# WETLAND DETERMINATION DATA FORM
## Great Plains Region

| | | | |
|---|---|---|---|
| Project/Site: | L3R | Date: | 09/27/14 |
| Applicant: | Enbridge | County: | Pennington |
| Investigators: | RAJ/BJC | State: | MN |
| Subregion (MLRA or LRR): | MLRA 56 | | |
| Soil Unit: | I20A | NWI Classification: | PEMB |
| Landform: | Depression | Local Relief: | CC |
| Slope (%): | 3 - 7% | Sample Point: | **w-153n44w3-j1** |
| Latitude: | 48.103096 | Longitude: | -96.285027 |
| Datum: | | | |
| Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) | ☑ Yes ☐ No | Section: | |
| Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? | Are normal circumstances present? | Township: | |
| Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? | ☑ Yes ☐ No | Range: | Dir: |

## SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? Yes
Wetland Hydrology Present? Yes
Hydric Soils Present? Yes
Is This Sampling Point Within A Wetland? **Yes**

Remarks: A hardwood swamp dominated by balsam poplar with an herbaceous layer of wetland graminoids in a depression within a pasture. All parameters of wetland conditions are present.

## HYDROLOGY

**Wetland Hydrology Indicators** (Check all that apply; Minimum of one primary or two secondary required)**:**

Primary:

- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B9 - Water-Stained Leaves
- ☐ B11 - Salt Crust
- ☐ B13 - Aquatic Fauna
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C2 - Dry Season Water Table
- ☐ C3 - Oxidized Rhizospheres on Living Roots (not tille
- ☐ C4 - Presence of Reduced Iron
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B10 - Drainage Patterns
- ☐ C3 - Oxidized Rhizospheres on Living Roots (tilled)
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☑ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test
- ☐ D7 - Frost-Heaved Hummocks (LRR F)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes | ☐ | Depth: _____ | (in.) |
| Water Table Present? | Yes | ☐ | Depth: _____ | (in.) |
| Saturation Present? | Yes | ☐ | Depth: _____ | (in.) |

**Wetland Hydrology Present?** Y

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

Remarks: Indicators of wetland hydrology are present.

## SOILS

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

(Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

| Depth (In.) | Matrix Color (Moist) | | Matrix % | Mottles Color (Moist) | | Mottles % | Mottles Type | Mottles Location | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-4 | Hue_10YR | 2/1 | 100 | | | | | | SCL | |
| 4-8 | Hue_10YR | 4/2 | 90 | Hue_7.5YR | 4/4 | 5 | C | M | SL | |
| | | | | Hue_2.5Y | 6/8 | 5 | C | M | SL | |
| 8-12 | Hue_2.5Y | 6/2 | 100 | | | | | | LCOS | with gravel |
| | | | | | | | | | | |
| | | | | | | | | | | |

**NRCS Hydric Soil Field Indicators** (check here if indicators are not present)**:** ☐

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers (LRR F)
- ☐ A9 - 1 cm Muck (LRR FGH)
- ☑ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Mucky Mineral
- ☐ S2 - 2.5 cm Mucky Peat or Peat (LRR G, H)
- ☐ S3 - 5 cm Mucky Peat or Peat (LRR F)
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Mucky Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions
- ☐ F16 - High Plains Depressions (MLRA 72, 73 of LRR H)

**Indicators for Problematic Soils[1]**

- ☐ A9 - 1 cm Muck (LRR I, J)
- ☐ A16 - Coast Prairie Redox (LRR F, G, H)
- ☐ S7 - Dark Surface (LRR G)
- ☐ F16 - High Plains Depressions (LRR H, outside MLRA 72, 73)
- ☐ F18 - Reduced Vertic
- ☐ TF2 - Red Parent Material
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

**Restrictive Layer** Type: gravel Depth: 12 inches

**Hydric Soil Present?** Y

Remarks: Unable to dig past 12 inches due to a dense, compact layer of gravel. The soil has 4 inches of dark sandy clay loam over a 4-inch layer of depleted sandy loam with redox concentrations. Below 8 inches is depleted coarse sand with gravel. The profile meets indicator A11.

# WETLAND DETERMINATION DATA FORM
## Great Plains Region

Project/Site: L3R | Sample Point: **w-153n44w3-j1**

**VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft. radius)

| | Species Name | % Cover | Dominant | Ind.Status |
|---|---|---|---|---|
| 1. | *Populus balsamifera* | 60 | Y | FACW |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |

Total Cover = 60

Sapling/Shrub Stratum (Plot size: 15 ft. radius)

| | | | | |
|---|---|---|---|---|
| 1. | *Salix bebbiana* | 15 | Y | FACW |
| 2. | *Salix petiolaris* | 5 | Y | OBL |
| 3. | *Salix discolor* | 5 | Y | FACW |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |

Total Cover = 25

Herb Stratum (Plot size: 5 ft. radius)

| | | | | |
|---|---|---|---|---|
| 1. | *Spartina pectinata* | 40 | Y | FACW |
| 2. | *Carex pellita* | 20 | Y | OBL |
| 3. | *Symphyotrichum lanceolatum* | 15 | N | FACW |
| 4. | *Poa palustris* | 5 | N | FACW |
| 5. | *Mentha arvensis* | 5 | N | FACW |
| 6 | *Calamagrostis stricta* | 1 | N | FACW |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | | | | |
| 12. | | | | |
| 13. | | | | |
| 14. | | | | |
| 15. | | | | |

Total Cover = 86

Woody Vine Stratum (Plot size: 30 ft. radius)

| | | | | |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 5. | | | | |
| 4. | | | | |

Total Cover = 0

### 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: ***100.0%*** (A/B)

### Prevalence Index Worksheet

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL spp. | 25 | x 1 = | 25 |
| FACW spp. | 146 | x 2 = | 292 |
| FAC spp. | 0 | x 3 = | 0 |
| FACU spp. | 0 | x 4 = | 0 |
| UPL spp. | 0 | x 5 = | 0 |
| Total | 171 (A) | | 317 (B) |

Prevalence Index = B/A = ***1.854***

### Hydrophytic Vegetation Indicators:

| | |
|---|---|
| | Rapid Test for Hydrophytic Vegetation |
| X | Dominance Test is > 50% |
| X | Prevalence Index is ≤ 3.0 * |
| | Morphological Adaptations (Explain) * |
| | Problem 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. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub -** Woody plants less than 3 in. DBH, regardless of height.

**Herb -** All herbaceous (non-woody) plants, regardless of size.

**Woody Vines -** All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Y

Remarks: A hardwood swamp dominated by balsam poplar with an herbaceous layer of wetland graminoids. Though not at the sample point, reed canary grass dominates much of the area. All parameters of wetland conditions are present.

**Additional Remarks:**