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:	I69A	NWI Classification:	
Landform:	Depression	Local Relief: LC	Sample Point: w-154n44w34-c1
Slope (%):	0 - 2%	Latitude: 48.114757 Longitude: -96.303915 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	Hydric Soils Present? Yes
Wetland Hydrology Present?	Yes	Is This Sampling Point Within A Wetland? **Yes**

Remarks: A seasonally-flooded basin in a cultivated field planted to wheat. The wheat has been harvested and the field has been disked. The vegetation is disturbed from herbicide use and tillage. At the edge of the field, outside the survey corridor, the wetland basin continues into natural vegetation that is definitely

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: _____	(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: Though disked, it is apparent that the planted crop (wheat) was much reduced or absent in this swale.

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
0-6	Hue_2.5Y 2.5/1	100					C	with pebbles
6-18	Hue_2.5Y 5/1	65	Hue_2.5Y 5/6	20	C	M	C	with pebbles and gravel
6-18	WP 2.5Y 9/1	15					OT	CaCO3 concentrations

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 6-inch dark clay surface over depleted clay with abundant calcium concentrations and redox concentrations; it fits indicator A11, Depleted Below Dark Surface and indicator F3, Depleted Matrix. Compared to the upland soil, the depleted layer is closer to the surface with a lower chroma, more redox, and much more calcium concentrations (though both the upland and wetland soil profiles fit indicators F3 and A11).

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Project/Site:	L3R	Sample Point:	w-154n44w34-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		

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

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

Herb Stratum (Plot size: 5 ft. radius)

		% Cover	Dominant	Ind.Status
1.	Triticum aestivum	5	Y	NI
2.				
3.				
4.				
5.				
6				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
	Total Cover =	5		

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

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

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: **1** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0.0%** (A/B)

Prevalence Index Worksheet

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

Prevalence Index = B/A = **5.000**

Hydrophytic Vegetation Indicators:

_____	Rapid Test for Hydrophytic Vegetation
_____	Dominance Test is > 50%
_____	Prevalence Index is ≤ 3.0 *
_____	Morphological Adaptations (Explain) *
X	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: The only vegetation present is sprouting wheat from grain spilled during harvest. The vegetation is disturbed from herbicide use and disking.

Additional Remarks:

The justification in calling this swale a wetland is (1) the topography, (2) the apparent lack of wheat in the swale, and (3) the presence of natural wetland vegetation outside the tilled field and survey corridor to the south (in a hydrologically-connected area).