

WETLAND DETERMINATION DATA FORM - North Central and Northeast Region

Project/Site: SPP City/County: Wadena Sampling Date: 2015-07-20
 Applicant/Owner: Enbridge State: Minnesota Sampling Point: WA002d1W
 Investigator(s): ACM/BCS Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): depression Local Relief (concave, convex, none): Conca... Slope (%): 0-2
 Subregion (LRR or MLRA): LRR K Latitude: 46.7961024586... Longitude: -94.91441669... Datum: Minnesota State ...
 Soil Map Unit Name: 543 NWI Classification: PSS1C

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

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

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the Sampled Area within a Wetland?	<u>Yes</u>
Hydric Soil Present?	<u>Yes</u>		
Wetland Hydrology Present?	<u>Yes</u>		
Remarks: (Explain alternative procedures here or in a separate report.) The wetland is a sedge meadow adjacent to a Shrub-Carr in a depression of upland forest. Vegetation is dominated by lake sedge and tussock sedge.			

HYDROLOGY

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

Field Observations: Surface Water Present? <u>No</u> Depth (inches) _____ Water Table Present? <u>Yes</u> Depth (inches) <u>12</u> Saturation Present? <u>Yes</u> Depth (inches) <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? <u>Yes</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 The wetland is saturated at the surface.

VEGETATION - Use scientific names of plants.

Sampling Point: WA002d1W

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot Size: <u>30 ft</u>)					
1. <u>Populus tremuloides</u>	<u>5.00</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: $\frac{100}{3} = \underline{\hspace{2cm}}$ (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>5</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>97.00</u> x 1 <u>97</u> FACW species <u>10.00</u> x 2 <u>20</u> FACU species <u>10.00</u> x 3 <u>0</u> UPL species <u>0.00</u> x 4 <u>0</u> Column Totals <u>117</u> (A) <u>147</u> (B) Prevalence Index = B/A = <u>1.2564102...</u>	
Sapling/Shrub Stratum (Plot Size: <u>15 ft</u>)					
1. <u>Populus tremuloides</u>	<u>5.00</u>	<u>Yes</u>	<u>FACU</u>		Hydrophytic Vegetation Indicators: no <u>1</u> - Rapid Test for Hydrophytic Vegetation yes <u>2</u> - Dominance Test is > 50% yes <u>3</u> - Prevalence Index is ≤ 3.0 ¹ _____ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Spiraea alba</u>	<u>5.00</u>	<u>Yes</u>	<u>FACW</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>10</u> = Total Cover					
Herb Stratum (Plot Size: <u>5 ft</u>)					
1. <u>Carex lacustris</u>	<u>75.00</u>	<u>Yes</u>	<u>OBL</u>	Definitions of Vegetation Strata: Tree - Woody plants 3 in. (.76 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.	
2. <u>Carex stricta</u>	<u>15.00</u>	<u>No</u>	<u>OBL</u>		
3. <u>Agrostis gigantea</u>	<u>5.00</u>	<u>No</u>	<u>FACW</u>		
4. <u>Carex utriculata</u>	<u>5.00</u>	<u>No</u>	<u>OBL</u>		
5. <u>Persicaria amphibia</u>	<u>2.00</u>	<u>No</u>	<u>OBL</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
<u>102</u> = Total Cover					
Woody Vine Stratum (Plot Size: <u>30 ft</u>)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? _____	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
<u>0</u> = Total Cover					
Remarks: (include photo numbers here or on a separate sheet.)					
The vegetation is dominated by lake sedge.					

SOIL

Sampling Point: WA002d1W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2 2	100					MP	mucky peat
3-6	10YR 2 1	100					M	muck
6-10	10YR 3 1	100					sl	
10-16	2.5Y 3 1	50					sicl	
10-16	10YR 2 1	50					sicl	Mixed matrix
16-24	10YR 2 1	100					scl	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)</p>	<p>Indicators for Problematic Hydric Soil³:</p> <p><input checked="" type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, M)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Red Parent Material (F21)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
<p>Restrictive Layer (if observed): <input type="checkbox"/></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? <u>Yes</u></p>
<p>Remarks:</p> <p>The observed profile consists of a layer of mucky peat underlain by muck, further underlain by mineral soil. The soil meets problematic hydric indicator A10, 2 cm Mucky.</p>	