WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site:	L3R	Date:	09/18/14
Applicant:	Enbridge	County:	Marshall
Investigators:	RAJ/BJC	State:	MN
Subregion (MLRA or LRR):	MLRA 56		
Soil Unit:	I65A	NWI Classification:	PEM/SS1Cd
Landform:	Terrace	Local Relief:	
Slope (%):	0 - 2%	Sample Point:	**w-155n46w2-f1**
Latitude:	48.273899	Longitude:	-96.53341
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
Wetland Hydrology Present? Yes
Hydric Soils Present? Yes
Is This Sampling Point Within A Wetland? **Yes**

Remarks: A hardwood swamp dominated by cottonwood, peach-leaf willow, and broad-leaved sedges. The community is part of a wetland complex that also includes emergent and shrub-dominated areas. All parameters of wetland conditions are met.

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: There are water-stained leaves and a dried algal mat in microdepressions and wetland mosses throughout the community. Indicators of wetland hydrology are present.

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
0-20	Hue_10YR 2/1	100					MMI	the mineral component is a fine sandy loam

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 is a black mucky mineral with a mineral component of fine sandy loam to at least 20 inches. Hydric soil, loamy mucky mineral, is present.

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Project/Site: L3R | Sample Point: **w-155n46w2-f1**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft. radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Populus deltoides*	40	Y	FAC
2.	*Salix amygdaloides*	30	Y	FACW
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Total Cover = 70

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

1.	*Salix petiolaris*	30	Y	OBL
2.	*Salix bebbiana*	20	Y	FACW
3.	*Salix discolor*	15	Y	FACW
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Total Cover = 65

Herb Stratum (Plot size: 5 ft. radius)

1.	*Carex aquatilis*	50	Y	OBL
2.	*Carex utriculata*	20	Y	OBL
3.	*Phalaris arundinacea*	15	N	FACW
4.	*Typha latifolia*	5	N	OBL
5.				
6				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

Total Cover = 90

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: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (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.	105	x 1 =	105
FACW spp.	80	x 2 =	160
FAC spp.	40	x 3 =	120
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	225 (A)		385 (B)

Prevalence Index = B/A = ***1.711***

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: A hardwood swamp with a canopy dominated by cottonwood and peach-leaf willow, a shrub layer of mixed willows, and an herbaceous layer of water sedge, yellow lake sedge, and reed canary grass. Hydrophytic vegetation is present.

Additional Remarks: