WETLAND DETERMINATION DATA FORM Great Plains Region

Project/Site:		L3R								Date: <u>08/19/14</u>							
Applicant: Enbridge Investigators: BEH/RAJ										County: <u>Marshall</u>							
Investigators:	Subregion (MLRA or LRR): MLRA 56						State: MN										
Soil Unit:	<u>I16F</u>			-			Classification:			457.47.40.4							
	Depression		J. 40 44		cal Relief:		064657	Datum		Sample Point: w-157n47w16-e1							
	0 - 2%		de: 48.41		Longitude:			Datum:		Continu							
	<u> </u>	nditions on the site typic			al : (If no, exp	1		☑ Yes	□ No	Section:							
Are Vegetation			•	disturbed?		Are	normal circum	•	esent?	Township:							
Are Vegetation SUMMARY O			arally pro	blematic?				□ No		Range: Dir:							
			Yes					Hydria Sai	le Procent?	2 Voc							
Hydrophytic Vegetation Present? Wetland Hydrology Present?					•		Hydric Soils Present? Yes Is This Sampling Point Within A Wetland? Yes										
			Yes	ybow channe	d which is	· a challo	w march domin			ge and reed canary grass.							
ixemaiks.	The welland		u III ali 07	CDOW CHAINIE	ii, Willicii is	a Silallo	w maish domi	ialed by five	erbarik seu	ge and reed canaly grass.							
HYDROLOGY	/																
HYDROLOGY					_												
	•	icators (Check all that a	apply; Mi	nimum of on	e primary	or two se	econdary requir	ed):									
Primary:		Motor			D44 Calt	Cmuch			Secondary:								
_	A1 - Surface \A2 - High Wa				B11 - Salt (B13 - Aqua					B6 - Surface Soil Cracks B8 - Sparsely Vegetated Concave Surface							
✓	A3 - Saturation				C1 - Hydro		e Odor			B10 - Drainage Patterns							
	B1 - Water M				C2 - Dry Se					C3 - Oxidized Rhizospheres on Living Roots (tilled)							
	B2 - Sedimen	t Deposits		V	C3 - Oxidiz	ed Rhizos	pheres on Living	Roots (not till	le 🗆	C8 - Crayfish Burrows							
	B3 - Drift Dep				C4 - Prese					C9 - Saturation Visible on Aerial Imagery							
	B4 - Algal Ma				C7 - Thin N		ice		□	D2 - Geomorphic Position D5 - FAC-Neutral Test							
	B5 - Iron Dep	osits In Visible on Aerial Imagery		П	Other (Exp	nain)				D5 - FAC-Neutral Test D7 - Frost-Heaved Hummocks (LRR F)							
	B9 - Water-St								_	Dr - 1 Tost-Heaved Hummocks (Litter)							
Field Observ	/ations:																
Surface Wate	er Present?	Yes	Depth:		(in.)												
Water Table		Yes ☑	Depth:		(in.)			Wetland F	Hydrology	Present? Y							
Saturation Pr		Yes 🗹	Depth:		(in.)												
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Soil is saturated at the surface and the water table was observed at 9 inches.																	
Remarks:	Soil is satur	ated at the surface and	tne wate	r table was c	observed a	at 9 inche	es.										
SOILS																	
	ntion (Descri	he to the denth needed	to docum	nent the indi	cator or co	onfirm the	SOILS Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
			to accar			<i>,</i> ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,	e absence of in	dicators)									
	tration, D=Depl	etion, RM=Reduced Matrix, C															
	tration, D=Depl																
	tration, D=Depl						ore Lining, M=Matri										
Depth (In.)	tration, D=Depl	etion, RM=Reduced Matrix, C			Grains; Loca	tion: PL=Po	ore Lining, M=Matri		Texture	Remarks							
Depth (In.)		etion, RM=Reduced Matrix, C Matrix Color (Moist)	S=Covered	/Coated Sand 0	Grains; Loca Moist)	tion: PL=Po	ore Lining, M=Matri	x)	Texture MMI	Remarks Silt loam mineral soil							
· , , ,	Hue_10YR	Matrix Color (Moist) 3/1	% 96	Color (I	Grains; Loca Moist)	Mottle	ore Lining, M=Matri es Type	x) Location	_								
0-6		Matrix Color (Moist) 3/1	S=Covered	Color (I	Grains; Loca Moist)	Mottle	ore Lining, M=Matri es Type	x) Location	_								
0-6	Hue_10YR	Matrix Color (Moist) 3/1	% 96	Color (I	Grains; Loca Moist)	Mottle	ore Lining, M=Matri es Type	x) Location	_								
0-6	Hue_10YR	Matrix Color (Moist) 3/1	% 96	Color (I	Grains; Loca Moist)	Mottle	ore Lining, M=Matri es Type	x) Location	_								
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0-6 6-21	Hue_10YR Hue_10YR	Matrix Color (Moist) 3/1 5/1	% 96 100	Color (I Hue_10YR	Moist) 3/4	Mottle % 4	ore Lining, M=Matri	x) Location	_								
0-6	Hue_10YR Hue_10YR	Matrix Color (Moist) 3/1 5/1	% 96 100	Color (I	Moist) 3/4	Mottle % 4	ore Lining, M=Matri es Type	x) Location	MMI S	Silt loam mineral soil							
0-6 6-21 NRCS Hydri	Hue_10YR Hue_10YR	Matrix Color (Moist) 3/1 5/1	% 96 100	Color (I Hue_10YR	Moist) 3/4 not presen	Mottle % 4	ore Lining, M=Matri	Location PL	MMI S	Silt loam mineral soil for Problematic Soils ¹							
0-6 6-21 NRCS Hydri	Hue_10YR Hue_10YR ic Soil Field A1- Histosol	Matrix Color (Moist) 3/1 5/1 Indicators (check h	% 96 100	Color (I Hue_10YR icators are n	Moist) 3/4 not presen	Mottle % 4	ore Lining, M=Matri	Location	Indicators 1 A9 - 1 cm M	Silt loam mineral soil for Problematic Soils Muck (LRR I, J)							
0-6 6-21 NRCS Hydri	Hue_10YR Hue_10YR ic Soil Field A1- Histosol A2 - Histic Ep	Matrix Color (Moist) 3/1 5/1 Indicators (check has ipedon	% 96 100	Color (I Hue_10YR licators are n S5 - Sandy Re S6 - Stripped	Moist) 3/4 not presen edox Matrix	Mottle % 4 t):	ore Lining, M=Matri	Location	Indicators 1 A9 - 1 cm M A16 - Coast	Silt loam mineral soil for Problematic Soils¹ Muck (LRR I, J) t Prairie Redox (LRR F, G, H)							
0-6 6-21 NRCS Hydri	Hue_10YR Hue_10YR ic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His	Matrix Color (Moist) 3/1 5/1 Indicators (check halipedon stic	% 96 100	Color (In Hue_10YR) licators are noted as a second	Moist) 3/4 not presented ox Matrix Mucky Minera	Mottle % 4 tion: PL=Pe	ore Lining, M=Matri	Location	Indicators A9 - 1 cm MA16 - Coast S7 - Dark S	Silt loam mineral soil for Problematic Soils Muck (LRR I, J) t Prairie Redox (LRR F, G, H) Surface (LRR G)							
0-6 6-21 NRCS Hydri	Hue_10YR Hue_10YR Hue_10YR ic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge	Matrix Color (Moist) 3/1 5/1 Indicators (check halipedon stic	% 96 100	Color (I Hue_10YR licators are n S5 - Sandy Re S6 - Stripped	Moist) 3/4 not presen edox Matrix flucky Minera	Mottle % 4 tion: PL=Pe	ore Lining, M=Matri	Location	Indicators A9 - 1 cm MA16 - Coast S7 - Dark S	Silt loam mineral soil for Problematic Soils Muck (LRR I, J) t Prairie Redox (LRR F, G, H) Surface (LRR G) Plains Depressions (LRR H, outside MLRA 72, 73)							
NRCS Hydri	Hue_10YR Hue_10YR Hue_10YR ic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogei A5 - Stratified A9 - 1 cm Mu	Matrix Color (Moist) 3/1 5/1 Indicators (check hastic in Sulfide Layers (LRR F) ck (LRR FGH)	% 96 100	Color (I Hue_10YR licators are n S5 - Sandy Ro S6 - Stripped F1 - Loamy M F2 - Loamy G F3 - Depleted F6 - Redox D	Moist) 3/4 anot present edox Matrix flucky Minera eleyed Matrix Matrix ark Surface	Mottle % 4 t):	ore Lining, M=Matri	Location	Indicators (A9 - 1 cm MA16 - Coast S7 - Dark SF16 - High FF18 - Reduct TF2 - Red FF	Silt loam mineral soil for Problematic Soils Muck (LRR I, J) t Prairie Redox (LRR F, G, H) surface (LRR G) Plains Depressions (LRR H, outside MLRA 72, 73) ced Vertic Parent Material							
NRCS Hydri	Hue_10YR Hue_10YR Hue_10YR ic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogel A5 - Stratified A9 - 1 cm Mu A11 - Deplete	Matrix Color (Moist) 3/1 5/1 Indicators (check has been been been been been been been bee	% 96 100	Color (I Hue_10YR licators are n S5 - Sandy Ro S6 - Stripped F1 - Loamy M F2 - Loamy M F2 - Loamy G F3 - Depleted F6 - Redox D F7 - Depleted	Moist) 3/4 aot presen edox Matrix Mucky Minera Bleyed Matrix Matrix ark Surface Dark Surface	Mottle % 4 t):	ore Lining, M=Matri	Location	Indicators of A9 - 1 cm MA16 - Coast S7 - Dark SF16 - High FF18 - Reduct TF2 - Red FTF12 - Very	Silt loam mineral soil for Problematic Soils¹ Muck (LRR I, J) t Prairie Redox (LRR F, G, H) Surface (LRR G) Plains Depressions (LRR H, outside MLRA 72, 73) ced Vertic Parent Material y Shallow Dark Surface							
NRCS Hydri	Hue_10YR Hue_10YR Hue_10YR ic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu A11 - Deplete A12 - Thick D	Matrix Color (Moist) 3/1 5/1 Indicators (check has been been been been been been been bee	% 96 100	Color (I Hue_10YR icators are n S5 - Sandy Re S6 - Stripped F1 - Loamy M F2 - Loamy G F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D	Moist) 3/4 anot presented with the second	Mottle % 4 t):	Type C	Location	Indicators of A9 - 1 cm MA16 - Coast S7 - Dark SF16 - High FF18 - Reduct TF2 - Red FTF12 - Very	Silt loam mineral soil for Problematic Soils Muck (LRR I, J) t Prairie Redox (LRR F, G, H) surface (LRR G) Plains Depressions (LRR H, outside MLRA 72, 73) ced Vertic Parent Material							
NRCS Hydri	Hue_10YR Hue_10YR Hue_10YR A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogel A5 - Stratified A9 - 1 cm Mu A11 - Deplete A12 - Thick D S1 - Sandy M	Matrix Color (Moist) 3/1 5/1 Indicators (check hastic ha	% 96 100	Color (I Hue_10YR icators are n S5 - Sandy Re S6 - Stripped F1 - Loamy M F2 - Loamy G F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D	Moist) 3/4 anot presented with the second	Mottle % 4 t):	ore Lining, M=Matri	Location	Indicators of A9 - 1 cm MA16 - Coast S7 - Dark SF16 - High FF18 - Reduct TF2 - Red FTF12 - Very	Silt loam mineral soil for Problematic Soils¹ Muck (LRR I, J) t Prairie Redox (LRR F, G, H) Surface (LRR G) Plains Depressions (LRR H, outside MLRA 72, 73) ced Vertic Parent Material y Shallow Dark Surface							
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NRCS Hydri	Hue_10YR Hue_10YR Hue_10YR ic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu A11 - Deplete A12 - Thick D S1 - Sandy M S2 - 2.5 cm M S3 - 5 cm Mu S4 - Sandy G	Matrix Color (Moist) 3/1 5/1 Indicators (check has been been been been been been been bee	% 96 100	Color (I Hue_10YR licators are n S5 - Sandy Re S6 - Stripped F1 - Loamy M F2 - Loamy G F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D F16 - High Pla	Moist) 3/4 anot presented Matrix Mucky Mineral Matrix ark Surface Dark Surface epressions ains Depres	Mottle % 4 t):	Type C RA 72, 73 of LRR	Location	Indicators of A9 - 1 cm MA16 - Coast S7 - Dark SF16 - High FF18 - Reduct TF2 - Red FTF12 - Very Other (Explain Indicators of Funless disturbed)	Silt loam mineral soil for Problematic Soils¹ Muck (LRR I, J) t Prairie Redox (LRR F, G, H) surface (LRR G) Plains Depressions (LRR H, outside MLRA 72, 73) ced Vertic Parent Material 7 Shallow Dark Surface ain in Remarks) hydrophytic vegetation and wetland hydrology must be present,							
NRCS Hydri	Hue_10YR Hue_10YR Hue_10YR ic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu A11 - Deplete A12 - Thick D S1 - Sandy M S2 - 2.5 cm M S3 - 5 cm Mu S4 - Sandy G	Matrix Color (Moist) 3/1 5/1 Indicators (check has been been been been been been been bee	% 96 100	Color (I Hue_10YR icators are n S5 - Sandy Re S6 - Stripped F1 - Loamy M F2 - Loamy G F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D	Moist) 3/4 anot presented Matrix Mucky Mineral Matrix ark Surface Dark Surface epressions ains Depres	Mottle % 4 t):	Type C	Location	Indicators of A9 - 1 cm MA16 - Coast S7 - Dark SF16 - High FF18 - Reduct TF2 - Red FTF12 - Very Other (Explain Indicators of Funless disturbed)	Silt loam mineral soil for Problematic Soils¹ Muck (LRR I, J) t Prairie Redox (LRR F, G, H) surface (LRR G) Plains Depressions (LRR H, outside MLRA 72, 73) ced Vertic Parent Material 7 Shallow Dark Surface ain in Remarks) hydrophytic vegetation and wetland hydrology must be present,							

WETLAND DETERMINATION DATA FORM

Great Plains Region

Project/Site	: L3R				Sample Point: w-157n47w16-e1				
VEGETATIO	、 .	e non-native	species.)						
Tree Stratum	(Plot size: 30 ft. radius)								
	<u>Species Name</u>	% Cover	<u>Dominant</u>	Ind.Status	Dominance Test Worksheet				
1.									
2.					Number of Dominant Species that are OBL, FACW, or FAC:(A)				
3.									
4.					Total Number of Dominant Species Across All Strata: 2 (B)				
5.									
6.					Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)				
7.									
8.					Prevalence Index Worksheet				
9.					4				
10.									
10.	 Total Cover =	0			OBL spp. $\frac{65}{}$ $\times 1 = \frac{65}{}$				
	Total Cover =	0	_		FACVV Spp. 33 $X Z = 66$				
0 11 /01 1	0				FACW spp. 33				
	Stratum (Plot size: 15 ft. radius)				FACU spp0				
1.					UPL spp. $0 \times 5 = 0$				
2.									
3.					Total <u>98</u> (A) <u>131</u> (B)				
4.									
5.					Prevalence Index = B/A =				
6.									
7.									
8.					Hydrophytic Vegetation Indicators:				
9.					Rapid Test for Hydrophytic Vegetation				
10.					X Dominance Test is > 50%				
10.		0			X Prevalence Index is ≤ 3.0 *				
	Total Gover =	0	_						
	<u> </u>				Morphological Adaptations (Explain) *				
	(Plot size: 5 ft. radius)		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	001	Problem Hydrophytic Vegetation (Explain) *				
1.	Carex emoryi	45	Υ	OBL					
2.	Phalaris arundinacea	25	Υ	FACW	* Indicators of hydric soil and wetland hydrology must be				
3.	Carex utriculata	15	N	OBL	present, unless disturbed or problematic.				
4.	Scutellaria lateriflora	5	N	FACW	Definitions of Vegetation Strata:				
5.	Lemna minor	5	N	OBL					
6	Mentha arvensis	3	N	FACW	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast				
7.					height (DBH), regardless of height.				
8.									
9.					Sapling/Shrub - Woody plants less than 3 in. DBH, regardless of height.				
10.									
11.									
					Herb - All herbaceous (non-woody) plants, regardless of size.				
12.					Herb - All Herbaccous (Horr woody) plants, regulaless of size.				
13.					1				
14.					An				
15.					Woody Vines - All woody vines, regardless of height.				
	Total Cover =	98	_						
Woody Vine S	tratum (Plot size: 30 ft. radius)								
1.									
2.									
3.					Hydrophytic Vegetation Present? Y				
5.									
4.									
	Total Cover =	0							
Pomorks:			rood com	ary aross					
Remarks:	The sample point is dominated by riverbank	seage and	reed cana	ary grass.					
Additional Remarks:									