## 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: WA006a1U
Investigator(s): BEH/RAJ Section, Township, Range:
Landform (hillslope, terrace, etc.): Side slope Local relief (concave, convex, none VL
Slope (%): 8 - 15% Lat.: 46.79443583 Long.: -94.8764606 Datum:
Soil Map Unit Name: 458B NWI Classification:
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
Are vegetation ☐, soil ☐, or hydrology ☐ naturally problematic? circumstances" present? ☑
(If needed, explain any answers in remarks)

### SUMMARY OF FINDINGS

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

Remarks: (Explain alternative procedures here or in a separate report.)
The upland sample point is located in a hardwood forest, upslope from an ash-dominated floodplain forest surrounding the Crow Wing River.

### 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): | |
| Saturation present? (includes capillary fringe) | Yes ☐ | Depth (inches): | |

**Indicators of wetland hydrology present?** N

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

Remarks:
No primary or secondary hydrological indicators were observed.

**VEGETATION** - Use scientific names of plants **Sampling Point:** WA006a1U

| Tree Stratum | Plot Size ( 30 ft ) | Absolute % Cover | Dominant Species | Indicator Status |
|---|---|---|---|---|
| 1 | Quercus macrocarpa | 70 | Y | FACU |
| 2 | Fraxinus pennsylvanica | 5 | N | FACW |
| 3 | Fraxinus nigra | 3 | N | FACW |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| | | 78 | = Total Cover | |

| Sapling/Shrub Stratum | Plot Size ( 15 ft ) | Absolute % Cover | Dominant Species | Indicator Status |
|---|---|---|---|---|
| 1 | Corylus americana | 40 | Y | FACU |
| 2 | Prunus virginiana | 15 | Y | FACU |
| 3 | Fraxinus nigra | 10 | N | FACW |
| 4 | Fraxinus pennsylvanica | 5 | N | FACW |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| | | 70 | = Total Cover | |

| Herb Stratum | Plot Size ( 5 ft ) | Absolute % Cover | Dominant Species | Indicator Status |
|---|---|---|---|---|
| 1 | Carex pensylvanica | 40 | Y | NI |
| 2 | Aralia nudicaulis | 20 | Y | FACU |
| 3 | Oryzopsis asperifolia | 15 | N | NI |
| 4 | Corylus americana | 5 | N | FACU |
| 5 | Streptopus lanceolatus | 5 | N | FACU |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |
| | | 85 | = 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 | 16 | 39 |
| Sapling/Shrub Stratum | 14 | 35 |
| Herb Stratum | 17 | 43 |
| Woody Vine Stratum | 0 | 0 |

**Dominance Test Worksheet**

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

**Prevalence Index Worksheet**

Total % Cover of:

| | | | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 23 | x 2 = | 46 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 155 | x 4 = | 620 |
| UPL species | 0 | x 5 = | 0 |
| Column totals | 178 (A) | | 666 (B) |

Prevalence Index = B/A = 3.74

**Hydrophytic Vegetation Indicators:**

___ Rapid test for hydrophytic vegetation
___ Dominance test is >50%
___ 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?** N

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

The canopy is primarily bur oak with a shrub layer of American hazelnut and chokecherry. The ground layer is dominated by Pennsylvania sedge and wild sarsaparilla.

**SOIL** **Sampling Point:** WA006a1U

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-3 | Hue_10YR | 2/2 | 100 | | | | | | SL | |
| 3-19 | Hue_10YR | 3/2 | 100 | | | | | | LS | |
| 19-22 | Hue_10YR | 3/2 | 100 | | | | | | S | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |

*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?** N

Remarks:
The soil is three dark layers: sandy loam over loamy sand underlain by sand. The profile does not meet any hydric soil indicators.