WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: RSA 22		City/County:	Aitkin			Sampling	g Date: 31-Aug-17
Applicant/Owner: Enbridge			State:	MN	Sampling	Point:	w-51n24w25-c1
Investigator(s): DPT		Section, To	ownship, Rang	je: S. 25	т.	51N	R. 24W
Landform (hillslope, terrace, etc.): Lowland		Local relief (co	oncave, conve	x, none):	concave		Slope: 0.0 % / 0.0
Subregion (LRR or MLRA): LRR K	Lat.:	46 52.3630	L	. ong.: _9	3 19.6674		Datum: NAD 83
Soil Map Unit Name: 870C		-			NWI classif	ication:	N/A
	gnificant nturally p	tly disturbed? problematic?	(If need	mal Circu ed, explai	o, explain in mstances" n any answ ansects]	oresent? ers in Ren	Yes No
Hydrophytic Vegetation Present?YesNoHydric Soil Present?YesNoWetland Hydrology Present?YesNo			Sampled Are a Wetland?	a Ye:	s 💿 No C)	
Remarks: (Explain alternative procedures here or in a separa WETS analysis shows precipitation below normal.	ate repo	ort.)					

Hydrology

Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; of	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	✓ Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes \bigcirc No $oldsymbol{igstar}$	Depth (inches): 0	
Water Table Present? Yes O No O	Depth (inches): 0	drology Present? Yes 💿 No 🔿
Saturation Present? Yes O No O	Depth (inches):0	drology Present? Yes $ullet$ No $igcup$
Describe Recorded Data (stream gauge, monitor	ring well, aerial photos, previous inspections), if ava	ailable:
Remarks:		

VEGETATION - Use scientific names of plants

vederation - use sciencific names of pla	115			Sampling Point: w-51n24w25-c1
	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)	% Cover	Species?	Status	Number of Dominant Species
1				That are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3	0			Species Across All Strata: <u>2</u> (B)
4	0			
5	0			Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
6				
7	0			Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15)	0 =	Total Cover		Total % Cover of: Multiply by:
	0	_		OBL species <u>20</u> x 1 = <u>20</u>
1	0			FACW species
2				FAC species x 3 =
3	_			FACU species $0 \times 4 = 0$
4	-			UPL species x 5 =
5				Column Totals: 100 (A) 180 (B)
6				$\begin{bmatrix} cordinar rotars: 100 (A) & 180 \\ \hline \\ \end{bmatrix}$
7	0			Prevalence Index = B/A = <u>1.800</u>
Herb Stratum (Plot size: <u>5</u>)	=	Total Cover		Hydrophytic Vegetation Indicators:
				Rapid Test for Hydrophytic Vegetation
1. Phalaris arundinacea			FACW	✓ Dominance Test is > 50%
2. Scirpus cyperinus			OBL	✓ Prevalence Index is \leq 3.0 ¹
3	0			Morphological Adaptations ¹ (Provide supporting
4				data in Remarks or on a separate sheet)
5	0			Problematic Hydrophytic Vegetation ¹ (Explain)
6	0			
7	0			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8	0			
9	0			Definitions of Vegetation Strata:
10	0			Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0			at breast height (DBH), regardless of height.
12				Sapling/shrub - Woody plants less than 3 in. DBH and
		Total Cover		greater than 3.28 ft (1m) tall.
Woody Vine Stratum (Plot size: 30)		_		
1				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
2	0			size, and woody plants less than 3.20 it tail.
3	0			Woody vine - All woody vines greater than 3.28 ft in
4				height.
	=	Total Cover		
				Hydrophytic Vegetation
				Present? Yes • No O
Remarks: (Include photo numbers here or on a separate she	ot)			
Remarks. (Include photo numbers here of on a separate she	et.)			

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

US Army Corps of Engineers

Depth (inches) Matrix Color (moist) % Color (moist) % Type Loc2 Texture Remarks 0-8 10YR 3/1 90 10YR 3/6 10 C PL Sandy Loam 0-8 10YR 3/1 90 10YR 3/6 10 C PL Sandy Loam 0-8 10YR 3/1 90 10YR 3/6 0 C PL Sandy Loam 0	(inches) Color (0-8 10YR 10YR	moist) % 3/1 90	Color (moist) % Type 1 Lc 10YR 3/6 10 C PL	
0-8 10YR 3/1 90 10YR 3/6 10 C PL Sandy Loam 0-8 10YR 3/1 90 10YR 3/6 10 C PL Sandy Loam 0-8 10YR 3/1 90 10YR 3/6 10 C PL Sandy Loam 0 <td< th=""><th>0-8 10YR</th><th><u>3/1</u>90</th><th>10YR 3/6 10 C PL </th><th></th></td<>	0-8 10YR	<u>3/1</u> 90	10YR 3/6 10 C PL	
Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ² Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils : ³ Histic Epideon (A2) MLRA 1498) Biack Histic (A3) Doarny Mucky Mineral (F1) LRR K, L) Depleted Bow Dark Surface (S1) Depleted Matrix (F2) Depleted Bow Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (S1) Depleted Dark Surface (F7) Sandy Redox (S5) Redox Depressions (F8) Stratified Layers (X5) Redox Depressions (F8) Stratige datrix (S4) Redox Depressions (F8) Sandy Redox (S5) Redox Depressions (F8) Stratified Layers (Y5) (LRR R, MLRA 1498) Unite Antrix Surface (T12) Other (Explain in Remarks) Other (Explain in Remarks)	Type: C=Concentration. E Hydric Soil Indicators: Histosol (A1)			
Hydric Soil Indicators: Indicators for Problematic Hydric Soils : ³ Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Indicators for Problematic Hydric Soils : ³ Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F7) Thin Dark Surface (F7) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 1449B) Sandy Redox (S5) Sandy Redox (S5) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Thicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks)	Hydric Soil Indicators: Histosol (A1)			
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Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B) 2 cm Muck (A10) (LRR K, L, MLRA 149B) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Loamy Mucky Mineral (F1) LRR K, L) Dark Surface (S7) (LRR K, L, M) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Dark Surface (S7) (LRR K, L, M) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Polyvalue Below Surface (S8) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F7) Thin Dark Surface (S7) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 1449B) Sandy Redox (S5) Stripped Matrix (S6) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) 3 ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) Type: rock	Histosol (A1)			Indicators for Problematic Hydric Soils • ³
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Statistical Edycts (KS) Depleted Matrix (F3) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Muck Mineral (S1) Redox Depressions (F8) Piedmont Floodplain Soils (F19) (MLRA 144B) Sandy Redox (S5) Redox Depressions (F8) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks)			Loamy Gleyed Matrix (F2)	
□ Depicted below bark surface (ATT) □ Thin Dark Surface (S9) (LRR K, L) □ Thick Dark Surface (A12) □ Depleted Dark Surface (F6) □ Iron-Manganese Masses (F12) (LRR K, L, R) □ Sandy Muck Mineral (S1) □ Depleted Dark Surface (F7) □ Piedmont Floodplain Soils (F19) (MLRA 149B) □ Sandy Redox (S5) □ Redox Depressions (F8) □ Mesic Spodic (TA6) (MLRA 144A, 145, 149B) □ Stripped Matrix (S6) □ Very Shallow Dark Surface (TF12) □ Dark Surface (S7) (LRR R, MLRA 149B) □ Other (Explain in Remarks) Bindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks)		Surface (A11)		
Index bark surface (R12) Depleted Dark Surface (F7) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Muck Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Other (Explain in Remarks) Strippe: rock Type: rock If observed):				Thin Dark Surface (S9) (LRR K, L)
Sandy Muck Minteral (31) Redox Depressions (F8) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. restrictive Layer (if observed): Type: rock				Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: rock	-			Piedmont Floodplain Soils (F19) (MLRA 149B)
Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: rock		S4)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: rock	-			Red Parent Material (F21)
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: rock				Very Shallow Dark Surface (TF12)
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: rock	Dark Surface (S7) (LR	R R, MLRA 149B)		
Restrictive Layer (if observed):	³ Indicators of hydrophytic	vegetation and wetla	and hydrology must be present, unless disturbed or	
Type: rock				
lype: <u>rock</u>		ervea):		
Hudric Soil Procent? No.				Hydric Soil Present? Yes 🔍 No 🔾
Depth (inches): 8 Yes VIO	Depth (inches): 8			