WETLAND DETERMINATION DATA FORM Great Plains Region

Project/Site:		L3R								Date: 09/25/14										
Applicant:		Enbridge MDK/OTC	4		Cubragia	~ /N/II D A	or LDD\.	MLRA 56		County: Pennington										
Investigators Soil Unit:	I16F	MRK/OTG			Subregio	`	or LRR): Classification:		State: MN											
Landform:	Shoulder			- Lo	cal Relief:		Classification		Sample Point: u-153n43w29-h1											
Slope (%):	8 - 15%	Latitude	e: 48.03	863983	Longitude:		2421667	Datum:	•											
Are climatic/h	hydrologic co	nditions on the site typica	al for thi	s time of yea	ar? (If no, exp	plain in rema	arks)	Yes	□ No	Section:										
Are Vegetation □, Soil □, or Hydrology □significantly disturbed?							normal circun	-	esent?	Township:										
Are Vegetation			ally prol	olematic?			Yes	□ No		Range: Dir:										
SUMMARY C			No					Hydria Cai	la Dracant?	No										
Hydrophytic Vegetation Present? Wetland Hydrology Present? No						Hydric Soils Present? No Is This Sampling Point Within A Wetland? No														
Remarks: The upland sample point is located on a berm, upslope from a hardwood swamp.																				
HYDROLOG`	Υ																			
Wetland Hy	drology Ind	icators (Check all that ap	oply; Mii	nimum of on	e primary	or two s	econdary requi	red):												
Primary:		Matar			D44 Calt	O#1.04			Secondary:											
	□ A1 - Surface Water □ B11 - Sa □ A2 - High Water Table □ B13 - Aq									B6 - Surface Soil Cracks B8 - Sparsely Vegetated Concave Surface	e									
	A3 - Saturation	n		C1 - Hydro	gen Sulfid				B10 - Drainage Patterns											
	B1 - Water M B2 - Sedimen				C2 - Dry Se		ter Table spheres on Living	Poots (not till		C3 - Oxidized Rhizospheres on Living Roots (ti C8 - Crayfish Burrows	ots (tilled)									
	B3 - Drift Dep	•			C4 - Prese			1700ts (Hot till		C9 - Saturation Visible on Aerial Imagery										
	B4 - Algal Ma				C7 - Thin N		ace			D2 - Geomorphic Position										
	B5 - Iron Dep	osits n Visible on Aerial Imagery			Other (Exp	laın)				D5 - FAC-Neutral Test D7 - Frost-Heaved Hummocks (LRR F)										
_	B9 - Water-St								_	27 Trock Floaved Flammocke (Erikk F)										
Field Observ					4															
Surface Wate		Yes	Depth:		- (in.)			Wetland F	Hydrology	Present? N										
Water Table Present? Yes □ Depth: (in.) Saturation Present? Yes □ Depth: (in.)										_										
Remarks:	· · · · · · · · · · · · · · · · · · ·					ections),	if available:				Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No primary or secondary hydrological indicators were observed.									
Nemarks.	No primary	or secondary riyurologica	ii ii iuica	iois were ob	serveu.															
SOILS		SOIL S																		
	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)																				
(Type: C=Concer																				
(Type: C=Concer		etion, RM=Reduced Matrix, CS				tion: PL=P	ore Lining, M=Matr													
		etion, RM=Reduced Matrix, CS Matrix	=Covered	/Coated Sand (Grains; Locat	tion: PL=P	ore Lining, M=Matr	ix)	Texture	Remarks										
Depth (In.)	ntration, D=Depl	etion, RM=Reduced Matrix, CS			Grains; Locat	tion: PL=P	ore Lining, M=Matr		Texture	Remarks										
Depth (In.)		etion, RM=Reduced Matrix, CS Matrix Color (Moist)	=Covered	/Coated Sand (Grains; Locat	tion: PL=P	ore Lining, M=Matr	ix)	Texture CL	Remarks										
Depth (In.) 0-12	htration, D=Depl	Matrix Color (Moist) 2/1	=Covered % 100	/Coated Sand (Grains; Locat	tion: PL=P	ore Lining, M=Matr	ix)	Texture CL C	Remarks										
Depth (In.) 0-12 12-16	Hue_10YR Hue_5Y	Matrix Color (Moist) 2/1 4/2	% 100 100	/Coated Sand (Grains; Locat	tion: PL=P	ore Lining, M=Matr	ix)	Texture CL C	Remarks										
Depth (In.) 0-12 12-16	Hue_10YR Hue_5Y	Matrix Color (Moist) 2/1 4/2	% 100 100	/Coated Sand (Grains; Locat	tion: PL=P	ore Lining, M=Matr	ix)	Texture CL C	Remarks										
Depth (In.) 0-12 12-16 16-20	Hue_10YR Hue_5Y Hue_5Y	Matrix Color (Moist) 2/1 4/2 5/2	% 100 100	Coated Sand (Grains; Locat	Mottle %	es Type	ix)	Texture CL C	Remarks										
Depth (In.) 0-12 12-16 16-20	Hue_10YR Hue_5Y	Matrix Color (Moist) 2/1 4/2 5/2	% 100 100	/Coated Sand (Grains; Locat	Mottle %	ore Lining, M=Matr	ix)	CL C											
Depth (In.) 0-12 12-16 16-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y Colored Soil Field	Matrix Color (Moist) 2/1 4/2 5/2	% 100 100 100 ere if ind	Color (I	Moist) not presen	Mottle %	es Type	Location	CL C C	for Problematic Soils ¹										
Depth (In.) 0-12 12-16 16-20	Hue_10YR Hue_5Y Hue_5Y	Matrix Color (Moist) 2/1 4/2 5/2 Indicators (check he	% 100 100 100 ere if ind	Coated Sand (Moist) not presented	Mottle %	es Type	Location	CL C C Indicators 1											
Depth (In.) 0-12 12-16 16-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His	Matrix Color (Moist) 2/1 4/2 5/2 Indicators (check heading the color of the col	% 100 100 100 ere if ind	Color (I Color (I icators are r S5 - Sandy R S6 - Stripped F1 - Loamy M	Moist) Mot presented with the p	Mottle %	es Type	Location	CL C C Indicators 1 A9 - 1 cm M A16 - Coast S7 - Dark S	for Problematic Soils ¹ fluck (LRR I, J) r: Prairie Redox (LRR F, G, H) furface (LRR G)										
Depth (In.) 0-12 12-16 16-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge	Matrix Color (Moist) 2/1 4/2 5/2 Indicators (check heading stice in Sulfide	% 100 100 100 ere if ind	Color (I Color (I I Color (I I Solve are r	Moist) Moist) not present edox Matrix Mucky Minera	Mottle %	es Type	Location	CL C C Indicators 1 A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F	for Problematic Soils ¹ Muck (LRR I, J) Prairie Redox (LRR F, G, H) urface (LRR G) Plains Depressions (LRR H, outside MLRA 72, 73)										
Depth (In.) 0-12 12-16 16-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified	Matrix Color (Moist) 2/1 4/2 5/2 Indicators (check heading stick in Sulfide Layers (LRR F)	% 100 100 100 ere if ind	Color (I Color (I icators are r S5 - Sandy R S6 - Stripped F1 - Loamy M	Moist) Moist) not presented with the content of t	Mottle % t):	es Type	Location	CL C C C A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduce	for Problematic Soils ¹ Muck (LRR I, J) Prairie Redox (LRR F, G, H) urface (LRR G) Plains Depressions (LRR H, outside MLRA 72, 73)										
Depth (In.) 0-12 12-16 16-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogel A5 - Stratified A9 - 1 cm Mu A11 - Deplete	Matrix Color (Moist) 2/1 4/2 5/2 Indicators (check head stric in Sulfide Layers (LRR F) ck (LRR FGH) d Below Dark Surface	% 100 100 ere if ind	Color (I Color (I S5 - Sandy R S6 - Stripped F1 - Loamy N F2 - Loamy C F3 - Depleted F6 - Redox D F7 - Depleted	Moist) Moist) not present edox Matrix Mucky Minera Gleyed Matrix I Matrix ark Surface I Dark Surface	Mottle % tion: PL=P	es Type	Location	CL C C C A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very	for Problematic Soils¹ Muck (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										
Depth (In.) 0-12 12-16 16-20 NRCS Hydr	Hue_10YR Hue_5Y 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) 2/1 4/2 5/2 Indicators (check head stice in Sulfide Layers (LRR F) ck (LRR FGH) de Below Dark Surface ark Surface	% 100 100 200 200 200 200 200 200 200 200	Color (I Color (I S5 - Sandy R S6 - Stripped F1 - Loamy N F2 - Loamy C F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D	Moist) Moist) Motrix Mucky Minera Bleyed Matrix I Matrix Park Surface I Dark Surfa Pepressions	Mottle % tion: PL=P	es Type	Location	CL C C C A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very	for Problematic Soils ¹ Muck (LRR I, J) Prairie Redox (LRR F, G, H) urface (LRR G) Plains Depressions (LRR H, outside MLRA 72, 73) ced Vertic Parent Material										
Depth (In.) 0-12 12-16 16-20 NRCS Hydr	Hue_10YR Hue_5Y 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) 2/1 4/2 5/2 Indicators (check heatic in Sulfide Layers (LRR F) ck (LRR FGH) d Below Dark Surface ark Surface ucky Mineral	% 100 100 100 ere if ind	Color (I Color (I S5 - Sandy R S6 - Stripped F1 - Loamy N F2 - Loamy C F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D	Moist) Moist) Motrix Mucky Minera Bleyed Matrix I Matrix Park Surface I Dark Surfa Pepressions	Mottle % tion: PL=P	es Type	Location	CL C C C A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very	for Problematic Soils¹ Muck (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										
Depth (In.) 0-12 12-16 16-20 NRCS Hydr	Hue_10YR Hue_5Y 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 M S3 - 5 cm Mu	Matrix Color (Moist) 2/1 4/2 5/2 Indicators (check heating in Sulfide Layers (LRR F) ck (LRR FGH) d Below Dark Surface ark Surface ucky Mineral lucky Peat or Peat (LRR F, F) cky Peat or Peat (LRR F, F)	% 100 100 100 ere if ind	Color (I Color (I S5 - Sandy R S6 - Stripped F1 - Loamy N F2 - Loamy C F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D	Moist) Moist) Motrix Mucky Minera Bleyed Matrix I Matrix Park Surface I Dark Surfa Pepressions	Mottle % tion: PL=P	es Type	Location	CL C C C A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very Other (Expla	for Problematic Soils fuck (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)	be present,									
Depth (In.) 0-12 12-16 16-20 NRCS Hydr	Hue_10YR Hue_5Y Hue_5Y Hue_5Y A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogel A5 - Stratified A9 - 1 cm Mu A11 - Deplete A12 - Thick D S1 - Sandy M S2 - 2.5 cm M	Matrix Color (Moist) 2/1 4/2 5/2 Indicators (check heating in Sulfide Layers (LRR F) ck (LRR FGH) d Below Dark Surface ark Surface ucky Mineral lucky Peat or Peat (LRR F, F) cky Peat or Peat (LRR F, F)	% 100 100 100 ere if ind	Color (I Color (I S5 - Sandy R S6 - Stripped F1 - Loamy N F2 - Loamy C F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D	Moist) Moist) Motrix Mucky Minera Bleyed Matrix I Matrix Park Surface I Dark Surfa Pepressions	Mottle % tion: PL=P	es Type	Location	CL C C C A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very Other (Expla	for Problematic Soils¹ fluck (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)	be present,									
Depth (In.) 0-12 12-16 16-20 NRCS Hydr	Hue_10YR Hue_5Y 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 M S3 - 5 cm Mu S4 - Sandy G	Matrix Color (Moist) 2/1 4/2 5/2 Indicators (check heating in Sulfide Layers (LRR F) ck (LRR FGH) d Below Dark Surface ark Surface ucky Mineral lucky Peat or Peat (LRR F, F) cky Peat or Peat (LRR F, F)	% 100 100 100 ere if ind	Color (I Color (I Color (I S5 - Sandy R S6 - Stripped F1 - Loamy N F2 - Loamy N F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D F16 - High Pl	Moist) Moist) not present edox Matrix Gleyed Matrix ark Surface I Dark Surface epressions ains Depres	Mottle % t):	PS Type W RA 72, 73 of LRF	Location	CL C C C A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very Other (Expla	for Problematic Soils fuck (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)	be present,									
Depth (In.) 0-12 12-16 16-20 NRCS Hydr	Hue_10YR Hue_5Y 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 M S3 - 5 cm Mu S4 - Sandy G	Matrix Color (Moist) 2/1 4/2 5/2 Indicators (check heating in Sulfide Layers (LRR F) ck (LRR FGH) d Below Dark Surface ark Surface ucky Mineral lucky Peat or Peat (LRR F, F) cky Peat or Peat (LRR F, F)	% 100 100 100 ere if ind	Color (I Color (I S5 - Sandy R S6 - Stripped F1 - Loamy N F2 - Loamy C F3 - Depleted F6 - Redox D F7 - Depleted F8 - Redox D	Moist) Moist) not present edox Matrix Gleyed Matrix ark Surface I Dark Surface epressions ains Depres	Mottle % t):	PS Type W RA 72, 73 of LRF	Location	CL C C C A9 - 1 cm M A16 - Coast S7 - Dark S F16 - High F F18 - Reduc TF2 - Red F TF12 - Very Other (Expla	for Problematic Soils fuck (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)	be present,									

WETLAND DETERMINATION DATA FORM Great Plains Region

Project/Site	: L3R				Sample Point: u-153n43w29-h1		
VEGETATIO	· · ·	re non-native	species.)				
Tree Stratum	(Plot size: 30 ft. radius)				Deminence Test Werkeheet		
4	Species Name	% Cover	<u>Dominant</u>	Ind.Status	Dominance Test Worksheet		
1.	Tilia americana	50	Y	FACU	N		
2.	Fraxinus pennsylvanica	30	Y	FAC	Number of Dominant Species that are OBL, FACW, or FAC:1 (A)		
3.	Populus tremuloides	10	N	FAC			
4.					Total Number of Dominant Species Across All Strata:4 (B)		
5.							
6.					Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)		
7.							
8.					Prevalence Index Worksheet		
9.					Total % Cover of: Multiply by:		
10.					OBL spp 0		
	Total Cover =	= 90	_		FACW spp 0		
					FAC spp. 40 $\times 3 = 120$		
Sapling/Shrub	Stratum (Plot size: 15 ft. radius)				FACU spp125 $x = 4 = 500$		
1.	Rhamnus cathartica	75	Υ	FACU	UPL spp. 40 \times $5 = 200$		
2.	Zanthoxylum americanum	10	N	UPL			
3.					Total 205 (A) 820 (B)		
4.							
5.					Prevalence Index = B/A = 4.000		
6.							
7.							
8.					Hydrophytic Vegetation Indicators:		
9.					Rapid Test for Hydrophytic Vegetation		
10.					Dominance Test is > 50%		
		85			Prevalence Index is ≤ 3.0 *		
			<u> </u>		Morphological Adaptations (Explain) *		
Herb Stratum	(Plot size: 5 ft. radius)				Problem Hydrophytic Vegetation (Explain) *		
1.	Carex pensylvanica	30	Υ	NI	T Toblem Thydrophyllo Vogotation (Explain)		
2.	- Carex perioyivaniea		•		* Indicators of hydric soil and wetland hydrology must be		
3.					present, unless disturbed or problematic.		
4.					Definitions of Vegetation Strata:		
5.					Definitions of Vegetation otrata.		
6					Tree - Washington 2 in (7 Care) on many in diameter at bases		
7.					Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.		
8.					noig.ii (2 2 i i), rogalaloco di noigini		
					Sapling/Shrub - Woody plants less than 3 in. DBH, regardless of height.		
9.					Sapling/Snrub - Woody plants less than 3 in. DBH, Tegardless of height.		
10.							
11.					All borbooks (non woods) plants, regardless of size		
12.					Herb - All herbaceous (non-woody) plants, regardless of size.		
13.							
14.							
15.					Woody Vines - All woody vines, regardless of height.		
	Total Cover =	= 30					
Woody Vine S	tratum (Plot size: 30 ft. radius)						
1.							
2.							
3.					Hydrophytic Vegetation Present?N		
5.							
4.							
	Total Cover =	= 0					
Remarks: The upland sample point canopy is dominated by basswood and green ash. The shrub layer is predominantly European buckthorn. The ground layer is dominated by Pennsylvania sedge.							
Additional I	Remarks:						
/ Walitaliai Italiiai Itali							
1							