WETLAND DETERMINATION DATA FORM Great Plains Region

Project/Site:		L3R								Date:	08/21/14
Applicant:	Enbridge								County:	Marshall	
Investigators				_Subregion (MLRA or LRR): <u>MLRA 56</u>				State:	MN		
Soil Unit:	I43A						Classification:				
Landform:	Depression				ocal Relief:					Sample Point:	w-156n46w21-e1
Slope (%):	0 - 2%		Latitude: 48.3		_	-96.5818		<u>Datum:</u>			
		nditions on the site			Ī				□ No	Section:	
Are Vegetation		□, or Hydrology	•	•		Are i	normal circum	-	esent?	Township:	
Are Vegetation		, ,	□aturally p	oblematic?			Yes	□ No		Range:	Dir:
SUMMARY C											
	Vegetation Pr		Yes		_			Hydric Soil			(I IO V
	Irology Prese		Yes	1	L. Brit. Ti					t Within A W	
Remarks:			n communit	y in a roadsid	de ditch. I h	e wetland	a complex also	includes a	Shrub-Car	r community.	All parameters of wetland
	conditions a	re met.									
HYDROLOG	Y										
Wetland Hy	drology Indi	cators (Check all t	that apply; N	linimum of o	ne primary o	or two sec	condary requir	ed):			
<u>Primary</u> :									Secondary:		-
	A1 - Surface V				B11 - Salt C					B6 - Surface S	
	A2 - High Wat A3 - Saturation				B13 - Aqua		Odor				Vegetated Concave Surface
	B1 - Water Ma				C1 - Hydrog C2 - Dry Se					B10 - Drainage	Rhizospheres on Living Roots (tilled)
	B2 - Sediment						heres on Living	Roots (not tille		C8 - Crayfish E	
	B3 - Drift Depo	•		_	C4 - Preser			(•	n Visible on Aerial Imagery
	B4 - Algal Mat				C7 - Thin M		ce		☑	D2 - Geomorp	
	B5 - Iron Depo				Other (Expl	ain)				D5 - FAC-Neu	
	B7 - Inundation B9 - Water-St	n Visible on Aerial Ima	agery							D7 - Frost-Hea	aved Hummocks (LRR F)
	by - water-st	amed Leaves									
Field Observ	vations:										
		Vaa 👨	Don	.la.	(in)						
Surface Wat		Yes	Dep		_ (in.)			Wetland H	ydrology l	Present?	Υ
Water Table		Yes ☑	Dep		_ (in.)						
Saturation Present? Yes ☑ Depth:0 (in.)											
			<u> </u>								
Describe Rec	orded Data (s	tream gauge, monito	<u> </u>			ections), if	f available:				
Describe Rec	<u>`</u>		<u> </u>			ections), if	f available:				
Remarks:	<u>`</u>	tream gauge, monito	<u> </u>			ections), if	f available:				
Remarks:	Wetland hyd	tream gauge, monito	oring well, a	erial photos, p	revious insp	·					
Remarks: SOILS Profile Descri	Wetland hyd	tream gauge, monitodrology is present. be to the depth nee	coring well, ac	erial photos, p	revious inspe	nfirm the	absence of in-				
Remarks: SOILS Profile Descri	Wetland hyd	tream gauge, monito	coring well, ac	erial photos, p	revious inspe	nfirm the	absence of in-				
Remarks: SOILS Profile Descri	Wetland hyd	tream gauge, monitodrology is present. be to the depth need to th	coring well, ac	erial photos, p	revious inspe	nfirm the	absence of incre Lining, M=Matri				
Remarks: SOILS Profile Descri (Type: C=Concer	Wetland hyd	tream gauge, monitodrology is present. be to the depth need to the Matrix	eded to docutrix, CS=Cover	erial photos, p ument the inc ed/Coated Sand	revious inspo dicator or co I Grains; Locati	nfirm the ion: PL=Por Mottles	absence of incre Lining, M=Matri	x)	Taytura		Remarks
Remarks: SOILS Profile Descri	Wetland hyd	tream gauge, monitodrology is present. be to the depth need to th	coring well, ac	erial photos, p ument the inc ed/Coated Sand	revious inspe	nfirm the	absence of incre Lining, M=Matri		Texture		Remarks
Remarks: SOILS Profile Descri (Type: C=Concer	Wetland hyd	tream gauge, monitodrology is present. be to the depth need to the Matrix	eded to docutrix, CS=Cover	erial photos, p ument the inc ed/Coated Sand	revious inspo dicator or co I Grains; Locati	nfirm the ion: PL=Por Mottles	absence of incre Lining, M=Matri	x)	Texture		Remarks
