WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site:	L3R		Date: 07/07/14
Applicant:	Enbridge		County: Kittson
Investigators:	BCS/BEH	Subregion (MLRA or LRR): MLRA 56	State: MN
Soil Unit:	I132A	NWI Classification:	
Landform:	Depression	Local Relief: CL	Sample Point: **w-159n49w5-b1**
Slope (%):	0 - 2%	Latitude: 48.61909933 Longitude: -96.9996890000 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 ☐ ignificantly disturbed?		Are normal circumstances present?	Township:
Are Vegetation ☐ Soil ☐ or Hydrology ☐ aturally 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 is a foxtail barley-dominated fresh wet meadow which extends into a hybrid cattail-dominated roadside ditch. The site is adjacent to tilled agricultural soybean field, a gravel county road, and a forested wetland.

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 till
- ☐ 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: 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: Water table and saturation are present at the soil surface.

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
0-11	Hue_10YR	2/1	88	Hue_2.5Y	5/2	10	D	M	C	
				Hue_10YR	5/6	2	C	M	C	
11-21	Hue_10YR	2/1	95	Hue_10YR	4/4	5	C	M	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 profile is a thick, dark clay surface layer with 10% redox depletions in the matrix with 2% associated concentrations; the lower layer is a dark clay with 5% redox concentrations in the matrix. The soil meets indicator F7.

WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site: L3R | Sample Point: **w-159n49w5-b1**

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)

1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft. radius)

1.	*Hordeum jubatum*	25	Y	FACW
2.	*Rumex stenophyllus*	10	Y	FACW
3.	*Persicaria lapathifolia*	5	N	OBL
4.	*Artemisia biennis*	5	N	FACU
5.	*Persicaria maculosa*	2	N	FACW
6	*Thlaspi arvense*	2	N	FACU
7.	*Echinochloa crus-galli*	2	N	FAC
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
	Total Cover =	51		

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

1.				
2.				
3.				
5.				
4.				
	Total Cover =	0		

Remarks: The wetland is dominated by foxtail barley and narrow-leaf dock.

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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.	37	x 2 =	74
FAC spp.	2	x 3 =	6
FACU spp.	7	x 4 =	28
UPL spp.	0	x 5 =	0
Total	51 (A)		113 (B)

Prevalence Index = B/A = ***2.216***

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

Additional Remarks: