WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site:	L3R	Date:	08/21/14
Applicant:	Enbridge	County:	Marshall
Investigators:	BEH/RAJ	State:	MN
Subregion (MLRA or LRR):	MLRA 56		
Soil Unit:	I43A	NWI Classification:	PEM/SS1B
Landform:	Depression	Local Relief:	CC
Slope (%):	0 - 2%	Latitude: 48.3147125 Longitude: -96.5818391 Datum:	Sample Point: **w-156n46w21-e2**
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: The shallow marsh community is dominated by meadow willow, prairie cordgrass, and wheat sedge.

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: Water marks are evident on surrounding vegetation.

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
0-10	Hue_10YR	2/1	100						M	
10-19	Hue_10YR	2/1	100						MMI	
19-23	Hue_10YR	6/1	50	Hue_10YR	5/8	20	C	M	S	redox is coarse sand
19-23	Hue_10YR	2/1	10						MMI	streaks
19-23	Gley1	4/N	20						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 - 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: Soil is a layer of muck underlain by dark mucky mineral. The bottom layer is depleted sand mixed with organic streaks and gleyed clay. The profile meets three hydric soil indicators.

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Project/Site: L3R | Sample Point: **w-156n46w21-e2**

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.	*Salix petiolaris*	35	Y	OBL
2.	*Cornus alba*	3	N	FACW
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Total Cover = 38

Herb Stratum (Plot size: 5 ft. radius)

1.	*Spartina pectinata*	40	Y	FACW
2.	*Carex atherodes*	20	Y	OBL
3.	*Phalaris arundinacea*	15	N	FACW
4.	*Asclepias incarnata*	5	N	FACW
5.	*Persicaria amphibia*	5	N	OBL
6				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Total Cover = 85

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: 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)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	60	x 1 =	60
FACW spp.	63	x 2 =	126
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	123 (A)		186 (B)

Prevalence Index = B/A = ***1.512***

Hydrophytic Vegetation Indicators:

- X — 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 shrub layer is dominated by meadow willow. The herb layer is dominated by prairie cordgrass and wheat sedge.

Additional Remarks: