WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 23-Aug-15

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW15_T351_08**

Investigator(s): SLI, SCB | Landform (hillside, terrace, hummocks etc.): Shoreline

Local relief (concave, convex, none): concave | Slope: 3.5 % / 2.0 ° | Elevation:

Subregion : Interior Alaska Mountains | Lat.: | Long.: | 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: plot includes band from edge of unvegetated rocks to line of driftwood etc approx 15 meters away

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		

50% of Total Cover: 0 | 20% of Total Cover: 0

	Sapling/Shrub Stratum			
1.	Picea glauca	2	☐	FACU
2.	Populus balsamifera	8	☑	FACU
3.	Alnus viridis	1	☐	FAC
4.	Betula glandulosa	3	☐	FAC
5.	Dasiphora fruticosa	3	☐	FAC
6.	Salix glauca	20	☑	FAC
7.	Dryas ajanensis	0.1	☐	UPL
8.	Myrica gale	1	☐	OBL
9.	Shepherdia canadensis	0.1	☐	FACU
10.	Arctous ruber	0.1	☐	FAC
	Total Cover:	38.3		

50% of Total Cover: 19.15 | 20% of Total Cover: 7.66

	Herb Stratum			
1.	Astragalus alpinus	15	☑	FAC
2.	Poa alpina	1	☐	FACU
3.	Calamagrostis stricta ssp. inexpansa	3	☐	FACW
4.	Hedysarum mackenzei	1	☐	UPL
5.	Castilleja pallida	0.1	☐	FAC
6.	Artemisia tilesii	0.1	☐	FACU
7.	Equisetum variegatum	0.1	☐	FACW
8.	Parnassia palustris	0.1	☐	FACW
9.	Carex aquatilis	5	☐	OBL
10.	Elymus repens	0.1	☐	FACU
	Total Cover:	25.5		

50% of Total Cover: 12.75 | 20% of Total Cover: 5.1

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	6	x 1 =	6
FACW Species	3.2	x 2 =	6.4
FAC Species	42.2	x 3 =	126.6
FACU Species	11.3	x 4 =	45.20
UPL Species	1.1	x 5 =	5.500
Column Totals:	63.8	(A)	189.7 (B)

Prevalence Index = B/A = 2.973

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) 2x5m

% Cover of Wetland Bryophytes (Where applicable)

% Bare Ground 40

Total Cover of Bryophytes 10

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

Remarks: overall code slow - more bare sand and herbs near river, more willow toward drift line. add trace of salix barclayi, agrostis scabra, rhinanthus minor

SOIL

Sampling Point: SW15_T351_08

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-22		100					Fine Sand	vareigated

[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:
fluvaquent soil on shoreline of Susitna River

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:
B3--wrack lines
D2--Susitna River shoreline