



Preliminary Wetland and Waterbody Mapping Report

West Susitna Access – Phase 2

Alaska Industrial Development & Export Authority

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Abbreviations and Acronyms

ADF&G	Alaska Department of Fish and Game
AIDEA	Alaska Industrial Development & Export Authority
APT	Antecedent Precipitation Tool
CWA	Clean Water Act
DEM	Digital Elevation Model
GIS	Geographic Information System
GPS	global positioning system
HDR	HDR Alaska, Inc.
HGM	hydrogeomorphic
HUC	hydrologic unit code
Lidar	Light Detection and Ranging
MBI	Michael Baker, Inc.
MSB	Matanuska-Susitna Borough
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
PJD	Preliminary Jurisdictional Determination
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 Introduction and Purpose

The Alaska Industrial Development & Export Authority (AIDEA) is undertaking pre-feasibility studies for an access road from the Point MacKenzie area to the Skwentna River valley to provide a surface access route to known resource-abundant areas on the west side of the Susitna River. Subject to final route determination, the West Susitna Access Project may require authorization from the U.S. Army Corps of Engineers (USACE) for work in wetlands or waterbodies. To assist in engineering and environmental planning, AIDEA contracted HDR Alaska, Inc. (HDR) to prepare planning-level wetland and waterbody mapping for Phase 2 of the project.

This report preliminarily identifies the boundaries of wetlands and waterbodies within the Phase 2 study area. Wetlands and waterbodies identified in this report are potentially subject to jurisdiction of the USACE under the authority of Section 404 of the Clean Water Act (CWA) of 1972 (as amended) or Section 10 of the Rivers and Harbors Act of 1899.

1.1. Study Area

The 20,605.6-acre Phase 2 study area (study area) investigated for this mapping effort consists of two areas that are differentiated based on availability of existing data and additional investigations performed in 2020. Figure 1 and Inset 1 show these two areas: Planning-Level Mapping Area and Permit-Level Mapping Area. This report presents the results of planning-level wetland mapping that HDR prepared in 2020 for the Planning-Level Mapping Area, along with



Inset 1. Study Area Location

field data collected by HDR in 2006 and 2020, and permit-level wetland mapping from other source's prepared in 2017.

The study area is located within Alaska's Matanuska-Susitna Borough (MSB; Inset 1), and consists of an approximately 2,000-foot-wide corridor along the 100-mile proposed road route, beginning at the Little Susitna River Access Road and heading northwest to near the confluence of the Happy and Skwentna Rivers. The proposed road route currently follows a portion of the proposed natural gas pipeline corridor for the Donlin Gold Project, approximately 57 miles between Beluga Mountain and Happy River.

The study area is located within the Cook Inlet and Alaska Range ecoregions (USACE 2007), and is found within the land descriptions (all in reference to the Seward Meridian) listed in Table 1.

Table 1. Study Area Land Description

Township	Range	Section
Township 16 North	Range 4 West	Section 31
	Range 5 West	Sections 7 – 9, 16, 17, 21, 25 – 28, 35, and 36
	Range 6 West	Sections 5 – 12
	Range 7 West	Section 1
Township 17 North	Range 7 West	Sections 15 – 23, 25 – 27, 35, and 36
	Range 8 West	Sections 6 – 8, 13 – 17, and 21 – 24
	Range 9 West	Sections 1 and 2
Township 18 North	Range 9 West	Sections 7, 17 – 21, 27 – 29, and 33 – 36
	Range 10 West	Sections 1 and 12
Township 19 North	Range 10 West	Sections 6 – 8, 6, 17, 21, 22, 26, 27, 35, and 36
	Range 11 West	Sections 1 and 2
Township 20 North	Range 11 West	Sections 4, 5, 8, 9, 15, 16, 21, 22, 26, 27, and 34 – 36
Township 21 North	Range 11 West	Sections 29 – 33
	Range 12 West	Sections 7, 17 – 23, and 25 – 28
	Range 13 West	Sections 2 – 4 and 11 – 13
Township 22 North	Range 13 West	Sections 30 – 34
	Range 14 West	Sections 19 – 26
	Range 15 West	Sections 19 – 24 and 28 – 30
	Range 16 West	Sections 19, 20, and 24 – 30
	Range 17 West	Sections 13 – 16 and 20 – 25
	Range 18 West	Sections 20 – 24

Table 2 lists the U.S. Geological Survey (USGS) 12-digit hydrologic unit code (HUC) watersheds that are crossed by the study area.

Table 2. Watersheds Crossed by the Study Area

Watershed	HUC12	Watershed	HUC12
Red Creek	190205040702	Texas Creek	190205051104
Lower Happy River	190205041010	Bear Creek	190205051105
Portage Creek	190205041106	Upper Sucker Creek	190205051107
Shirley Lake-Skwentna River	190205041109	Wolverine Creek	190205051108
Skwentna River	190205041503	Lower Sucker Creek	190205051109
Lower Skwentna River	190205041504	Trail Creek	190205051110
Shell Creek	190205041508	Lower Alexander Creek	190205051111
Sevenmile Lake	190205041509	Diamond Lake-Little Susitna River	190205051207
Eightmile Creek	190205041510	Maguire Creek	190205051208
Canyon Lake-Skwentna River	190205041511	Horseshoe Lake-Little Susitna River	190205051209
Town of Susitna-Susitna River	190205051006	Cow Lake-Fish Creek	190205051302
Deep Creek	190205051101	Flat Horn Lake-Fish Creek	190205051303
Clear Creek	190205051102	Outlet Susitna River	190205051306
Toms Creek	190205051103	---	---

Source: USGS 2020a

2.0 Methods

2.1. Previous Investigations

Several previous wetland investigations have been conducted within portions of the study area. The following sections briefly describe these investigations and how the data was referenced and/or incorporated into this mapping effort.

2.1.1. 2007 West Mat-Su Access Project

In 2007, HDR prepared a draft Preliminary Jurisdictional Determination (PJD) report for the West Mat-Su Access Project (HDR 2007). The study area for this project consisted of a 300-foot-wide corridor along several potential access routes; one of these investigated corridors overlaps with the study area between the Little Susitna River and Fish Creek.

The PJD included a field survey conducted on September 6 to 8, 2006, which collected information using Wetland Determination Forms from the 2006 *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region* (USACE 2006). This data was reevaluated prior to the 2020 field work using the updated methods in the 2007 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region* (2007 *Regional Supplement*; USACE 2007). All conclusions of the 2006 Wetland Determination Forms completed within the study area are supported using the current wetland delineation methodology.

The PJD also presents permit-level wetland and waterbody mapping for the West Mat-Su Access Project study area. Due to the age of the mapping provided in the PJD (14 years), this mapping was referenced during preparation of the preliminary mapping for this mapping effort (see Section 2.2 Preliminary Mapping) but was not incorporated into the revised mapping and is not presented in the results of this report.

2.1.2. Applicable Investigations

This project makes use of permit-level wetland and waterbody mapping from other applicable sources for approximately 57 miles from Beluga to Happy River. This mapping was updated in 2017 using field data collected in 2010, 2011, 2013, and 2016. This mapping consists of a 1,000-foot-wide corridor, as well as several materials sites. Wetlands and waterbodies were delineated using aerial imagery and other reference datasets, and classified according to wetland status, project vegetation type, and hydrogeomorphic (HGM) and Cowardin classifications. Waterbodies were delineated at a scale of 1:400 and vegetation boundaries at a scale of 1:1,200 to 1:1,500. This mapping has been incorporated without modification into the mapping presented in this report.

2.2. Preliminary Mapping

Prior to field work, HDR wetland scientists prepared preliminary wetland mapping of the Planning-Level Mapping Area using all available data sources. Scientists reviewed the following datasets in a Geographic Information System (GIS) to delineate wetlands and waterbodies in the study area:

- Color digital ortho-rectified aerial photography at 0.5-foot and 1-foot ground pixel resolution, acquired for the MSB (MSB 2019)
- Esri World Imagery high-resolution satellite and aerial imagery at 1-meter resolution or better (Esri 2020)
- Hillshade and 10-foot contours derived from high-resolution Light Detection and Ranging (Lidar) data for the west Susitna area, acquired by the Alaska Division of Geological and Geophysical Surveys (Daanen et al. 2020)
- Hillshade derived from Bare Earth Digital Elevation Model (DEM) at 1-meter resolution, acquired by the MSB (AeroMetric, Inc. 2011)
- West Mat-Su Access Project PJD (HDR 2007)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping (USFWS 2019; Figure 2)
- National Hydrography Dataset (USGS 2020b)
- Alaska Department of Fish and Game (ADF&G) *Anadromous Waters Catalog* (ADF&G 2019)
- Natural Resources Conservation Service (NRCS) soil survey mapping (NRCS 2020; Figure 2)

2.3. 2020 Field Work

On September 15, 16, 18, 23, and 29, 2020, HDR wetland scientists conducted an on-site investigation of wetlands and waterbodies within the Planning-Level Mapping Area of the study area. Soil conditions, hydrology, and plant communities were studied using methods described in the 1987 *Wetlands Delineation Manual* and the 2007 *Regional Supplement* (USACE 1987, 2007). The field work occurred within the USACE's recommended growing season for the ecoregions in which the study area is located (USACE 2007). Field work on September 15 was conducted within the Alaska Range ecoregion (May 24 to October 3). Field work on all other dates was conducted within the Cook Inlet ecoregion (May 8 to October 5).

Wetlands were identified where wetland scientists observed indicators of hydrophytic vegetation, wetland hydrology, and hydric soils. If any of the three requirements were not met under normal conditions, the site did not meet the USACE criteria for being classified as a wetland. Sites were characterized by completing standard USACE Wetland Determination Forms (2007 *Regional Supplement*). Photographs and observational data were collected at additional locations (Observation Points) to document sites that exhibited characteristics similar to those of areas where a data form had already been completed, or to document the presence (or absence) of a waterbody or stream.

Where feasible, wetland/upland boundaries were determined in the field by completing paired data plots. This process involved completing Wetland Determination Forms near observable transition zones between wetter and drier areas. A Wetland Determination Form was completed in the wetter area to verify its wetland status, and a second Wetland Determination Form was completed in the drier area to verify its upland status. The wetland/upland boundary between the two data plots was then identified and marked on field maps.

Wetland Determination Forms were completed at 56 sites (Appendix A). Observation Points were collected at an additional 98 locations (Appendix B). Locations of Wetland Determination Form sites and Observation Points were logged into a global positioning system (GPS)-enabled iPad. In total, field data were collected at 154 locations during the 5-day field event in September 2020.

2.4. Wetland Mapping and Classification

Upon returning from the field, scientists analyzed field-collected data and updated the preliminary wetland mapping for the Planning-Level Mapping Area. GPS locations of field-visited sites were overlaid on the aerial photography and other data layers in GIS to identify and classify wetlands and waterbodies present within the study area. Aerial photography vegetation signatures from these field-visited sites were then extrapolated to similar locations throughout the study area, and wetland/upland boundaries were digitized into GIS at a scale of 1:3,000. Delineating wetlands from aerial photography includes the following methods:

- *Vegetation clues:* Scientists examine aerial photographs for saturation-adapted vegetation communities, indicative canopy structure and height, and presence of hydrophytic plant species.
- *Evidence of soil saturation:* A site's proximity to streams, open water habitat, and marshes can be indicative of shallow subsurface water. Scientists therefore look for visible evidence of wetland hydrology, including surface water and darker areas of photographs that indicate surface saturation.
- *Topography:* Evidence of topographic high points and sloped surfaces that would allow soils to drain supports the classification of those areas as upland. Topographic depressions, toes of slopes, and flat topography serve as indicators of potentially poor soil drainage.

Wetlands were classified based on a review of field notes, data forms, and site photographs. Mapped polygons identifying homogeneous wetland and waterbody areas in the GIS-based mapping were attributed with NWI mapping codes based on the USFWS' *Classification of*

Wetlands and Deepwater Habitats of the U.S. (Cowardin et al. 1979). Mapped polygons were also assigned an HGM class based on landscape position (Brinson 1993). Streams were mapped as polygons when a stream channel was visible on aerial imagery; otherwise, streams were mapped as line features.

2.5. Wetland Functions and Values

Wetlands provide services or functions that are considered valuable to society. The position and function of high-value wetlands in the landscape plays an integral role in overall watershed health. Data on functions and values was not collected during the September 2020 field investigation and a Functional Assessment was not prepared.

Wetlands within the study area that are likely high value were identified in GIS based on the permit-level wetland mapping described in Section 2.1.2 and the revised planning-level wetland mapping described in Section 2.4. High-value wetlands were considered to be those that are adjacent to and likely provide support for anadromous fish streams (identified from the ADF&G *Anadromous Waters Catalog*; ADF&G 2019); vegetated wetlands with permanently flooded or semi-permanently flooded hydrologic regimes; and wetlands and waterbodies within complexes with a high degree of heterogeneity (i.e., three or more vegetated wetland classes and hydrologic regimes present) that likely perform multiple functions to a moderate or high degree. These wetlands were selected because their characteristics and landscape position indicate that they are likely to perform important functions at a higher level, such as wildlife habitat, anadromous fish support, storm and floodwater storage, modification of streamflow, modification of water quality, and export of detritus. Anadromous streams and some permanently flooded ponds were also identified as high value. Streams mapped as linear features were not included in this preliminary assessment.

3.0 Summary of Wetland Indicators

The vegetation, hydrology, and soil conditions described below are based on the September 2020 field investigation within the Planning-Level Mapping Area described in Section 2.3. This section does not include data from the previous wetland investigations described in Section 2.1. Wetland conditions were documented at 25 of the 56 Wetland Determination Form sites visited in 2020. The remaining 31 sites were determined to be upland. Many of these upland sites met one or two of the three criteria required to determine wetland status. The completed Wetland Determination Forms, photographs taken at each site, and tables summarizing the data collected at each site are included in Appendix A.

Wetland scientists documented a total of 98 Observation Points in September 2020. Observational data collected at these points includes the wetland or upland status, a description of field indicators of wetland functions, a description of the vegetation community, and/or documentation of the presence of a waterbody or stream. Appendix B includes a table summarizing the data collected at each Observation Point and photographs. Figure 3 shows locations of all sites visited in the field.



3.1. Vegetation

Vegetation in the study area consists primarily of mixed paper birch and white spruce forests, alder-dominated scrub, black spruce peat bogs, ericaceous shrub bogs, and mesic herb meadows. Table 3 lists the dominant plant species observed at the 56 sites where Wetland Determination Forms were completed. The dominant plant species were identified using the “50/20 Rule” from the 2007 *Regional Supplement* (USACE 2007). Appendix A includes the Viereck Level IV (Viereck et al. 1992) vegetation communities documented at the Wetland Determination Form sites. Appendix A also includes a complete list of all plant species identified at Wetland Determination Form sites and their synonyms.

A total of 33 sites where Wetland Determination Forms were completed had plant communities dominated by hydrophytes. Of these, 17 sites were determined to have hydrophytic vegetation based on both the Dominance Test and Prevalence Index, while 15 were determined to be hydrophytic based on the Dominance Test alone. One site was determined to have problematic hydrophytic vegetation. All but eight locations with hydrophytic vegetation were determined to be wetland. Additionally, four locations were determined to be upland based on a lack of hydrophytic vegetation alone.

Table 3. Dominant Plants at Wetland Determination Form Sites

Species	Common Name	Indicator Status ^a	Species	Common Name	Indicator Status ^a
<i>Alnus incana</i>	Speckled Alder	FAC	<i>Lycopodium clavatum</i>	Running Ground-Pine	FACU
<i>Alnus viridis</i>	Sitka Alder	FAC	<i>Menziesia ferruginea</i>	Fool's-Huckleberry	FACU
<i>Athyrium cyclosorum</i>	Western Lady Fern	FAC	<i>Myrica gale</i>	Sweetgale	OBL
<i>Betula glandulosa</i>	Resin Birch	FAC	<i>Oplopanax horridus</i>	Devil's Club	FACU
<i>Betula kenaica</i>	Kenai Birch	FACU	<i>Picea glauca</i>	White Spruce	FACU
<i>Betula nana</i>	Swamp Birch	FAC	<i>Picea mariana</i>	Black Spruce	FACW
<i>Betula papyrifera</i>	Paper Birch	FACU	<i>Populus balsamifera</i>	Balsam Poplar	FACU
<i>Calamagrostis canadensis</i>	Bluejoint	FAC	<i>Populus tremuloides</i>	Quaking Aspen	FACU
<i>Carex aquatilis</i>	Leafy Tussock Sedge	OBL	<i>Pyrola asarifolia</i>	Pink Wintergreen	FACU
<i>Carex disperma</i>	Soft-Leaf Sedge	FACW	<i>Rhododendron groenlandicum</i>	Rusty Labrador Tea	FAC
<i>Carex leptalea</i>	Bristly-Stalk Sedge	OBL	<i>Rhododendron tomentosum</i>	Marsh Labrador Tea	FACW
<i>Carex limosa</i>	Mud Sedge	OBL	<i>Ribes glandulosum</i>	Skunk Currant	FAC
<i>Carex microchaeta</i>	Alpine-Tundra Sedge	FAC	<i>Ribes hudsonianum</i>	Northern Black Currant	FAC
<i>Carex pauciflora</i>	Few-Flower Sedge	OBL	<i>Rubus arcticus</i>	Northern Blackberry	FAC
<i>Carex spectabilis</i>	Northwestern Showy Sedge	FACW	<i>Rubus chamaemorus</i>	Cloudberry	FACW
<i>Chamaedaphne calyculata</i>	Leatherleaf	FACW	<i>Rubus idaeus</i>	Common Red Raspberry	FACU
<i>Chamaenerion angustifolium</i>	Narrow-Leaf Fireweed	FACU	<i>Rubus pedatus</i>	Strawberry-Leaf Raspberry	FAC
<i>Comarum palustre</i>	Purple Marshlocks	OBL	<i>Salix barclayi</i>	Barclay's Willow	FAC

Species	Common Name	Indicator Status ^a	Species	Common Name	Indicator Status ^a
<i>Cornus canadensis</i>	Canadian Bunchberry	FACU	<i>Salix barrattiana</i>	Barratt's Willow	FACW
<i>Cornus suecica</i>	Dwarf Bog Bunchberry	FAC	<i>Salix bebbiana</i>	Gray Willow	FAC
<i>Dryopteris expansa</i>	Spreading Wood Fern	FACU	<i>Sambucus racemosa</i>	Red Elder	FACU
<i>Empetrum nigrum</i>	Black Crowberry	FAC	<i>Spinulum annotinum</i>	Interrupted Club-Moss	FACU
<i>Equisetum arvense</i>	Field Horsetail	FAC	<i>Spiraea stevenii</i>	Steven's Meadowsweet	FACU
<i>Equisetum fluviatile</i>	Water Horsetail	OBL	<i>Urtica dioica</i>	Stinging Nettle	FACU
<i>Equisetum pratense</i>	Meadow Horsetail	FACW	<i>Vaccinium alaskaense</i>	Alaska Blueberry	FAC
<i>Equisetum sylvaticum</i>	Woodland Horsetail	FAC	<i>Vaccinium ovalifolium</i>	Oval-Leaf Blueberry	FAC
<i>Eriophorum scheuchzeri</i>	White Cotton-Grass	OBL	<i>Vaccinium vitis-idaea</i>	Northern Mountain-Cranberry	FAC
<i>Gymnocarpium dryopteris</i>	Northern Oak Fern	FACU	<i>Viburnum edule</i>	Squashberry	FACU
<i>Linnaea borealis</i>	American Twinflower	FACU	---	---	---

^a Wetland Indicator Status (USACE 2018a). FAC (Facultative): species equally likely to occur in wetlands and non-wetlands; FACU (Facultative Upland): species usually occurs in non-wetlands; FACW (Facultative Wetland): species usually occurs in wetlands; OBL (Obligate): species almost always occurs under natural conditions in wetlands.

3.2. Soils

Detailed NRCS soil mapping is available for approximately 78 percent of the study area (NRCS 2020). The most common soil types mapped within the study area are Strandline-Spenard-Kroto complex, 2 to 30 percent slopes (33.8 percent of the study area), and Benka silt loam, 0 to 3 percent slopes (5.8 percent of the study area). All other soil map units present each constitute less than 5 percent of the study area. Of the 44 soil types mapped, 12 types constituting 12.8 percent of the study area are rated as hydric soils.

Site-specific soil characteristics were documented at each of the 56 Wetland Determination Form sites. Hydric soil indicators were taken from the 2007 *Regional Supplement* and the NRCS *Field Indicators of Hydric Soils in the United States* (USACE 2007; NRCS 2018). Soil profile depths were recorded starting at the ground surface¹ in accordance with the *Field Book for Describing and Sampling Soils* (Schoeneberger et al. 2012); however, hydric soil indicators relevant to mineral soils (e.g., Alaska Gleyed, Alaska Redox, etc.) and hydrogen sulfide odor were evaluated starting from the top of the mineral soil surface.

Hydric soils documented during the September 2020 field effort were principally organic. Hydric soils were found at 29 of the 56 sites. All but four locations with hydric soil indicators were determined to be wetland. Appendix A summarizes hydric soil indicators observed at each site. The most common hydric soil indicator observed was the presence of a histosol (11 sites), followed by the presence of a histic epipedon (11 sites).

¹ The ground surface is considered to be the top boundary of the first layer, either mineral or organic, that can support plant/root growth. For all soil profile depths, zero was recorded at the ground surface.

3.3. Hydrology

The USACE Antecedent Precipitation Tool (APT) was used to determine the degree to which any recent climatic events (e.g., abnormally wet or dry conditions) may have influenced hydrology conditions during the time of the field investigation. The APT utilizes 30 years of data on precipitation, drought, and other climatic factors to determine “normal” conditions (Deters 2020). Two custom polygons were used in the assessment that were spatially representative of the two general locations where field work was performed within the study area boundaries.

Hydrologic indicators observed during each field visit would be expected to correlate with the APT output for the specific field day. For example, if precipitation is drier than normal, hydrologic indicators (such as high-water table) may not be present and could result in a false negative determination for wetland hydrology observed during that field day. Appendix C provides a detailed data set that provides the hydrologic conditions for all five days of the September 2020 field effort from the APT.

APT data is useful for generally correlating current site conditions with antecedent precipitation conditions for a particular timeframe. However, during field surveys, the wetland survey crews reviewed precipitation data for the three months prior to the field survey using the NRCS *Engineering Field Handbook* method (NRCS 1997), as well as conditions on the ground to make a determination on the data sheet regarding antecedent precipitation conditions. For example, APT outputs for September 23 and 29, 2020, were drier than normal; however, site conditions on the ground indicated normal conditions for these two days, based on field observation of primary hydrology indicators. Therefore, forms collected during these days were indicated as having normal conditions. The APT calculated that hydrologic conditions were normal for the remaining three field days (September 15, 16, and 18, 2020), which was consistent with field observations.

Evidence of wetland hydrology (at least one primary indicator or two secondary indicators) was documented at 35 of the 56 Wetland Determination Form sites. Of the 35 sites determined to have wetland hydrology, primary hydrology indicators were observed at 33 sites, while secondary indicators alone were observed at 2 sites. Evidence of wetland hydrology was observed at all 25 sites determined to be wetlands, and at 10 of the 31 sites determined to be upland. Appendix A shows the hydrology indicators observed at each site.

The primary indicators of wetland hydrology observed during the September 2020 field investigation were surface water, high water table, saturation, sediment deposits, drift deposits, and hydrogen sulfide odor. Secondary indicators included water-stained leaves, drainage patterns, oxidized rhizospheres, presence of reduced iron, stunted or stressed plants, microtopographic relief, and a positive FAC-neutral test.

Specific information regarding the different indicators observed at each site (e.g., depth to saturation within the soil pit) can be found on the Wetland Determination Forms included in Appendix A. These indicators are further described in the 2007 *Regional Supplement* (USACE 2007).

4.0 Wetland and Waterbody Mapping Results

Wetland scientists identified 3,152.2 acres of wetlands within the 20,605.6-acre study area. Wetland types include forested, scrub-shrub, and emergent wetlands. An additional 100.1 acres of waterbodies and 430.4 acres of perennial streams were mapped. The remaining 16,922.9 acres of the study area were determined to be upland. Wetland and waterbody classes found within the study area and acreages are provided by NWI classification in Table 4 and by HGM class in Table 5. Additionally, 453,139 linear feet of perennial and intermittent streams were mapped as line features, as summarized in Table 6.

Figure 3 displays wetland, upland, and waterbody boundaries; the boundaries between different wetland and waterbody types; and the linear paths of streams identified in the study area. It also shows the locations of the Wetland Determination Form sites and Observation Points collected in 2020 and the locations of 51 data points collected within the study area in 2006.



Table 4. Mapping Summary by NWI Type

NWI Code ^a	Description	Planning-Level Mapping Area			Permit-Level Mapping Area	Total Phase 2 Study Area
		Representative Data Form Sites	Representative Observation Points	Acres ^b	Acres ^b	Acres ^b
Forested Wetlands				245.2	376.9	622.0
PFO1/4B	Saturated, broad-leaved, deciduous/needle-leaved, evergreen forested wetland	-	-	10.9	145.8	156.7
PFO1/4C	Seasonally flooded, broad-leaved, deciduous/needle-leaved, evergreen forested wetland	-	-	-	3.9	3.9
PFO1/EM1B	Saturated, broad-leaved, deciduous forested/persistent emergent wetland	-	515	9.8	1.6	11.4
PFO1/SS1B	Saturated, broad-leaved, deciduous forested/broad-leaved, deciduous scrub-shrub wetland	555, 579	535, 544, 573, 580	27.3	18.0	45.3
PFO1/SS1C	Seasonally flooded, broad-leaved, deciduous forested/broad-leaved, deciduous scrub-shrub wetland	508, 528	-	11.1	3.0	14.0
PFO1/SS4B	Saturated, broad-leaved, deciduous forested/needle-leaved, evergreen scrub-shrub wetland	-	-	4.9	-	4.9
PFO1A	Temporarily flooded, broad-leaved, deciduous forested wetland	-	-	-	0.4	0.4
PFO1B	Saturated, broad-leaved, deciduous forested wetland	-	-	-	12.3	12.3
PFO4/1A	Temporarily flooded, needle-leaved, evergreen/broad-leaved, deciduous forested wetland	-	-	-	0.7	0.7
PFO4/1B	Saturated, needle-leaved, evergreen/broad-leaved, deciduous forested wetland	-	-	-	43.8	43.8
PFO4/SS1B	Saturated, needle-leaved, evergreen forested/broad-leaved, deciduous scrub-shrub wetland	513, 572, 584	589	85.8	118.0	203.7
PFO4/SS1C	Seasonally flooded, needle-leaved, evergreen forested/broad-leaved, deciduous scrub-shrub wetland	520	588, 590	13.1	1.0	14.1
PFO4/SS3B	Saturated, needle-leaved, evergreen forested/broad-leaved, evergreen scrub-shrub wetland	585	-	1.8	-	1.8
PFO4/SS4B	Saturated, needle-leaved, evergreen forested/needle-leaved, evergreen scrub-shrub wetland	-	-	65.1	-	65.1
PFO4/SS4C	Seasonally flooded, needle-leaved, evergreen forested/needle-leaved, evergreen scrub-shrub wetland	587	-	6.6	-	6.6
PFO4B	Saturated, needle-leaved, evergreen forested wetland	-	-	8.9	19.7	28.7
PFO4C	Seasonally flooded, needle-leaved, evergreen forested wetland	-	-	-	8.5	8.5
Scrub-Shrub Wetlands				1,209.0	751.9	1,961.0
PSS1/4B	Saturated, broad-leaved, deciduous/needle-leaved, evergreen scrub-shrub wetland	042	-	49.2	20.4	69.6



NWI Code ^a	Description	Planning-Level Mapping Area			Permit-Level Mapping Area	Total Phase 2 Study Area
		Representative Data Form Sites	Representative Observation Points	Acres ^b	Acres ^b	Acres ^b
PSS1/4C	Seasonally flooded, broad-leaved, deciduous/needle-leaved, evergreen scrub-shrub wetland	-	-	4.8	0.1	4.8
PSS1/EM1A	Temporarily flooded, broad-leaved, deciduous scrub-shrub/persistent emergent wetland	-	-	-	68.9	68.9
PSS1/EM1Ab	Temporarily flooded, broad-leaved, deciduous scrub-shrub/persistent emergent wetland, beaver modified	-	-	-	0.5	0.5
PSS1/EM1B	Saturated, broad-leaved, deciduous scrub-shrub/persistent emergent wetland	043a, 504, 547	048, 053, 518, 538, 552	151.8	118.0	269.8
PSS1/EM1C	Seasonally flooded, broad-leaved, deciduous scrub-shrub/persistent emergent wetland	-	035, 519, 532, 533, 542, 582	325.8	197.5	523.3
PSS1/EM1Cb	Seasonally flooded, broad-leaved, deciduous scrub-shrub/persistent emergent wetland, beaver modified	-	-	5.0	5.9	10.9
PSS1/EM1F	Semi-permanently flooded, broad-leaved, deciduous scrub-shrub/persistent emergent wetland	-	-	14.9	6.8	21.6
PSS1/EM1Fb	Semi-permanently flooded, broad-leaved, deciduous scrub-shrub/persistent emergent wetland, beaver modified	-	-	3.6	-	3.6
PSS1/FO1A	Temporarily flooded, broad-leaved, deciduous scrub-shrub/broad-leaved, deciduous forested wetland	-	-	-	3.9	3.9
PSS1/FO1B	Saturated, broad-leaved, deciduous scrub-shrub/broad-leaved, deciduous forested wetland	-	-	-	20.0	20.0
PSS1/FO1C	Seasonally flooded, broad-leaved, deciduous scrub-shrub/broad-leaved, deciduous forested wetland	-	-	-	1.8	1.8
PSS1/FO4Ab	Temporarily flooded, broad-leaved, deciduous scrub-shrub/needle-leaved, evergreen forested wetland, beaver modified	-	-	-	1.6	1.6
PSS1/FO4B	Saturated, broad-leaved, deciduous scrub-shrub/needle-leaved, evergreen forested wetland	-	-	-	27.9	27.9
PSS1/FO4C	Seasonally flooded, broad-leaved, deciduous scrub-shrub/needle-leaved, evergreen forested wetland	-	-	-	0.1	0.1
PSS1A	Temporarily flooded, broad-leaved, deciduous scrub-shrub wetland	-	-	1.0	50.8	51.8
PSS1Ab	Temporarily flooded, broad-leaved, deciduous scrub-shrub wetland, beaver modified	-	-	-	5.5	5.5
PSS1B	Saturated, broad-leaved, deciduous scrub-shrub wetland	522	043b, 046, 052, 512, 554	58.9	133.7	192.6
PSS1C	Seasonally flooded, broad-leaved, deciduous scrub-shrub wetland	015, 040, 501	-	56.6	31.1	87.7
PSS1Cb	Seasonally flooded, broad-leaved, deciduous scrub-shrub wetland, beaver modified	-	-	-	10.7	10.7



NWI Code ^a	Description	Planning-Level Mapping Area			Permit-Level Mapping Area	Total Phase 2 Study Area
		Representative Data Form Sites	Representative Observation Points	Acres ^b	Acres ^b	Acres ^b
PSS1F	Semi-permanently flooded, broad-leaved, deciduous scrub-shrub wetland	-	014	0.7	-	0.7
PSS3/EM1C	Seasonally flooded, broad-leaved, evergreen scrub-shrub/persistent emergent wetland	-	530	0.9	-	0.9
PSS4/1B	Saturated, needle-leaved, evergreen/broad-leaved, deciduous scrub-shrub wetland	045	-	119.2	46.7	166.0
PSS4/1C	Seasonally flooded, needle-leaved, evergreen/broad-leaved, deciduous scrub-shrub wetland	-	-	21.5	-	21.5
PSS4/EM1B	Saturated, needle-leaved, evergreen scrub-shrub/persistent emergent wetland	-	-	105.9	-	105.9
PSS4/EM1C	Seasonally flooded, needle-leaved, evergreen scrub-shrub/persistent emergent wetland	-	051	38.9	-	38.9
PSS4B	Saturated, needle-leaved, evergreen scrub-shrub wetland	592	050	250.2	-	250.2
Emergent Wetlands				416.3	152.9	569.1
PEM1/2F	Semi-permanently flooded, persistent/nonpersistent emergent wetland	-	-	-	1.8	1.8
PEM1/2H	Permanently flooded, persistent/nonpersistent emergent wetland	-	-	-	0.1	0.1
PEM1/FO1B	Saturated, persistent emergent/broad-leaved, deciduous forested wetland	-	-	-	6.0	6.0
PEM1/SS1B	Saturated, persistent emergent/broad-leaved, deciduous scrub-shrub wetland	593	033, 531, 540	22.9	2.8	25.7
PEM1/SS1C	Seasonally flooded, persistent emergent/broad-leaved, deciduous scrub-shrub wetland		507, 511, 521, 527	127.0	23.8	150.8
PEM1/SS1Cb	Seasonally flooded, persistent emergent/broad-leaved, deciduous scrub-shrub wetland, beaver modified	-	-	-	0.3	0.3
PEM1/SS1F	Semi-permanently flooded, persistent emergent/broad-leaved, deciduous scrub-shrub wetland	-	581	5.8	16.6	22.3
PEM1/SS4B	Saturated, persistent emergent/needle-leaved evergreen scrub-shrub wetland	-	591	17.3	-	17.3
PEM1/UBF	Semi-permanently flooded, persistent emergent/unconsolidated bottom wetland	-	-	10.1	-	10.1
PEM1A	Temporarily flooded, persistent emergent wetland	-	-	0.4	19.2	19.6
PEM1B	Saturated, persistent emergent wetland	016, 028	021	23.1	16.2	39.4
PEM1C	Seasonally flooded, persistent emergent wetland	-	001, 049, 505, 510, 545	149.6	38.0	187.6
PEM1Cb	Seasonally flooded, persistent emergent wetland, beaver modified	-	-	1.4	9.3	10.7



NWI Code ^a	Description	Planning-Level Mapping Area			Permit-Level Mapping Area	Total Phase 2 Study Area
		Representative Data Form Sites	Representative Observation Points	Acres ^b	Acres ^b	Acres ^b
PEM1F	Semi-permanently flooded, persistent emergent wetland	-	012, 032, 035, 546	52.8	15.8	68.5
PEM1Fb	Semi-permanently flooded, persistent emergent wetland, beaver modified	-	-	5.8	0.5	6.3
PEM1H	Permanently flooded, persistent emergent wetland	-	-	-	2.2	2.2
PEM2/AB3H	Permanently flooded, nonpersistent emergent/rooted vascular aquatic bed wetland	-	-	-	0.3	0.3
Aquatic Bed Wetlands				-	0.1	0.1
PAB3H	Permanently flooded, rooted vascular aquatic bed wetland	-	-	-	0.1	0.1
Total Wetlands				1,870.5	1,281.7	3,152.2
Lakes				-	9.3	9.3
L1UBH	Permanently flooded, unconsolidated bottom, limnetic lake	-	-	-	9.3	9.3
Ponds				54.1	36.4	90.8
PAB3/UBH	Permanently flooded, rooted vascular aquatic bed/unconsolidated bottom pond	-	-	-	1.9	1.9
PAB3/UBHb	Permanently flooded, rooted vascular aquatic bed/unconsolidated bottom pond, beaver pond	-	-	-	0.2	0.2
PUB/AB3H	Permanently flooded, unconsolidated bottom/rooted vascular aquatic bed pond	-	-	-	0.1	0.1
PUB/EM2Hb	Permanently flooded, unconsolidated bottom/nonpersistent emergent pond, beaver modified	-	-	-	0.8	0.8
PUBF	Semi-permanently flooded, unconsolidated bottom pond	-	-	-	0.0	0.0
PUBH	Permanently flooded, unconsolidated bottom pond	-	006, 013, 559, 568	40.4	20.6	61.0
PUBHb	Permanently flooded, unconsolidated bottom pond, beaver modified	-	-	13.7	12.7	26.4
Streams				193.7	237.1	430.7
R2UBH	Permanently flooded, lower perennial stream with an unconsolidated bottom	-	-	125.7	0.4	126.1
R2UBHb	Permanently flooded, lower perennial stream with an unconsolidated bottom, beaver modified	-	-	-	1.0	1.0
R2USC	Seasonally flooded, lower perennial stream with an unconsolidated shore	-	-	1.8	-	1.8
R3UBH	Permanently flooded, upper perennial stream with an unconsolidated bottom	-	See Table 6	30.2	233.3	263.5
R3UBHb	Permanently flooded, upper perennial stream with an unconsolidated bottom, beaver modified	-	-	1.7	2.3	4.0
R3USC	Seasonally flooded, upper perennial stream with an unconsolidated shore	-	-	33.9	-	33.9



NWI Code ^a	Description	Planning-Level Mapping Area			Permit-Level Mapping Area	Total Phase 2 Study Area
		Representative Data Form Sites	Representative Observation Points	Acres ^b	Acres ^b	Acres ^b
PSS1/USA	Temporarily flooded, broad-leaved, deciduous scrub-shrub/unconsolidated shore gravel bar	-	031	0.3	-	0.3
Total Waterbodies				247.7	282.7	530.4
Total Wetlands and Waterbodies				2,118.2	1,564.5	3,682.7
Uplands						
U	Upland	002, 004, 011, 017, 023, 037, 054, 500, 503, 506, 509, 514, 516, 529, 534, 546, 550, 551, 556, 561, 570, 574, 577, 583, 586, 594, 595, 596, 597, 598	005, 007, 008, 010, 019, 024, 025, 026, 029, 030, 036, 038, 041, 044, 047, 502, 517, 524, 541, 543, 548, 553, 562, 565, 575, 576, 578	8,647.8	8,275.1	16,922.9
Total Uplands				8,647.8	8,275.1	16,922.9
Total Mapped Area				10,766.0	9,839.5	20,605.6

^a Cowardin et al. 1979

^b Total acreage presented may not reflect the sum of the individual cells due to rounding.

Table 5. Wetland and Waterbody Mapping Summary by HGM Class

HGM Class ^a	Planning-Level Mapping Area (Acres ^b)	Permit-Level Mapping Area (Acres ^b)	Total Phase 2 Study Area (Acres ^b)
Wetlands			
Depressional	10.6	108.7	119.4
Flat	762.9	58.3	821.2
Lacustrine Fringe	-	3.1	3.1
Riverine	362.3	355.3	717.5
Slope	734.6	756.4	1,491.0
Total Wetlands	1,870.5	1,281.7	3,152.2
Waterbodies			
Depressional	0.6	25.4	26.1
Flat	24.2	-	24.2
Lacustrine	-	9.3	9.3
Riverine	13.6	10.9	24.5
Riverine Channel	190.8	237.1	427.8
Slope	18.6	-	18.6
Total Waterbodies	247.7	282.7	530.4
Total Wetlands and Waterbodies	2,118.2	1,564.5	3,682.7

^a Brinson 1993

^b Total acreage presented may not reflect the sum of the individual cells due to rounding.

Table 6. Stream Mapping Summary

NWI Code ^a	Description	Planning-Level Mapping Area		Permit-Level Mapping Area	Total Phase 2 Study Area
		Representative Observation Points	Linear Feet ^b	Linear Feet ^b	Linear Feet ^b
R2UBH ^c	Permanently flooded, lower perennial stream with an unconsolidated bottom	-	19,253	-	19,253
R3UBH ^c	Permanently flooded, perennial stream with an unconsolidated bottom	003, 018, 020, 027, 034, 039, 523, 525, 526, 539, 549, 557, 558, 560, 563, 564, 566, 567, 569, 571	158,859	180,270	339,128
R4SBC	Seasonally flooded, intermittent streambed	-	59,734	35,024	94,758
		Total Streams	237,845	215,294	453,139

^a Cowardin et al. 1979

^b Total linear feet presented may not reflect the sum of the individual cells due to rounding.

^c Does not include lengths of streams mapped as polygons presented in Table 4.

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4.1. High-Value Wetlands

A total of 803.4 acres of wetlands and 474.2 acres of waterbodies have been preliminarily identified as high-value wetlands (Figure 4). Table 7 presents high-value wetlands and waterbodies by NWI type and HGM class. The majority of wetlands identified as high value are riverine, flat, and slope. The Final Environmental Impact Statement prepared for the Donlin Gold Project contains descriptions of wetlands that occur within the region by HGM class (USACE 2018b).

Riverine wetlands within the study area identified as high value consist of wetlands adjacent to anadromous streams included in the *Anadromous Waters Catalog* (ADF&G 2019). Functions and values provided by these wetlands include support for anadromous fish populations, storm and floodwater storage, and stream flow modification. Flat wetlands identified as high value include wetland complexes with a high degree of community diversity and interspersed. Functions and values provided by these wetlands include sediment and nutrient retention, storm and floodwater storage, and wildlife habitat. Slope wetlands identified as high value include wetlands with flooded or semi-permanently flooded hydrologic regimes, and wetlands that provide baseflow support to anadromous streams and other high-value complexes. Functions and values provided by these wetlands include groundwater discharge, streamflow support, export of detritus, and wildlife habitat. Anadromous streams and waterbodies were also identified as high value.

The preliminary results presented in Table 7 are based solely on a high-level review of wetland and waterbody mapping in GIS and should be validated by a full functional assessment using a methodology approved for use within the geographic region.

Table 7. High-Value Wetlands and Waterbodies Summary

HGM Class ^a	NWI Code(s) ^b	Acres ^c
Wetlands		
Depressional	PABH3H, PEM1/2F, PEM1/2H, PEM1/SS1F, PEM1C, PEM1F, PEM1H, PSS1/EM1B, PSS1/EM1C	36.0
Flat	PEM1/SS1C, PEM1/SS4B, PEM1/UBF, PEM1C, PEM1F, PSS1/EM1C, PSS1/EM1F, PSS1C, PSS4/1B, PSS4/EM1B, PSS4/EM1C, PSS4B	235.5
Lacustrine Fringe	PEM1C, PEM1F	3.1
Riverine	PEM1/SS1C, PEM1A, PEM1B, PEM1C, PEM1Cb, PEM1F, PEM1Fb, PEM2/AB3H, PFO4/SS1B, PFO4B, PSS1/EM1A, PSS1/EM1Ab, PSS1/EM1B, PSS1/EM1C, PSS1/EM1Cb, PSS1/EM1Fb, PSS1/FO1A, PSS1A, PSS1B, PSS1C, PSS1Cb	391.2
Slope	PEM1/SS1B, PEM1/SS1C, PEM1/SS1F, PEM1B, PEM1C, PEM1F, PFO1/4B, PFO4/SS1B, PFO4/SS1C, PFO4C, PSS1/4B, PSS1/EM1B, PSS1/EM1C, PSS1/EM1F, PSS1/FO4B, PSS1B, PSS1C, PSS4/1B, PSS4/EM1B	137.5
Total Wetlands		803.4
Waterbodies		
Depressional	PAB3/UBH, PUB/AB3H, PUBH, PUBHb	12.7
Flat	PUBH	23.9
Lacustrine	L1UBH	3.5
Riverine	PUBH/EM2Hb, PUBH, PUBHb	11.8
Riverine Channel	R2UBH, R2UBHb, R2USC, R3UBH, R3UBHb, R3USC	420.7

HGM Class ^a	NWI Code(s) ^b	Acres ^c
Slope	PUBH	1.6
Total Waterbodies		474.2
Total High-Value Wetlands and Waterbodies		1,227.6

^a Brinson 1993

^b Cowardin et al. 1979. See Table 4 for full descriptions.

^c Total acreage presented may not reflect the sum of the individual cells due to rounding.

5.0 References

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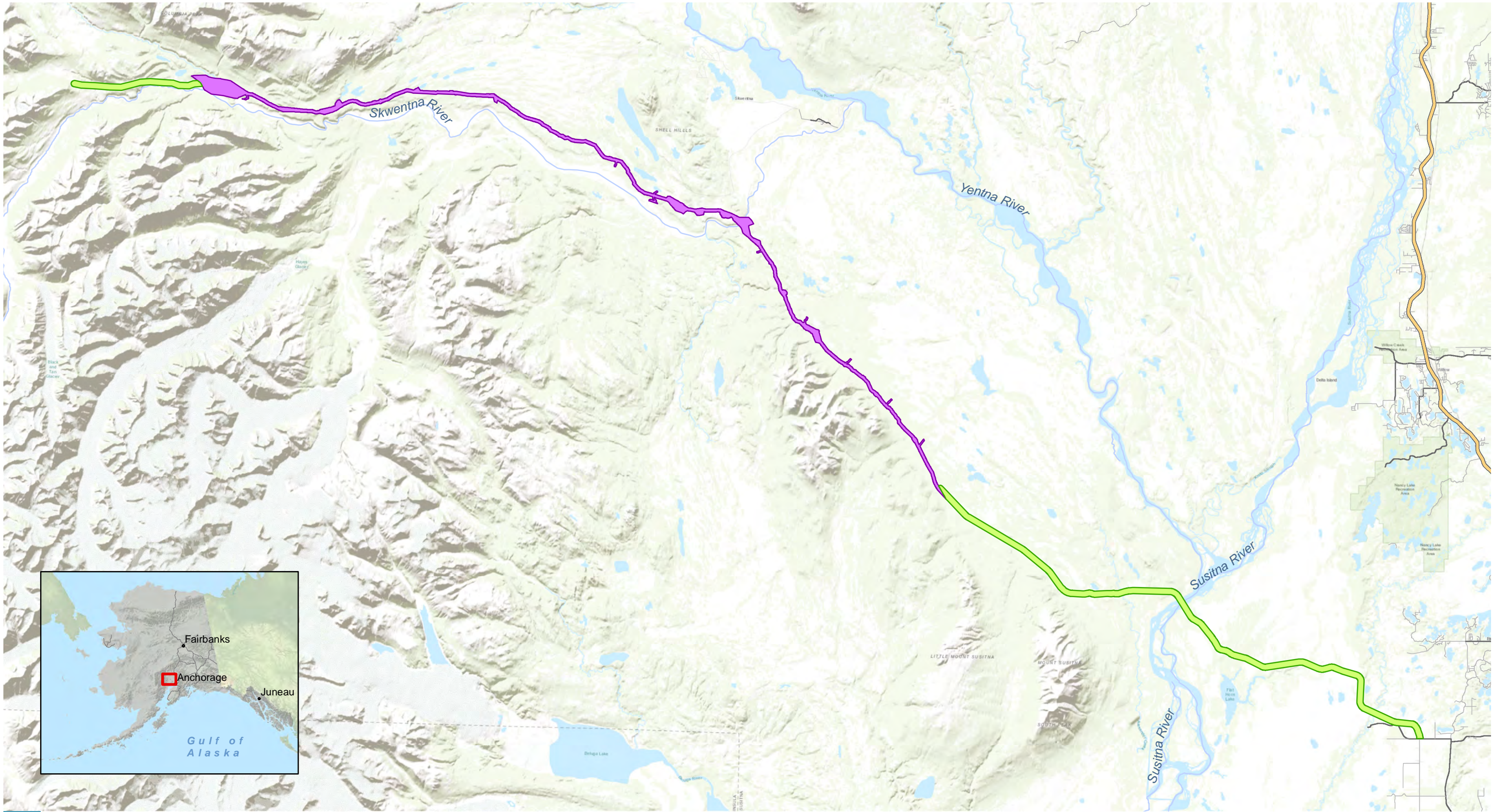
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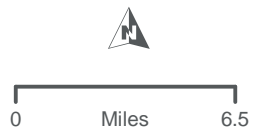
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Figures

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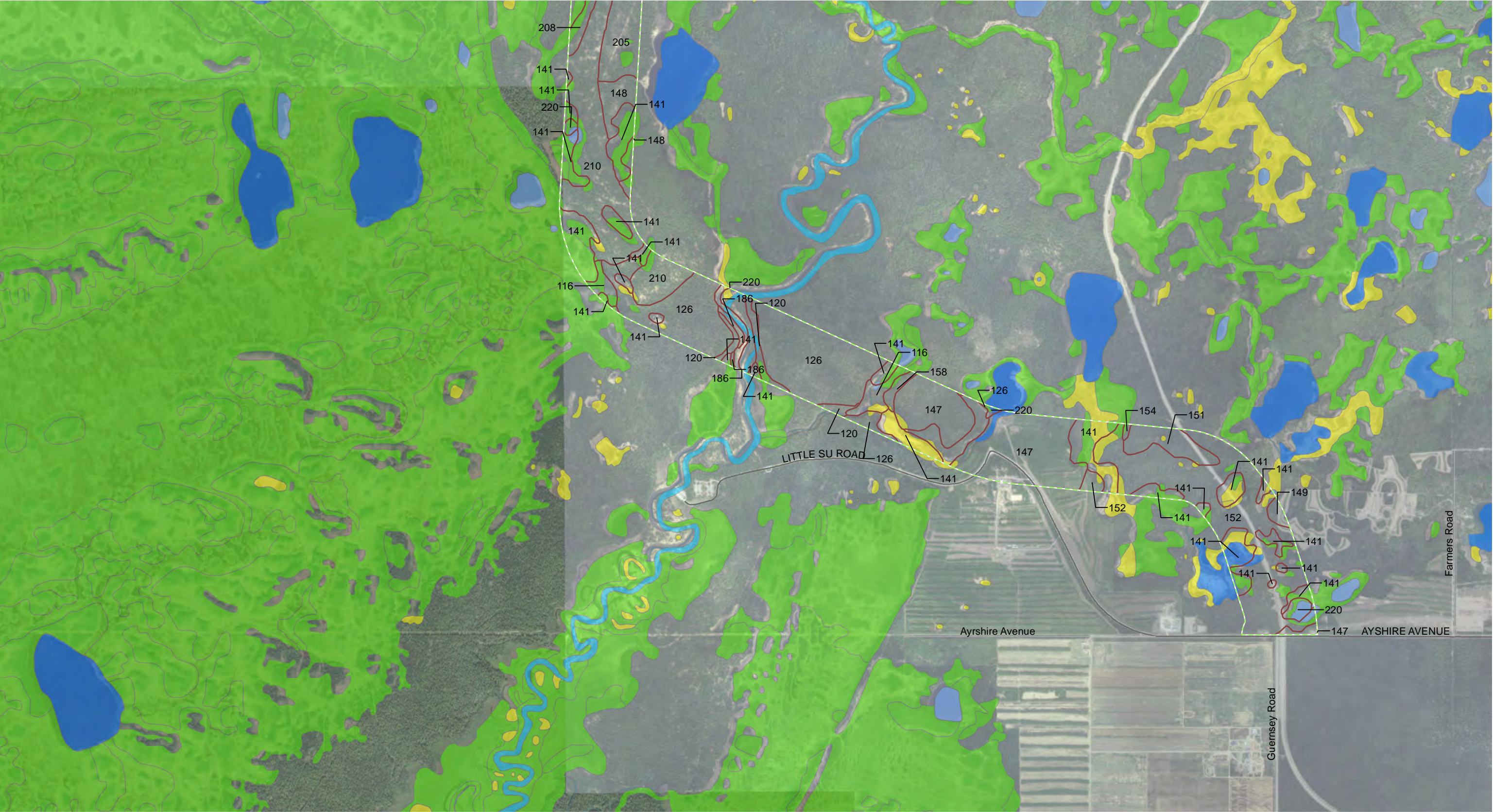
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|---|-----------------------------|---|------------|---|-------------|
|  | Permit-Level Mapping Area |  | Highway |  | Major River |
|  | Planning-Level Mapping Area |  | Major Road | | |
| | |  | Local Road | | |



WEST SUSITNA ACCESS PHASE 2

PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 1 - STUDY AREA



Permit Level Mapping Area
Planning Level Mapping Area

NWI Wetlands

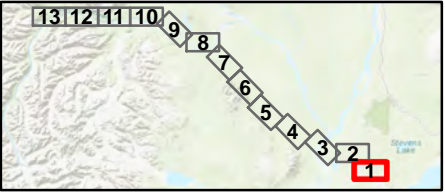
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- NRCS Soils Unit Mapping

NRCS Soils Map Unit Name

- 116 - Cryaquepts, depressional, 0 to 7 percent slopes
- 120 - Cryods, low elevation, and Cryochrepts, 30 to 70 percent slopes
- 126 - Delyndia silt loam, 0 to 5 percent slopes
- 141 - Histosols
- 147 - Kashitna silt loam, 0 to 3 percent slopes

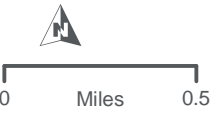
- 148 - Kashitna silt loam, sloping and moderately steep
- 149 - Kashitna silt loam, undulating
- 151 - Kichatna silt loam, 0 to 3 percent slopes
- 152 - Kichatna silt loam, sloping and moderately steep
- 154 - Kichatna silt loam, undulating
- 158 - Kichatna-Delyndia silt loams, 0 to 4 percent slopes

- 186 - Susivar-Moose River complex, 0 to 2 percent slopes
- 205 - Whitsol silt loam, 0 to 2 percent slopes
- 208 - Whitsol silt loam, silty substratum, 0 to 7 percent slopes
- 210 - Whitsol silt loam, till substratum, sloping and moderately steep
- 220 - Water



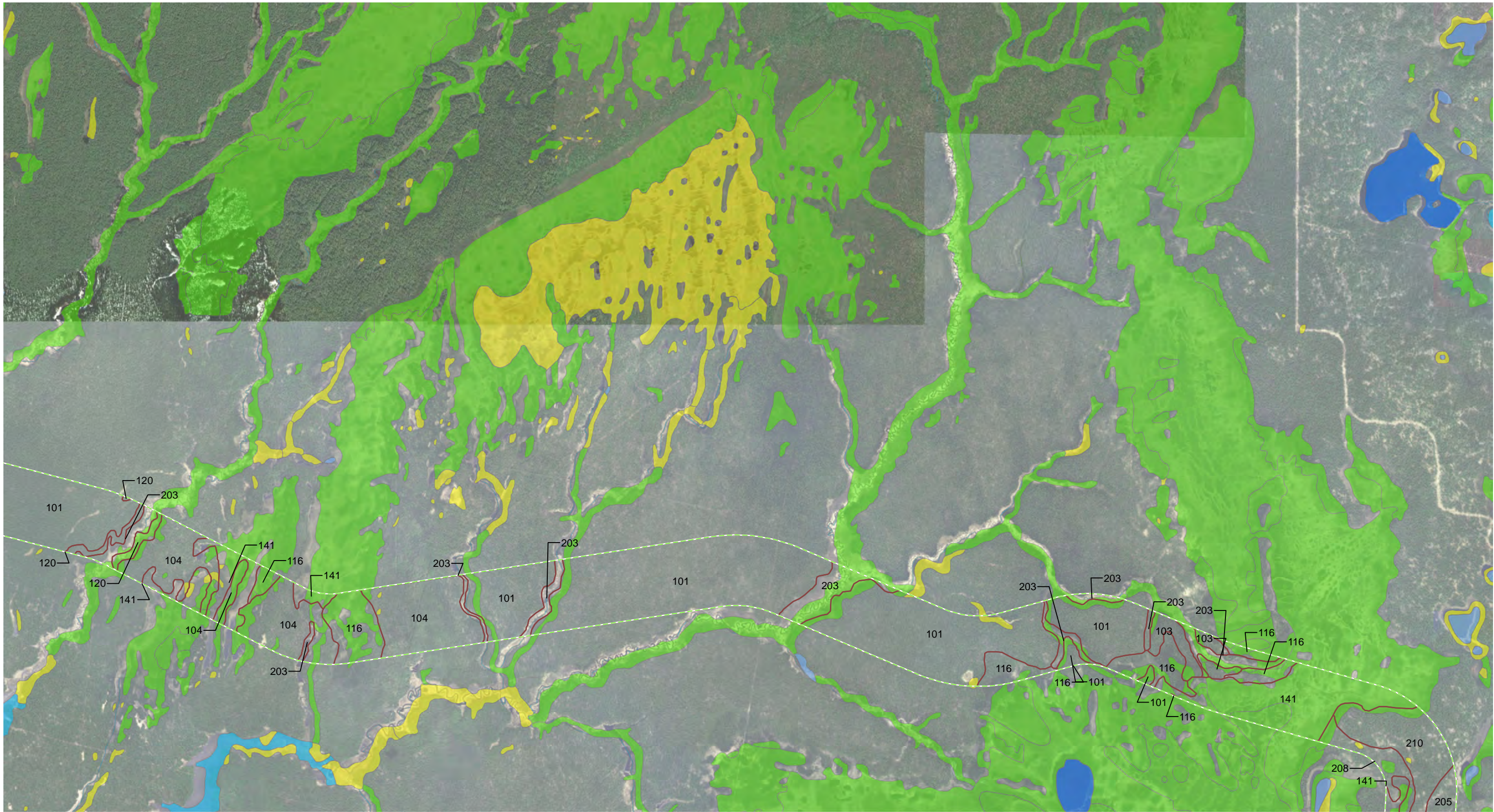
**WEST SUSITNA ACCESS
PHASE 2**

**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**



**FIGURE 2 - NWI MAPPING AND
NRCS SOIL MAPPING**
PAGE 1 OF 13





Permit Level Mapping Area
Planning Level Mapping Area

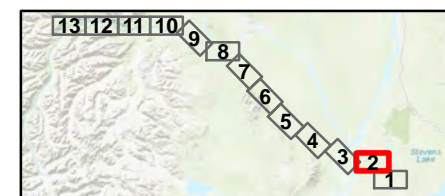
NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- NRCS Soils Unit Mapping

NRCS Soils Map Unit Name

- 101 - Benka silt loam, 0 to 3 percent slopes
- 103 - Benka silt loam, undulating
- 104 - Benka-Liten complex, nearly level and moderately steep
- 116 - Cryaquepts, depressional, 0 to 7 percent slopes
- 120 - Cryods, low elevation, and Cryochrepts, 30 to 70 percent slopes

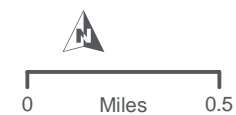
- 141 - Histosols
- 203 - Typic Cryaquepts, 0 to 2 percent slopes
- 205 - Whitsol silt loam, 0 to 2 percent slopes
- 208 - Whitsol silt loam, silty substratum, 0 to 7 percent slopes
- 210 - Whitsol silt loam, till substratum, sloping and moderately steep

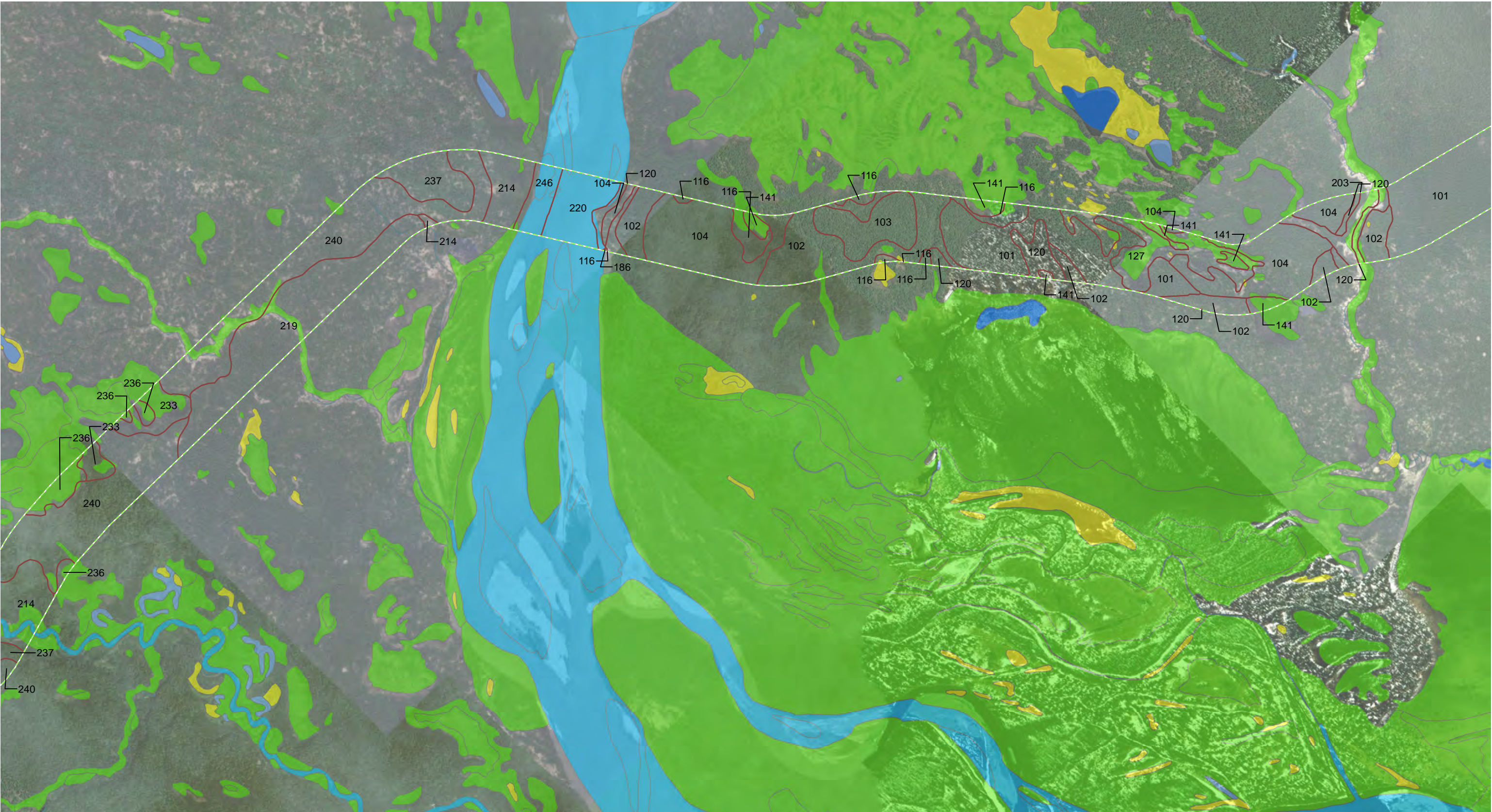


WEST SUSITNA ACCESS PHASE 2

PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 2 - NWI MAPPING AND
NRCS SOIL MAPPING
PAGE 2 OF 13





Permit Level Mapping Area
Planning Level Mapping Area

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- NRCS Soils Unit Mapping

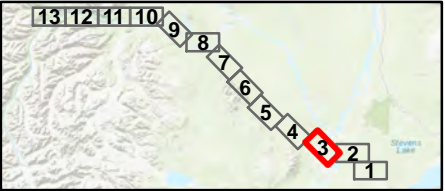
NRCS Soils Map Unit Name

- 101 - Benka silt loam, 0 to 3 percent slopes
- 102 - Benka silt loam, sloping and moderately steep
- 103 - Benka silt loam, undulating
- 104 - Benka-Liten complex, nearly level and moderately steep
- 116 - Cryaquepts, depressional, 0 to 7 percent slopes

- 120 - Cryods, low elevation, and Cryochrepts, 30 to 70 percent slopes
- 127 - Delyndia-Histosols complex, 0 to 3 percent slopes
- 141 - Histosols
- 186 - Susivar-Moose River complex, 0 to 2 percent slopes
- 203 - Typic Cryaquepts, 0 to 2 percent slopes

- 214 - Killey and Hilene silt loams, 0 to 2 percent slopes
- 219 - Nancy-Kashwitna complex, 2 to 7 percent slopes
- 220 - Water
- 233 - Slikok muck, 0 to 5 percent slopes
- 236 - Starichkof peat, 0 to 7 percent slopes
- 237 - Strandline-Kroto complex, 20 to 45 percent slopes

- 240 - Strandline-Spenard-Kroto complex, 2 to 30 percent slopes
- 246 - Water

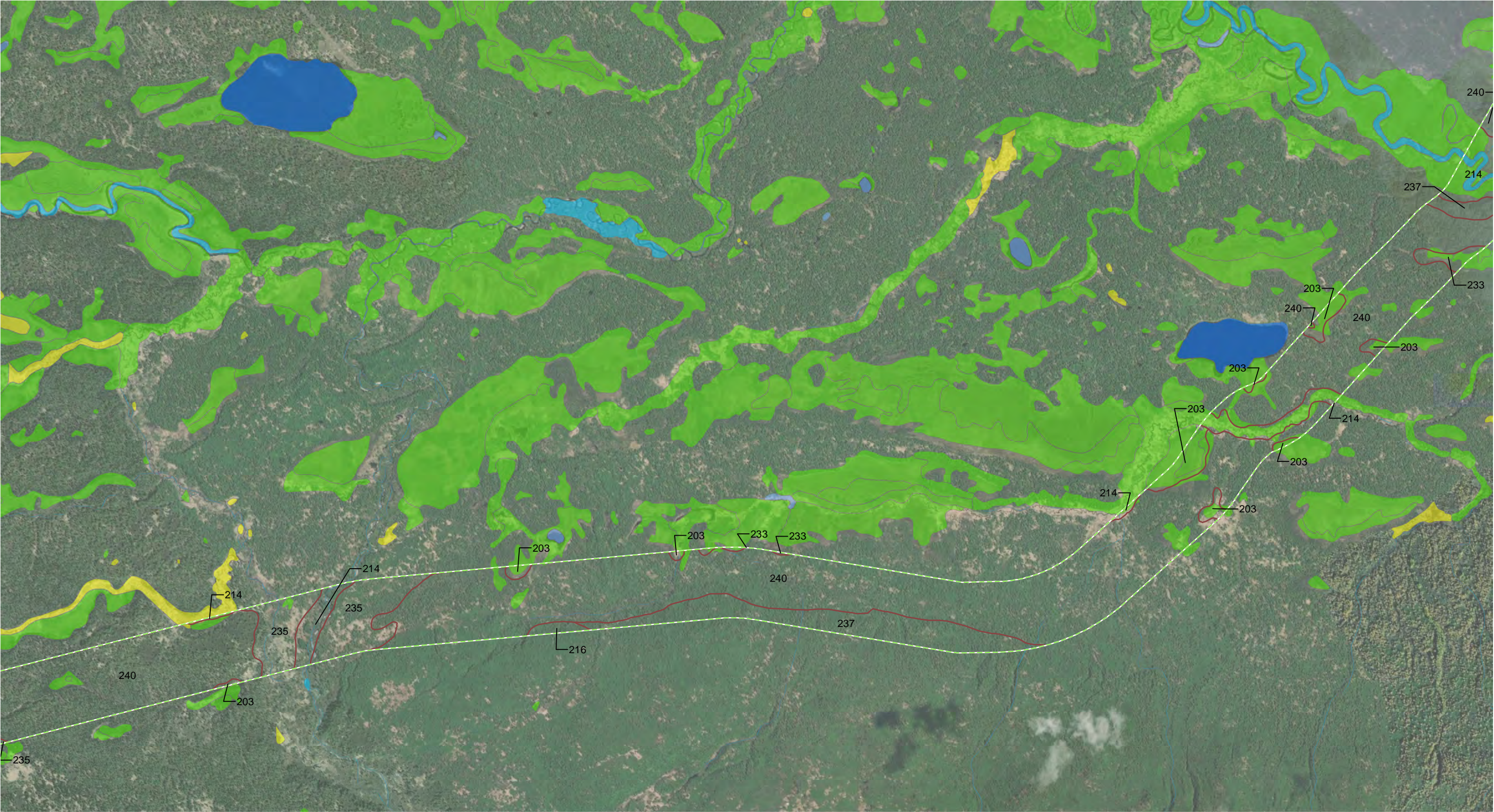


**WEST SUSITNA ACCESS
PHASE 2**

**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

**FIGURE 2 - NWI MAPPING AND
NRCS SOIL MAPPING**
PAGE 3 OF 13





Permit Level Mapping Area
Planning Level Mapping Area

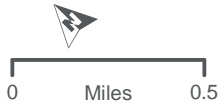
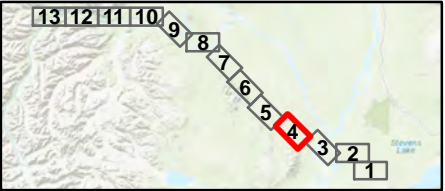
NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- NRCS Soils Unit Mapping

NRCS Soils Map Unit Name

- 203 - Chichantna peat, 0 to 8 percent slopes
- 214 - Killey and Hiline silt loams, 0 to 2 percent slopes
- 216 - Kroto-Strandline-Cryorthents complex, 30 to 45 percent slopes
- 233 - Slikok muck, 0 to 5 percent slopes
- 235 - Spenard silt loam, 0 to 7 percent slopes

- 237 - Strandline-Kroto complex, 20 to 45 percent slopes
- 240 - Strandline-Spenard-Kroto complex, 2 to 30 percent slopes

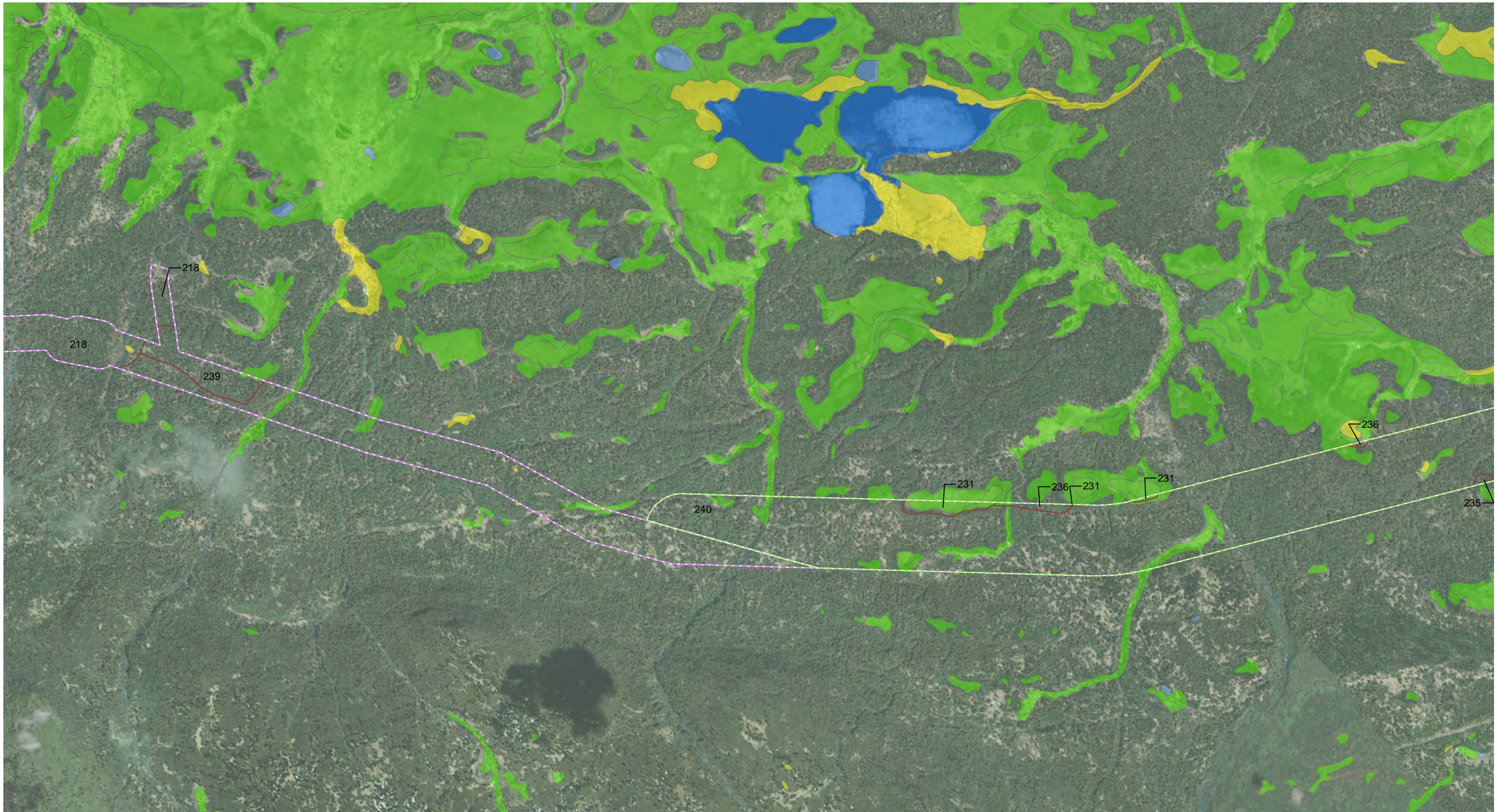


**WEST SUSITNA ACCESS
PHASE 2**

**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

**FIGURE 2 - NWI MAPPING AND
NRCS SOIL MAPPING
PAGE 4 OF 13**





Permit Level Mapping Area
Planning Level Mapping Area

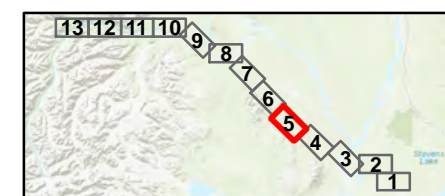
NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- NRCS Soils Unit Mapping

NRCS Soils Map Unit Name

- 218 - Nancy-Kashwitna complex, 0 to 2 percent slopes
- 231 - Salamatof peat, 0 to 2 percent slopes
- 235 - Spenard silt loam, 0 to 7 percent slopes
- 236 - Starichkof peat, 0 to 7 percent slopes

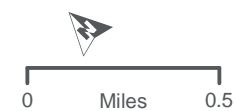
- 239 - Strandline-Kroto-Slikok complex, 1 to 12 percent slopes
- 240 - Strandline-Spenard-Kroto complex, 2 to 30 percent slopes

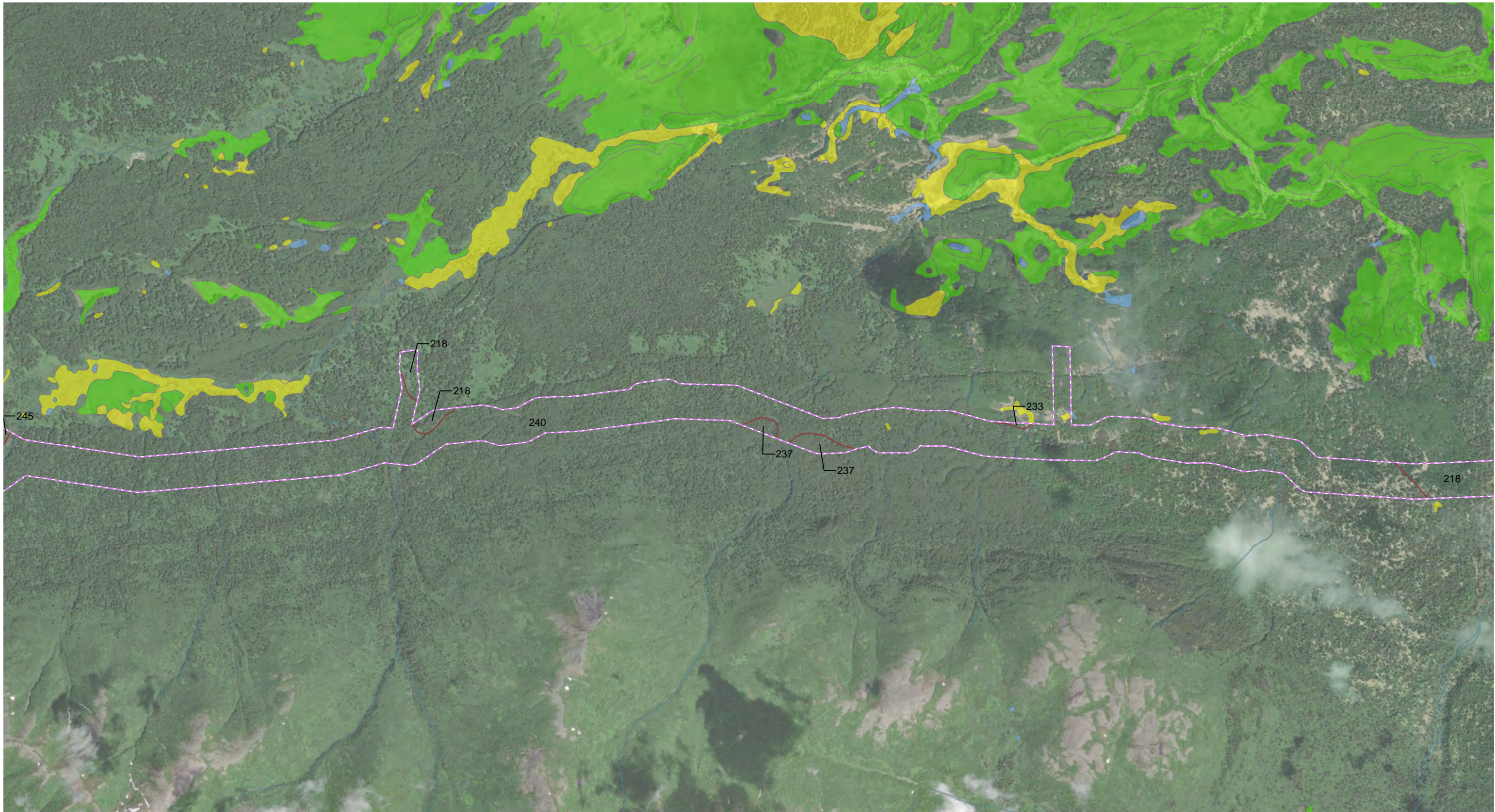


WEST SUSITNA ACCESS PHASE 2

PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 2 - NWI MAPPING AND
NRCS SOIL MAPPING
PAGE 5 OF 13





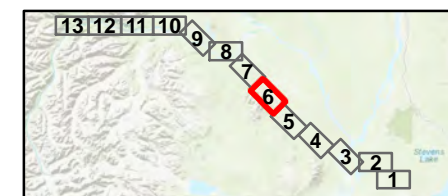
Permit Level Mapping Area
 Planning Level Mapping Area

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine
- NRCS Soils Unit Mapping

NRCS Soils Map Unit Name

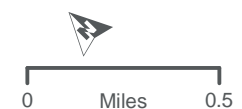
- 218 - Nancy-Kashwitna complex, 0 to 2 percent slopes
- 233 - Slikok muck, 0 to 5 percent slopes
- 237 - Strandline-Kroto complex, 20 to 45 percent slopes
- 240 - Strandline-Spenard-Kroto complex, 2 to 30 percent slopes
- 245 - Wasilla silt loam, 0 to 2 percent slopes

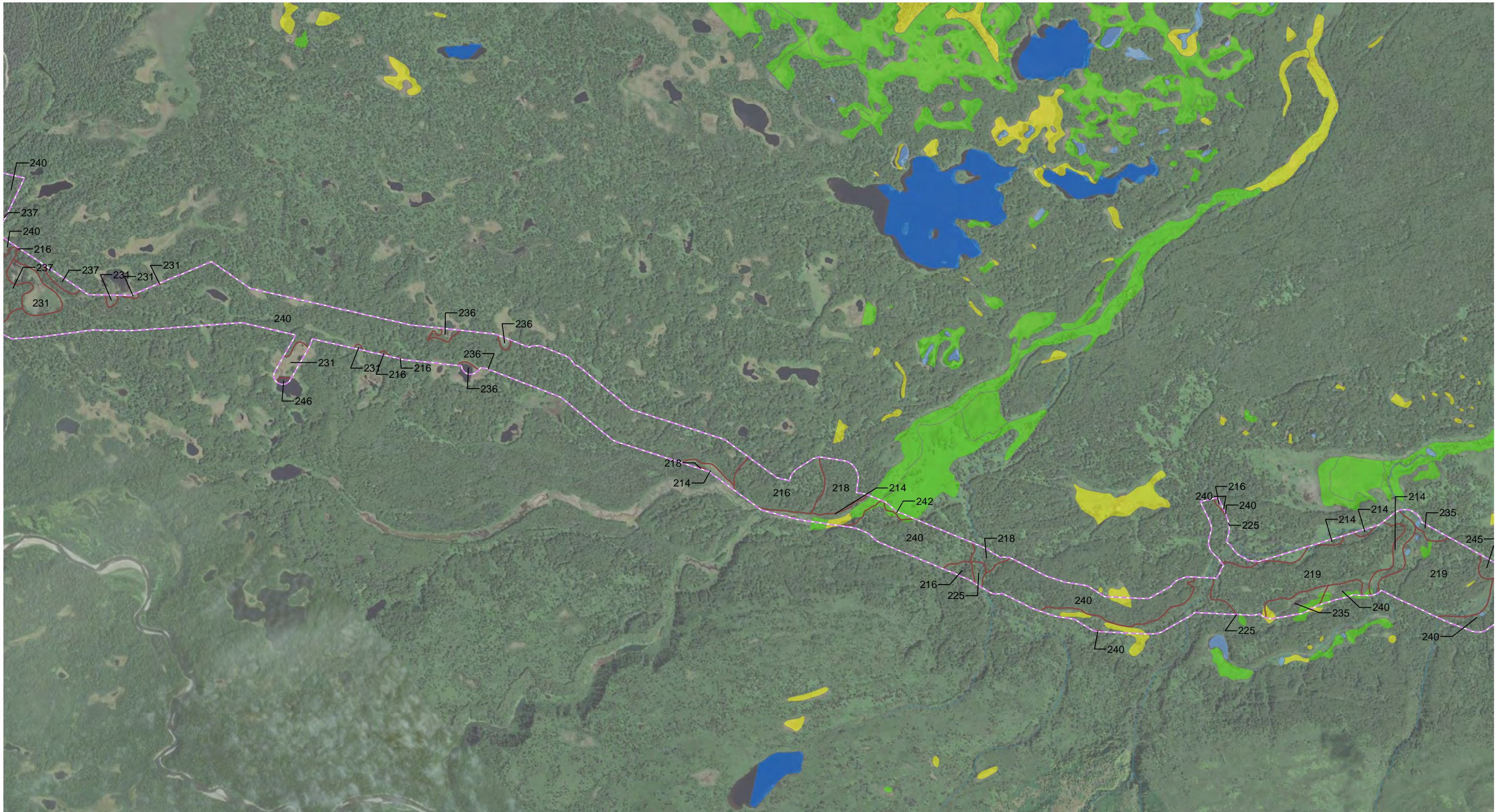


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PHASE 2**

**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

**FIGURE 2 - NWI MAPPING AND
NRCS SOIL MAPPING**
PAGE 6 OF 13





Permit Level Mapping Area
 Planning Level Mapping Area

NWI Wetlands

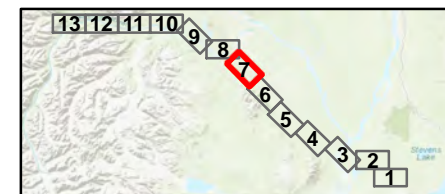
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- NRCS Soils Unit Mapping

NRCS Soils Map Unit Name

- 214 - Killey and Hilene silt loams, 0 to 2 percent slopes
- 216 - Kroto-Strandline-Cryorthents complex, 30 to 45 percent slopes
- 218 - Nancy-Kashwitna complex, 0 to 2 percent slopes
- 219 - Nancy-Kashwitna complex, 2 to 7 percent slopes

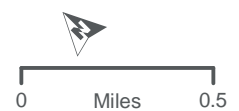
- 225 - Niklason silt loam, 0 to 2 percent slopes
- 231 - Salamatof peat, 0 to 2 percent slopes
- 235 - Spenard silt loam, 0 to 7 percent slopes
- 236 - Starichkof peat, 0 to 7 percent slopes
- 237 - Strandline-Kroto complex, 20 to 45 percent slopes

- 240 - Strandline-Spenard-Kroto complex, 2 to 30 percent slopes
- 242 - Susitna-Niklason silt loams, 0 to 2 percent slopes
- 245 - Wasilla silt loam, 0 to 2 percent slopes
- 246 - Water



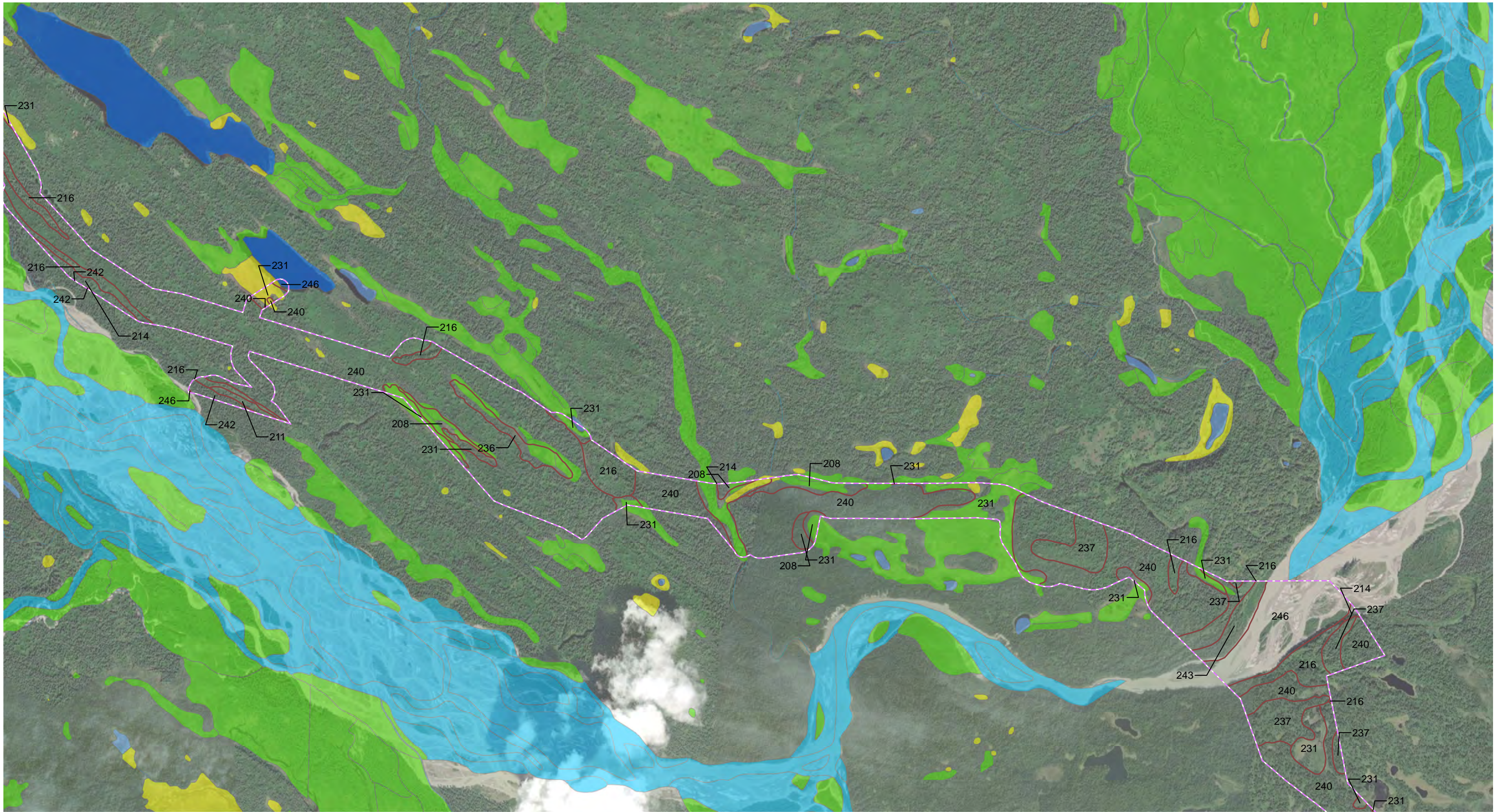
**WEST SUSITNA ACCESS
PHASE 2**

**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**



**FIGURE 2 - NWI MAPPING AND
NRCS SOIL MAPPING
PAGE 7 OF 13**





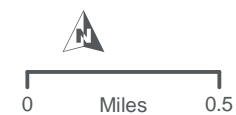
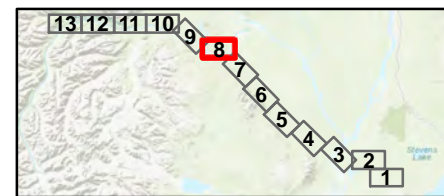
- Permit Level Mapping Area
Planning Level Mapping Area
- NWI Wetlands**
- Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Riverine
 - NRCS Soils Unit Mapping

NRCS Soils Map Unit Name

- 208 - Doroshin peat, 0 to 5 percent slopes
- 211 - Hewitt peat, 0 to 2 percent slopes
- 214 - Killey and Hiline silt loams, 0 to 2 percent slopes
- 216 - Kroto-Strandline-Cryorthents complex, 30 to 45 percent slopes
- 231 - Salamatof peat, 0 to 2 percent slopes

- 236 - Starichkof peat, 0 to 7 percent slopes
- 237 - Strandline-Kroto complex, 20 to 45 percent slopes
- 240 - Strandline-Spenard-Kroto complex, 2 to 30 percent slopes
- 242 - Susitna-Niklason silt loams, 0 to 2 percent slopes
- 243 - Susitna and Niklason silt loams, 0 to 2 percent slopes

- 246 - Water

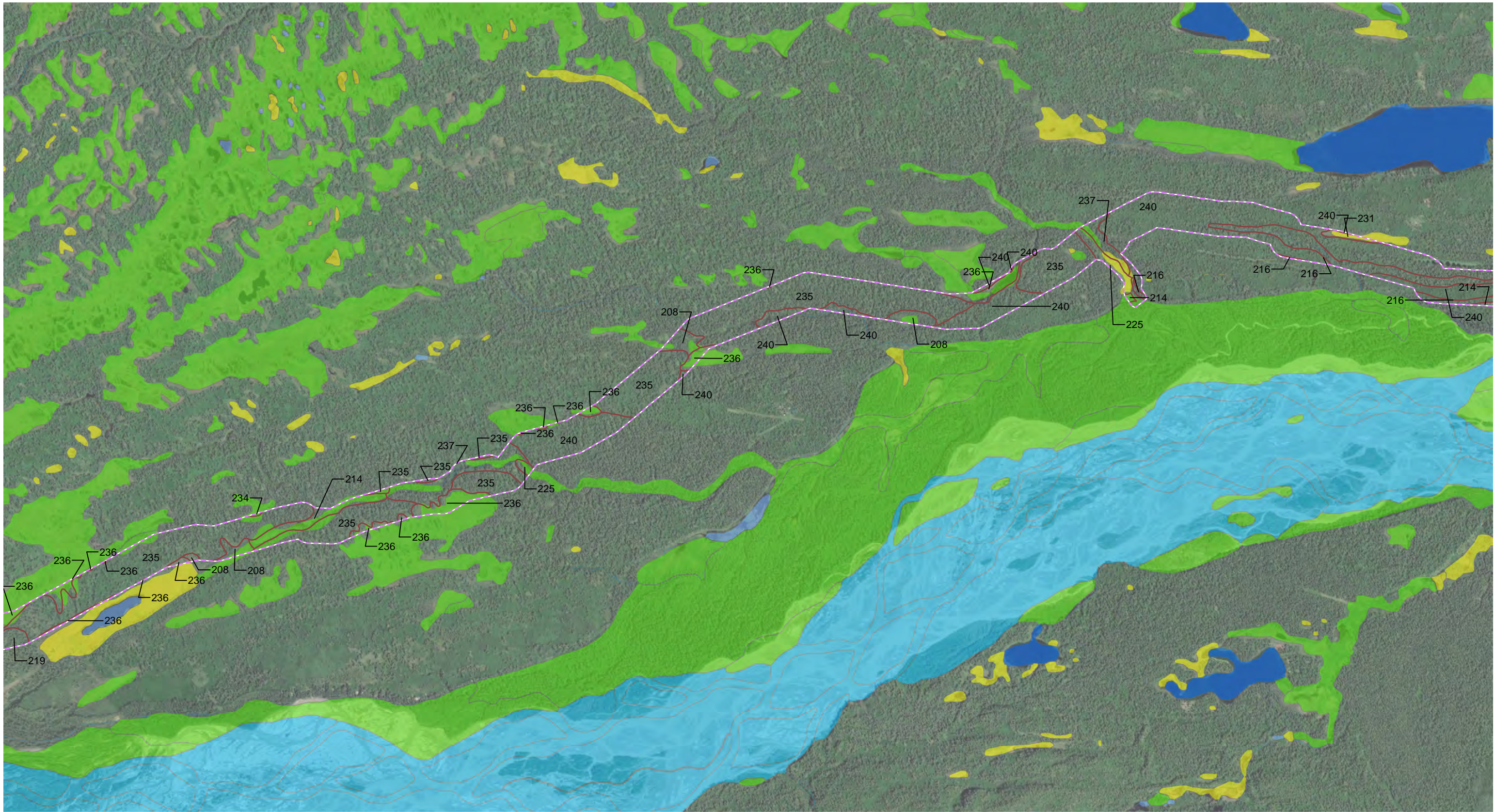


**WEST SUSITNA ACCESS
PHASE 2**

**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

**FIGURE 2 - NWI MAPPING AND
NRCS SOIL MAPPING**
PAGE 8 OF 13





Permit Level Mapping Area
 Planning Level Mapping Area

NWI Wetlands

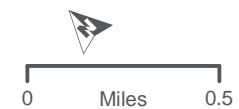
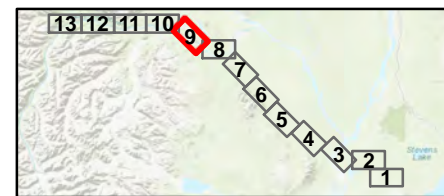
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- NRCS Soils Unit Mapping

NRCS Soils Map Unit Name

- 208 - Doroshin peat, 0 to 5 percent slopes
- 214 - Killey and Hilene silt loams, 0 to 2 percent slopes
- 216 - Kroto-Strandline-Cryorthents complex, 30 to 45 percent slopes
- 219 - Nancy-Kashwitna complex, 2 to 7 percent slopes
- 225 - Niklason silt loam, 0 to 2 percent slopes

- 231 - Salamatof peat, 0 to 2 percent slopes
- 234 - Slikok-Starichkof-Strandline complex, 0 to 7 percent slopes
- 235 - Spenard silt loam, 0 to 7 percent slopes
- 236 - Starichkof peat, 0 to 7 percent slopes
- 237 - Strandline-Kroto complex, 20 to 45 percent slopes

- 240 - Strandline-Spenard-Kroto complex, 2 to 30 percent slopes

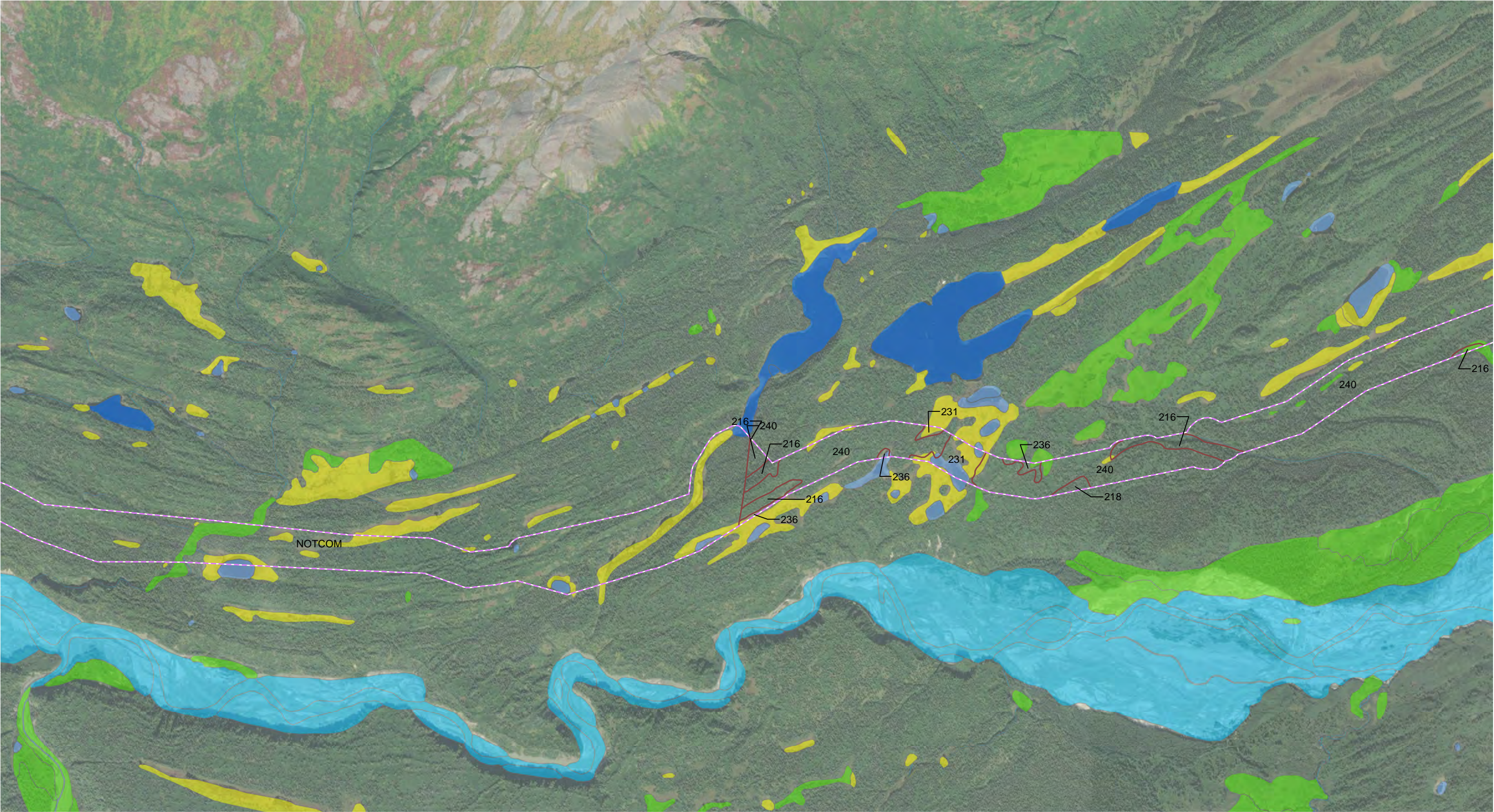


**WEST SUSITNA ACCESS
PHASE 2**

**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

**FIGURE 2 - NWI MAPPING AND
NRCS SOIL MAPPING**
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Permit Level Mapping Area
Planning Level Mapping Area

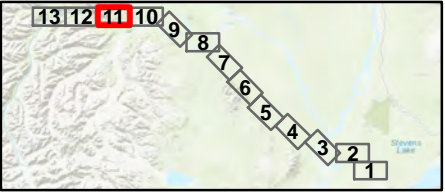
NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- NRCS Soils Unit Mapping

NRCS Soils Map Unit Name

- 216 - Kroto-Strandline-Cryorthents complex, 30 to 45 percent slopes
- 218 - Nancy-Kashwitna complex, 0 to 2 percent slopes
- 231 - Salamatof peat, 0 to 2 percent slopes
- 236 - Starichkof peat, 0 to 7 percent slopes

- 240 - Strandline-Spenard-Kroto complex, 2 to 30 percent slopes
- NOTCOM - No Digital Data Available

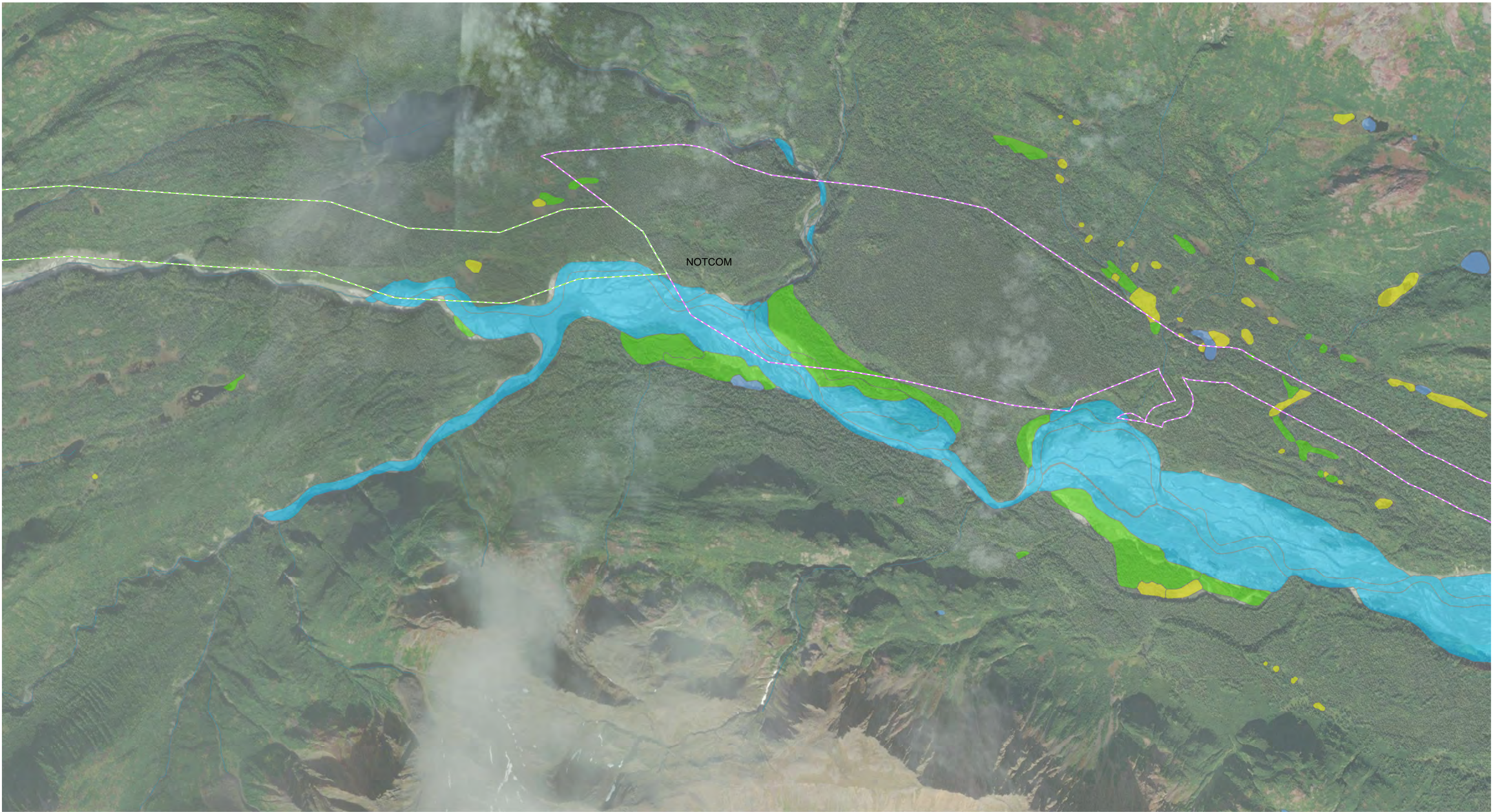


**WEST SUSITNA ACCESS
PHASE 2**

**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

**FIGURE 2 - NWI MAPPING AND
NRCS SOIL MAPPING**
PAGE 11 OF 13



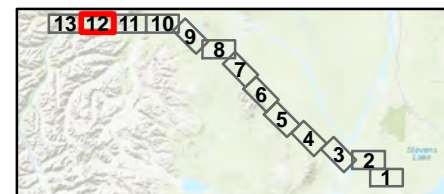


- Permit Level Mapping Area
- Planning Level Mapping Area

NRCS Soils Map Unit Name
 NOTCOM - No Digital Data Available

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine
- NRCS Soils Unit Mapping



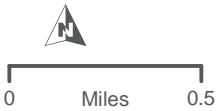
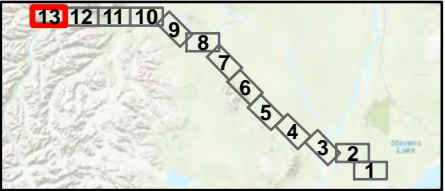
**WEST SUSITNA ACCESS
 PHASE 2**

**PRELIMINARY WETLAND AND
 WATERBODY MAPPING REPORT**

**FIGURE 2 - NWI MAPPING AND
 NRCS SOIL MAPPING**
 PAGE 12 OF 13



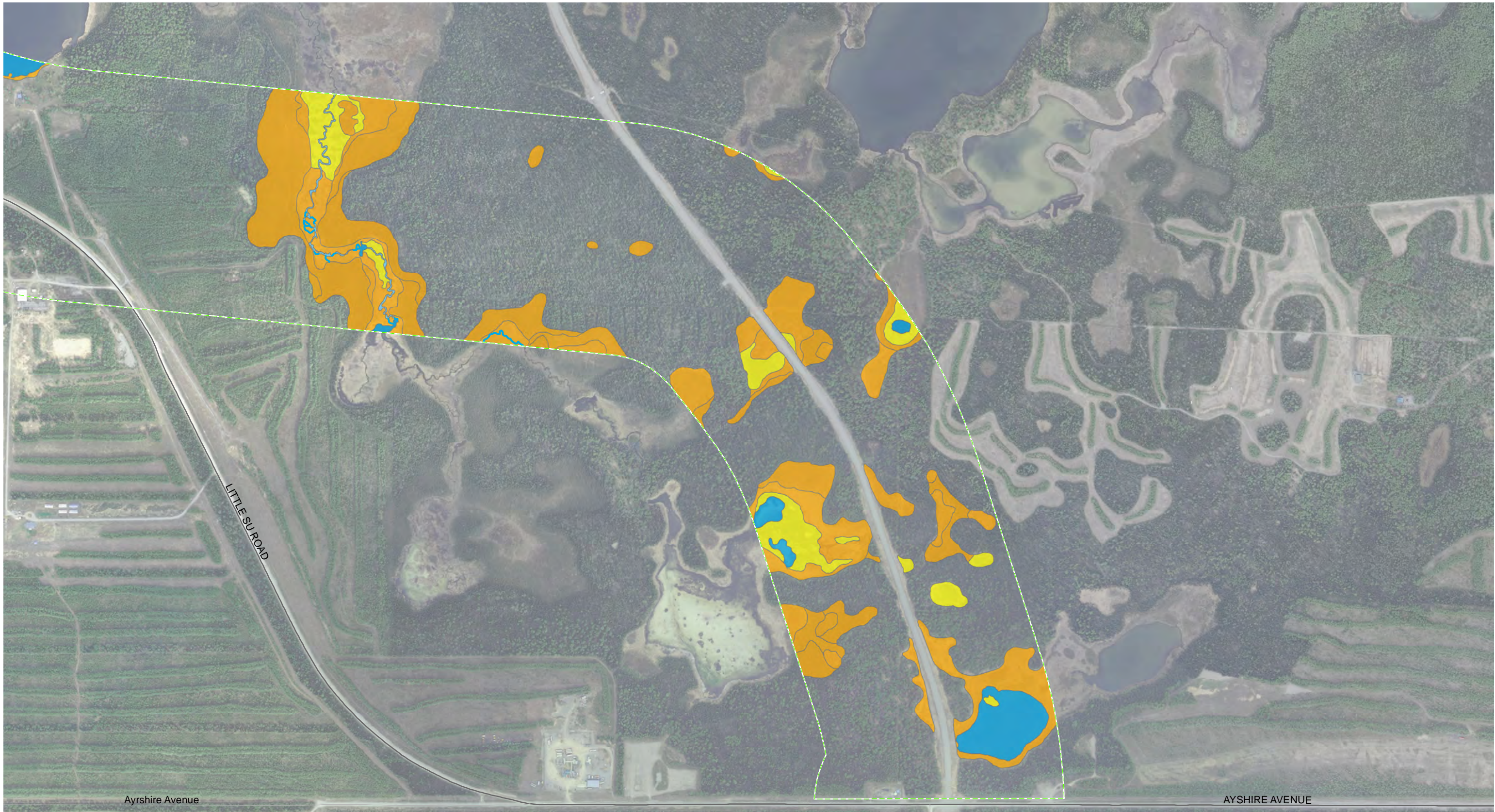
- Permit Level Mapping Area
- Planning Level Mapping Area
- NWI Wetlands**
- Freshwater Pond
- Riverine
- NRCS Soils Unit Mapping
- NRCS Soils Map Unit Name**
- NOTCOM - No Digital Data Available



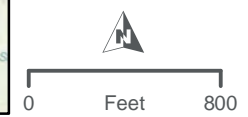
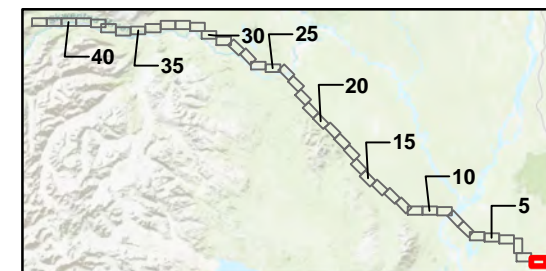
**WEST SUSITNA ACCESS
PHASE 2**

**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

**FIGURE 2 - NWI MAPPING AND
NRCS SOIL MAPPING**
PAGE 13 OF 13



- | | | | |
|---|-----------------------------|--|------------|
| | Permit Level Mapping Area | | Major Road |
| | Planning Level Mapping Area | | Local Road |
| Wetland and Waterbody Mapping by NWI Class | | | |
| | Shrub-Scrub Wetland | | |
| | Emergent Wetland | | |
| | Pond | | |
| | Stream | | |
| Stream Mapping | | | |
| | Perennial Stream | | |

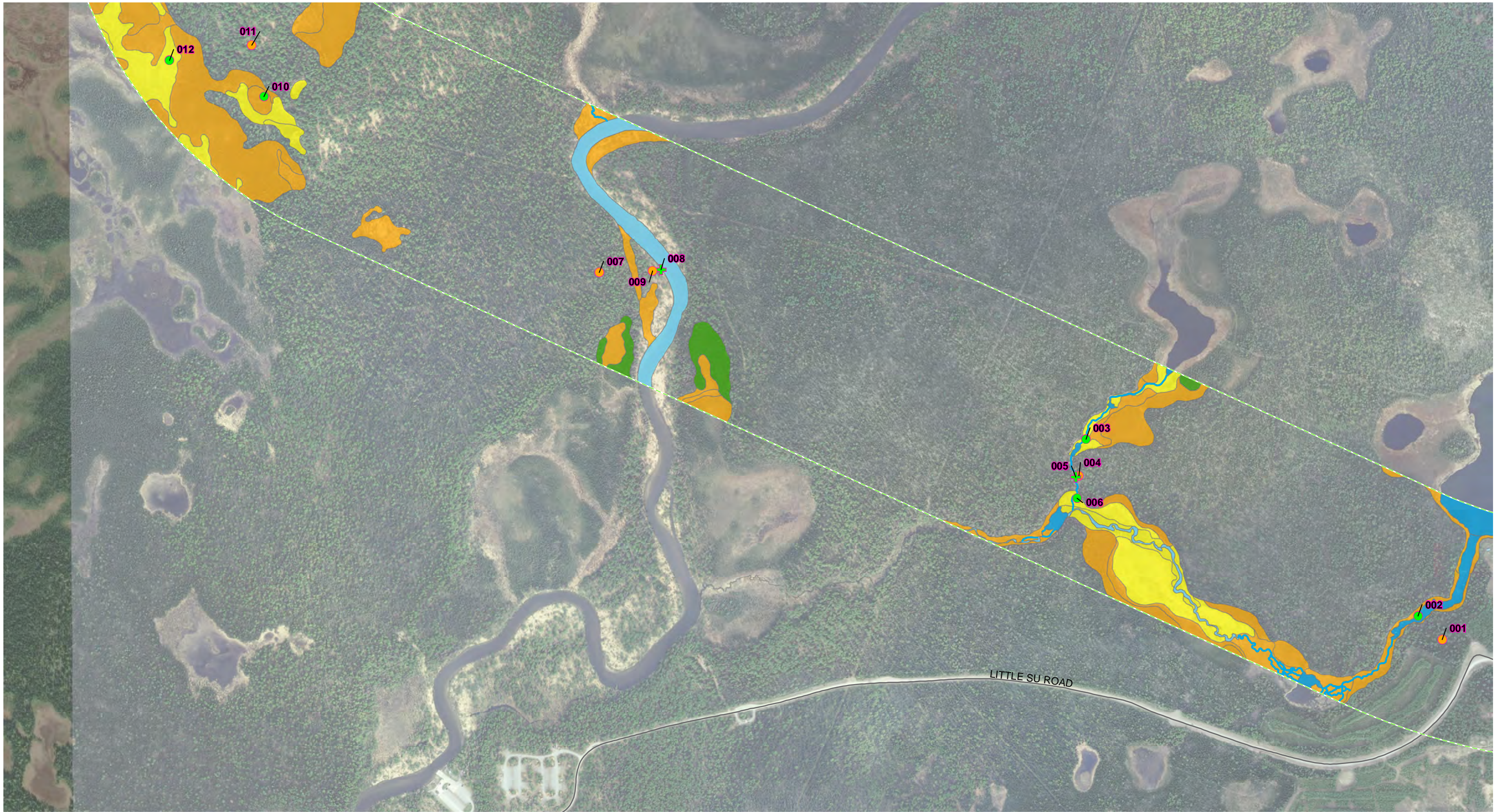


WEST SUSITNA ACCESS PHASE 2

PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

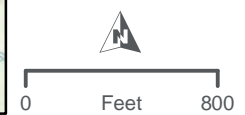
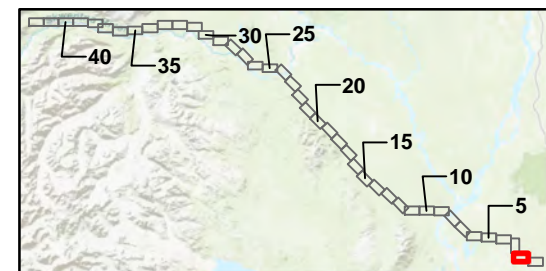
FIGURE 3 - WETLAND AND
WATERBODY MAPPING
PAGE 1 OF 42





- Permit Level Mapping Area
- Planning Level Mapping Area
- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Pond
- Stream

- Stream Mapping**
- ~ Perennial Stream
- Field Plots (HDR 2006)**
- Wetland Determination Form, Upland
- Wetland Determination Form, Wetland
- + Observation Point, Wetland
- Major Road

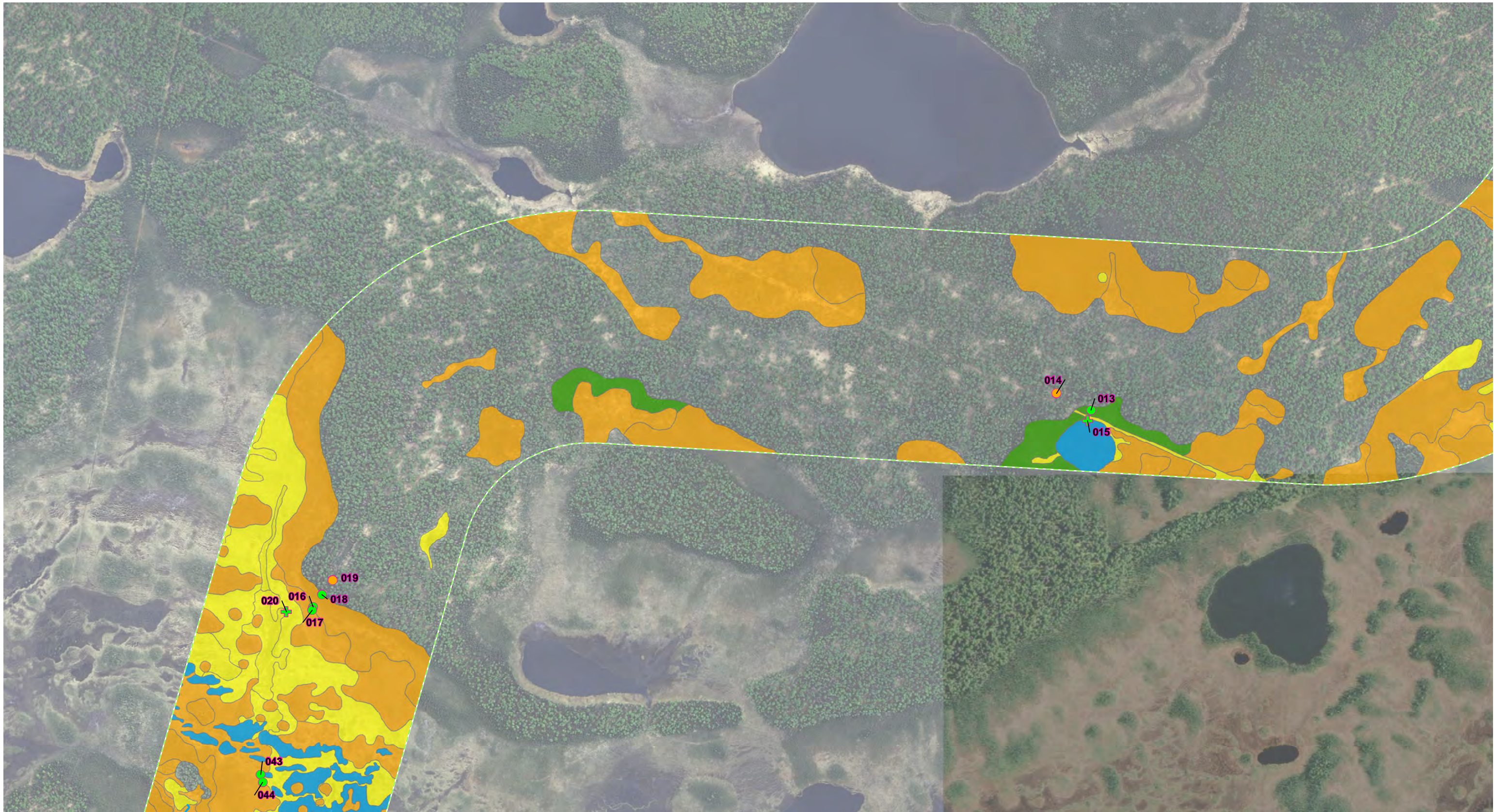


WEST SUSITNA ACCESS PHASE 2

PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

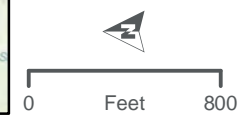
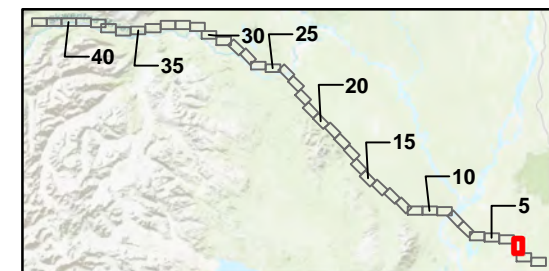
FIGURE 3 - WETLAND AND
WATERBODY MAPPING
PAGE 2 OF 42





- [Green dashed line] Permit Level Mapping Area
 [Yellow dashed line] Planning Level Mapping Area
Wetland and Waterbody Mapping by NWI Class
 [Green wavy line] Forested Wetland
 [Orange wavy line] Shrub-Scrub Wetland
 [Yellow wavy line] Emergent Wetland
 [Blue wavy line] Pond
Stream Mapping
 [Blue line] Perennial Stream

- Field Plots (HDR 2006)**
 [Orange dot] Wetland Determination Form, Upland
 [Green dot] Wetland Determination Form, Wetland
 [Green cross] Observation Point, Wetland

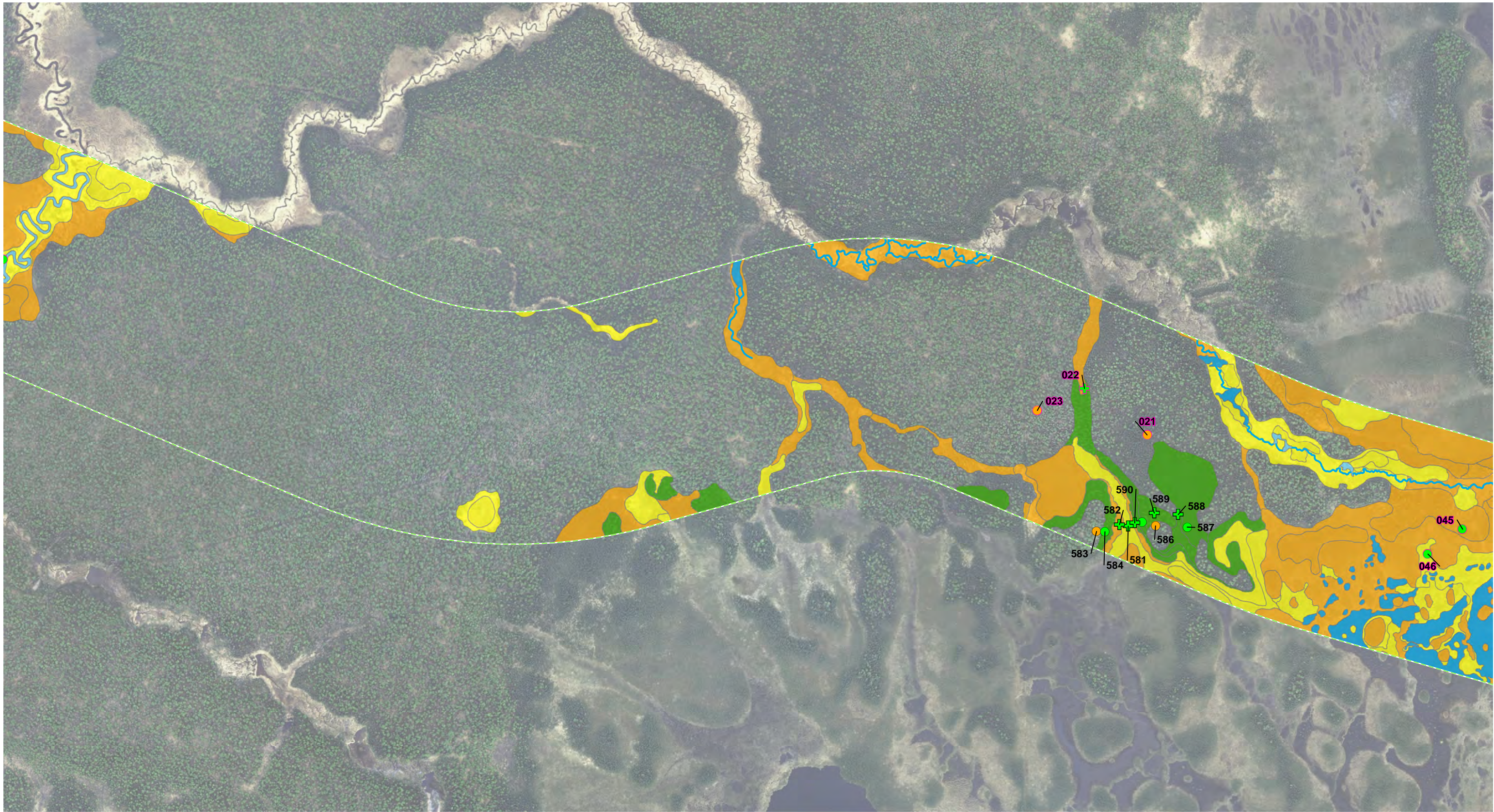


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PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
PAGE 3 OF 42





Permit Level Mapping Area
Planning Level Mapping Area

Wetland and Waterbody Mapping by NWI Class

- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Pond
- Stream

Stream Mapping

Perennial Stream

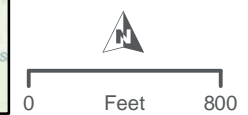
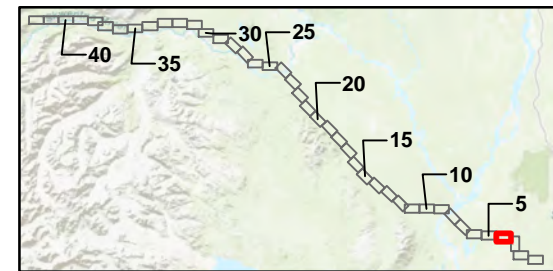
Field Plots (HDR 2006)

- Wetland Determination Form, Upland
- Wetland Determination Form, Wetland
- Observation Point, Wetland

Field Plots (HDR 2020)

- Wetland Determination Form, Upland
- Wetland Determination Form, Wetland

Observation Point, Wetland



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**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

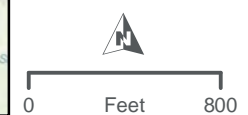
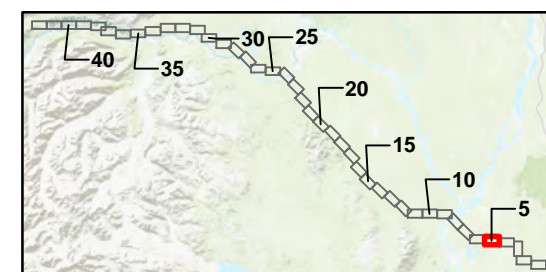
**FIGURE 3 - WETLAND AND
WATERBODY MAPPING**
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- Permit Level Mapping Area
 Planning Level Mapping Area
Wetland and Waterbody Mapping by NWI Class
 Forested Wetland
 Shrub-Scrub Wetland
 Emergent Wetland
 Pond
 Stream

- Stream Mapping**
 Perennial Stream
 Seasonal Stream
Field Plots (HDR 2006)
 Wetland Determination Form, Upland
 Wetland Determination Form, Wetland
 Observation Point, Wetland

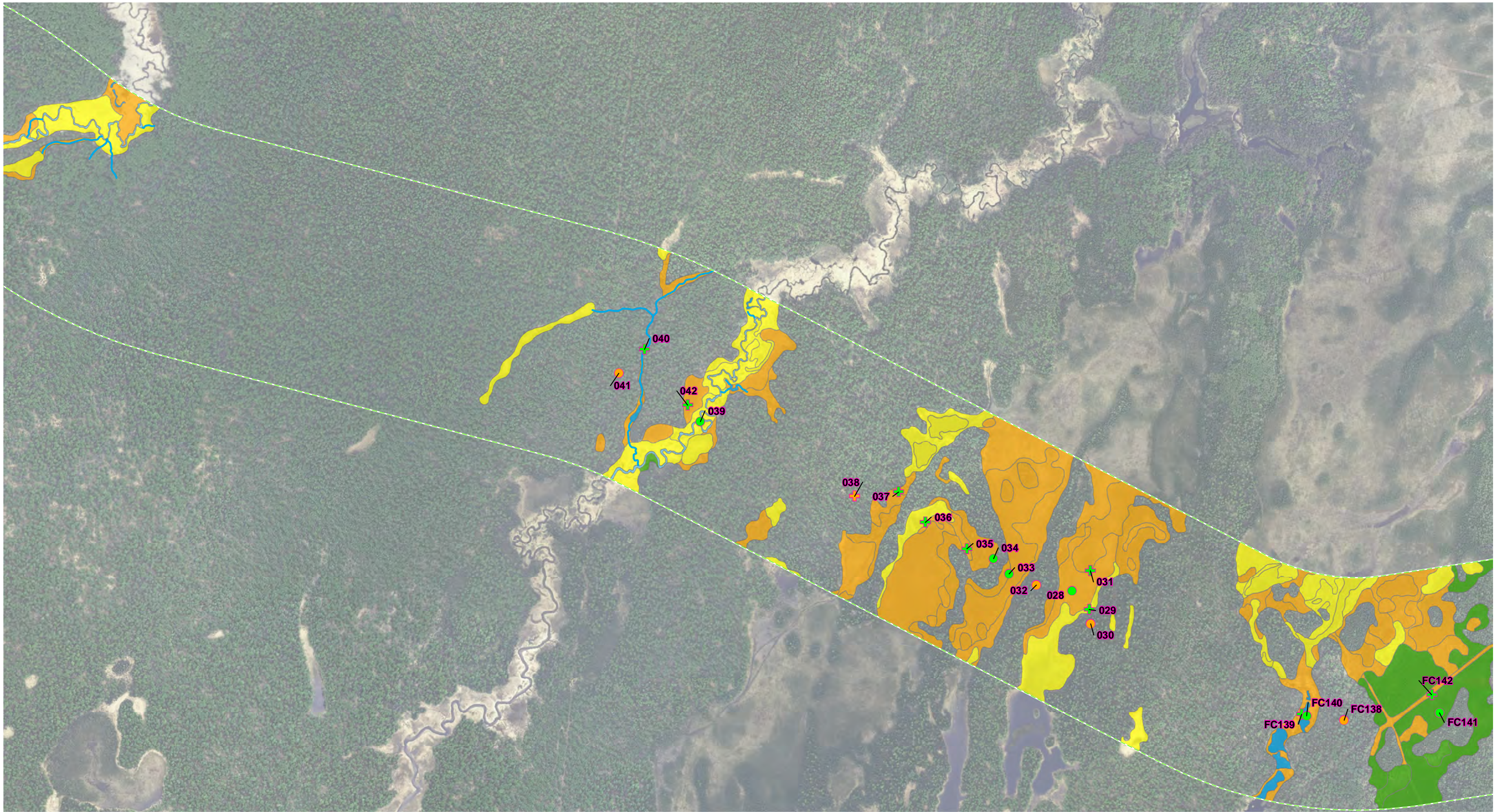


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PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
PAGE 5 OF 42





Permit Level Mapping Area
Planning Level Mapping Area

Wetland and Waterbody Mapping by NWI Class

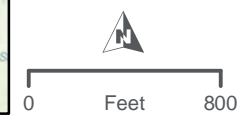
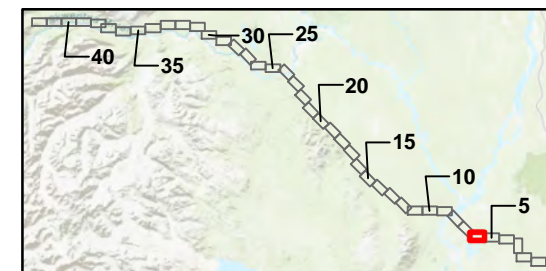
- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Pond
- Stream

Stream Mapping

— Perennial Stream

Field Plots (HDR 2006)

- Wetland Determination Form, Upland
- + Observation Point, Upland
- Wetland Determination Form, Wetland
- + Observation Point, Wetland

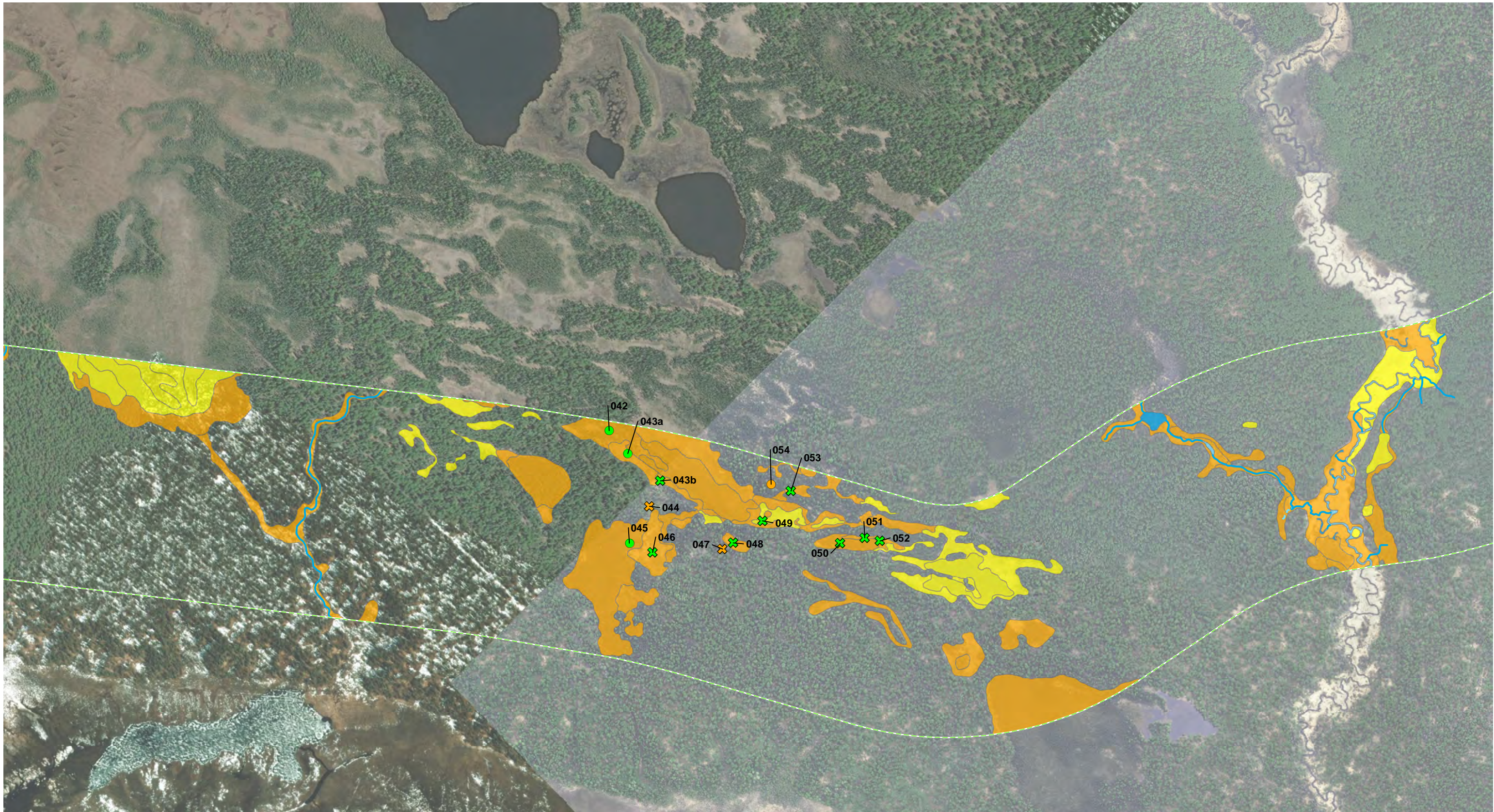


WEST SUSITNA ACCESS PHASE 2

PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
PAGE 6 OF 42





Permit Level Mapping Area
 Planning Level Mapping Area

Wetland and Waterbody Mapping by NWI Class

Shrub-Scrub Wetland
 Emergent Wetland
 Pond
 Stream

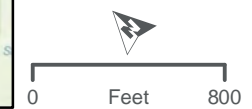
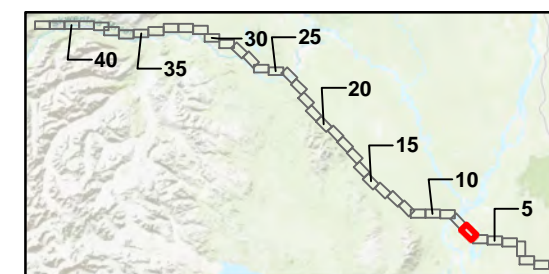
Stream Mapping

Perennial Stream

Seasonal Stream

Field Plots (HDR 2020)

Wetland Determination Form, Upland
 Wetland Determination Form, Wetland
 Observation Point, Upland
 Observation Point, Wetland

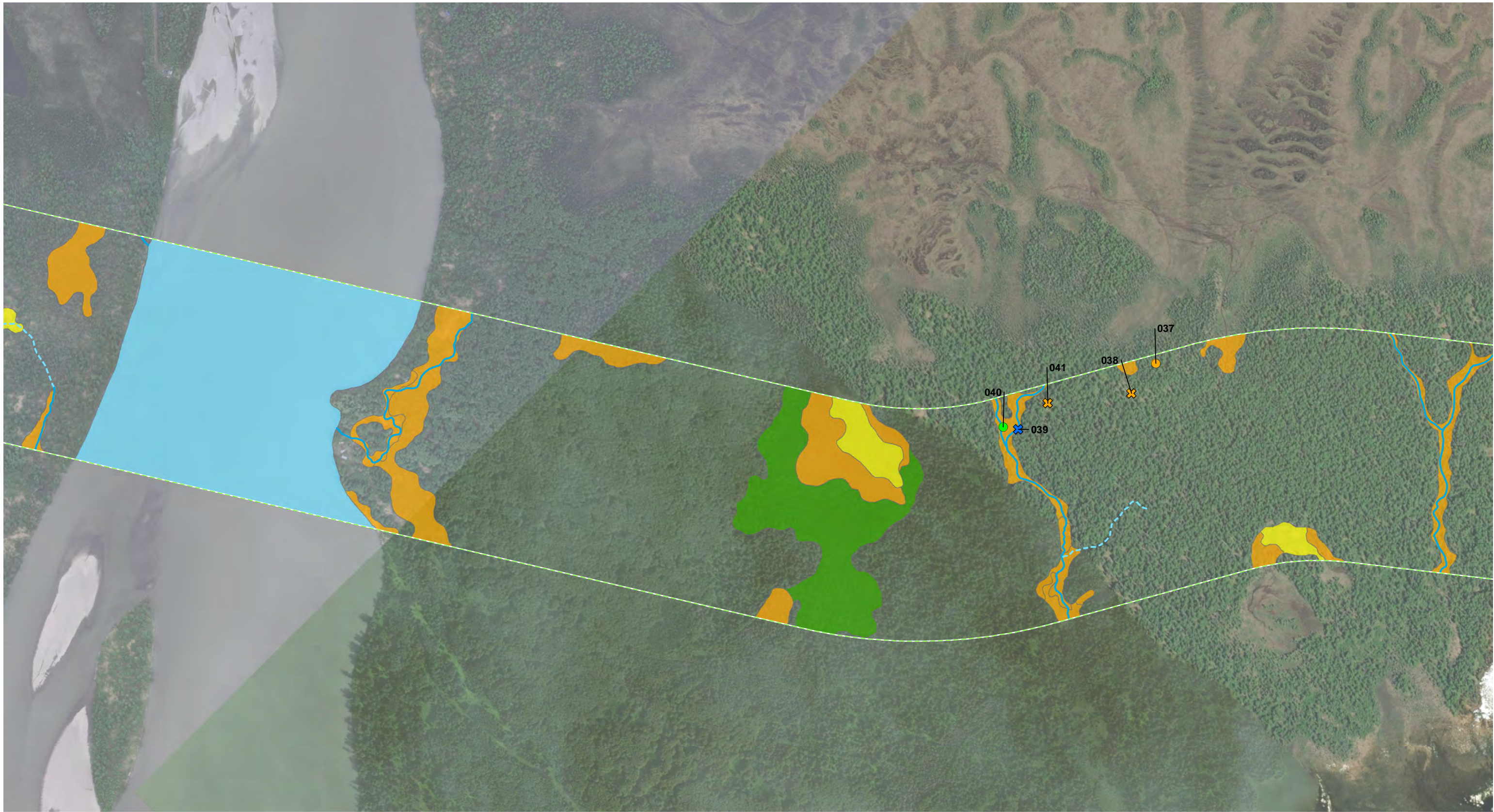


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PHASE 2**

**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

**FIGURE 3 - WETLAND AND
WATERBODY MAPPING**
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Permit Level Mapping Area
Planning Level Mapping Area

Wetland and Waterbody Mapping by NWI Class

- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Stream

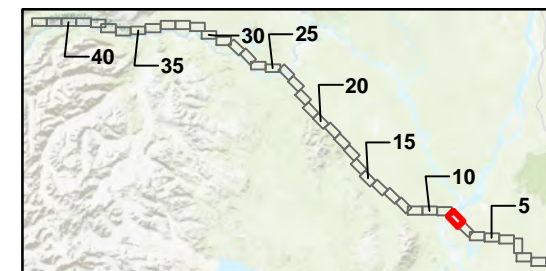
Stream Mapping

- Perennial Stream

Seasonal Stream

Field Plots (HDR 2020)

- Wetland Determination Form, Upland
- Wetland Determination Form, Wetland
- + Observation Point, Upland
- + Observation Point, Waterbody or Stream

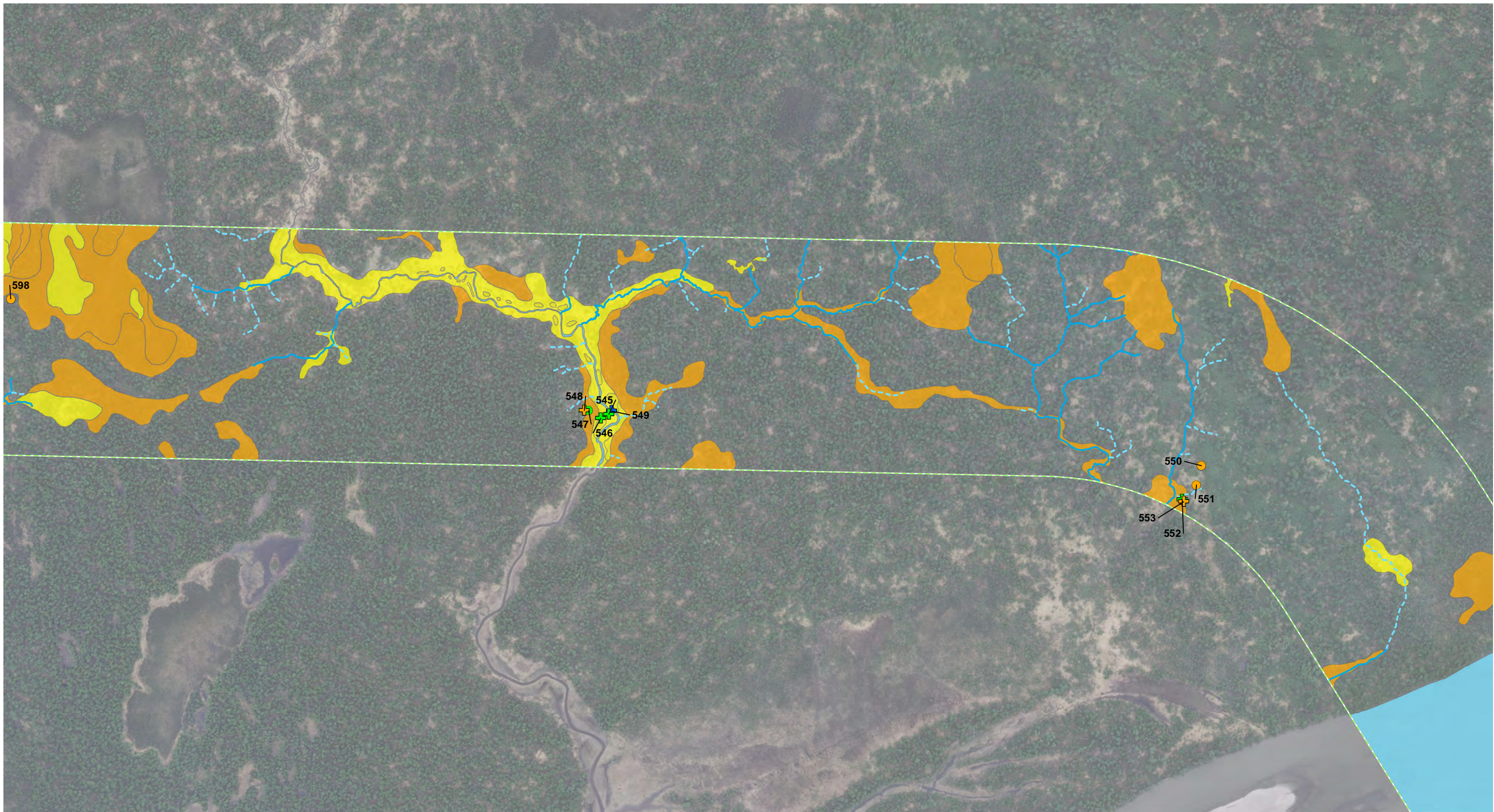


**WEST SUSITNA ACCESS
PHASE 2**

**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

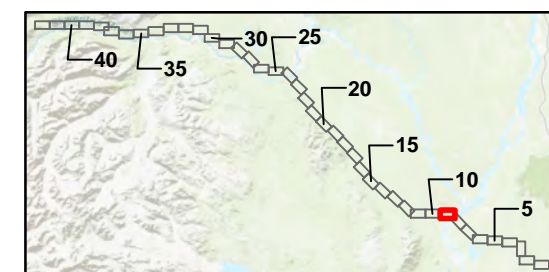
**FIGURE 3 - WETLAND AND
WATERBODY MAPPING**
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- Permit Level Mapping Area
 Planning Level Mapping Area
Wetland and Waterbody Mapping by NWI Class
 Shrub-Scrub Wetland
 Emergent Wetland
 Stream
Stream Mapping
 Perennial Stream
 Seasonal Stream

- Field Plots (HDR 2020)**
 Wetland Determination Form, Upland
 Wetland Determination Form, Wetland
 Observation Point, Upland
 Observation Point, Wetland
 Observation Point, Waterbody or Stream

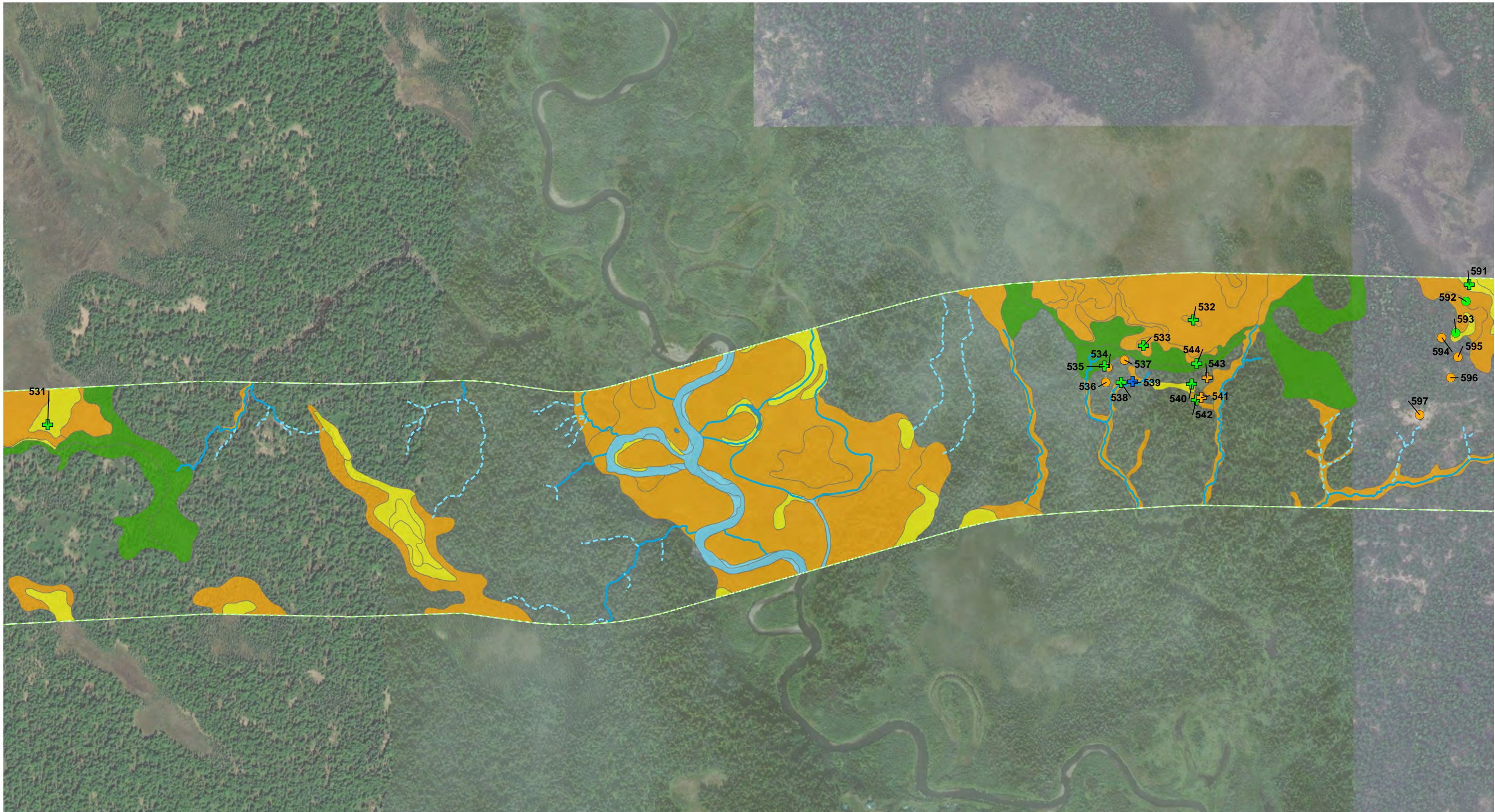


WEST SUSITNA ACCESS PHASE 2

PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

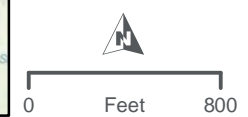
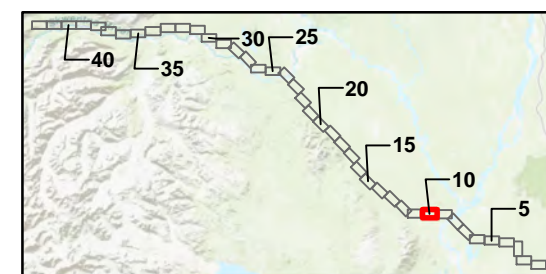
FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area
 Planning Level Mapping Area
Wetland and Waterbody Mapping by NWI Class
 Forested Wetland
 Shrub-Scrub Wetland
 Emergent Wetland
 Pond
 Stream

- Stream Mapping**
 Perennial Stream
 Seasonal Stream
Field Plots (HDR 2020)
 Wetland Determination Form, Upland
 Wetland Determination Form, Wetland
 Observation Point, Upland
 Observation Point, Wetland
 Observation Point, Waterbody or Stream

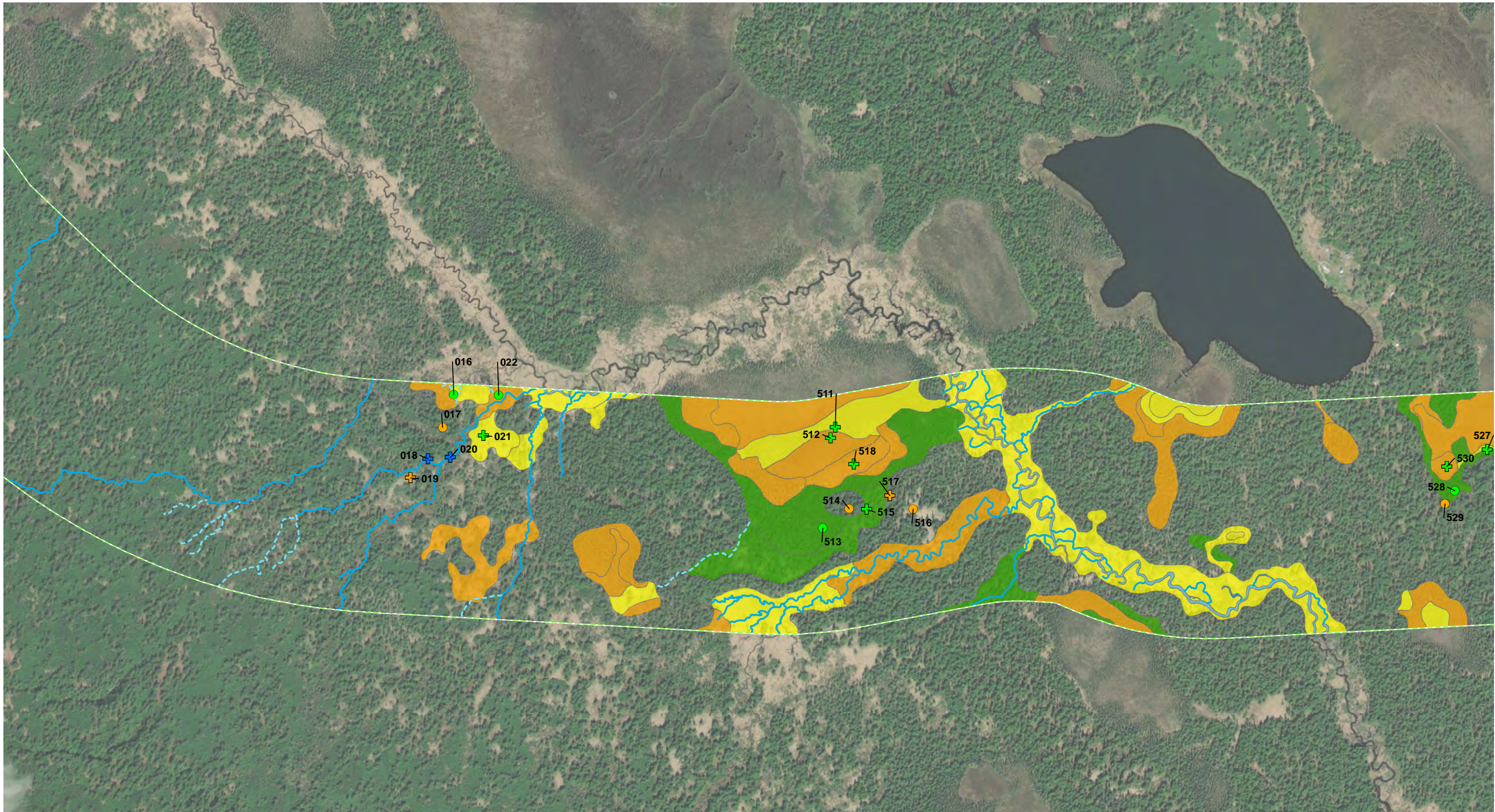


WEST SUSITNA ACCESS PHASE 2

PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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Permit Level Mapping Area
Planning Level Mapping Area

Wetland and Waterbody Mapping by NWI Class

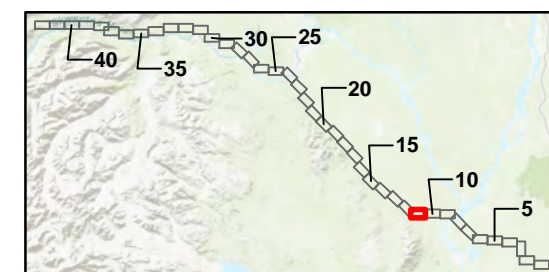
- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Pond
- Stream

Stream Mapping

- Perennial Stream
- - - Seasonal Stream

Field Plots (HDR 2020)

- Wetland Determination Form, Upland
- Wetland Determination Form, Wetland
- + Observation Point, Upland
- + Observation Point, Wetland
- + Observation Point, Waterbody or Stream

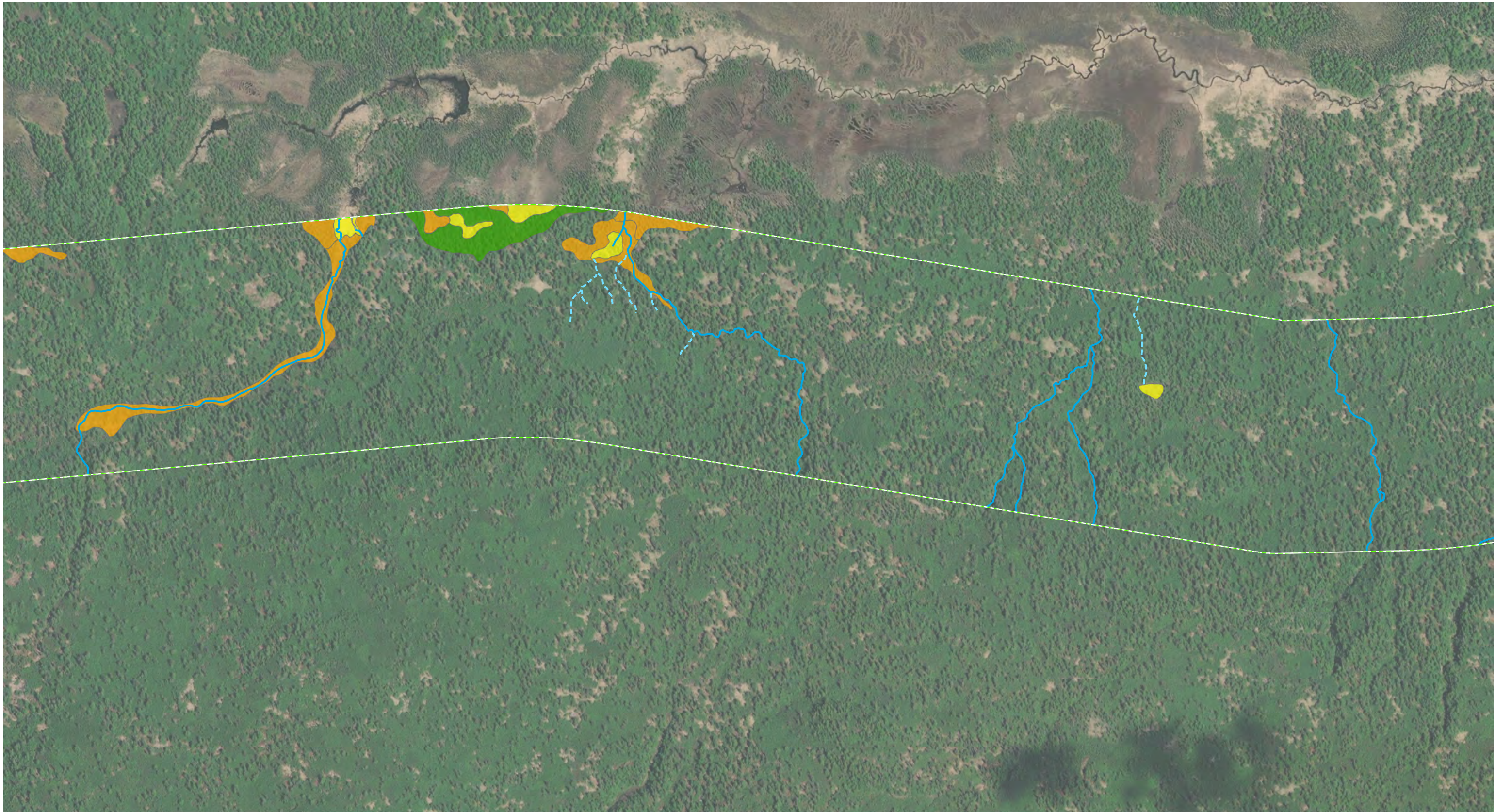


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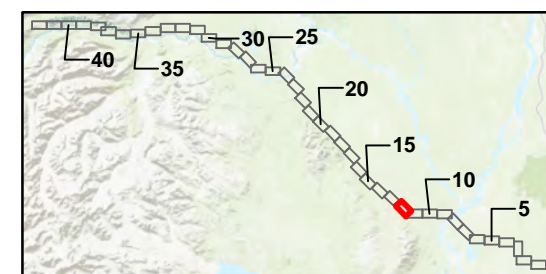
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area
 Planning Level Mapping Area
Wetland and Waterbody Mapping by NWI Class
■ Forested Wetland
■ Shrub-Scrub Wetland
■ Emergent Wetland
— Stream
Stream Mapping
— Perennial Stream
- - - Seasonal Stream

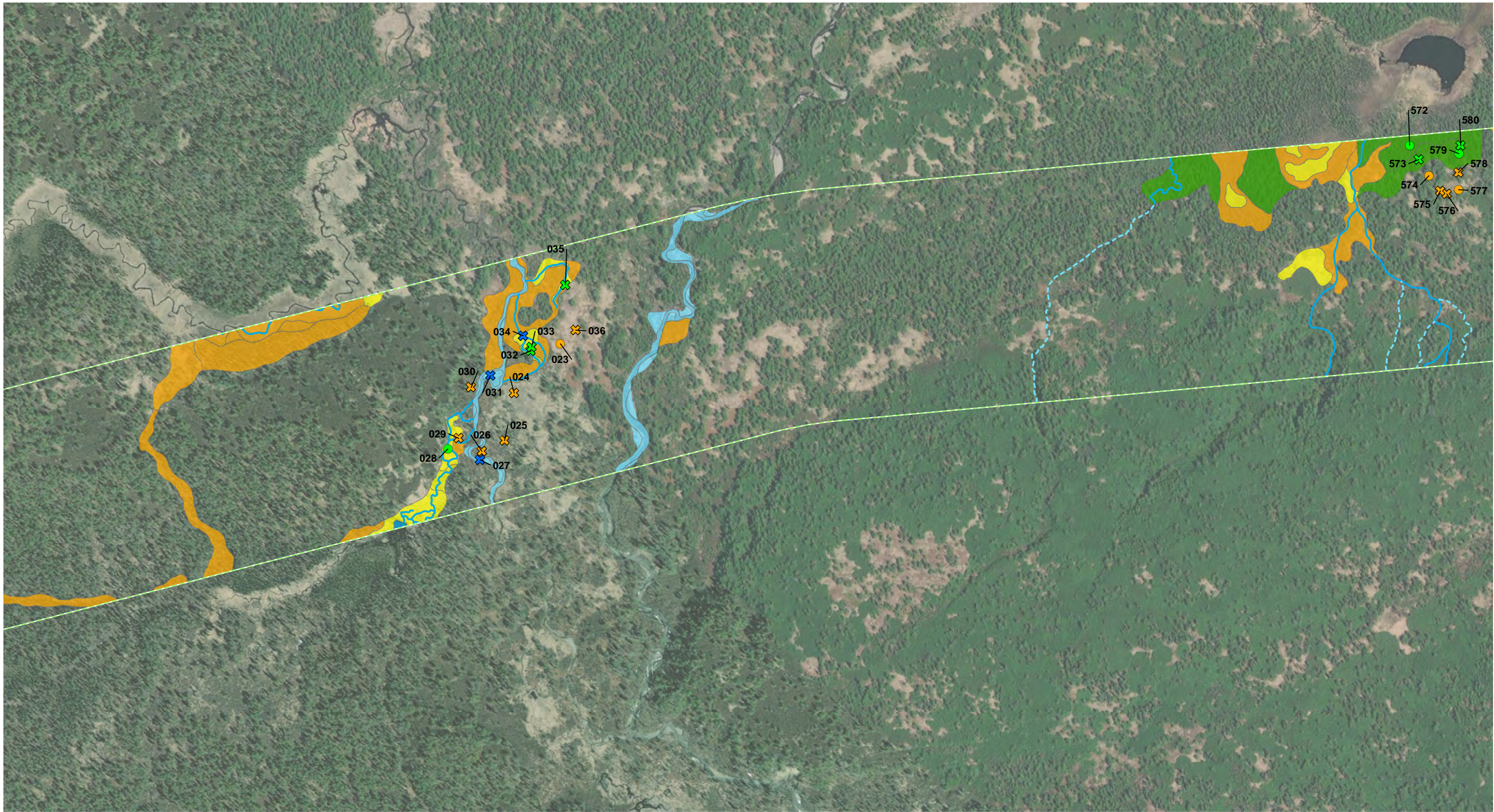


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PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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Permit Level Mapping Area
Planning Level Mapping Area

Wetland and Waterbody Mapping by NWI Class

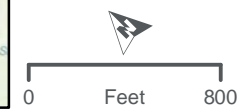
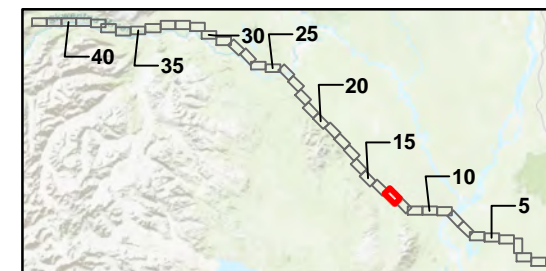
- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Pond
- Stream

Stream Mapping

- Perennial Stream
- Seasonal Stream

Field Plots (HDR 2020)

- Wetland Determination Form, Upland
- Wetland Determination Form, Wetland
- + Observation Point, Upland
- + Observation Point, Wetland
- + Observation Point, Waterbody or Stream

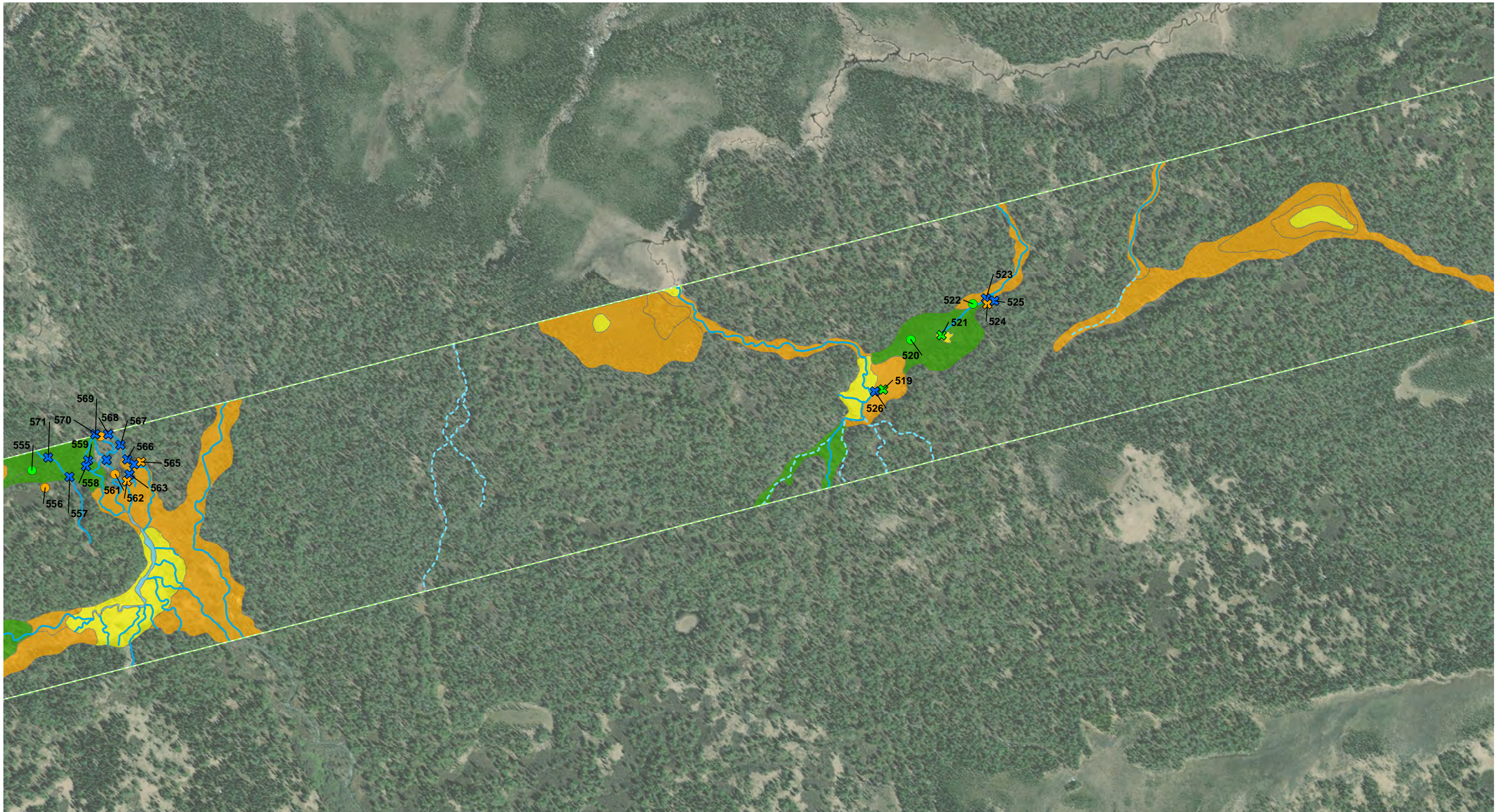


**WEST SUSITNA ACCESS
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**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

**FIGURE 3 - WETLAND AND
WATERBODY MAPPING**
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Permit Level Mapping Area
Planning Level Mapping Area

Wetland and Waterbody Mapping by NWI Class

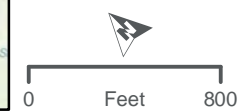
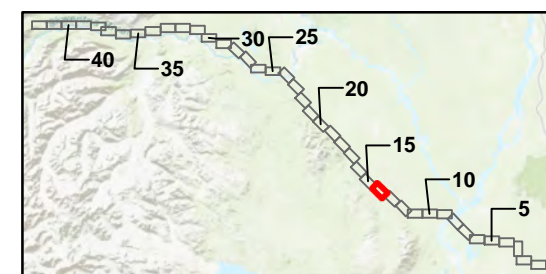
- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Pond
- Stream

Stream Mapping

- Perennial Stream
- - - Seasonal Stream

Field Plots (HDR 2020)

- Wetland Determination Form, Upland
- Wetland Determination Form, Wetland
- + Observation Point, Upland
- + Observation Point, Wetland
- + Observation Point, Waterbody or Stream

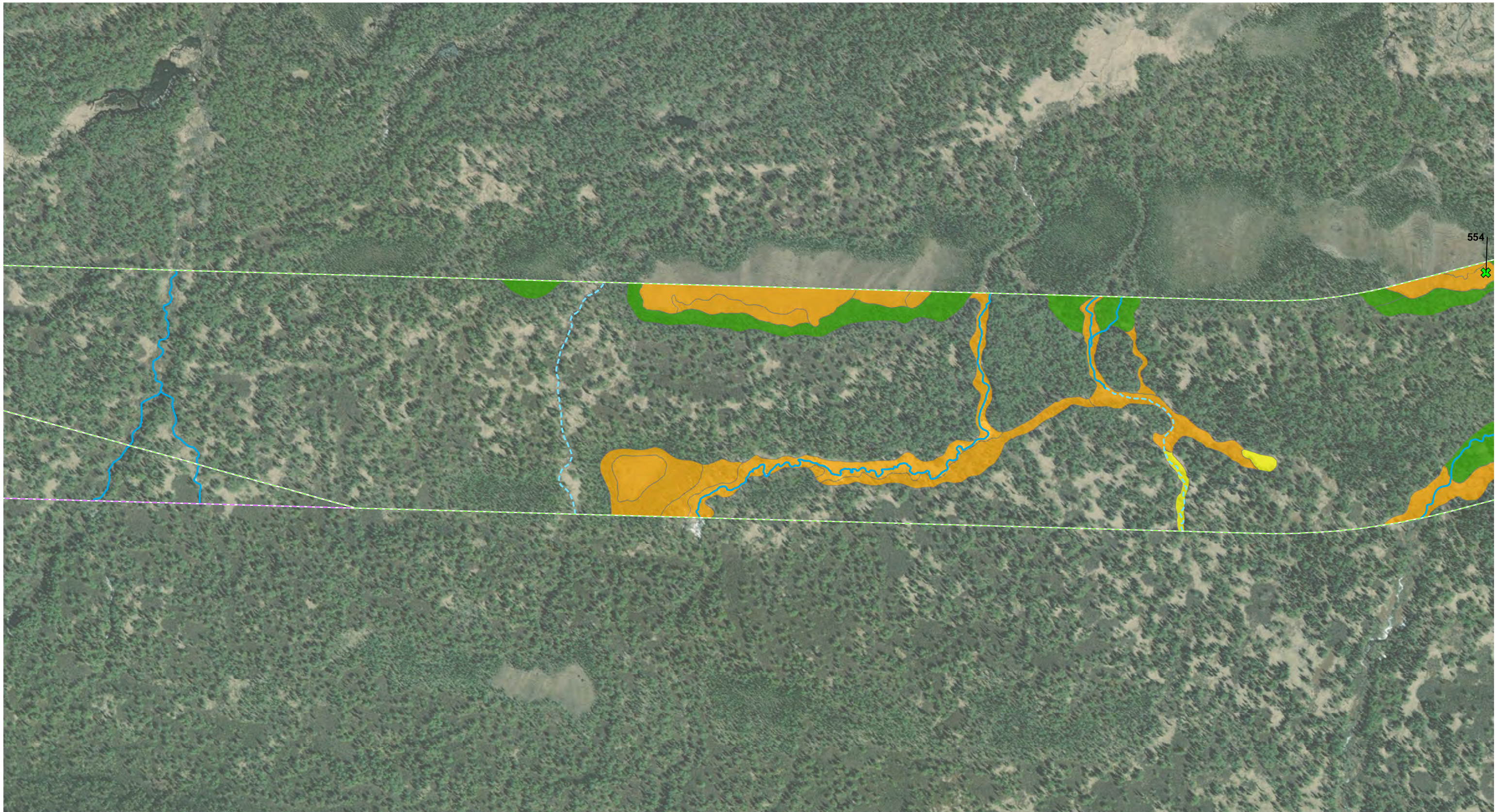


**WEST SUSITNA ACCESS
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**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

**FIGURE 3 - WETLAND AND
WATERBODY MAPPING**
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- Permit Level Mapping Area
- Planning Level Mapping Area

Wetland and Waterbody Mapping by NWI Class

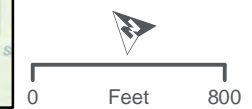
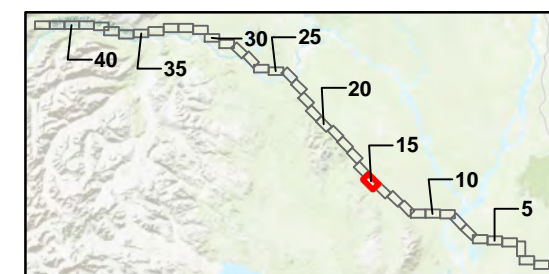
- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland

Stream Mapping

- Perennial Stream
- Seasonal Stream

Field Plots (HDR 2020)

- + Observation Point, Wetland

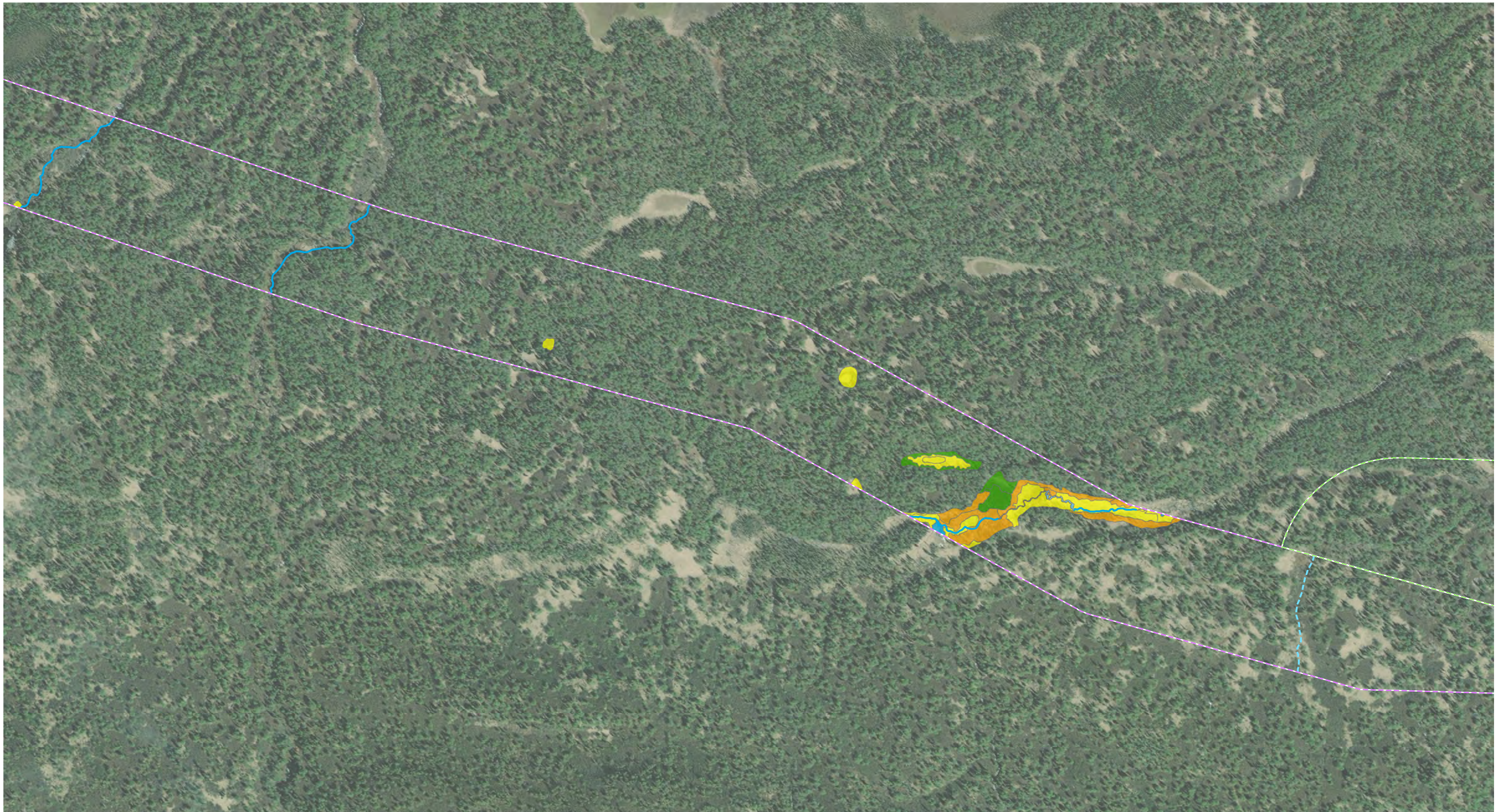


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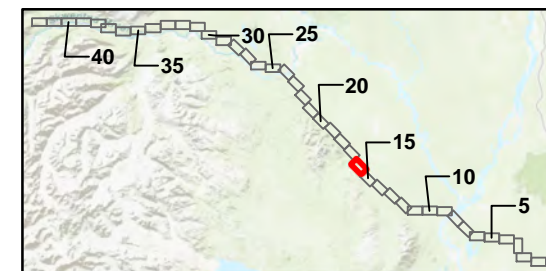
**PRELIMINARY WETLAND AND
WATERBODY MAPPING REPORT**

**FIGURE 3 - WETLAND AND
WATERBODY MAPPING**
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- Permit Level Mapping Area**
- Planning Level Mapping Area**
- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
 - Shrub-Scrub Wetland
 - Emergent Wetland
 - Pond
 - Stream
- Stream Mapping**
- ~ Perennial Stream
 - - - Seasonal Stream

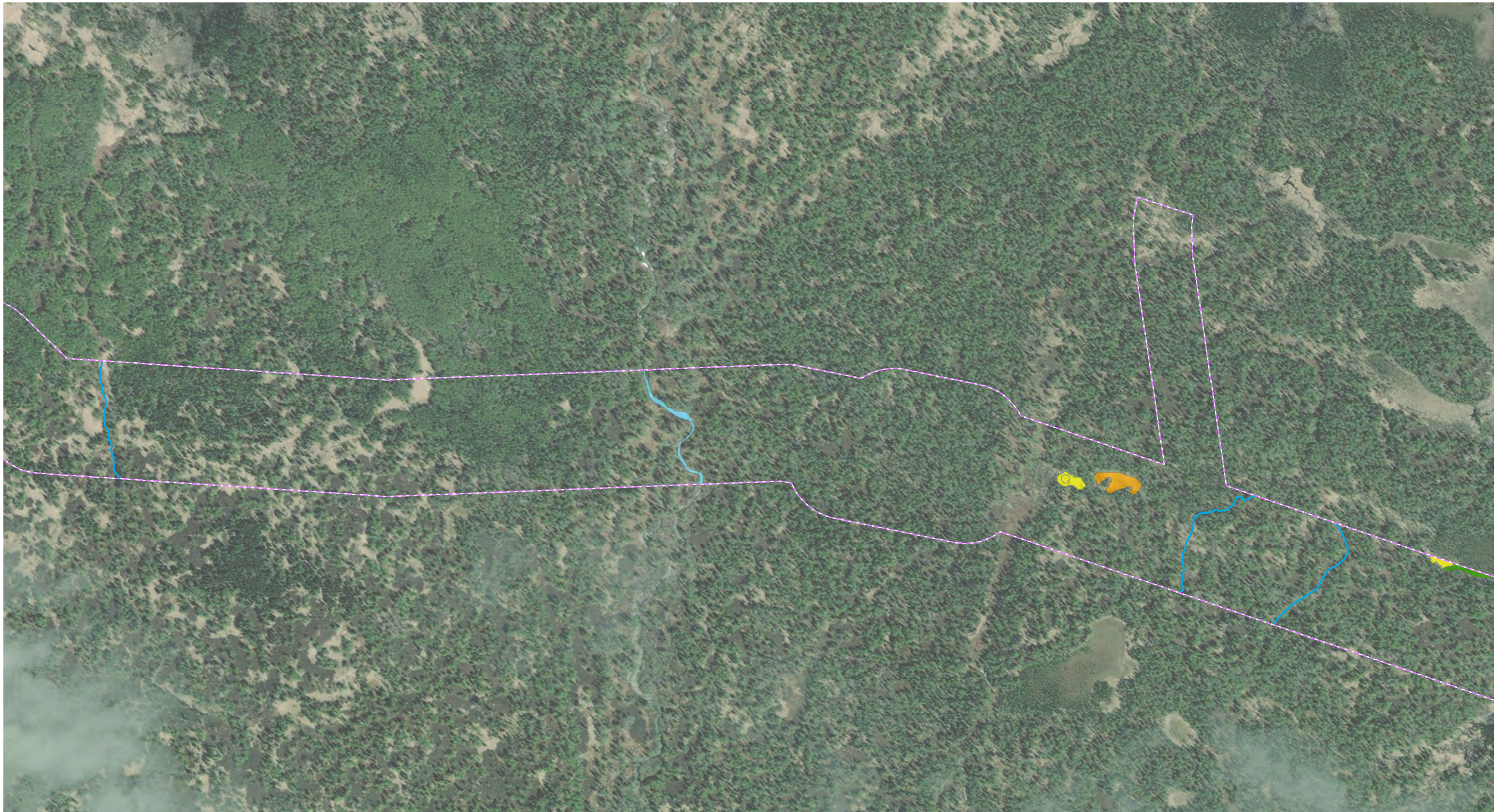


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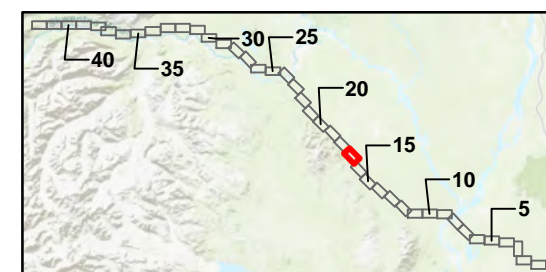
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area
 Planning Level Mapping Area
Wetland and Waterbody Mapping by NWI Class
■ Forested Wetland
■ Shrub-Scrub Wetland
■ Emergent Wetland
— Stream
Stream Mapping
~ Perennial Stream



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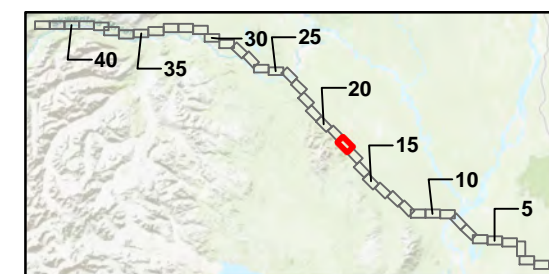
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area
--- Planning Level Mapping Area
Wetland and Waterbody Mapping by NWI Class
■ Forested Wetland
■ Shrub-Scrub Wetland
■ Emergent Wetland
Stream Mapping
--- Perennial Stream
--- Seasonal Stream

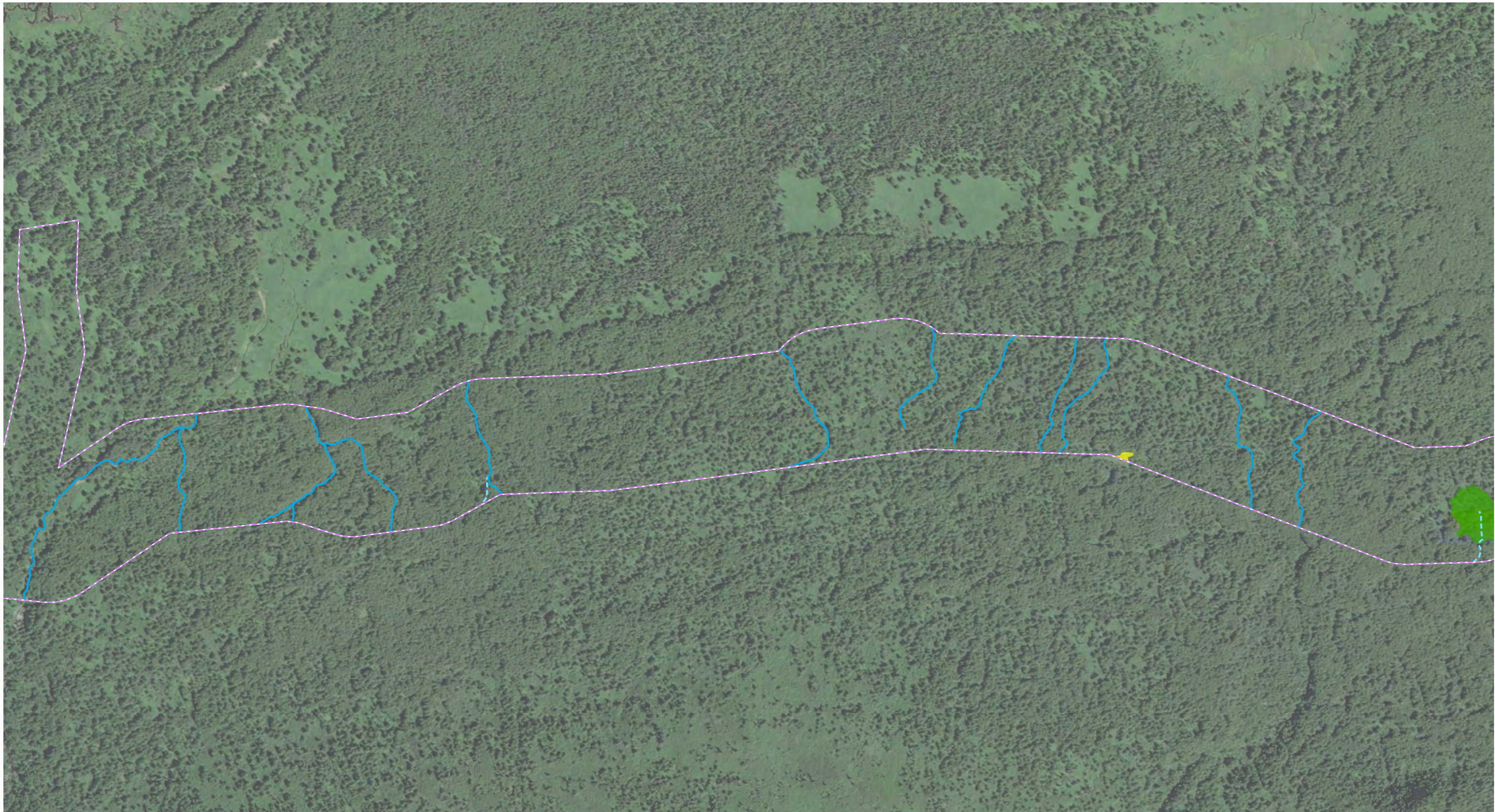


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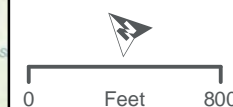
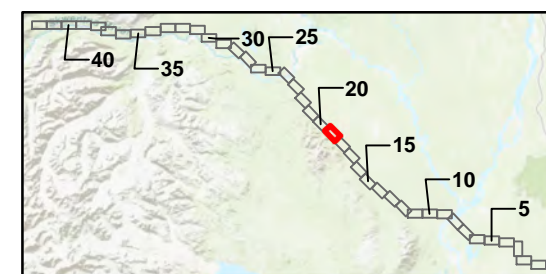
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area
 Planning Level Mapping Area
Wetland and Waterbody Mapping by NWI Class
 Forested Wetland
 Shrub-Scrub Wetland
 Emergent Wetland
Stream Mapping
 Perennial Stream
 Seasonal Stream

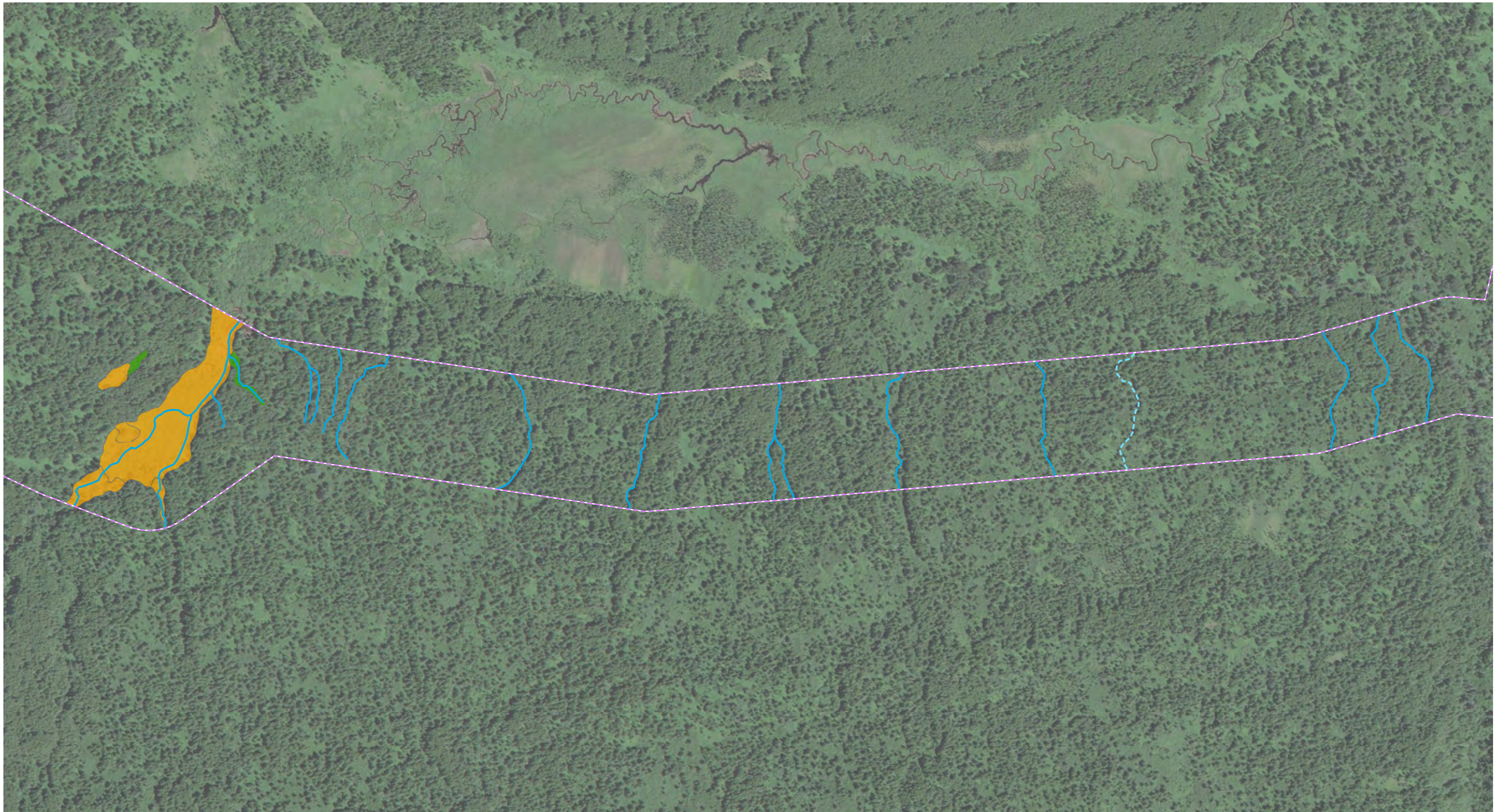


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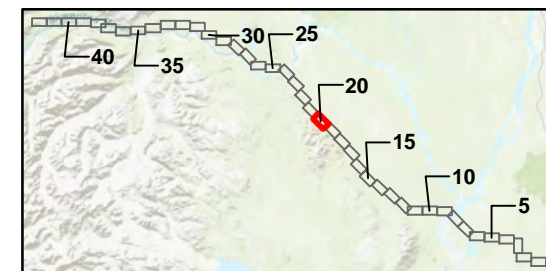
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area
 Planning Level Mapping Area
Wetland and Waterbody Mapping by NWI Class
■ Forested Wetland
■ Shrub-Scrub Wetland
Stream Mapping
— Perennial Stream
- - - Seasonal Stream

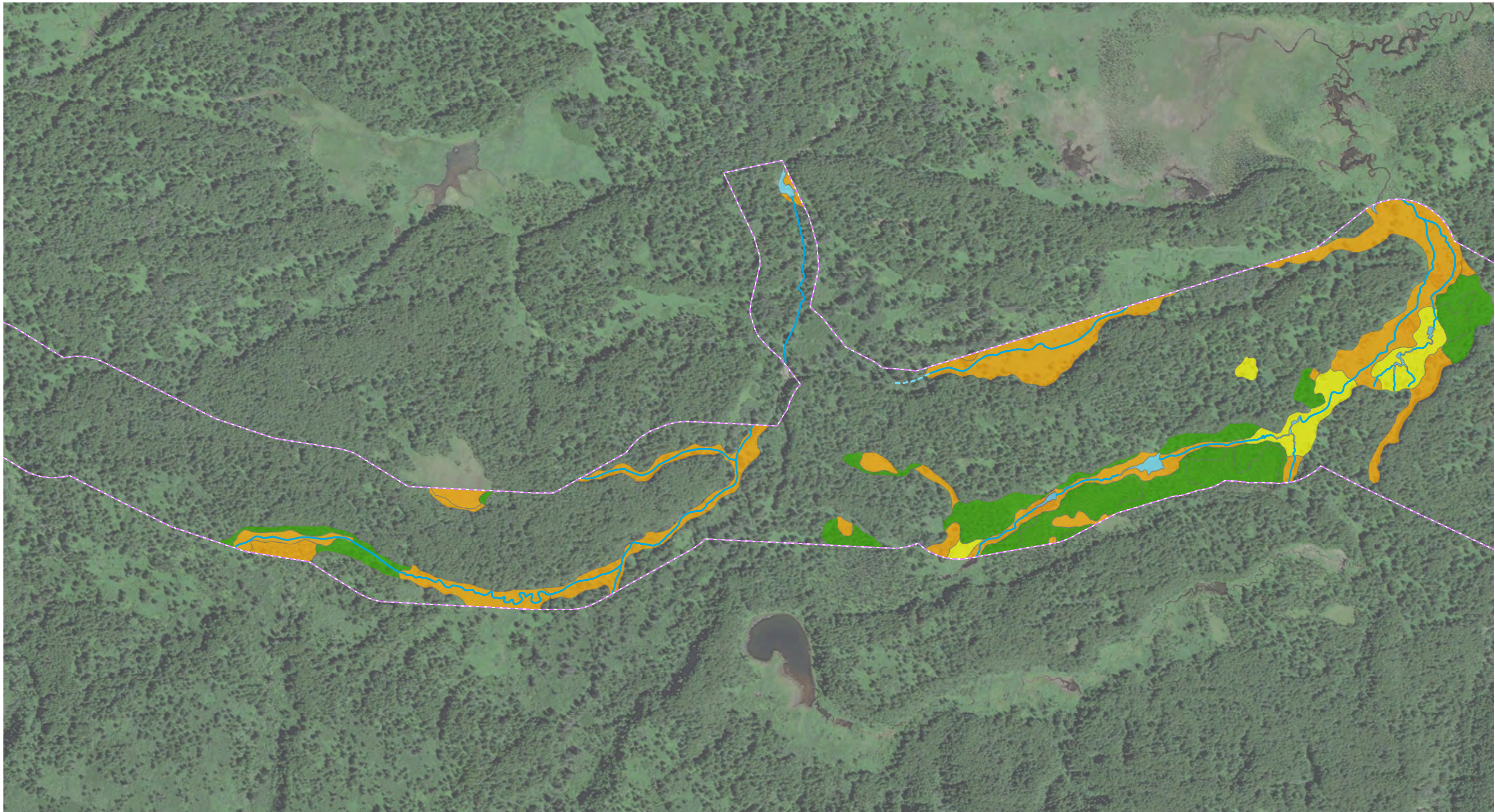


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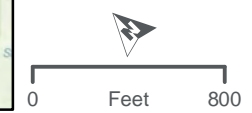
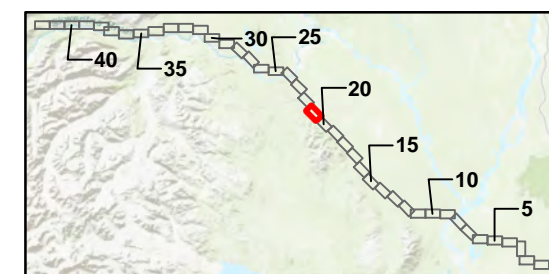
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area
--- Planning Level Mapping Area
Wetland and Waterbody Mapping by NWI Class
■ Forested Wetland
■ Shrub-Scrub Wetland
■ Emergent Wetland
--- Stream
Stream Mapping
--- Perennial Stream
--- Seasonal Stream

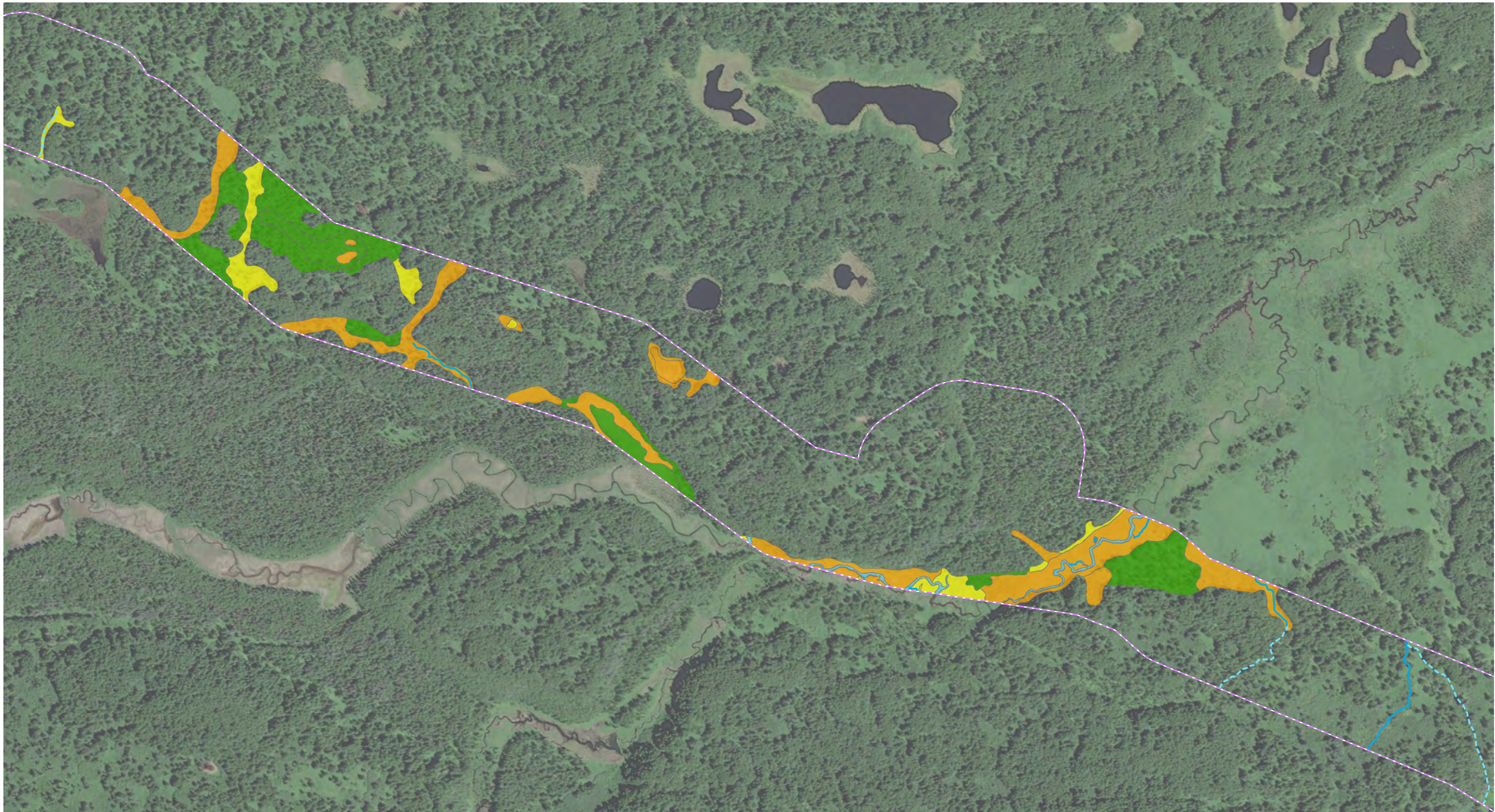


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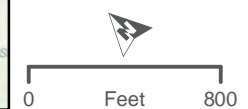
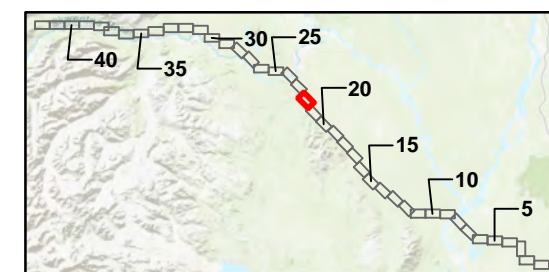
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area**
 [Purple dashed line] Permit Level Mapping Area
Planning Level Mapping Area
 [Green dashed line] Planning Level Mapping Area
- Wetland and Waterbody Mapping by NWI Class**
- [Green solid shape] Forested Wetland
 - [Orange solid shape] Shrub-Scrub Wetland
 - [Yellow solid shape] Emergent Wetland
 - [Blue solid shape] Pond
 - [Blue dashed shape] Stream
- Stream Mapping**
- [Blue solid line] Perennial Stream
 - [Blue dashed line] Seasonal Stream

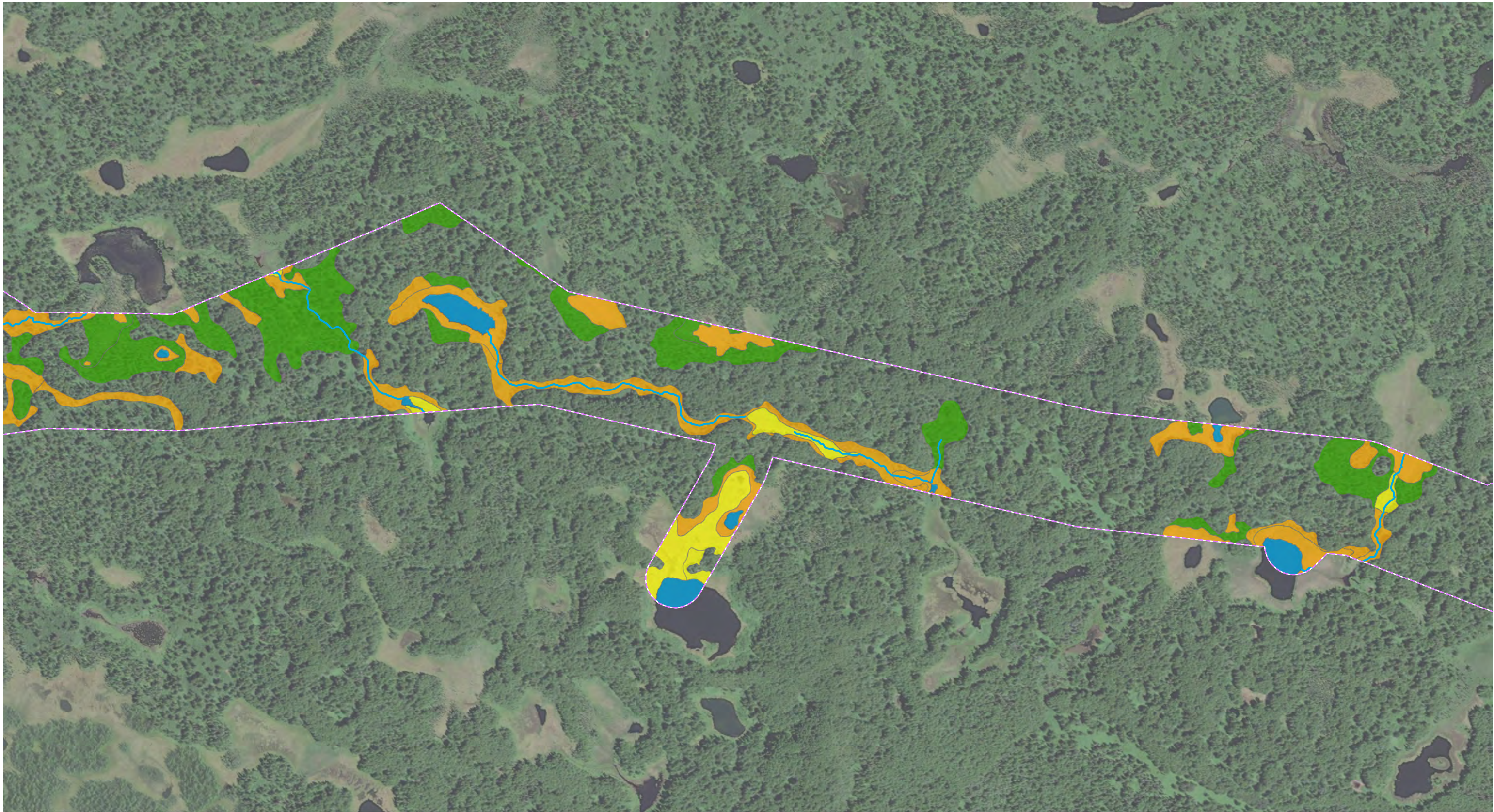


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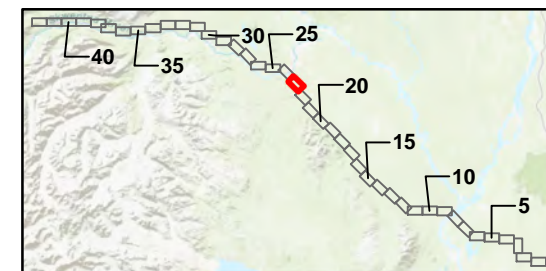
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area
 Planning Level Mapping Area
Wetland and Waterbody Mapping by NWI Class
■ Forested Wetland
■ Shrub-Scrub Wetland
■ Emergent Wetland
■ Pond
Stream Mapping
~ Perennial Stream

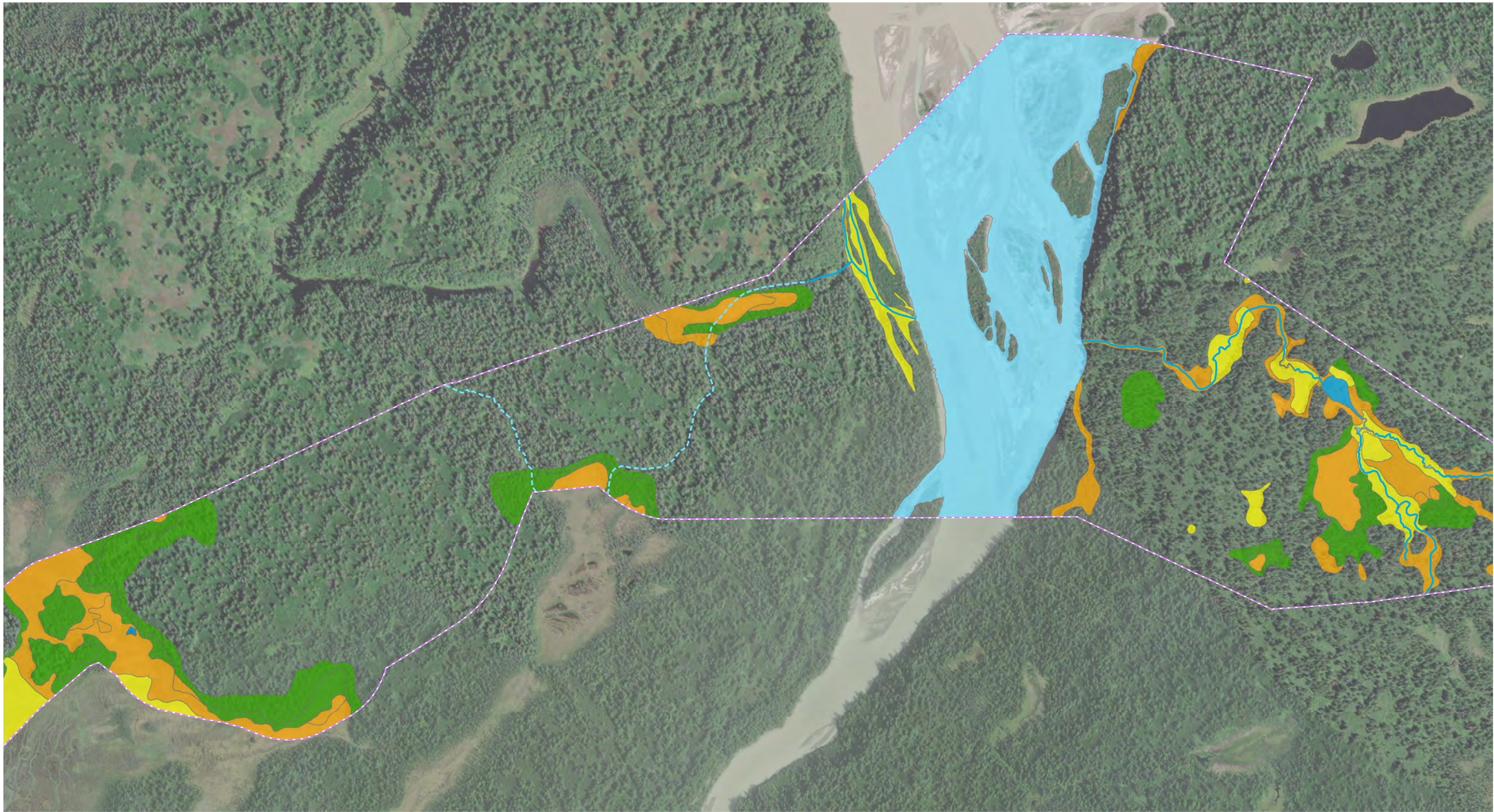


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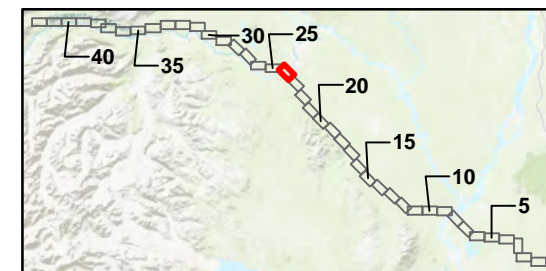
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
 - Shrub-Scrub Wetland
 - Emergent Wetland
 - Pond
 - Stream
- Stream Mapping**
- Perennial Stream
 - - - Seasonal Stream
- Permit Level Mapping Area**
- - - Permit Level Mapping Area
 - - - Planning Level Mapping Area

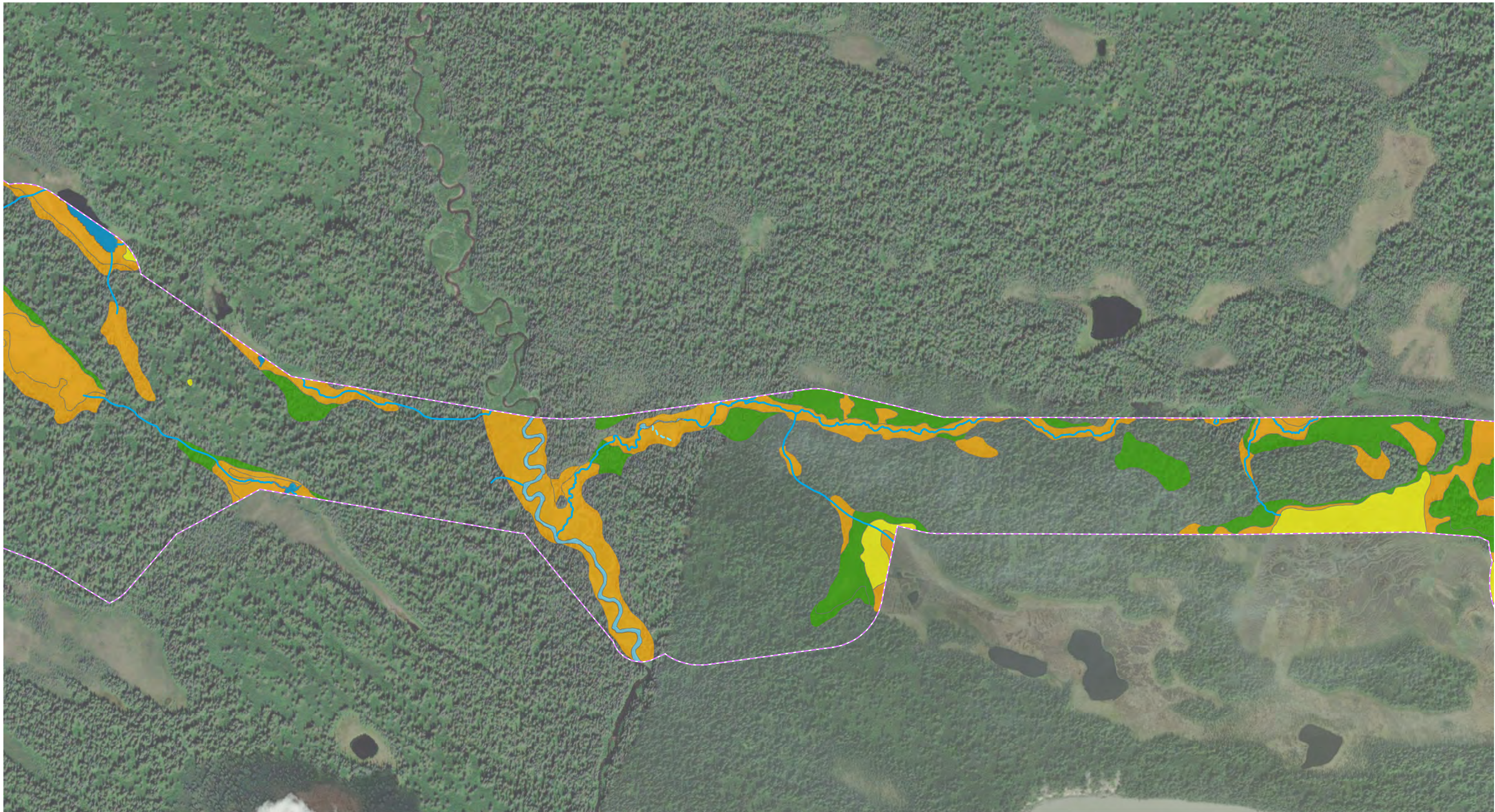


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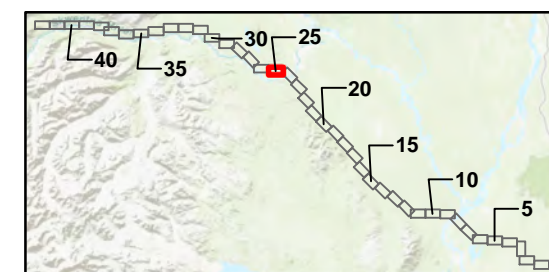
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Stream Mapping**
- Perennial Stream
 - Seasonal Stream
- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
 - Shrub-Scrub Wetland
 - Emergent Wetland
 - Pond
 - Stream

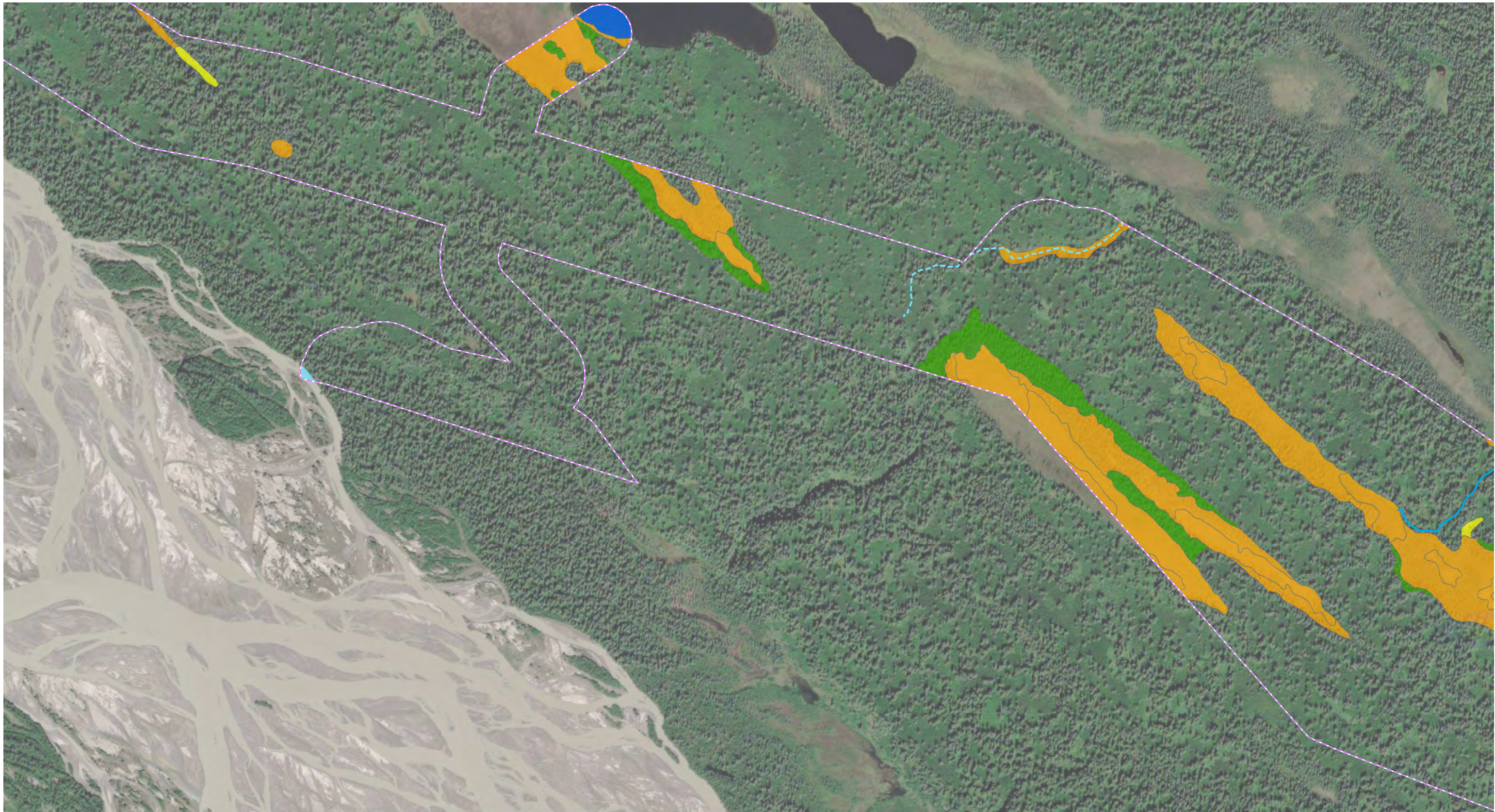


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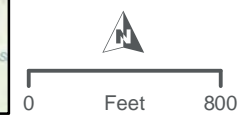
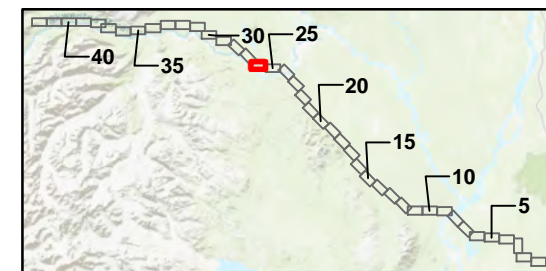
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
 - Shrub-Scrub Wetland
 - Emergent Wetland
 - Lake
 - Stream
- Stream Mapping**
- Perennial Stream
 - - - Seasonal Stream
- Permit Level Mapping Area**
- Permit Level Mapping Area
 - Planning Level Mapping Area



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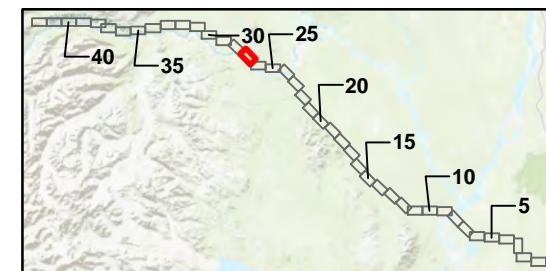
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area
- Planning Level Mapping Area
- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Pond
- Stream Mapping**
- — — Seasonal Stream
- ~~~~~ Perennial Stream

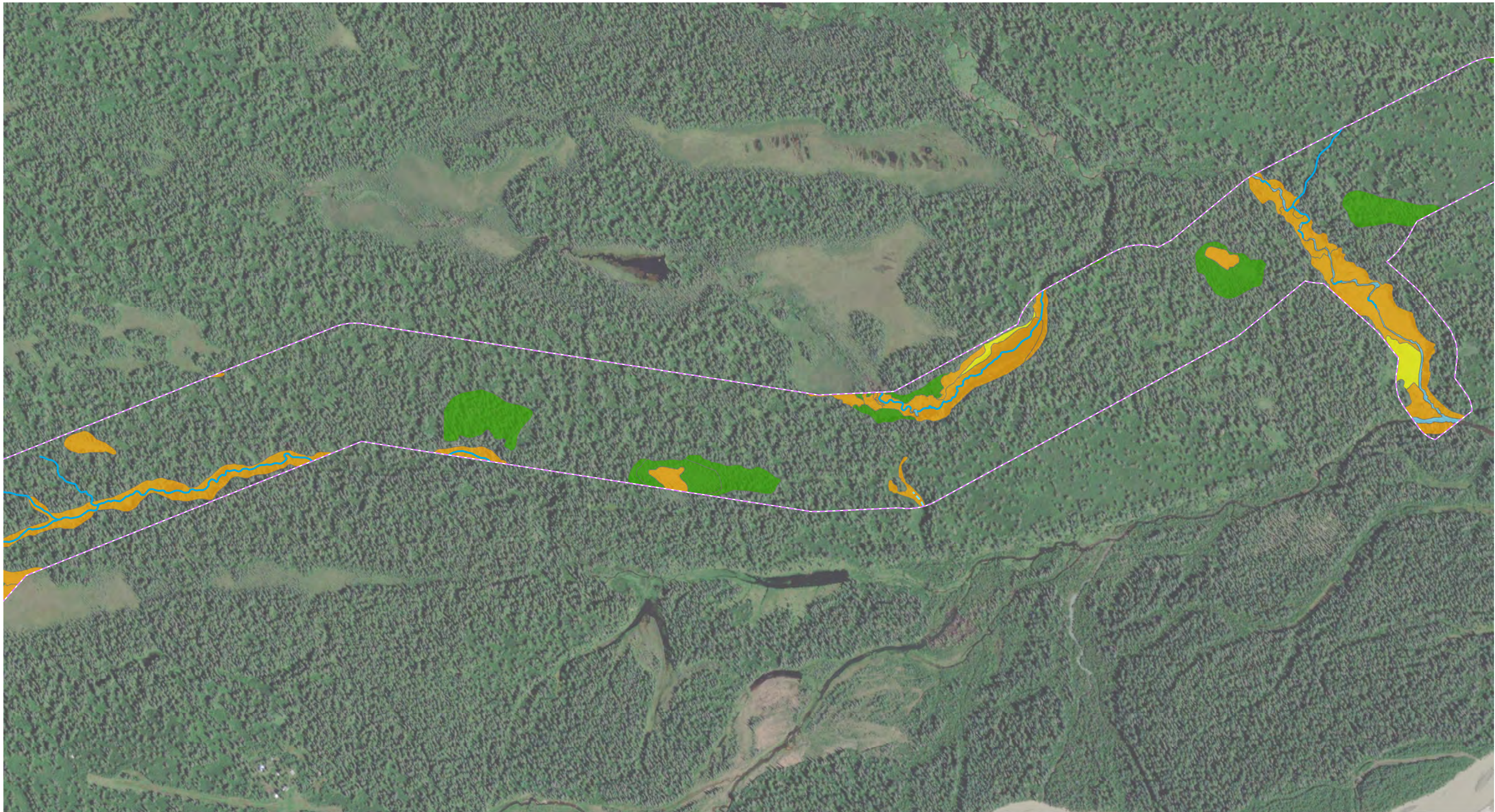


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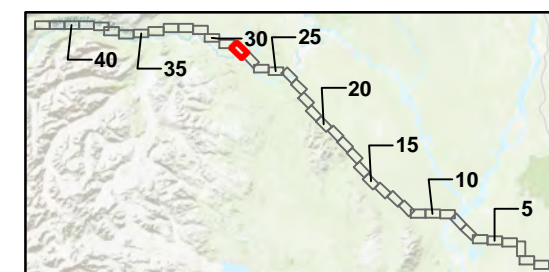
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area
- Planning Level Mapping Area
- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Stream
- Stream Mapping**
- Perennial Stream
- Seasonal Stream

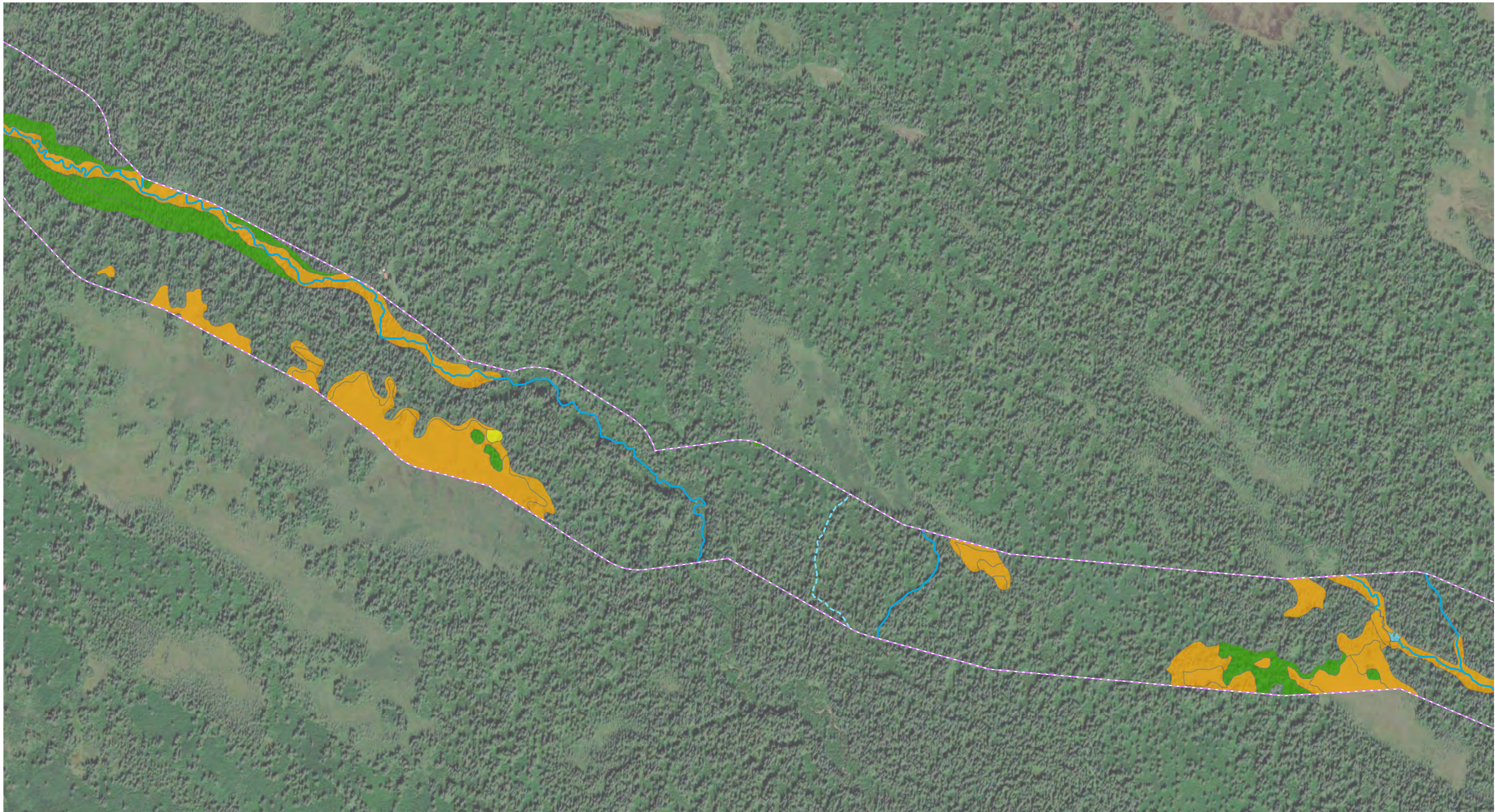


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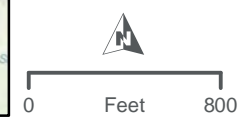
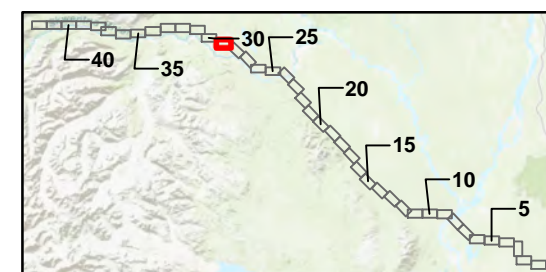
PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area
- Planning Level Mapping Area
- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Stream
- Stream Mapping**
- Perennial Stream
- Seasonal Stream

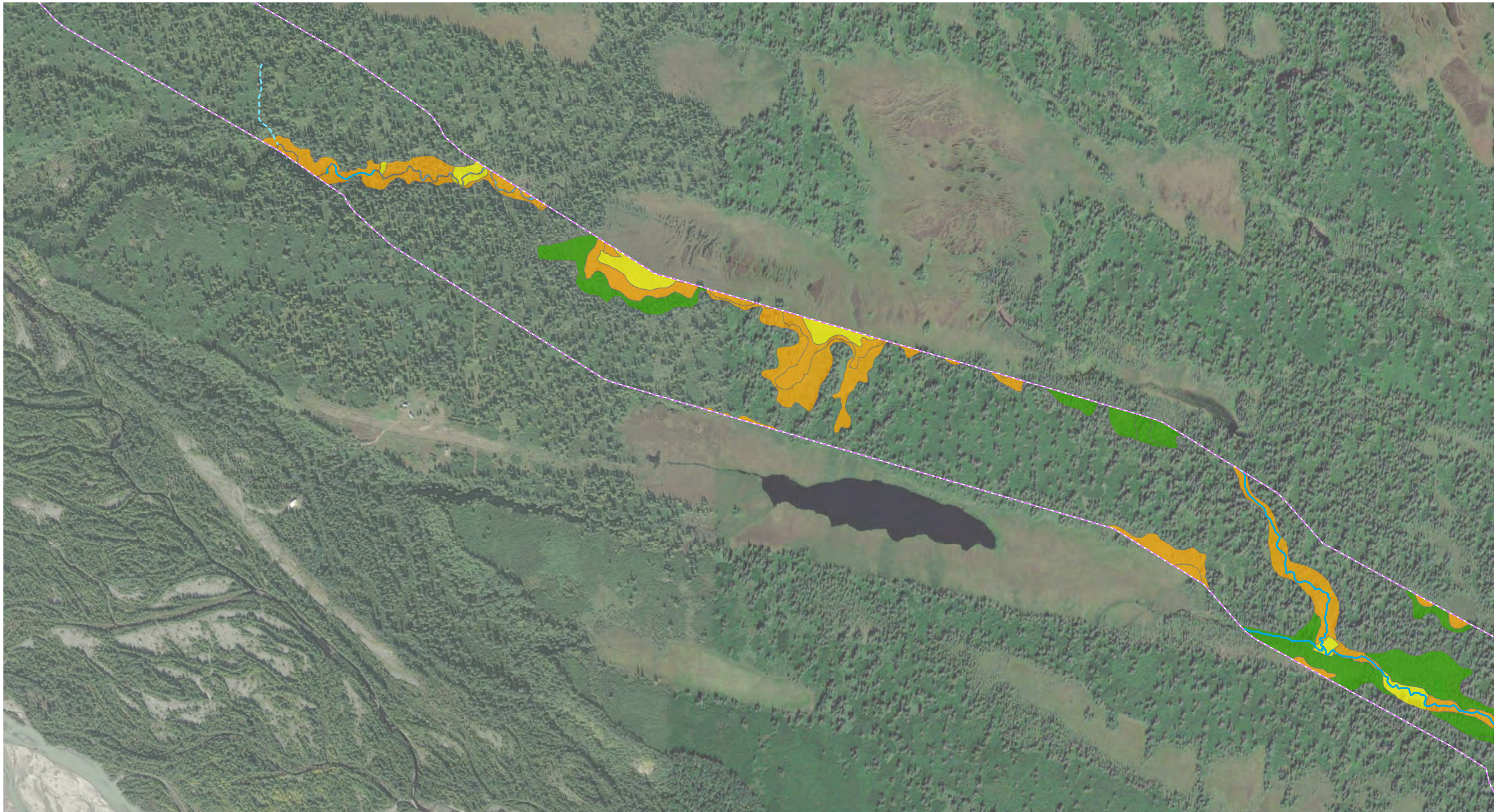


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PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

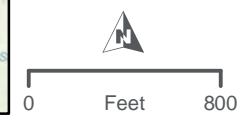
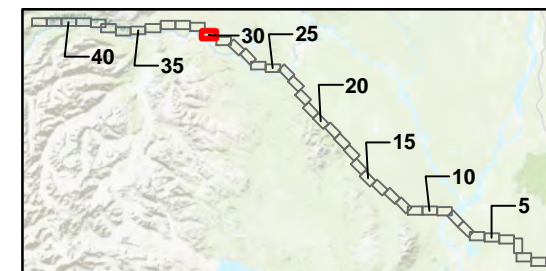
FIGURE 3 - WETLAND AND
WATERBODY MAPPING
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- Permit Level Mapping Area
- Planning Level Mapping Area
- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Stream
- Stream Mapping**
- Perennial Stream

~~~~~ Seasonal Stream



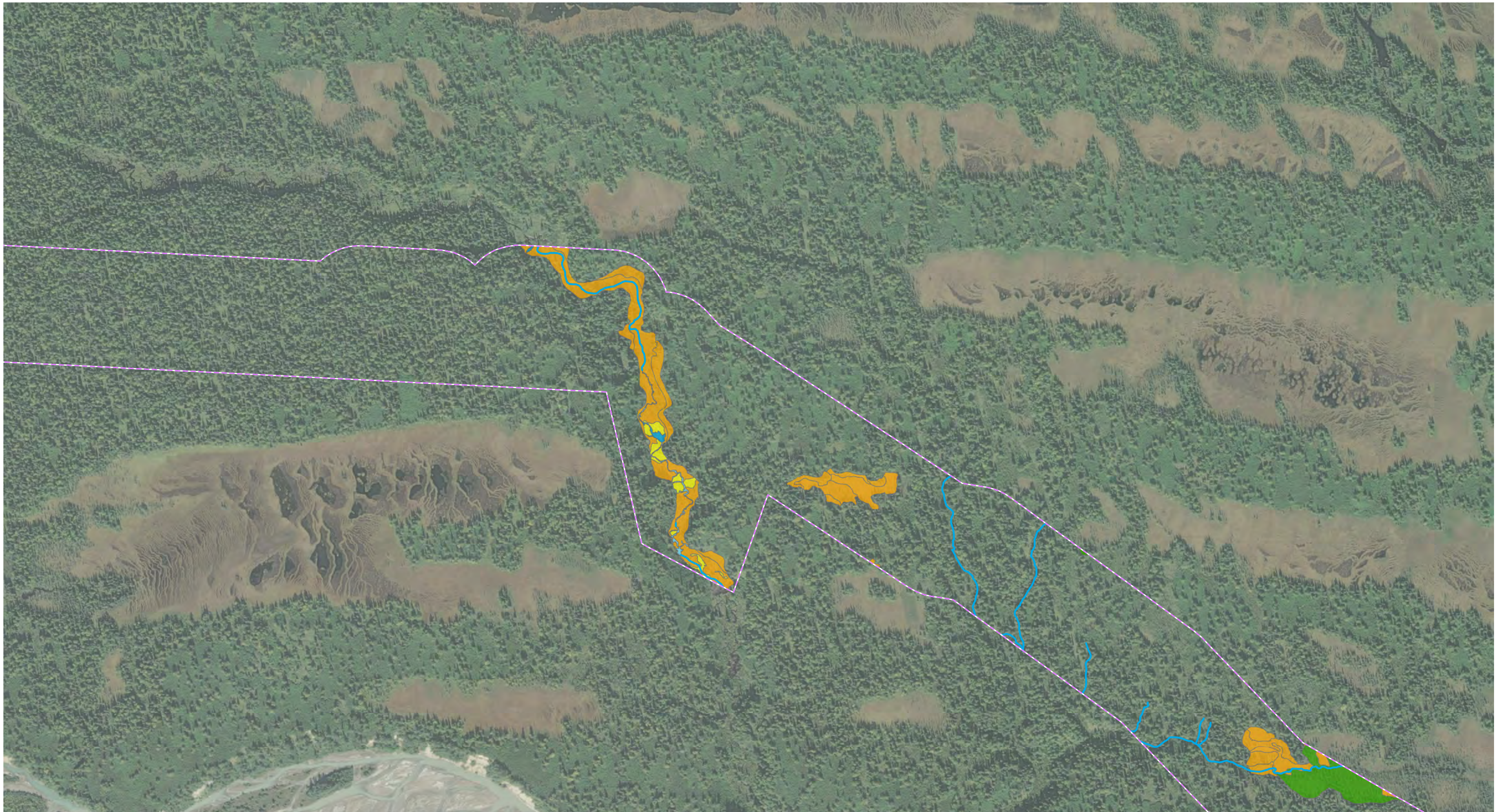
## WEST SUSITNA ACCESS PHASE 2

### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND  
WATERBODY MAPPING  
PAGE 30 OF 42

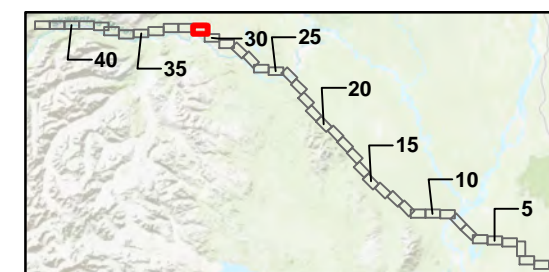






- Permit Level Mapping Area  
 Planning Level Mapping Area  
**Wetland and Waterbody Mapping by NWI Class**  
 Forested Wetland  
 Shrub-Scrub Wetland  
 Emergent Wetland  
 Pond  
 Stream

- Stream Mapping**  
 Perennial Stream



## WEST SUSITNA ACCESS PHASE 2

### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

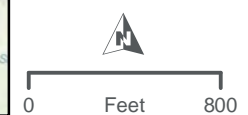
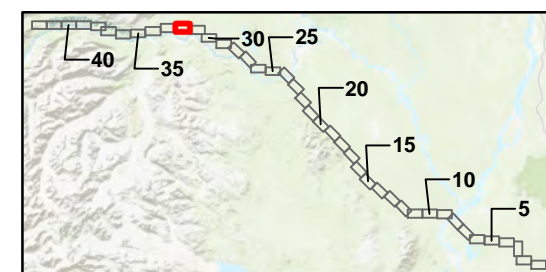
FIGURE 3 - WETLAND AND  
 WATERBODY MAPPING  
 PAGE 31 OF 42







- Permit Level Mapping Area
- Planning Level Mapping Area
- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Pond
- Stream Mapping**
- ~ Seasonal Stream
- ~ Perennial Stream



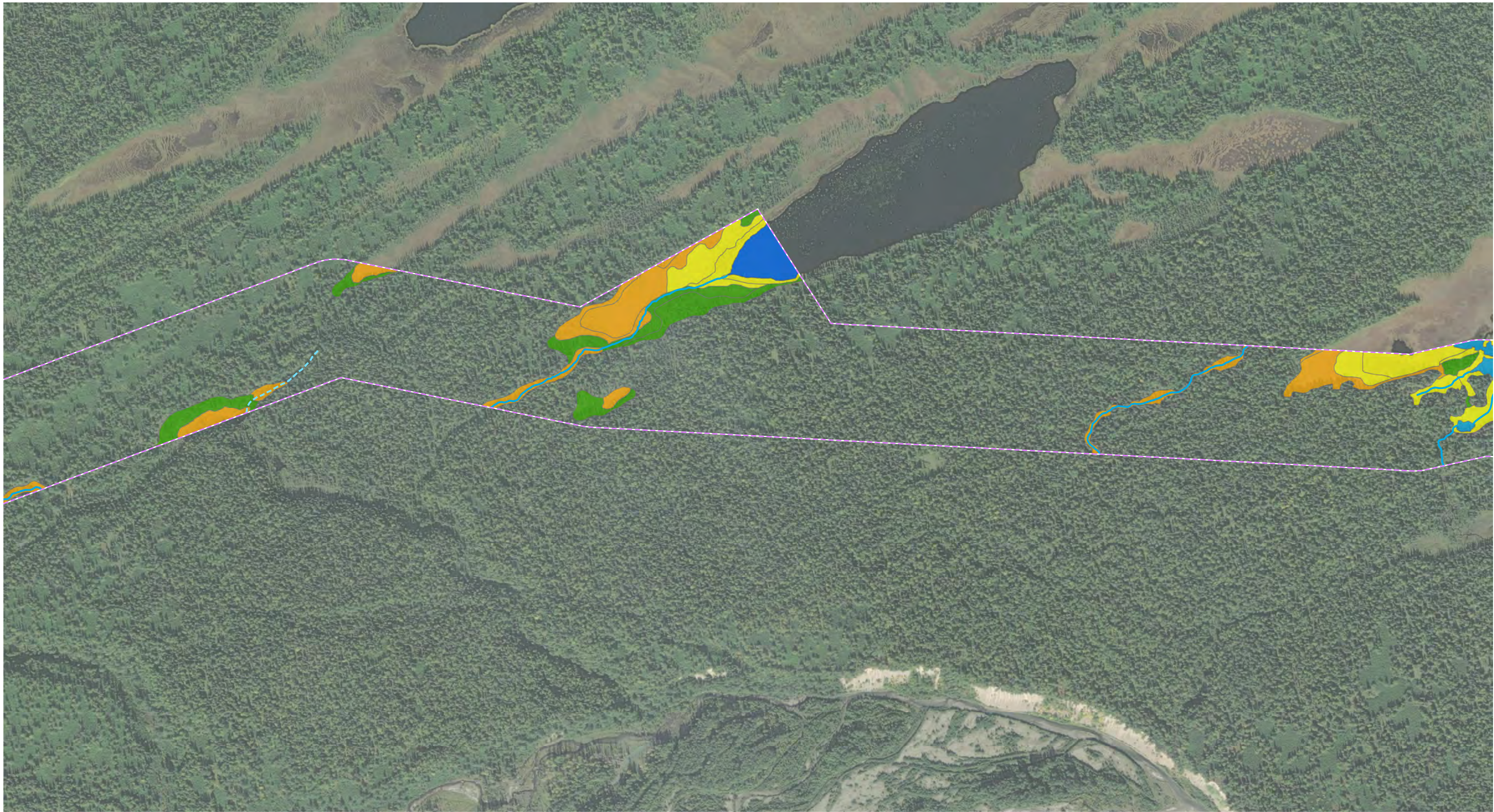
## WEST SUSITNA ACCESS PHASE 2

### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

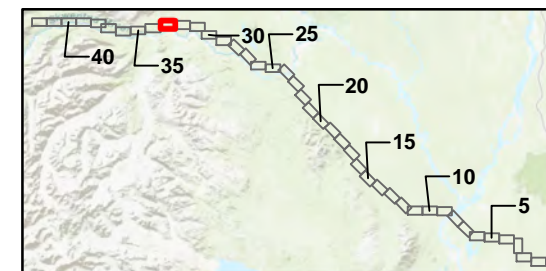
FIGURE 3 - WETLAND AND  
WATERBODY MAPPING  
PAGE 32 OF 42







- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
  - Shrub-Scrub Wetland
  - Emergent Wetland
  - Lake
  - Pond
  - Stream
- Stream Mapping**
- ~ Perennial Stream
  - ~ Seasonal Stream
- Mapping Area**
- Permit Level Mapping Area
  - Planning Level Mapping Area



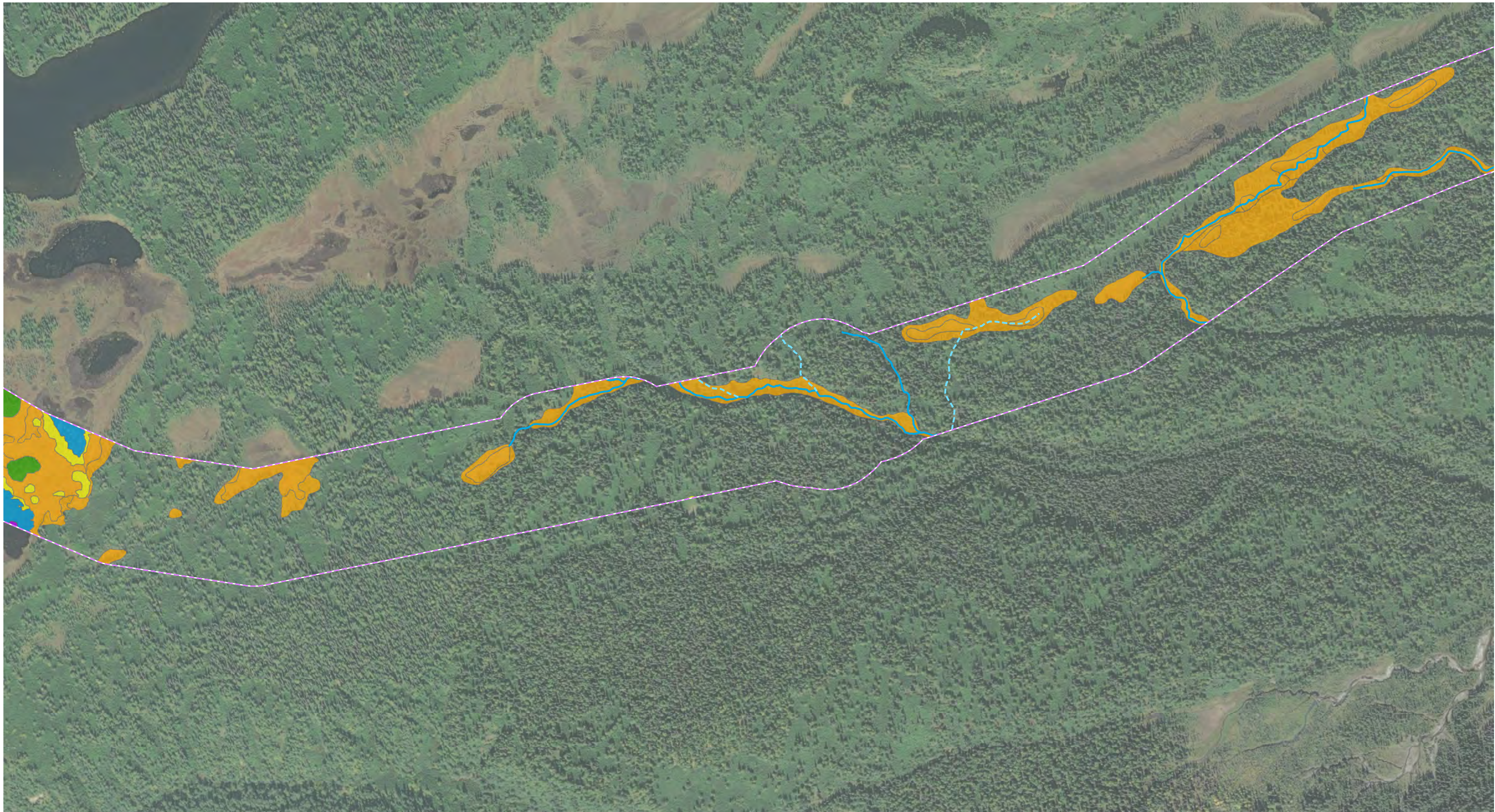
## WEST SUSITNA ACCESS PHASE 2

### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

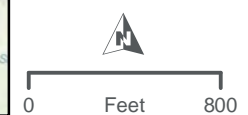
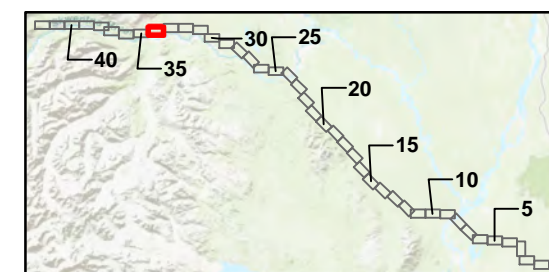
FIGURE 3 - WETLAND AND  
WATERBODY MAPPING  
PAGE 33 OF 42







- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
  - Shrub-Scrub Wetland
  - Emergent Wetland
  - Aquatic Bed Wetland
  - Pond
- Stream Mapping**
- Perennial Stream
  - - - Seasonal Stream
- Mapping Area**
- Permit Level Mapping Area
  - Planning Level Mapping Area



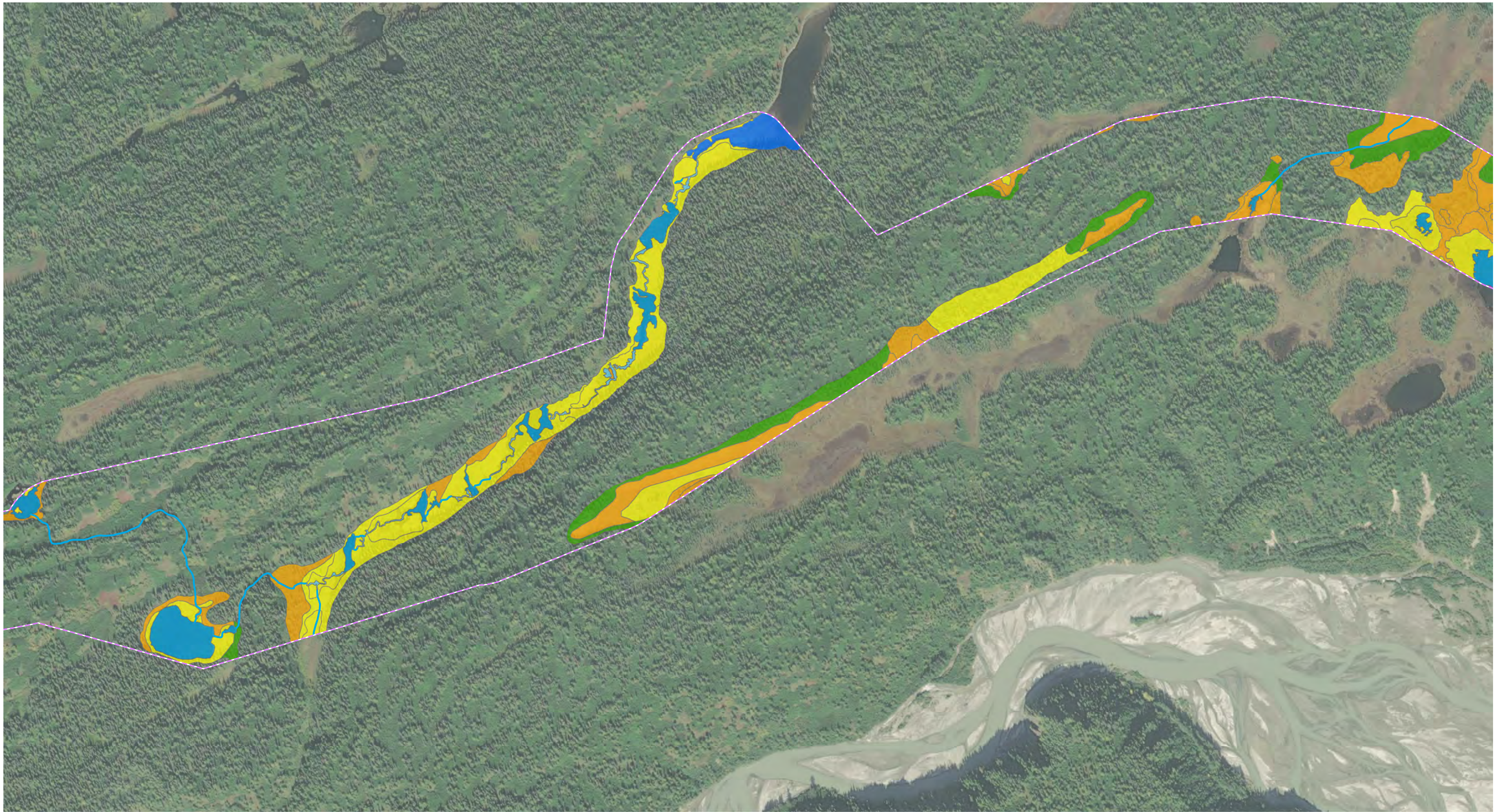
## WEST SUSITNA ACCESS PHASE 2

### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

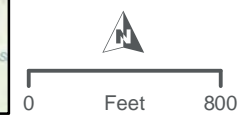
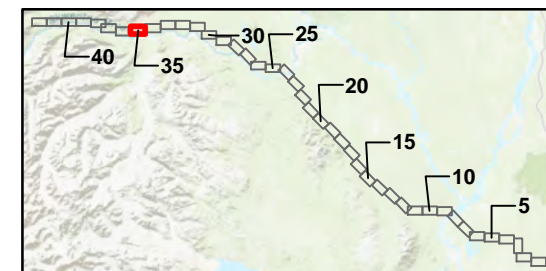
FIGURE 3 - WETLAND AND  
WATERBODY MAPPING  
PAGE 34 OF 42







- Permit Level Mapping Area  
 Planning Level Mapping Area  
**Wetland and Waterbody Mapping by NWI Class**  
 Forested Wetland  
 Shrub-Scrub Wetland  
 Emergent Wetland  
 Aquatic Bed Wetland  
 Lake  
 Pond  
 Stream  
**Stream Mapping**  
 Perennial Stream



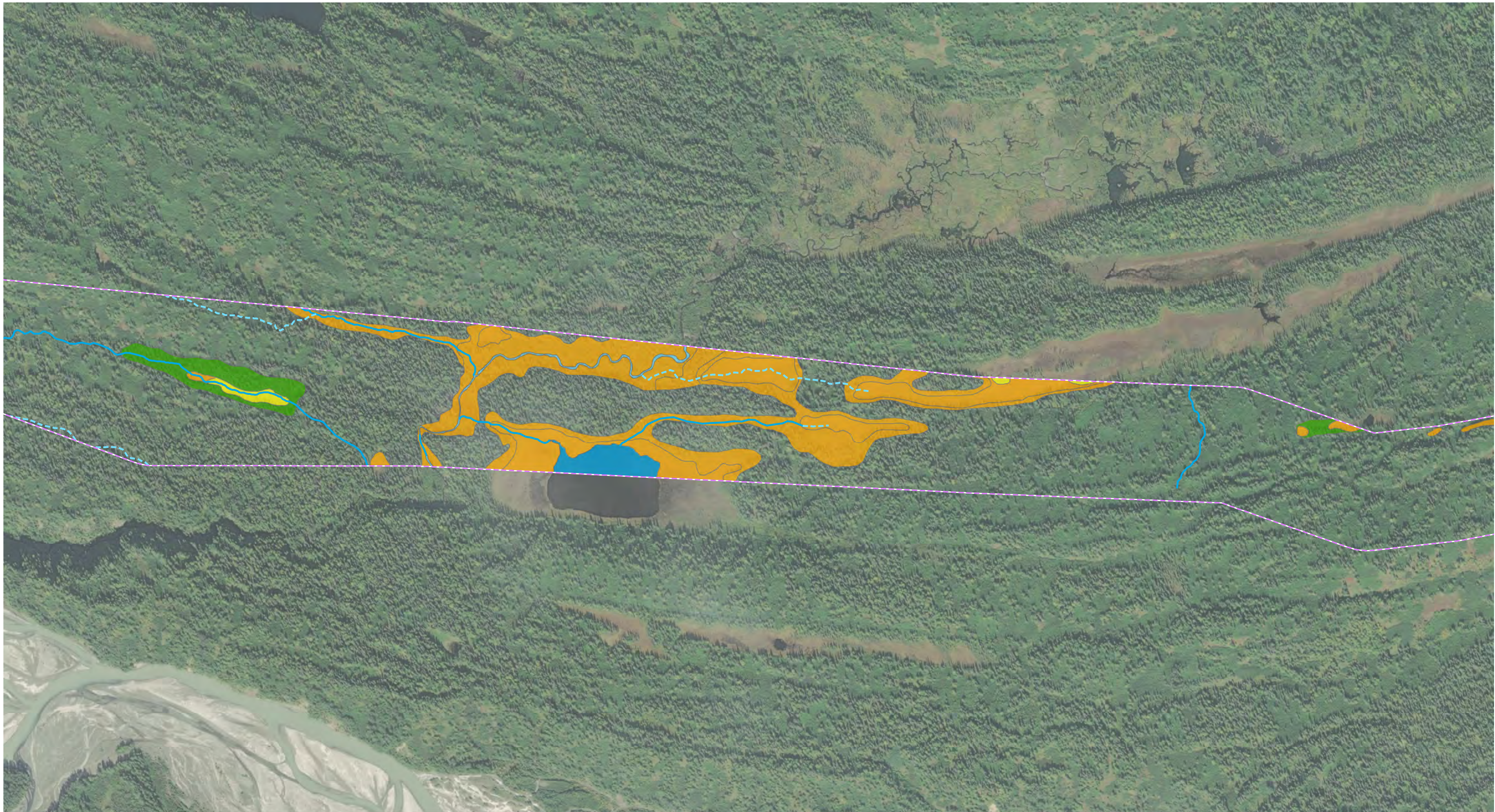
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### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

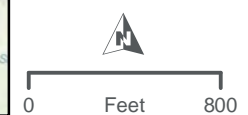
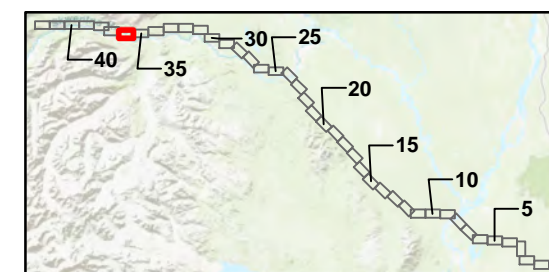
FIGURE 3 - WETLAND AND  
WATERBODY MAPPING  
PAGE 35 OF 42







- Permit Level Mapping Area**  
 [Dashed Purple Line] Permit Level Mapping Area  
**Planning Level Mapping Area**  
 [Dashed Green Line] Planning Level Mapping Area
- Wetland and Waterbody Mapping by NWI Class**
- [Green Swatch] Forested Wetland
  - [Orange Swatch] Shrub-Scrub Wetland
  - [Yellow Swatch] Emergent Wetland
  - [Blue Swatch] Pond
  - [Light Blue Swatch] Stream
- Stream Mapping**
- [Solid Blue Line] Perennial Stream
  - [Dashed Blue Line] Seasonal Stream



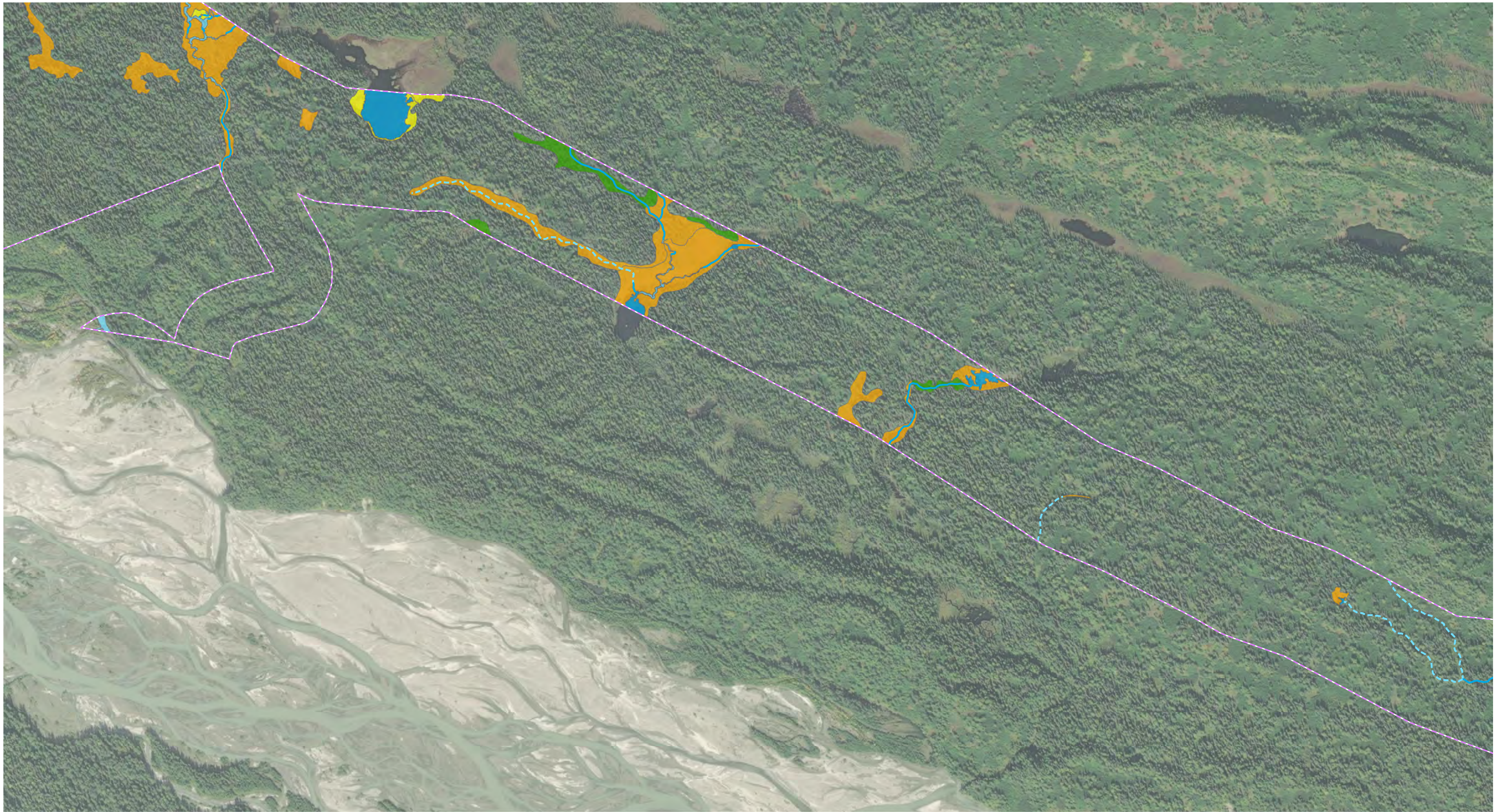
## WEST SUSITNA ACCESS PHASE 2

### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

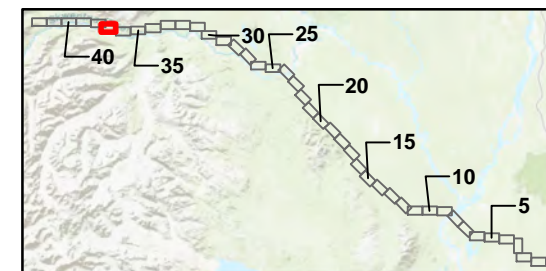
FIGURE 3 - WETLAND AND  
WATERBODY MAPPING  
PAGE 36 OF 42







- Permit Level Mapping Area  
 Planning Level Mapping Area  
**Wetland and Waterbody Mapping by NWI Class**  
 Forested Wetland  
 Shrub-Scrub Wetland  
 Emergent Wetland  
 Pond  
 Stream
- Stream Mapping**  
 Perennial Stream  
 Seasonal Stream



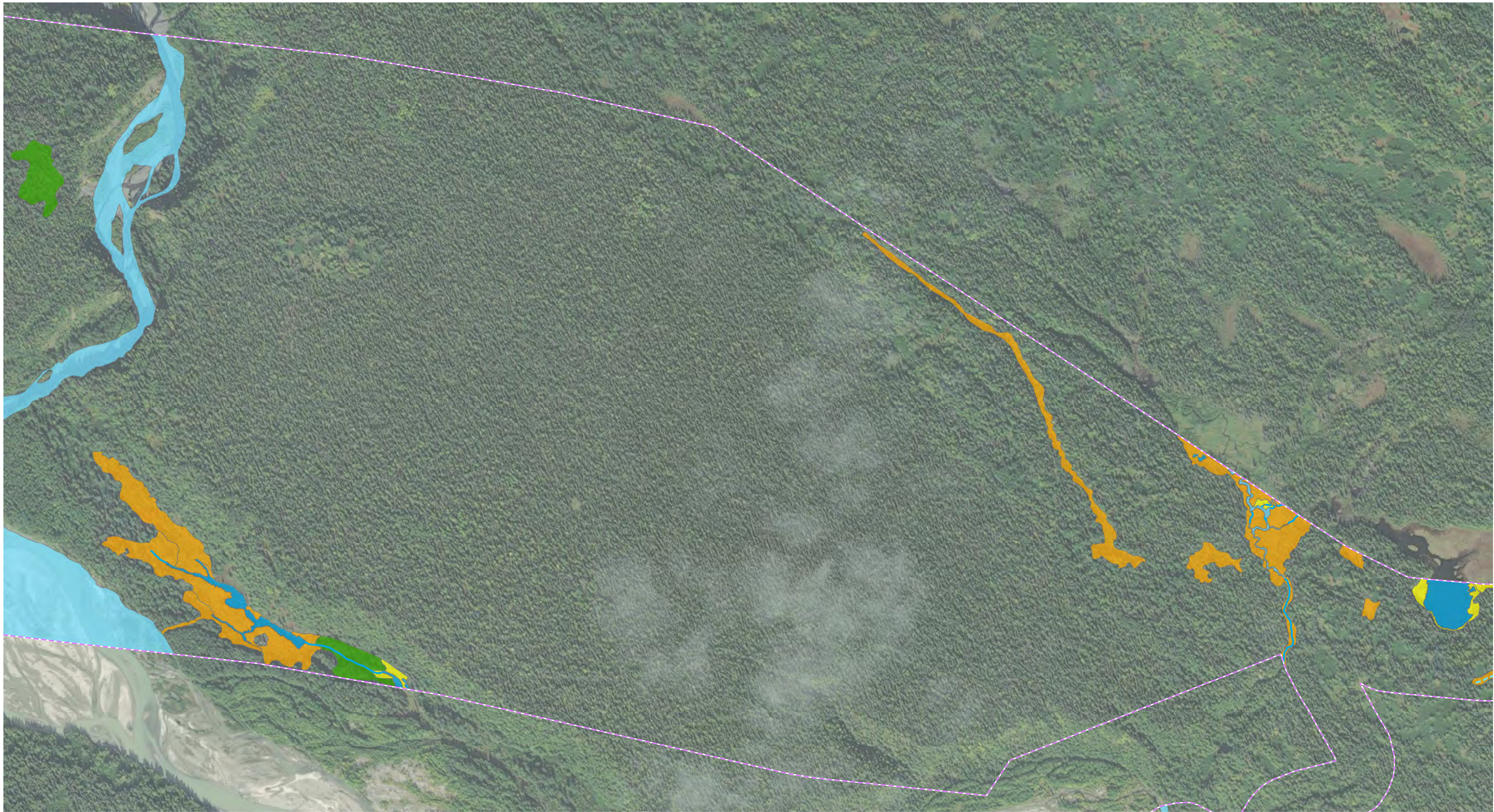
## WEST SUSITNA ACCESS PHASE 2

### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

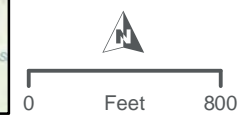
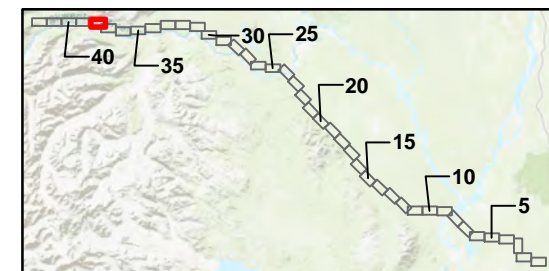
FIGURE 3 - WETLAND AND  
WATERBODY MAPPING  
PAGE 37 OF 42







- Stream Mapping**
- Perennial Stream
  - Seasonal Stream
- Wetland and Waterbody Mapping by NWI Class**
- Forested Wetland
  - Shrub-Scrub Wetland
  - Emergent Wetland
  - Pond
  - Stream
- Permit Level Mapping Area**
- Planning Level Mapping Area**



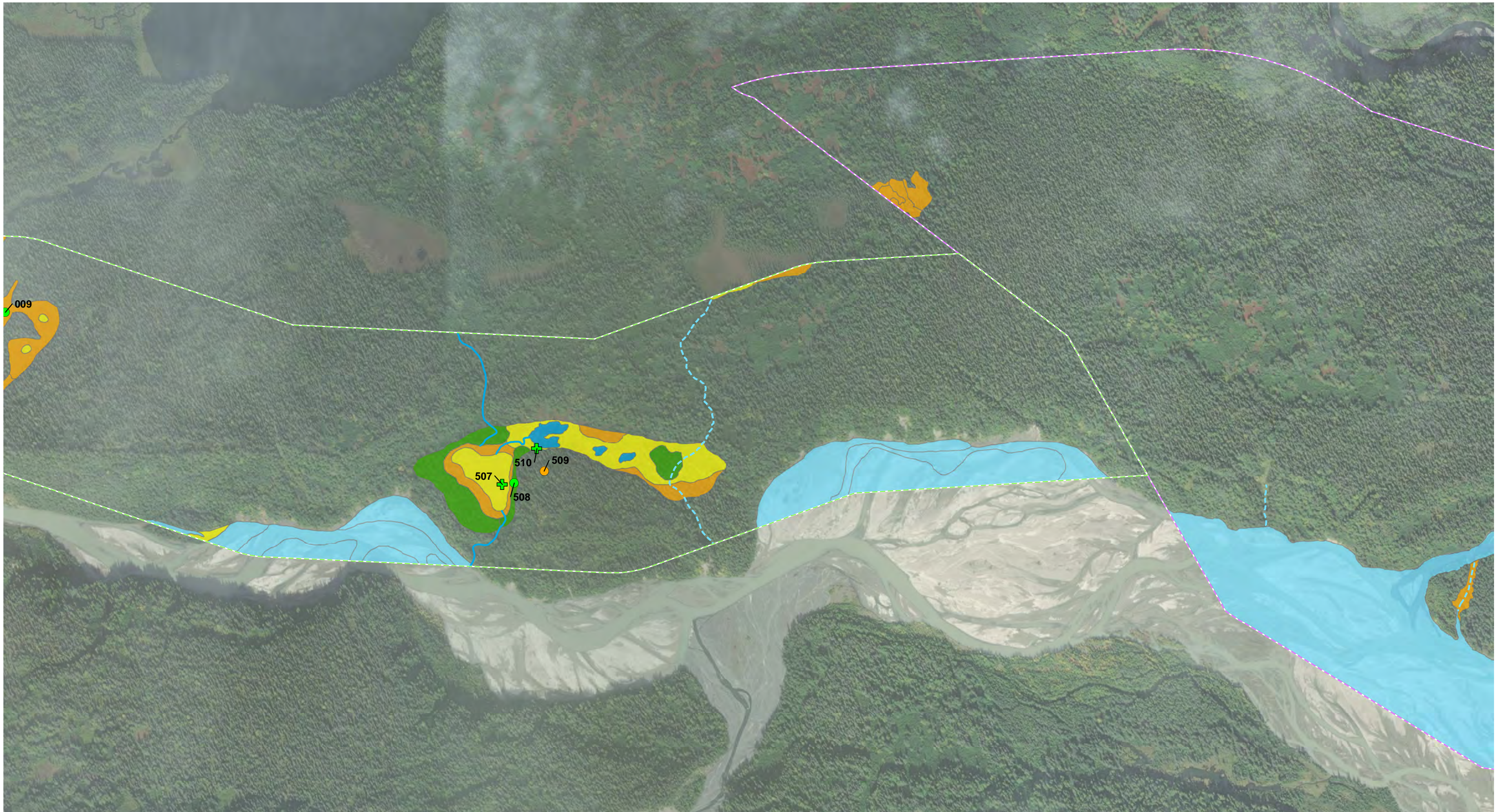
## WEST SUSITNA ACCESS PHASE 2

### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND  
WATERBODY MAPPING  
PAGE 38 OF 42







Permit Level Mapping Area  
Planning Level Mapping Area

**Wetland and Waterbody Mapping by NWI Class**

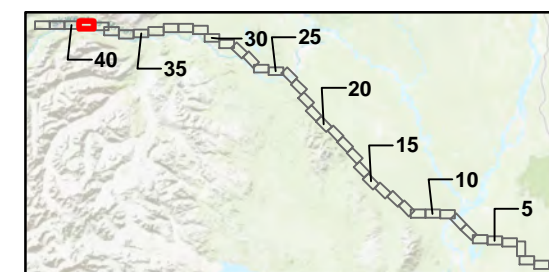
- Forested Wetland
- Shrub-Scrub Wetland
- Emergent Wetland
- Pond
- Stream

**Stream Mapping**

- Perennial Stream
- Seasonal Stream

**Field Plots (HDR 2020)**

- Wetland Determination Form, Upland
- Wetland Determination Form, Wetland
- + Observation Point, Wetland



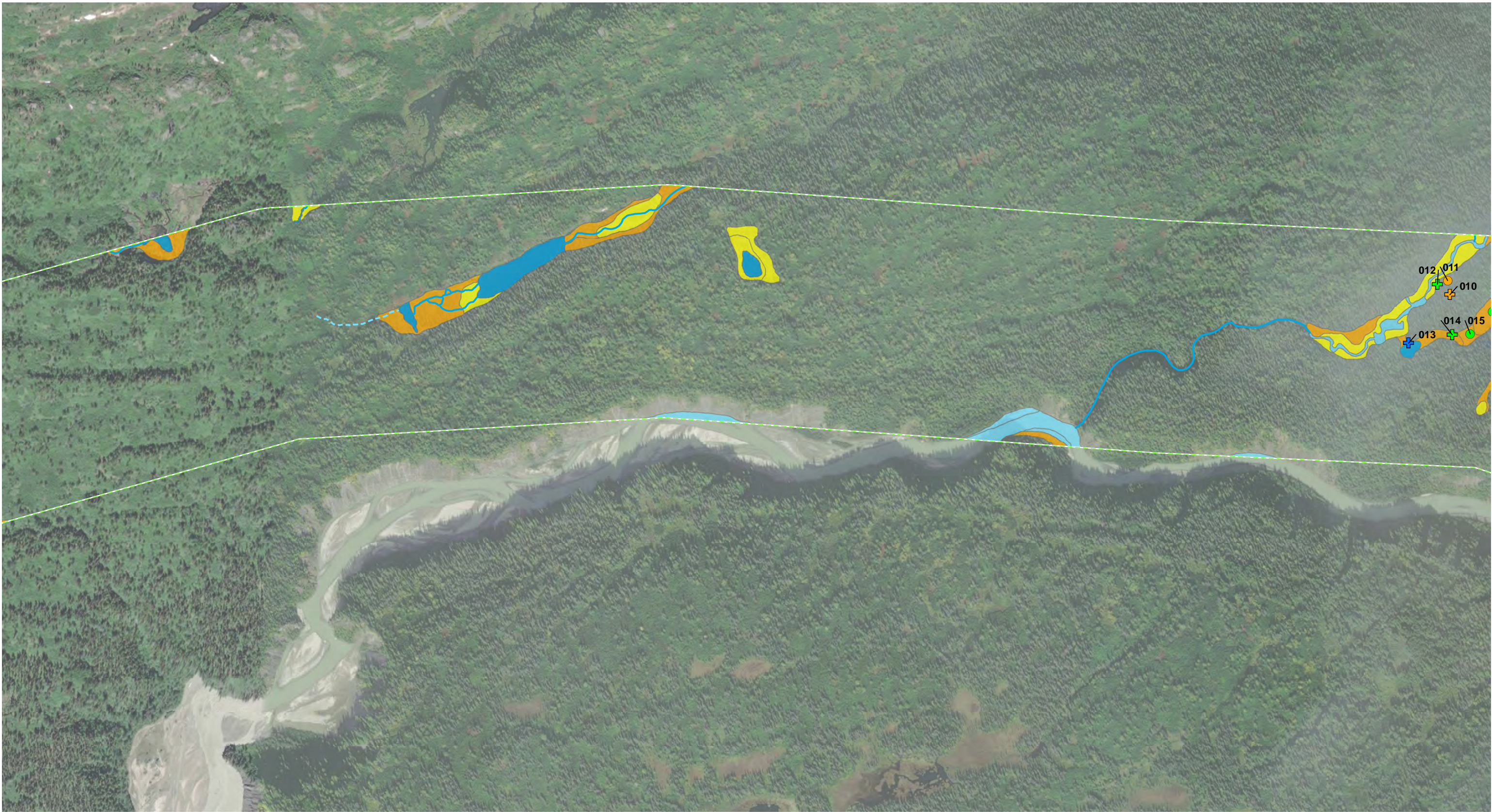
**WEST SUSITNA ACCESS  
PHASE 2**

**PRELIMINARY WETLAND AND  
WATERBODY MAPPING REPORT**

**FIGURE 3 - WETLAND AND  
WATERBODY MAPPING**  
PAGE 39 OF 42







Permit Level Mapping Area  
Planning Level Mapping Area

#### Wetland and Waterbody Mapping by NWI Class

Shrub-Scrub Wetland  
Emergent Wetland  
Pond  
Stream

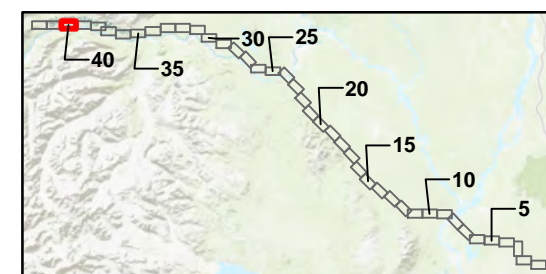
#### Stream Mapping

Perennial Stream

Seasonal Stream

#### Field Plots (HDR 2020)

Wetland Determination Form, Upland  
Wetland Determination Form, Wetland  
Observation Point, Upland  
Observation Point, Wetland  
Observation Point, Waterbody or Stream



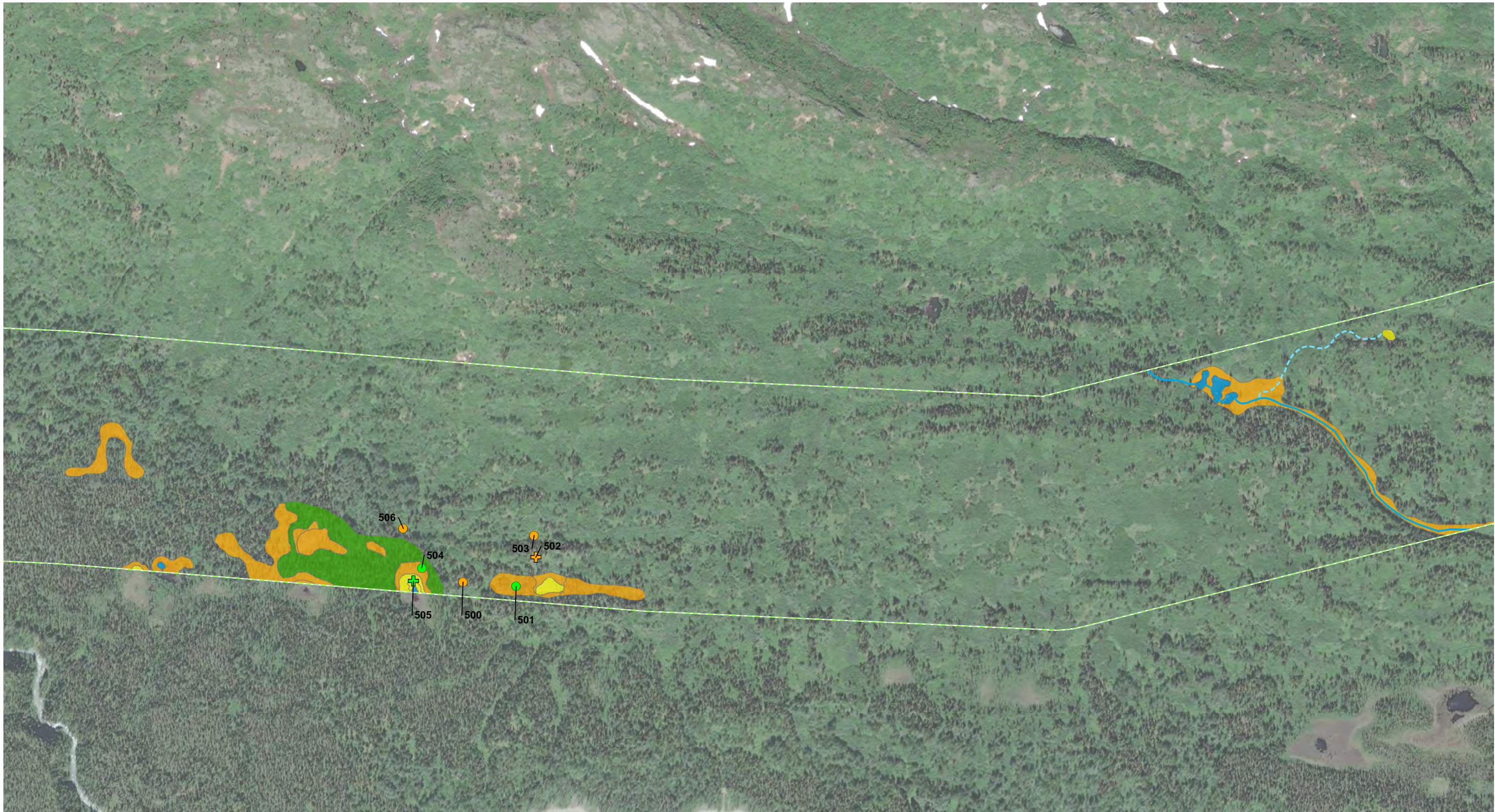
## WEST SUSITNA ACCESS PHASE 2

### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 3 - WETLAND AND  
WATERBODY MAPPING  
PAGE 40 OF 42







  Permit Level Mapping Area  
  Planning Level Mapping Area

**Wetland and Waterbody Mapping by NWI Class**

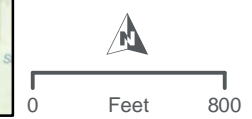
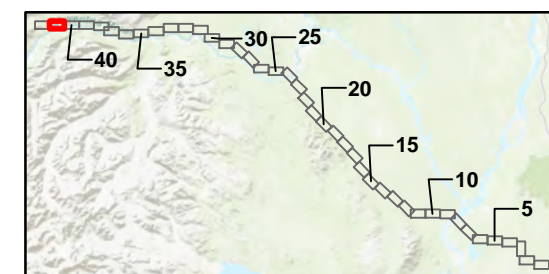
■ Forested Wetland  
■ Shrub-Scrub Wetland  
■ Emergent Wetland  
■ Pond

**Stream Mapping**

— Perennial Stream  
- - - Seasonal Stream

- - - Seasonal Stream  
**Field Plots (HDR 2020)**

● Wetland Determination Form, Upland  
● Wetland Determination Form, Wetland  
+ Observation Point, Upland  
+ Observation Point, Wetland



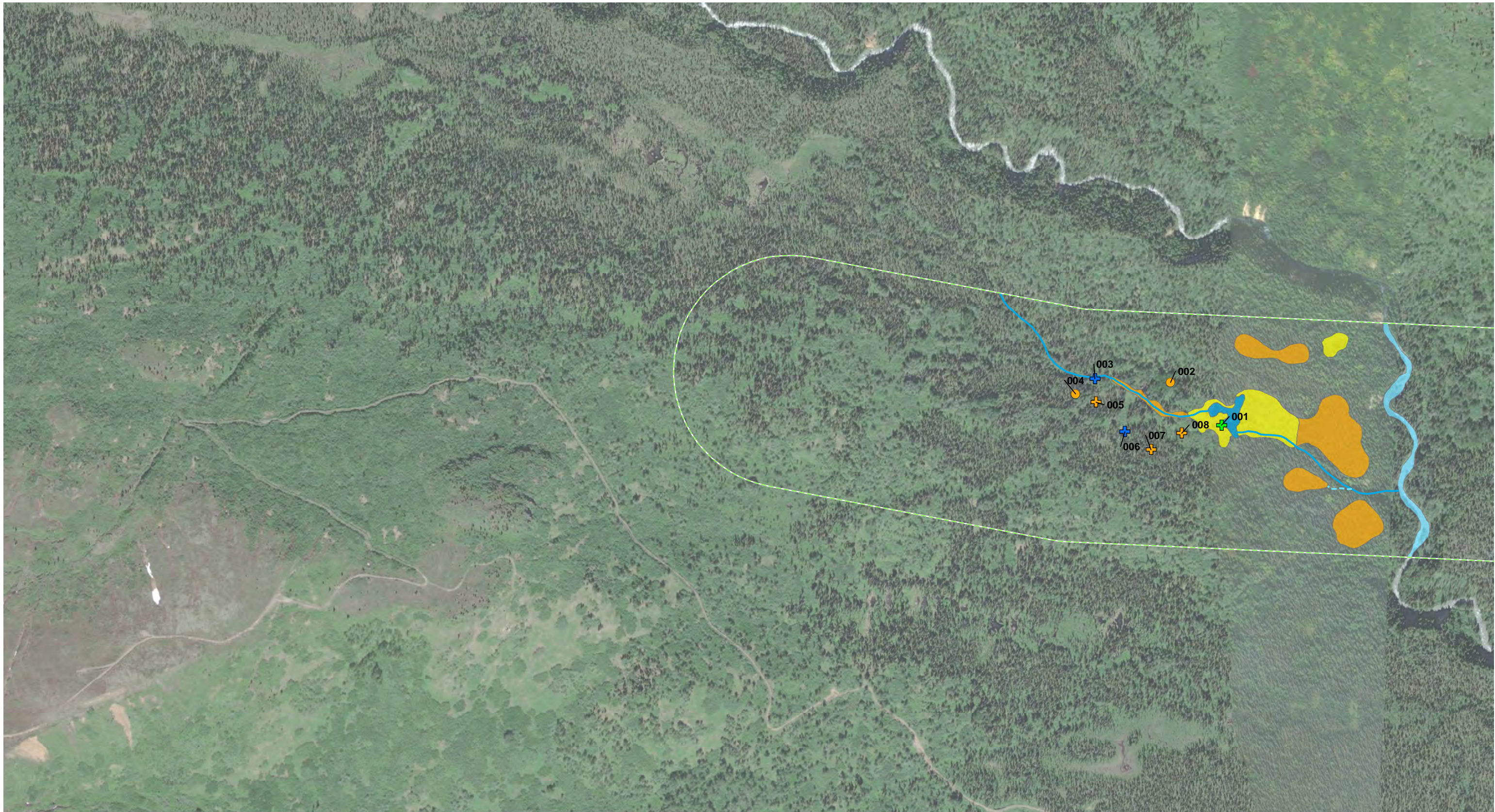
**WEST SUSITNA ACCESS  
PHASE 2**

**PRELIMINARY WETLAND AND  
WATERBODY MAPPING REPORT**

**FIGURE 3 - WETLAND AND  
WATERBODY MAPPING**  
PAGE 41 OF 42







Permit Level Mapping Area  
 Planning Level Mapping Area

**Wetland and Waterbody Mapping by NWI Class**

Shrub-Scrub Wetland  
 Emergent Wetland  
 Pond  
 Stream

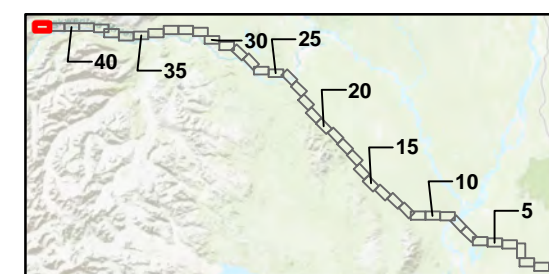
**Stream Mapping**

Perennial Stream  
 Seasonal Stream

Seasonal Stream

**Field Plots (HDR 2020)**

Wetland Determination Form, Upland  
 Observation Point, Upland  
 Observation Point, Wetland  
 Observation Point, Waterbody or Stream



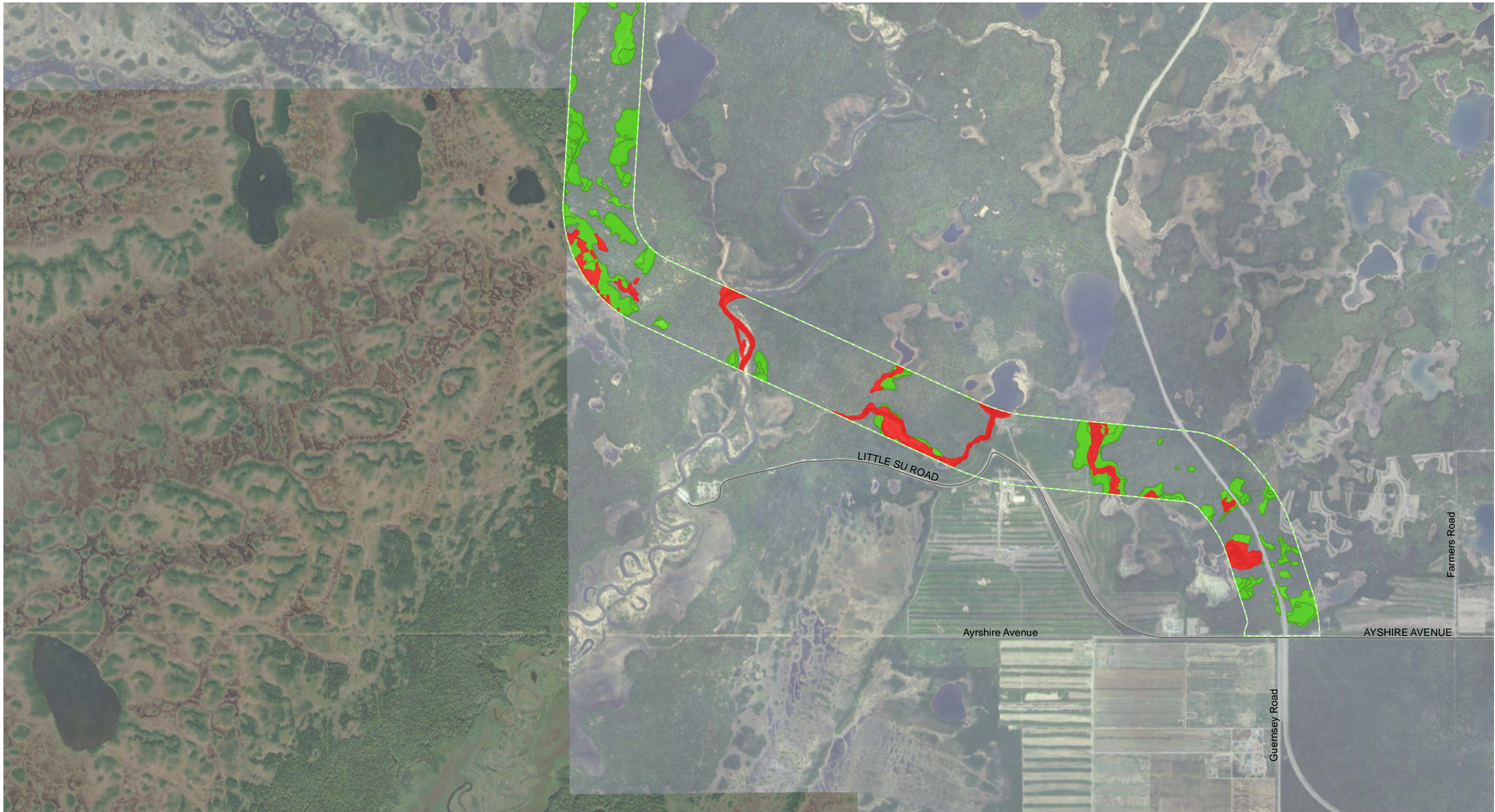
**WEST SUSITNA ACCESS  
PHASE 2**

**PRELIMINARY WETLAND AND  
WATERBODY MAPPING REPORT**

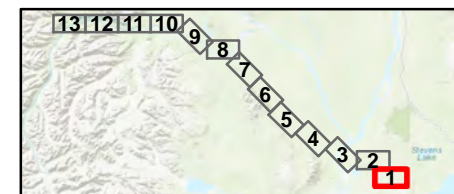
**FIGURE 3 - WETLAND AND  
WATERBODY MAPPING**  
PAGE 42 OF 42







- Permit-Level Mapping Area
- Planning-Level Mapping Area
- Mapped Wetland
- Mapped High Value Wetland



0 Miles 0.5

## WEST SUSITNA ACCESS PHASE 2

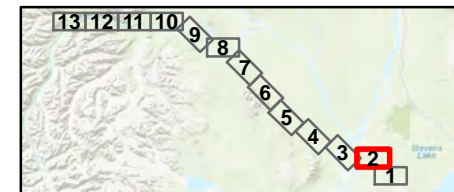
### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 4 - HIGH VALUE WETLANDS  
PAGE 1 OF 13





- Permit-Level Mapping Area
- Planning-Level Mapping Area
- Mapped Wetland
- Mapped High Value Wetland



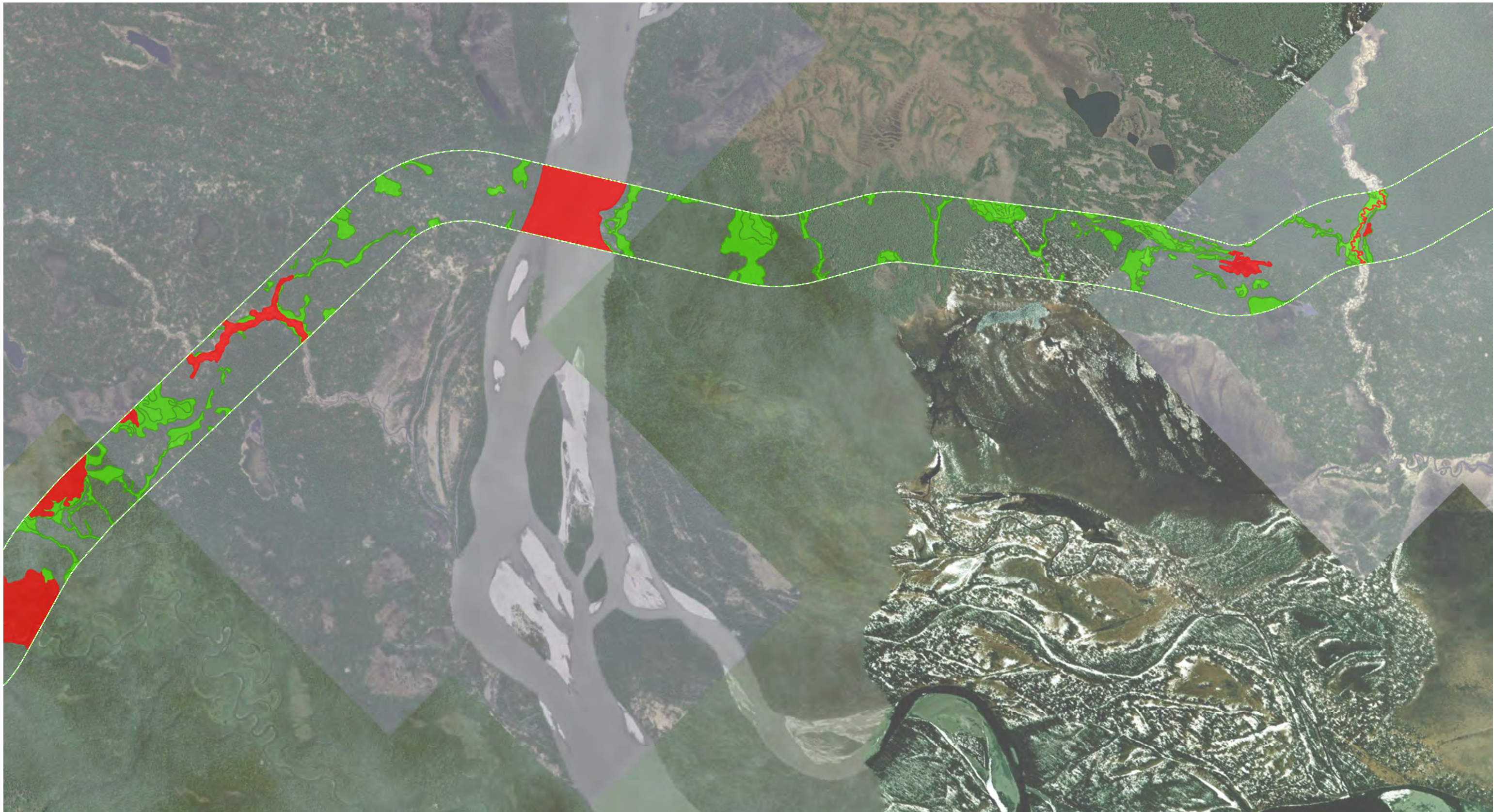
0 Miles 0.5

## WEST SUSITNA ACCESS PHASE 2

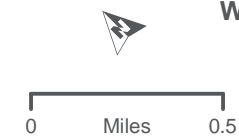
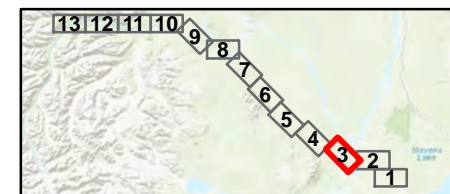
### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 4 - HIGH VALUE WETLANDS  
PAGE 2 OF 13





- Permit-Level Mapping Area
- Planning-Level Mapping Area
- Mapped Wetland
- Mapped High Value Wetland



## WEST SUSITNA ACCESS PHASE 2

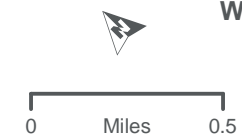
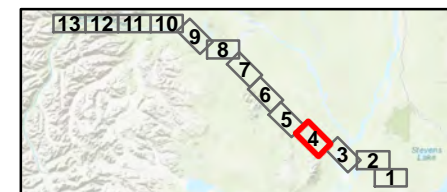
### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 4 - HIGH VALUE WETLANDS  
PAGE 3 OF 13





- Permit-Level Mapping Area
- Planning-Level Mapping Area
- Mapped Wetland
- Mapped High Value Wetland

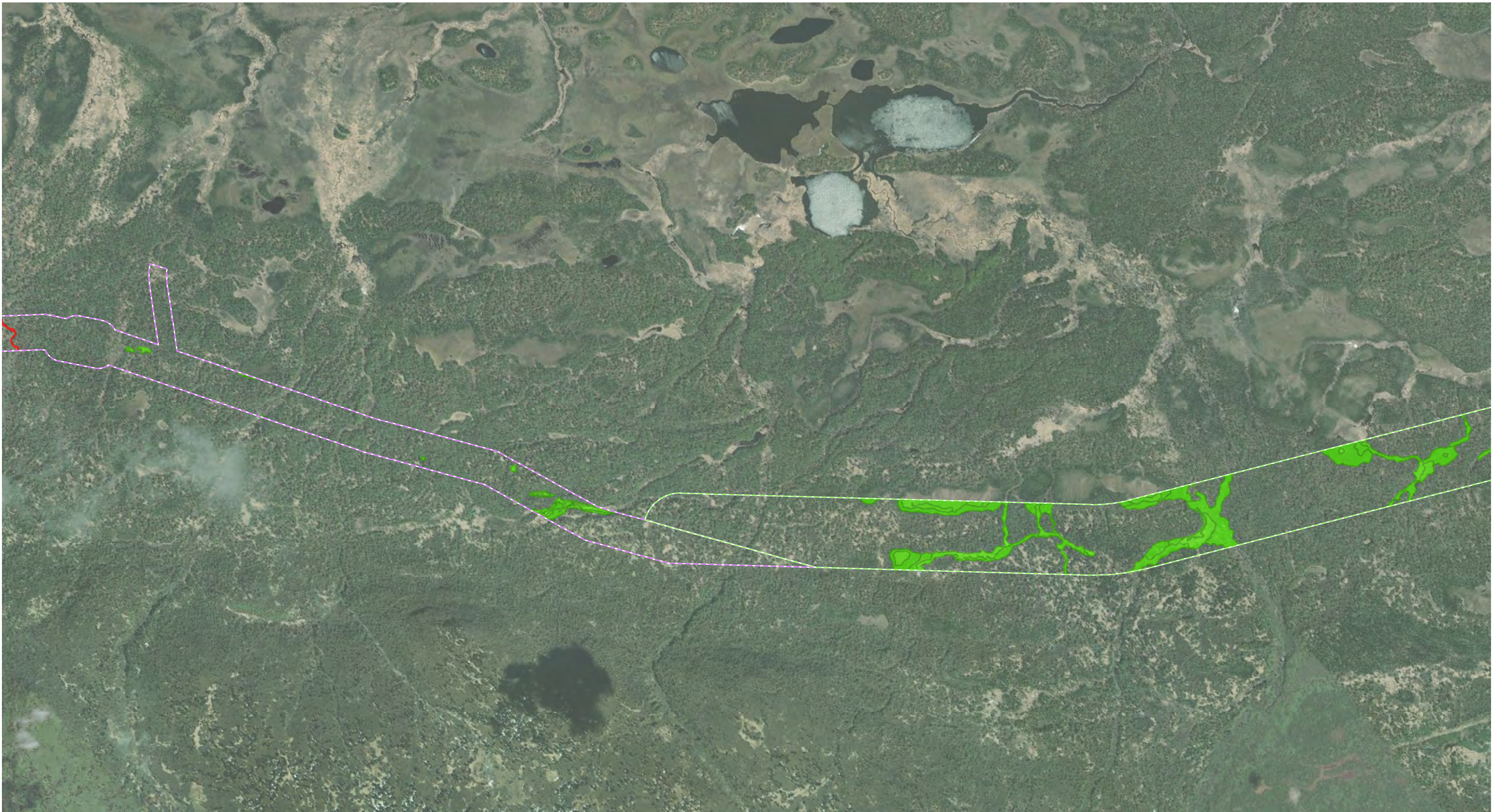






## WEST SUSITNA ACCESS PHASE 2

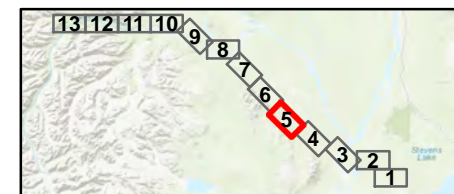
### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 4 - HIGH VALUE WETLANDS  
PAGE 4 OF 13





-  Permit-Level Mapping Area
-  Planning-Level Mapping Area
-  Mapped Wetland
-  Mapped High Value Wetland



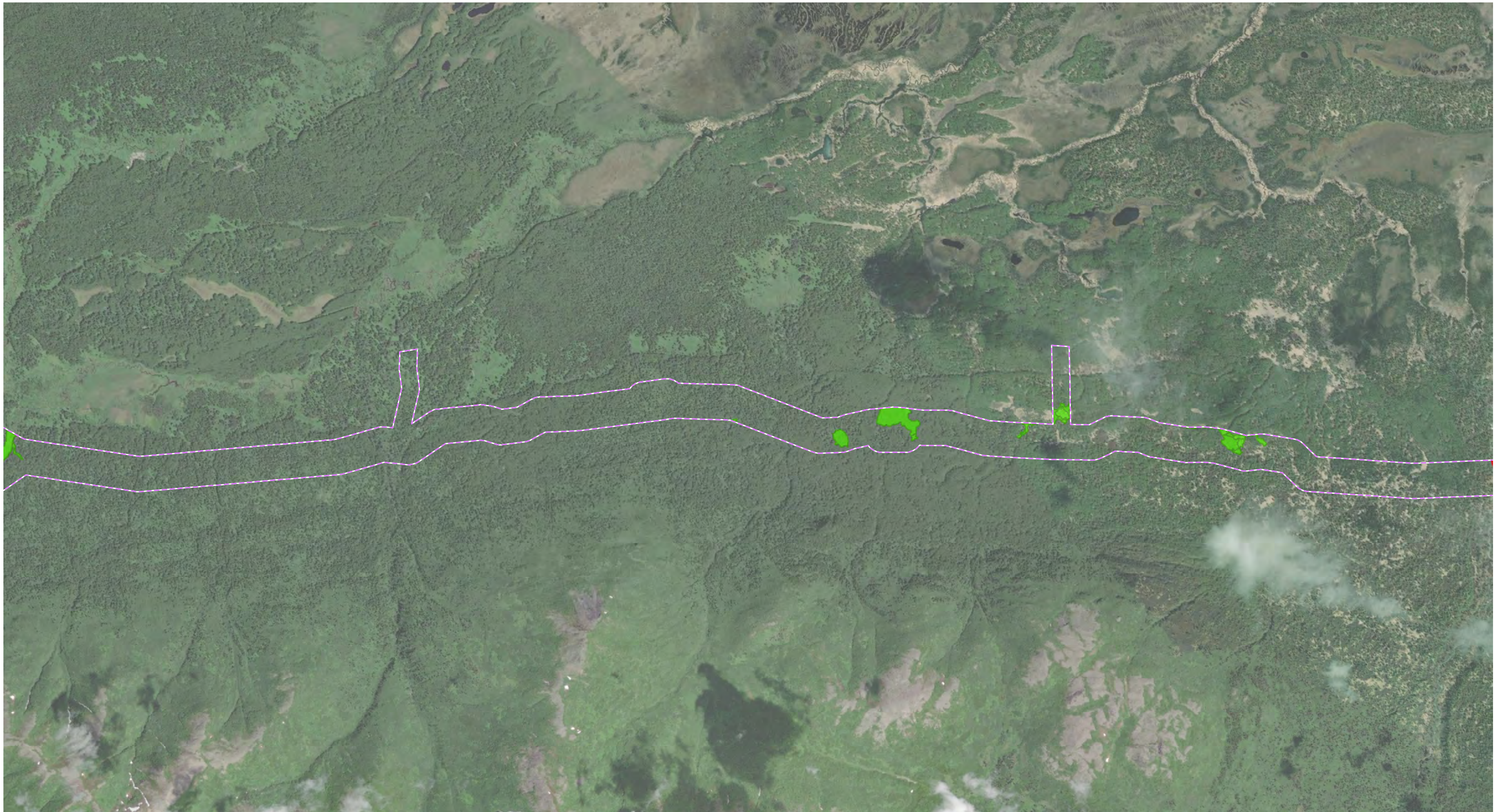
0 Miles 0.5

## WEST SUSITNA ACCESS PHASE 2

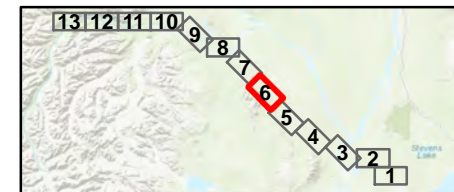
### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 4 - HIGH VALUE WETLANDS  
PAGE 5 OF 13





- Permit-Level Mapping Area
- Planning-Level Mapping Area
- Mapped Wetland
- Mapped High Value Wetland



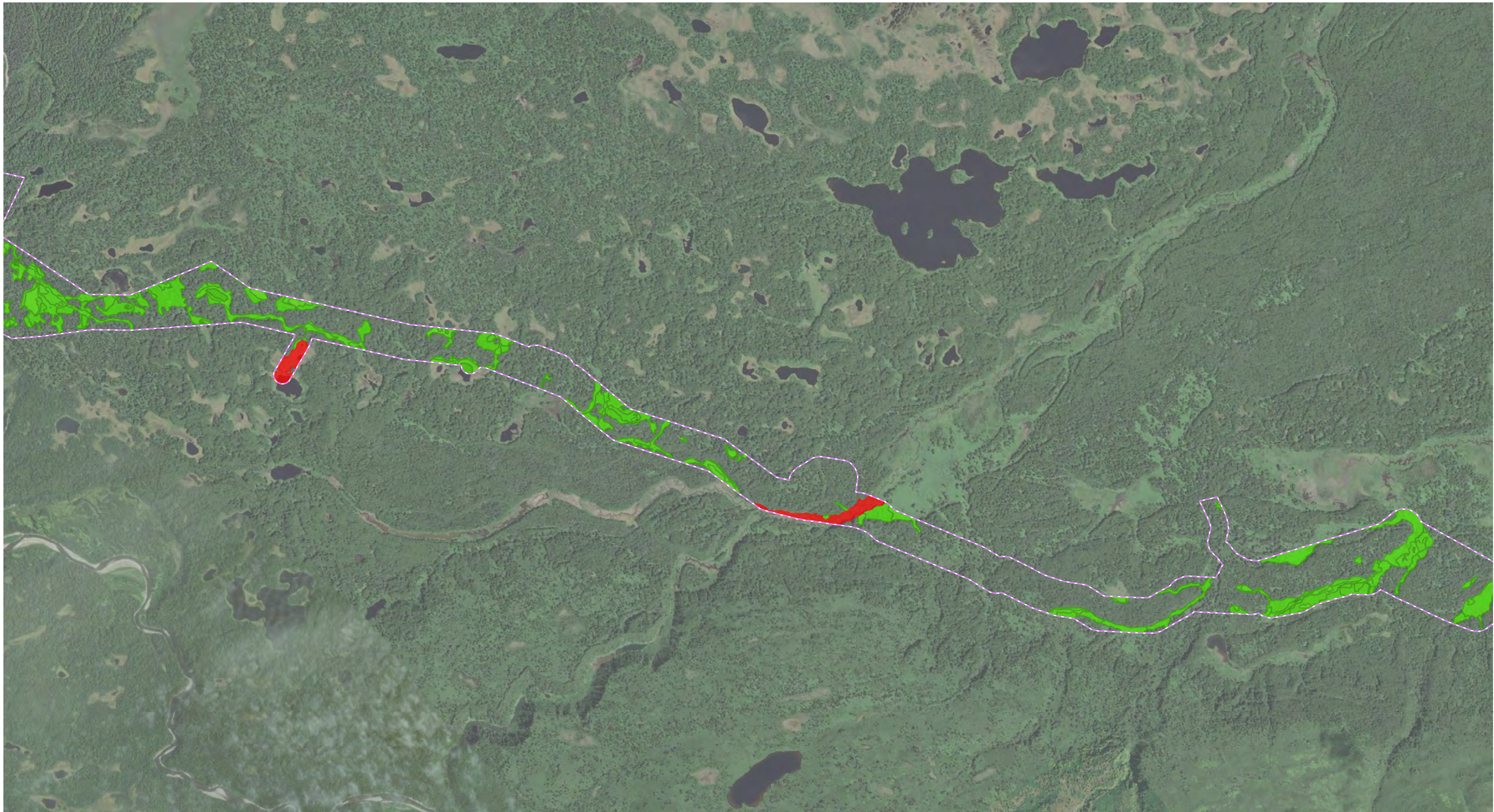
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## WEST SUSITNA ACCESS PHASE 2

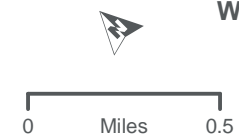
### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 4 - HIGH VALUE WETLANDS  
PAGE 6 OF 13





- Permit-Level Mapping Area
- Planning-Level Mapping Area
- Mapped Wetland
- Mapped High Value Wetland

