WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project   Borough/City: Matanuska-Susitna Borough   Sampling Date: 05-Jul-13

Applicant/Owner: Alaska Energy Authority   Sampling Point: **SW13_T114_01**

Investigator(s): WAD, BAB   Landform (hillside, terrace, hummocks etc.): Alluvial fan

Local relief (concave, convex, none): flat   Slope: 3.5 % / 2.0 °   Elevation: 499

Subregion : Interior Alaska Mountains   Lat.: 62.782394528   Long.: -148.016131759   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 ◯	**Is the Sampled Area within a Wetland?** Yes ⦿ No ◯
Hydric Soil Present?	Yes ⦿ No ◯	
Wetland Hydrology Present?	Yes ⦿ No ◯	

Remarks: closed low willow stand draining wet meadow above.
photo time 948
photo num 1015, 1014

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	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix pulchra	25	☑	FACW
2. Salix barclayi	60	☑	FAC
3. Myrica gale	5	☐	OBL
4. Dasiphora fruticosa	5	☐	FAC
5. Vaccinium uliginosum	2	☐	FAC
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	97		
50% of Total Cover: 48.5 20% of Total Cover: 19.4			

Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Equisetum arvense	15	☑	FAC
2. Calamagrostis canadensis	1	☐	FAC
3. Carex media	0.1	☐	FACW
4. Anemone richardsonii	0.1	☐	FAC
5. Juncus arcticus	0.1	☐	OBL
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	16.3		
50% of Total Cover: 8.15 20% of Total Cover: 3.26			

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (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	5.1	x 1 =	5.1
FACW Species	25.1	x 2 =	50.20
FAC Species	83.1	x 3 =	249.3
FACU Species	0	x 4 =	0
UPL Species	0	x 5 =	0
Column Totals:	113.3 (A)		304.6 (B)

Prevalence Index = B/A = 2.688

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

Total Cover of Bryophytes 0

Hydrophytic Vegetation Present? Yes ⦿ No ◯

Remarks:

SOIL

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
0-1	10YR 4/1	100					Sandy Loam	fresh sediment deposit with organics mixed
1-4	10YR 2/1	100					Hemic Organics	with lots of sand mixed in
4-9	10YR 4/1	100					Sandy Clay Loam	organics mixed in
9-13	2.5Y 4/2	90	7.5YR 4/6	10	RM	PL	Loamy Sand	

[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: none
Depth (inches):

Hydric Soil Present?   Yes ◉   No ○

Remarks:

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:

three permanently flooded channels running through willow patch. No primary hydrology indicators observed, but due to multiple secondary hydrology indicators, believe that if site were visited outside of the dry season primary hydrology would be observed.