

**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: WA002a1W  
 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: 46.7994917231... Longitude: -94.92061084... Datum: Minnesota State ...  
 Soil Map Unit Name: 458E NWI Classification: R2UBH

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 Yes, 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>	<b>Is the Sampled Area within a Wetland?</b>	<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 Shrub-Carr found between an upland forest and a river and dominated by black ash and reed canary grass.			

**HYDROLOGY**

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

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

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

Remarks:  
 The wetland is located adjacent to a river and passes the FAC-neutral test.

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

Sampling Point: WA002a1W

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot Size: <u>30 ft</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: $\frac{100}{2} = \underline{\hspace{2cm}}$ (A/B)
1. <u>Fraxinus nigra</u>	<u>20.00</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Fraxinus pennsylvanica</u>	<u>5.00</u>	<u>Yes</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
<b>Sapling/Shrub Stratum</b> (Plot Size: <u>15 ft</u> )				<b>Prevalence Index worksheet:</b> Total % Cover of: <u>25</u> = Total Cover Multiply by: OBL species $\frac{10.00}{10.00} \times 1 = \underline{10}$ FACW species $\frac{167.00}{167.00} \times 2 = \underline{334}$ FACU species $\frac{9.00}{9.00} \times 3 = \underline{84}$ UPL species $\frac{0.00}{0.00} \times 4 = \underline{0}$ Column Totals <u>207</u> (A) <u>455</u> (B) Prevalence Index = B/A = $\frac{455}{207} = \underline{2.1980676\dots}$
1. <u>Fraxinus nigra</u>	<u>50.00</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Cornus alba</u>	<u>10.00</u>	<u>No</u>	<u>FACW</u>	
3. <u>Fraxinus pennsylvanica</u>	<u>5.00</u>	<u>No</u>	<u>FACW</u>	
4. <u>Zanthoxylum americanum</u>	<u>2.00</u>	<u>No</u>	<u>FACU</u>	
5. <u>Alnus incana</u>	<u>2.00</u>	<u>No</u>	<u>FACW</u>	
6. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum</b> (Plot Size: <u>5 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> yes <u>1</u> - Rapid Test for Hydrophytic Vegetation yes <u>2</u> - Dominance Test is > 50% yes <u>3</u> - Prevalence Index is $\leq 3.0^1$ <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Phalaris arundinacea</u>	<u>50.00</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Onoclea sensibilis</u>	<u>20.00</u>	<u>No</u>	<u>FACW</u>	
3. <u>Parthenocissus quinquefolia</u>	<u>15.00</u>	<u>No</u>	<u>FACU</u>	
4. <u>Carex tenera</u>	<u>5.00</u>	<u>No</u>	<u>FAC</u>	
5. <u>Rubus pubescens</u>	<u>5.00</u>	<u>No</u>	<u>FACW</u>	
6. <u>Carex haydenii</u>	<u>5.00</u>	<u>No</u>	<u>OBL</u>	
7. <u>Cicuta maculata</u>	<u>5.00</u>	<u>No</u>	<u>OBL</u>	
8. <u>Amphicarpaea bracteata</u>	<u>2.00</u>	<u>No</u>	<u>FAC</u>	
9. <u>Quercus macrocarpa</u>	<u>2.00</u>	<u>No</u>	<u>FACU</u>	
10. <u>Toxicodendron rydbergii</u>	<u>2.00</u>	<u>No</u>	<u>FAC</u>	
11. <u>Carex gracillima</u>	<u>2.00</u>	<u>No</u>	<u>FACU</u>	
12. _____	_____	_____	_____	
_____ = Total Cover				
<b>Woody Vine Stratum</b> (Plot Size: <u>30 ft</u> )				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> - Woody plants 3 in. (.76 cm) or more in diameter at breast height (DBH), regardless of height. <b>Sapling/Shrub</b> - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. <b>Herb</b> - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. <b>Woody vines</b> - All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
<b>Hydrophytic Vegetation Present?</b> _____				
<b>Remarks:</b> (include photo numbers here or on a separate sheet.)				
The vegetation is dominated by black ash with reed canary grass and sensitive fern in the herb layer.				

**SOIL**

Sampling Point: WA002a1W

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

Depth (inches)	Matrix		Redox Features					Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>			
0-10	10YR 2 1	100					FSL		
10-24	10YR 2 1	95	10YR 5 3	5	C	M	s		

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<p><b>Hydric Soil Indicators:</b></p> <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><b>Indicators for Problematic Hydric Soil<sup>3</sup>:</b></p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input 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-Maganese 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 checked="" 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? Yes _____</p>
<p>Remarks:</p> <p>The soils are fine sandy loam over sand and are naturally problematic due to the location in a floodplain; constant disturbance from flooding has obscured the hydric soil indicators.</p>	