WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: SPP City/County: Wadena Sampling Date: 9/8/2014
Applicant/Owner: Enbridge State: MN Sampling Point: WA006b1W
Investigator(s): BJC/RAJ Section, Township, Range:
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none CL
Slope (%): 0 - 2% Lat.: 46.79429 Long.: -94.87481 Datum:
Soil Map Unit Name: 1968 NWI Classification: R2UBH
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 floodplain forest dominated by green ash and tussock sedge. It is located in a floodplain between the Crow Wing River and a mesic forest dominated by bur oak. As fluvial deposits in a floodplain, the soils are naturally problematic. All parameters of wetland conditions are met.

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):	
Water table present?	Yes ☑	Depth (inches):	14
Saturation present? (includes capillary fringe)	Yes ☑	Depth (inches):	12

Indicators of wetland hydrology present? Y

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

Remarks:
Water-stained leaves were observed in other areas of the wetland. Indicators of wetland hydrology are present.

VEGETATION - Use scientific names of plants **Sampling Point:** WA006b1W

Tree Stratum	Plot Size (30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Fraxinus pennsylvanica*	70	Y	FACW
2	*Quercus macrocarpa*	20	Y	FACU
3				
4				
5				
6				
7				
8				
9				
10				
		90	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Cornus alba*	30	Y	FACW
2	*Zanthoxylum americanum*	30	Y	FACU
3	*Cornus racemosa*	15	Y	FAC
4				
5				
6				
7				
8				
9				
10				
		75	= Total Cover	

Herb Stratum	Plot Size (5 ft)	Absolute % Cover	Dominant Species	Indicator Status
1	*Carex stricta*	40	Y	OBL
2	*Rhamnus alnifolia*	40	Y	OBL
3	*Carex lacustris*	10	N	OBL
4	*Iris versicolor*	5	N	OBL
5	*Campanula aparinoides*	1	N	OBL
6	*Anemone canadensis*	1	N	FACW
7	*Lathyrus palustris*	1	N	FACW
8				
9				
10				
11				
12				
13				
14				
15				
		98	= 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	18	45
Sapling/Shrub Stratum	15	38
Herb Stratum	20	49
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across all Strata: 7 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 71.43% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	96	x 1 =	96
FACW species	102	x 2 =	204
FAC species	15	x 3 =	45
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column totals	263 (A)		545 (B)

Prevalence Index = B/A = 2.07

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 sample point is dominated by green ash and bur oak in the canopy, with tussock sedge and alder-leaf buckthorn in the ground layer. The wetland is a floodplain forest community. Hydrophytic vegetation is present.

SOIL **Sampling Point:** WA006b1W

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

Depth (In.)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type*	Loc**	Texture	Remarks
0-8	Hue_10YR	2/1	100						M	Sapric
8-9	Hue_10YR	3/4	100						MMI	Silty clay mineral component
9-11	Hue_10YR	6/2	60						LS	
9-11	Hue_10YR	2/1	40						LS	Organic streaking
11-18	Hue_10YR	7/2	100						S	

*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 Surface (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:

The soil profile nearly meets indicators A2 and A3, except for the 1-inch brown mucky mineral layer below the top layer. This is due to a soil anomaly and can reasonably be ignored in these floodplain soils. As fluvial deposits in a floodplain, the soils are naturally problematic.