WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 25-Jun-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T21_09**

Investigator(s): SLI, LMF | Landform (hillside, terrace, hummocks etc.): Hillside

Local relief (concave, convex, none): rolling | Slope: % / 10.0 ° | Elevation: 710

Subregion : Interior Alaska Mountains | Lat.: 62.7857481553 | Long.: -148.59219574 | 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: picmar alncri hillslope wetland. tall (>15ft) tree-form alncri NE of this point.

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum			
1. Picea mariana	15	☑	FACW
2. Alnus viridis	10	☑	FAC
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	25		
Sapling/Shrub Stratum	50% of Total Cover: 12.5	20% of Total Cover: 5	
1. Picea mariana	7	☐	FACW
2. Alnus viridis	50	☑	FAC
3. Ribes triste	1	☐	FAC
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	58		
Herb Stratum	50% of Total Cover: 29	20% of Total Cover: 11.6	
1. Petasites frigidus	15	☐	FACW
2. Calamagrostis canadensis	10	☐	FAC
3. Equisetum sylvaticum	60	☑	FAC
4. Rubus chamaemorus	1	☐	FACW
5. Rumex arcticus	1	☐	FAC
6. Cornus canadensis	5	☐	FACU
7. Spinulum annotinum	1	☐	FACU
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	93		
50% of Total Cover:	46.5	20% of Total Cover:	18.6

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	38	x 2 =	76
FAC Species	132	x 3 =	396
FACU Species	6	x 4 =	24
UPL Species	0	x 5 =	0
Column Totals:	176 (A)		496 (B)

Prevalence Index = B/A = 2.818

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 40

Total Cover of Bryophytes 45

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

Remarks: trace spiraea stevenii

SOIL

Sampling Point: SW12_T21_09

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
0-8									Fibric Organics	
8-10									Hemic Organics	
10-11									Sapric Organics	
11-16	5Y	4/3	70	2.5Y	4/4	30	C	PL	Sandy Clay	frozen soil at 16in

[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: active layer (frozen)
Depth (inches): 16

Hydric Soil Present? Yes ◉ No ○

Remarks:

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): 11
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 8

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:
water seeping into pit at 11in.