WETLAND DETERMINATION DATA FORM
Great Plains Region

Project/Site:	L3R	Date:	08/22/14
Applicant:	Enbridge	County:	Marshall
Investigators:	RAJ/BEH	Subregion (MLRA or LRR): MLRA 56	State:	MN
Soil Unit:	I65A	NWI Classification: PEMBg	
Landform:	Depression	Local Relief:	Sample Point: **w-155n45w20-h2**
Slope (%):	0 - 2%	Latitude: 48.226778	Longitude: -96.457025	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?   Township:

Are Vegetation ☐ Soil ☐, or Hydrology ☐ naturally problematic?   Are normal circumstances present? ☑ 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 dominated by trembling aspen. 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 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: 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)	%	Mottles Color (Moist)	%	Type	Location	Texture	Remarks
0-15	Hue_10YR 2/1	100					MMI	the mineral component is loamy
15-21	Hue_10YR 5/2	100					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: Hydric soils are indicated. The profile contains a thick black layer of mucky loam (with very high organic content) over fine sand.

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Project/Site:	L3R	Sample Point:	w-155n45w20-h2

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 tremuloides	55	Y	FAC
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
	Total Cover =	55		

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

		% Cover	Dominant	Ind.Status
1.	Populus tremuloides	10	Y	FAC
2.	Lonicera tatarica	5	Y	FACU
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
	Total Cover =	15		

Herb Stratum (Plot size: 5 ft. radius)

		% Cover	Dominant	Ind.Status
1.	Agrostis gigantea	15	Y	FACW
2.	Carex pellita	15	Y	OBL
3.	Carex sartwellii	10	Y	FACW
4.	Festuca pratensis	10	Y	FACU
5.	Symphyotrichum lateriflorum	5	N	FACW
6	Cicuta maculata	5	N	OBL
7.	Thalictrum dasycarpum	2	N	FAC
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
	Total Cover =	62		

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: 5   (A)

Total Number of Dominant Species Across All Strata: 7   (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **71.4%**   (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	20	x 1 =	20
FACW spp.	30	x 2 =	60
FAC spp.	67	x 3 =	201
FACU spp.	15	x 4 =	60
UPL spp.	0	x 5 =	0
Total	132 (A)		341 (B)

Prevalence Index = B/A =   **2.583**

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 hardwood forest community is dominated by trembling aspen. Hydrophytic vegetation is present.

Additional Remarks: