WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Denali Borough | Sampling Date: 06-Aug-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T148_03**

Investigator(s): SLI, EAC | Landform (hillside, terrace, hummocks etc.): Toeslope

Local relief (concave, convex, none): hummocky | Slope: % / 1.1 ° | Elevation: 723

Subregion : Interior Alaska Mountains | Lat.: 63.3896836036 | Long.: -148.595952393 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PSS1B**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks: bright green signature in aerial between obvious forest patches. shrubby, little standing water. closer to road and across road are PEM1F caraqu-dominated wetlands, possibly too small to map seperately.

VEGETATION - Use scientific names of plants. List all species in the plot.

	Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
	Total Cover:	0		

50% of Total Cover: 0 | 20% of Total Cover: 0

	Sapling/Shrub Stratum			
1.	Picea glauca	7	☑	FACU
2.	Betula nana	7	☑	FAC
3.	Vaccinium uliginosum	7	☑	FAC
4.	Dasiphora fruticosa	5	☑	FAC
5.	Salix reticulata	5	☑	FAC
6.	Picea mariana	5	☑	FACW
7.	Salix barclayi	4	☐	FAC
8.	Salix pulchra	3	☐	FACW
9.	Empetrum nigrum	3	☐	FAC
10.	Andromeda polifolia (IAM)	1	☐	OBL
	Total Cover:	47		

50% of Total Cover: 23.5 | 20% of Total Cover: 9.4

	Herb Stratum			
1.	Carex aquatilis	7	☑	OBL
2.	Equisetum arvense	3	☑	FAC
3.	Equisetum variegatum	3	☑	FACW
4.	Parnassia palustris	1	☐	FACW
5.	Equisetum fluviatile	1	☐	OBL
6.	Spiranthes romanzoffiana	0.1	☐	OBL
7.	Equisetum palustre	0.1	☐	FACW
8.	Platanthera aquilonis	0.1	☐	FACW
9.	Bistorta vivipara	0.1	☐	FAC
10.		0	☐	
	Total Cover:	15.4		

50% of Total Cover: 7.7 | 20% of Total Cover: 3.08

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 88.9% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	9.1	x 1 =	9.1
FACW Species	12.2	x 2 =	24.40
FAC Species	34.1	x 3 =	102.3
FACU Species	7	x 4 =	28
UPL Species	0	x 5 =	0
Column Totals:	62.4 (A)		163.8 (B)

Prevalence Index = B/A = 2.625

Hydrophytic Vegetation Indicators:

☑ Dominance Test is > 50%

☑ Prevalence Index is ≤3.0

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (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 5

Total Cover of Bryophytes 90

Hydrophytic Vegetation Present? **Yes ◉ No ○**

Remarks: 2% each collected sedges. 1% vacvit, leddec. trace vacoxy, pedicularis

SOIL

Sampling Point: SW13_T148_03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	7.5YR	3/2	100					Fibric Organics	
9-16	7.5YR	3/1	100					Hemic Organics	
16-18	5YR	3/1	100					Silt Loam	high organic content

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix [2] Location: PL=Pore Lining. RC=Root Channel. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol or Histel (A1)
- ☑ Histic Epipedon (A2)
- ☐ Hydrogen Sulfide (A4)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils:[3]

- ☐ Alaska Color Change (TA4)[4]
- ☐ Alaska Alpine swales (TA5)
- ☐ Alaska Redox With 2.5Y Hue
- ☐ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ☐ Other (Explain in Remarks)

[3] One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present

[4] Give details of color change in Remarks

Restrictive Layer (if present):
Type:
Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:
Subangular cobble and gravel 40% at 13in

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one is sufficient)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Other (Explain in Remarks)

Secondary Indicators (two or more are required)

- ☐ Water Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ◉	No ○	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:

Remarks: