WETLAND DETERMINATION DATA FORM Great Plains Region

Project/Site:		L3R								Date:	09/26/14		
Applicant: Enbridge					(1.41.5.4	County: State:	Pennington						
Investigators: MRK/OTG				Subregion (MLRA or LRR): MLRA 56 NWI Classification:							MN		
Landform:										Comple Deint	w 152n12w22 h2		
Landform: Dip Local Relief: LC Sample Point: w-153n43w33-b2 Slope (%): 0 - 2% Latitude: 48.02523533 Longitude: -96.1855331667 Datum:													
		nditions on the site						✓ Yes	□ No	Section:			
Are Vegetation						e normal circumstances present?			Township:				
Are Vegetation ☐ Soil ☐, or Hydrology ☐signi				•			✓ Yes □ No		Range:	Dir:			
	SUMMARY OF FINDINGS												
	Hydrophytic Vegetation Present? Yes Hydric Soils Present? Yes												
Wetland Hydrology Present?					-					nt Within A W	etland? Yes		
Wetland Hydrology Present? Yes Remarks: The wetland is a hardwood swamp connected to a wet meadow. Is This Sampling Point Within A Wetland? Yes Is This Sampling Point Within A Wetland? Yes													
HYDROLOGY													
		icators (Check all	that apply: M	inimum of on	a nrimary	or two s	econdary requi	red):					
Primary:	•	icators (Check an	i tilat apply, ivi		e primary	OI two S	econdary requi	ieu).	Secondary:				
<u> </u>	A1 - Surface	Water			B11 - Salt	Crust				B6 - Surface S	Soil Cracks		
	A2 - High Wa				B13 - Aqua						Vegetated Concave Surface		
	A3 - Saturation				C1 - Hydro					B10 - Drainage			
	B1 - Water M B2 - Sedimer			 □ C2 - Dry Season Water Table □ C3 - Oxidized Rhizospheres on Living Roots (tilled) □ C8 - Crayfish Burrows 									
	B3 - Drift Dep	•					duced Iron			-	n Visible on Aerial Imagery		
	B4 - Algal Ma				C7 - Thin N		ace		\checkmark	D2 - Geomorp			
	B5 - Iron Dep		20001		Other (Exp	olain)				D5 - FAC-Neu			
		on Visible on Aerial Im tained Leaves	iagery							D7 - F10St-Hea	aved Hummocks (LRR F)		
_													
Field Observ	vations:												
Surface Water	er Present?	Yes □	Depth	n:	(in.)			VA/atland I	le calma la acces	D=====40	V		
Water Table	Present?	Yes □	Depth	n:	(in.)			wetiand F	Hydrology	Present?	Υ		
Saturation Pr	resent?	Yes □	Depth	n:	(in.)								
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:													
Remarks:	The wetland							stained leav	es are pres	ent.			
Remarks:	The wetland							stained leav	es are pres	sent.			
SOILS		d sample point is lo	ocated in a dip	and suppor	ts hydroph	ytic vege	etation. Water-		es are pres	sent.			
SOILS Profile Descri	iption (Descr	d sample point is lo	ocated in a dip	and suppor	ts hydroph	nytic vege	etation. Water-s	ndicators.)	es are pres	sent.			
SOILS Profile Descri	iption (Descr	d sample point is lo	ocated in a dip	and suppor	ts hydroph	nytic vege	etation. Water-s	ndicators.)	es are pres	sent.			
SOILS Profile Descri	iption (Descr	d sample point is look to the depth neetion, RM=Reduced Management	ocated in a dip	and suppor	ts hydroph	onfirm th	etation. Water-setation. water-setation. e absence of ir	ndicators.)	es are pres	sent.			
SOILS Profile Descri (Type: C=Concer	iption (Descr	d sample point is look to the depth need to the	eeded to docu atrix, CS=Covere	ment the indi	cator or co	onfirm th	etation. Water-setation. Water-setation. Water-setation. Water-setation.	ndicators.)		sent.	Remarks		
SOILS Profile Descri (Type: C=Concer	iption (Descr ntration, D=Depl	be to the depth neetion, RM=Reduced Matrix Color (Moist)	eeded to docu atrix, CS=Covere	ment the indi	cator or co	onfirm th	etation. Water-setation. water-setation. e absence of ir	ndicators.)	Texture	sent.	Remarks		
SOILS Profile Descri (Type: C=Concer Depth (In.) 0-13	iption (Descr ntration, D=Depl	be to the depth neetion, RM=Reduced Matrix Color (Moist) 2/1	eeded to docu atrix, CS=Covere	ment the indi	cator or co	onfirm th	etation. Water-setation. Water-setation. Water-setation. Water-setation. Water-setation.	ndicators.) rix) Location	Texture	sent.	Remarks		
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SOILS Profile Descri (Type: C=Concer Depth (In.) 0-13 13-20	iption (Descr ntration, D=Depl	Matrix Color (Moist) 2/1 5/2	eeded to docu atrix, CS=Covere	ment the indid/Coated Sand Color (Hue_10YR	cator or co Grains; Loca Moist)	onfirm the tion: PL=P	etation. Water-setation. Water-setation. Water-setation. Water-setation. Water-setation.	ndicators.) rix) Location	Texture CL SC				
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Depth (In.) 0-13 13-20 NRCS Hydr	Hue_10YR Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His	Matrix Color (Moist) 2/1 5/2 Indicators (chains)	eeded to docu atrix, CS=Covere	color (Hue_10YR Hue_10YR S5 - Sandy R S6 - Stripped F1 - Loamy N	cator or co Grains; Loca Moist) 6/8 not presen edox Matrix Mucky Miner	onfirm the tion: PL=P Mottl % 20 t):	e absence of ir ore Lining, M=Matro	Location M	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark S	for Problemation	c Soils ¹ (LRR F, G, H)		
SOILS Profile Descri (Type: C=Concer Depth (In.) 0-13 13-20 NRCS Hydr	iption (Descr ntration, D=Depl Hue_10YR Hue_5Y ric Soil Field A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge	Matrix Color (Moist) 2/1 5/2 Indicators (chairs)	eeded to docu atrix, CS=Covere % 100 80	color (Hue_10YR Hue_10YR S5 - Sandy R S6 - Stripped F1 - Loamy N F2 - Loamy O	cator or co Grains; Loca Moist) 6/8 not presen edox Matrix Mucky Miner Gleyed Matri	onfirm the tion: PL=P Mottl % 20 t):	e absence of ir ore Lining, M=Matro	Location M	Texture CL SC Indicators f A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F	For Problemation Juck (LRR I, J) Prairie Redox (Jurface (LRR G)) Plains Depression	c Soils ¹		
SOILS Profile Descri (Type: C=Concer Depth (In.) 0-13 13-20 NRCS Hydr	Hue_10YR Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified	Matrix Color (Moist) Indicators (chair) Sipedon Stic In Sulfide Layers (LRR F)	eeded to docu atrix, CS=Covere	color (Hue_10YR Hue_10YR S5 - Sandy R S6 - Stripped F1 - Loamy N F2 - Loamy C F3 - Depleted	cator or co Grains; Loca Moist) 6/8 not presen edox Matrix Mucky Miner Gleyed Matri	mytic vegen and the second sec	e absence of ir ore Lining, M=Matro	Location M	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduce	For Problemation Iuck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depression ced Vertic	c Soils ¹ (LRR F, G, H)		
SOILS Profile Descri (Type: C=Concer Depth (In.) 0-13 13-20 NRCS Hydr	Hue_10YR Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu	Matrix Color (Moist) 2/1 5/2 Indicators (chairs)	eeded to docu atrix, CS=Covere	color (Hue_10YR Hue_10YR S5 - Sandy R S6 - Stripped F1 - Loamy N F2 - Loamy O	cator or co Grains; Loca Moist) 6/8 not presen edox Matrix Mucky Miner Gleyed Matrix Matrix ark Surface	onfirm the tion: PL=P Mottl % 20 t):	e absence of ir ore Lining, M=Matro	Location M	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduct TF2 - Red F	for Problemation Juck (LRR I, J) Prairie Redox (Jurface (LRR G) Plains Depression Plains Depression Plains Material	C Soils ¹ (LRR F, G, H) ONS (LRR H, outside MLRA 72, 73)		
Depth (In.) 0-13 13-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu A11 - Deplete A12 - Thick D	Matrix Color (Moist) Indicators (chair) Sipedon Stic In Sulfide Layers (LRR F) Ck (LRR FGH) Signark Surface Surface	eeded to docu atrix, CS=Covere	color (Hue_10YR Color (Hue_10YR S5 - Sandy R S6 - Stripped F1 - Loamy R F2 - Loamy C F3 - Depleted F6 - Redox D	cator or co Grains; Loca Moist) 6/8 not presen edox Matrix Mucky Miner Gleyed Matri Matrix Park Surface	mytic vegen and the second and the s	e absence of ir ore Lining, M=Matro	Location M	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very	For Problemation Iuck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depression ced Vertic	C Soils ¹ (LRR F, G, H) Ons (LRR H, outside MLRA 72, 73)		
SOILS Profile Descri (Type: C=Concer Depth (In.) 0-13 13-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A9 - 1 cm Mu A11 - Deplete A12 - Thick D S1 - Sandy M	Matrix Color (Moist) Indicators (chair) Sipedon Stic In Sulfide Layers (LRR F) Ck (LRR FGH) Sed Below Dark Surface Park Surface Ucky Mineral	eeded to docu atrix, CS=Covere % 100 80 neck here if in	color (Hue_10YR Color (Hue_10YR Color (Hue_10YR Color (Color (cator or co Grains; Loca Moist) 6/8 not presen edox Matrix Mucky Miner Gleyed Matri Matrix eark Surface d Dark Surface epressions	mytic vegen and the street of	e absence of ir ore Lining, M=Matro	Location M	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very	For Problematic luck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depression ced Vertic Parent Material Shallow Dark S	C Soils ¹ (LRR F, G, H) Ons (LRR H, outside MLRA 72, 73)		
SOILS Profile Descri (Type: C=Concer Depth (In.) 0-13 13-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y 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 N	Matrix Color (Moist) Indicators (chaine)	eeded to docu atrix, CS=Covere % 100 80 neck here if in	color (Hue_10YR Color (Hue_10YR Color (Hue_10YR Color (Color (cator or co Grains; Loca Moist) 6/8 not presen edox Matrix Mucky Miner Gleyed Matri Matrix eark Surface d Dark Surface epressions	mytic vegen and the street of	e absence of ir ore Lining, M=Matrone C	Location M	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very Other (Expla	For Problemation Suck (LRR I, J) Prairie Redox (For urface (LRR G) Plains Depression For each Material Shallow Dark Some ain in Remarks)	c Soils ¹ (LRR F, G, H) Ons (LRR H, outside MLRA 72, 73) Surface		
SOILS Profile Descri (Type: C=Concer Depth (In.) 0-13 13-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A1- Deplete A12 - Thick D S1 - Sandy M S2 - 2.5 cm M S3 - 5 cm Mu	Matrix Color (Moist) Indicators (chains)	eeded to docu atrix, CS=Covere % 100 80 neck here if in	color (Hue_10YR Color (Hue_10YR Color (Hue_10YR Color (Color (cator or co Grains; Loca Moist) 6/8 not presen edox Matrix Mucky Miner Gleyed Matri Matrix eark Surface d Dark Surface epressions	mytic vegen and the street of	e absence of ir ore Lining, M=Matrone C	Location M	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very Other (Expla	For Problemation Sor Problemation Solution Prairie Redox (Surface (LRR G) Plains Depression Ced Vertice Parent Material Shallow Dark Solution Shallow Dark Solution Shallow Dark Solution Solution	C Soils ¹ (LRR F, G, H) Ons (LRR H, outside MLRA 72, 73)		
SOILS Profile Descri (Type: C=Concer Depth (In.) 0-13 13-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y 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 N	Matrix Color (Moist) Indicators (chains)	eeded to docu atrix, CS=Covere % 100 80 neck here if in	color (Hue_10YR Color (Hue_10YR Color (Hue_10YR Color (Color (cator or co Grains; Loca Moist) 6/8 not presen edox Matrix Mucky Miner Gleyed Matri Matrix eark Surface d Dark Surface epressions	mytic vegen and the street of	e absence of ir ore Lining, M=Matrone C	Location M	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very Other (Expla	For Problemation Suck (LRR I, J) Prairie Redox (For urface (LRR G) Plains Depression For each Material Shallow Dark Some ain in Remarks)	c Soils ¹ (LRR F, G, H) Ons (LRR H, outside MLRA 72, 73) Surface		
SOILS Profile Descri (Type: C=Concer Depth (In.) 0-13 13-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A1- Deplete A1- Thick D S1 - Sandy M S2 - 2.5 cm M S3 - 5 cm Mu S4 - Sandy G	Matrix Color (Moist) Indicators (chains)	eeded to docu atrix, CS=Covere % 100 80 neck here if in	ment the indid/Coated Sand Color (Hue_10YR dicators are r S5 - Sandy R S6 - Stripped F1 - Loamy N F2 - Loamy N F2 - Loamy C F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D F16 - High Pl	cator or constraints; Local Moist) 6/8 Moist) 6/8 Motrix Mucky Miner Gleyed Matrix	mytic vegen and the street of	e absence of in ore Lining, M=Matrices Type C C RA 72, 73 of LRE	Location M R H)	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very Other (Expla	For Problemation Sor Problemation Solution Prairie Redox (Surface (LRR G) Plains Depression Ced Vertice Parent Material Shallow Dark Solution Shallow Dark Solution Shallow Dark Solution Solution	c Soils ¹ (LRR F, G, H) Ons (LRR H, outside MLRA 72, 73) Surface		
SOILS Profile Descri (Type: C=Concer Depth (In.) 0-13 13-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A1- Deplete A1- Thick D S1 - Sandy M S2 - 2.5 cm M S3 - 5 cm Mu S4 - Sandy G	Matrix Color (Moist) Indicators (chains)	eeded to docu atrix, CS=Covere % 100 80 neck here if in	color (Hue_10YR Color (Hue_10YR Color (Hue_10YR Color (Color (cator or constraints; Local Moist) 6/8 Moist) 6/8 Motrix Mucky Miner Gleyed Matrix	mytic vegen and the street of	e absence of in ore Lining, M=Matrices Type C C RA 72, 73 of LRE	Location M	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very Other (Expla	For Problemation Sor Problemation Solution Prairie Redox (Surface (LRR G) Plains Depression Ced Vertice Parent Material Shallow Dark Solution Shallow Dark Solution Shallow Dark Solution Solution	c Soils ¹ (LRR F, G, H) Ons (LRR H, outside MLRA 72, 73) Surface		

WETLAND DETERMINATION DATA FORM Great Plains Region

Project/Site:	e: L3R				Sample Point: w-153n43w33-b2				
VEGETATIO		non-native	species.)						
Tree Stratum	(Plot size: 30 ft. radius)	24 0 = 140 #	D la part	1 104-4-10	Deminance Test Westschoot				
1.	Species Name Quercus macrocarpa	<u>% Cover</u> 40	Dominant Y	Ind.Status FACU	Dominance Test Worksheet				
2.	Fraxinus pennsylvanica	20	Y	FACU	Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)				
3.		20	Y	FAC	Number of Dominant Species that are OBL, FACW, of FAC(A)				
4.	Ulmus americana			FAU	Total Number of Dominant Species Across All Strata: 7 (B)				
4. 5.					Total Number of Dominant Species Across All Strata.				
6.				!	Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)				
7.				!	Percent of Dominant Species that Ale OBL, FACW, OF FAC				
8.					Prevalence Index Worksheet				
9.				!	Total % Cover of: Multiply by:				
10.	_			!	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$				
10.		80			OBL spp. 40				
			_	Ţ	FAC spp. $\frac{60}{60}$ x 3 = $\frac{180}{180}$				
Sanling/Shrub	Stratum (Plot size: 15 ft. radius)				FACUSDD 70 $\times 4 = \frac{280}{280}$				
1.	Rhamnus cathartica	30	Υ	FACU	$UPL spp. \qquad 0 \qquad x = 0$				
2.	Ulmus americana	15	Y	FAC					
3.	Cornus alba	10	 N	FACW	Total 230 (A) 620 (B)				
4.	Populus tremuloides	5	N	FAC					
5.	Toparas tremarenses				Prevalence Index = B/A = 2.696				
6.									
7.									
8.					Hydrophytic Vegetation Indicators:				
9.					Rapid Test for Hydrophytic Vegetation				
10.	_				X Dominance Test is > 50%				
	Total Cover =	60			X Prevalence Index is ≤ 3.0 *				
	-	_	_	!	Morphological Adaptations (Explain) *				
Herb Stratum	(Plot size: 5 ft. radius)				Problem Hydrophytic Vegetation (Explain) *				
1.	Calamagrostis canadensis	50	Υ	FACW					
2.	Carex pellita	40	Y	OBL	* Indicators of hydric soil and wetland hydrology must be				
3.	- Color points				present, unless disturbed or problematic.				
4.					Definitions of Vegetation Strata:				
5.									
6					Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast				
7.					height (DBH), regardless of height.				
8.					1				
9.					Sapling/Shrub - Woody plants less than 3 in. DBH, regardless of height.				
10.									
11.					1				
12.					Herb - All herbaceous (non-woody) plants, regardless of size.				
13.									
14.					1				
15.					Woody Vines - All woody vines, regardless of height.				
_	Total Cover =	90							
1	_		_	!					
Woody Vine S	Stratum (Plot size: 30 ft. radius)								
1.	Traction (First State)								
2.									
3.					Hydrophytic Vegetation Present? Y				
5.									
4.									
	Total Cover =	0							
Remarks:			oak, greer	n ash and	American elm. The shrub layer is predominantly European buckthorn and American				
	elm saplings. Ground cover is dominated by (
	5 5								
Additional	Domarke:								
Additional Remarks:									
l									
1									