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_04**

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

Local relief (concave, convex, none): flat | Slope: 0.0 % / 0.0 ° | Elevation: 668

Subregion : Interior Alaska Mountains | Lat.: 63.384770393 | Long.: -148.485313177 | 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: community contains small micro-highs w picgla and drier grasses (antmon, fesalt). majority of community w heavy willow/sedge cover and indications of seasonal flooding. suspect this is more of a snowmelt/discharge system than riparian system due to Denali Highway between site and Nenana River

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum			
1. Picea glauca	10	☑	FACU
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	10		
Sapling/Shrub Stratum	50% of Total Cover: 5	20% of Total Cover: 2	
1. Picea glauca	7	☐	FACU
2. Salix pulchra	30	☑	FACW
3. Salix richardsonii	20	☑	FACW
4. Salix barclayi	5	☐	FAC
5. Rosa acicularis	0.1	☐	FACU
6. Dasiphora fruticosa	3	☐	FAC
7. Salix arbusculoides	3	☐	FACW
8. Vaccinium uliginosum	3	☐	FAC
9. Vaccinium vitis-idaea	0.1	☐	FAC
10. Betula glandulosa	3	☐	FAC
Total Cover:	74.2		
Herb Stratum	50% of Total Cover: 37.1	20% of Total Cover: 14.84	
1. Agrostis scabra	0.1	☐	FAC
2. Festuca altaica	0.1	☐	FAC
3. Equisetum arvense	7	☑	FAC
4. Carex loliacea	5	☐	OBL
5. Carex aquatilis	15	☑	OBL
6. Anthoxanthum monticola ssp. alpinum	0.1	☐	FACU
7. Carex saxatilis	7	☑	FACW
8. Petasites frigidus	0.1	☐	FACW
9. Carex membranacea	3	☐	FACW
10. Sanguisorba officinalis	0.1	☐	FACW
Total Cover:	37.5		
50% of Total Cover: 18.75	20% of Total Cover: 7.5		

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	20	x 1 =	20
FACW Species	63.2	x 2 =	126.4
FAC Species	21.3	x 3 =	63.90
FACU Species	17.2	x 4 =	68.80
UPL Species	0	x 5 =	0
Column Totals:	121.7 (A)		279.1 (B)

Prevalence Index = B/A = 2.293

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 60

Total Cover of Bryophytes 30

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

Remarks: trace solidago multiradiata, spiranthes romanzoffiana, rubus acaulis,

SOIL

Sampling Point: SW13_T149_04

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
0-1	7.5YR	2.5/2	100						Hemic Organics	
1-9	5PB	4/1	85	5YR	4/6	15	C	PL	Very Fine Loamy Sand	Also oxidized horizontal bands in lower hori
9-14	10YR	5/1	100						Coarse Loamy Sand	fluvial deposit
14-17	10YR	4/1	100						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: active layer

Depth (inches): 24

Hydric Soil Present? Yes ◉ No ○

Remarks:

soil pit in relatively dry portion of community, on micro-high near picgla.

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: