WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site: **L3R**		Date: **06/27/14**
Applicant: **Enbridge**		County: **Kittson**
Investigators: **BCS/BEH**	Subregion (MLRA or LRR): **MLRA 56**	State: **MN**
Soil Unit: **I248A**	NWI Classification:	
Landform: **Depression**	Local Relief: **CL**	Sample Point: **w-160n50w10-c1**
Slope (%): **0 - 2%** Latitude: **48.6926065**	Longitude: **-97.099625667** 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 ☐gnificantly disturbed?   Are normal circumstances present?   Township:

Are Vegetation ☐ Soil ☐ or Hydrology ☐turally problematic?   ☑ Yes ☐No   Range: Dir:

SUMMARY OF FINDINGS

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

Remarks: The wetland sample area is a shallow marsh dominated by flat-stem spikerush, wild mint, and narrow-leaf cattail. The site is situated within what appears to be a previously excavated system of agricultural ditches, located in what is now a CRP field.

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 tilled)
- ☐ 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:	5	(in.)
Water Table Present?	Yes	☑	Depth:	0	(in.)
Saturation Present?	Yes	☑	Depth:	0	(in.)

Wetland Hydrology Present?   Y

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

Remarks: Surface water is present to a depth of 5 inches; snails are present at the sample point.

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)	%	Mottles Color (Moist)	%	Type	Location	Texture	Remarks
0-13	Hue_2.5Y 2.5/1	100					SIC	
13-19	Hue_2.5Y 2.5/1	84	Hue_2.5Y 4/1	15	D	M	C	
13-19			Hue_10YR 4/3	1	C	M	C	
19-26	Hue_2.5Y 6/1	75	Hue_10YR 4/6	2	C	M	C	CaCO3 accumulation/fine fragments
19-26	Hue_2.5Y 5/2	23					C	

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 - Cost Prairie Redox (LRR F, G, H)
- ☐ S7 - Dark Surface (LRR G)
- ☐ F16 - High Plains Depressions (LRR H, outisde 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 is a thick, dark, silty clay epipedon underlain by a layer of depleted clay with 2% prominent redox concentrations in the matrix. Fine fragments of calcium carbonate are also present in bottom layer.

WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site:	L3R			Sample Point:	w-160n50w10-c1

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

Tree Stratum (Plot size: 30 ft. radius)

	Species Name	% Cover	Dominant	Ind.Status
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100.0%*** (A/B)

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

	Species Name	% Cover	Dominant	Ind.Status
1.	*Amorpha fruticosa*	2	N	FACW
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
	Total Cover =	2		

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	29	x 1 =	29
FACW spp.	49	x 2 =	98
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	78 (A)		127 (B)

Prevalence Index = B/A = ***1.628***

Herb Stratum (Plot size: 5 ft. radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Eleocharis compressa*	25	Y	FACW
2.	*Mentha arvensis*	15	Y	FACW
3.	*Typha angustifolia*	15	Y	OBL
4.	*Lycopus americanus*	5	N	OBL
5.	*Symphyotrichum lanceolatum*	5	N	FACW
6	*Bidens cernua*	5	N	OBL
7.	*Beckmannia syzigachne*	2	N	OBL
8.	*Poa palustris*	2	N	FACW
9.	*Alisma triviale*	2	N	OBL
10.				
11.				
12.				
13.				
14.				
15.				
	Total Cover =	76		

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.

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

	Species Name	% Cover	Dominant	Ind.Status
1.				
2.				
3.				
5.				
4.				
	Total Cover =	0		

Hydrophytic Vegetation Present? Y

Remarks: The wetland sample area is dominated by flat-stem spikerush, wild mint, and narrow-leaf cattail.

Additional Remarks: