## 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_05**

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

Local relief (concave, convex, none): convex | Slope: % / 22.0 ° | Elevation: 344

Subregion : Southcentral Alaska | Lat.: 62.8096483182 | Long.: -149.556575723 | Datum: NAD83

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:

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

| | Tree Stratum | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|---|
| 1. | Betula neoalaskana | 25 | ☑ | FACU |
| 2. | Picea glauca | 15 | ☑ | FACU |
| 3. | | 0 | ☐ | |
| 4. | | 0 | ☐ | |
| 5. | | 0 | ☐ | |
| | **Total Cover:** | 40 | | |

**Sapling/Shrub Stratum** — 50% of Total Cover: 20 — 20% of Total Cover: 8

| | | | | |
|---|---|---|---|---|
| 1. | Vaccinium ovalifolium | 15 | ☑ | FAC |
| 2. | Alnus viridis | 5 | ☑ | FAC |
| 3. | Sorbus scopulina | 2 | ☐ | FACU |
| 4. | Betula neoalaskana | 2 | ☐ | FACU |
| 5. | Menziesia ferruginea | 1 | ☐ | FACU |
| 6. | | 0 | ☐ | |
| 7. | | 0 | ☐ | |
| 8. | | 0 | ☐ | |
| 9. | | 0 | ☐ | |
| 10. | | 0 | ☐ | |
| | **Total Cover:** | 25 | | |

**Herb Stratum** — 50% of Total Cover: 12.5 — 20% of Total Cover: 5

| | | | | |
|---|---|---|---|---|
| 1. | Cornus canadensis | 80 | ☑ | FACU |
| 2. | Dryopteris expansa | 70 | ☑ | FACU |
| 3. | Rubus pedatus | 30 | ☐ | FAC |
| 4. | Spinulum annotinum | 20 | ☐ | FACU |
| 5. | Calamagrostis canadensis | 5 | ☐ | FAC |
| 6. | Streptopus amplexifolius | 1 | ☐ | FACU |
| 7. | Trientalis europaea | 1 | ☐ | FACU |
| 8. | Equisetum sylvaticum | 1 | ☐ | FAC |
| 9. | Chamaenerion angustifolium | 1 | ☐ | FACU |
| 10. | | 0 | ☐ | |
| | **Total Cover:** | 209 | | |

50% of Total Cover: 104.5 — 20% of Total Cover: 41.8

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL Species | 0 | x 1 = | 0 |
| FACW Species | 0 | x 2 = | 0 |
| FAC Species | 56 | x 3 = | 168 |
| FACU Species | 218 | x 4 = | 872 |
| UPL Species | 0 | x 5 = | 0 |
| Column Totals: | 274 (A) | | 1040 (B) |

Prevalence Index = B/A = 3.796

**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): 0

% Bare Ground: 1

Total Cover of Bryophytes: 0

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

Remarks:

## SOIL

**Sampling Point: SW12_T37_05**

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 | |
| 1-4 | 7.5YR | 2.5/2 | 80 | | | | | | Loamy Sand | 20% roots |
| 4-7 | 10YR | 6/2 | 100 | | | | | | Loamy Sand | |
| 7-9 | 5YR | 2.5/2 | 100% | | | | | | Loamy Sand | few rounded gravel and roots |
| 9-14 | 5YR | 2.5/2 | 100% | | | | | | Sandy Loam | few rounded gravel and roots |
| 14-16 | 5YR | 2.5/2 | 100% | | | | | | Sandy Loam | few rounded gravel and roots |
| 16-18 | 7.5R | 2.5/3 | 100% | | | | | | Sandy Loam | few rounded gravel and roots |
| 18-20 | 7.5YR | 3/4 | 90 | | | | | | Silt Loam | 10% angular 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:
no hydric soil indicators

## 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:
no wetland hydrology indicators