WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 31-Jul-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T46_07**

Investigator(s): SLI, KMK | Landform (hillside, terrace, hummocks etc.): Swale

Local relief (concave, convex, none): concave | Slope: % / 5.5 ° | Elevation: 820

Subregion : Interior Alaska Mountains | Lat.: 62.6927846618 | Long.: -147.658347492 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PEM1E**

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: swale w flowing / standing water and emergent vegetation. characterizing small PEM1E, overall swale is better mapped as PEM1/SS1E. adjacent picmar forest a PFO4B wetland fnobs.

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

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Picea mariana	10	☑	FACW
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	10		

50% of Total Cover: 5 | 20% of Total Cover: 2

Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix pulchra	10	☑	FACW
2. Dasiphora fruticosa	1	☐	FAC
3. Spiraea stevenii	5	☑	FACU
4. Picea mariana	5	☑	FACW
5. Salix fuscescens	1	☐	FACW
6. Betula glandulosa	5	☑	FAC
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	27		

50% of Total Cover: 13.5 | 20% of Total Cover: 5.4

Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Ranunculus hyperboreus	10	☑	OBL
2. Comarum palustre	5	☐	OBL
3. Rumex acetosa	0.1	☐	FAC
4. Carex canescens (IAM)	10	☑	FAC
5. Juncus alpinoarticulatus	2	☐	OBL
6. Arctagrostis latifolia	15	☑	FACW
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	42.1		

50% of Total Cover: 21.05 | 20% of Total Cover: 8.42

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 87.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	17	x 1 =	17
FACW Species	41	x 2 =	82
FAC Species	16.1	x 3 =	48.30
FACU Species	5	x 4 =	20
UPL Species	0	x 5 =	0
Column Totals:	79.1 (A)		167.3 (B)

Prevalence Index = B/A = 2.115

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) 2x10m

% Cover of Wetland Bryophytes (Where applicable)

% Bare Ground 30

Total Cover of Bryophytes 30

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

Remarks: trace epilobium sp, equarv, equsyl, and rumex sp.

SOIL

Sampling Point: SW12_T46_07

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 %	Type [1]	Loc [2]	Texture	Remarks

[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:
assume hydric soils due to standing water and hydrophytic vegetation

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): 3
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:
flowing water through swale