## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SPP City/County: CASS Sampling Date: 7/31/2013 8:00:00 AM

Applicant/Owner: ENBRIDGE State: MN Sampling Point: CA157a3W

Investigator(s): KMN Section, Township, Range: 8, 139, 25

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): VV

Slope (%): 0 - 2% Lat: 46.865194 Long: -93.880927 Datum: NAD83

Soil Map Unit Name: Nokay loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ 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? | Yes ✔ | No ____ | **Is the Sampled Area within a Wetland?** **Yes** ✔ **No** ____ |
| Hydric Soil Present? | Yes ✔ | No ____ | If yes, optional Wetland Site ID: ____ |
| Wetland Hydrology Present? | Yes ✔ | No ____ | |

Remarks: (Explain alternative procedures here or in a separate report.)

### HYDROLOGY

**Wetland Hydrology Indicators:**

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 ____ | No ✔ | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No ✔ | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ✔ | No ____ | Depth (inches): 10.00 |

**Wetland Hydrology Present?** **Yes** ✔ **No** ____

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

Remarks:

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

Sampling Point: CA157a3W

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Fraxinus nigra | 50 | Yes | FACW |
| 2. Acer rubrum | 30 | Yes | FAC |
| 3. Quercus macrocarpa | 10 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |

Total Cover: 90

50% of total cover: _____ 20% of total cover: _____

| Sapling/Shrub Stratum (Plot size: 15) | | | |
|---|---|---|---|
| 1. Fraxinus nigra | 25 | Yes | FACW |
| 2. Ilex verticillata | 10 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |

Total Cover: 35

50% of total cover: _____ 20% of total cover: _____

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. Cicuta maculata | 15 | Yes | OBL |
| 2. Rubus pubescens | 10 | Yes | FACW |
| 3. Carex intumescens | 5 | No | FACW |
| 4. Onoclea sensibilis | 5 | No | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |

Total Cover: 35

50% of total cover: _____ 20% of total cover: _____

| Woody Vine Stratum (Plot size: 30) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |

Total Cover: 0

50% of total cover: _____ 20% of total cover: _____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 15 | x 1 = | 15 |
| FACW species | 105 | x 2 = | 210 |
| FAC species | 30 | x 3 = | 90 |
| FACU species | 10 | x 4 = | 40 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 160 (A) | | 355 (B) |

Prevalence Index = B/A = 2.22

**Hydrophytic Vegetation Indicators:**

___ Rapid Test for Hydrophytic Vegetation

✔ Dominance Test is >50%

✔ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]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?** **Yes** ✔ **No** _____

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

## SOIL

Sampling Point: CA157a3W

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0 - 5 | 10YR 2/1 | 100 | | | | | MMI | Mucky loam |
| 5 - 15 | 10YR 4/2 | 95 | 10YR 4/6 | 5.00 | C | PL | SIL | |
| 15 - 20 | 10YR 5/2 | 80 | 10YR 5/6 | 20.00 | C | M | SIL | with coarse frag |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]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 149B**)
- ___ 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[3]:**

- ___ 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)

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ✔ **No** ___

Remarks: