

**WETLAND DETERMINATION DATA FORM - North Central and Northeast Region**

Project/Site: I3\_mainline City/County: Clearwater Sampling Date: 2017-06-13  
 Applicant/Owner: Enbridge State: Minnesota Sampling Point: w-145n36w2-h1  
 Investigator(s): SMR, MRG Section, Township, Range: S2, T145N, R36W  
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): CC Slope (%): 3-7%  
 Subregion (LRR or MLRA): \_\_\_\_\_ Latitude: 47.4028054811... Longitude: -95.22059152... Datum: NAD83  
 Soil Map Unit Name: 1878 NWI Classification: PEMC  
 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>	<b>Is the Sampled Area within a Wetland?</b> If yes, optional Wetland Site ID: <u>w-145n36w2-h</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

**HYDROLOGY**

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

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

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

Remarks:

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

Sampling Point: w-145n36w2-h1

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot Size: <u>30</u> )				<b>Dominance Test worksheet:</b> 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: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: <span style="float:right">Multiply by:</span> OBL species <u>40.00</u> x 1 <u>40</u> FACW species <u>70.00</u> x 2 <u>140</u> FACU species <u>0.00</u> x 3 <u>0</u> UPL species <u>0.00</u> x 4 <u>0</u> Column Totals <u>110</u> (A) <u>180</u> (B) Prevalence Index = B/A = <u>1.6363636...</u>
<b>Sapling/Shrub Stratum</b> (Plot Size: <u>15</u> )				
1. <u>Salix petiolaris</u>	<u>10.00</u>	<u>Yes</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>10</u> = Total Cover				
<b>Herb Stratum</b> (Plot Size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ 1 - Rapid Test for Hydrophytic Vegetation <u>yes</u> 2 - Dominance Test is > 50% <u>yes</u> 3 - Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4 - 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>Carex gynandra</u>	<u>50.00</u>	<u>Yes</u>	_____	
2. <u>Scirpus cyperinus</u>	<u>20.00</u>	<u>Yes</u>	<u>OBL</u>	
3. <u>Carex vulpinoidea</u>	<u>10.00</u>	<u>No</u>	<u>FACW</u>	
4. <u>Phalaris arundinacea</u>	<u>10.00</u>	<u>No</u>	<u>FACW</u>	
5. <u>Typha X glauca</u>	<u>10.00</u>	<u>No</u>	<u>OBL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot Size: <u>30</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. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Hydrophytic Vegetation Present?</b> <span style="float:right"><u>Yes</u></span>				

Remarks: (include photo numbers here or on a separate sheet.)

**SOIL**

Sampling Point: w-145n36w2-h1

**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>		
0-24	10YR 2 1	100					MM	

<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> <ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Stratified Layers (A5)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A1.1)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> <li><input type="checkbox"/> Dark Surface (S7) <b>(LRR R, MLRA 149B)</b></li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR R, MLRA 149B)</b></li> <li><input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR R, MLRA 149B)</b></li> <li><input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(LRR K, L)</b></li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> </ul>	<p><b>Indicators for Problematic Hydric Soil<sup>3</sup>:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10) <b>(LRR K, L, MLRA 149B)</b></li> <li><input type="checkbox"/> Coast Prairie Redox (A16) <b>(LRR K, L, R)</b></li> <li><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) <b>(LRR K, L, R)</b></li> <li><input type="checkbox"/> Dark Surface (S7) <b>(LRR K, M)</b></li> <li><input type="checkbox"/> Polyvalue Below Surface (S8) <b>(LRR K, L)</b></li> <li><input type="checkbox"/> Thin Dark Surface (S9) <b>(LRR K, L)</b></li> <li><input type="checkbox"/> Iron-Manganese Masses (F12) <b>(LRR K, L, R)</b></li> <li><input type="checkbox"/> Piedmont Floodplain Soils (F19) <b>(MLRA 149B)</b></li> <li><input type="checkbox"/> Mesic Spodic (TA6) <b>(MLRA 144A, 145, 149B)</b></li> <li><input type="checkbox"/> Red Parent Material (F21)</li> <li><input type="checkbox"/> Very Shallow Dark Surface (TF12)</li> <li><input type="checkbox"/> Other (explain in remarks)</li> </ul>
<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>		