WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 03-Aug-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T37_07**

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

Local relief (concave, convex, none): flat | Slope: 0.0 % / 0.0 ° | Elevation: 277

Subregion : Southcentral Alaska | Lat.: 62.8134699084 | Long.: -149.557719966 | 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: Fmosb on flats

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

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Picea glauca	20	☑	FACU
2. Betula neoalaskana	5	☑	FACU
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	25		

50% of Total Cover: 12.5 | 20% of Total Cover: 5

Sapling/Shrub Stratum			
1. Vaccinium uliginosum	10	☑	FAC
2. Betula neoalaskana	15	☑	FACU
3. Vaccinium vitis-idaea	8	☐	FAC
4. Viburnum edule	1	☐	FACU
5. Salix barclayi	4	☐	FAC
6. Spiraea stevenii	2	☐	FACU
7. Vaccinium oxycoccos	2	☐	OBL
8. Rubus pedatus	10	☑	FAC
9.	0	☐	
10.	0	☐	
Total Cover:	52		

50% of Total Cover: 26 | 20% of Total Cover: 10.4

Herb Stratum			
1. Cornus canadensis	3	☑	FACU
2. Equisetum sylvaticum	4	☑	FAC
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	7		

50% of Total Cover: 3.5 | 20% of Total Cover: 1.4

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 42.9% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	2	x 1 =	2
FACW Species	0	x 2 =	0
FAC Species	36	x 3 =	108
FACU Species	46	x 4 =	184
UPL Species	0	x 5 =	0
Column Totals:	84 (A)		294 (B)

Prevalence Index = B/A = 3.500

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) 90

% Bare Ground 0

Total Cover of Bryophytes 90

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: SW12_T37_07

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
0-4			100						Fibric Organics	
4-6	7.5YR	2.5/1	60						Sandy Loam	40% wood
6-7	10YR	6/2	100						Loamy Sand	
7-8	5YR	2.5/1	100						Loamy Sand	
8-10	5YR	3/2	100						Loamy Sand	
10-13	2.5Y	5/3	55	7.5YR	4/4	10	C	M	Sandy Loam	mottled and rounded cobble
14-16	2.5Y	2.5/2	90						Loamy Sand	rounded cobble

[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: frozen (active layer)

Depth (inches): 16

Hydric Soil Present? Yes ○ No ◉

Remarks:

ice poor restrictive layer. Soils meet color requirements for AK Redox w 2.5Y Hue, but do not have the hydrophytic vegetation and wetland hydrology needed to use a problematic hydric soil indicator.

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: