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_01**

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

Local relief (concave, convex, none): flat | Slope: % / 3.0 ° | Elevation: 659

Subregion : Interior Alaska Mountains | Lat.: 63.3847662206 | Long.: -148.491259217 | 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

Is the Sampled Area within a Wetland? **Yes ◉ No ○**

Remarks: fnwws. Sandy soils (fluvaquents) in level terrain. Denali Hwy seperates community from Nenana River, but sediment deposits indicate community still floods. Flooding here may be snowmelt, rather than riverine, source? Believe Hwy is enough of a barrier that this is not a riverine wetland.

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

	Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.	Picea glauca	15	☑	FACU
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
	Total Cover:	15		

Sapling/Shrub Stratum — 50% of Total Cover: 7.5 — 20% of Total Cover: 3

1.	Salix pulchra	30	☑	FACW
2.	Vaccinium uliginosum	60	☑	FAC
3.	Rosa acicularis	1	☐	FACU
4.	Vaccinium vitis-idaea	3	☐	FAC
5.	Betula glandulosa	20	☐	FAC
6.	Spiraea stevenii	0.1	☐	FACU
7.	Linnaea borealis	0.1	☐	FACU
8.	Rhododendron groenlandicum	1	☐	FAC
9.			☐	
10.	Salix barclayi	10	☐	FAC
	Total Cover:	125		

Herb Stratum — 50% of Total Cover: 62.6 — 20% of Total Cover: 25.04

1.	Arctagrostis latifolia	5	☐	FACW
2.	Cornus suecica	10	☑	FAC
3.	Equisetum arvense	10	☑	FAC
4.	Rubus chamaemorus	1	☐	FACW
5.	Mertensia paniculata	0.1	☐	FACU
6.	Rubus arcticus (IAM)	1	☐	FACU
7.		0	☐	
8.		0	☐	
9.		0	☐	
10.		0	☐	
	Total Cover:	27.1		

50% of Total Cover: 13.55 — 20% of Total Cover: 5.42

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	36	x 2 =	72
FAC Species	114	x 3 =	342
FACU Species	17.3	x 4 =	69.20
UPL Species	0	x 5 =	0
Column Totals:	167.3 (A)		483.2 (B)

Prevalence Index = B/A = 2.888

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 20

Total Cover of Bryophytes 70

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

Remarks: 5% lichen cover. trace rumex. 5% collected willow.

SOIL

Sampling Point: SW13_T149_01

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
0-3	5YR	2.5/1	100						fibric organics	
3-4	7.5YR	2.5/1	50	2.5YR	3/4	50		PL	Very Fine Sandy Loam	
4-9	10BG	4/1	40	2.5YR	4/8	15	C	PL	Silty Clay	40% pockets fresh sand, 10YR5/4. ox rhiz lv
+mottle				5YR	4/1	5	C	PL		
9-20	5PB	5/1	70	2.5YR	5/6	30	C	PL	Very Fine Loamy Sand	

[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:

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:
see main remarks on sediment deposits.