	Marl Deposits (B15)		loss Trim Lines (B16)	
Water Marks (B1) Sediment Deposits (B2)	Hydrogen Sulfide Odor (		ry-Season Water Table (C	2)
Drift Deposits (B2)	Oxidized Rhizospheres of		rayfish Burrows (C8)	•
Algal Mat or Crust (B4)	Living Roots (C3) Presence of Reduced Iron		aturation Visible on Aerial	Imagery
Iron Deposits (B5)	Recent Iron Reduction in		C9)	(D4)
Inundation Visible on Aerial	Soils (C6)		tunted or Stressed Plants (	(ויט)
Imagery (B7)	Thin Muck Surface (C7)		eomorphic Position (D2)	
Sparsely Vegetated Concave	Other (Explain in Remark		hallow Aquitard (D3)	
Surface (B8)	Other (Explain in Remark		AC-Neutral Test (D5)	,
Curiace (B6)			licrotopographic Relief (D4)	)
Field Observations:				
Surface water present? Yes	No X Depth (inch	es):	Indicators of	
Water table present? Yes	No X Depth (inch		wetland	
Saturation present? Yes	No X Depth (inch	es):	hydrology	
(includes capillary fringe)			present? N	
			•	.
Describe recorded data (stream gauge, mo	nitoring well, aerial photos,	previous inspections),	if available:	
Remarks:				
	D4			
Approximately 1ft upgradient of T1	71			

SOIL								Sampling Point:	T1P4
Profile Des	cription: (Descr	ibe to th	ne depth needed	to doci	ument th	ne indica	tor or confirm the abs	ence of indicators.)	
Depth (Inches)	Matrix	%		dox Feat %		Loc**	Texture	Rema	arks
0-13	Color (moist) 10YR 2/1	100	Color (moist)	70	Type*	T	10		
	THE RESERVE TO A PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.		7 EVD 5/6	15	+	- NA	LS	_	
13-20	2.5Y 6/2	85	7.5YR 5/6	15	C	M	LS		
		├──	<del> </del>						
			<del> </del>	<del></del>	┼	<del>                                     </del>			
	<b> </b>	<del> </del>	<del>                                     </del>	<del></del>	├──	<del>                                     </del>			
	<b> </b>	├──	ļ!	<del></del>	—	<del>                                     </del>			
	<u> </u>	<del></del>	<b></b>	<del></del>	┼	<b></b> '			
	<b></b> '	<u> </u>				<b></b> '			
	<b></b> '			<u> </u>		<u> </u>			
	<u> </u>	<u> </u>							
	Concentration, D PL=Pore Lining			ed Matr	ix, CS=0	Covered	or Coated Sand Grain	ns	
	I Indicators:	,					Indicators for Pr	roblematic Hydric	Soils:
Hist Blac Hyd Stra Dep X Thic San San Strip Darl		A4) 15) 17k Suface (A12) 17ral (S1) 17ix (S4) 18) (LRR R,	(S8)Thir(LR	b) (LRR n Dark S RR R, Mi amy Muc ) (LRR I amy Gle bleted M dox Darl bleted D dox Dep	eyed Mat Matrix (F3 k Surfac Dark Surf Dressions	(S9) 9B eral trix (F2) (3) ce (F6) face (F7) s (F8)	Coast Prairie 5 cm Mucky I Dark Surface Polyvalue Be Thin Dark Su Iron-Mangane Piedmont Flo Mesic Spodic Red Parent M	Dark Surface (TF12 in in Remarks)	K, L, R) LRR K, L, R) LRR K, L) L) LRR K, L, R) (MLRA 149B) A, 145, 149B)
Restrictive L Type: Depth (inche	Layer (if observe	∍d):			-		Hydric soil pres	sent? Y	
Remarks:									

	Use scientific i	lames	or piai	115			Sampling Point:	T1P4
Tree Stratum 1 2 3	Plot Size (	30	)	Absolute % Cover	Dominant Species	Indicator Status	50/20 Thresholds  20 Tree Stratum Sapling/Shrub Stratum Herb Stratum Woody Vine Stratum	0 0 0 9 48
4 5 6 7 8 9 0 Sapling/Shrub Stratum	Plot Size (	15	)	0 = Absolute % Cover	Total Cover  Dominant Species	Indicator	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: Total Number of Dominant Species Across Percent of Dominant Species that are OBL, FACW, or FAC:  50  Prevalence Index Worksheet	1 (A) 2 (B)
2 33 44 55 66 77 88 99					- Total Cover		Total % Cover of:  OBL species 0 x 1 =  FACW species 45 x 2 =  FAC species 0 x 3 =  FACU species 50 x 4 =  UPL species 0 x 5 =  Column totals 95 (A)	0 90 0 200 0 290 (B)
Herb Stratum  1	ntea	5	)	Absolute % Cover 50 35 10	Dominant Species Y Y N	Indicator Status FACU FACW FACW	Hydrophytic Vegetation Indic Rapid test for hydrophytic v Dominance test is >50% Prevalence index is ≤3.0* Morphogical adaptations* (i supporting data in Remarks separate sheet) Problematic hydrophytic ve (explain) *Indicators of hydric soil and wetland hy present, unless disturbed or problemati	egetation  provide or on a  getation*
9			0				Definitions of Vegetation Stra Tree - Woody plants 3 in. (7.6 cm) or m at breast height (DBH), regardless of he	ore in diameter eight.
5				95 =	Total Cover		Sapling/shrub - Woody plants less tha greater than 3.28 ft (1 m) tall.  Herb - All herbaceous (non-woody) plants	nts, regardless
Woody Vine Stratum	Plot Size (	30	)	Absolute % Cover	Dominant Species	Indicator Status	size, and woody plants less than 3.28 ft  Woody vines - All woody vines greater height.	
3 1 5				0 =	Total Cover		Hydrophytic vegetation present? N	

Project/Site: Dave Hahn Property	City/County: Rust	h Lake/Winnebago_Sampli	ng Date: 10/28/2016
Applicant/Owner: Dave Hahn	Stat	te: WI Sa	mpling Point T2P1
Investigator(s): Stacey Henk, Garek Holley	Sec	ction, Township, Range:	Sec 27, T17N, R14E
Landform (hillslope, terrace, etc.): Shoulder	Local re	elief (concave, convex,	none): convex
Slope (%): 6 Lat.: Lor	g.:	Datum:	
Soil Map Unit NameFsB		NWI Classifica	tion:
Are climatic/hydrologic conditions of the site typical for	this time of the year?	Yes (If no, explain i	n remarks)
Are vegetation, soil, or hydrology	significantly distu	urbed? Are "no	ormal
Are vegetation, soil, or hydrology	naturally problem	natic? circums	stances" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present?  N	Is the sampled area	within a wetland?	N
Hydric soil present?			
Indicators of wetland hydrology present?N	If yes, optional wetla	nd site ID:	
Remarks: (Explain alternative procedures here or in a s	separate report.)		
HYDROLOGY			
HIDROLOGI			
		Secondary Indi	cators (minimum of two
Primary Indicators (minimum of one is required; check		required)	
Surface Water (A1) Water-S	tained Leaves (B9)		Cracks (B6)
	Fauna (B13)		atterns (B10)
	posits (B15)	Moss Trim L	
	n Sulfide Odor (C1)		Water Table (C2)
	Rhizospheres on Living	Crayfish Bu	
Drift Deposits (B3) Roots (C		Saturation V	isible on Aerial Imagery
	e of Reduced Iron (C4)	(C9)	
	ron Reduction in Tilled	Stunted or S	Stressed Plants (D1)
Inundation Visible on Aerial Soils (C	3)	Geomorphic	Position (D2)
Imagery (B7) Thin Mu	ck Surface (C7)	Shallow Aqu	uitard (D3)
Sparsely Vegetated Concave Other (E	xplain in Remarks)	FAC-Neutra	Test (D5)
Surface (B8)	,		aphic Relief (D4)
Field Observations:			
Surface water present? Yes NoX	Depth (inches):	Indicat	tors of
Water table present? Yes No X		wetl	and
Saturation present? Yes No X		hydro	ology
(includes capillary fringe)		pres	
Describe recorded data (stream gauge, monitoring well	, aerial photos, previous i	inspections), if available	9:
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Remarks:			

SOIL							Sa	ampling Point:	T2P1
Profile Des	cription: (Descr	ibe to th	ne depth needed	to docu	ument th	ne indica	tor or confirm the abser	nce of indicators.)	
Depth	Matrix		Red	lox Feat			Texture	Remar	·ke
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	rexture	Kemai	N5
0-8	10YR 2/1	100					LS		
8-16	10YR 2/1	100					GRS	Rock at 16"	
					_				
						-			
*Type: C=C	oncentration D	=Deplet	ion RM=Reduc	ed Matr	ix CS=0	Covered	or Coated Sand Grains		
	PL=Pore Lining			ca man	1, 00	Jovered	or obated band Grains		
	I Indicators:	,					Indicators for Pro	hlamatia Uudria S	toilo:
riyuric oon	maicators.						ilidicators for Fro	blematic riyunc 3	olis.
Hist Hyd Stra Dep Thic San San San Stri Dari	of hydrophytic v	A4) 5) rk Suface (A12) ral (S1) rix (S4) (LRR R,	(S8 Thir (LR Loa ce (A11)(F1)LoaDepRedDep _Red	) (LRR in Dark St. R R, Millimy Mucon) (LRR in Imy Gleen) (LRR in Imy	yed Mati Aatrix (F3 k Surfac Dark Surf Dressions	A (S9) 9B eral rix (F2) 3) ee (F6) face (F7) s (F8)	Coast Prairie R 5 cm Mucky Pe Dark Surface (\$ Polyvalue Belot Thin Dark Surfa Iron-Manganes Piedmont Flood Mesic Spodic (*) Red Parent Ma	w Surface (S8) (LF ace (S9) (LRR K, L se Masses (F12) (L dplain Soils (F19) ( TA6) (MLRA 144A sterial (F21) Dark Surface (TF12 in Remarks)	K, L, R) RR K, L, R) RR K, L) -) .RR K, L, R) MLRA 149B) , 145, 149B)
Restrictive I Type: Depth (inch	Layer (if observe	∍d):					Hydric soil preser	nt? <u>N</u>	
Remarks:									

	1101111000	f plants				Sampling Poir	nt: T2P1
Tree Stratum Plot Size (  1 Quercus macrocarpa 2 3	30	1	Absolute % Cover 50	Dominant Species Y	Indicator Status FACU	50/20 Thresholds  Tree Stratum Sapling/Shrub Stratum Herb Stratum Woody Vine Stratum	20% 50% 10 25 0 0 23 58 0 0
Sapling/Shrub Plot Size (	15	1	50 : Absolute % Cover	= Total Cover  Dominant Species	Indicator	Dominance Test Workshe Number of Dominant Species that are OBL, FACW, or FAC: Total Number of Dominant Species Across Percent of Dominant Species that are OBL, FACW, or FAC:	1 (A) 2 (B) 50.00% (A/E
						Prevalence Index Workshot	= 0 = 70 = 180 = 280
Herb Stratum Plot Size (  Rhamnus cathartica  Phalaris arundinacea  Poa pratensis  Agrostis gigantea  Fraxinus pennsylvanica	5	1	0 = Absolute	Total Cover  Dominant Species Y N N N N	Indicator Status FAC FACW FACU FACW	Hydrophytic Vegetation In  Rapid test for hydrophyt  Dominance test is >50%  Prevalence index is ≤3.0  Morphogical adaptations supporting data in Rema separate sheet)  Problematic hydrophytic (explain)  *Indicators of hydric soil and wetlar present, unless disturbed or proble	cic vegetation  by  s* (provide  arks or on a  vegetation*
				- 0 8		Definitions of Vegetation \$ Tree - Woody plants 3 in. (7.6 cm) at breast height (DBH), regardless Sapling/shrub - Woody plants less	or more in diamete of height.
			115 =	Total Cover		greater than 3.28 ft (1 m) tall.  Herb - All herbaceous (non-woody)	
Woody Vine Plot Size (	30	111111111111111111111111111111111111111	Absolute % Cover	Dominant Species	Indicator Status	size, and woody plants less than 3.  Woody vines - All woody vines gre height.	28 ft tall.
				Total Cover		Hydrophytic vegetation present? N	

Project/Site: Dave Hahn Property	City/County:	Rush Lake	Winnebago Sampling Date: 10/28/2016
Applicant/Owner: Dave Hahn		State: V	VI Sampling Point T2P2
Investigator(s): Stacey Henk, Garek Holley		Section,	Township, Range: Sec 27, T17N, R14E
Landform (hillslope, terrace, etc.): Footslope-downgra	adient S of T2P1 Lo	ocal relief (d	concave, convex, none): concave
Slope (%): 2 Lat.: Lor	ng.:	Datu	m:
Soil Map Unit NameFsB			NWI Classification:
Are climatic/hydrologic conditions of the site typical for	this time of the year	r? Yes	(If no, explain in remarks)
Are vegetation, soil, or hydrology	significantl	y disturbed'	? Are "normal
Are vegetation, soil, or hydrology	naturally p	roblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			•
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? Y	Is the sampled	l area withir	n a wetland? Y
Hydric soil present?			·
Indicators of wetland hydrology present?	If yes, optional	wetland sit	e ID:
,	, , , ,		
Remarks: (Explain alternative procedures here or in a	separate report.)		
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check	all that apply)		required)
Surface Water (A1) Water-S	Stained Leaves (B9)		Surface Soil Cracks (B6)
High Water Table (A2)  Aquation	Fauna (B13)		Drainage Patterns (B10)
X Saturation (A3) Marl De	posits (B15)		Moss Trim Lines (B16)
	en Sulfide Odor (C1)		X Dry-Season Water Table (C2)
	d Rhizospheres on L		Crayfish Burrows (C8)
Drift Deposits (B3) Roots (			Saturation Visible on Aerial Imagery
Algal Mat or Crust (B4) Present	ce of Reduced Iron (	C4)	—(C9)
	Iron Reduction in Til	10	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (C			X Geomorphic Position (D2)
	ick Surface (C7)		Shallow Aquitard (D3)
	Explain in Remarks)		X FAC-Neutral Test (D5)
Surface (B8)	,		Microtopographic Relief (D4)
Field Observations:			
Surface water present? Yes No	X Depth (inches)	0	Indicators of
Water table present? Yes X No	Depth (inches)		— wetland
Saturation present? Yes X No	Depth (inches)		— hydrology
(includes capillary fringe)			present? Y
(morades supmary mings)			prosone:
Describe recorded data (stream gauge, monitoring well	I. aerial photos, pre	vious inspe	ctions), if available:
	, аста ристор, рис		,,
Remarks:			
Approximately 2 ft downgradient of T2P1			

SOIL							S	Sampling Point: T2P2
Profile Des						e indica	tor or confirm the abse	ence of indicators.)
Depth	Matrix			lox Feat		Loc**	Texture	Remarks
(Inches)	Color (moist)	% 1 400	Color (moist)	%	Type*	Loc	LS	+
0-14	10YR 2/1	100			-		The second secon	-
14-20	2.5Y 6/1	90					S	
	10YR 3/1	10			-			
					-			
					-			
					-			
					-			
					-			
					-			
					-	_		
*Tupo: C=C	`anaantration [	-Donlo	tion DM-Poduc	od Matr	riv CS=0	Covered	or Coated Sand Grain	ne e
	PL=Pore Lining			eu mau	1, 00-0	Sovered	or Coated Sand Grain	
-	I Indicators:	, 111 1110					Indicators for Pro	oblematic Hydric Soils:
i i yano oo	· indicatoro:							
His Bla Bla Hyd Stra Dep X This Sar Sar Sar Stri Dar 149		A4) 15) 1rk Sufa 16 (A12) 17 (S1) 18 (S4) 18 (LRR R	(\$8	(k) (LRR n Dark start n Dark start n Dark	eyed Mat Matrix (F. k Surfac Dark Surf pressions	A (S9) 9B eral rix (F2) 3) e (F6) face (F7) s (F8)	Coast Prairie 5 cm Mucky F Dark Surface Polyvalue Bel Thin Dark Sur Iron-Mangane Piedmont Floo Mesic Spodic Red Parent M	Dark Surface (TF12) n in Remarks)
Restrictive Type: Depth (inch	Layer (if observ	ed):			-		Hydric soil pres	ent? Y
Remarks:				•				

<b>VEGETATION</b> - Use scientific names of p	ants	Sampling Point: T2P2
Tree Stratum Plot Size ( 30 )  1	Absolute Dominant Indicator % Cover Species Status 10 Y FACW 5 Y FAC	50/20 Thresholds         20%         50%           Tree Stratum         3         8           Sapling/Shrub Stratum         8         20           Herb Stratum         22         55           Woody Vine Stratum         0         0
4		Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: Total Number of Dominant Species Across Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)
1	40 Y FAC	Prevalence Index Worksheet           Total % Cover of:         OBL species         0 x 1 = 0           OBL species         70 x 2 = 140           FACW species         95 x 3 = 285           FACU species         0 x 4 = 0           UPL species         0 x 5 = 0           Column totals         165 (A)         425 (B)           Prevalence Index = B/A = 2.58
Herb Stratum Plot Size ( 5 )  1 Phalaris arundinacea 2 Rhamnus cathartica 3 4 5 6 7 8 9		Hydrophytic Vegetation Indicators:  Rapid test for hydrophytic vegetation  Dominance test is >50%  X Prevalence index is ≤3.0*  Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)  Problematic hydrophytic vegetation*  (explain)  *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
10 11 12 13 14		Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Woody Vine Plot Size ( 30 ) Stratum 1	= Total Cover Absolute Dominant Indicator % Cover Species Status	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.
345	0 = Total Cover	Hydrophytic vegetation present? Y
Remarks: (Include photo numbers here or on a s	sparate street)	

Project/Site: Dave Hahn Property	City/County:	Rush Lake/W	innebago Sampling Date: 10/28/2016	
Applicant/Owner: Dave Hahn		State: WI	Sampling Point T3P1	
Investigator(s): Stacey Henk, Garek Holley		Section, To	wnship, Range: Sec 27, T17N, R14E	
Landform (hillslope, terrace, etc.): Toeslope			ncave, convex, none): concave	
Slope (%): 0-1 Lat.:Lor	ng.:	Datum:		
Soil Map Unit Nam(FsB			NWI Classification:	
Are climatic/hydrologic conditions of the site typical for			(If no, explain in remarks)	
Are vegetation , soil , or hydrology Are vegetation , soil , or hydrology	significant	lly disturbed?	Are "normal	,
Are vegetation , soil , or hydrology (If needed, explain any answers in remarks)	naturally p	problematic?	circumstances" present? Ye	es
(II fleeded, explain any answers in remarks)				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present?	Is the sample	d area within a	wetland?	
Hydric soil present?				
Indicators of wetland hydrology present? Y	If yes, optiona	l wetland site I	D:	
Remarks: (Explain alternative procedures here or in a	separate report.)			
Rapid Test				
HYDROLOGY				
			Secondary Indicators (minimum of two	
Primary Indicators (minimum of one is required; check	all that annly)		required)	
I was an The second of the second	Stained Leaves (B9)		Surface Soil Cracks (B6)	
l · · · ·	Fauna (B13)	Ø•	Drainage Patterns (B10)	
	posits (B15)		Moss Trim Lines (B16)	
	en Sulfide Odor (C1)	)	Dry-Season Water Table (C2)	
Sediment Deposits (B2) Oxidized	d Rhizospheres on L	_iving	Crayfish Burrows (C8)	
Drift Deposits (B3) Roots (			Saturation Visible on Aerial Imagery	
Algal Mat or Crust (B4) Present	ce of Reduced Iron (	C4)	(C9)	
Iron Deposits (B5) Recent	Iron Reduction in Til	lled	Stunted or Stressed Plants (D1)	
Inundation Visible on Aerial Soils (C	6)		X Geomorphic Position (D2)	
	ck Surface (C7)		Shallow Aquitard (D3)	
Sparsely Vegetated Concave Other (E	Explain in Remarks)		X FAC-Neutral Test (D5)	
Surface (B8)			Microtopographic Relief (D4)	
Field Observations				
Field Observations:	D (1 (1 1 )	0.5	Indicators of	
Surface water present? Yes X No	Depth (inches)		Indicators of	
Water table present? Yes X No	Depth (inches)		wetland	
Saturation present? Yes X No	Depth (inches)	):0	hydrology	
(includes capillary fringe)			present? Y	
Describe recorded data (stream gauge, monitoring well	, aerial photos, pre	evious inspection	ons), if available:	
(	, a.oa. po.too, p. o	riodo mopoda	one), il avallabio.	
Remarks:				

SOIL								Sampling Point: T3P1
Drofile Des	ecription: (Descri	to to	ha denth needed	1 to doc	··mant th	o indica	ter or confirm the at	osence of indicators.)
Depth	Matrix	De to ti		dox Feat		e muicai		
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remarks
			1		T.,			<del> </del>
			<del>                                     </del>		<del>                                     </del>	<del>                                     </del>		<del> </del>
	<del>                                     </del>		+ + +		+	<del>                                     </del>		-
	<del>                                     </del>		<del>                                     </del>		+	<del></del>		-
	<del>                                     </del>		+		+	<del></del>		<del>- </del>
	<del>                                     </del>		<del>                                     </del>		+	<del></del>		
	<del>                                     </del>		+		+	<del></del>		
	<del>                                     </del>		+		+	<del></del>		-
			+		+	<del></del>		
	<del>                                     </del>		+		+	<del></del>		
	<del>                                     </del>		<del>                                     </del>		+	<del></del>		<del> </del>
	<del>                                     </del>		<del>                                     </del>		+	<del></del>		
*Tvne: C=C	Concentration, D	=Deple	tion RM=Reduc	ed Matr	riv CS=(	overed	or Coated Sand Gra	aine
	PL=Pore Lining,			JU 1116	1, 00	JUV0104	UI Coaled Cara S.	AIIIS
	I Indicators:						Indicators for I	Problematic Hydric Soils:
Hiss Blace Hyde Strace Dep Thice San San San Strip Dar 149		A4) 5) rk Sufac (A12) ral (S1) ix (S4)  LRR R,	(\$8)	(LRR I) (LRR I	eyed Matr Matrix (F3 k Surface Dark Surfa Dressions	A (S9) PB eral rix (F2) 3) e (F6) face (F7) s (F8)	Coast Prairi 5 cm Mucky Dark Surfac Polyvalue B Thin Dark S Iron-Manga Piedmont FI Mesic Spod	•
Restrictive I	Layer (if observe	d):				ı	Hydric soil pre	reant? V
Depth (inch	es):				_		Hyuno son pre	sent = 1
Remarks: Rapid To	est							

GETATION - U	Jse scientific	names c	of plan	าเร			Sampling Point:	T3P1
Tree Stratum	Plot Size (	30	)	Absolute % Cover	Dominant Species	Indicator Status	50/20 Thresholds	50% 0 0 55
					= Total Cover		Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: Total Number of	(A)
apling/Shrub Stratum	Plot Size (	15	)	Absolute % Cover	Dominant Species	Indicator Status	FACW, or FAC:	00%_ (A/E
					Total Cover		FAC species 0 x 3 = FACU species 0 x 4 = UPL species 0 x 5 =	10 2000 0 0 0 210 (B)
lerb Stratum  Phalaris arund Typha angusti Carex lacustris	folia	5	)	Absolute % Cover 100 5 5	Dominant Species Y N N	Indicator Status FACW OBL OBL	Hydrophytic Vegetation Indicat X Rapid test for hydrophytic veg X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (pr supporting data in Remarks of separate sheet) Problematic hydrophytic vege (explain) *Indicators of hydric soil and wetland hydropresent, unless disturbed or problematic	getation  ovide  or on a  etation*
			_				Definitions of Vegetation Strata Tree - Woody plants 3 in. (7.6 cm) or mor at breast height (DBH), regardless of height	e in diamete
							Sapling/shrub - Woody plants less than a greater than 3.28 ft (1 m) tall.	3 in. DBH and
Voody Vine			10	110 =	Total Cover  Dominant	Indicator	Herb - All herbaceous (non-woody) plants size, and woody plants less than 3.28 ft ta	
Stratum	Plot Size (	30	)	% Cover	Species	Status	Woody vines - All woody vines greater th height.	an 3.28 ft in
				0 =	Total Cover		Hydrophytic vegetation present? Y	

Project/Site: Dave Hahn Property	City/County:	Rush Lake/Winnebago Sampling Date: 10/28/2016
Applicant/Owner: Dave Hahn		State: WI Sampling Point T3P2
Investigator(s): Stacey Henk, Garek Holle		Section, Township, Range: Sec 27, T17N, R14E
		ocal relief (concave, convex, none): none
Slope (%): 3 Lat.:	Long.:	Datum:
Soil Map Unit NameFsB	to to a local for the last of the	NWI Classification:
Are climatic/hydrologic conditions of the si		
Are vegetation, soil, o	r hydrology significant r hydrology naturally p	ly disturbed? Are "normal
(If needed, explain any answers in remark	naturally p	problematic? circumstances" present? Yes
(ii fiedda, explain arry answers in remark	3)	
SUMMARY OF FINDINGS		
Hydrophytic vegetation present?		d area within a wetland?
Hydric soil present?	N	
Indicators of wetland hydrology present?	N If yes, optional	I wetland site ID:
Remarks: (Explain alternative procedures here or in a separate report.)		
HYDROLOGY		
		Secondary Indicators (minimum of two
Primary Indicators (minimum of one is requ	uired: check all that apply)	required)
Surface Water (A1)	Water-Stained Leaves (B9)	. ,
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on L	Living Crayfish Burrows (C8)
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial Imagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (	A STATE OF THE STA
Iron Deposits (B5)	Recent Iron Reduction in Til	- Contracting -
Inundation Visible on Aerial	Soils (C6)	Geomorphic Position (D2)
Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Sparsely Vegetated Concave	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Surface (B8)		Microtopographic Relief (D4)
Field Observations:		
Surface water present? Yes	No X Depth (inches)	Indicators of
Water table present? Yes	No X Depth (inches)	wetland
Saturation present? Yes	No X Depth (inches)	
(includes capillary fringe)	Deptir (mones)	present? N
(morause supmary minge)		present:
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

SOIL							s	Sampling Point: T3P2
						ne indica	tor or confirm the abse	ence of indicators.)
Depth (Inches)	Matrix Color (moist)		Red Color (moist)	dox Feat %	atures Type*	Loc**	Texture	Remarks
0-10	10YR 2/1	100	COIOI (MOISI)	70	Type	T	LS	
10-19	10YR 2/1	100	<del> </del>		+	+		Deals of 10"
10-19	IUIR ZII	100	<del> </del>	_	+	₩	GRLS	Rock at 19"
	-	<del> </del>	<del> </del>	<del></del>	+	₩	<del></del>	
	<del> </del>	<del></del>	<del> </del>	<del></del>	+	₩	<del></del>	
	ļ	<del></del>	<del>                                     </del>	-	+	—	<del></del>	
	<del> </del>	<del></del>	<del>                                     </del>	<del></del>	+'	<b>├</b> ──	<del></del>	
	<u> </u>		<del> </del>	-		<del> </del>	<del></del>	
	<del> </del>	<del></del>	<del> </del>	-	-	<del> </del>	<del></del>	
	<b></b>	<del>                                     </del>	<b></b>	<del></del>	<del></del> '	—	<u> </u>	
	<b></b>	<del></del>	<b></b>		<del></del> '	+		
	<u> </u>	<del></del>			<del></del> '	<b>─</b>	-	
*T: :::::::::::::::::::::::::::::::::::	2	-Donle	" BM-Reduc	- Mat		2orad	or Coated Sand Grains	
	ວັດncentration, D : PL=Pore Lining			ea Iviau	IX, US-C	JOVEI EU	or Coated Sallu Grant	.s
	il Indicators:	j 1	u iz			-	Indicators for Pro	oblematic Hydric Soils:
Hist Hist Hist Hist Hyc Stre Dep Thic San San San Strip Dar 149	stisol (A1) stic Epipedon (A2 ack Histic (A3) drogen Sulfide (A atified Layers (A pleted Below Da ick Dark Surface ndy Mucky Miner ndy Gleyed Matr ndy Redox (S5) ipped Matrix (S6 rk Surface (S7) ( BB) of hydrophytic v	A4) A5) ark Suface (A12) eral (S1) rix (S4) 6) (LRR R,	(S8) Thir (LR Loa ce (A11) (F1) Loa Dep Red Dep Red Red	B) (LRR In Dark SRR R, MI Muco (LRR In Dark SRR R, MI Muco (LRR In Dark SI) (LRR IN DARK SI	eyed Mati Matrix (F3 rk Surface Dark Surf pressions	RA (S9) 9B eral trix (F2) (3) ce (F6) face (F7) s (F8)	2 cm Muck (A' Coast Prairie F 5 cm Mucky P Dark Surface ( Polyvalue Belo Thin Dark Surf Iron-Manganes Piedmont Floo Mesic Spodic ( Red Parent Ma	A10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) (S7) (LRR K, L ow Surface (S8) (LRR K, L) face (S9) (LRR K, L) ese Masses (F12) (LRR K, L, R) odplain Soils (F19) (MLRA 149B) (TA6) (MLRA 144A, 145, 149B) laterial (F21) Dark Surface (TF12) in In Remarks)
Type: Depth (inch	Layer (if observe	ed):			-		Hydric soil prese	ent? <u>N</u>
Remarks:								

VEGETATION - U	lse scientific	names	of plai	nts			Sampling Po	int:	T3P2
							50/20 Thresholds		
Tree Stratum	Plot Size (	30	)	Absolute	Dominant	Indicator		20%	50%
	. 101 0120 (		,	% Cover	Species	Status	Tree Stratum	16	40
1 Quercus alba				50	Y	FACU FACU	Sapling/Shrub Stratum	8	20
2 Quercus rubra				20	Y	FACU	Herb Stratum	16	40
3 Carya ovata				10	N	FACU	Woody Vine Stratum	0	0
4 5							Dominance Test Worksh	noot	
6							Number of Dominant	eet	
7							Species that are OBL,		
8					20		FACW, or FAC:	2	(A)
9							Total Number of		
0							Dominant Species Across	4	(B)
				80	<ul> <li>Total Cover</li> </ul>		Percent of Dominant		
							Species that are OBL,		
Sapling/Shrub	Plot Size (	15	)	Absolute	Dominant	Indicator	FACW, or FAC:	50.00	%_(A/B)
Stratum	1 101 0126 (	10	,	% Cover	Species	Status			
1 Rhamnus cath	artica			40	Υ	FAC	Prevalence Index Works	heet	
2							Total % Cover of:		
3							OBL species 0 x 1	= 0	)
4							FACW species 10 x 2		
5							FAC species 110 x 3	-	
6							FACU species 80 x 4	-	20
7							UPL species 0 x 5		
8							Column totals 200 (A)	67	70 (B)
9					-		Prevalence Index = B/A =	3.35	
0				40 :	= Total Cover				
				40	= Total Cover		Hydrophytic Vegetation I	ndi sete	
				Absolute	Dominant	Indicator	Rapid test for hydroph		
Herb Stratum	Plot Size (	5	)	% Cover	Species	Status	Dominance test is >50		tation
1 Rhamnus cath	artica			70	Y	FAC	Prevalence index is ≤3		
2 Phalaris arundi				10	N	FACW	Morphogical adaptatio		/ide
3							supporting data in Ren	narks or	on a
4							separate sheet)		
5							Problematic hydrophyt	ic vegeta	ation*
<u></u>							(explain)		
<sup>7</sup>							*Indicators of hydric soil and wetl		ogy must be
3							present, unless disturbed or prob	lematic	
9							Definitions of Verstetion	Chunkar	
ĭ							Definitions of Vegetation Tree - Woody plants 3 in. (7.6 cm		in diameter
							at breast height (DBH), regardles		
3					-		at broadt noight (BBH), rogardios	o or morgine	•
1							Sapling/shrub - Woody plants le	ss than 3 ir	n. DBH and
5							greater than 3.28 ft (1 m) tall.		
				80 =	Total Cover		Herb - All herbaceous (non-wood	tu) planta .	rogardiana a
							size, and woody plants less than		
Woody Vine	Plot Size (	30	)	Absolute	Dominant	Indicator		0120 11 10111	
Stratum	1 101 0120 (	00	,	% Cover	Species	Status	Woody vines - All woody vines g	reater than	3.28 ft in
							height.		
3					-				
1							Hydrophytic		
<u> </u>							vegetation		
					Total Cover		present? N		
marka (lastuda	oto nunch and la	0.00 0.00	0.55	oroto ob1					
emarks: (Include ph	oto numbers he	ere or on	a sepa	arate sneet)					

Project/Site: Dave Hahn Property	City/County:	Rush Lake/Winr	nebago Sampling Date: 10/2	28/2016
Applicant/Owner: Dave Hahn		State: WI	Sampling Point	T4P1
Investigator(s): Stacey Henk, Garek Holley		Section, Tow	nship, Range: Sec 27, T17	N, R14E
Landform (hillslope, terrace, etc.): Backslope	Lo	ocal relief (conc	ave, convex, none): none	9
	ng.:	Datum:		
Soil Map Unit NameOs		N	IWI Classification:	
Are climatic/hydrologic conditions of the site typical for			f no, explain in remarks)	
Are vegetation, soil, or hydrology	significantl	y disturbed?	Are "normal	
Are vegetation , soil , or hydrology	naturally p	roblematic?	circumstances" pres	sent? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
SOMMAN OF THE DIVIS	Г			
Hydrophytic vegetation present?	le the compled	area within a v	M Chaptan	
Hydric soil present?	is the sampled	area witiiii a v	vetland? N	
Indicators of wetland hydrology present?N	ir yes, optional	wetland site ID	·	
Remarks: (Explain alternative procedures here or in a	senarate report )			
Tromands. (Explain alternative procedures here of in a	separate report.)			
HYDROLOGY				
		S	econdary Indicators (minin	num of two
Primary Indicators (minimum of one is required; check	all that apply)		equired)	
	Stained Leaves (B9)		Surface Soil Cracks (B6)	
. , ,	Fauna (B13)	( <del></del>	Drainage Patterns (B10)	
	posits (B15)	-	Moss Trim Lines (B16)	
	en Sulfide Odor (C1)	-	Dry-Season Water Table	(C2)
	d Rhizospheres on L		Crayfish Burrows (C8)	(/
Drift Deposits (B3) Roots (		_	Saturation Visible on Aeri	al Imagery
1	ce of Reduced Iron (0	C4) —	—(C9)	
	Iron Reduction in Till		Stunted or Stressed Plant	s (D1)
Inundation Visible on Aerial Soils (C		_	Geomorphic Position (D2)	200
	ick Surface (C7)	-	Shallow Aquitard (D3)	,
	Explain in Remarks)		FAC-Neutral Test (D5)	
Surface (B8)	-xpiairiiri (ciriarko)		Microtopographic Relief (I	24)
			who to topographic relief (i	54)
Field Observations:				
Surface water present? Yes No	C Depth (inches):		Indicators of	
Water table present? Yes No	Depth (inches):		wetland	
	Depth (inches):		hydrology	
(includes capillary fringe)			present? N	
( ,g - /			process:	_
Describe recorded data (stream gauge, monitoring wel	l, aerial photos, prev	ious inspection	ns), if available:	
			,,	
Remarks:	<del>-</del>			

SOIL							S	ampling Point: T4P1
Profile Des	cription: (Descr	ribe to th	ne depth needed	to doc	ument th	ne indica	tor or confirm the abse	nce of indicators.)
Depth	Matrix		Red	lox Fea	ntures			
(Inches)	Color (moist)	%	Color (moist)	%	Type* Loc**		Texture	Remarks
0-14	10YR 2/1	100					SIL	
14-24	2.5Y 6/2	90	7.5YR 5/6	10	С	М	SCL	
								+
					-			
		-			+			
					-			
*Tuna, C=C	lanaantustian D	Danlat	ian DM-Dadua	NA-+			or Coated Sand Grains	L
	PL=Pore Lining			ed Matr	1x, CS=0	Jovered	or Coated Sand Grains	3
Hydric Soi	I Indicators:						Indicators for Pro	oblematic Hydric Soils:
History Hydelesses Black Hydelesses Black Strain San San San Striin Dar 149		A4) .5) ark Suface (A12) ral (S1) rix (S4) (LRR R,	(S8 Thir (LR Loa ce (A11)(F1)LoaDepRecDep _Rec	) (LRR n Dark S R R, M my Muo ) (LRR my Gle bleted M dox Dari bleted D dox Dep	eyed Mati Matrix (F3 k Surfac Dark Surf pressions	A (\$9) 9B eral  rrx (F2) 3) ee (F6) face (F7) s (F8)	Coast Prairie F 5 cm Mucky Po Dark Surface ( Polyvalue Belo Thin Dark Surf Iron-Manganes Piedmont Floo Mesic Spodic ( Red Parent Ma	Dark Surface (TF12) in Remarks)
Restrictive I Type: Depth (inch	Layer (if observe	ed):			-		Hydric soil prese	nt? Y
Remarks:								

VEGETATION - Use scientific names of plan	nts	Sampling Point: T4P1
Tree Stratum Plot Size ( 30 )  1 Rhamnus cathartica 2 Quercus alba 3 Fraxinus pennsylvanica 4	Absolute Dominant Indicator % Cover Species Status 25 Y FAC 15 Y FACU 10 Y FACW	50/20 Thresholds           20%         50%           Tree Stratum         10         25           Sapling/Shrub Stratum         6         15           Herb Stratum         12         30           Woody Vine Stratum         0         0
6		Number of Dominant Species that are OBL, FACW, or FAC:
1	30 Y FAC  30 TABLE STATE	Prevalence Index Worksheet           Total % Cover of:         0         x 1 = 0         0         0         x 2 = 20         0         x 2 = 20         0         x 2 = 20         0         x 3 = 345         0         x 3 = 345         0         x 3 = 345         0         0         x 3 = 345         0
Herb Stratum Plot Size ( 5 )  1	Absolute Dominant Status 60 Y FAC	Hydrophytic Vegetation Indicators:  Rapid test for hydrophytic vegetation  Dominance test is >50%  Prevalence index is ≤3.0*  Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)  Problematic hydrophytic vegetation*  (explain)  *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
10 11 12 13 14 15		Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Woody Vine Plot Size ( 30 )  Stratum 1 2	Absolute Dominant Indicator % Cover Species Status	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.
3	0 = Total Cover	Hydrophytic vegetation present? Y

Project/Site: Dave Hahn Property	City/County:	Rush Lake/Winnebago Sampling Date: 10/28/2016
Applicant/Owner: Dave Hahn		State: WI Sampling Point T4P2
Investigator(s): Stacey Henk, Garek Holley		Section, Township, Range: Sec 27, T17N, R14E
Landform (hillslope, terrace, etc.): Toeslope		ocal relief (concave, convex, none): concave
	ng.:	Datum:
Soil Map Unit NameOs		NWI Classification:
Are climatic/hydrologic conditions of the site typical for		
Are vegetation, soil, or hydrology	significanti	ly disturbed? Are "normal
Are vegetation , soil , or hydrology	naturally p	problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)		
SUMMARY OF FINDINGS		
	1	
Hydrophytic vegetation present?	Is the sampled	d area within a wetland?
Hydric soil present?	lo uno oumpro	
Indicators of wetland hydrology present?	If yes ontional	l wetland site ID:
indicators of wetland hydrology present:	ii yes, optional	wettand site ib.
Remarks: (Explain alternative procedures here or in a	separate report.)	
, i	,	
11)/75701.00/		
HYDROLOGY		
		Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check	all that apply)	required)
	Stained Leaves (B9)	The state of the s
	Fauna (B13)	Drainage Patterns (B10)
	eposits (B15)	Moss Trim Lines (B16)
	en Sulfide Odor (C1)	
	d Rhizospheres on L	
Drift Deposits (B3) Roots (		Saturation Visible on Aerial Imagery
	ce of Reduced Iron (	
	Iron Reduction in Til	
Inundation Visible on Aerial Soils (C		X Geomorphic Position (D2)
District Control of the Control of t	uck Surface (C7)	Shallow Aquitard (D3)
	Explain in Remarks)	
Surface (B8)		Microtopographic Relief (D4)
Field Observations:		
	X Depth (inches)	)· Indicators of
Water table present? Yes X No	Depth (inches)	/·
Saturation present? Yes X No	Depth (inches)	/
(includes capillary fringe)	Deptil (illenes)	present? Y
(includes capillary ininge)		prosent:
Describe recorded data (stream gauge, monitoring wel	I, aerial photos, pre	evious inspections), if available:
, , , , , , , , , , , , , , , , , , , ,	,	
Remarks:		

SOIL								Sampling Point:	T4P2
		ibe to th				e indica	tor or confirm the abso	ence of indicators.)	
Depth	Matrix	%	Red Color (moist)	lox Feat %	tures Type*	Loc**	Texture	Remarks	
(Inches) 0-9	Color (moist) 10YR 2/1	100	Color (moist)	70	Туре	Loc	LS	OM	
9-25	2.5Y 6/2	65	7.5YR 6/6	35	С	М	LS	Olvi	THE STATE OF THE S
9-25	2.51 0/2	65	7.511 0/0	33	-	IVI	LS	-	
and a little of the same					-			-	
					-			1	
					-				
	-								
	<b> </b>								
	<b></b>								
*Type: C=C	Concentration, D	=Deple	tion, RM=Reduc	ed Matr	ix, CS=0	Covered	or Coated Sand Grain	ns	
	PL=Pore Lining								
Hydric Soi	I Indicators:						Indicators for Pr	roblematic Hydric	Soils:
Bla Hyo Str: De Thi San San San Stri Dan	,	A4) 5) rk Sufa (A12) ral (S1) ix (S4) )	Thin (LR Load Load Load Load Load Load Load Load	n Dark S R R, M amy Muc ) (LRR I amy Gle oleted M dox Darl oleted D dox Dep	yed Mat latrix (F; k Surfac Jark Surf pressions	(S9) 9B eral rix (F2) 3) e (F6) face (F7 s (F8)	5 cm Mucky F Dark Surface Polyvalue Be Thin Dark Su Iron-Mangane Piedmont Flo Mesic Spodic Red Parent M	Dark Surface (TF1 n in Remarks)	LRR K, L, R) LRR K, L) L) LRR K, L, R) (MLRA 149B) A, 145, 149B)
Restrictive Type: Depth (inch	Layer (if observenes):	ed):					Hydric soil pres	ent? Y	
Remarks:									

VEGETATION - Use scientific nam	ies of plar	nts			Sampling Poin	it: T4P2
Tree Stratum Plot Size ( 3  1 Fraxinus pennsylvanica 2 Rhamnus cathartica	30 )	Absolute % Cover 15 10	Dominant Species Y Y	Indicator Status FACW FAC	50/20 Thresholds  Tree Stratum Sapling/Shrub Stratum Herb Stratum	20% 50% 5 13 8 20 14 35
3 4 5					Woody Vine Stratum  Dominance Test Workshop	0 0
6 7 8 9					Number of Dominant Species that are OBL, FACW, or FAC: Total Number of	
10		25	= Total Cover		Dominant Species Across _ Percent of Dominant Species that are OBL,	5(B)
Sapling/Shrub Plot Size ( 1	5 )	Absolute % Cover	Dominant Species	Indicator Status		100.00% (A/B)
1 Rhamnus cathartica 2 3 4 5 6 7 8		40	Y	FAC	Prevalence Index Workshot   Total % Cover of: OBL species	0 120 225 0
10		40 =	= Total Cover			
Herb Stratum Plot Size ( 5  1 Pilea pumila 2 Rhamnus cathartica 3 Phalaris arundinacea 4 Solidago gigantea 5 6 7 8	5 )	Absolute % Cover 30 25 10 5	Dominant Species Y Y N	Indicator Status FACW FAC FACW FACW	Hydrophytic Vegetation In- Rapid test for hydrophyti X Dominance test is >50% X Prevalence index is ≤3.0 Morphogical adaptations supporting data in Remaseparate sheet) Problematic hydrophytic (explain) *Indicators of hydric soil and wetlan present, unless disturbed or problem	ic vegetation  b  * * (provide arks or on a  vegetation*
10 11 12 13					Definitions of Vegetation S Tree - Woody plants 3 in. (7.6 cm) at breast height (DBH), regardless of	or more in diameter
14		70 =	Total Cover		Sapling/shrub - Woody plants less greater than 3.28 ft (1 m) tall.	than 3 in. DBH and
Woody Vine Plot Size ( 3	0 )	Absolute % Cover	Dominant Species	Indicator Status	Herb - All herbaceous (non-woody) size, and woody plants less than 3./ Woody vines - All woody vines gre height.	28 ft tall.
3 4 5		0 =	Total Cover		Hydrophytic vegetation present? Y	
Remarks: (Include photo numbers here o	or on a sepa	arate sheet)				

Project/Site: Dave Hahn Property	City/County:	Rush Lake/Winnebago S	Sampling Date: 10/28/	2016
Applicant/Owner: Dave Hahn		State: WI	Sampling Point	T4P3
Investigator(s): Stacey Henk, Garek Holley			Range: Sec 27, T17N,	
Landform (hillslope, terrace, etc.): Shoulder-upgradi		ocal relief (concave, co	nvex, none): convex	(
	ong.:	Datum:	ssification:	
Soil Map Unit NameFsB  Are climatic/hydrologic conditions of the site typical for	or this time of the year		plain in remarks)	
Are vogetation soil or hydrologic	significant	v disturbed?	Are "normal	
Are vegetation, soil, or hydrology Are vegetation, soil, or hydrology	naturally n	roblematic?	circumstances" preser	nt? Yes
(If needed, explain any answers in remarks)	natarany p		mourrotarioso proces	
(iii iii saasaa, saasaa saasaa iii saasaa saasaa saasaa saasaa saasaa saasaa				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present? Y	le the cample	l area within a wetland	? N	
Hydric soil present?  N	is the samplet	i alea witiiii a wetialiu		-
Indicators of wetland hydrology present?	If yes ontiona	wetland site ID:		
Indicators of wetland hydrology present?	ii yes, optiona	welland site ib.		
Remarks: (Explain alternative procedures here or in a	a separate report.)	and the second s		
( )	,			
HYDROLOGY				
HIDROLOGI		Casanda	r. Indicatora (minimu	m of two
Drimary Indicators (minimum of analis required; shoo	ok all that apply)	required)	ry Indicators (minimu	III OI LWO
Primary Indicators (minimum of one is required; chec Surface Water (A1) Water	:-Stained Leaves (B9)		ace Soil Cracks (B6)	
	ic Fauna (B13)		age Patterns (B10)	
	Deposits (B15)		Trim Lines (B16)	
	gen Sulfide Odor (C1		Season Water Table (C	(2)
Sediment Deposits (B2) Oxidiz	ed Rhizospheres on I	iving Crayl	fish Burrows (C8)	
Drift Deposits (B3) Roots			ration Visible on Aerial	Imagery
	nce of Reduced Iron (			
	nt Iron Reduction in Ti		ted or Stressed Plants	(D1)
Inundation Visible on AerialSoils (			norphic Position (D2)	
	/luck Surface (C7)		ow Aquitard (D3)	
	(Explain in Remarks)		Neutral Test (D5)	`
Surface (B8)		IVIICIO	otopographic Relief (D4	')
Field Observations:				
Surface water present? Yes No	X Depth (inches		Indicators of	
Water table present? Yes No	X Depth (inches		wetland	
Saturation present? Yes No	X Depth (inches		hydrology	
(includes capillary fringe)			present? N	_
Describe associated data ( )	all assistates	ulava laana stissa Vičes	vallabla.	
Describe recorded data (stream gauge, monitoring w	eii, aeriai photos, pre	vious inspections), if a	valiable:	
Remarks:				

