WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Denali Borough | Sampling Date: 02-Aug-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T149_08**

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

Local relief (concave, convex, none): flat | Slope: 0.0 % / 0.0 ° | Elevation: 673

Subregion : Interior Alaska Mountains | Lat.: 63.38385427 | Long.: -148.480259538 | Datum: WGS84

Soil Map Unit Name: | **NWI classification: PSS1C**

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: This is a tall closed shrub community but soil pit was dug in a narrow open swale within the community.

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		

Sapling/Shrub Stratum (50% of Total Cover: 0 / 20% of Total Cover: 0)			
1. Myrica gale	90	☑	OBL
2. Dasiphora fruticosa	0.1	☐	FAC
3. Salix pseudomonticola	50	☑	FAC
4. Salix alaxensis	5	☐	FAC
5. Salix arbusculoides	5	☐	FACW
6. Salix barclayi	20	☐	FAC
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	170		

Herb Stratum (50% of Total Cover: 85.05 / 20% of Total Cover: 34.02)			
1. Carex aquatilis	0.1	☐	OBL
2. Equisetum arvense	1	☑	FAC
3. Parnassia palustris	0.1	☐	FACW
4. Carex loliacea	0.1	☐	OBL
5. Phleum alpinum	0.1	☐	FACU
6. Agrostis scabra	0.1	☐	FAC
7. Trisetum spicatum	0.1	☐	FAC
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	1.6		
50% of Total Cover: 0.8 / 20% of Total Cover: 0.32			

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (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	90.2	x 1 =	90.2
FACW Species	5.1	x 2 =	10.2
FAC Species	76.3	x 3 =	228.9
FACU Species	0.1	x 4 =	0.400
UPL Species	0	x 5 =	0
Column Totals:	171.7 (A)		329.7 (B)

Prevalence Index = B/A = 1.920

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

Total Cover of Bryophytes

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

Remarks:

SOIL

Sampling Point: SW13_T149_08

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
0-2	10YR	4/1	100						Loam	rooted
2-13	5PB	4/1	70	2.5YR	4/6	30	C	PL	Very Fine Sandy Loam	
13-18	10B	4/1	80	2.5YR	4/6	20	C	PL	Very Fine Sandy Loam	

[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:
sand lenses throughout profile, 0.5in thick and 2-7in long

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:
Nenana River floodplain