Remarks: SOILS Profile Descri (Type: C=Concer	Wetland hyd	tream gauge, monitodrology is present. be to the depth need to the Matrix	eded to docutrix, CS=Cover	erial photos, p ument the inc ed/Coated Sand	revious inspo dicator or co I Grains; Locati	nfirm the ion: PL=Por Mottles	absence of incre Lining, M=Matri	x)	Texture		Remarks
Remarks: SOILS Profile Descri (Type: C=Concer	Wetland hyd	tream gauge, monitodrology is present. be to the depth need to the Matrix	eded to docutrix, CS=Cover	erial photos, p ument the inc ed/Coated Sand	revious inspo dicator or co I Grains; Locati	nfirm the ion: PL=Por Mottles	absence of incre Lining, M=Matri	x)	Texture		Remarks
Remarks: SOILS Profile Descri (Type: C=Concer	Wetland hyd	tream gauge, monitodrology is present. be to the depth need to the Matrix	eded to docutrix, CS=Cover	erial photos, p ument the inc ed/Coated Sand	revious inspo dicator or co I Grains; Locati	nfirm the ion: PL=Por Mottles	absence of incre Lining, M=Matri	x)	Texture		Remarks
Remarks: SOILS Profile Descri (Type: C=Concer	Wetland hyd	tream gauge, monitodrology is present. be to the depth need to the Matrix	eded to docutrix, CS=Cover	erial photos, p ument the inc ed/Coated Sand	revious inspo dicator or co I Grains; Locati	nfirm the ion: PL=Por Mottles	absence of incre Lining, M=Matri	x)	Texture		Remarks
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	Wetland hyd	tream gauge, monitodrology is present. be to the depth need it in the monitor of the depth need it in the monitor of the moni	eded to docutrix, CS=Cover	erial photos, p	dicator or co	Mottles	absence of incre Lining, M=Matri	x)	Texture		Remarks
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	Wetland hyd	tream gauge, monitodrology is present. be to the depth need it in the monitor of the depth need it in the monitor of the moni	eded to docutrix, CS=Cover	erial photos, p ument the inc ed/Coated Sand	dicator or co	Mottles	absence of incre Lining, M=Matri	x)			
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	Wetland hydination (Description (Description), D=Deplementation, D	tream gauge, monitodrology is present. be to the depth need it in the monitor of the depth need it in the monitor of the moni	eded to docutrix, CS=Cover	erial photos, p ument the inced/Coated Sand Color ndicators are	revious insperience in the contract of the con	Mottles	absence of incre Lining, M=Matri	Location	Indicators f	or Problematic	
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	Wetland hydination (Description (Description), D=Depletion (Description), D	tream gauge, monitodrology is present. be to the depth need in the detion, RM=Reduced Matrix Matrix Color (Moist) Indicators (cheen in the depth is present.	eded to doctorix, CS=Cover	crial photos, p ment the inced/Coated Sand Color Color dicators are	revious insperience in the content of the content o	Mottles	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M	uck (LRR I, J)	c Soils ¹
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.) NRCS Hydr	wetland hydintration (Descriptration, D=Depletration, D=Depletration) ic Soil Field A1- Histosol A2 - Histic Epi	tream gauge, monitodrology is present. be to the depth need to th	eded to doctorix, CS=Cover	crial photos, p ment the inced/Coated Sand Color Color adicators are S5 - Sandy I	revious insperience in the content of the content o	Mottles %	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M A16 - Coast	uck (LRR I, J) Prairie Redox (Soils ¹
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	wetland hydeliption (Description, Depletmentation, Deplet	tream gauge, monitor drology is present. De to the depth need to	eded to doctorix, CS=Cover	crial photos, p ment the inced/Coated Sand Color Color dicators are S5 - Sandy S6 - Stripper F1 - Loamy	revious insperience in the content of the content o	Mottles %	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St	uck (LRR I, J) Prairie Redox (urface (LRR G)	CLRR F, G, H)
