WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site:	L3R			Date:	09/24/14
Applicant:	Enbridge			County:	Pennington
Investigators:	RAJ/BJC		Subregion (MLRA or LRR): MLRA 56	State:	MN
Soil Unit:	I70A		NWI Classification:		
Landform:	Dip		Local Relief: CC	Sample Point:	**w-154n44w33-bb1**
Slope (%):	0 - 2%	Latitude: 48.118479	Longitude: -96.311255	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 quaking aspen and balsam poplar with a fringe of willow at the edge and a small area of wet meadow on the west side of the wetland where the willows have been mowed. There is a very gradual transition from wetland to upland; delineation of the wetland boundary was based on a small topographic change and a shift in plant species abundances. All parameters of wetland conditions are met.

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: The wetland shows signs of periodic inundation.

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
0-12	Hue_10YR	2/1	100						CL	
12-14	Hue_10YR	3/1	100						FSL	
14-18	Hue_2.5Y	6/1	100						FS	

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: _____ Depth: _____

Hydric Soil Present? Y

Remarks: The soil has a 14-inch dark surface over depleted fine sand. The soil fits indicator A12, Thick Dark Surface.

WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site: L3R | Sample Point: **w-154n44w33-bb1**

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 tremuloides*	30	Y	FAC
2.	*Populus balsamifera*	25	Y	FACW
3.	*Salix discolor*	20	Y	FACW
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Total Cover = 75

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

1.	*Salix discolor*	30	Y	FACW
2.	*Salix eriocephala*	10	Y	FACW
3.	*Populus tremuloides*	5	N	FAC
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Total Cover = 45

Herb Stratum (Plot size: 5 ft. radius)

1.	*Phalaris arundinacea*	70	Y	FACW
2.	*Poa pratensis*	20	N	FACU
3.	*Carex pellita*	5	N	OBL
4.	*Poa palustris*	5	N	FACW
5.	*Agrostis gigantea*	5	N	
6				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Total Cover = 105

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.	5	x 1 =	5
FACW spp.	160	x 2 =	320
FAC spp.	35	x 3 =	105
FACU spp.	20	x 4 =	80
UPL spp.	0	x 5 =	0
Total	220 (A)		510 (B)

Prevalence Index = B/A = ***2.318***

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 wet forest dominated by quaking aspen, balsam poplar, pussy willow, and reed canary grass. The trees decline and willows increase to the west side of the wetland area, but it is not distinct enough to be separated as a shrub-dominated community. Hydrophytic vegetation is present.

Additional Remarks: