## WETLAND DETERMINATION DATA FORM Great Plains Region

Applicant:		L3R Enbridge								Date: 07/24/14 County: Marshall									
Investigators	: I66A	BEH/BCS			Subregio	n (IVILK <i>H</i> NW	Or LKK):	MLKA 50		State: <u>MIN</u>									
Landform:	Dip			_ Lo	cal Relief:	f: CL				Sample Point: w-154n45w12-d1									
Slope (%):	0 - 2%	Latitud	de: 48.17	7501718	Longitude:	ngitude: -96.3876833776 Datum:													
Are climatic/h	hydrologic co	nditions on the site typic	al for th	is time of yea	ar? (If no, exp	plain in rema	arks)	□ Yes	⊠ No	Section:									
Are Vegetation	on 🛛 Soil	□, or Hydrology □sigr	nificantly	disturbed?		Are	e normal circum	nstances pro	esent?	Township:									
Are Vegetatio	on 🗆 Soil	□, or Hydrology □atu	rally pro	blematic?			☑ Yes	□ No		Range: Dir:									
SUMMARY OF FINDINGS																			
Hydropnytic V	Vegetation Pl	resent?	Yes					Hydric Sol	IS Present?	Yes t Within A Wotland? Ves									
Remarks:	The wetland	nir Lis a seasonally-flooder	res Lbasin lo	ocated within	a wheat f	ield The	area is snarse		d due to inu	it within A wetland? Tes									
itternarks.	knotweed a	re the most abundant. T	he wetla	and is likely in	undated r	more tha	n is typical for t	his time of	vear probal	bly due to recent heavy rains									
HYDROLOG	Y				landatoa i				your, probui										
Wetland Hy Primary: ☑ ☑	r <b>drology Ind</b> i <u>:</u> A1 - Surface V A2 - High Wat	i <b>cators</b> (Check all that a Water ter Table	apply; Mi	inimum of on	e primary B11 - Salt B13 - Aqua	or two se Crust atic Fauna	econdary requii	red):	<u>Secondary:</u> □ ☑	B6 - Surface Soil Cracks B8 - Sparsely Vegetated Concave Surface									
Max       A2 - Fight Water Fabre       B13 - Aquatic Fauna       B8 - Sparsely Vegetated Concave Sufface         Max       A3 - Saturation       C1 - Hydrogen Sulfide Odor       B10 - Drainage Patterns         B1 - Water Marks       C2 - Dry Season Water Table       C3 - Oxidized Rhizospheres on Living Roots (not tills       C3 - Oxidized Rhizospheres on Living Roots         B3 - Drift Deposits       C4 - Presence of Reduced Iron       C9 - Saturation Visible on Aerial Imagery         B4 - Algal Mat or Crust       C7 - Thin Muck Surface       D2 - Geomorphic Position         B7 - Inundation Visible on Aerial Imagery       Other (Explain)       D5 - FAC-Neutral Test         B9 - Water-Stained Leaves       B9 - Water-Stained Leaves       D7 - Frost-Heaved Hummocks (LRR F)									<ul> <li>B10 - Drainage Patterns</li> <li>C3 - Oxidized Rhizospheres on Living Roots (tilled)</li> <li>C8 - Crayfish Burrows</li> <li>C9 - Saturation Visible on Aerial Imagery</li> <li>D2 - Geomorphic Position</li> <li>D5 - FAC-Neutral Test</li> <li>D7 - Frost-Heaved Hummocks (LRR F)</li> </ul>										
Field Observations:         Surface Water Present?       Yes       Image: Depth:3 (in.)       Wetland Hydrology Present?       Y         Water Table Present?       Yes       Image: Depth:0 (in.)       Image: O(in.)       Wetland Hydrology Present?       Y         Saturation Present?       Yes       Image: Depth:0 (in.)       Image: O(in.)       Image: O(in									Present? Y										
Remarks: Three inches of standing water are present at the sample point and throughout the majority of the wetland.																			
The market of the money of standing water are present at the sample point and throughout the majority of the wetand.																			
SOILS																			
Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.)																			
Profile Descri	tration D Doul	be to the depth needed							(Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)										
Profile Descri (Type: C=Concer	ntration, D=Deple	be to the depth needed etion, RM=Reduced Matrix, C	S=Covered	d/Coated Sand (	Grains; Loca	tion: PL=P	ore Lining, M=Matr	ix)											
Profile Descri (Type: C=Concer	ntration, D=Deple	be to the depth heeded etion, RM=Reduced Matrix, C Matrix	S=Covered	d/Coated Sand (	Grains; Loca	tion: PL=P	e absence of in ore Lining, M=Matr	ix)											
Depth (In.)	ntration, D=Deple	be to the depth heeded etion, RM=Reduced Matrix, C Matrix Color (Moist)	S=Covered	d/Coated Sand C	Grains; Loca	Mottle	e absence of in ore Lining, M=Matr es Type	Location	Texture	Remarks									
Depth (In.)	Hue_10YR	be to the depth needed etion, RM=Reduced Matrix, C Matrix Color (Moist) 2/1	S=Covered %	Color (I	Grains; Loca	Mottle	e absence of in ore Lining, M=Matr es Type	Location	Texture SIC	Remarks									
Profile Descri (Type: C=Concer Depth (In.) 0-8 8-13	Hue_10YR Hue_5Y	be to the depth needed etion, RM=Reduced Matrix, C Matrix Color (Moist) 2/1 6/2	% 100 85	Color (I Hue_10YR	Moist)	Mottle	e absence of in ore Lining, M=Matr es Type C	Location	Texture SIC SIC	Remarks									
Profile Descri (Type: C=Concer Depth (In.) 0-8 8-13 13-21	Hue_10YR Hue_5Y Hue_5Y	be to the depth needed etion, RM=Reduced Matrix, C Matrix Color (Moist) 2/1 6/2 7/1	S=Covered % 100 85 65	Color (I Hue_10YR Hue_10YR	Moist) 6/8 6/8	Mottle	e absence of in ore Lining, M=Matr es Type C C	Location M M	Texture SIC SIC SIC	Remarks									
Profile Descri (Type: C=Concer Depth (In.) 0-8 8-13 13-21	Hue_10YR Hue_5Y Hue_5Y	be to the depth needed etion, RM=Reduced Matrix, C Matrix Color (Moist) 2/1 6/2 7/1	%           100           85           65	Color (I Hue_10YR Hue_10YR	Moist) 6/8 6/8	Mottle	e absence of in ore Lining, M=Matr es Type C C	Location M M	Texture SIC SIC SIC SIC	Remarks									
Profile Descri (Type: C=Concer Depth (In.) 0-8 8-13 13-21	Hue_10YR Hue_5Y Hue_5Y	be to the depth needed etion, RM=Reduced Matrix, C Matrix Color (Moist) 2/1 6/2 7/1	%           100           85           65	Color (I Hue_10YR Hue_10YR	Voist) 6/8 6/8	Mottle	e absence of in ore Lining, M=Matr es Type C C	Location M M	Texture SIC SIC SIC	Remarks									
Profile Descri (Type: C=Concer Depth (In.) 0-8 8-13 13-21	Hue_10YR Hue_5Y Hue_5Y	be to the depth needed etion, RM=Reduced Matrix, C Matrix Color (Moist) 2/1 6/2 7/1	%           100           85           65	Color (I Hue_10YR Hue_10YR	Moist) 6/8 6/8	Mottle	C	Location M M	Texture SIC SIC SIC	Remarks									
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Profile Descri (Type: C=Concer Depth (In.) 0-8 8-13 13-21 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y Hue_5Y ic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroger A5 - Stratified A9 - 1 cm Mur A11 - Deplete A12 - Thick D S1 - Sandy M S2 - 2.5 cm M	be to the depth needed etion, RM=Reduced Matrix, C Matrix Color (Moist) 2/1 6/2 7/1 Indicators (check h ipedon etic n Sulfide Layers (LRR F) ck (LRR FGH) d Below Dark Surface ark Surface ucky Mineral lucky Peat or Peat (LRR G.	S=Covered 3=Covered % 100 85 65 65 ere if ind □ □ □ □ □ □ □ □ □ □ □ □ □	Color (I Hue_10YR Hue_10YR Hue_10YR Hue_10YR dicators are r S5 - Sandy R S6 - Stripped F1 - Loamy N F2 - Loamy Q F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D F16 - High Pla	Moist) 6/8 6/8 6/8 00t presen edox Matrix Mucky Miner bleyed Matrix Mucky Miner bleyed Matrix ark Surface Dark Surface pressions ains Depres	Mottle Mottle % 15 35 t): t):	RA 72, 73 of LRF	Location M M M I I I I I I I I I I I I I I I I	Texture SIC SIC SIC SIC Mailed Const A9 - 1 cm M A16 - Coast S7 - Dark Su F16 - High P F18 - Reduc TF2 - Red P TF12 - Very Other (Explain	Remarks         or Problematic Soils <sup>1</sup> uck (LRR I, J)         Prairie Redox (LRR F, G, H)         urface (LRR G)         Plains Depressions (LRR H, outside MLRA 72, 73)         ced Vertic         Parent Material         Shallow Dark Surface         ain in Remarks)									
Profile Descri (Type: C=Concer 0-8 8-13 13-21 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y Hue_5Y ic Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroger A5 - Stratified A9 - 1 cm Muc A11 - Deplete A12 - Thick D S1 - Sandy M S2 - 2.5 cm Muc S3 - 5 cm Muc S4 - Sandy G	be to the depth needed etion, RM=Reduced Matrix, C Matrix Color (Moist) 2/1 6/2 7/1 Indicators (check h ipedon stic n Sulfide Layers (LRR F) ck (LRR FGH) d Below Dark Surface ark Surface ucky Mineral lucky Peat or Peat (LRR G, cky Peat or Peat (LRR F) leyed Matrix	0       000001         S=Covered       0         100       85         65       65         ere if inc       0         0       0	Color (I Hue_10YR Hue_10YR Hue_10YR Hue_10YR dicators are r S5 - Sandy R S6 - Stripped F1 - Loamy M F2 - Loamy G F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D F16 - High Pla	Moist) 6/8 6/8 6/8 00t presen edox Matrix fucky Miner leyed Matri Matrix ark Surface pressions ains Depres	Mottle Mottle % 15 35 t):	RA 72, 73 of LRF	Location M M I I I I I I I I I I I I I I I I I	Texture SIC SIC SIC SIC SIC A9 - 1 cm M A16 - Coast S7 - Dark Su F16 - High P F18 - Reduc TF2 - Red P TF12 - Very Other (Expla	Remarks         or Problematic Soils <sup>1</sup> uck (LRR I, J)         Prairie Redox (LRR F, G, H)         urface (LRR G)         Plains Depressions (LRR H, outside MLRA 72, 73)         eed Vertic         'arent Material         Shallow Dark Surface         ain in Remarks)         wydrophytic vegetation and wetland hydrology must be present, ed or problematic.									
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## WETLAND DETERMINATION DATA FORM Great Plains Region

Project/Site:	L3R				Sample Point: w-154n45w12-d1
VEGETATIO	N (Species identified in all uppercase are	e non-native	species.)		
Tree Stratum	(Plot size: 30 ft. radius)	% Cover	Dominant	Ind Status	Dominance Test Worksheet
1	Species Marine	<u>% Cover</u>	Dominant	<u>1110.5tatus</u>	
2					Number of Dominant Species that are OBL_EACW_or EAC: 1 (A)
2.					
<u> </u>					Total Number of Dominant Species Across All Strata: 2 (B)
<u> </u>					$\frac{1}{2}$
0. 7					
8					Prevalence Index Worksheet
0. Q					Total % Cover of: Multiply by:
10					1000000000000000000000000000000000000
10.	 Total Cover –	0			= 600  Spp. = 6  X  1 = 6  BACW Spp. = 5  X  2 = 10  BACW Spp. = 5  X  2 = 10  BACW Spp. = 5  B
		U	$FAC spp = \frac{15}{15} \times 3 = \frac{45}{15}$		
Sapling/Shrub	Stratum (Plot size: 15 ft, radius)				$= \frac{1700 \text{ spp.}}{15} \times 4 = \frac{40}{10}$
1					$\frac{1}{1} = \frac{1}{12} + \frac{1}{12} +$
2					
3					- Total 43 (A) 123 (B)
<u> </u>					
					$\frac{1}{2}$
<u> </u>					
0. 7					-
8					- Hydronbytic Vegetation Indicators:
9. 9					Banid Test for Hydrophytic Vegetation
10					
10.	 Total Cover =	0			$\frac{1}{2} \qquad \frac{1}{2} \qquad \frac{1}$
		0	_		<u> </u>
Harb Stratum (	(Plot size: Eft rodius)				
		15	V	FAC	
· · · · · · · · · · · · · · · · · · ·		15			* Indicators of bydric soil and wetland bydrology must be
2.	Polygonum achoreum	15 E	T		present, unless disturbed or problematic.
<u> </u>	Romppa palustris	5	N		Definitions of Vegetation Strata:
		3	N		
<u> </u>		3	IN		<b>Tree -</b> March starts 2 is (7.0 m) as more in discussion at based
7					height (DBH), regardless of height.
7. 8					_
0.					Sanling/Shrub - Woody plants less than 3 in DBH regardless of height
9.					
10.					-
11.					Lorb - All berbaceous (non-woody) plants, regardless of size
12.					
13.					-
14.	<u> </u>				Woody Vines - All woody vines, regardless of height
15.	Total Cover -	10			
	Total Cover =_	43	_		
$\lambda / a = d + \lambda / i = a + c + c + c + c + c + c + c + c + c +$	theture (Plat size, 20 ft redius)				
					-
· · · · · · · · · · · · · · · · · · ·					
<u>∠.</u> 3					Hydrophytic Vocatation Procent?
5. 5	1				
<u> </u>	1				
4.	Total Cover -	0			
Remarker	The wetland is dominated by barnyard grass	u and leathr	ary knotwo	ad Scatte	tered obligates also inhabit the wetland
itemarks.	The wettand is dominated by partiyard grass	and leath	TY KIULWE	eu. Stalle	בובע טאוועמנכא מואט וווומטוג גווב שבנומווע.
Additional F	Remarks:				