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:	Dip	Local Relief: CL	Sample Point: **w-160n50w10-c2**
Slope (%):	0 - 2%	Latitude: 48.69869428 Longitude: -97.0951716993 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 fresh wet meadow located within a field which appears to be in CRP. The site is dominated by white panicled aster and narrow-leaf cattail and situated between a shallow marsh and a gravel county road.

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: 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: Five inches of surface water is present at the sample point; a hydrogen sulfide odor was detected in the upper 12 inches of the soil profile.

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)

	Matrix			Mottles						
Depth (In.)	Color (Moist)		%	Color (Moist)		%	Type	Location	Texture	Remarks
0-15	Hue_10YR	2/1	100						SIC	
15-20	Hue_2.5Y	3/1	100						C	
20-27	Hue_2.5Y	4/2	98	Hue_10YR	4/6	2	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 contains a thick, dark, silty clay underlain by a depleted clay with 2% prominent redox concentrations in the matrix. A hydrogen sulfide odor is present within the upper 12 inches, meeting hydric indicator A4.

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Project/Site: L3R | Sample Point: **w-160n50w10-c2**

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.	*Symphyotrichum lanceolatum*	20	Y	FACW
2.	*Typha angustifolia*	10	Y	OBL
3.	*Mentha arvensis*	5	N	FACW
4.	*Alisma triviale*	2	N	OBL
5.	*Cicuta maculata*	2	N	OBL
6	*Beckmannia syzigachne*	2	N	OBL
7.	*Bidens cernua*	2	N	OBL
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
	Total Cover =	43		

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: 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.	18	x 1 =	18
FACW spp.	25	x 2 =	50
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	43 (A)		68 (B)

Prevalence Index = B/A = ***1.581***

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: The wetland is dominated by white panicled aster and narrow-leaf cattail; a mix of other wetland grasses and forbs are also present.

Additional Remarks: