WETLAND DETERMINATION DATA FORM - Alaska Region

ct/Site: Susitna-Watana Hydroelectric Project		Borough/City:	Matanusk	ka-Susitna Borough Sampling Date: 21-Aug-15
cant/Owner: Alaska Energy Authority				Sampling Point: SW15_T313_05
		Landform (hi	llside, terrac	
		_		
	l at ·			Long.: Datum: WGS84
				NWI classification: PEM1E
•	ima of vo	or? Vec	● No ○	
				Iormal Circumstances" present? Yes No
	_	-		eded, explain any answers in Remarks.)
	•			
·		mpling poin	locations	s, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	\supset	_		
Hydric Soil Present? Yes ● No	\supset			-
Wetland Hydrology Present? Yes ● No C	\supset	W	ithin a W	/etland? Yes ♥ No ∪
narks: broad, concave, gently sloping swale with scatte	red peat r	nounds. point i	s at a transi	tion between steeper upper slope and gentle lower slope.
overall slope less than 6 degrees				
ETATION - Use scientific names of plants. L	ist all sp.	ecies in the	plot.	
	Absolut	e Dominant	Indicator	Dominance Test worksheet:
ee Stratum			Status	Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)
				Total Number of Dominant
		_		Species Across All Strata: 7 (B)
		. 🖳		Percent of dominant Species
		. 📙		That Are OBL, FACW, or FAC: 100.0% (A/B)
		. \sqcup		Prevalence Index worksheet:
		_		Total % Cover of: Multiply by:
pling/Shrub Stratum 50% of Total Cover:	0 20	% of Total Cover	0	OBL Species 22 x 1 = 22
Dasiphora fruticosa	4	✓	FAC	FACW Species 5 x 2 = 10
Andromeda polifolia	2	✓	FACW	FAC Species <u>5</u> x 3 = <u>15</u>
Vaccinium oxycoccos	11	. \square	OBL	FACU Species0 x 4 =0
	0			UPL Species $0 \times 5 = 0$
				Column Totals: <u>32</u> (A) <u>47</u> (B)
	0			Column Totals: 32 (A) 47 (B)
	0			
	0 0 0			Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators:
	0 0 0 0			Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: Dominance Test is > 50%
	0 0 0 0 0			Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators:
Total Cover	0 0 0 0 0 0			Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: ✓ Dominance Test is > 50% ✓ Prevalence Index is ≤ 3.0 Morphological Adaptations (Provide supporting data in
Total Covers 50% of Total Cover:	0 0 0 0 0 0 0 0 7 3.5 20	0% of Total Cove		Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: ✓ Dominance Test is > 50% ✓ Prevalence Index is ≤3.0 ☐ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
Total Covers 50% of Total Covers Carex aquatilis	0 0 0 0 0 0 0 7 3.5 20	0% of Total Cove	OBL	Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: ✓ Dominance Test is > 50% ✓ Prevalence Index is ≤3.0 ☐ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation (Explain)
Total Cover arb Stratum 50% of Total Cover: Carex aquatilis Menyanthes trifoliata	0 0 0 0 0 0 7 3.5 20 6 5	0% of Total Cove	OBL OBL	Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: ✓ Dominance Test is > 50% ✓ Prevalence Index is ≤3.0 ☐ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
Total Cover In Stratum 50% of Total Cover: Carex aquatilis Menyanthes trifoliata Eriophorum angustifolium	0 0 0 0 0 0 7 3.5 20 6 5 3	o% of Total Cove	OBL OBL	Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: ✓ Dominance Test is > 50% ✓ Prevalence Index is ≤3.0 ☐ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Total Cover 50% of Total Cover: Carex aquatilis Menyanthes trifoliata Eriophorum angustifolium Trichophorum caespitosum	0 0 0 0 0 0 7 3.5 20 6 5 3	0% of Total Cove	OBL OBL OBL	Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: ✓ Dominance Test is > 50% ✓ Prevalence Index is ≤3.0
