WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site:	L3R	Date:	08/06/14
Applicant:	Enbridge	County:	Marshall
Investigators:	MRK/KRG	Subregion (MLRA or LRR): MLRA 56	State: MN
Soil Unit:	I55A	NWI Classification: PSS1B	
Landform:	Talf	Local Relief: VL	Sample Point: **w-155n45w20-a2**
Slope (%):	0 - 2%	Latitude: 48.23914376 Longitude: -96.4709258014 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: The wetland is a wet meadow dominated by bog birch, Crawe's sedge, shrubby cinquefoil, and prairie cordgrass. The wetland encompasses a roadside ditch and connects to a Shrub-Carr community.

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.)	**Wetland Hydrology Present? Y**
Saturation Present?	Yes	☐	Depth: _____ (in.)	

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

Remarks: Wetland hydrology is indicated by landscape position and hydrophytic 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)	%	Mottles Color (Moist)	%	Type	Location	Texture	Remarks
0-4	Hue_10YR 2/1	100					SICL	
4-8	Hue_10YR 2/1	70					SICL	
4-8	Hue_2.5Y 5/3	15	Hue_10YR 4/6	15	C	M	FS	
8-18	Hue_10YR 4/3	75	Hue_10YR 4/6	25	C	M	FS	

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 dark silty clay loam underlain by fine sandy layer with an abundance of redox. Soil meets hydric indicator F6- Redox Dark Surface.

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Project/Site:	L3R		Sample Point:	w-155n45w20-a2

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)

	Species Name	% Cover	Dominant	Ind.Status
1.	Betula pumila	30	Y	OBL
2.	Dasiphora fruticosa	20	Y	FACW
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
	Total Cover = 50			

Herb Stratum (Plot size: 5 ft. radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	Carex crawei	30	Y	FACW
2.	Spartina pectinata	10	Y	FACW
3.	Scirpus atrovirens	5	N	OBL
4.	Juncus arcticus	5	N	FACW
5.	Thalictrum dioicum	5	N	FACW
6	Solidago canadensis	5	N	FACU
7.	Cicuta maculata	5	N	OBL
8.	Agrostis gigantea	5	N	FACW
9.	Euthamia graminifolia	5	N	FACW
10.	Andropogon gerardii	5	N	FACU
11.				
12.				
13.				
14.				
15.				
	Total Cover = 80			

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

	Species Name	% 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: 4   (A)

Total Number of Dominant Species Across All Strata: 4   (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.	40	x 1 =	40
FACW spp.	80	x 2 =	160
FAC spp.	0	x 3 =	0
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	130 (A)		240 (B)

Prevalence Index = B/A =   **1.846**

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 sample point is dominated by low-growing bog birch and shrubby cinquefoil, as well as Crawe's sedge and prairie cordgrass. Vegetative diversity is high.

Additional Remarks: