WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: SPP City/County: Carlton Sampling Date: 5/31/2014
Applicant/Owner: Enbridge State: MN Sampling Point: CRR51009d1W
Investigator(s): KRG/NTT Section, Township, Range:
Landform (hillslope, terrace, etc.) Depression Local relief (concave, convex, none CC
Slope (%): 0 - 2% Lat.: 46.581153 Long.: -92.603765 Datum: WGS84
Soil Map Unit Name: 504C NWI Classification: PFO/SSB
Are climatic/hydrologic conditions of the site typical for this time of the year? ☑ (If no, explain in remarks)
Are vegetation ☐, soil ☐, or hydrology ☐ significantly disturbed? Are "normal circumstances" present? ☑
Are vegetation ☐, soil ☐, or hydrology ☐ naturally problematic?
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	Y
Hydric soil present?	Y		
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
The wetland is a small area of hardwood swamp with hummocks and large pockets of standing water.

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☑ 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)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes ☑	Depth (inches):	4
Water table present?	Yes ☑	Depth (inches):	0
Saturation present? (includes capillary fringe)	Yes ☑	Depth (inches):	0

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Approximately 70 percent of the wetland has standing water 1-4" deep, with the other portion being mostly hummocks.

VEGETATION - Use scientific names of plants

Sampling Point: CRR51009d1W

Tree Stratum (Plot Size (30 ft))	Absolute % Cover	Dominant Species	Indicator Status
1 *Abies balsamea*	20	Y	FAC
2 *Ulmus americana*	10	Y	FACW
3 *Acer rubrum*	10	Y	FAC
4			
5			
6			
7			
8			
9			
10			
	40 = Total Cover		

Sapling/Shrub Stratum (Plot Size (15 ft))	Absolute % Cover	Dominant Species	Indicator Status
1 *Alnus incana*	10	Y	FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
	10 = Total Cover		

Herb Stratum (Plot Size (5 ft))	Absolute % Cover	Dominant Species	Indicator Status
1 *Iris versicolor*	5	Y	OBL
2 *Equisetum pratense*	5	Y	FACW
3 *Populus tremuloides*	5	Y	FAC
4 *Phalaris arundinacea*	5	Y	FACW
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
	20 = Total Cover		

Woody Vine Stratum (Plot Size (30 ft))	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0 = Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum	8	20
Sapling/Shrub Stratum	2	5
Herb Stratum	4	10
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across all Strata: 8 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	5	x 1 =	5
FACW species	30	x 2 =	60
FAC species	35	x 3 =	105
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	70 (A)		170 (B)

Prevalence Index = B/A = 2.43

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Morphological 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

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 size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

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

The wetland is dominated by hydrophytic vegetation. Ground cover is sparse due to large amounts of standing water.

SOIL **Sampling Point:** CRR51009d1W

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

Depth	Matrix			Redox Features						Remarks
(In.)	Color (moist)		%	Color (moist)		%	Type*	Loc**	Texture	
0-5	Hue_10YR	2/1	100						SL	
5-18	Hue_7.5YR	5/2	60	Hue_7.5YR	5/6	40	C	M	SCL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☑ Depleted Below Dark 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**
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:
Soils meet indicator A11, Depleted Below Dark Surface. There are large amounts of redoximorphic features in the soil profile.