SOIL							S	ampling Point:	T4P3
Profile Des	crintion: (Descr	ihe to th	ne depth needed	to docu	ment th	ne indica	tor or confirm the abse	ence of indicators.)	
Depth	Matrix			lox Feat					
(Inches)	Color (moist)	%	Color (moist)	%	Type* Loc**		Texture	Kema	rks
0-9	10YR 2/1	100					LS	Rock at 9"	
	-								
								<del> </del>	
								<del> </del>	
								+	
		<del></del>		<b></b>	<del>                                     </del>			+	
			<del>                                     </del>	<del> </del>	<del> </del>			+	
	ļ'	<del></del>		<b></b>	├──			+	
	<b> </b>	<b></b>	ļ	<b></b>	├──				
	ļ	<u> </u>	<b></b>	<b></b> '	├──				
				<u> </u>	<u> </u>	igsquare			
		<u> </u>		<b></b> '	<u> </u>				
				ed Matri	ix, CS=0	Covered	or Coated Sand Grains	S	
	PL=Pore Lining	, M=Ma	trix						
Hydric Soi	I Indicators:						Indicators for Pro	oblematic Hydric S	Soils:
Hiss Blace Hyce Strace Dep Thice Sar Sar Sar Stri Dar 149	of hydrophytic v	A4) ark Suface (A12) ark (S1) ark (S4) cix (S4) cix (CRR R,	(S8 Thir (LR Loa ce (A11)(F1) Loa Per Rec Rec Rec	B) (LRR I n Dark S RR R, MI amy Muc ) (LRR I amy Gley pleted M dox Dark pleted D dox Dep	yed Mat Matrix (F; k Surfac Dark Surf Dressions	(A) (S9) 9B eral trix (F2) 3) be (F6) face (F7) s (F8)	Coast Prairie F 5 cm Mucky P Dark Surface ( Polyvalue Beld Thin Dark Surf Iron-Mangane: Piedmont Floo Mesic Spodic Red Parent Ma	Dark Surface (TF12 in Remarks)	K, L, R) .RR K, L, R) RR K, L) L) LRR K, L, R) (MLRA 149B) A, 145, 149B)
Restrictive I Type: Depth (inch	Layer (if observe	ed):			-		Hydric soil prese	ent? N	
Remarks:									

<b>EGETATION</b> - U	se scientific r	names of p	lants			Sampling Po	int:	T4P3
						50/20 Thresholds		
Tree Stratum	Plot Size (	30	Absolute	Dominant	Indicator		20%	50%
	23.0		% Cover	Species	Status	Tree Stratum	9	23
Quercus macro				Y	FACU	Sapling/Shrub Stratum	6	15
Prunus serotina			10	<u>Y</u>	FACU	Herb Stratum	10	25
Rhamnus catha	artica		10	Y	FAC	Woody Vine Stratum	0	0
Quercus alba			5	N	FACU	Dominance Test Worksh		
						Number of Dominant	ieet	
			_			Species that are OBL,		
						FACW, or FAC:	3	(A)
						Total Number of		(/ (/
			_			Dominant Species Across	5	(B)
			45	= Total Cover		Percent of Dominant		
						Species that are OBL,		
apling/Shrub			Absolute	Dominant	Indicator	FACW, or FAC:	60.00	% (A/B)
Stratum	Plot Size (	15	% Cover	Species	Status	171011, 611716.	00.00	/o (/ u D)
	autia a		30	Y	FAC	Prevalence Index Works	la a a 4	
Rhamnus catha	artica				FAC		neet	
			_			Total % Cover of:		`
	· · · · · · · · · · · · · · · · · · ·		_			OBL species 0 x 1	-	
Y						FACW species 0 x 2	Section and section in contrast of	
						FAC species 90 x 3 FACU species 35 x 4		
						UPL species 0 x 5		
						Column totals 125 (A)		10 (B)
			_			Prevalence Index = B/A =		
	·····		_			Trevalence index = B/A =	0.20	
			30	= Total Cover		1		
				10141 00101		Hydrophytic Vegetation	Indicato	rs:
I. I. Ohartaan	DI-+ 0: /	-	Absolute	Dominant	Indicator	Rapid test for hydroph		
lerb Stratum	Plot Size (	5	% Cover	Species	Status	X Dominance test is >50	)%	
Rhamnus catha	artica		50	Y	FAC	Prevalence index is ≤3	3.0*	
						Morphogical adaptation		
						supporting data in Rer	marks or	on a
						separate sheet)		
						Problematic hydrophy	tic vegeta	ation*
			_			(explain)		
						*Indicators of hydric soil and wet		ogy must be
						present, unless disturbed or prob	olematic	
						Definitions of Vegetation		
						Tree - Woody plants 3 in. (7.6 cm		
						at breast height (DBH), regardles	ss of neight	L.
						Sapling/shrub - Woody plants le	ess than 3 i	n. DBH and
			- 0 1			greater than 3.28 ft (1 m) tall.		5511 0110
				= Total Cover				
				- Total Cover		Herb - All herbaceous (non-wood		
Voody Vine			Absolute	Dominant	Indicator	size, and woody plants less than	3.28 ft tall.	
Stratum	Plot Size (	30 )	% Cover	Species	Status	Woody vines All woody vines	areater than	3 28 ft in
Citatain			70 00 VCI	Opcoles	Oldida	Woody vines - All woody vines of height.	greater triar	1 J.ZO IL III
						Hydrophytic		
			-					
				T-t-L C		vegetation		
			0	= Total Cover		present? Y	-	
aarka: (Inaliida = E	ata numbara b	oro or on o	oporato shaati					
narks: (Include pho	oto numbers he	ere or on a s	separate sneet)					

Project/Site: Dave Hahn Property	City/County:	Rush Lake/Winnebago Sampling Date: 10/28/2016	
Applicant/Owner: Dave Hahn		State: WI Sampling Point T4F	24
Investigator(s): Stacey Henk, Garek Holley		Section, Township, Range: Sec 27, T17N, R14E	=
Landform (hillslope, terrace, etc.): Backslope	-S of wetland 1 L	_ocal relief (concave, convex, none): _none	
Slope (%): 3 Lat.:	Long.:	Datum:	
Soil Map Unit NameFsB		NWI Classification:	
Are climatic/hydrologic conditions of the site ty	pical for this time of the year	ear? Yes (If no, explain in remarks)	
Are vegetation, soil, or hyd	drologysignificantl drologynaturally p	tly disturbed? Are "normal	
	drologynaturally p	problematic? circumstances" present?	Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
SUMMART OF FINDINGS			
I hadaa ahadia aa aa tabaa aa aa aa to	N I I I I I I I I I I I I I I I I I I I	1 10 N	
	N Is the sampled	d area within a wetland?	
,			
Indicators of wetland hydrology present?	N If yes, optional	al wetland site ID:	
Remarks: (Explain alternative procedures here	or in a separate report.)		
HYDROLOGY			
IIIBROZOGI		Cacandary Indicators (minimum of t	
Discours leading to an a few series and a se	de ala a le all that are les	Secondary Indicators (minimum of to	wo
Primary Indicators (minimum of one is required		required)	
Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) Aguatic Fauna (B13)	) Surface Soil Cracks (B6) Drainage Patterns (B10)	
Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		
Sediment Deposits (B2)	Oxidized Rhizospheres on L		
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial Image	n.
Algal Mat or Crust (B4)	Presence of Reduced Iron (		i y
Iron Deposits (B5)	Recent Iron Reduction in Til		
Inundation Visible on Aerial			
	Soils (C6) Thin Muck Surface (C7)	Geomorphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks)		
Surface (B8)		Microtopographic Relief (D4)	
Field Observations:			
	No X Depth (inches)	Indicators of	
	No X Depth (inches)	7).	
	No X Depth (inches)	/·	
(includes capillary fringe)	10XDeptif (inches)		
(includes capillary fringe)		present? N	
Describe recorded data (stream gauge, monito	ring well aerial photos pre	evious inspections) if available:	
2000 noc recorded data (stream gauge, monito	mig well, aerial priolos, pre	evious mapeoliona, il avallable.	
Remarks:			

SOIL							Sa	ampling Point: T4P4
Profile Des	cription: (Descr	ibe to th	ne depth needed	to docu	ument th	e indicat	tor or confirm the abser	nce of indicators.)
Depth	Matrix			ox Feat	ures		Texture	Remarks
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	rexture	Remarks
0-15	7.5YR 3/1	100						
15-24	2.5Y 6/2	80						
	7.5YR 3/1	20						
*Type: C=C	Concentration, D	=Deple	tion. RM=Reduc	ed Matr	ix. CS=0	Covered	or Coated Sand Grains	<u></u>
	PL=Pore Lining				,			
	I Indicators:						Indicators for Pro	blematic Hydric Soils:
ingana aa	· maioatoro							, , , , , , , , , , , , , , , , , , , ,
Histisol (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) Depleted Dark Surface (A12) Sandy Redox (S5) Dark Surface (S7) Depleted Dark Surface (F7) Stripped Matrix (S6) Dark Surface (S7) Dark Surface (S7) Depleted Dark Surface (F6) Sandy Redox (S5) Dark Surface (S7) Dark Surface (S7) Dark Surface (S7) Depleted Dark Surface (F6) Stripped Matrix (S6) Dark Surface (S7) Dark Surface (S9) Dark Surface (S7) Dark Surface (S9) Dark Surface (S7) Dark Surface (S7) Dark Surface (S9)								Redox (A16) (LRR K, L, R) eat or Peat (S3) (LRR K, L, R) S7) (LRR K, L ow Surface (S8) (LRR K, L) face (S9) (LRR K, L) se Masses (F12) (LRR K, L, R) dplain Soils (F19) (MLRA 149B) (TA6) (MLRA 144A, 145, 149B) aterial (F21) Dark Surface (TF12) in Remarks)
Restrictive Type: Depth (inch	Layer (if observ	ed):					Hydric soil prese	nt? N
Remarks:								

EGETATION - Use scientific	names	of pla	nts			Sampling Po	oint:	T4P4
						50/20 Thresholds		
Tree Stratum Plot Size (	30	)	Absolute	Dominant	Indicator		20%	50%
	00	,	% Cover	Species	Status	Tree Stratum	10	25
Prunus serotina			20	Y	FACU	Sapling/Shrub Stratum	0	0
2 Quercus alba			10	Y	FACU	Herb Stratum	23	58
Rhamnus cathartica			10	Y	FAC	Woody Vine Stratum	0	0
1 Carya ovata			5	N	FACU			
Quercus macrocarpa			5	N	FACU	Dominance Test Worksh	neet	
						Number of Dominant		
						Species that are OBL,		
						FACW, or FAC:	2	(A)
						Total Number of		(5)
			50	Tatal Carre		Dominant Species Across	4	(B)
				= Total Cover		Percent of Dominant		
						Species that are OBL,		
Sapling/Shrub Plot Size (	15	)	Absolute	Dominant	Indicator	FACW, or FAC:	50.00%	%_ (A/B
Stratum	10	,	% Cover	Species	Status			
						Prevalence Index Works	heet	
						Total % Cover of:		
						OBL species 10 x 1	1 = 10	)
						FACW species 15 x 2		
						FAC species 90 x 3		
						FACU species 40 x 4		
						UPL species 10 x 5		
				-		Column totals 165 (A)		
						Prevalence Index = B/A =	3.15	<u>o</u> (b)
						Trevelience index = B//( =	0.10	
			0	= Total Cover				
				10101 00101		Hydrophytic Vegetation	Indicator	.e.
	_		Absolute	Dominant	Indicator	Rapid test for hydroph		
Herb Stratum Plot Size (	5	)	% Cover	Species	Status	Dominance test is >50		tation
Rhamnus cathartica			80	Y	FAC	Prevalence index is ≤3		
Phalaris arundinacea			15	N	FACW	Morphogical adaptation		ide
Asclepias syriaca			10	N	UPL	supporting data in Rer		
Carex vulpinoidea			10	N	OBL	separate sheet)		
,						Problematic hydrophyt	tic vegeta	tion*
			11			(explain)	rogota	
						*Indicators of hydric soil and wet	land hydrole	au muat h
						present, unless disturbed or prob		gy must b
						present, unless distarbed or proc	nomatio	
						Definitions of Vegetation	Strata:	
						Tree - Woody plants 3 in. (7.6 cm		n diameter
						at breast height (DBH), regardles		
							ro or morgina	
· · · · · · · · · · · · · · · · · · ·						Sapling/shrub - Woody plants le	ess than 3 in	. DBH and
				-		greater than 3.28 ft (1 m) tall.		
			115 :	= Total Cover				
				Total Gover		Herb - All herbaceous (non-wood		egardless o
Woody Vine	-		Absolute	Dominant	Indicator	size, and woody plants less than	3.28 ft tall.	
Stratum Plot Size (	30	)	% Cover	Species	Status	Woody vince All woody diese	aroator the	2 20 # :-
			70 00 001	Openies .	Oldida	Woody vines - All woody vines of height.	Ji eater than	J.ZO TI IN
						Jigiri.		
						l		
						Hydrophytic		
						vegetation		
			0	Total Cover		present? N	-	
narks: (Include photo numbers	here or or	a sep	arate sheet)					

Project/Site: Dave Hahn Property	City/County:	Rush Lake/Wi	nnebago Sampling Date: 10	)/28/2016
Applicant/Owner: Dave Hahn		State: WI	Sampling Poir	nt T4P5
Investigator(s): Stacey Henk, Garek Holley		Section, To	wnship, Range: Sec 27, T	17N, R14E
Landform (hillslope, terrace, etc.): Toeslope-SE of 1	Γ4P2 L	ocal relief (cor	ncave, convex, none): co	ncave
	.ong.:	Datum:		
Soil Map Unit NameFsB			NWI Classification:	
Are climatic/hydrologic conditions of the site typical f	or this time of the year		(If no, explain in remarks)	
Are vegetation, soil, or hydrology		ly disturbed?	Are "normal	
Are vegetation, soil, or hydrology	naturally p	roblematic?	circumstances" pr	resent? Yes
(If needed, explain any answers in remarks)				
,				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present? Y	Is the sampled	d area within a	wetland? Y	,
Hydric soil present?			1	
Indicators of wetland hydrology present?	If yes, optional	l wetland site I	D:	
maloatoro or wottana nyarology prosent:	ii yes, optional	Wettaria Site i	D	
Remarks: (Explain alternative procedures here or in	a senarate report \			
Tromano. (Explain alternative procedures here of in-	a separate report.)			
		***************************************		
HYDROLOGY				
IIIDROLOGI			Constant Indiantes (color	
Discontinuity (1)	1 11 7 7 1 3		Secondary Indicators (mir	limum of two
Primary Indicators (minimum of one is required; chec			required)	- **
	r-Stained Leaves (B9)	_	Surface Soil Cracks (Bi	
	tic Fauna (B13)		Drainage Patterns (B10	,
	Deposits (B15)		Moss Trim Lines (B16)	
	gen Sulfide Odor (C1)	the state of the s	Dry-Season Water Tab	le (C2)
	zed Rhizospheres on L	_iving	Crayfish Burrows (C8)	
Drift Deposits (B3) Roots	, ,		Saturation Visible on A	erial Imagery
	ence of Reduced Iron (	C4)	(C9)	
	nt Iron Reduction in Til	led	Stunted or Stressed Pla	ants (D1)
Inundation Visible on Aerial Soils (			X Geomorphic Position (D	02)
Imagery (B7) Thin M	Muck Surface (C7)	_	Shallow Aquitard (D3)	
	(Explain in Remarks)	_	X FAC-Neutral Test (D5)	
Surface (B8)		_	Microtopographic Relief	f (D4)
				***
Field Observations:				
Surface water present? Yes No	X Depth (inches)		Indicators of	
Water table present? Yes No	X Depth (inches)		wetland	
Saturation present? Yes X No	Depth (inches)		hydrology	
(includes capillary fringe)	. ,			Υ
Describe recorded data (stream gauge, monitoring w	ell, aerial photos, pre	vious inspection	ons), if available:	
	, p	3.0 m. op 3000		
Remarks:				