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.) NRCS Hydr	iption (Descri ntration, D=Deple ic Soil Field A1- Histosol A2 - Histic Epi A3 - Black His A4 - Hydroger	tream gauge, monitodrology is present. be to the depth need to th	eded to docutrix, CS=Cover	crial photos, p ment the inced/Coated Sand Color Color S5 - Sandy I S6 - Strippe F1 - Loamy F2 - Loamy	mot present Redox d Matrix Mucky Minera Gleyed Matrix	Mottles %	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F	uck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depressio	Soils ¹
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	iption (Descri ntration, D=Deple ic Soil Field A1- Histosol A2 - Histic Epi A3 - Black His A4 - Hydroger	tream gauge, monitodrology is present. be to the depth need to th	eded to docutrix, CS=Cover	crial photos, p ment the inced/Coated Sand Color Color S5 - Sandy S6 - Stripper F1 - Loamy F2 - Loamy F3 - Deplete	mot present Redox d Matrix Mucky Minera Gleyed Matrix	Mottles %	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduc	uck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depressio	CLRR F, G, H)
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.) NRCS Hydr	iption (Descriptration, D=Depleter) ic Soil Field A1- Histosol A2 - Histic Epi A3 - Black His A4 - Hydroger A5 - Stratified A9 - 1 cm Muc A11 - Depleter	tream gauge, monitodrology is present. be to the depth need to th	eded to docutrix, CS=Cover	crial photos, p ment the inced/Coated Sand Color Color S5 - Sandy I S6 - Strippe F1 - Loamy F2 - Loamy F3 - Deplete F6 - Redox I F7 - Deplete	mot present Redox d Matrix Mucky Minera Gleyed Matrix Dark Surface ed Dark Surface	Mottles %	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very	uck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depression ed Vertic arent Material Shallow Dark S	E Soils ¹ (LRR F, G, H) ONS (LRR H, outside MLRA 72, 73)
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	iption (Descriptration, D=Depleter A1- Histosol A2 - Histic Epi A3 - Black Histosol A4 - Hydroger A5 - Stratified A9 - 1 cm Muc A11 - Depleter A12 - Thick Da	tream gauge, monitodrology is present. be to the depth need to th	eded to docutrix, CS=Cover	crial photos, p ment the inced/Coated Sand Color Color S5 - Sandy S6 - Strippe F1 - Loamy F2 - Loamy F3 - Deplete F6 - Redox F7 - Deplete F8 - Redox F8	revious insperience de Matrix Dark Surface ded Dark Surface ded Dark Surface ded Depressions	Mottles %	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very	uck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depressions ed Vertic Parent Material	E Soils ¹ (LRR F, G, H) ONS (LRR H, outside MLRA 72, 73)
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	wetland hydintration (Descriptration, D=Depleton (Descriptration, D=Depleton (Descriptration, D=Depleton (Descriptration) (De	tream gauge, monitor drology is present. De to the depth need to	eded to docutrix, CS=Cover	crial photos, p ment the inced/Coated Sand Color Color S5 - Sandy S6 - Strippe F1 - Loamy F2 - Loamy F3 - Deplete F6 - Redox F7 - Deplete F8 - Redox F8	revious insperience de Matrix Dark Surface ded Dark Surface ded Dark Surface ded Depressions	Mottles %	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very	uck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depression ed Vertic arent Material Shallow Dark S	E Soils ¹ (LRR F, G, H) ONS (LRR H, outside MLRA 72, 73)
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	iption (Descriptration, D=Depleteration, D=Depleteration) A1- Histosol A2 - Histic Epi A3 - Black History A4 - Hydroger A5 - Stratified A9 - 1 cm Muc A11 - Depleteration A12 - Thick Di S1 - Sandy Muc S2 - 2.5 cm M	tream gauge, monitodrology is present. be to the depth need to th	eded to docutrix, CS=Cover	crial photos, p ment the inced/Coated Sand Color Color S5 - Sandy S6 - Strippe F1 - Loamy F2 - Loamy F3 - Deplete F6 - Redox F7 - Deplete F8 - Redox F8	revious insperience de Matrix Dark Surface ded Dark Surface ded Dark Surface ded Depressions	Mottles %	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduc TF2 - Red P TF12 - Very Other (Expla	uck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depression red Vertic rarent Material Shallow Dark S rain in Remarks)	E Soils ¹ [LRR F, G, H) Ons (LRR H, outside MLRA 72, 73) Surface
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	wetland hydelighten (Description (Description), D=Deplementation,	tream gauge, monitor drology is present. De to the depth need to the detion, RM=Reduced Matrix Color (Moist) Indicators (check pedon detice and Sulfide Layers (LRR F) ck (LRR FGH) de Below Dark Surface ark Surface ark Surface ark Surface ark Surface ark y Peat or Peat (LR cky Peat or Peat (LR R)	eded to docutrix, CS=Cover	crial photos, p ment the ince ded/Coated Sand Color Color S5 - Sandy S6 - Strippe F1 - Loamy F2 - Loamy F3 - Deplete F6 - Redox F7 - Deplete F8 - Redox	revious insperience de Matrix Dark Surface ded Dark Surface ded Dark Surface ded Depressions	Mottles %	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very Other (Expla	uck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depression red Vertic rarent Material Shallow Dark S rain in Remarks)	E Soils ¹ (LRR F, G, H) ONS (LRR H, outside MLRA 72, 73)
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	iption (Descriptration, D=Depleteration, D=Depleteration) A1- Histosol A2 - Histic Epi A3 - Black History A4 - Hydroger A5 - Stratified A9 - 1 cm Muc A11 - Depleteration A12 - Thick Di S1 - Sandy Muc S2 - 2.5 cm M	tream gauge, monitor drology is present. De to the depth need to the detion, RM=Reduced Matrix Color (Moist) Indicators (check pedon detice and Sulfide Layers (LRR F) ck (LRR FGH) de Below Dark Surface ark Surface ark Surface ark Surface ark Surface ark y Peat or Peat (LR cky Peat or Peat (LR R)	eded to docutrix, CS=Cover	crial photos, p ment the ince ded/Coated Sand Color Color S5 - Sandy S6 - Strippe F1 - Loamy F2 - Loamy F3 - Deplete F6 - Redox F7 - Deplete F8 - Redox	revious insperience de Matrix Dark Surface ded Dark Surface ded Dark Surface ded Depressions	Mottles %	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very Other (Expla	uck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depression red Vertic rarent Material Shallow Dark S rain in Remarks)	E Soils ¹ [LRR F, G, H) Ons (LRR H, outside MLRA 72, 73) Surface
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	iption (Descriptration, D=Depleter A1- Histosol A2 - Histic Epi A3 - Black Histosol A4 - Hydroger A5 - Stratified A9 - 1 cm Muc A11 - Depleter A12 - Thick Da S1 - Sandy Mus S2 - 2.5 cm Mus S4 - Sandy Gl	tream gauge, monitor drology is present. De to the depth need to the detion, RM=Reduced Matrix Color (Moist) Indicators (check pedon detice and Sulfide Layers (LRR F) ck (LRR FGH) de Below Dark Surface ark Surface ark Surface ark Surface ark Surface ark y Peat or Peat (LR cky Peat or Peat (LR R)	eded to docutrix, CS=Cover	crial photos, p ment the inced/Coated Sand Color Color S5 - Sandy S6 - Stripper F1 - Loamy F2 - Loamy F3 - Depleter F6 - Redox F7 - Depleter F8 - Redox	revious insperience of Dark Surface Depressions Plains Depress	Mottles %	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very Other (Explain	uck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depression red Vertic rarent Material Shallow Dark S rain in Remarks)	E Soils ¹ [LRR F, G, H) Ons (LRR H, outside MLRA 72, 73) Surface
Remarks: SOILS Profile Descri (Type: C=Concer Depth (In.)	iption (Descriptration, D=Depleter A1- Histosol A2 - Histic Epi A3 - Black Histosol A4 - Hydroger A5 - Stratified A9 - 1 cm Muc A11 - Depleter A12 - Thick Da S1 - Sandy Mus S2 - 2.5 cm Mus S3 - 5 cm Mus S4 - Sandy Gl	tream gauge, monitor drology is present. De to the depth need to the detion, RM=Reduced Matrix Color (Moist) Indicators (check pedon detice and Sulfide Layers (LRR F) ck (LRR FGH) de Below Dark Surface ark Surface ark Surface ark Surface ark Surface ark y Peat or Peat (LR cky Peat or Peat (LR R)	eded to docutrix, CS=Cover	crial photos, p ment the ince ded/Coated Sand Color Color S5 - Sandy S6 - Strippe F1 - Loamy F2 - Loamy F3 - Deplete F6 - Redox F7 - Deplete F8 - Redox	revious insperience of Dark Surface Depressions Plains Depress	Mottles %	absence of incre Lining, M=Matri	Location	Indicators f A9 - 1 cm M A16 - Coast S7 - Dark St F16 - High F F18 - Reduct TF2 - Red P TF12 - Very Other (Explain	uck (LRR I, J) Prairie Redox (urface (LRR G) Plains Depression red Vertic rarent Material Shallow Dark S rain in Remarks)	E Soils ¹ [LRR F, G, H) Ons (LRR H, outside MLRA 72, 73) Surface

WETLAND DETERMINATION DATA FORM

Great Plains Region

Project/Site	: L3R				Sample Point: w-156n46w21-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:1 (A)				
3.									
4.					Total Number of Dominant Species Across All Strata: 1 (B)				
5.					`` <i>`</i>				
6.					Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)				
7.					(742)				
8.					Prevalence Index Worksheet				
9.									
					Total % Cover of: Multiply by:				
10.	Tatal Oassa				$\begin{array}{cccccccccccccccccccccccccccccccccccc$				
	Total Cover =	0	FACW spp. 20 \times $2 = 40$						
					OBL spp. 82				
	Stratum (Plot size: 15 ft. radius)				FACU spp. $0 x 4 = 0$				
1.					UPL spp. $\underline{\qquad}$ $x = \underline{\qquad}$				
2.									
3.					Total 102 (A) 122 (B)				
4.					1				
5.					Prevalence Index = B/A = 1.196				
6.					1				
7.									
8.					Hydrophytic Vegetation Indicators:				
9.									
					X Rapid Test for Hydrophytic Vegetation				
10.	Tatal Oscar				X Dominance Test is > 50%				
	Total Cover =	0	_		X Prevalence Index is ≤ 3.0 *				
					Morphological Adaptations (Explain) *				
Herb Stratum	(Plot size: 5 ft. radius)				Problem Hydrophytic Vegetation (Explain) *				
1.	Typha X glauca	60	Υ	OBL					
2.	Sium suave	15	N	OBL	* Indicators of hydric soil and wetland hydrology must be				
3.	Spartina pectinata	10	N	FACW	present, unless disturbed or problematic.				
4.	Phalaris arundinacea	10	N	FACW	Definitions of Vegetation Strata:				
5.	Schoenoplectus acutus	5	N	OBL					
6		1	N	OBL	Tree - Was the lands O in (7 Care) as a same that a star at harder				
	Equisetum fluviatile	•			Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.				
7.	Alisma triviale	1	N	OBL	-				
8.									
9.					Sapling/Shrub - Woody plants less than 3 in. DBH, regardless of height.				
10.									
11.									
12.					Herb - All herbaceous (non-woody) plants, regardless of size.				
13.					1				
14.					1				
15.					Woody Vines - All woody vines, regardless of height.				
10.	Total Cover =	102			1				
	Total Cover =	102							
	tratum (Plot size: 30 ft. radius)				4				
1.									
2.									
3.					Hydrophytic Vegetation Present?Y				
5.									
4.									
	Total Cover =	0							
Remarks: A shallow marsh community dominated by hybrid cattail. Hydrophytic vegetation is present.									
r torridanto.	Transmit maren berminarny derimitated by in	yona cana.	Tiyalop	nyuo rogo	Addition to proceed				
	_								
Additional Remarks:									