WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Denali Borough | Sampling Date: 03-Aug-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T194_02**

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

Local relief (concave, convex, none): flat | Slope: 0.0 % / 0.0 ° | Elevation: 814

Subregion : Interior Alaska Mountains | Lat.: 63.356138825 | Long.: -148.336717963 | Datum: WGS84

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

Remarks:

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

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

50% of Total Cover: 0.5 | 20% of Total Cover: 0.2

Sapling/Shrub Stratum			
1. Picea glauca	3	☐	FACU
2. Betula glandulosa	25	☑	FAC
3. Salix pulchra	20	☐	FACW
4. Betula nana	5	☐	FAC
5. Vaccinium uliginosum	30	☑	FAC
6. Vaccinium vitis-idaea	3	☐	FAC
7. Ledum decumbens	5	☐	FACW
8. Empetrum nigrum	7	☐	FAC
9. Salix barclayi	7	☐	FAC
10. Salix richardsonii	3	☐	FACW
Total Cover:	108		

50% of Total Cover: 54 | 20% of Total Cover: 21.6

Herb Stratum			
1. Rubus chamaemorus	3	☐	FACW
2. Equisetum arvense	10	☑	FAC
3. Cornus suecica	0.1	☐	FAC
4. Spinulum annotinum	0.1	☐	FACU
5. Calamagrostis canadensis	7	☑	FAC
6. Carex aquatilis	10	☑	OBL
7. Luzula wahlenbergii	1	☐	OBL
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	31.2		

50% of Total Cover: 15.6 | 20% of Total Cover: 6.24

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	11	x 1 =	11
FACW Species	31	x 2 =	62
FAC Species	94.1	x 3 =	282.3
FACU Species	4.1	x 4 =	16.4
UPL Species	0	x 5 =	0
Column Totals:	140.2 (A)		371.7 (B)

Prevalence Index = B/A = 2.651

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 80

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

Remarks: 10% lichen cover

SOIL

Sampling Point: SW13_T194_02

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
0-12	7.5YR	2.5/2	100					Fibric Organics	
12-22	5YR	2.5/1	100					Hemic Organics	Barely hemic - still a lot of intact fibrous ma

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

Hydric Soil Indicators:

- [x] 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:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one is sufficient)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] 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)
- [x] 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): 15
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 1

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: