WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 03-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T106_01**

Investigator(s): WAD, BAB | Landform (hillside, terrace, hummocks etc.): Swale

Local relief (concave, convex, none): concave | Slope: 5.2 % / 3.0 ° | Elevation: 869

Subregion : Interior Alaska Mountains | Lat.: 62.8809551 | Long.: -148.599954844 | Datum: WGS84

Soil Map Unit Name: | **NWI classification: PEM1/SS1E**

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: Meadow at headwater of small creek.
Photo num 960 961. 9,58 photo time

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.	Dasiphora fruticosa	10	☑	FAC
2.		10	☑	
3.	Empetrum nigrum	10	☑	FAC
4.	Vaccinium uliginosum	5	☐	FAC
5.	Salix barclayi	1	☐	FAC
6.	Salix pulchra	1	☐	FACW
7.		0	☐	
8.		0	☐	
9.		0	☐	
10.		0	☐	
	Total Cover:	37		
	Herb Stratum	50% of Total Cover: 18.5	20% of Total Cover: 7.4	
1.	Carex aquatilis	35	☑	OBL
2.	Trichophorum caespitosum	15	☑	OBL
3.	Cornus canadensis	5	☐	FACU
4.	Carex macrochaeta	3	☐	FACW
5.	Dodecatheon pulchellum ssp. pulchellum	1	☐	FACW
6.	Bistorta plumosa	1	☐	FACU
7.	Sanguisorba canadensis	0.1	☐	FACW
8.	Swertia perennis	0.1	☐	FACW
9.	Equisetum arvense	0.1	☐	FAC
10.	Sedum rosea	0.1	☐	FAC
	Total Cover:	60.4		
	50% of Total Cover: 30.2	20% of Total Cover: 12.08		

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	50	x 1 =	50
FACW Species	5.2	x 2 =	10.4
FAC Species	26	x 3 =	78
FACU Species	6	x 4 =	24
UPL Species	0	x 5 =	0
Column Totals:	87.2 (A)		162.4 (B)

Prevalence Index = B/A = 1.862

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 0

Total Cover of Bryophytes 5

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

Remarks: sedge phenology not well developed.

SOIL

Sampling Point: SW13_T106_01

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
0-1		100					Fibric Organics	
1-9		100					Hemic Organics	

[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: seasonal frost

Depth (inches): 9

Hydric Soil Present? Yes ◉ No ○

Remarks:

primarily sedge peat

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): 2
Water Table Present?	Yes ◉	No ○	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

surface water in narrow channel with running water.