SOIL							S	ampling Point: T4P5
						ne indica	tor or confirm the abser	nce of indicators.)
Depth	Matrix		The second secon	dox Feat	tures Type*		Texture	Remarks
(Inches)	Color (moist)	%	Color (moist)	(moist) %		Loc**		
0-10	10YR 2/1	100				<b></b>	SIL	
10-14	2.5Y 6/2	85	7.5YR 6/6	15	С	М	SCL	
14-24	5Y 7/2	60	7.5YR 5/6	40	С	М	LS	
					$\vdash$	<b>—</b>		
					$\vdash$	<del>                                     </del>		+
	<b></b>	$\vdash$		<del></del>	<del>                                     </del>	<del> </del>		+
		<del> </del>	<del>                                     </del>	<del></del>	<del> </del>	<del> </del> '		+
	<b> </b>					<b></b>		
	<u> </u>			<b></b>		<b></b>		
· <del>-</del> 0 6						لِـــــــلِ	2 : : 2 : 10 :	
	Concentration, D PL=Pore Lining			ed Matr	ix, CS=C	Covered	or Coated Sand Grains	S
	THE RESERVE TO SERVE THE PARTY OF THE PARTY	,					Indicators for Pro	oblematic Hydric Soils:
Hydric Soil Indicators:  Histisol (A1) Histisol (A2) Histisol (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Thin Dark Surface (A12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Stripped Matrix (S6) Dark Surface (S7) Loamy Mucky Mineral (S1) A Depleted Dark Surface (F6) Sandy Redox (S5) Dark Surface (S7) Stripped Matrix (S6) Dark Surface (S7) Loamy Gleyed Matrix (F3) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Stripped Matrix (S6) Dark Surface (S7) Loamy Gleyed Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149) Mesic Spodic (TA6) (MLRA 144A, 145, 149) Nesic Spodic (TA6) (MLRA 144A, 145, 149) Thin Dark Surface (F7) Redox Dark Surface (F7) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA  149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic								
Type: Depth (inch	Layer (if observe	ed):			-		Hydric soil prese	ent? Y
Remarks:								

VEGETATION - Use scientific	names of pla	ants			Sampling Po	oint:	T4P5
Tree Stratum Plot Size (	30 )	Absolute % Cover	Dominant Species	Indicator Status	50/20 Thresholds  Tree Stratum	20% 5	50% 13
1 Rhamnus cathartica 2 Fraxinus pennsylvanica 3 4		15	Y Y	FACW	Sapling/Shrub Stratum Herb Stratum Woody Vine Stratum	6 4 0	15 10 0
5 6					Dominance Test Worksh Number of Dominant	neet	
7 8 9					Species that are OBL, FACW, or FAC: Total Number of	4	(A)
10		25	= Total Cover		Dominant Species Across Percent of Dominant	<u>4</u>	(B)
Sapling/Shrub Stratum Plot Size (	15 )	Absolute % Cover	Dominant Species	Indicator Status	Species that are OBL, FACW, or FAC:	100.00	0% (A/B)
1 Rhamnus cathartica 2		30	Y	FAC	Prevalence Index Works Total % Cover of:	heet	
5 6					OBL species 0 x1 FACW species 10 x2 FAC species 65 x3 FACU species 0 x4	$2 = \frac{2}{3} = \frac{2}{19}$	0 95
7 8 9					UPL species 0 x 5 Column totals 75 (A) Prevalence Index = B/A =	$\bar{0} = \frac{1}{2}$	) 15 (B)
10		30	= Total Cover				
Herb Stratum Plot Size (  1 Rhamnus cathartica 2	5 )	Absolute % Cover 20	Dominant Species Y	Indicator Status FAC	Hydrophytic Vegetation Rapid test for hydroph X Dominance test is >50 X Prevalence index is ≤ Morphogical adaptation	nytic vege 0% 3.0* ons* (prov	etation vide
3 4 5 6 6					supporting data in Rei separate sheet) Problematic hydrophy (explain)	tic vegeta	ation*
8		-			*Indicators of hydric soil and wet present, unless disturbed or prot		logy must be
10 11 12					Definitions of Vegetation Tree - Woody plants 3 in. (7.6 cr at breast height (DBH), regardles	m) or more	in diameter
13		8 8			Sapling/shrub - Woody plants le greater than 3.28 ft (1 m) tall.	ess than 3 i	in. DBH and
15			Total Cover		Herb - All herbaceous (non-woodsize, and woody plants less than		
Woody Vine Stratum Plot Size ( 1 2	30 )	Absolute % Cover	Dominant Species	Indicator Status	Woody vines - All woody vines of height.		
34					Hydrophytic		
5		0 :	= Total Cover		vegetation present? Y	_	
Remarks: (Include photo numbers h	ere or on a se	parate sheet)			•		

Project/Site: Dave Hahn Property	City/County:	Rush Lake/Wir	nebago Sampling Date:	10/28/2016
Applicant/Owner: Dave Hahn		State: WI	Sampling P	oint T4P6
Investigator(s): Stacey Henk, Garek Holley		Section, Tov	vnship, Range: Sec 27,	T17N, R14E
Landform (hillslope, terrace, etc.): Backslope-upgradie			cave, convex, none):	none
	ıg.:	Datum:_		
Soil Map Unit NamersB			NWI Classification:	
Are climatic/hydrologic conditions of the site typical for			(If no, explain in remark	s)
Are vegetation, soil, or hydrology	significantl	y disturbed?	Are "normal	
Are vegetation , soil , or hydrology	naturally p	roblematic?	circumstances"	present? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
COMMINANT OF THE DIVISION				
Hydrophytic vegetation present?	Is the sampled	l area within a	wotland?	N
Hydric soil present?	is the sampled	i area witiiii a	wettand?	<u>N</u>
	lftianal		<b>5</b> .	
Indicators of wetland hydrology present? N	If yes, optional	wetland site it	):	
Remarks: (Explain alternative procedures here or in a s	congrate report \			
Tremarks. (Explain alternative procedures here of in a s	separate report.)			
HYDROLOGY				
			Secondary Indicators (n	ninimum of two
Primary Indicators (minimum of one is required; check	all that apply)		required)	
	Stained Leaves (B9)		Surface Soil Cracks (	(B6)
	Fauna (B13)		Drainage Patterns (B	
Saturation (A3) Marl De	posits (B15)		Moss Trim Lines (B1	6)
Water Marks (B1) Hydroge	en Sulfide Odor (C1)		Dry-Season Water Ta	able (C2)
Sediment Deposits (B2) Oxidized	d Rhizospheres on L	iving	Crayfish Burrows (C8	3)
Drift Deposits (B3)Roots (C	C3)		Saturation Visible on	Aerial Imagery
Algal Mat or Crust (B4) Presence	e of Reduced Iron (	C4)	(C9)	
Iron Deposits (B5) Recent	Iron Reduction in Til	led	Stunted or Stressed I	Plants (D1)
Inundation Visible on Aerial Soils (C	6)		Geomorphic Position	(D2)
Imagery (B7)Thin Mu	ck Surface (C7)		Shallow Aquitard (D3	)
	xplain in Remarks)		FAC-Neutral Test (D5	5)
Surface (B8)		_	Microtopographic Rel	lief (D4)
Field Observed Communication	***************************************			
Field Observations:			ludiantous of	
Surface water present? Yes No>			Indicators of	
Water table present? Yes No			wetland	
Saturation present? Yes No _>	Depth (inches)	:	hydrology	
(includes capillary fringe)			present? _	<u>N</u>
Describe recorded data (atracam acusa manitaria a unall	porial phates	uloup lasses"-	no) if oveilel-	
Describe recorded data (stream gauge, monitoring well	, aeriai priotos, pre	vious inspectio	ns), if available:	
Remarks:				

SOIL							Sa	ampling Point:	T4P6
Profile Des	cription: (Descr	ribe to th	ne depth needed	to doci	ument th	ne indica	tor or confirm the abser	nce of indicators.)	
Depth	Matrix			lox Feat					Name of the last o
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**	Texture	Remark	(S
0-8	10YR 2/1	100					SL		
8-15	10YR 4/2	100					SCL		
15-22	5Y 7/1	75	7.5YR 5/6 25		С	М	LS		
- 20									
								<b>†</b>	
								1	
					<del>                                     </del>				
					<del>                                     </del>			<del> </del>	
*Type: C=C	oncentration, D	=Deplet	ion, RM=Reduc	ed Matr	ix, CS=0	Covered	or Coated Sand Grains	<u></u>	
	PL=Pore Lining								
Hydric Soil	Indicators:						Indicators for Pro	blematic Hydric S	oils:
Histisol (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) Depleted Dark Surface (S7) Depleted Dark Surface (S7) Sandy Redox (S5) Depleted Dark Surface (F7) Stripped Matrix (S6) Dark Surface (S7) (LRR K, L, R) Depleted Dark Surface (F8) Sandy Redox (S5) Depleted Dark Surface (F8) Dark Surface (S7) (LRR K, L) Depleted Matrix (F3) Redox Dark Surface (F6) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA  149B *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic									K, L, R) RR K, L, R) RR K, L) .) RR K, L, R) MLRA 149B) , 145, 149B)
Restrictive I Type: Depth (inch	Layer (if observees):	ed):		01	-		Hydric soil prese	nt? <u>N</u>	
Remarks:									

/EGETATION - U	Jse scientific i	names c	of pla	nts			Sampling Po	oint:	T4P6
				Absolute	Dominant	Indicator	50/20 Thresholds	20%	50%
Tree Stratum	Plot Size (	30	)	% Cover	Species	Status	Tree Stratum	13	33
1 Carya ovata				30	Y	FACU	Sapling/Shrub Stratum	0	0
2 Rhamnus cath	nartica			15	<u> </u>	FAC	Herb Stratum	16	40
3 Prunus serotir				10	N	FACU	Woody Vine Stratum	0	0
4 Quercus macr				10	N	FACU	Treedy vine chalant	Ü	O
5							Dominance Test Worksl	neet	
6							Number of Dominant		
7							Species that are OBL,		
8							FACW, or FAC:	2	(A)
9							Total Number of		
)							Dominant Species Across	s <u>3</u>	(B)
				65:	<ul> <li>Total Cover</li> </ul>		Percent of Dominant		
							Species that are OBL,		
Sapling/Shrub	Plot Size (	15	)	Absolute	Dominant	Indicator	FACW, or FAC:	66.67	% (A/B
Stratum	1 101 3126 (	15	)	% Cover	Species	Status			`
1							Prevalence Index Works	sheet	
2							Total % Cover of:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
3							OBL species 0 x	1 = 0	)
1								2 =	
5								3 = 28	
<u> </u>							FACU species 50 x 4		
7								5 = -0	
3							Column totals 145 (A		B5 (B)
9							Prevalence Index = B/A =		
)									
				0 =	Total Cover				
							Hydrophytic Vegetation	Indicato	rs:
Herb Stratum	Plot Size (	5	)	Absolute	Dominant	Indicator	Rapid test for hydroph		etation
			,	% Cover	Species	Status	X Dominance test is >50		
1 Rhamnus cath	artica			80	Y	FAC	Prevalence index is ≤		
2							Morphogical adaptation		
3					×		supporting data in Ren	marks or	on a
<u> </u>					B		separate sheet)		4
					8		Problematic hydrophy	tic vegeta	ation^
					8		(explain)		
3					_		*Indicators of hydric soil and wet		ogy must b
					9		present, unless disturbed or prob	olematic	
9							Definitions of Vegetation	Ctroto	
									a diamente
							Tree - Woody plants 3 in. (7.6 cr at breast height (DBH), regardles		
3			_				at breast fieight (DBH), regardles	ss of fleight	•
1					1		Sapling/shrub - Woody plants le	ess than 3 in	n. DBH and
							greater than 3.28 ft (1 m) tall.		
(				80 =	Total Cover				
					. Oldi Oovel		Herb - All herbaceous (non-wood		
Woody Vine	DI-1 C' /	0.0	,	Absolute	Dominant	Indicator	size, and woody plants less than	3.28 ft tall.	
Stratum	Plot Size (	30	)	% Cover	Species	Status	Woody vines - All woody vines	greater than	3.28 ft in
					,		height.	2. Jakor irran	J.20 It III
9									
y									
-0							Hydrophytic		
,						-	vegetation		
				0 =	Total Cover		100		
					Total Cover		present? Y	-	
marks: (Include ph	oto numbers he	ere or on	a sen	arate sheet)					
(morado pr	.c.o nambers ne	01 011	a sep	arate srieet)					

Project/Site: Dave Hahn Property	City/County:	Rush Lake/Winne	ebago Sampling Date:	10/28/2016	
Applicant/Owner: Dave Hahn		State: WI	Sampling P	ointT5P1	
Investigator(s): Stacey Henk, Garek Holley			nship, Range: Sec 27		
Landform (hillslope, terrace, etc.): Backslope			ave, convex, none):	none	
	ng.:	Datum:	MI Classification		
Soil Map Unit NamcOs  Are climatic/hydrologic conditions of the site typical for	this time of the year		WI Classification: no, explain in remark	(0)	
			Are "normal	(5)	
Are vegetation, soil, or hydrology Are vegetation, soil, or hydrology	naturally n	problematic?	circumstances"	present? Yes	9
(If needed, explain any answers in remarks)	natarany p	robiornatio.	onoamotanoco	procent. Too	_
(ii iioodoo, orpiaii dii) diiooodo iii oondoo					
SUMMARY OF FINDINGS	T				_
Hydrophytic vegetation present?  Hydric soil present?  Y  N	Is the sampled	d area within a w	retland?	N	
Indicators of wetland hydrology present?	If yes, optiona	I wetland site ID:	or Ri		
Remarks: (Explain alternative procedures here or in a	separate report.)				
					_
HYDROLOGY			***************************************		_
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Aquatic Marl De Agranded Marl De Aquatic Marl De Agranded Marl De Agrande	Stained Leaves (B9) Fauna (B13) Posits (B15) Pen Sulfide Odor (C1) d Rhizospheres on L C3) Ce of Reduced Iron ( Iron Reduction in Ti	re  Living  C4)	econdary Indicators (required) Surface Soil Cracks Drainage Patterns (E Moss Trim Lines (B1 Dry-Season Water T Crayfish Burrows (C- Saturation Visible or (C9) Stunted or Stressed Geomorphic Position Shallow Aquitard (D3 FAC-Neutral Test (D Microtopographic Re	(B6) 310) (B6) Table (C2) 8) n Aerial Imagery Plants (D1) n (D2) 3)	
Water table present? Yes No	X Depth (inches) X Depth (inches) X Depth (inches)	):	Indicators of wetland hydrology present?	N	
Describe recorded data (stream gauge, monitoring wel	l, aerial photos, pre	evious inspection	s), if available:		
Remarks:					_
i vernans.					

SOIL							Si	ampling Point: T5P1
			ne depth needed	to docu	ument th	ne indica	ator or confirm the abser	nce of indicators.)
Depth (Inches)	Matrix			dox Feat		1 - 0**	Texture	Remarks
(Inches) 0-10	Color (moist) 10YR 2/1	% I 100	Color (moist)	<u>%</u>	Type*	Loc**		
U-10	101K Z/1	100	<del> </del>	<del></del>	─	<del></del> '	SL	Rock at 10"
	<del></del>	<del></del>	<b></b>		₩	+'		
	<del></del>	<del></del>	<del> </del>		-	<del></del> '		
	<b></b>	<b></b>	<del> </del>		+	<del> </del> '		
	<del></del>	<u> </u>	<del> </del>	<b></b>	+	<del></del> '		
	<b></b>	<b></b>	<del>                                     </del>	<b></b>	₩	<del> </del> '	<del></del>	1
	<del></del>	<b></b>	<del>                                     </del>	<b></b>	<del>                                     </del>	<del> </del> '		
	<del></del>	<b></b>	<del>                                     </del>		<del> </del>	<del></del>	-	
		<b></b>	<del>                                     </del>	$\vdash \vdash \vdash$	<del>                                     </del>	<del> </del>		
	<del></del>	<del></del>	<del>                                     </del>	<b></b>	-	<del> </del>		
	<del></del>	<del></del>	<del>                                     </del>		-	<del></del>		
*Tvpe: C=C	Concentration, D	=Deple	tion RM=Reduc	ed Matr	rix. CS=	Covered	I or Coated Sand Grains	2
	PL=Pore Lining				, C	50.0	01 000.00 00	,
							Indicators for Pro	hlematic Hvdric Soils:
Hydric Soil Indicators:    Histisol (A1)								10) (LRR K, L, MLRA 149B Redox (A16) (LRR K, L, R) eat or Peat (S3) (LRR K, L, R) S7) (LRR K, L L) face (S9) (LRR K, L) face (S9) (LRR K, L) face (S9) (LRR K, L) ge Masses (F12) (LRR K, L, R) dplain Soils (F19) (MLRA 149B) (TA6) (MLRA 144A, 145, 149B) faterial (F21) Dark Surface (TF12) in Remarks)
Type: Depth (inch	Layer (if observe	∍d):					Hydric soil preser	nt? N
Remarks:								

EGETATION - Use scientific r	names of	plants			Sampling Po	int: T5P1
Tree Stratum Plot Size (		) Absolute % Cover	Dominant Species	Indicator Status	50/20 Thresholds  Tree Stratum	20% 50% 5 13
1 Rhamnus cathartica		25	Y	FAC	Sapling/Shrub Stratum	2 5
2		_			Herb Stratum	4 10
					Woody Vine Stratum	0 0
					Dominance Test Worksh Number of Dominant	eet
			-		Species that are OBL,	No. March
		_	2		FACW, or FAC: Total Number of	4(A)
					Dominant Species Across	4(B)
		25	= Total Cover		Percent of Dominant	
					Species that are OBL,	
apling/Shrub Plot Size ( Stratum	15	) Absolute % Cover	Dominant Species	Indicator Status	FACW, or FAC:	(A/B
Rhamnus cathartica		10	Y	FAC	Prevalence Index Works	heet
		_			Total % Cover of:	
					OBL species 0 x 1 FACW species 0 x 2	
					FACW species 0 x 2 FAC species 55 x 3	
					FACU species 0 x 4	
					UPL species 0 x 5	
					Column totals 55 (A)	
					Prevalence Index = B/A =	3.00
			= Total Cover			
					Hydrophytic Vegetation	
lerb Stratum Plot Size (	5	) Absolute	Dominant	Indicator	Rapid test for hydroph X Dominance test is >50	
Rhamnus cathartica		% Cover 15	Species Y	Status FAC	X Prevalence index is ≤3	
Hydrophyllum virginianum			<u> </u>	FAC	Morphogical adaptatio	
. If all opinyman in ginnaman					supporting data in Rer	marks or on a
					separate sheet)	
					Problematic hydrophyl	tic vegetation*
					(explain)	land budgelasu musik
					*Indicators of hydric soil and wetle present, unless disturbed or prob	
					Definitions of Vegetation	Strata
					Tree - Woody plants 3 in. (7.6 cm	
					at breast height (DBH), regardles	
					Sapling/shrub - Woody plants le	ess than 3 in. DBH ar
		20	= Total Cover		greater than 3.28 ft (1 m) tall.  Herb - All herbaceous (non-wood	dy) plants, regardless
Moody Vino		Absolute	Dominant	Indicator	size, and woody plants less than	
Woody Vine Plot Size ( Stratum	30	) % Cover	Species	Status	Woody vines - All woody vines g	greater than 3.28 ft in
			21.00		height.	
	***				Hydrophytic	
		_			vegetation	
	***	0	= Total Cover		present? Y	_
marks: (Include photo numbers he	ere or on a	separate sheet)				
mand. (molado prioto hambers h	J. 5 01 011 a	2204.410 011001)				

Project/Site: Dave Hahn Property	City/County:	Rush Lake/Winnebago Sampling Date: 10/28/2016
Applicant/Owner: Dave Hahn		State: WI Sampling Point T5P2
Investigator(s): Stacey Henk, Garek Holle		Section, Township, Range: Sec 27, T17N, R14E
		ocal relief (concave, convex, none): concave
Slope (%): 2 Lat.:	Long.:	Datum:
Soil Map Unit NameOs	to the standard from the stand	NWI Classification:
Are climatic/hydrologic conditions of the si		
Are vegetation, soil, o	r hydrologysignificantl r hydrologynaturally p	y disturbed? Are normal
(If needed, explain any answers in remark	e)	roblematic? circumstances" present? Yes
(ii necaca, explain any answers in remark	5)	
SUMMARY OF FINDINGS		
Hydrophytic vegetation present? Hydric soil present?	Y Is the sampled	I area within a wetland?
Indicators of wetland hydrology present?	Y If yes, optional	wetland site ID:
Remarks: (Explain alternative procedures	here or in a congrate report \	
rtemarks. (Explain alternative procedures	nere or in a separate report.)	
HYDROLOGY		
TITEROLOGI.		Cocondary Indicators (minimum of the
Primary Indicators (minimum of one is requ	uired: check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on L	
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial Imagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (0	C4) (C9)
Iron Deposits (B5)	Recent Iron Reduction in Till	
Inundation Visible on Aerial	Soils (C6)	X Geomorphic Position (D2)
Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Sparsely Vegetated Concave	Other (Explain in Remarks)	X FAC-Neutral Test (D5)
Surface (B8)		Microtopographic Relief (D4)
Field Observations:		
Surface water present? Yes	No X Depth (inches):	Indicators of
Water table present? Yes X	No Depth (inches):	
Saturation present? Yes X	No Depth (inches):	
(includes capillary fringe)		present? Y
Describe recorded data (stream gauge, mo	onitoring well, aerial photos, pre	vious inspections), if available:
Remarks:		

SOIL							5	Sampling Point:	T5P2
						ne indicat	tor or confirm the abse	ence of indicators.)	
Depth	Matrix			lox Feat			Texture	Remark	S
(Inches)	Color (moist)	%	Color (moist)	%	Type*	Loc**			
0-20	10YR 2/1	100					LS		
20-26	2.5Y 6/2	75	7.5YR 5/6	25	С	М	LS		
		<u> </u>							
						لِـــــــــــــــــــــــــــــــــــــ			
	Concentration, D PL=Pore Lining			ed Matr	ix, CS=0	Covered	or Coated Sand Grain	าร	
	I Indicators:	1, 111 111-	UIX				Indicators for Pr	roblematic Hydric Sc	oils:
Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Dark Surface (S7) Stripped Matrix (S6) Dark Surface (S7) Depleted Dark Surface (F7) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA  Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) Loamy Mucky Mineral Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) Iron-Manganese Masses (F12) (LRR K, L) Piedmont Floodplain Soils (F19) (MLRA 144A, 145, 14) Mesic Spodic (TA6) (MLRA 144A, 145, 14) Redox Depressions (F8) Dark Surface (S7) (LRR R, MLRA  149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic								(, L, R) (R K, L, R) (R K, L) () (RR K, L, R) (MLRA 149B) (145, 149B)	
Restrictive I Type: Depth (inch	Layer (if observ	ed):			- -		Hydric soil pres	sent? Y	
Remarks:									

<b>VEGETATION</b> - Use scientific names of pla	ints		Sampling Point: T5P2
Tree Stratum Plot Size ( 30 )  1 Fraxinus pennsylvanica 2 Tilia americana 3 Rhamnus cathartica	Absolute Dominant % Cover Species 20 Y 10 Y	Indicator Status FACW FACU FAC	50/20 Thresholds           20%         50%           Tree Stratum         8         20           Sapling/Shrub Stratum         0         0           Herb Stratum         11         28           Woody Vine Stratum         0         0
4 5 6 7 8 9	40 = Total Cover		Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: Total Number of Dominant Species Across Percent of Dominant Species that are OBL,
Sapling/Shrub	Absolute Dominant Species	Indicator Status	FACW, or FAC:         80.00% (A/B)           Prevalence Index Worksheet           Total % Cover of:         0         x 1 = 0           OBL species         35 x 2 = 70           FACW species         50 x 3 = 150           FACU species         10 x 4 = 40           UPL species         0 x 5 = 0           Column totals         95 (A)           Prevalence Index = B/A =         2.74
Herb Stratum Plot Size ( 5 )  1 Rhamnus cathartica 2 Fraxinus pennsylvanica 3 4 5 6 7 8 9	O = Total Cover  Absolute	Indicator Status FAC FACW	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
10 11 12 13 14 15			Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  Herb - All herbaceous (non-woody) plants, regardless of
Woody Vine Plot Size ( 30 )  1 2	Absolute Dominant % Cover Species	Indicator Status	size, and woody plants less than 3.28 ft tall.  Woody vines - All woody vines greater than 3.28 ft in height.
3 4 5	=		Hydrophytic vegetation present? Y
Remarks: (Include photo numbers here or on a se	parate sheet)		

Project/Site: Dave Hahn Property	City/County:	Rush Lake/Winnebago Sampling Date: 10/28/2016
Applicant/Owner: Dave Hahn		State: WI Sampling Point T5P3
Investigator(s): Stacey Henk, Garek Holley		Section, Township, Range: Sec 27, T17N, R14E
Landform (hillslope, terrace, etc.): Toeslope-downgra		
	ng.:	Datum:
Soil Map Unit NameHw	this time of the year	NWI Classification: ear? Yes (If no, explain in remarks)
Are climatic/hydrologic conditions of the site typical for	cignificant	ear? Yes (If no, explain in remarks)  Are "normal"
Are vegetation, soil, or hydrology Are vegetation, soil, or hydrology	naturally n	problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)	natarany p	problematio.
(ii riceded, explain any anomore in remaine)		
SUMMARY OF FINDINGS		
Hydrophytic vegetation present? YY	Is the sample	ed area within a wetland? Y
Hydric soil present? Y		
Indicators of wetland hydrology present?Y	If yes, optiona	al wetland site ID:
Remarks: (Explain alternative procedures here or in a	separate report.)	
Rapid Test		
HYDROLOGY		
X High Water Table (A2) X Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Aquation Marl De Hydrog Oxidize Presen Presen Recent Soils (C	Stained Leaves (B9) Fauna (B13) Posits (B15) Posits (B15) Posits (B15) Posits (B15) Posits (B15) Posits (B15) Posits (B13)	Drainage Patterns (B10)  Moss Trim Lines (B16)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery  (C4)  (C9)  Tilled  Stunted or Stressed Plants (D1)  X Geomorphic Position (D2)  Shallow Aquitard (D3)
Field Observations: Surface water present? Water table present? Saturation present? (includes capillary fringe)  Yes X No Yes X No	Depth (inches Depth (inches Depth (inches	s): 0 wetland hydrology present? Y
Describe recorded data (stream gauge, monitoring we	ll, aerial photos, pre	revious inspections), if available:
Remarks:		
Shore of Rush Lake		
S.I.S. Of Fragil Edito		

SOIL							Si	ampling Point: T5P3
Profile Des		ibe to tr	ne depth needed	to docu	ument th	ne indicat	tor or confirm the abser	nce of indicators.)
Depth (Inches)	Matrix Color (moist)	%	Color (moist)	dox Feat %	tures Type*	Loc**	Texture	Remarks
(HIGHGS)	COIDI (IIIOISI)	/0	COIOI (IIIOI31)	/0	Туре	Loc		
			<del>                                     </del>	<del></del>	+	<del>                                     </del>		-
	<del></del>		<del>                                     </del>		<del>                                     </del>	<del>                                     </del>		
			<del>                                     </del>		$\vdash$	+		
			<del>                                     </del>		+	<del>                                     </del>		
			<del>                                     </del>		<del>                                     </del>	+		
			+		<del>                                     </del>	+		
			<del>                                     </del>		<del>                                     </del>	<del>                                     </del>		
			<del>                                     </del>		<del>                                     </del>	<del>                                     </del>		
			<del>                                     </del>			<del>                                     </del>		
			<del>                                     </del>			<del>                                     </del>		
			<del>                                     </del>			<del>                                     </del>		<del> </del>
*Type: C=C	oncentration, D	=Deple	tion, RM=Reduc	ed Matr	ix, CS=0	Covered	or Coated Sand Grains	<u></u>
	PL=Pore Lining,							
Hydric Soil	Indicators:						Indicators for Pro	blematic Hydric Soils:
Hydric Soil Indicators:  Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Suface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA  149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic  Polyvalue Below Surface (A10) (LRR K, L, MLRA 144 Coast Prairie Redox (A16) (LRR K, L, MLRA 144 Coast Prairie Redox (A16) (LRR K, L, MLRA 144 Coast Prairie Redox (A16) (LRR K, L, MLRA 144B Coast Prairie Redox (A16) (LRR K, L, MLRA 144B  Loamy MLRA 149B Dark Surface (S7) (LRR K, L Thin Dark Surface (S7) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L) Piedmont Floodplain Soils (F19) (MLRA 144A, 145, Mesic Spodic (TA6) (Mesic Spo							Redox (A16) (LRR K, L, R) eat or Peat (S3) (LRR K, L, R) S7) (LRR K, L ow Surface (S8) (LRR K, L) face (S9) (LRR K, L) se Masses (F12) (LRR K, L, R) dplain Soils (F19) (MLRA 149B) TA6) (MLRA 144A, 145, 149B) faterial (F21) Dark Surface (TF12) in Remarks)	
Restrictive L Type: Depth (inche	Layer (if observe	;d):					Hydric soil preser	nt? Y
Remarks:								
Rapid Te	est							

VEGETATION - Use	e scientific r	names o	f plai	nts	*****		Sampling Po	oint:	T5P3
Tree Stratum  1 Fraxinus pennsy	Plot Size ( Ivanica	30	)	Absolute % Cover 15	Dominant Species Y	Indicator Status FACW	50/20 Thresholds  Tree Stratum Sapling/Shrub Stratum	20% 3 0	50% 8 0
2 3 4			_				Herb Stratum Woody Vine Stratum	20 0	50 0
5			_				Dominance Test Worksl Number of Dominant	heet	
7			_				Species that are OBL, FACW, or FAC:	2	(A)
9			_	15 :	Total Cover		Total Number of Dominant Species Across	s 2	(B)
					10101 00001		Percent of Dominant Species that are OBL.		
Stratum	Plot Size (	15	)	Absolute % Cover	Dominant Species	Indicator Status	FACW, or FAC:		0 <u>%</u> (A/B)
1							Prevalence Index Works	heet	
2							Total % Cover of: OBL species 0 x 2	1 = 0	1
4							FACW species 115 x 2		
5 6							FAC species 0 x 3		
7							FACU species 0 x 4	4 = 0 $5 = 0$	
8							Column totals 115 (A	) 23	BO (B)
9				-			Prevalence Index = B/A =	2.00	
				0 =	Total Cover				
				Absolute	Dominant	Indicator	Hydrophytic Vegetation X Rapid test for hydroph		
Herb Stratum	Plot Size (	5	)	% Cover	Species	Status	X Dominance test is >50		lation
1 Phalaris arundina	асеа			100	Y	FACW	X Prevalence index is ≤		
2							Morphogical adaptation supporting data in Rem		
4							separate sheet)	nanco or v	ona
5							Problematic hydrophy	tic vegeta	ation*
6							(explain)		
8 9							*Indicators of hydric soil and wet present, unless disturbed or prob	land hydrolo olematic	ogy must be
10 11							Definitions of Vegetation		
2 3			_		2		Tree - Woody plants 3 in. (7.6 cr at breast height (DBH), regardles		
14			_				Sapling/shrub - Woody plants le greater than 3.28 ft (1 m) tall.	ss than 3 in	n. DBH and
-			_	100 =	Total Cover		Herb - All herbaceous (non-wood size, and woody plants less than		egardless of
Woody Vine Stratum	Plot Size (	30	)	Absolute % Cover	Dominant Species	Indicator Status	Woody vines - All woody vines of		3.28 ft in
2			_				height.		
34							Hydrophytic		
5							vegetation		
				=	Total Cover		present? Y	•	
Remarks: (Include photo	numbers he	re or on a	sepa	arate sheet)					

