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_T40_04**

Investigator(s): CTS, EKJ | Landform (hillside, terrace, hummocks etc.): Mountainslope

Local relief (concave, convex, none): convex | Slope: 8.7 % / 5.0 ° | Elevation: 896

Subregion : Interior Alaska Mountains | Lat.: 62.7146899081 | Long.: -147.451379977 | Datum: WGS84

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

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: Fnobs w tall alder understory

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum			
1. Picea mariana	40	☑	FACW
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	40		
Sapling/Shrub Stratum	50% of Total Cover: 20	20% of Total Cover: 8	
1. Alnus viridis ssp. crispa	2	☐	FAC
2. Vaccinium uliginosum	15	☑	FAC
3. Vaccinium vitis-idaea	2	☐	FAC
4. Betula nana	1	☐	FAC
5. Salix pulchra	2	☐	FACW
6. Rosa acicularis	1	☐	FACU
7. Empetrum nigrum	0.1	☐	FAC
8. Linnaea borealis	1	☐	FACU
9.	0	☐	
10.	0	☐	
Total Cover:	24.1		
Herb Stratum	50% of Total Cover: 12.05	20% of Total Cover: 4.82	
1. Petasites frigidus	15	☑	FACW
2. Rubus chamaemorus	5	☑	FACW
3. Juncus castaneus	0.1	☐	FACW
4. Arctagrostis latifolia	0.1	☐	FACW
5. Equisetum sylvaticum	2	☐	FAC
6. Rumex arcticus	1	☐	FAC
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	23.2		
50% of Total Cover:	11.6	20% of Total Cover: 4.64	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	62.2	x 2 =	124.4
FAC Species	23.1	x 3 =	69.30
FACU Species	2	x 4 =	8
UPL Species	0	x 5 =	0
Column Totals:	87.3 (A)		201.7 (B)

Prevalence Index = B/A = 2.310

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) 70

% Bare Ground 5

Total Cover of Bryophytes 70

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: Bare ground is mud seep

SOIL

Sampling Point: SW12_T40_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
0-5			100						Fibric Organics	
5-6			100						Sapric Organics	
6-10	10YR	4/2	90	7.5YR	3/3	10	C	PL	Loam	few rounded gravel and sand
10-19	2.5Y	4/2	70	10YR	4/6	10	C	PL	Sandy Loam	20% sand to rounded gravel

[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:
steep site, no primary hydrology, thus not applying problematic hydric soil

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): 5

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:
cannot apply A3 as no water table or restrictive layer w/in 12in