WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watan	a Hydroelectric Project	ļ	Borough/City:	Matanusk	a-Susitna Borough Sampling Date: 02-Aug-12
Applicant/Owner: Alaska Ene	ergy Authority			-	Sampling Point: SW12_T54_07
Investigator(s): SLI, KMK	ngy riamony		Landform (hills	side, terrac	e, hummocks etc.): Kettle
Local relief (concave, convex, r	none): flat		Slope:	% / 0.4	
•	,	l at :	· · —		Long.: -149.148656941 Datum: NAD83
Subregion : Southcentral Alas	<u>Ka</u>	Lai	62.834386000	9	
Soil Map Unit Name:				<u> </u>	NWI classification: PEM1F
Are climatic/hydrologic condition		-		● No ○	(If no, explain in Remarks.) ormal Circumstances" present? Yes ● No ○
Are Vegetation , Soil		Ū	ly disturbed?		р. остана
Are Vegetation , Soil	, or Hydrology L	naturally p	problematic?	(If nee	ded, explain any answers in Remarks.)
SUMMARY OF FINDING	S - Attach site map show	ving sar	mpling point	locations	s, transects, important features, etc.
Hydrophytic Vegetation	Present? Yes No	l			
Hydric Soil Present?	Yes ● No ○				pled Area
Wetland Hydrology Pres			wi	thin a W	etland? Yes No
Remarks:	, one.				
VEGETATION - Use scier	ntific names of plants. Lie	st all sn	ecies in the I	nlot	
036 36161	itine names of plants. Lis				Dominance Test worksheet:
Tree Stratum		Absolute % Cover		Indicator Status	Number of Dominant Species
1.		0			That are OBL, FACW, or FAC:3(A)
2.		0			Total Number of Dominant Species Across All Strata: 3 (B)
3		0			Percent of dominant Species
4		0			That Are OBL, FACW, or FAC: 100.0% (A/B)
5.		0			Prevalence Index worksheet:
	Total Cover:	0	_		Total % Cover of: Multiply by:
Sapling/Shrub Stratum	50% of Total Cover:	0 20%	% of Total Cover:	0	OBL Species 60 x 1 = 60
Dasiphora fruticosa		5	✓	FAC	FACW Species 8 x 2 = 16
Empetrum nigrum		5		FAC	FAC Species 20 x 3 = 60
Vaccinium uliginosum		2		FAC	FACU Species 2 x 4 = 8
Andromeda polifolia		2		FACW	UPL Species0 x 5 =0
5. Betula nana		1		FAC	Column Totals:90 (A)144 (B)
6. Picea glauca		1		FACU	
7. Spiraea stevenii		1		FACU	Prevalence Index = B/A =1.600_
8		0	_		Hydrophytic Vegetation Indicators:
9		0			✓ Dominance Test is > 50%
10		0	_		✓ Prevalence Index is ≤3.0
	Total Cover:				Morphological Adaptations (Provide supporting data in
Herb Stratum	50% of Total Cover:		% of Total Cover:		Remarks or on a separate sheet)
Trichophorum caespito		45	- Z	OBL	Problematic Hydrophytic Vegetation (Explain)
Eriophorum angustifoliu		7	-	OBL	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. Carex pluriflora		<u>5</u> 	- 📙	OBL	be present, unless disturbed of problematic.
Festuca altaica Dodecatheon jeffreyi		5	- 📙	FACW	Plot size (radius, or length x width)
			-	FAC	% Cover of Wetland Bryophytes
6. I halictrum alpinum7. Spiranthes romanzoffia	na	1	-	OBL	(Where applicable)
Deschampsia brevifolia		1	-	OBL	% Bare Ground
9. Carex anthoxanthea		1	- 🗀	FACW	Total Cover of Bryophytes
10. Carex vaginata		1		OBL	Hydrophytic
J	Total Cover:	73	•		Vegetation
			- % of Total Cover:	14.6	Present? Yes No
					tathera sp, equpal. Additional herbs 1% each drosera
rotundifolia, care	x livida, tofieldia pusilla, arcta	grostis lat	ifolia, swertia p	erennis, m	enyanthes trifoliata, carex pauciflora.

US Army Corps of Engineers Alaska Version 2.0

SOIL Sampling Point: SW12_T54_07

Depth ————	Ma	o the depth needed to document the indicator or confirm the absence of Matrix Redox Features			res			
(inches)	Color (moist) %	Color (moist)	_%_	Type ¹	Loc ²	Texture	Remarks
T 0.0								-
Type: C=Cond	centration. D=De	apletion. RM=Re	duced Matrix ² Location				nnel. M=Matrix	
ydric Soil In	dicators:		Indicators for P		4	oils:		
Histosol or	Histel (A1)		Alaska Color (-		Alaska Gleyed Without H	lue 5Y or Redder
Histic Epipe			☐ Alaska Alpine	•	,		Underlying Layer	lea)
」Hydrogen S	. ,		☐ Alaska Redox	With 2.5Y H	ue	V	Other (Explain in Remar	KS)
	Surface (A12)		³ One indicator of	f hvdrophyti	c vegetatio	n, one prim	nary indicator of wetland I	nvdrology,
Alaska Gley			and an appropria					, ,,,
☐ Alaska Redo	ed Pores (A15)		4 Give details of	color change	in Remark	s		
-								
strictive Layer	r (if present):						Undele Cell December	:? Yes • No O
							Hydric Soil Present	:? Yes • No ·
		sume hydric soils	due to standing water	and hydropl	hytic veget	ation.		