Project/Site: Dave Hahn Property	City/County:	Rush Lake/Wir	nnebago Sampling Date: 10/28/2	2016
Applicant/Owner: Dave Hahn		State: WI	Sampling Point	T5P4
Investigator(s): Stacey Henk, Garek Holley			vnship, Range: Sec 27, T17N,	R14E
Landform (hillslope, terrace, etc.): Footslope	L		cave, convex, none): none	
	ng.:	Datum:_	NIMI Classification	
Soil Map Unit NameOs  Are climatic/hydrologic conditions of the site typical for	this time of the ver		NWI Classification:(If no, explain in remarks)	
Are vegetation, soil, or hydrology			Are "normal	
Are vegetation, soil, or hydrology	naturally n	roblematic?	circumstances" preser	nt? Yes
(If needed, explain any answers in remarks)	natarany p	robioinatio.	on our motarious product	100
SUMMARY OF FINDINGS				
Hydrophytic vegetation present? Y	Is the sample	d area within a	wetland? N	
Hydric soil present?  Indicators of wetland hydrology present?  N	If yes, optiona	l wetland site IE	D:	
Remarks: (Explain alternative procedures here or in a	separate report.)			
HYDROLOGY				
			Secondary Indicators (minimur	m of two
Primary Indicators (minimum of one is required; check	all that apply)	r	equired)	
	Stained Leaves (B9)	_	Surface Soil Cracks (B6)	
	Fauna (B13)		Drainage Patterns (B10)	
	eposits (B15)	_	Moss Trim Lines (B16)	2)
	en Sulfide Odor (C1) d Rhizospheres on L		Dry-Season Water Table (Cayfish Burrows (C8)	2)
Drift Deposits (B3)  Roots (			Saturation Visible on Aerial	manery
	ce of Reduced Iron (	C4)	(C9)	magery
	Iron Reduction in Til		Stunted or Stressed Plants (	D1)
Inundation Visible on Aerial Soils (C			Geomorphic Position (D2)	5.,
	uck Surface (C7)	-	Shallow Aquitard (D3)	
Sparsely Vegetated Concave Other (I	Explain in Remarks)	_	FAC-Neutral Test (D5)	
Surface (B8)		_	Microtopographic Relief (D4)	)
Field Observations	(H			
Field Observations:	V Danitle /!!		Indicators of	
	<ul><li>X Depth (inches)</li><li>X Depth (inches)</li></ul>		wetland	
Saturation present? Yes X No	Depth (inches)		hydrology	
(includes capillary fringe)	Deptil (Illiches)		present? N	
(morades supmary minge)			present:	
Describe recorded data (stream gauge, monitoring wel	l, aerial photos, pre	evious inspectio	ns), if available:	
		-	22.0	
Remarks:				
remarks:				
· ·				

SOIL							S	ampling Point:	T5P4
Profile Des	cription: (Descr	ribe to th	ne depth needed	to docu	ument th	ne indica	tor or confirm the abse	nce of indicators.)	
Depth (Inches)	Matrix			lox Feat		1 **	Texture	Remarks	
(Inches) 0-11	Color (moist)	% I 100	Color (moist) % Type* Loc**			Loc**			
	10YR 2/1	100	7 5 /D 5/0	- 20	<del>  </del>	<del>  ,</del>	LS		
11-16	2.5Y 6/2	80	7.5YR 5/6	20	C	M	LS		
16-24	5Y 7/1	85	7.5YR 6/6	15	С	M	S		
					├──				
			-						
					<u> </u>				
					<b>↓</b>				
+T C-C	har bation D	D			20.1	بــــــــــــــــــــــــــــــــــــــ			
*Type: C=C **Location:	oncentration, D PL=Pore Lining	=Deplet , M=Ma	ion, RM=Reduce trix	ed Matr	ix, CS=0	Covered	or Coated Sand Grains	S	
Hydric Soil	Indicators:						Indicators for Pro	oblematic Hydric Soils	<b>:</b> :
Hist Blace Hyd Stra X Dep Thic San San Strip Darl 149l	of hydrophytic v	A4) 5) rk Suface (A12) ral (S1) ix (S4) ) CLRR R, egetatio	(S8)Thir(LR	) (LRR in Dark Str. R, Milmy Mucon) (LRR in my Gleyoleted Modox Dark Dept.)	yed Mati fatrix (F3 k Surfac Park Surf pressions	A (S9) 9B eral  rix (F2) 3) ee (F6) face (F7) s (F8)	Coast Prairie F 5 cm Mucky Po Dark Surface ( Polyvalue Belo Thin Dark Surf Iron-Manganes Piedmont Floo Mesic Spodic ( Red Parent Ma	ow Surface (S8) (LRR Magnetic (LRR Magnetic) (LRR Magnetic) (LRR Magnetic) (LRR Magnetic) (MLR Magnetic) (MLRA 144A, 14: aterial (F21)  Dark Surface (TF12) in Remarks)	, R) K, L, R) K, L) K, L, R) RA 149B)
Type: Depth (inche	_ayer (if observe	∍d):					Hydric soil prese	nt? <u>Y</u>	
Remarks:									
		ži.							

<b>VEGETATION</b> - Use scientific names o	f plants			Sampling Po	int:	T5P4
				50/20 Thresholds		
Tree Stratum Plot Size ( 30	Absolute	Dominant	Indicator		20%	50%
Tree Stratum Flot Size ( 30	% Cover	Species	Status	Tree Stratum	6	15
1 Rhamnus cathartica	25	Y	FAC	Sapling/Shrub Stratum	10	25
2 Prunus serotina	5	N	FACU	Herb Stratum	14	35
3				Woody Vine Stratum	0	0
4						
5				Dominance Test Worksh	eet	
6				Number of Dominant		
7				Species that are OBL,		
8				FACW, or FAC:	3	(A)
9				Total Number of	_	<b>(D)</b>
10	30	= Total Cover		Dominant Species Across	3	(B)
		- Total Cover		Percent of Dominant		
0	Alexa Late	Б		Species that are OBL,		
Sapling/Shrub Plot Size ( 15	) Absolute	Dominant	Indicator	FACW, or FAC:	100.00	<u>(A/B)</u>
Stratum	% Cover	Species	Status			
1 Rhamnus cathartica	50	Y	FAC	Prevalence Index Worksl	heet	
2				Total % Cover of:		
3				OBL species 0 x 1	= 0	1
4				FACW species 10 x 2	= 20	0
5				FAC species 125 x 3		'5
6				FACU species 15 x 4	-	
7				UPL species 0 x 5	***	
8				Column totals 150 (A)		5 (B)
9				Prevalence Index = B/A =	3.03	
10		T		1		
	50	= Total Cover		H I I I I I I I I I I I I I I I I I I I		
	Absolute	Dominant	Indicator	Hydrophytic Vegetation I		
Herb Stratum Plot Size ( 5	) % Cover	Species	Status	Rapid test for hydrophy X Dominance test is >50		tation
1 Rhamnus cathartica	50	Y	FAC	Prevalence index is ≤3		
2 Prunus serotina		N	FACU	Morphogical adaptation		rida
3 Fraxinus pennsylvanica	10	N	FACW	supporting data in Rem		
4			TAOV	separate sheet)	iains or i	ona
5				Problematic hydrophyti	ic vegets	ation*
6				(explain)	io rogoto	1011
7				*Indicators of hydric soil and wetla	and hydrol	nav muet ho
8				present, unless disturbed or probl		Jgy must be
9				F		
10				Definitions of Vegetation	Strata:	
11				Tree - Woody plants 3 in. (7.6 cm		n diameter
12				at breast height (DBH), regardles:	s of height.	
13						
14				Sapling/shrub - Woody plants les	ss than 3 ir	n. DBH and
15				greater than 3.28 ft (1 m) tall.		
	70 :	Total Cover		Herb - All herbaceous (non-wood	lv) plants r	egardless of
		_		size, and woody plants less than 3		
Woody Vine Plot Size ( 30	Absolute	Dominant	Indicator			
Stratum	% Cover	Species	Status	Woody vines - All woody vines g	reater than	3.28 ft in
1				height.		
2						
3						
4				Hydrophytic		
5				vegetation		
	0 =	= Total Cover		present? Y		
					9	
Remarks: (Include photo numbers here or on a	a separate sheet)					
						- 1
						- 1

Project/Site: Dave Hahn Property	City/County: R	Rush Lake/Winnebago	Sampling Date: 10/2	28/2016
Applicant/Owner: Dave Hahn	S	State: WI	Sampling Point	T5P5
Investigator(s): Stacey Henk, Garek Holley	S	Section, Township,	Range: Sec 27, T1	7N, R14E
Landform (hillslope, terrace, etc.): Backslope-upgradien		I relief (concave, c	onvex, none): con	cave
Slope (%): 3 Lat.: Long.	:	Datum:		
Soil Map Unit NameOs		NWI CI	assification:	
Are climatic/hydrologic conditions of the site typical for the			explain in remarks)	
Are vegetation, soil, or hydrology	significantly di	sturbed?	Are "normal	
Are vegetation, soil, or hydrology	naturally proble	lematic?	circumstances" pre-	sent? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
Lludrophytic vocatation present?	In the second of			
Hydrophytic vegetation present? Hydric soil present? Y Y	Is the sampled are	ea within a wetland	d? <u>N</u>	
	If you antiqual	Alamai aita ID.		
Indicators of wetland hydrology present? N	If yes, optional we	tiand site ID:		
Remarks: (Explain alternative procedures here or in a se	parate report.)			
HYDROLOGY				
		Second	ary Indicators (minir	num of two
Primary Indicators (minimum of one is required; check all	that apply)	required		
Surface Water (A1) Water-Sta	ined Leaves (B9)		ace Soil Cracks (B6)	
	auna (B13)	Drai	nage Patterns (B10)	
Saturation (A3) Marl Depo	sits (B15)	Mos	s Trim Lines (B16)	
	Sulfide Odor (C1)		Season Water Table	(C2)
	Rhizospheres on Living		fish Burrows (C8)	
Drift Deposits (B3) Roots (C3		Satu	uration Visible on Aer	ial Imagery
	of Reduced Iron (C4)	(C9)		
	n Reduction in Tilled		nted or Stressed Plan	, ,
Inundation Visible on Aerial Soils (C6)			morphic Position (D2	)
	Surface (C7)	Control of the Contro	llow Aquitard (D3)	
	lain in Remarks)		-Neutral Test (D5)	
Surface (B8)		Micr	otopographic Relief (	D4)
Field Observations:				
Surface water present? Yes No X	Depth (inches):		Indicators of	
Water table present? Yes No X	Depth (inches):		wetland	
Saturation present? Yes No X	Depth (inches):		hydrology	
(includes capillary fringe)			present? N	
			14	_
Describe recorded data (stream gauge, monitoring well, a	erial photos, previou	is inspections), if a	vailable:	
Remarks:				

SOIL						**		Sampling Point: T5P5
Profile Des	cription: (Description:	ribe to th				e indica	ator or confirm the abse	ence of indicators.)
Depth (Inches)	Matrix			dox Fea		1 - 0**	Texture	Remarks
(Inches)	Color (moist)		Color (moist)	<u>%</u>	Type*	Loc**		
0-14	10YR 2/1	100	7 5 7 5 7 6	10	+	<del></del> -	LS	
14-24	2.5Y 6/2	90	7.5YR 5/6	10	С	M	S	
		<del> </del>	ļ <i>!</i>	<u> </u>		<b></b> '		
			<u> </u>			<u> </u>		
						<u> </u>		
					T!			
				ed Matr	rix, CS=C	Covered	or Coated Sand Grain	ns
**Location:	PL=Pore Lining	ی, M=Ma	trix					
Hydric Soil	il Indicators:						Indicators for Pr	roblematic Hydric Soils:
Histisol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Dark Surface (S7) Stripped Matrix (S6) Dark Surface (S7) Character (A12) Depleted Dark Surface (F8) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic								Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) (S7) (LRR K, L low Surface (S8) (LRR K, L) rface (S9) (LRR K, L) ese Masses (F12) (LRR K, L, R) odplain Soils (F19) (MLRA 149B) (TA6) (MLRA 144A, 145, 149B) Material (F21) Dark Surface (TF12) n in Remarks)
Type: Depth (inche	Layer (if observe	ed):			-		Hydric soil prese	ent? Y
Remarks:								
								,
								,
								1
								,

EGETATION - Use scientific	names of p	lants			Sampling Po	oint:	T5P5
Tree Stratum Plot Size (	30 )	Absolute	Dominant	Indicator	50/20 Thresholds		50%
Dhamaus authorises	,	% Cover	Species	Status	Tree Stratum	8	20
1 Rhamnus cathartica 2 Quercus macrocarpa			Y	FAC	Sapling/Shrub Stratum	8	20
Quercus macrocarpa			<u> </u>	FACU	Herb Stratum	14	35
1		0 8			Woody Vine Stratum	0	0
5					Dominance Test Worksh	neet	
7		8 8			Number of Dominant Species that are OBL,		
8		8 7			FACW, or FAC:	3	(A)
9					Total Number of		_ (/ 1)
)					Dominant Species Across	5	(B)
		40	= Total Cover		Percent of Dominant	31	_ ` ′
					Species that are OBL,		
Sapling/Shrub Plot Size (	15 )	Absolute	Dominant	Indicator	FACW, or FAC:	60.00%	(A/
Stratum Flot Size (	15 )	% Cover	Species	Status			
Rhamnus cathartica		40	Υ	FAC	Prevalence Index Works	heet	
		- 8 19			Total % Cover of:		
3					OBL species 0 x 1	I = 0	
		_			FACW species 0 x 2		_
		-, -			FAC species 110 x 3		
5			•		FACU species 40 x 4	-	_
				3	UPL species 0 x 5	5 = 0	_
					Column totals 150 (A)	490	(B)
					Prevalence Index = B/A =	3.27	
					*		
		40	= Total Cover				
		Abaaluta	Daminant	Tadlestee	Hydrophytic Vegetation		
Herb Stratum Plot Size (	5 )	Absolute % Cover	Dominant	Indicator	Rapid test for hydroph		ation
Rhamnus cathartica		% Cover 40	Species Y	Status FAC	X Dominance test is >50		
Anemone quinquefolia		30	Y	FACU	Prevalence index is ≤3 Morphogical adaptatio		10
3				TACO	supporting data in Rer		
1					separate sheet)	nanco or or	ıa
5					Problematic hydrophyl	tic vegetati	on*
<u> </u>					(explain)		
					*Indicators of hydric soil and wetl	land hydrolog	v must
					present, unless disturbed or prob		iy maac
)					Definitions of Vegetation	Strata	
					Tree - Woody plants 3 in. (7.6 cn		diamete
					at breast height (DBH), regardles		alain ot
3					Sapling/shrub - Woody plants le	ess than 3 in.	DBH ar
			Tatal O		greater than 3.28 ft (1 m) tall.		
		70	Total Cover		Herb - All herbaceous (non-wood size, and woody plants less than		gardless
Woody Vine Plot Size (	30 )	Absolute	Dominant	Indicator	Size, and woody plants less than	J.20 IL TAII.	
Stratum	,	% Cover	Species	Status	Woody vines - All woody vines g height.	reater than 3	.28 ft in
					neight.		
3							
5			-		Hydrophytic		
		0 :	Total Cause		vegetation		
			= Total Cover		present? Y	•	
marks: (Include photo numbers h	iere or on a se	eparate sheet)					

# **APPENDIX B**

WETLAND PHOTOGRAPHS



Photo 1: Viewing east at Wetland 4; the shore of Rush Lake



Photo 3: Viewing west at Wetland 2



Photo 2: Viewing northwest at the south side of Wetland 3



Photo 4: Viewing east at upland from the driveway on the west side of the property



Photo 5: Viewing south at Wetland 5; the shore of Rush Lake



Photo 7: Viewing southeast at Wetland 5 in a mowed lawn area near T1P3



Photo 6: Viewing north at the southern region of Wetland 1 near T4P5

WINNEBAGO COUNTY SOIL RESOURCE MAP & HYDRIC SOIL REPORT



NRCS

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

# Custom Soil Resource Report for Winnebago County, Wisconsin



# **Preface**

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

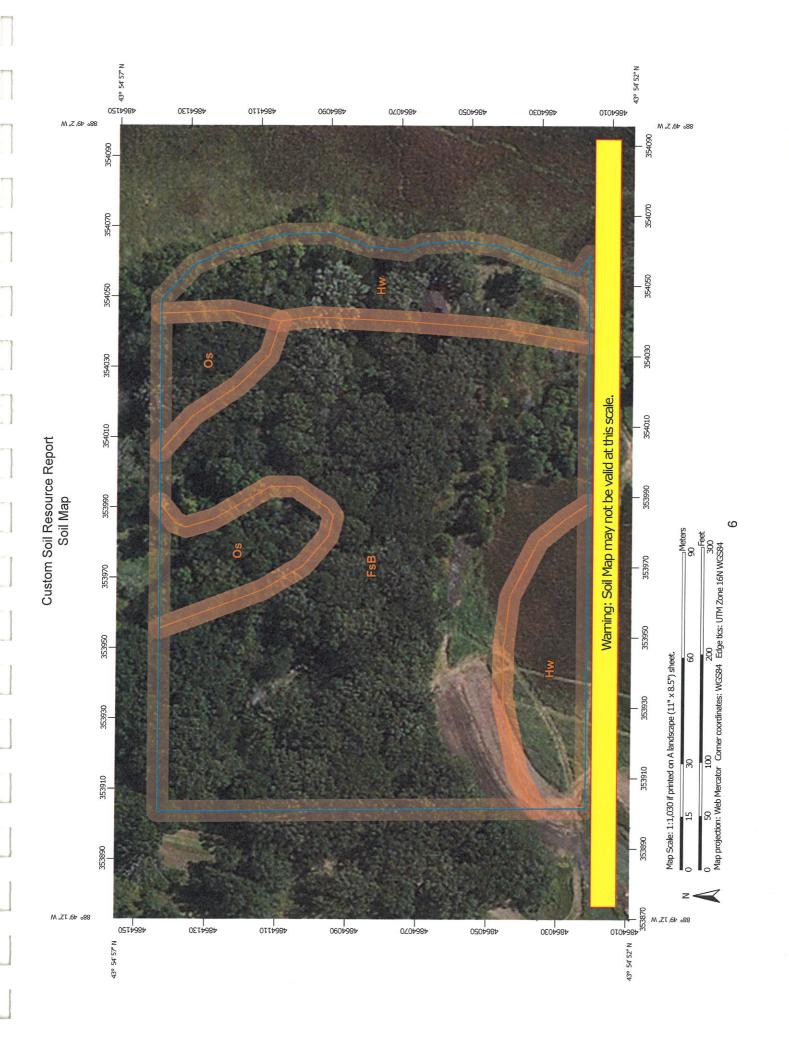
for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

# Contents

Preface	2
Soil Map	5
Soil Map	
Legend	7
Map Unit Legend	
Map Unit Descriptions	8
Winnebago County, Wisconsin	
FsB—Fox silt loam, 2 to 6 percent slopes	
Hw—Houghton muck, ponded, 0 to 2 percent slopes	11
Os—Ossian silt loam	12
Soil Information for All Uses	14
Soil Properties and Qualities	
Soil Qualities and Features	14
Drainage Class	14
Soil Reports	
Land Classifications	18
Hydric Rating by Map Unit (WI)	18
Hydric Soils	20
References	23

# Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



# MAP LEGEND

#### Special Line Features Streams and Canals Interstate Highways Aerial Photography Very Stony Spot Major Roads Local Roads Stony Spot Spoil Area **US Routes** Wet Spot Other Rails Water Features Transportation Background 8 0 ŧ Soil Map Unit Polygons Area of Interest (AOI) Severely Eroded Spot So I Map Unit Points Miscellaneous Water Soil Map Unit Lines Clcsed Depression Marsh or swamp Perennial Water Mire or Quarry Special Point Features **Gravelly Spot** Rock Outcrop Sal ne Spot Sandy Spot Slide or Slip **Borrow Pit** Area of Interest (AOI) **Gravel Pit** Lava Flow Clay Spot **Blcwout** Sinkhole Landfill 9 Soils

# **MAP INFORMATION**

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Winnebago County, Wisconsin Survey Area Data: Version 13, Sep 28, 2016

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

Date(s) aerial images were photographed: Apr 29, 2011—Sep 6, 2011

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

Sodic Spot

# Map Unit Legend

Winnebago County, Wisconsin (WI139)				
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
FsB	Fox silt loam, 2 to 6 percent slopes	3.3	68.2%	
Hw	Houghton muck, ponded, 0 to 2 percent slopes	1.0	21.5%	
Os	Ossian silt loam	0.5	10.3%	
Totals for Area of Interest		4.8	100.0%	

# **Map Unit Descriptions**

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If

intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

### Winnebago County, Wisconsin

#### FsB—Fox silt loam, 2 to 6 percent slopes

#### Map Unit Setting

National map unit symbol: 2tjx0 Elevation: 570 to 1,150 feet

Mean annual precipitation: 31 to 37 inches Mean annual air temperature: 45 to 48 degrees F

Frost-free period: 124 to 176 days

Farmland classification: All areas are prime farmland

#### **Map Unit Composition**

Fox and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Fox**

#### Setting

Landform: Outwash plains

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Crest

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Loess over loamy glaciofluvial deposits over sandy and gravelly

outwash

#### Typical profile

Ap - 0 to 7 inches: silt loam

Bt1 - 7 to 21 inches: silty clay loam
2Bt2 - 21 to 31 inches: sandy clay loam
3C - 31 to 79 inches: stratified sand to gravel

#### Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 30 to 40 inches to strongly contrasting textural

stratification

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.57 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 45 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 5.2 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B Hydric soil rating: No

#### **Minor Components**

#### Casco

Percent of map unit: 8 percent Landform: Outwash plains

Landform position (three-dimensional): Riser

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

#### St. charles, gravelly substratum

Percent of map unit: 7 percent Landform: Outwash plains Hydric soil rating: No

#### Hw—Houghton muck, ponded, 0 to 2 percent slopes

#### **Map Unit Setting**

National map unit symbol: 2szfh Elevation: 660 to 1,020 feet

Mean annual precipitation: 31 to 33 inches Mean annual air temperature: 43 to 46 degrees F

Frost-free period: 140 to 192 days

Farmland classification: Farmland of statewide importance

#### **Map Unit Composition**

Houghton, muck, ponded, and similar soils: 95 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### Description of Houghton, Muck, Ponded

#### Setting

Landform: Depressions

Landform position (three-dimensional): Dip

Down-slope shape: Concave Across-slope shape: Concave

Parent material: Herbaceous organic material

#### Typical profile

Oa - 0 to 79 inches: muck

#### Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Very poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high

(0.14 to 5.95 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: None Frequency of ponding: Frequent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Very high (about 23.9 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7w

Hydrologic Soil Group: A/D Hydric soil rating: Yes

#### **Minor Components**

#### Houghton, muck

Percent of map unit: 3 percent Landform: Lakebeds (relict)

Landform position (three-dimensional): Dip

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

#### Adrian

Percent of map unit: 1 percent Landform: Lakebeds (relict)

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

#### Palms, muck, ponded

Percent of map unit: 1 percent Landform: Interdrumlins

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

#### Os-Ossian silt loam

#### **Map Unit Setting**

National map unit symbol: g5z8 Elevation: 730 to 1,000 feet

Mean annual precipitation: 28 to 34 inches Mean annual air temperature: 43 to 46 degrees F

Frost-free period: 135 to 155 days

Farmland classification: Prime farmland if drained and either protected from flooding

or not frequently flooded during the growing season

#### **Map Unit Composition**

Ossian and similar soils: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

#### **Description of Ossian**

#### Setting

Landform: Depressions, drainageways

Landform position (two-dimensional): Toeslope

Down-slope shape: Linear Across-slope shape: Linear Parent material: Silty alluvium

#### Typical profile

Ap,A12 - 0 to 12 inches: silt loam
B2g,B3g,C - 12 to 60 inches: silt loam

#### Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.57 to 1.98 in/hr)

Depth to water table: About 0 to 6 inches

Frequency of flooding: Frequent Frequency of ponding: Frequent

Calcium carbonate, maximum in profile: 15 percent

Available water storage in profile: Very high (about 12.8 inches)

#### Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Other vegetative classification: High AWC, high water table (G095BY007WI)

Hydric soil rating: Yes

# Soil Information for All Uses

# **Soil Properties and Qualities**

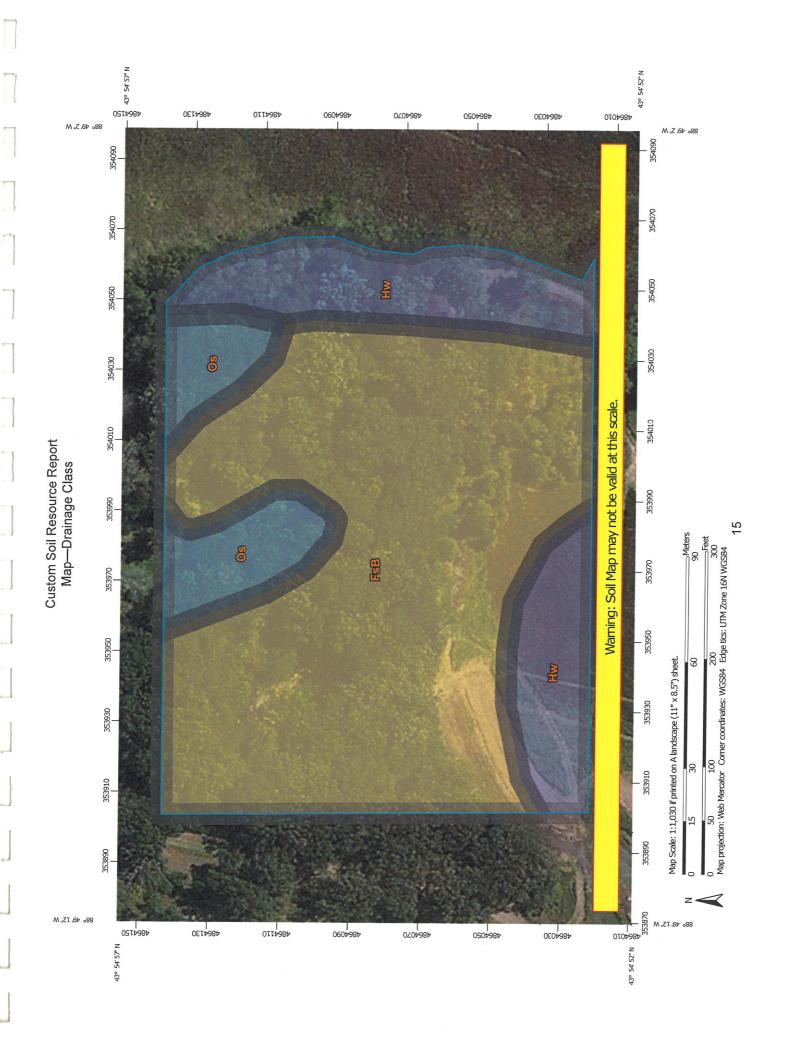
The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

#### Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

# **Drainage Class**

"Drainage class (natural)" refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized-excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."



# MAP LEGEND

#### Somewhat poorly drained Not rated or not available Moderately well drained Somewhat excessively Excessively drained Streams and Canals Very poorly drained Interstate Highways Aerial Photography Poorly drained Well drained Subaqueous Major Roads Local Roads US Routes drained Rails Water Features Transportation Background 1 Somewhat poorly drained Not rated or not available Somewhat poorly drained Not rated or not available Moderately well drained Moderately well drained Somewhat excessively Somewhat excessively Area of Interest (AOI) Excessively drained Very poorly drained Excessively drained Very poorly drained Poorly drained Poorly drained Well drained Subaqueous Soil Rating Polygons Well drained Subaqueous Area of Interest (AOI) Soil Rating Points drained Soil Rating Lines drained

# MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1.20,000.

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

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

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

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

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

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

Soil Survey Area: Winnebago County, Wisconsin Survey Area Data: Version 13, Sep 28, 2016

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

Date(s) aerial images were photographed: Apr 29, 2011—Sep 6, 2011

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

# Table—Drainage Class

D	rainage Class— Summary	by Map Unit — Winnebag	o County, Wisconsin (WI13	9)
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
FsB	Fox silt loam, 2 to 6 percent slopes	Well drained	3.3	68.2%
Hw	Houghton muck, ponded, 0 to 2 percent slopes	Very poorly drained	1.0	21.5%
Os	Ossian silt loam	Poorly drained	0.5	10.3%
Totals for Area of Interest			4.8	100.0%

# Rating Options—Drainage Class

Aggregation Method: Dominant Condition
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

# Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

#### **Land Classifications**

This folder contains a collection of tabular reports that present a variety of soil groupings. The reports (tables) include all selected map units and components for each map unit. Land classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

## Hydric Rating by Map Unit (WI)

This Hydric Soil Category rating indicates the components of map units that meet the criteria for hydric soils. Map units are composed of one or more major soil components or soil types that generally make up 20 percent or more of the map unit and are listed in the map unit name, and they may also have one or more minor contrasting soil components that generally make up less than 20 percent of the map unit. Each major and minor map unit component that meets the hydric criteria is rated **hydric**. The map unit class ratings based on the hydric components present are: WI Hydric, WI Predominantly Hydric, WI Partially Hydric, WI Predominantly Nonhydric, and WI Nonhydric. The report also shows the total representative percentage of each map unit that the hydric components comprise.

"WI Hydric" means that all major and minor components listed for a given map unit are rated as being hydric. "WI Predominantly Hydric" means that all major components listed for a given map unit are rated as hydric, and at least one contrasting minor component is not rated hydric. "WI Partially Hydric" means that at least one major component listed for a given map unit is rated as hydric, and at least one other major component is not rated hydric. "WI Predominantly Nonhydric" means that no major component listed for a given map unit is rated as hydric, and at least one contrasting minor component is rated hydric. "WI Nonhydric" means no major or minor components for the map unit are rated hydric. The assumption is that the map unit is nonhydric even if none of the components within the map unit have been rated.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or

inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

If soils are wet enough for a long enough period of time to be considered hydric, they typically exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Vasilas, Hurt, and Noble, 2010).

The NTCHS has developed criteria to identify those soil properties unique to hydric soils (Federal Register, 2012). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria use selected soil properties that are described in "Field Indicators of Hydric Soils in the United States" (Vasilas, Hurt, and Noble, 2010), "Soil Taxonomy" (Soil Survey Staff, 1999), "Keys to Soil Taxonomy" (Soil Survey Staff, 2010), and the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

The criteria for hydric soils are represented by codes, for example, 2 or 3. Definitions for the codes are as follows:

- 1. All Histels except for Folistels, and Histosols except for Folists.
- Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that the soil meets the definition of a hydric soil;
- Soils that are frequently ponded for long or very long duration during the growing season.
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that the soil meets the definition of a hydric soil;
- 4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

#### References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. February, 28, 2012. Hydric soils of the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

#### Report—Hydric Rating by Map Unit (WI)

Hydric Rating by Map Unit (WI)–Winnebago County, Wisconsin			
Map Unit Symbol	Map Unit Name	Hydric Percent of Map Unit	Hydric Category
FsB	Fox silt loam, 2 to 6 percent slopes	0	WI Nonhydric
Hw	Houghton muck, ponded, 0 to 2 percent slopes	100	WI Hydric
Os	Ossian silt loam	100	WI Hydric

### **Hydric Soils**

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the

completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

- 1. All Histels except for Folistels, and Histosols except for Folists.
- Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that the soil meets the definition of a hydric soil;
- Soils that are frequently ponded for long or very long duration during the growing season.
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that the soil meets the definition of a hydric soil;
- 4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
  - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
  - B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

#### References:

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. September 18, 2002. Hydric soils of the United States. Federal Register. July 13, 1994. Changes in hydric soils of the United States. Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries. Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

### Report—Hydric Soils

Hydric Soils–Winnebago County, Wisconsin						
Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria		
Hw—Houghton muck, ponded, 0 to 2 percent slopes						
	Houghton, muck, ponded	95	Depressions	1, 3		
	Houghton, muck	3	Lakebeds (relict)	1, 3		
	Adrian	1	Lakebeds (relict)	1, 3		
	Palms, muck, ponded	1	Interdrumlins	1, 3		
Os—Ossian silt loam						
	Ossian	100	Depressions, drainageways	2, 3		

# References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE\_DOCUMENTS/nrcs142p2\_052290.pdf