Total Cover 50% of Total Cover: Carex aquatilis Menyanthes trifoliata Eriophorum angustifolium Trichophorum caespitosum Carex rariflora	0 0 0 0 0 0 7 3.5 20 6 5 3 3	o% of Total Cove	OBL OBL	Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: ✓ Dominance Test is > 50% ✓ Prevalence Index is ≤3.0 ☐ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Plot size (radius, or length x width) 10m
Total Covers 50% of Total Cover: Carex aquatilis Menyanthes trifoliata Eriophorum angustifolium Trichophorum caespitosum Carex rariflora Swertia perennis	0 0 0 0 0 0 7 3.5 20 6 5 3 3 3	o% of Total Cove	OBL OBL OBL OBL	Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: ✓ Dominance Test is > 50% ✓ Prevalence Index is ≤3.0 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Plot size (radius, or length x width) % Cover of Wetland Bryophytes (Where applicable)
Total Cover 50% of Total Cover: Carex aquatilis Menyanthes trifoliata Eriophorum angustifolium Trichophorum caespitosum Carex rariflora Swertia perennis Thalictrum alpinum	0 0 0 0 0 0 7 3.5 20 6 5 3 3 3 1 1	o% of Total Cove	OBL OBL OBL OBL FACW	Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: ✓ Dominance Test is > 50% ✓ Prevalence Index is ≤3.0 ☐ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation (Explain) 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Plot size (radius, or length x width) % Cover of Wetland Bryophytes (Where applicable) % Bare Ground 45
Total Cover srb Stratum 50% of Total Cover: Carex aquatilis Menyanthes trifoliata Eriophorum angustifolium Trichophorum caespitosum Carex rariflora Swertia perennis Thalictrum alpinum	0 0 0 0 0 0 7 3.5 20 6 5 3 3 1 1 1	o% of Total Cove	OBL OBL OBL OBL FACW	Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: ✓ Dominance Test is > 50% ✓ Prevalence Index is ≤3.0 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Plot size (radius, or length x width) % Cover of Wetland Bryophytes (Where applicable)
Total Cover 50% of Total Cover: Carex aquatilis Menyanthes trifoliata Eriophorum angustifolium Trichophorum caespitosum Carex rariflora Swertia perennis Thalictrum alpinum Viola palustris	0 0 0 0 0 0 7 3.5 20 6 5 3 3 1 1 1	o% of Total Cove	OBL OBL OBL OBL FACW FAC	Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: ✓ Dominance Test is > 50% ✓ Prevalence Index is ≤3.0 ☐ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation (Explain) 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Plot size (radius, or length x width) % Cover of Wetland Bryophytes (Where applicable) % Bare Ground 45
Total Cover 50% of Total Cover: Carex aquatilis Menyanthes trifoliata Eriophorum angustifolium Trichophorum caespitosum Carex rariflora Swertia perennis Thalictrum alpinum Viola palustris Sanguisorba canadensis	0 0 0 0 0 0 7 3.5 20 6 5 3 3 1 1 1 1 1 1	O% of Total Cove	OBL OBL OBL OBL FACW FAC FACW OBL	Column Totals: 32 (A) 47 (B) Prevalence Index = B/A = 1.469 Hydrophytic Vegetation Indicators: ✓ Dominance Test is > 50% ✓ Prevalence Index is ≤3.0 ☐ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Plot size (radius, or length x width) 10m % Cover of Wetland Bryophytes (Where applicable) % Bare Ground 45 Total Cover of Bryophytes 30
	igator(s): BAB relief (concave, convex, none): concave gion: Cook Inlet Mountains ap Unit Name: imatic/hydrologic conditions on the site typical for this to degetation	igator(s): BAB relief (concave, convex, none): concave gion: Cook Inlet Mountains	igator(s): BAB	Landform (hillside, terrace Slope: 7.0 % / 4.6

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SOIL Sampling Point: SW15_T313_05

Depth -	Matrix		iment the indicator or co	dox Featur		,		
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	_Loc_2	Texture	Remarks
0-2							Peat	
2-7							Mucky Peat	
7-14							Muck	
								-
						-	-	-
								-
1	- D. D. Harris		21					
Type: C=Conc	centration. D=Deplet	ion. RM=Reduc	ced Matrix ² Location				nnel. M=Matrix	
Hydric Soil Ind			Indicators for P		4	oils:	1	
Histosol or H	. ,		☐ Alaska Color C		-		Alaska Gleyed Without F Underlying Layer	lue 5Y or Redder
Histic Epipe			☐ Alaska Alpine	-	-		, , ,	l _{(C})
Hydrogen S	` ,		☐ Alaska Redox	With 2.5Y H	ue		Other (Explain in Remar	KS)
	Surface (A12)		³ One indicator o	f hydrophyti	c vegetatio	n, one prin	nary indicator of wetland l	nydrology,
✓ Alaska Gleye✓ Alaska Redo			and an appropria					, 3,,
	ed Pores (A15)		4 Give details of o	color change	in Remark	S		
Restrictive Layer	(if present):							• • • •
Type:	201						Hydric Soil Present	:? Yes ● No ○
Depth (inche								
Depth (Inche	.,							
Remarks:								
Remarks:							Secondary Ind	cators (two or more are required)
Nemarks:	e Y	ient)						icators (two or more are required) ined Leaves (B9)
IYDROLOG Wetland Hydro Primary Indicato	GY blogy Indicators: ors (any one is suffic	ient)	☐ Inundation \	Visible on Ae	erial Image	ry (B7)	Water Sta	
NYDROLOG Wetland Hydro Primary Indicato V Surface Wa High Water	SY blogy Indicators: ors (any one is sufficator (A1) Table (A2)	ient)	☐ Inundation \		_		Water Sta	ined Leaves (B9)
NYDROLOG Wetland Hydro Primary Indicato Surface Wa High Water Saturation (SY blogy Indicators: ors (any one is sufficator (A1) Table (A2) (A3)	ient)	Sparsely Ve	getated Cond ts (B15)	cave Surfac		Water Sta Drainage Oxidized F	ined Leaves (B9) Patterns (B10) thizospheres along Living Roots (C3) of Reduced Iron (C4)
Netland Hydro Primary Indicato Surface Wa High Water Saturation (Water Mark	Diogy Indicators: ors (any one is suffice off (A1) Table (A2) (A3) (S (B1)	ient)	Sparsely Ve	getated Cond ts (B15) ulfide Odor (cave Surfac		Water Sta Drainage Oxidized F Presence Salt Depos	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3) of Reduced Iron (C4) sits (C5)
Nemarks: NYDROLOG Wetland Hydro Primary Indicato V Surface Wa High Water Saturation (Water Mark	Diogy Indicators: ors (any one is suffice ster (A1) Table (A2) (A3) ss (B1) Deposits (B2)	ient)	Sparsely Ved Marl Deposit Hydrogen St Dry-Season	getated Cond ts (B15) ulfide Odor (Water Table	cave Surface (C1) e (C2)		Water Sta Drainage Oxidized F Presence Salt Depo	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3) of Reduced Iron (C4) sits (C5) r Stressed Plants (D1)
Netland Hydro Primary Indicato V Surface Wa High Water V Saturation (Water Mark Sediment D Drift Depos	blogy Indicators: ors (any one is suffice oter (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3	ient)	Sparsely Ve	getated Cond ts (B15) ulfide Odor (Water Table	cave Surface (C1) e (C2)		Water Sta Drainage Oxidized F Presence Salt Depos	ined Leaves (B9) Patterns (B10) Chizospheres along Living Roots (C3) of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) sic Position (D2)
Algal Mat o	Diogy Indicators: ors (any one is suffice ster (A1) Table (A2) (A3) (A3) (A5) (B1) Deposits (B2) (B3) (Crust (B4)	ient)	Sparsely Ved Marl Deposit Hydrogen St Dry-Season	getated Cond ts (B15) ulfide Odor (Water Table	cave Surface (C1) e (C2)		Water Sta Drainage Oxidized F Presence Salt Depoi	ined Leaves (B9) Patterns (B10) thizospheres along Living Roots (C3) of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) sic Position (D2) quitard (D3)
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