Depth (incher emarks: soil pit due to	o inundation. ass	sume hydric soils	due to standing water	and hydropl	hytic veget	ation.		
Depth (inche emarks: soil pit due to	o inundation. ass		due to standing water	and hydropl	hytic veget	ation.		
Depth (inche emarks: soil pit due to	o inundation. ass	rs:	due to standing water	and hydropl	hytic veget	ation.		icators (two or more are required)
Depth (inche emarks: soil pit due to	GY Ology Indicator ors (any one is s	rs:					Water Sta	ined Leaves (B9)
Depth (inche marks: soil pit due to	GY ology Indicator ors (any one is sater (A1)	rs:	Inundation	Visible on Ae	erial Image	ry (B7)	Water Sta	ined Leaves (B9) Patterns (B10)
Depth (inche emarks: soil pit due to	GY ology Indicator ors (any one is sater (A1) r Table (A2)	rs:	☐ Inundation ☐ Sparsely Ve	Visible on Ae getated Cond	erial Image	ry (B7)	Water Sta Drainage I Oxidized F	ined Leaves (B9) Patterns (B10)
Depth (inche marks: soil pit due to	GY oliology Indicator ors (any one is sater (A1) r Table (A2) (A3)	rs:	☐ Inundation☐ Sparsely Ve☐ Marl Deposi	Visible on Ae getated Cond ts (B15)	erial Image cave Surfac	ry (B7)	Water Sta Drainage I Oxidized F	ined Leaves (B9) Patterns (B10) khizospheres along Living Roots (C of Reduced Iron (C4)
Popth (inche emarks: soil pit due to pit due	GY oliology Indicator ors (any one is sater (A1) r Table (A2) (A3)	rs:	Inundation Sparsely Ve Marl Deposi Hydrogen S	Visible on Ae getated Cond ts (B15)	erial Image cave Surfac	ry (B7)	Water Sta Drainage I Oxidized F Presence C Salt Depos	ined Leaves (B9) Patterns (B10) khizospheres along Living Roots (C of Reduced Iron (C4)
Popth (inche emarks: soil pit due to Popth (inche emarks: soil pit due to Popth (inche emarks: Popth (inc	o inundation. associated (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	rs:	Inundation Sparsely Ve Marl Deposi Hydrogen S Dry-Season	Visible on Ae getated Cond ts (B15) ulfide Odor (erial Image cave Surfac (C1) e (C2)	ry (B7)	Water Sta Drainage I Oxidized F Presence C Salt Depos	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C of Reduced Iron (C4) sits (C5)
POROLOG Catland Hydre Timary Indicate Saturation Water Mari Sediment I Drift Depos	o inundation. associated (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	rs:	Inundation Sparsely Ve Marl Deposi Hydrogen S Dry-Season	Visible on Ae getated Cond ts (B15) ulfide Odor (Water Table	erial Image cave Surfac (C1) e (C2)	ry (B7)	Water Sta Drainage I Oxidized R Presence o Salt Depos Stunted or Geomorph	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C of Reduced Iron (C4) sits (C5) r Stressed Plants (D1)
/DROLOGetland Hydrorimary Indicate Saturation Water Mark Sediment I Drift Depos	o inundation. associates (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	rs:	Inundation Sparsely Ve Marl Deposi Hydrogen S Dry-Season	Visible on Ae getated Cond ts (B15) ulfide Odor (Water Table	erial Image cave Surfac (C1) e (C2)	ry (B7)	Water Sta Drainage I Oxidized F Presence o Salt Depos Stunted on Geomorph Shallow Ad	ined Leaves (B9) Patterns (B10) thizospheres along Living Roots (C of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) dic Position (D2) quitard (D3) graphic Relief (D4)
POROLOG etland Hydrorimary Indicate Saturation Water Mari Sediment I Drift Depos Algal Mat c	o inundation. associates (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	rs:	Inundation Sparsely Ve Marl Deposi Hydrogen S Dry-Season	Visible on Ae getated Cond ts (B15) ulfide Odor (Water Table	erial Image cave Surfac (C1) e (C2)	ry (B7)	Water Sta Drainage I Oxidized F Presence o Salt Depos Stunted or Geomorph Shallow Ar	ined Leaves (B9) Patterns (B10) thizospheres along Living Roots (C of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) dic Position (D2) quitard (D3) graphic Relief (D4)
Popth (inche emarks: soil pit due to et al. s	o inundation. associated (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) il Cracks (B6) tions:	rs: sufficient)	Inundation Sparsely Ve Marl Deposi Hydrogen S Dry-Season Other (Expl	Visible on Ae getated Cond ts (B15) ulfide Odor (Water Table ain in Remari	erial Image cave Surfac (C1) e (C2)	ry (B7)	Water Sta Drainage I Oxidized F Presence o Salt Depos Stunted on Geomorph Shallow Ad	ined Leaves (B9) Patterns (B10) thizospheres along Living Roots (C of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) dic Position (D2) quitard (D3) graphic Relief (D4)
POROLOG etland Hydrerimary Indicate Saturation Water Mark Sediment I Drift Depos Algal Mat of Iron Depos Surface So eld Observation	o inundation. associated (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) il Cracks (B6) tions: Present?	rs: sufficient)	Inundation Sparsely Ve Marl Deposi Hydrogen S Dry-Season Other (Expl	Visible on Ae getated Cond ts (B15) ulfide Odor (Water Table ain in Remari	erial Image cave Surfac (C1) e (C2)	ry (B7) ce (B8)	Water Sta Drainage I Oxidized F Presence o Salt Depos Stunted or Geomorph Shallow Ar Microtopo	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) sic Position (D2) quitard (D3) graphic Relief (D4) al Test (D5)
Popth (inche emarks: soil pit due to etland Hydrorimary Indicate elland Hydrorimary Indicate elland Hydrorimary Indicate elland Hydrorimary Indicate elland High Water Marl Sediment I orift Deposes elland Surface Soeld Observation elland Surface Water Vater Table Programmers	o inundation. associater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) il Cracks (B6) tions: Present?	rs: sufficient)	Inundation Sparsely Ve Marl Deposi Hydrogen S Dry-Season Other (Expl	Visible on Ae getated Cond ts (B15) ulfide Odor (Water Table ain in Remar	erial Image cave Surfac (C1) e (C2)	ry (B7) ce (B8)	Water Sta Drainage I Oxidized F Presence o Salt Depos Stunted on Geomorph Shallow Ad	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) sic Position (D2) quitard (D3) graphic Relief (D4) al Test (D5)
Pepth (inche emarks: a soil pit due to soil pit	o inundation. associated (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) iil Cracks (B6) tions: Present? sent?	rs: sufficient)	Inundation Sparsely Ve Marl Deposi Hydrogen S Dry-Season Other (Explain	Visible on Ae getated Cond ts (B15) ulfide Odor (Water Table ain in Remari nes): 2	erial Image cave Surfac (C1) e (C2)	ry (B7) ce (B8)	Water Sta Drainage I Oxidized F Presence o Salt Depos Stunted or Geomorph Shallow Ar Microtopo	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) sic Position (D2) quitard (D3) graphic Relief (D4) al Test (D5)
Pepth (inche emarks: a soil pit due to emark Indicate emarks: a saturation emarks: a soil emarks:	o inundation. associated (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) il Cracks (B6) tions: Present? resent? resent? resent? resent?	Yes No Yes No Yes No	Inundation Sparsely Ve Marl Deposi Hydrogen S Dry-Season Other (Explain	Visible on Ae getated Cond ts (B15) ulfide Odor (Water Table ain in Reman	erial Image cave Surfac (C1) e (C2) ks)	ry (B7) ce (B8) Wetlar	Water Sta Drainage I Oxidized F Presence o Salt Depos Stunted or Geomorph Shallow Ar Microtopo	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) sic Position (D2) quitard (D3) graphic Relief (D4) al Test (D5)
Pepth (inche emarks: a soil pit due to emark Indicate emarks: a saturation emarks: a soil emarks:	o inundation. associated (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) il Cracks (B6) tions: Present? resent? resent? resent? resent?	Yes No Yes No Yes No	Inundation Sparsely Ve Marl Deposi Hydrogen S Dry-Season Other (Explain	Visible on Ae getated Cond ts (B15) ulfide Odor (Water Table ain in Reman	erial Image cave Surfac (C1) e (C2) ks)	ry (B7) ce (B8) Wetlar	Water Sta Drainage I Oxidized F Presence o Salt Depos Stunted or Geomorph Shallow Ar Microtopo	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) sic Position (D2) quitard (D3) graphic Relief (D4) al Test (D5)
Depth (inche emarks: soil pit due to emarks: soil pit due to et al. emarks: soil pit due to emarks:	o inundation. associated (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) il Cracks (B6) tions: Present? resent? resent? resent? resent? resent? resent? resent? resent?	Yes No Yes No Grangauge, monitor	Inundation Sparsely Ve Marl Deposi Hydrogen S Dry-Season Other (Explain	Visible on Ae getated Cond ts (B15) ulfide Odor (Water Table ain in Remark les): 2 les):	erial Image cave Surface (C1) e (C2) ks)	ry (B7) ce (B8) Wetlar	Water Sta Drainage I Oxidized F Presence o Salt Depos Stunted or Geomorph Shallow Ar Microtopo	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (Coof Reduced Iron (C4) sits (C5) r Stressed Plants (D1) sic Position (D2) quitard (D3) graphic Relief (D4) al Test (D5)

U.S. Army Corps of Engineers Alaska Version 2.0