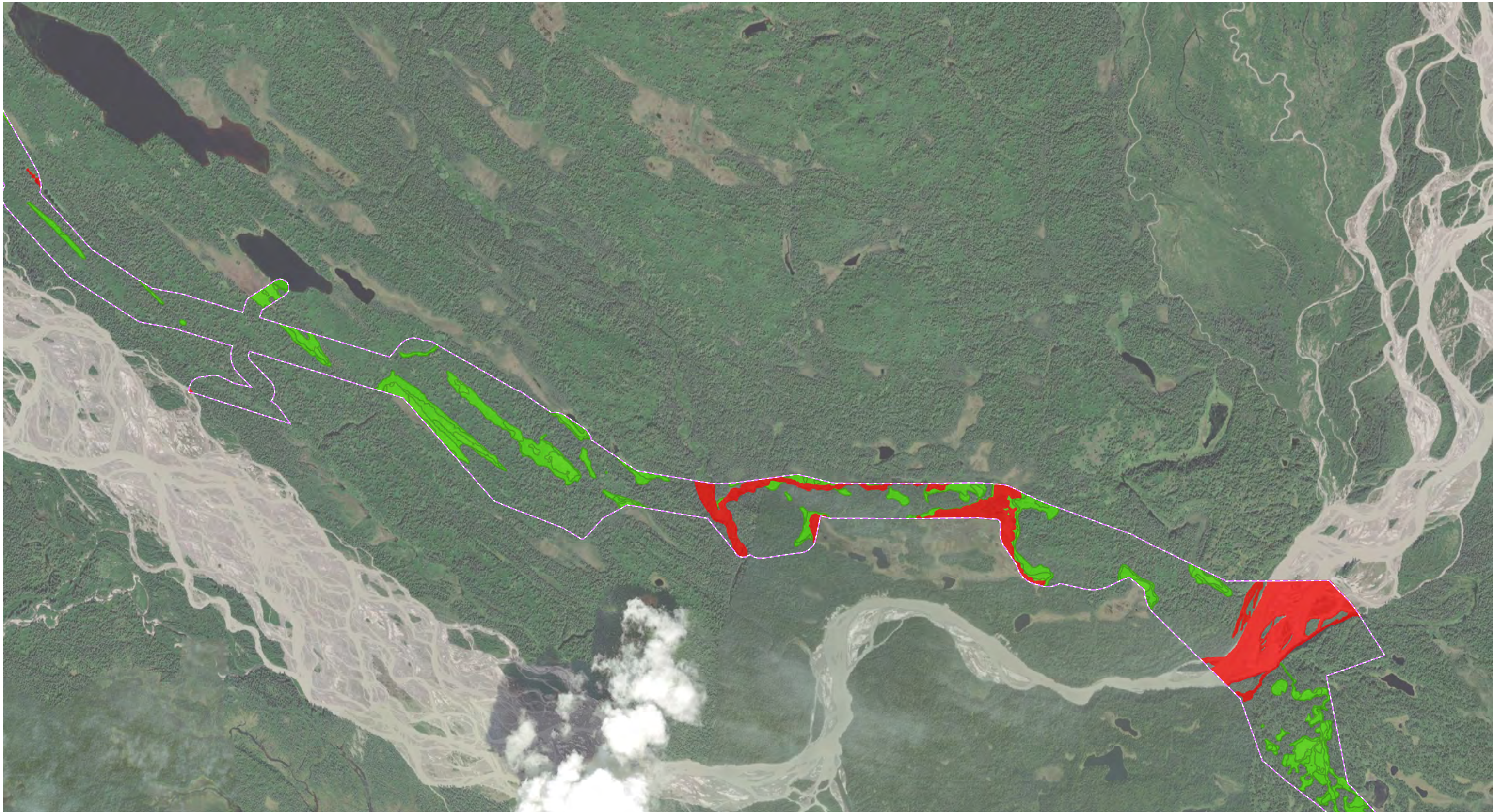


## WEST SUSITNA ACCESS PHASE 2

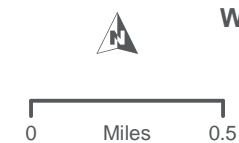
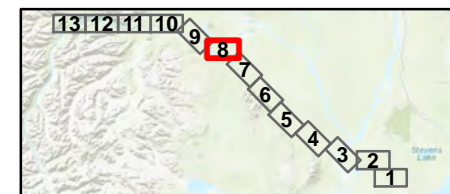
### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 4 - HIGH VALUE WETLANDS  
PAGE 7 OF 13





- Permit-Level Mapping Area
- Planning-Level Mapping Area
- Mapped Wetland
- Mapped High Value Wetland



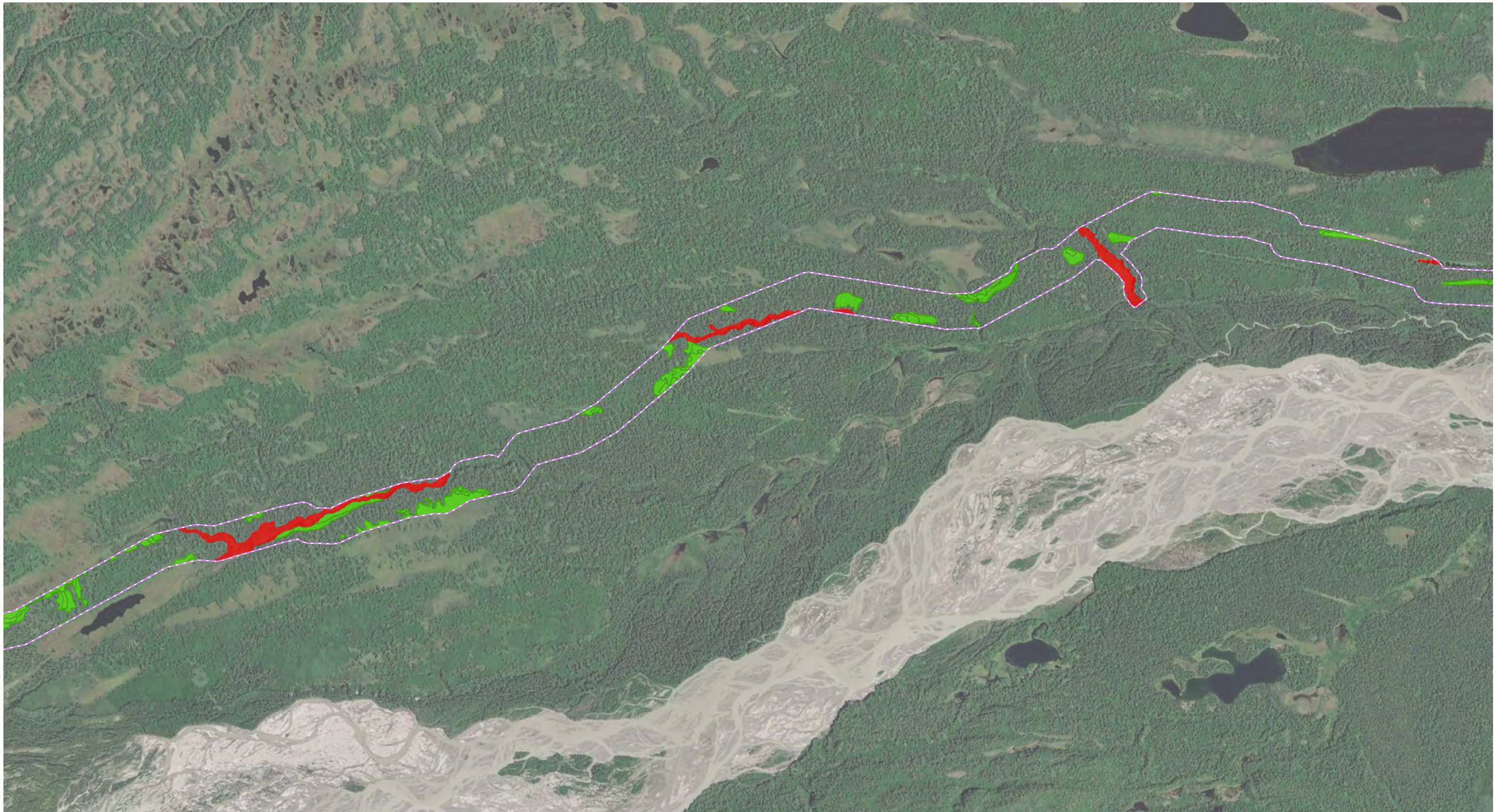
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### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

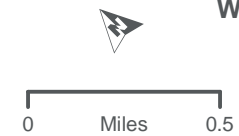
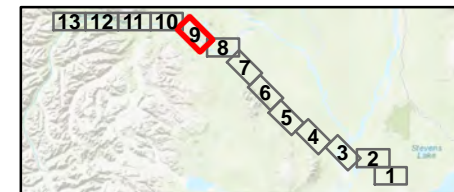
FIGURE 4 - HIGH VALUE WETLANDS  
PAGE 8 OF 13







- Permit-Level Mapping Area
- Planning-Level Mapping Area
- + Mapped Wetland
- + Mapped High Value Wetland



## WEST SUSITNA ACCESS PHASE 2

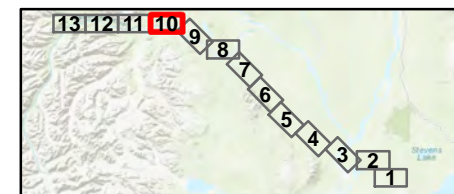
### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 4 - HIGH VALUE WETLANDS  
PAGE 9 OF 13





- Permit-Level Mapping Area
- Planning-Level Mapping Area
- + Mapped Wetland
- + Mapped High Value Wetland



0 Miles 0.5

## WEST SUSITNA ACCESS PHASE 2

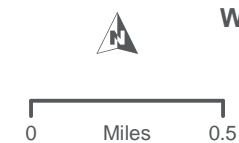
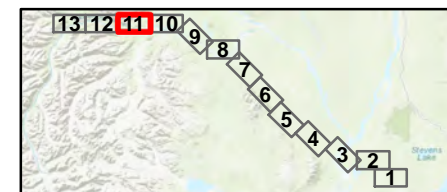
### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 4 - HIGH VALUE WETLANDS  
PAGE 10 OF 13





- Permit-Level Mapping Area
- Planning-Level Mapping Area
- Mapped Wetland
- Mapped High Value Wetland



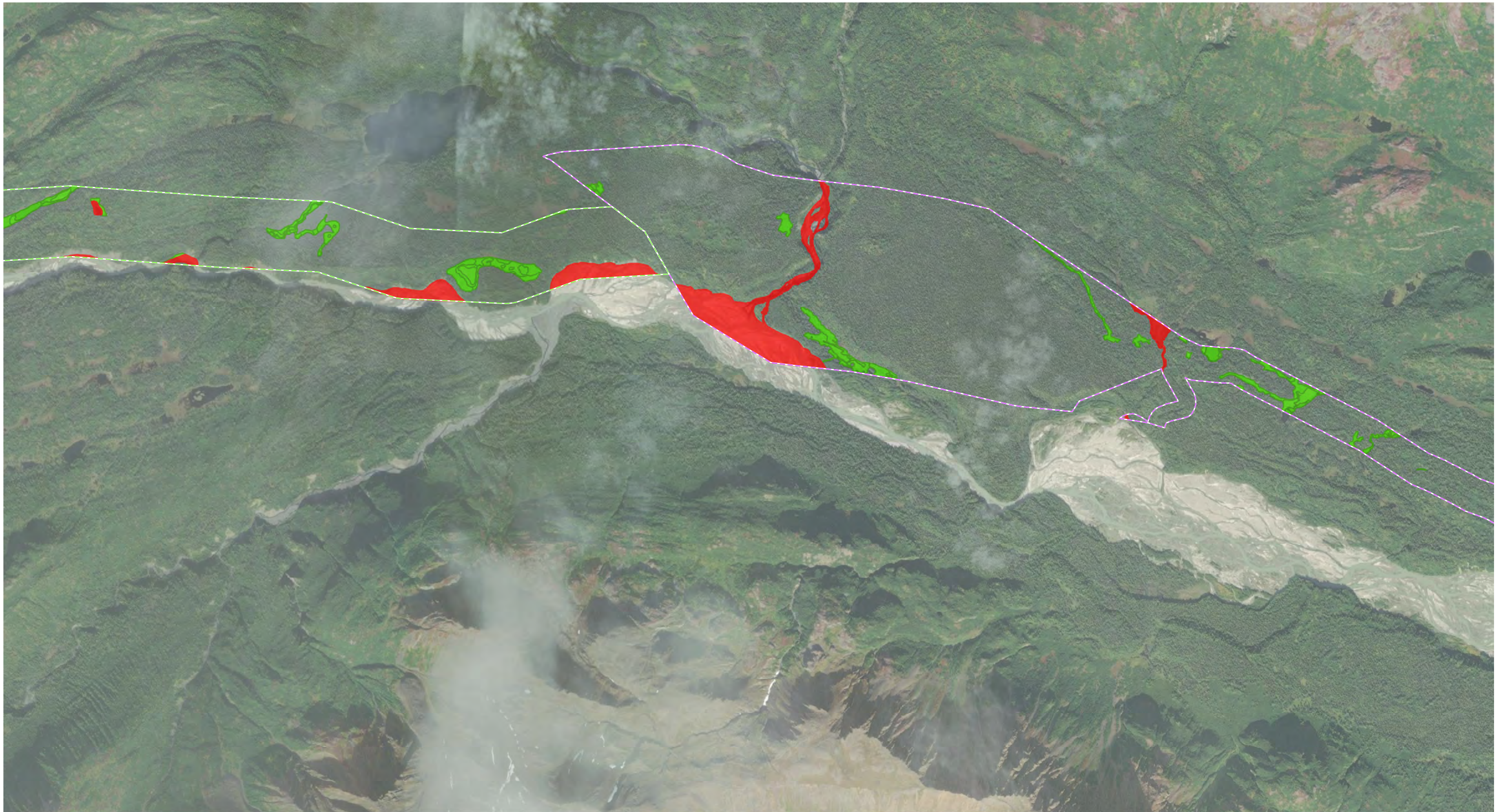
## WEST SUSITNA ACCESS PHASE 2

### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

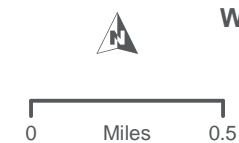
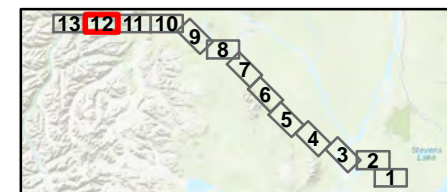
FIGURE 4 - HIGH VALUE WETLANDS  
PAGE 11 OF 13







- Permit-Level Mapping Area
- Planning-Level Mapping Area
- Mapped Wetland
- Mapped High Value Wetland



## WEST SUSITNA ACCESS PHASE 2

### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

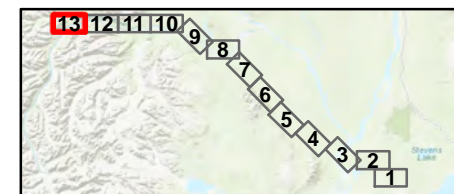
**FIGURE 4 - HIGH VALUE WETLANDS**  
PAGE 12 OF 13







- Permit-Level Mapping Area
- Planning-Level Mapping Area
- + Mapped Wetland
- + Mapped High Value Wetland



0 Miles 0.5

## WEST SUSITNA ACCESS PHASE 2

### PRELIMINARY WETLAND AND WATERBODY MAPPING REPORT

FIGURE 4 - HIGH VALUE WETLANDS  
PAGE 13 OF 13



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## Appendix A

### Wetland Determination Forms and Photographs

September 15, 16, 18, 23, and 29, 2020



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**Appendix A: Summary of Wetland Determination Form Sites**

| Site | Latitude | Longitude  | NWI Code <sup>a</sup> | HGM Class <sup>b</sup> | Viereck Level IV Code <sup>c</sup>          |
|------|----------|------------|-----------------------|------------------------|---------------------------------------------|
| 002  | 61.98160 | -152.58934 | U                     | N/A                    | IC2d                                        |
| 004  | 61.98124 | -152.59405 | U                     | N/A                    | IA3c                                        |
| 009  | 61.98624 | -152.42455 | PSS1/EM1B             | Slope                  | IIC2d                                       |
| 011  | 61.98694 | -152.42684 | U                     | N/A                    | IIC2f                                       |
| 015  | 61.98570 | -152.42561 | PSS1C                 | Slope                  | IIB2a                                       |
| 016  | 61.55550 | -150.71767 | PEM1B                 | Slope                  | IIIA2a                                      |
| 017  | 61.55473 | -150.71819 | U                     | N/A                    | IB2a                                        |
| 022  | 61.55550 | -150.71545 | PSS1/EM1B             | Slope                  | IIB2b                                       |
| 023  | 61.59422 | -150.82171 | U                     | N/A                    | IIIA2b                                      |
| 028  | 61.59430 | -150.82930 | PEM1B                 | Slope                  | IIA2a                                       |
| 037  | 61.53129 | -150.48527 | U                     | N/A                    | IC2a                                        |
| 040  | 61.53274 | -150.49284 | PSS1C                 | Riverine               | IIB2b                                       |
| 042  | 61.51461 | -150.45456 | PSS1/4B               | Flat                   | IC3 – Black spruce/Paper birch <sup>d</sup> |
| 043a | 61.51392 | -150.45470 | PSS1/EM1B             | Flat                   | IIC2j                                       |
| 045  | 61.51239 | -150.45773 | PSS4/1B               | Flat                   | IA3d                                        |
| 054  | 61.51103 | -150.45073 | U                     | N/A                    | IC2 – Black spruce/Paper birch <sup>d</sup> |
| 500  | 61.97764 | -152.54990 | U                     | N/A                    | IC2a                                        |
| 501  | 61.97759 | -152.54724 | PSS1C                 | Slope                  | IIB1d                                       |
| 503  | 61.97880 | -152.54645 | U                     | N/A                    | IIB1a                                       |
| 504  | 61.97793 | -152.55197 | PSS1/EM1B             | Slope                  | IIC2d                                       |
| 506  | 61.97884 | -152.55299 | U                     | N/A                    | IC2a                                        |
| 508  | 61.98268 | -152.39883 | PFO1/SS1C             | Slope                  | IB2a                                        |
| 509  | 61.98298 | -152.39736 | U                     | N/A                    | IC2a                                        |
| 513  | 61.55246 | -150.69941 | PFO4/SS1B             | Slope                  | IA2f                                        |
| 514  | 61.55292 | -150.69813 | U                     | N/A                    | IB1d                                        |
| 516  | 61.55293 | -150.69498 | U                     | N/A                    | IIIA2a                                      |
| 520  | 61.60773 | -150.87259 | PFO4/SS1C             | Slope                  | IA2f                                        |
| 522  | 61.60731 | -150.86917 | PSS1B                 | Slope                  | IB2a                                        |
| 528  | 61.55349 | -150.66831 | PFO1/SS1C             | Slope                  | IB2a                                        |
| 529  | 61.55319 | -150.66879 | U                     | N/A                    | IIB2b                                       |
| 534  | 61.55665 | -150.61205 | U                     | N/A                    | IB2a                                        |
| 536  | 61.55630 | -150.61215 | U                     | N/A                    | IC2a                                        |
| 537  | 61.55683 | -150.61125 | U                     | N/A                    | IB2a                                        |
| 547  | 61.55453 | -150.56419 | PSS1/EM1B             | Slope                  | IB3a                                        |
| 550  | 61.55335 | -150.53396 | U                     | N/A                    | IIB1b                                       |
| 551  | 61.55290 | -150.53420 | U                     | N/A                    | IIB2d                                       |
| 555  | 61.61993 | -150.90817 | PFO1/SS1B             | Slope                  | IC2 – Black spruce/Paper birch <sup>d</sup> |
| 556  | 61.61941 | -150.90830 | U                     | N/A                    | IB2a                                        |
| 561  | 61.61849 | -150.90537 | U                     | N/A                    | IIB2a                                       |
| 570  | 61.61937 | -150.90459 | U                     | N/A                    | IIB2b                                       |
| 572  | 61.58362 | -150.78487 | PFO4/SS1B             | Slope                  | IC2 – Black spruce/Paper birch <sup>d</sup> |
| 574  | 61.58279 | -150.78523 | U                     | N/A                    | IB2a                                        |
| 577  | 61.58206 | -150.78467 | U                     | N/A                    | IB3a                                        |
| 579  | 61.58267 | -150.78342 | PFO1/SS1B             | Slope                  | IB2a                                        |
| 583  | 61.48540 | -150.22891 | U                     | N/A                    | IB3a                                        |
| 584  | 61.48539 | -150.22850 | PFO4/SS1B             | Slope                  | IC2 – Black spruce/Paper birch <sup>d</sup> |
| 585  | 61.48563 | -150.22668 | PFO4/SS3B             | Slope                  | IA2f                                        |
| 586  | 61.48554 | -150.22601 | U                     | N/A                    | IC2 – Black spruce/Paper birch <sup>d</sup> |
| 587  | 61.48551 | -150.22445 | PFO4/SS4C             | Slope                  | IA2f                                        |
| 592  | 61.55828 | -150.59445 | PSS4B                 | Slope                  | IA2f                                        |



**Appendix A: Summary of Wetland Determination Form Sites**

| Site | Latitude | Longitude  | NWI Code <sup>a</sup> | HGM Class <sup>b</sup> | Viereck Level IV Code <sup>c</sup>          |
|------|----------|------------|-----------------------|------------------------|---------------------------------------------|
| 593  | 61.55755 | -150.59495 | PEM1/SS1B             | Slope                  | IC2 – Black spruce/Paper birch <sup>d</sup> |
| 594  | 61.55742 | -150.59564 | U                     | N/A                    | IC2a                                        |
| 595  | 61.55697 | -150.59483 | U                     | N/A                    | IC2a                                        |
| 596  | 61.55649 | -150.59517 | U                     | N/A                    | IC2a                                        |
| 597  | 61.55561 | -150.59669 | U                     | N/A                    | IIIA2a                                      |
| 598  | 61.55703 | -150.59271 | U                     | N/A                    | IC2 – Black spruce/Paper birch <sup>d</sup> |

<sup>a</sup> NWI: National Wetlands Inventory. Cowardin et al. 1979. See Table 4 for full descriptions.

<sup>b</sup> HGM: Hydrogeomorphic. Brinson 1993

<sup>c</sup> Viereck et al. 1992

<sup>d</sup> Community is not described in Viereck et al. 1992.





Appendix A: Summary of Wetland Indicators

| Site | NWI Code <sup>a</sup> | Vegetation                     |                           |                                    |                                 | Soil                    |                      |                       |                     |                    |                            |                      | Hydrology            |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                | Wetland Hydrology Present? | Is the Site in a Wetland? |
|------|-----------------------|--------------------------------|---------------------------|------------------------------------|---------------------------------|-------------------------|----------------------|-----------------------|---------------------|--------------------|----------------------------|----------------------|----------------------|--------------------|-----------------------|-----------------|------------------------|---------------------|----------------------------|---------------------------|-------------------------|----------------------------|-------------------------------|---------------------------------|--------------------------|------------------------------|--------------------------------|----------------------------|---------------------------|
|      |                       | Hydrophytic Dominants is > 50% | Prevalence Index is ≤ 3.0 | Problematic Hydrophytic Vegetation | Hydrophytic Vegetation Present? | Histosol or Histel (A1) | Histic Epipedon (A2) | Hydrogen Sulfide (A4) | Alaska Gleyed (A13) | Alaska Redox (A14) | Alaska Redox with 2.5Y Hue | Depleted Matrix (F3) | Hydric Soil Present? | Primary Indicators |                       |                 |                        |                     |                            | Secondary Indicators      |                         |                            |                               |                                 |                          |                              |                                |                            |                           |
|      |                       |                                |                           |                                    |                                 |                         |                      |                       |                     |                    |                            |                      |                      | Surface Water (A1) | High Water Table (A2) | Saturation (A3) | Sediment Deposits (B2) | Drift Deposits (B3) | Hydrogen Sulfide Odor (C1) | Water-Stained Leaves (B9) | Drainage Patterns (B10) | Oxidized Rhizospheres (C3) | Presence of Reduced Iron (C4) | Stunted or Stressed Plants (D1) | Geomorphic Position (D2) | Microtopographic Relief (D4) | Positive FAC-Neutral Test (D5) |                            |                           |
| 002  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                | N                          | N                         |
| 004  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                | N                          | N                         |
| 009  | PSS1/EM1B             | X                              | X                         |                                    | Y                               | X                       |                      | X                     |                     |                    |                            |                      | Y                    |                    | X                     | X               |                        |                     | X                          |                           |                         |                            |                               |                                 | X                        |                              | X                              | Y                          | Y                         |
| 011  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 | X                        |                              |                                | N                          | N                         |
| 015  | PSS1C                 | X                              | X                         |                                    | Y                               | X                       |                      |                       |                     |                    |                            |                      | Y                    | X                  | X                     | X               |                        |                     |                            |                           |                         | X                          | X                             |                                 | X                        |                              | X                              | Y                          | Y                         |
| 016  | PEM1B                 | X                              | X                         |                                    | Y                               |                         | X                    |                       |                     |                    |                            |                      | Y                    |                    | X                     | X               |                        |                     |                            | X                         |                         |                            | X                             |                                 | X                        |                              | X                              | Y                          | Y                         |
| 017  | U                     | X                              |                           |                                    | Y                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    | X                     | X               |                        |                     |                            |                           |                         | X                          | X                             |                                 |                          |                              |                                | Y                          | N                         |
| 022  | PSS1/EM1B             | X                              |                           |                                    | Y                               |                         |                      |                       |                     | X                  |                            |                      | Y                    |                    |                       | X               |                        |                     |                            |                           |                         |                            |                               | X                               |                          |                              |                                | Y                          | Y                         |
| 023  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                | N                          | N                         |
| 028  | PEM1B                 | X                              | X                         |                                    | Y                               |                         |                      | X                     | X                   |                    |                            |                      | Y                    |                    |                       |                 |                        |                     | X                          |                           |                         | X                          | X                             |                                 | X                        |                              | X                              | Y                          | Y                         |
| 037  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         | X                          |                               |                                 |                          |                              |                                | N                          | N                         |
| 040  | PSS1C                 | X                              |                           |                                    | Y                               | X                       |                      | X                     |                     |                    |                            |                      | Y                    | X                  | X                     | X               | X                      |                     | X                          |                           | X                       |                            |                               | X                               | X                        |                              |                                | Y                          | Y                         |
| 042  | PSS1/4B               | X                              | X                         |                                    | Y                               |                         |                      |                       |                     |                    | X                          |                      | Y                    |                    |                       | X               |                        |                     |                            |                           |                         | X                          |                               |                                 |                          |                              | X                              | Y                          | Y                         |
| 043a | PSS1/EM1B             | X                              | X                         |                                    | Y                               |                         | X                    |                       |                     |                    |                            |                      | Y                    |                    | X                     | X               |                        |                     |                            |                           |                         |                            |                               |                                 |                          | X                            | Y                              | Y                          |                           |
| 045  | PSS4/1B               | X                              | X                         |                                    | Y                               |                         | X                    |                       |                     |                    |                            |                      | Y                    | X                  |                       | X               |                        |                     |                            |                           | X                       |                            |                               |                                 | X                        | X                            | Y                              | Y                          |                           |
| 054  | U                     | X                              |                           |                                    | Y                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                | N                          | N                         |
| 500  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                | N                          | N                         |
| 501  | PSS1C                 | X                              |                           |                                    | Y                               | X                       |                      | X                     |                     |                    |                            |                      | Y                    | X                  | X                     | X               |                        | X                   | X                          |                           | X                       |                            | X                             |                                 | X                        |                              |                                | Y                          | Y                         |
| 503  | U                     | X                              |                           |                                    | Y                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 | X                        |                              |                                | N                          | N                         |
| 504  | PSS1/EM1B             | X                              | X                         |                                    | Y                               | X                       |                      |                       |                     |                    |                            |                      | Y                    |                    | X                     | X               |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                | Y                          | Y                         |
| 506  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                | N                          | N                         |
| 508  | PFO1/SS1C             |                                |                           | X                                  | Y                               |                         | X                    |                       |                     |                    |                            |                      | Y                    |                    | X                     | X               |                        |                     |                            | X                         |                         |                            |                               | X                               |                          |                              |                                | Y                          | Y                         |
| 509  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                | N                          | N                         |
| 513  | PFO4/SS1B             | X                              | X                         |                                    | Y                               | X                       |                      |                       |                     |                    |                            |                      | Y                    |                    | X                     | X               |                        |                     |                            |                           | X                       |                            |                               |                                 |                          | X                            | X                              | Y                          | Y                         |
| 514  | U                     | X                              |                           |                                    | Y                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                | N                          | N                         |
| 516  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            | X                             |                                 |                          | X                            |                                | Y                          | N                         |
| 520  | PFO4/SS1C             | X                              | X                         |                                    | Y                               | X                       |                      |                       |                     |                    |                            |                      | Y                    | X                  | X                     | X               |                        |                     |                            |                           |                         |                            |                               |                                 |                          | X                            | Y                              | Y                          |                           |
| 522  | PSS1B                 | X                              |                           |                                    | Y                               |                         | X                    | X                     |                     |                    |                            |                      | Y                    |                    | X                     | X               |                        |                     | X                          |                           |                         |                            |                               | X                               | X                        |                              |                                | Y                          | Y                         |
| 528  | PFO1/SS1C             | X                              |                           |                                    | Y                               | X                       |                      |                       |                     |                    |                            |                      | Y                    |                    | X                     | X               |                        |                     |                            |                           |                         |                            |                               | X                               |                          | X                            | Y                              | Y                          |                           |





Appendix A: Summary of Wetland Indicators

| Site | NWI Code <sup>a</sup> | Vegetation                     |                           |                                    |                                 | Soil                    |                      |                       |                     |                    |                            |                      |                      | Hydrology          |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                | Wetland Hydrology Present? | Is the Site in a Wetland? |   |
|------|-----------------------|--------------------------------|---------------------------|------------------------------------|---------------------------------|-------------------------|----------------------|-----------------------|---------------------|--------------------|----------------------------|----------------------|----------------------|--------------------|-----------------------|-----------------|------------------------|---------------------|----------------------------|---------------------------|-------------------------|----------------------------|-------------------------------|---------------------------------|--------------------------|------------------------------|--------------------------------|----------------------------|---------------------------|---|
|      |                       | Hydrophytic Dominants is > 50% | Prevalence Index is ≤ 3.0 | Problematic Hydrophytic Vegetation | Hydrophytic Vegetation Present? | Histosol or Histel (A1) | Histic Epipedon (A2) | Hydrogen Sulfide (A4) | Alaska Gleyed (A13) | Alaska Redox (A14) | Alaska Redox with 2.5Y Hue | Depleted Matrix (F3) | Hydric Soil Present? | Primary Indicators |                       |                 |                        |                     |                            | Secondary Indicators      |                         |                            |                               |                                 |                          |                              |                                |                            |                           |   |
|      |                       |                                |                           |                                    |                                 |                         |                      |                       |                     |                    |                            |                      |                      | Surface Water (A1) | High Water Table (A2) | Saturation (A3) | Sediment Deposits (B2) | Drift Deposits (B3) | Hydrogen Sulfide Odor (C1) | Water-Stained Leaves (B9) | Drainage Patterns (B10) | Oxidized Rhizospheres (C3) | Presence of Reduced Iron (C4) | Stunted or Stressed Plants (D1) | Geomorphic Position (D2) | Microtopographic Relief (D4) | Positive FAC-Neutral Test (D5) |                            |                           |   |
| 529  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                |                            | N                         | N |
| 534  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    | X                     | X               |                        |                     |                            |                           |                         | X                          |                               |                                 |                          |                              |                                |                            | Y                         | N |
| 536  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                |                            | N                         | N |
| 537  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     | X                  |                            |                      | Y                    |                    | X                     | X               |                        |                     |                            |                           |                         |                            |                               | X                               | X                        |                              |                                |                            | Y                         | N |
| 547  | PSS1/EM1B             | X                              |                           |                                    | Y                               | X                       |                      | X                     |                     |                    |                            |                      | Y                    |                    | X                     | X               |                        |                     | X                          |                           |                         |                            | X                             |                                 |                          | X                            | X                              |                            | Y                         | Y |
| 550  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                |                            | N                         | N |
| 551  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    | X                          |                      | Y                    |                    | X                     | X               |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                |                            | Y                         | N |
| 555  | PFO1/SS1B             | X                              |                           |                                    | Y                               | X                       |                      |                       |                     |                    |                            |                      | Y                    | X                  | X                     | X               |                        |                     | X                          | X                         |                         |                            |                               |                                 | X                        |                              |                                |                            | Y                         | Y |
| 556  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               | X                               |                          |                              |                                |                            | N                         | N |
| 561  | U                     | X                              |                           |                                    | Y                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               | X                               |                          |                              |                                |                            | N                         | N |
| 570  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     | X                  |                            |                      | Y                    | X                  | X                     | X               |                        |                     |                            |                           |                         | X                          | X                             |                                 |                          |                              |                                |                            | Y                         | N |
| 572  | PFO4/SS1B             | X                              | X                         |                                    | Y                               |                         | X                    |                       |                     |                    |                            |                      | Y                    | X                  | X                     | X               |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                |                            | Y                         | Y |
| 574  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       | X               |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                |                            | Y                         | N |
| 577  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                |                            | N                         | N |
| 579  | PFO1/SS1B             | X                              |                           |                                    | Y                               |                         |                      |                       |                     |                    | X                          |                      | Y                    |                    | X                     | X               |                        |                     |                            |                           |                         |                            |                               |                                 |                          | X                            |                                |                            | Y                         | Y |
| 583  | U                     | X                              |                           |                                    | Y                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                |                            | N                         | N |
| 584  | PFO4/SS1B             | X                              | X                         |                                    | Y                               |                         |                      |                       |                     |                    | X                          |                      | Y                    | X                  | X                     | X               |                        |                     |                            |                           |                         | X                          |                               |                                 | X                        | X                            |                                |                            | Y                         | Y |
| 585  | PFO4/SS3B             | X                              | X                         |                                    | Y                               |                         |                      |                       |                     | X                  |                            |                      | Y                    |                    |                       |                 |                        |                     |                            |                           |                         |                            | X                             |                                 |                          |                              | X                              |                            | Y                         | Y |
| 586  | U                     | X                              | X                         |                                    | Y                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              | X                              |                            | N                         | N |
| 587  | PFO4/SS4C             | X                              | X                         |                                    | Y                               |                         | X                    |                       |                     |                    |                            |                      | Y                    | X                  | X                     | X               |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              | X                              |                            | Y                         | Y |
| 592  | PSS4B                 | X                              | X                         |                                    | Y                               | X                       |                      |                       |                     |                    |                            |                      | Y                    |                    | X                     | X               |                        |                     |                            |                           |                         |                            |                               |                                 |                          | X                            |                                | X                          | Y                         | Y |
| 593  | PEM1/SS1B             | X                              |                           |                                    | Y                               |                         | X                    |                       |                     |                    |                            |                      | Y                    | X                  | X                     | X               |                        |                     |                            |                           |                         |                            |                               |                                 |                          | X                            |                                |                            | Y                         | Y |
| 594  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                |                            | N                         | N |
| 595  | U                     |                                |                           |                                    | N                               |                         | X                    |                       |                     |                    |                            |                      | Y                    |                    | X                     | X               |                        |                     |                            |                           |                         |                            |                               |                                 |                          | X                            |                                |                            | Y                         | N |
| 596  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       | X               |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                |                            | Y                         | N |
| 597  | U                     |                                |                           |                                    | N                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    | X                     | X               |                        |                     |                            |                           |                         |                            |                               | X                               |                          |                              |                                |                            | Y                         | N |
| 598  | U                     | X                              | X                         |                                    | Y                               |                         |                      |                       |                     |                    |                            |                      | N                    |                    |                       |                 |                        |                     |                            |                           |                         |                            |                               |                                 |                          |                              |                                |                            | N                         | N |

<sup>a</sup> NWI: National Wetlands Inventory, Cowardin et al. 1979. See Table 4 for full descriptions.



### Appendix A: Plant List

| Species <sup>a</sup>                                        | Abbreviation     | Common Name              | Indicator Status <sup>b</sup> |
|-------------------------------------------------------------|------------------|--------------------------|-------------------------------|
| <i>Aconitum delphiniifolium</i>                             | Aco del          | Larkspur-Leaf Monkshood  | FAC                           |
| <i>Alnus incana</i> ( <i>Alnus tenuifolia</i> )             | Aln ten          | Thinleaf alder           | FAC                           |
| <i>Alnus viridis</i> ( <i>Alnus crispa</i> )                | Aln cri          | Mountain alter           | FAC                           |
| <i>Alnus viridis</i> ( <i>Alnus sinuata</i> )               | Aln sin          | Sitka alder              | FAC                           |
| <i>Andromeda polifolia</i>                                  | And pol          | Bog rosemary             | FACW                          |
| <i>Angelica genuflexa</i>                                   | Ang gen          | Kneeling angelica        | FACW                          |
| <i>Athyrium cyclosorum</i> ( <i>Athyrium felix-femina</i> ) | Ath fel          | Western lady fern        | FAC                           |
| <i>Betula glandulosa</i>                                    | Bet gla          | Resin birch              | FAC                           |
| <i>Betula kenaica</i>                                       | Bet ken          | Kenai birch              | FACU                          |
| <i>Betula nana</i>                                          | Bet nan          | Swamp birch              | FAC                           |
| <i>Betula papyrifera</i>                                    | Bet pap          | Paper birch              | FACU                          |
| <i>Calamagrostis canadensis</i>                             | Cal can          | Bluejoint                | FAC                           |
| <i>Carex aquatilis</i>                                      | Car aqu          | Water sedge              | OBL                           |
| <i>Carex disperma</i>                                       | Car disp         | Soft-leaf sedge          | FACW                          |
| <i>Carex laeviculmis</i>                                    | Car lae          | Smooth-stem sedge        | FACW                          |
| <i>Carex leptalea</i>                                       | Car lep          | Bristly-stalk sedge      | OBL                           |
| <i>Carex limosa</i>                                         | Car lim          | Mud sedge                | OBL                           |
| <i>Carex magellanica</i>                                    | Car mag          | Boreal-bog sedge         | OBL                           |
| <i>Carex microchaeta</i>                                    | Car mic          | Alpine-tundra sedge      | FAC                           |
| <i>Carex microglochin</i>                                   | Car microgl      | Fewseeded bog sedge      | OBL                           |
| <i>Carex media</i>                                          | Car med          | Montana sedge            | FACW                          |
| <i>Carex pauciflora</i>                                     | Car pau          | Few-flower sedge         | OBL                           |
| <i>Carex pluriflora</i>                                     | Car plu          | Several-flower sedge     | OBL                           |
| <i>Carex rotundata</i>                                      | Car rot          | Pumpkin-fruit sedge      | OBL                           |
| <i>Carex spectabilis</i>                                    | Car spe          | Northwestern showy sedge | FACW                          |
| <i>Chamaedaphne calyculata</i>                              | Cha cal          | Leatherleaf              | FACW                          |
| <i>Chamaenerion angustifolium</i>                           | Cha ang          | Narrow-leaf fireweed     | FACU                          |
| <i>Comarum palustre</i>                                     | Com pal          | Purple marshlocks        | OBL                           |
| <i>Cornus canadensis</i>                                    | Cor can          | Canadian bunchberry      | FACU                          |
| <i>Cornus suecica</i>                                       | Cor sue          | Lapland cornel           | FAC                           |
| <i>Dasiphora fruticosa</i>                                  | Das fru          | Golden-hardhack          | FAC                           |
| <i>Delphinium glaucum</i>                                   | Del gla          | Tower larkspur           | FACW                          |
| <i>Dryopteris expansa</i>                                   | Dry exp, Dry dil | Spreading wood fern      | FACU                          |
| <i>Empetrum nigrum</i>                                      | Emp nig          | Black crowberry          | FAC                           |
| <i>Equisetum arvense</i>                                    | Equ arv          | Field horsetail          | FAC                           |
| <i>Equisetum fluviatile</i>                                 | Equ flu          | Water horsetail          | OBL                           |
| <i>Equisetum pratense</i>                                   | Equ pra          | Meadow horsetail         | FACW                          |
| <i>Equisetum sylvaticum</i>                                 | Equ syl          | Woodland horsetail       | FAC                           |
| <i>Eriophorum scheuchzeri</i>                               | Eri sch          | White cotton-grass       | OBL                           |
| <i>Galium triflorum</i>                                     | Gal triflor      | Fragrant bedstraw        | FAC                           |



|                                                  |                   |                           |      |
|--------------------------------------------------|-------------------|---------------------------|------|
| <i>Geranium erianthum</i>                        | Ger eri           | Woolly crane's-bill       | FACU |
| <i>Geocaulon lividum</i>                         | Geo liv           | False toadflax            | FACU |
| <i>Gymnocarpium dryopteris</i>                   | Gym dry           | Oak fern                  | FACU |
| <i>Heracleum maximum (Heracleum lanatum)</i>     | Her max, Her lan  | American cow-parsnip      | FACU |
| <i>Linnaea borealis</i>                          | Lin bor           | American twinflower       | FACU |
| <i>Lupinus nootkatensis</i>                      | Lup noo           | Nootka lupine             | FACU |
| <i>Lycopodium clavatum</i>                       | Lyc cla           | Running clubmoss          | FACU |
| <i>Menziesia feruginea</i>                       | Men fer           | Fool's huckleberry        | FACU |
| <i>Mertensia paniculata</i>                      | Mer pan           | Bluebells                 | FACU |
| <i>Myrica gale</i>                               | Myr gal           | Sweetgale                 | OBL  |
| <i>Oplopanax horridus</i>                        | Opl hor           | Devil's-club              | FACU |
| <i>Orthilia secunda (Pyrola secunda)</i>         | Orth sec, Pyr sec | Sidebells                 | FACU |
| <i>Picea glauca</i>                              | Pic gla           | White spruce              | FACU |
| <i>Picea mariana</i>                             | Pic mar           | Black spruce              | FACW |
| <i>Polemonium acutiflorum</i>                    | Pol acu           | Tall Jacob's-ladder       | FAC  |
| <i>Populus balsamifera</i>                       | Pop bal           | Balsam poplar             | FACU |
| <i>Populus tremuloides</i>                       | Pop tre           | Quaking aspen             | FACU |
| <i>Pyrola asarifolia</i>                         | Pyr asa           | Pink wintergreen          | FACU |
| <i>Rhododendron groenlandicum</i>                | Rho gro           | Rusty Labrador-tea        | FAC  |
| <i>Rhododendron tomentosum</i>                   | Rho tom           | Marsh Labrador-tea        | FACW |
| <i>Ribes glandulosum</i>                         | Rib gla           | Skunk currant             | FAC  |
| <i>Ribes hudsonianum</i>                         | Rib hud           | Northern black currant    | FAC  |
| <i>Ribes triste</i>                              | Rib tri           | Red swamp currant         | FAC  |
| <i>Rosa acicularis</i>                           | Ros aci           | Prickly rose              | FACU |
| <i>Rubus arcticus</i>                            | Rub arc           | Northern blackberry       | FAC  |
| <i>Rubus chamaemorus</i>                         | Rub cha           | Cloudberry                | FACW |
| <i>Rubus idaeus</i>                              | Rub ida           | Common red raspberry      | FACU |
| <i>Rubus pedatus</i>                             | Rub ped           | Strawberry-leaf raspberry | FAC  |
| <i>Salix bebbiana</i>                            | Sal beb           | Bebb willow               | FAC  |
| <i>Salix barclayi</i>                            | Sal bar           | Barclay's willow          | FAC  |
| <i>Salix hastata</i>                             | Sal has           | Halberd willow            | FAC  |
| <i>Salix pulchra</i>                             | Sal pul           | Diamond-leaf willow       | FACW |
| <i>Salix reticulata</i>                          | Sal ret           | Net-vein willow           | FAC  |
| <i>Salix richardsonii</i>                        | Sal rich          | Richardson's willow       | FACW |
| <i>Salix scouleriana</i>                         | Sal sco           | Scouler's willow          | FAC  |
| <i>Sambucus racemosa</i>                         | Sam rac           | Red elder                 | FACU |
| <i>Sanguisorba canadensis</i>                    | San can           | Canadian burnet           | FACW |
| <i>Shepherdia canadensis</i>                     | She can           | Russet buffalo-berry      | FACU |
| <i>Sorbus scopulina</i>                          | Sor sco           | Cascade mountain-ash      | FACU |
| <i>Sorbus sitchensis</i>                         | Sor sit           | Sitka mountain-ash        | FACU |
| <i>Spinulum annotinum (Lycopodium annotinum)</i> | Lyc ann           | Interrupted club-moss     | FACU |
| <i>Spiraea stevenii</i>                          | Spi ste           | Steven's meadowsweet      | FACU |



|                                         |         |                             |      |
|-----------------------------------------|---------|-----------------------------|------|
| <i>Streptopus amplexifolius</i>         | Str amp | Clasping twistedstalk       | FACU |
| <i>Swertia perennis</i>                 | Swe per | Felwort                     | FACW |
| <i>Thalictrum sparsiflorum</i>          | Tha spa | Few-flower meadow-rue       | FACU |
| <i>Thalictrum sp.</i>                   | Tha sp. | Unidentified meadow-rue     | -    |
| <i>Trientalis europaea</i>              | Tri eur | Arctic starflower           | FACU |
| <i>Urtica dioica</i>                    | Urt dio | Stinging nettle             | FACU |
| <i>Vaccinium alaskaense</i>             | Vac ala | Alaska blueberry            | FAC  |
| <i>Vaccinium ovalifolium</i>            | Vac ova | Oval leaved blueberry       | FAC  |
| <i>Vaccinium oxycoccus</i>              | Vac oxy | Small cranberry             | OBL  |
| <i>Vaccinium uliginosum</i>             | Vac uli | Bog blueberry               | FAC  |
| <i>Vaccinium vitis-idaea</i>            | Vac vit | Northern mountain-cranberry | FAC  |
| <i>Veratrum viride</i>                  | Ver vir | American false hellebore    | FAC  |
| <i>Viburnum edule</i>                   | Vib edu | Squashberry                 | FACU |
| <i>Viola palustris (Viola epipsila)</i> | Vio epi | Alpine-marsh violet         | FACW |
| <i>Viola sp.</i>                        | Vio sp. | Unidentified violet         | -    |

<sup>a</sup> Species names in parentheses are synonyms recorded on the field forms.

<sup>b</sup> Wetland Indicator Status (USACE 2018a). FAC (Facultative): species equally likely to occur in wetlands and non-wetlands; FACU (Facultative Upland): species usually occurs in non-wetlands; FACW (Facultative Wetland): species usually occurs in wetlands; OBL (Obligate): species almost always occurs under natural conditions in wetlands.



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West SV Access Borough/City: M8B Date: 9/15/2020  
 Applicant/Owner: AIDEA Sampling Point #: 002  
 Investigator(s): A. Geruk, B. Monahan Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.981597 Long. 152.589338 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☒ Field Map #: 1  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: bench Slope (%): 1 Aspect: SE  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: 2  
 Photo nos./descriptions: Soil, NESW Camera #: pad Veg Type (Viereck Level 4 or other): EC2d  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: N/A  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                              |                                        |                                                                                                                                         |
|---------------------------------|------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

## Tree Stratum (dbh ≥ 3")

| Species           | Cov. %    | Dom?     | Ind.        | Species  | Cov. % | Dom?  | Ind.  |
|-------------------|-----------|----------|-------------|----------|--------|-------|-------|
| 1. <u>Pop bal</u> | <u>30</u> | <u>1</u> | <u>FACU</u> | 5. _____ | _____  | _____ | _____ |
| 2. <u>Pic gla</u> | <u>10</u> | <u>1</u> | <u>FACU</u> | 6. _____ | _____  | _____ | _____ |
| 3. _____          | _____     | _____    | _____       | 7. _____ | _____  | _____ | _____ |
| 4. _____          | _____     | _____    | _____       | 8. _____ | _____  | _____ | _____ |

Total Tree Cover: 4050% of total cover: 20 20% of total cover: 8

## Sapling/Shrub Stratum (woody plants &lt; 3" dbh)

|                    | Abs.Cov.% | Dom?     | Ind.        |                                  | Abs.Cov.% | Dom? | Ind.        |
|--------------------|-----------|----------|-------------|----------------------------------|-----------|------|-------------|
| 1. <u>Vib edv</u>  | <u>50</u> | <u>1</u> | <u>FACU</u> | 7. <u>Sal <del>hum</del> has</u> | <u>3</u>  |      | <u>FAC</u>  |
| 2. <u>Pab ide</u>  | <u>5</u>  |          | <u>FACU</u> | 8. <u>Sor s60</u>                | <u>1</u>  |      | <u>FACU</u> |
| 3. <u>Shep can</u> | <u>3</u>  |          | <u>FACU</u> | 9.                               |           |      |             |
| 4. <u>Cor can</u>  | <u>2</u>  |          | <u>FACU</u> | 10.                              |           |      |             |
| 5. <u>Pro liv</u>  | <u>1</u>  |          | <u>FACU</u> | 11.                              |           |      |             |
| 6. <u>Ros aci</u>  | <u>3</u>  |          | <u>FACU</u> | 12.                              |           |      |             |

Total Sapling/Shrub Cover: 6650% of total cover: 33 20% of total cover: 13.2

## Herb Stratum

| Abs. Cov. %       | Dom?      | Ind.     | Abs. Cov. % | Dom?      | Ind.  |
|-------------------|-----------|----------|-------------|-----------|-------|
| 1. <u>Egu gra</u> | <u>40</u> | <u>1</u> | <u>PALW</u> | 12. _____ | _____ |
| 2. <u>Cha dry</u> | <u>5</u>  | _____    | <u>PACU</u> | 13. _____ | _____ |
| 3. <u>Pel gla</u> | <u>1</u>  | _____    | <u>FACU</u> | 14. _____ | _____ |
| 4. <u>Pur asa</u> | <u>3</u>  | _____    | <u>FACU</u> | 15. _____ | _____ |
| 5. <u>Cor can</u> | <u>3</u>  | _____    | <u>FAC</u>  | 16. _____ | _____ |
| 6. <u>Str amp</u> | <u>1</u>  | _____    | <u>FACU</u> | 17. _____ | _____ |
| 7. _____          | _____     | _____    | 18. _____   | _____     | _____ |
| 8. _____          | _____     | _____    | 19. _____   | _____     | _____ |
| 9. _____          | _____     | _____    | 20. _____   | _____     | _____ |
| 10. _____         | _____     | _____    | 21. _____   | _____     | _____ |
| 11. _____         | _____     | _____    | 22. _____   | _____     | _____ |

Total Herb Cover: 5350% of total cover: 27.5 20% of total cover: 10.6

Circular 1/10-ac plot ☒ or other plot dimension: \_\_\_\_\_ % of bare ground: 0  
 % Cover of Wetland Bryophytes 0 % Total Cover of Bryophytes 10 %  
 (where applicable)

## Remarks:

2/6 beetle killed Pic gla

## Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)  
 Total Number of Dominant Species Across All Strata: 4 (B)  
 Percent of Dominant Species That are OBL, FACW, or FAC: 25 (A/B)

## Prevalence Index worksheet:

| Total % Cover of:             | Multiply by:   |
|-------------------------------|----------------|
| OBL species <u>1</u>          | X1= <u>1</u>   |
| FACW species <u>40</u>        | X2= <u>80</u>  |
| FAC species <u>18</u>         | X3= <u>24</u>  |
| FACU species <u>116</u>       | X4= <u>444</u> |
| UPL + NL species <u>1</u>     | X5= <u>1</u>   |
| Column Totals: <u>159</u> (A) | <u>549</u> (B) |

Prevalence Index = B/A = 3.45

## Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%  
☒ Prevalence Index is ≤3.0

\_\_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present?

Yes ☐ No ☒



## SOIL

Sampling Point #: 002

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | a,a dip.<br>(pos/<br>neg) |  | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|---------------------------|--|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |  |                                    |
| 0-3            | D                 | 10YR 2/2      | 100 |                |    |                   |                  |                           |  |                                    |
| 3-9            | A                 | 10YR 5/3      | 75  | 5YR 4/6        | 25 | C                 | M                | Silt                      |  |                                    |
| 9-11           | B1                | 10YR 5/2      | 80  | 10YR 3/6       | 20 | C                 | M                | Loam                      |  |                                    |
| 11-13          | B2                | 10YR 3/6      | 100 |                |    |                   |                  | Sand                      |  |                                    |
| 13-14          | Eb                | 2.5Y 4/3      | 100 |                |    |                   |                  | Sand                      |  |                                    |
| 14-20          | C                 | 10YR 4/6      | 100 |                |    |                   |                  | very gravelly sand        |  |                                    |
|                |                   |               |     |                |    |                   |                  |                           |  |                                    |
|                |                   |               |     |                |    |                   |                  |                           |  |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_" in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☒ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present) \_\_\_\_\_

Type: \_\_\_\_\_

Depth (inches) \_\_\_\_\_

Drainage Class: W.D

Soil Map Unit Name: \_\_\_\_\_

Hydric Soil Present?

Yes \_\_\_\_\_

No ☒

## Comments:

1. too dry for a-a
2. \_\_\_\_\_
3. \_\_\_\_\_

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☒ 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) \_\_\_\_\_

Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes \_\_\_\_\_ No ☒

Water Table Present? Yes \_\_\_\_\_ No ☒

Seeping in at that depth but not yet filled?: \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ☒

(includes capillary fringe)

Depth of water (in.) \_\_\_\_\_

Depth to water (in.) \_\_\_\_\_

Depth to sat. (in.) \_\_\_\_\_

Epi Endo Unknown

Wetland Hydrology Present?

Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West SI Access Borough/City: MSB Date: 9/15/2020  
 Applicant/Owner: AIDEA Sampling Point #: 004  
 Investigator(s): A. Greder B. Moorhead Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61.985239 Long. 152.594053 ± ' NAD 83 Recorded on GPS #: ✓ Marked on map? ✓ Field Map #: ✓  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: swale Slope (%): 3 Aspect: E  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear convex / concave NWI classification: ✓  
 Photo nos./descriptions: 5011, NESW Camera #: Red Veg Type (Viereck Level 4 or other): IA3c  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No:     If no, explain. HGM type: N/A  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No      
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                |             |                                                                                                |
|---------------------------------|----------------|-------------|------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <u>   </u> | No <u>✓</u> | Is the sampled area within a wetland? Yes <u>   </u> No <u>✓</u><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <u>   </u> | No <u>✓</u> |                                                                                                |
| Wetland Hydrology Present?      | Yes <u>   </u> | No <u>✓</u> |                                                                                                |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                           |            |            |            |                |            |            |            | Dominance Test worksheet:                                                                                     |                                   |
|---------------------------------------------------------------------------------------------------|------------|------------|------------|----------------|------------|------------|------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Species                                                                                           | Cov.%      | Dom?       | Ind.       | Species        | Cov.%      | Dom?       | Ind.       | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                                   |
| 1. Pop bal                                                                                        | 9          | ✓          | FACU       | 5. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | 1                                                                                                             | (A)                               |
| 2. Pic gla                                                                                        | 15         | ✓          | FACU       | 6. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | 4                                                                                                             | (B)                               |
| 3. <u>   </u>                                                                                     | <u>   </u> | <u>   </u> | <u>   </u> | 7. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | 15                                                                                                            | (A/B)                             |
| 4. <u>   </u>                                                                                     | <u>   </u> | <u>   </u> | <u>   </u> | 8. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                                   |
| Total Tree Cover: <u>20</u>                                                                       |            |            |            |                |            |            |            | Percent of Dominant Species That are OBL, FACW, or FAC: <u>15</u>                                             |                                   |
| 50% of total cover: <u>10</u>                                                                     |            |            |            |                |            |            |            | 20% of total cover: <u>4</u>                                                                                  |                                   |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                     |            |            |            |                |            |            |            | Prevalence Index worksheet:                                                                                   |                                   |
| Species                                                                                           | Abs.Cov.%  | Dom?       | Ind.       | Species        | Abs.Cov.%  | Dom?       | Ind.       | Total % Cover of:                                                                                             | Multiply by:                      |
| 1. Vib edv                                                                                        | 15         | ✓          | FACU       | 7. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | OBL species <u>   </u>                                                                                        | X1= <u>   </u>                    |
| 2. Pin cr                                                                                         | 5          | <u>   </u> | FAC        | 8. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | FACW species <u>   </u>                                                                                       | X2= <u>   </u>                    |
| 3. Ribes sp.                                                                                      | 1          | <u>   </u> | <u>   </u> | 9. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | FAC species <u>93</u>                                                                                         | X3= <u>249</u>                    |
| 4. Shepherd                                                                                       | 3          | <u>   </u> | FACU       | 10. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | FACU species <u>161</u>                                                                                       | X4= <u>244</u>                    |
| 5. Sor bio                                                                                        | 3          | <u>   </u> | FACU       | 11. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | UPL + NL species <u>   </u>                                                                                   | X5= <u>   </u>                    |
| 6. Sal hes                                                                                        | 1          | <u>   </u> | FAC        | 12. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | Column Totals: <u>144</u>                                                                                     | (A) <u>493</u> (B)                |
| Total Sapling/Shrub Cover: <u>36</u>                                                              |            |            |            |                |            |            |            | Prevalence Index = B/A = <u>3.42</u>                                                                          |                                   |
| 50% of total cover: <u>18</u>                                                                     |            |            |            |                |            |            |            | 20% of total cover: <u>7.2</u>                                                                                |                                   |
| Herb Stratum                                                                                      |            |            |            |                |            |            |            | Hydrophytic Vegetation Indicators:                                                                            |                                   |
| Species                                                                                           | Abs.Cov.%  | Dom?       | Ind.       | Species        | Abs.Cov.%  | Dom?       | Ind.       | <u>✓</u> Dominance Test is >50%                                                                               | <u>✓</u> Prevalence Index is ≤3.0 |
| 1. Equ ov                                                                                         | 75         | ✓          | FAC        | 12. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)            |                                   |
| 2. Cha ov                                                                                         | 1          | <u>   </u> | FACU       | 13. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                                   |
| 3. Str amp                                                                                        | 1          | <u>   </u> | FACU       | 14. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                                     |                                   |
| 4. Gal triflor                                                                                    | 1          | <u>   </u> | FAC        | 15. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                                   |
| 5. Del gla                                                                                        | 1          | <u>   </u> | FACU       | 16. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                                   |
| 6. Gal con                                                                                        | 3          | <u>   </u> | FAC        | 17. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                                   |
| 7. Onoc rpm                                                                                       | 10         | <u>   </u> | FACU       | 18. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | Hydrophytic Vegetation Present? Yes <u>   </u> No <u>✓</u>                                                    |                                   |
| 8. <u>   </u>                                                                                     | <u>   </u> | <u>   </u> | <u>   </u> | 19. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                                   |
| 9. <u>   </u>                                                                                     | <u>   </u> | <u>   </u> | <u>   </u> | 20. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                                   |
| 10. <u>   </u>                                                                                    | <u>   </u> | <u>   </u> | <u>   </u> | 21. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                                   |
| 11. <u>   </u>                                                                                    | <u>   </u> | <u>   </u> | <u>   </u> | 22. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                                   |
| Total Herb Cover: <u>88</u>                                                                       |            |            |            |                |            |            |            |                                                                                                               |                                   |
| 50% of total cover: <u>44</u>                                                                     |            |            |            |                |            |            |            | 20% of total cover: <u>17.6</u>                                                                               |                                   |
| Circular 1/10-ac plot <u>   </u> or other plot dimension: <u>30x50</u> % of bare ground: <u>5</u> |            |            |            |                |            |            |            |                                                                                                               |                                   |
| % Cover of Wetland Bryophytes <u>6</u> % Total Cover of Bryophytes <u>0</u> % (where applicable)  |            |            |            |                |            |            |            |                                                                                                               |                                   |

Remarks:

Standing dead beetle killed some w.a.

spruce needles plot confined to swale



## SOIL

Sampling Point #: 004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |    | Redox Features |    |                   |                  | Texture | α, α dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|----|----------------|----|-------------------|------------------|---------|----------------------------|------------------------------------|
|                |                   | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |         |                            |                                    |
| 0-7            | Ac                | 10YR2/1       |    |                |    |                   |                  |         |                            |                                    |
| 7-15           | A                 | 10YR4/2       | 70 | 2.5Y 6/1       | 15 | D                 | M                | Loam    |                            |                                    |
|                |                   |               |    | 7.5YR4/4       | 15 | C                 | M                |         |                            |                                    |
| 15-21          | Bg                | 2.5Y 6/2      | 75 | 7.5YR4/6       | 25 | C                 | M                | LoSa    |                            | < 12" buried 0a 10YR 2             |
|                |                   |               |    |                |    |                   |                  |         |                            |                                    |
|                |                   |               |    |                |    |                   |                  |         |                            |                                    |
|                |                   |               |    |                |    |                   |                  |         |                            |                                    |
|                |                   |               |    |                |    |                   |                  |         |                            |                                    |
|                |                   |               |    |                |    |                   |                  |         |                            |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_ " in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☒ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement; explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: \_\_\_\_\_

Depth (inches) \_\_\_\_\_

Drainage Class: W1

Soil Map Unit Name: \_\_\_\_\_

Hydric Soil Present?

Yes \_\_\_\_\_

No ☒

Comments:

1. too dry for a.a.
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☐ Saturation (A3) (w/in 12")
- ☐ 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) \_\_\_\_\_

## Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. α, α or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth of water (in.) \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No ☒ Depth to water (in.) \_\_\_\_\_

Seeping in at that depth but not yet filled?: \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ☒ Depth to sat. (in.) \_\_\_\_\_

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present?

Yes \_\_\_\_\_

No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

dry swale, lots of squirrel activity near pit - underground burrows



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sv Access Borough/City: MSB Date: 9/15/20  
 Applicant/Owner: AIDEA Sampling Point #: 009  
 Investigator(s): A. Gerlek, B. Mophead Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.986242 Long. 152.424547 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #: SW  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: swale Slope (%): 1 Aspect: SW  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PSS1/Em1B  
 Photo nos./descriptions: SW12, N15W Camera #: Pad Veg Type (Viereck Level 4 or other): IFC2d  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain: \_\_\_\_\_ HGM type: slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

## Tree Stratum (dbh ≥ 3")

| Species     | Cov. % | Dom? | Ind. | Species     | Cov. % | Dom? | Ind. |
|-------------|--------|------|------|-------------|--------|------|------|
| 1. <u>/</u> |        |      |      | 5. <u>/</u> |        |      |      |
| 2. <u>/</u> |        |      |      | 6. <u>/</u> |        |      |      |
| 3. <u>/</u> |        |      |      | 7. <u>/</u> |        |      |      |
| 4. <u>/</u> |        |      |      | 8. <u>/</u> |        |      |      |

Total Tree Cover: \_\_\_\_\_

50% of total cover: \_\_\_\_\_

20% of total cover: \_\_\_\_\_

## Sapling/Shrub Stratum (woody plants &lt; 3" dbh)

|                   | Abs. Cov. % | Dom?     | Ind.        |              | Abs. Cov. % | Dom? | Ind. |
|-------------------|-------------|----------|-------------|--------------|-------------|------|------|
| 1. <u>Bet nsp</u> | <u>60</u>   | <u>Y</u> | <u>PAC</u>  | 7. <u>/</u>  |             |      |      |
| 2. <u>Myr gal</u> | <u>10</u>   |          | <u>OBL</u>  | 8. <u>/</u>  |             |      |      |
| 3. <u>Am pul</u>  | <u>3</u>    |          | <u>PACW</u> | 9. <u>/</u>  |             |      |      |
| 4. <u>/</u>       | <u>7</u>    |          | <u>PAC</u>  | 10. <u>/</u> |             |      |      |
| 5. <u>Vac oxy</u> | <u>1</u>    |          | <u>OBL</u>  | 11. <u>/</u> |             |      |      |
| 6. <u>Das fru</u> | <u>3</u>    |          | <u>PAC</u>  | 12. <u>/</u> |             |      |      |

Total Sapling/Shrub Cover: 7950% of total cover: 39.520% of total cover: 15.8

## Herb Stratum

|                     | Abs. Cov. % | Dom?     | Ind.       |              | Abs. Cov. % | Dom? | Ind. |
|---------------------|-------------|----------|------------|--------------|-------------|------|------|
| 1. <u>Car micro</u> | <u>10</u>   | <u>Y</u> | <u>PAC</u> | 12. <u>/</u> |             |      |      |
| 2. <u>Car lep</u>   | <u>20</u>   | <u>Y</u> | <u>OBL</u> | 13. <u>/</u> |             |      |      |
| 3. <u>Calce</u>     | <u>2</u>    |          | <u>PAC</u> | 14. <u>/</u> |             |      |      |
| 4. <u>Car m</u>     | <u>1</u>    |          | <u>OBL</u> | 15. <u>/</u> |             |      |      |
| 5. <u>Car plur</u>  | <u>1</u>    |          | <u>OBL</u> | 16. <u>/</u> |             |      |      |
| 6. <u>Rub arc</u>   | <u>1</u>    |          | <u>PAC</u> | 17. <u>/</u> |             |      |      |
| 7. <u>/</u>         |             |          |            | 18. <u>/</u> |             |      |      |
| 8. <u>/</u>         |             |          |            | 19. <u>/</u> |             |      |      |
| 9. <u>/</u>         |             |          |            | 20. <u>/</u> |             |      |      |
| 10. <u>/</u>        |             |          |            | 21. <u>/</u> |             |      |      |
| 11. <u>/</u>        |             |          |            | 22. <u>/</u> |             |      |      |

Total Herb Cover: 6250% of total cover: 3120% of total cover: 12.4

Circular 1/10-ac plot or other plot dimension: \_\_\_\_\_ % of bare ground: 0  
 % Cover of Wetland Bryophytes 30 % Total Cover of Bryophytes 40 %  
 (where applicable)

Remarks:

## 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 (A/B)

## Prevalence Index worksheet:

| Total % Cover of:             | Multiply by:   |
|-------------------------------|----------------|
| OBL species <u>31</u>         | X1= <u>31</u>  |
| FACW species <u>3</u>         | X2= <u>6</u>   |
| FAC species <u>107</u>        | X3= <u>321</u> |
| FACU species <u>-</u>         | X4= <u>-</u>   |
| UPL + NL species <u>-</u>     | X5= <u>-</u>   |
| Column Totals: <u>141</u> (A) | <u>358</u> (B) |

Prevalence Index = B/A = 2.53

## Hydrophytic Vegetation Indicators:

Y Dominance Test is >50%  
Y Prevalence Index is ≤3.0

Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present?

Yes ☒ No ☐



## SOIL

Sampling Point #: 009

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators)

[illegible]

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

**Hydric Soil Indicators** (check ones that apply, measure from top of mineral layers unless otherwise noted):

**Standard Indicators:**

- Y Histosol or Histel (A1)  
N Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )  
— Black Histic (A3)  
Y Hydrogen Sulfide (A4) (within 12" of mineral surface; 6" in this pit)  
N Thick Dark Surface (A12)  
— Alaska Gleyed (A13)  
— Alaska Redox (A14)  
— Alaska Gleyed Pores (A15)

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- N Alaska Color Change<sup>4</sup> (TA4)  
 — Alaska Alpine Swales (TA5)  
 — Alaska Redox with 2.5Y Hue  
 — Alaska Gleyed without Hue 5Y or Redder  
 — Underlying Layer  
 — Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: \_\_\_\_\_  
Depth (Inches) \_\_\_\_\_

Drainage Class: VPD

Soil Map Unit Name:

### Hydric Soil Present?

Yes ☒ No ☐

Comments:

- 1.
- 2.
- 3.

## HYDROLOGY

**Wetland Hydrology Indicators (check ones that apply, measure from soil surface):**

**Primary Indicators** (any one indicator is sufficient)

- |                                           |                                                    |
|-------------------------------------------|----------------------------------------------------|
| <u>N</u> Surface Water (A1)               | <u>N</u> Surface Soil Cracks (B6)                  |
| <u>Y</u> High Water Table (A2) (w/in 12") | <u>N</u> Inundation Visible on Aerial Imagery (B7) |
| <u>Y</u> Saturation (A3) (w/in 12")       | <u>N</u> Sparsely Vegetated Concave Surface (B8)   |
| <u>N</u> Water Marks (B1)                 | <u>N</u> Marl Deposits (B15)                       |
| <u>N</u> Sediment Deposits (B2)           | <u>Y</u> Hydrogen Sulfide Odor (C1)                |
| <u>N</u> Drift Deposits (B3)              | <u>N</u> Dry-Season Water Table (C2)               |
| <u>N</u> Algal Mat or Crust (B4)          | <u>N</u> Other (explain)                           |
| <u>N</u> Iron Deposits (B5)               |                                                    |

## Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10) \_\_\_\_\_
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4)  
(pos.  $\alpha$ ,  $\alpha$  or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3)  
(w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5)  
(# OBL+FAW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.)           

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 1

Seeping in at that depth but not yet filled?: \_\_\_\_\_

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 0

|                             | Epi | Endo | Unknown |
|-----------------------------|-----|------|---------|
| (includes capillary fringe) |     |      |         |

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West SV Access Borough/City: M8B Date: 9/15/2020  
 Applicant/Owner: AIDEA Sampling Point #: 011  
 Investigator(s): A. Gerlek, B. Moorhead Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.986439 Long. 152.426042 ± ' NAD 83 Recorded on GPS #: \_\_\_\_\_ Marked on map? \_\_\_\_\_ Field Map #: \_\_\_\_\_  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: foeslope Slope (%): \_\_\_\_\_ Aspect: \_\_\_\_\_  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: 2  
 Photo nos./descriptions: 501 NESW Camera #: IPad Veg Type (Viereck Level 4 or other): ILC24  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: \_\_\_\_\_ If no, explain. HGM type: N/A  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |           |                                        |                                                                                                                      |
|---------------------------------|-----------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes _____ | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes _____ No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes _____ | No <input checked="" type="checkbox"/> |                                                                                                                      |
| Wetland Hydrology Present?      | Yes _____ | No <input checked="" type="checkbox"/> |                                                                                                                      |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                        |             |          |             |                    |             |       |             | Dominance Test worksheet:                                                                                     |                 |
|------------------------------------------------------------------------------------------------|-------------|----------|-------------|--------------------|-------------|-------|-------------|---------------------------------------------------------------------------------------------------------------|-----------------|
| Species                                                                                        | Cov. %      | Dom?     | Ind.        | Species            | Cov. %      | Dom?  | Ind.        | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                 |
| 1. <u>Picea</u>                                                                                | <u>5</u>    | <u>Y</u> | <u>FACU</u> | 5. _____           | _____       | _____ | _____       | <u>2</u>                                                                                                      | (A)             |
| 2. <u>Bet pap</u>                                                                              | <u>2</u>    | <u>Y</u> | <u>FACU</u> | 6. _____           | _____       | _____ | _____       | Total Number of Dominant Species Across All Strata:                                                           | <u>6</u> (B)    |
| 3. <u>Picea</u>                                                                                | <u>15</u>   | _____    | _____       | 7. _____           | _____       | _____ | _____       | Percent of Dominant Species That are OBL, FACW, or FAC:                                                       | <u>33</u> (A/B) |
| 4. _____                                                                                       | _____       | _____    | _____       | 8. _____           | _____       | _____ | _____       | Prevalence Index worksheet:                                                                                   |                 |
| Total Tree Cover: <u>7</u>                                                                     |             |          |             |                    |             |       |             | Total % Cover of: _____ Multiply by: _____                                                                    |                 |
| 50% of total cover: <u>35</u> 20% of total cover: <u>1.4</u>                                   |             |          |             |                    |             |       |             | OBL species _____ X1= _____                                                                                   |                 |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                  |             |          |             |                    |             |       |             | FACW species <u>3</u> X2= <u>6</u>                                                                            |                 |
| Species                                                                                        | Abs. Cov. % | Dom?     | Ind.        | Species            | Abs. Cov. % | Dom?  | Ind.        | FAC species <u>63</u> X3= <u>189</u>                                                                          |                 |
| 1. <u>Vib edv</u>                                                                              | <u>18</u>   | <u>Y</u> | <u>FACU</u> | 7. <u>Spi ber</u>  | <u>3</u>    | _____ | <u>FACU</u> | FACU species <u>54</u> X4= <u>216</u>                                                                         |                 |
| 2. <u>Aln pri</u>                                                                              | <u>2</u>    | _____    | <u>FAC</u>  | 8. <u>Vic vit</u>  | <u>2</u>    | _____ | <u>FAC</u>  | UPL + NL species _____ X5= _____                                                                              |                 |
| 3. <u>Sal bar</u>                                                                              | <u>15</u>   | <u>Y</u> | <u>FAC</u>  | 9. <u>F</u>        | <u>2</u>    | _____ | <u>FAC</u>  | Column Totals: <u>120</u> (A) <u>411</u> (B)                                                                  |                 |
| 4. <u>Bet pap</u>                                                                              | <u>10</u>   | _____    | <u>PAC</u>  | 10. <u>Gea liv</u> | <u>1</u>    | _____ | <u>FACU</u> | Prevalence Index = B/A = <u>3.413</u>                                                                         |                 |
| 5. <u>Yac uli</u>                                                                              | <u>7</u>    | _____    | <u>FAC</u>  | 11. <u>Bet pap</u> | <u>5</u>    | _____ | <u>FACU</u> |                                                                                                               |                 |
| 6. <u>Lin bar</u>                                                                              | <u>2</u>    | _____    | <u>FACU</u> | 12. _____          | _____       | _____ | _____       |                                                                                                               |                 |
| Total Sapling/Shrub Cover: <u>64</u>                                                           |             |          |             |                    |             |       |             |                                                                                                               |                 |
| 50% of total cover: <u>32</u> 20% of total cover: <u>12.8</u>                                  |             |          |             |                    |             |       |             |                                                                                                               |                 |
| Herb Stratum                                                                                   |             |          |             |                    |             |       |             | Hydrophytic Vegetation Indicators:                                                                            |                 |
| Species                                                                                        | Abs. Cov. % | Dom?     | Ind.        | Species            | Abs. Cov. % | Dom?  | Ind.        | <u>N</u> Dominance Test is >50%                                                                               |                 |
| 1. <u>Cal can</u>                                                                              | <u>20</u>   | <u>Y</u> | <u>FAC</u>  | 12. _____          | _____       | _____ | _____       | <u>N</u> Prevalence Index is ≤3.0                                                                             |                 |
| 2. <u>Cha can</u>                                                                              | <u>8</u>    | <u>Y</u> | <u>FACU</u> | 13. _____          | _____       | _____ | _____       | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)            |                 |
| 3. <u>Eg can</u>                                                                               | <u>7</u>    | _____    | <u>FAC</u>  | 14. _____          | _____       | _____ | _____       | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                                     |                 |
| 4. <u>Gub dry</u>                                                                              | <u>7</u>    | _____    | <u>FACU</u> | 15. _____          | _____       | _____ | _____       | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                 |
| 5. <u>Shr can</u>                                                                              | <u>3</u>    | _____    | <u>FACW</u> | 16. _____          | _____       | _____ | _____       | Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>                              |                 |
| 6. <u>Lyl can</u>                                                                              | <u>2</u>    | _____    | <u>FACU</u> | 17. _____          | _____       | _____ | _____       |                                                                                                               |                 |
| 7. <u>Dyr asu</u>                                                                              | <u>1</u>    | _____    | <u>FACU</u> | 18. _____          | _____       | _____ | _____       |                                                                                                               |                 |
| 8. <u>Wip ped</u>                                                                              | <u>1</u>    | _____    | <u>FAC</u>  | 19. _____          | _____       | _____ | _____       |                                                                                                               |                 |
| 9. <u>Lup host</u>                                                                             | <u>1</u>    | _____    | <u>FACU</u> | 20. _____          | _____       | _____ | _____       |                                                                                                               |                 |
| 10. <u>Rub ga</u>                                                                              | <u>1</u>    | _____    | <u>FAC</u>  | 21. _____          | _____       | _____ | _____       |                                                                                                               |                 |
| 11. <u>Cor can</u>                                                                             | <u>2</u>    | _____    | <u>FACU</u> | 22. _____          | _____       | _____ | _____       |                                                                                                               |                 |
| Total Herb Cover: <u>49</u>                                                                    |             |          |             |                    |             |       |             |                                                                                                               |                 |
| 50% of total cover: <u>24.5</u> 20% of total cover: <u>9.8</u>                                 |             |          |             |                    |             |       |             |                                                                                                               |                 |
| Circular 1/10-ac plot _____ or other plot dimension: <u>15 x 20</u> % of bare ground: <u>0</u> |             |          |             |                    |             |       |             |                                                                                                               |                 |
| % Cover of Wetland Bryophytes _____ % Total Cover of Bryophytes <u>10</u> %                    |             |          |             |                    |             |       |             |                                                                                                               |                 |
| Remarks: <u>plot is at foeslope below ridge but ~3' in elev. above adjacent wetland.</u>       |             |          |             |                    |             |       |             |                                                                                                               |                 |



## SOIL

Sampling Point #: 01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |   |                   |                  | Texture | α,α dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |         |                           |                                    |
| 0-2            | OL                | 10YR 2/1      |     |                |   |                   |                  |         |                           |                                    |
| 2-6            | E                 | 2.5Y 5/2      | 100 |                |   |                   |                  | SAL     |                           |                                    |
| 6-9            | Bs                | 5YR 3/3       | 100 |                |   |                   |                  | SAL     |                           |                                    |
| 9-12           | Bw                | 10YR 4/4      | 100 |                |   |                   |                  | SAL     |                           |                                    |
| 12-18          | Fl                | 2.5Y 6/1      | 100 |                |   |                   |                  | SAL     |                           |                                    |
| 18-22          | Bwb               | 10YR 6/4      | 100 |                |   |                   |                  | SAL     |                           |                                    |
|                |                   |               |     |                |   |                   |                  |         |                           |                                    |
|                |                   |               |     |                |   |                   |                  |         |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_" in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☒ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: \_\_\_\_\_

Depth (inches) \_\_\_\_\_

Drainage Class: WD

Soil Map Unit Name: \_\_\_\_\_

Hydric Soil Present?

Yes \_\_\_\_\_ No ☒

## Comments:

1. soil moist but not saturated
2. \_\_\_\_\_
3. \_\_\_\_\_

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☒ 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) \_\_\_\_\_

Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. α,α or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2) to slope
- ☒ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth of water (in.) \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No ☒ Depth to water (in.) \_\_\_\_\_

Seeping in at that depth but not yet filled?: \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ☒ Depth to sat. (in.) \_\_\_\_\_

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Side Access Borough/City: MSB Date: 9/5/2020  
 Applicant/Owner: AIDEA Sampling Point #: 015  
 Investigator(s): A. G. G. K. B. Moorhead Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61 48 57.03 Long. 152 47 56.12 NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:           
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: swale Slope (%): 1 Aspect: SW  
 Local relief: Shape across slope: linear / convex concave Shape up/downslope: linear convex / concave NWI classification: PSSIC  
 Photo nos./descriptions: 5017 NESW Camera #:          Veg Type (Viereck Level 4 or other): #B2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): <u>        </u> |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

## Tree Stratum (dbh ≥ 3")

| Species            | Cov.%           | Dom?            | Ind.            | Species            | Cov.%           | Dom?            | Ind.            |
|--------------------|-----------------|-----------------|-----------------|--------------------|-----------------|-----------------|-----------------|
| 1. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> | 5. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 2. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> | 6. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 3. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> | 7. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 4. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> | 8. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |

Total Tree Cover:         50% of total cover:         20% of total cover:         

## Sapling/Shrub Stratum (woody plants &lt; 3" dbh)

| Species             | Abs.Cov.%       | Dom?            | Ind.            | Species             | Abs.Cov.%       | Dom?            | Ind.            |
|---------------------|-----------------|-----------------|-----------------|---------------------|-----------------|-----------------|-----------------|
| 1. <u>Salix</u>     | <u>30</u>       | <u>Y</u>        | <u>FAC</u>      | 7. <u>        </u>  | <u>        </u> | <u>        </u> | <u>        </u> |
| 2. <u>Myrica</u>    | <u>40</u>       | <u>Y</u>        | <u>OBL</u>      | 8. <u>        </u>  | <u>        </u> | <u>        </u> | <u>        </u> |
| 3. <u>Salix</u>     | <u>10</u>       | <u>        </u> | <u>PACW</u>     | 9. <u>        </u>  | <u>        </u> | <u>        </u> | <u>        </u> |
| 4. <u>Alnus</u>     | <u>5</u>        | <u>        </u> | <u>FAC</u>      | 10. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 5. <u>Vaccinium</u> | <u>7</u>        | <u>        </u> | <u>FAC</u>      | 11. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 6. <u>        </u>  | <u>        </u> | <u>        </u> | <u>        </u> | 12. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |

Total Sapling/Shrub Cover: 9250% of total cover: 4620% of total cover: 18.4

## Herb Stratum

| Species                 | Abs.Cov.%       | Dom?            | Ind.            | Species             | Abs.Cov.%       | Dom?            | Ind.            |
|-------------------------|-----------------|-----------------|-----------------|---------------------|-----------------|-----------------|-----------------|
| 1. <u>Calamagrostis</u> | <u>10</u>       | <u>Y</u>        | <u>FAC</u>      | 12. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 2. <u>Sanicula</u>      | <u>2</u>        | <u>Y</u>        | <u>PACW</u>     | 13. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 3. <u>Equisetum</u>     | <u>5</u>        | <u>Y</u>        | <u>OBL</u>      | 14. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 4. <u>Chenopodium</u>   | <u>3</u>        | <u>Y</u>        | <u>OBL</u>      | 15. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 5. <u>        </u>      | <u>        </u> | <u>        </u> | <u>        </u> | 16. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 6. <u>        </u>      | <u>        </u> | <u>        </u> | <u>        </u> | 17. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 7. <u>        </u>      | <u>        </u> | <u>        </u> | <u>        </u> | 18. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 8. <u>        </u>      | <u>        </u> | <u>        </u> | <u>        </u> | 19. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 9. <u>        </u>      | <u>        </u> | <u>        </u> | <u>        </u> | 20. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 10. <u>        </u>     | <u>        </u> | <u>        </u> | <u>        </u> | 21. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |
| 11. <u>        </u>     | <u>        </u> | <u>        </u> | <u>        </u> | 22. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> |

Total Herb Cover: 2550% of total cover: 12.520% of total cover: 5Circular 1/10-ac plot          or other plot dimension:          % of bare ground:         % Cover of Wetland Bryophytes          % Total Cover of Bryophytes          %  
(where applicable)

Remarks:

Pic gla snags

## Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)Total Number of Dominant Species Across All Strata: 5 (B)Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)

## Prevalence Index worksheet:

| Total % Cover of:                | Multiply by:        |
|----------------------------------|---------------------|
| OBL species <u>53</u>            | X1= <u>53</u>       |
| FACW species <u>12</u>           | X2= <u>24</u>       |
| FAC species <u>52</u>            | X3= <u>156</u>      |
| FACU species <u>        </u>     | X4= <u>        </u> |
| UPL + NL species <u>        </u> | X5= <u>        </u> |
| Column Totals: <u>117</u> (A)    | <u>233</u> (B)      |

Prevalence Index = B/A = 1.99

## Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%  
☒ Prevalence Index is ≤3.0         Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present?

Yes ☒ No ☐



## SOIL

Sampling Point #: 015

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators)

[illegible]

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

**Standard Indicators:**

- Y Histosol or Histel (A1)
- N Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- N Black Histic (A3)
- N Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_" in this pit)
- N Thick Dark Surface (A12)
- N Alaska Gleyed (A13)
- N Alaska Redox (A14)
- N Alaska Gleyed Pores (A15)

### Indicators for Problematic Hydric Soils<sup>3</sup>

- ☒ Alaska Color Change<sup>4</sup> (TA4)
- ☒ Alaska Alpine Swales (TA5)
- ☒ Alaska Redox with 2.5Y Hue
- ☒ Alaska Gleyed without Hue 5Y or Redder
- ☒ Underlying Layer
- ☒ Other (e.g., see p 91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: \_\_\_\_\_  
Depth (inches) \_\_\_\_\_

Drainage Class: VPD

Soil Map Unit Name:

### Hydric Soil Present?

Yes ☒ No ☐

Comments:

1. woody debris
- 2.
- 3.

## HYDROLOGY

**Wetland Hydrology Indicators** (check ones that apply, measure from soil surface):

Primary Indicators (any one indicator is sufficient)

- |                                                                      |                                                                               |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Surface Water (A1)               | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2) (w/in 12") | <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input checked="" type="checkbox"/> Saturation (A3) (w/in 12")       | <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |
| <input checked="" type="checkbox"/> Water Marks (B1)                 | <input checked="" type="checkbox"/> Marl Deposits (B15)                       |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)           | <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)                |
| <input checked="" type="checkbox"/> Drift Deposits (B3)              | <input checked="" type="checkbox"/> Dry-Season Water Table (C2)               |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)          | <input checked="" type="checkbox"/> Other (explain)                           |
| <input checked="" type="checkbox"/> Iron Deposits (B5)               |                                                                               |

Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4)  
(pos.  $\alpha\alpha$  or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1) *alder*
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3)  
(w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5)  
(# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☒ No ☐ Depth of water (in.) 2

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 141

Seeping in at that depth but not yet filled?: 60

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 0

|                             | Epi | Endo | Unknown |
|-----------------------------|-----|------|---------|
| (includes capillary fringe) |     |      |         |

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no surface inlet from O29 - no channel



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West SU Access Borough/City: MSB Date: 9/16/20  
 Applicant/Owner: A. Grlek, B. Moorhead Sampling Point #: 016  
 Investigator(s): AIDEA Firm: HDR Alaska, Inc.  
 Lat. (dec.): 61.555502 Long. 150.717669 ± ' NAD 83 Recorded on GPS #: ✓ Marked on map? ✓ Field Map #: ✓  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: valley bottom Slope (%): — Aspect: —  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PEM1B  
 Photo nos./descriptions: 501 N8W Camera #: 100 Veg Type (Viereck Level 4 or other): IIA2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No: — If no, explain. HGM type: slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No —  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |              |             |                                                                                              |
|---------------------------------|--------------|-------------|----------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <u>✓</u> | No <u>—</u> | Is the sampled area within a wetland? Yes <u>✓</u> No <u>—</u><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <u>✓</u> | No <u>—</u> |                                                                                              |
| Wetland Hydrology Present?      | Yes <u>✓</u> | No <u>—</u> |                                                                                              |

VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                          |            |          |             |              |           |          |          | Dominance Test worksheet:                                                                                     |                               |
|--------------------------------------------------------------------------------------------------|------------|----------|-------------|--------------|-----------|----------|----------|---------------------------------------------------------------------------------------------------------------|-------------------------------|
| Species                                                                                          | Cov.%      | Dom?     | Ind.        | Species      | Cov.%     | Dom?     | Ind.     | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                               |
| 1. <u>Aln kn</u>                                                                                 | <u>100</u> | <u>Y</u> | <u>FAC</u>  | 5. <u>—</u>  | <u>—</u>  | <u>—</u> | <u>—</u> | 1                                                                                                             | (A)                           |
| 2. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 6. <u>—</u>  | <u>—</u>  | <u>—</u> | <u>—</u> | 1                                                                                                             | (B)                           |
| 3. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 7. <u>—</u>  | <u>—</u>  | <u>—</u> | <u>—</u> | 100                                                                                                           | (A/B)                         |
| 4. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 8. <u>—</u>  | <u>—</u>  | <u>—</u> | <u>—</u> |                                                                                                               |                               |
| Total Tree Cover: <u>—</u>                                                                       |            |          |             |              |           |          |          | Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)                                      |                               |
| 50% of total cover: <u>—</u> 20% of total cover: <u>—</u>                                        |            |          |             |              |           |          |          | Prevalence Index worksheet:                                                                                   |                               |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                    |            |          |             |              |           |          |          | Total % Cover of:                                                                                             |                               |
| Species                                                                                          | Abs.Cov.%  | Dom?     | Ind.        | Species      | Abs.Cov.% | Dom?     | Ind.     | Multiply by:                                                                                                  |                               |
| 1. <u>Aln kn</u>                                                                                 | <u>100</u> | <u>Y</u> | <u>FAC</u>  | 7. <u>—</u>  | <u>—</u>  | <u>—</u> | <u>—</u> | OBL species                                                                                                   | <u>2</u> X1= <u>2</u>         |
| 2. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 8. <u>—</u>  | <u>—</u>  | <u>—</u> | <u>—</u> | FACW species                                                                                                  | <u>5</u> X2= <u>10</u>        |
| 3. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 9. <u>—</u>  | <u>—</u>  | <u>—</u> | <u>—</u> | FAC species                                                                                                   | <u>100</u> X3= <u>300</u>     |
| 4. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 10. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> | FACU species                                                                                                  | <u>—</u> X4= <u>—</u>         |
| 5. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 11. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> | UPL + NL species                                                                                              | <u>—</u> X5= <u>—</u>         |
| 6. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 12. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> | Column Totals:                                                                                                | <u>107</u> (A) <u>312</u> (B) |
| Total Sapling/Shrub Cover: <u>—</u>                                                              |            |          |             |              |           |          |          | Prevalence Index = B/A = <u>2.92</u>                                                                          |                               |
| 50% of total cover: <u>—</u> 20% of total cover: <u>—</u>                                        |            |          |             |              |           |          |          |                                                                                                               |                               |
| Herb Stratum                                                                                     |            |          |             |              |           |          |          | Hydrophytic Vegetation Indicators:                                                                            |                               |
| Species                                                                                          | Abs.Cov.%  | Dom?     | Ind.        | Species      | Abs.Cov.% | Dom?     | Ind.     | Y Dominance Test is >50%                                                                                      |                               |
| 1. <u>Cal can</u>                                                                                | <u>100</u> | <u>Y</u> | <u>FAC</u>  | 12. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> | Y Prevalence Index is ≤3.0                                                                                    |                               |
| 2. <u>Egv gra</u>                                                                                | <u>5</u>   | <u>—</u> | <u>FACW</u> | 13. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)            |                               |
| 3. <u>Egv gw</u>                                                                                 | <u>2</u>   | <u>—</u> | <u>OBL</u>  | 14. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                                     |                               |
| 4. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 15. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                               |
| 5. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 16. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> |                                                                                                               |                               |
| 6. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 17. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> |                                                                                                               |                               |
| 7. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 18. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> |                                                                                                               |                               |
| 8. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 19. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> |                                                                                                               |                               |
| 9. <u>—</u>                                                                                      | <u>—</u>   | <u>—</u> | <u>—</u>    | 20. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> |                                                                                                               |                               |
| 10. <u>—</u>                                                                                     | <u>—</u>   | <u>—</u> | <u>—</u>    | 21. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> | Hydrophytic Vegetation Present? Yes <u>✓</u> No <u>—</u>                                                      |                               |
| 11. <u>—</u>                                                                                     | <u>—</u>   | <u>—</u> | <u>—</u>    | 22. <u>—</u> | <u>—</u>  | <u>—</u> | <u>—</u> |                                                                                                               |                               |
| Total Herb Cover: <u>107</u>                                                                     |            |          |             |              |           |          |          |                                                                                                               |                               |
| 50% of total cover: <u>53.5</u> 20% of total cover: <u>21.4</u>                                  |            |          |             |              |           |          |          |                                                                                                               |                               |
| Circular 1/10-ac plot <u>✓</u> or other plot dimension: <u>—</u> % of bare ground: <u>—</u>      |            |          |             |              |           |          |          |                                                                                                               |                               |
| % Cover of Wetland Bryophytes <u>—</u> % Total Cover of Bryophytes <u>—</u> % (where applicable) |            |          |             |              |           |          |          |                                                                                                               |                               |
| Remarks:                                                                                         |            |          |             |              |           |          |          |                                                                                                               |                               |



## SOIL

Sampling Point #: 016

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators)

[illegible]

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

**Hydric Soil Indicators** (check ones that apply, measure from top of mineral layers unless otherwise noted):

**Standard Indicators:**

- N Histosol or Histel (A1)  
4 Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )  
N Black Histic (A3)  
N Hydrogen Sulfide (A4) (within 12" of mineral surface; @   C  " in this pit)  
N Thick Dark Surface (A12)  
N Alaska Gleyed (A13)  
N Alaska Redox (A14)  
N Alaska Gleyed Pores (A15)

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ✓ Alaska Color Change<sup>4</sup> (TA4)  
✓ Alaska Alpine Swales (TA5)  
✓ Alaska Redox with 2.5Y Hue  
✓ Alaska Gleyed without Hue 5Y or Redder  
✓ Underlying Layer  
✓ Other (e.g., see p.91 of 2007 Supplement; explain in Remarks)

<sup>2</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: \_\_\_\_\_  
Depth (inches) \_\_\_\_\_

Drainage Class: VPD

Soil Map Unit Name:

Hydric Soil Present? Yes ☒ No ☐

Comments:

- 1.
- 2.
- 3.

## HYDROLOGY

**Wetland Hydrology Indicators** (check ones that apply, measure from soil surface):

**Primary Indicators** (any one indicator is sufficient)

- |                                                                      |                                                                               |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Surface Water (A1)               | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2) (w/in 12") | <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input checked="" type="checkbox"/> Saturation (A3) (w/in 12")       | <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |
| <input checked="" type="checkbox"/> Water Marks (B1)                 | <input checked="" type="checkbox"/> Marl Deposits (B15)                       |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)           | <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)                |
| <input checked="" type="checkbox"/> Drift Deposits (B3)              | <input checked="" type="checkbox"/> Dry-Season Water Table (C2)               |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)          | <input checked="" type="checkbox"/> Other (explain)                           |
| <input checked="" type="checkbox"/> Iron Deposits (B5)               |                                                                               |

**Secondary Indicators (at least 2 are required)**

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4)
  - (pos.  $\alpha$ ,  $\alpha$  or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3)
  - (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5)
  - (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes \_\_\_\_\_ No ☒ \_\_\_\_\_ Depth of water (in.) \_\_\_\_\_

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 16

Seeping in at that depth but not yet filled?: 

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 0

|                             | Epi | Endo | Unknown |
|-----------------------------|-----|------|---------|
| (includes capillary fringe) |     |      |         |

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Remarks:  
some patches of surface water in drainage features + low spots, but no evidence of inundation across wetland.



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West SU Access Borough/City: MSB Date: 9/16/2020  
 Applicant/Owner: AIDEA Sampling Point #: 017  
 Investigator(s): A. Merck, B. Moorhead Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.554728 Long. 150.718191 ± ' NAD 83 Recorded on GPS #: ✓ Marked on map? ✓ Field Map #: ✓  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: lowland Slope (%): 1 Aspect: NE  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: ✓  
 Photo nos./descriptions: 8011 NESW Camera #: 1P24 Veg Type (Viereck Level 4 or other): IB2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No:     If no, explain. HGM type: N/A  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No      
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                |               |                                                                                                |
|---------------------------------|----------------|---------------|------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <u>✓</u>   | No <u>   </u> | Is the sampled area within a wetland? Yes <u>   </u> No <u>✓</u><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <u>   </u> | No <u>✓</u>   |                                                                                                |
| Wetland Hydrology Present?      | Yes <u>✓</u>   | No <u>   </u> |                                                                                                |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                             |            |            |             |                |            |            |            | Dominance Test worksheet:                                                                                     |                 |
|-----------------------------------------------------------------------------------------------------|------------|------------|-------------|----------------|------------|------------|------------|---------------------------------------------------------------------------------------------------------------|-----------------|
| Species                                                                                             | Cov. %     | Dom?       | Ind.        | Species        | Cov. %     | Dom?       | Ind.       | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                 |
| 1. <u>Bet ppp</u>                                                                                   | <u>25</u>  | <u>Y</u>   | <u>FACU</u> | 5. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | <u>3</u>                                                                                                      | (A)             |
| 2. <u>   </u>                                                                                       | <u>   </u> | <u>   </u> | <u>   </u>  | 6. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | Total Number of Dominant Species Across All Strata:                                                           | <u>4</u> (B)    |
| 3. <u>   </u>                                                                                       | <u>   </u> | <u>   </u> | <u>   </u>  | 7. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | Percent of Dominant Species That are OBL, FACW, or FAC:                                                       | <u>75</u> (A/B) |
| 4. <u>   </u>                                                                                       | <u>   </u> | <u>   </u> | <u>   </u>  | 8. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | Prevalence Index worksheet:                                                                                   |                 |
| Total Tree Cover: <u>25</u>                                                                         |            |            |             |                |            |            |            | Total % Cover of: <u>   </u> Multiply by: <u>   </u>                                                          |                 |
| 50% of total cover: <u>   </u> 20% of total cover: <u>   </u>                                       |            |            |             |                |            |            |            | OBL species <u>   </u> X1= <u>   </u>                                                                         |                 |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                       |            |            |             |                |            |            |            | FACW species <u>   </u> X2= <u>   </u>                                                                        |                 |
| 1. <u>Aln ten</u>                                                                                   | <u>30</u>  | <u>Y</u>   | <u>FAC</u>  | 7. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | FAC species <u>112</u>                                                                                        | X3= <u>336</u>  |
| 2. <u>Opel sp</u>                                                                                   | <u>10</u>  | <u>   </u> | <u>FACU</u> | 8. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | FACU species <u>49</u>                                                                                        | X4= <u>196</u>  |
| 3. <u>Rub id</u>                                                                                    | <u>3</u>   | <u>   </u> | <u>FACU</u> | 9. <u>   </u>  | <u>   </u> | <u>   </u> | <u>   </u> | UPL + NL species <u>   </u>                                                                                   | X5= <u>   </u>  |
| 4. <u>Vib ed</u>                                                                                    | <u>7</u>   | <u>   </u> | <u>FACU</u> | 10. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | Column Totals: <u>161</u> (A)                                                                                 | <u>532</u> (B)  |
| 5. <u>Sor sco</u>                                                                                   | <u>2</u>   | <u>   </u> | <u>FACU</u> | 11. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | Prevalence Index = B/A = <u>3.30</u>                                                                          |                 |
| 6. <u>   </u>                                                                                       | <u>   </u> | <u>   </u> | <u>   </u>  | 12. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                 |
| Total Sapling/Shrub Cover: <u>52</u>                                                                |            |            |             |                |            |            |            |                                                                                                               |                 |
| 50% of total cover: <u>26</u> 20% of total cover: <u>10.4</u>                                       |            |            |             |                |            |            |            |                                                                                                               |                 |
| Herb Stratum                                                                                        |            |            |             |                |            |            |            | Hydrophytic Vegetation Indicators:                                                                            |                 |
| 1. <u>Aln tel</u>                                                                                   | <u>40</u>  | <u>Y</u>   | <u>FAC</u>  | 12. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | <u>✓</u> Dominance Test is >50%                                                                               |                 |
| 2. <u>Cal can</u>                                                                                   | <u>30</u>  | <u>Y</u>   | <u>FAC</u>  | 13. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | <u>✓</u> Prevalence Index is ≤3.0                                                                             |                 |
| 3. <u>Equis</u>                                                                                     | <u>10</u>  | <u>   </u> | <u>FAC</u>  | 14. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)            |                 |
| 4. <u>Inde trf</u>                                                                                  | <u>2</u>   | <u>   </u> | <u>FAC</u>  | 15. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                                     |                 |
| 5. <u>Urt dio</u>                                                                                   | <u>2</u>   | <u>   </u> | <u>FACU</u> | 16. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                 |
| 6. <u>Vib sp</u>                                                                                    | <u>1</u>   | <u>   </u> | <u>   </u>  | 17. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> | Hydrophytic Vegetation Present? Yes <u>✓</u> No <u>   </u>                                                    |                 |
| 7. <u>   </u>                                                                                       | <u>   </u> | <u>   </u> | <u>   </u>  | 18. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                 |
| 8. <u>   </u>                                                                                       | <u>   </u> | <u>   </u> | <u>   </u>  | 19. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                 |
| 9. <u>   </u>                                                                                       | <u>   </u> | <u>   </u> | <u>   </u>  | 20. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                 |
| 10. <u>   </u>                                                                                      | <u>   </u> | <u>   </u> | <u>   </u>  | 21. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                 |
| 11. <u>   </u>                                                                                      | <u>   </u> | <u>   </u> | <u>   </u>  | 22. <u>   </u> | <u>   </u> | <u>   </u> | <u>   </u> |                                                                                                               |                 |
| Total Herb Cover: <u>84</u>                                                                         |            |            |             |                |            |            |            |                                                                                                               |                 |
| 50% of total cover: <u>42</u> 20% of total cover: <u>16.8</u>                                       |            |            |             |                |            |            |            |                                                                                                               |                 |
| Circular 1/10-ac plot <u>✓</u> or other plot dimension: <u>   </u> % of bare ground: <u>   </u>     |            |            |             |                |            |            |            |                                                                                                               |                 |
| % Cover of Wetland Bryophytes <u>10</u> % Total Cover of Bryophytes <u>   </u> % (where applicable) |            |            |             |                |            |            |            |                                                                                                               |                 |
| Remarks:                                                                                            |            |            |             |                |            |            |            |                                                                                                               |                 |



## SOIL

Sampling Point #: 017

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators)

[illegible]

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

**Hydric Soil Indicators** (check ones that apply, measure from top of mineral layers unless otherwise noted):

**Standard Indicators:**

- ☒ Histosol or Histel (A1)
- ☒ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- ☒ Black Histic (A3)
- ☒ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_" in this pit)
- ☒ Thick Dark Surface (A12)
- ☒ Alaska Gleyed (A13)
- ☒ Alaska Redox (A14)
- ☒ Alaska Gleyed Pores (A15)

### Indicators for Problematic Hydric Soils<sup>3</sup>:

N Alaska Color Change<sup>4</sup> (TA4)  
 Alaska Alpine Swales (TA5)  
 Alaska Redox with 2.5Y Hue  
 Alaska Gleyed without Hue 5Y or Redder  
N Underlying Layer  
 Other (e.g., see p.91 of 2007  
 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: \_\_\_\_\_  
Depth (inches) \_\_\_\_\_

Drainage Class: SPD

Soil Map Unit Name:

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

**Comments:**

1. a-a-ran not present in at least 60% of H layer
- 2.
- 3.

## HYDROLOGY

**Wetland Hydrology Indicators (check ones that apply, measure from soil surface):**

**Primary Indicators** (any one indicator is sufficient)

|                                           |                                                    |
|-------------------------------------------|----------------------------------------------------|
| <u>N</u> Surface Water (A1)               | <u>N</u> Surface Soil Cracks (B6)                  |
| <u>Y</u> High Water Table (A2) (w/in 12") | <u>N</u> Inundation Visible on Aerial Imagery (B7) |
| <u>Y</u> Saturation (A3) (w/in 12")       | <u>N</u> Sparsely Vegetated Concave Surface (B8)   |
| <u>N</u> Water Marks (B1)                 | <u>N</u> Marl Deposits (B15)                       |
| <u>N</u> Sediment Deposits (B2)           | <u>N</u> Hydrogen Sulfide Odor (C1)                |
| <u>N</u> Drift Deposits (B3)              | <u>N</u> Dry-Season Water Table (C2)               |
| <u>N</u> Algal Mat or Crust (B4)          | <u>N</u> Other (explain)                           |
| <u>N</u> Iron Deposits (B5)               |                                                    |

Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10) \_\_\_\_\_
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4)  
(pos.  $\alpha$ .a or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3)  
(w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5)  
(# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.)           

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 19

Seeping in at that depth but not yet filled?: 11

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 9

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West 80 Access Borough/City: MSB Date: 9/16/2020  
 Applicant/Owner: AIDEA Sampling Point #: 022  
 Investigator(s): A. Gerck, B. Mooney Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.55500 Long. 50.715448 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:           
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Mountain Slope (%):          Aspect:           
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PSS1EM1B  
 Photo nos./descriptions: 501 x 2 NESW Camera #:          Veg Type (Viereck Level 4 or other): TB7b  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                       |            |      |      |                     |            |      |      | Dominance Test worksheet:                                                                                     |                      |
|-------------------------------------------------------------------------------------------------------------------------------|------------|------|------|---------------------|------------|------|------|---------------------------------------------------------------------------------------------------------------|----------------------|
| Species                                                                                                                       | Cov.%      | Dom? | Ind. | Species             | Cov.%      | Dom? | Ind. | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                      |
| 1. <u>Alnus</u>                                                                                                               | 45         | Y    | FAC  | 5. <u>        </u>  |            |      |      | 2                                                                                                             | (A)                  |
| 2. <u>Salix</u>                                                                                                               | 8          |      | FAC  | 6. <u>        </u>  |            |      |      | Total Number of Dominant Species Across All Strata:                                                           | 2 (B)                |
| 3. <u>Betula</u>                                                                                                              | 3          |      | FACU | 7. <u>        </u>  |            |      |      | Percent of Dominant Species That are OBL, FACW, or FAC:                                                       | 100 (A/B)            |
| 4. <u>Rh. tri</u>                                                                                                             | 2          |      | FAC  | 8. <u>        </u>  |            |      |      | Prevalence Index worksheet:                                                                                   |                      |
| 5. <u>Vib. edw</u>                                                                                                            | 5          |      | FACU | 9. <u>        </u>  |            |      |      | Total % Cover of:                                                                                             | Multiply by:         |
| 6. <u>Sal. sw</u>                                                                                                             | 3          |      | FAC  | 10. <u>        </u> |            |      |      | OBL species                                                                                                   | X1 = <u>        </u> |
| Total Tree Cover: <u>66</u>                                                                                                   |            |      |      |                     |            |      |      | FACW species                                                                                                  | X2 = <u>6</u>        |
| 50% of total cover: <u>33</u>                                                                                                 |            |      |      |                     |            |      |      | FAC species                                                                                                   | X3 = <u>420</u>      |
| 20% of total cover: <u>13.2</u>                                                                                               |            |      |      |                     |            |      |      | FACU species                                                                                                  | X4 = <u>44</u>       |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                 |            |      |      |                     |            |      |      | UPL + NL species                                                                                              | X5 = <u>        </u> |
| Species                                                                                                                       | Abs. Cov.% | Dom? | Ind. | Species             | Abs. Cov.% | Dom? | Ind. | Column Totals:                                                                                                | 154 (A) 470 (B)      |
| 1. <u>Alnus</u>                                                                                                               | 45         | Y    | FAC  | 7. <u>        </u>  |            |      |      | Prevalence Index = B/A =                                                                                      | 3.05                 |
| 2. <u>Sal. sw</u>                                                                                                             | 8          |      | FAC  | 8. <u>        </u>  |            |      |      | Hydrophytic Vegetation Indicators:                                                                            |                      |
| 3. <u>Betula</u>                                                                                                              | 3          |      | FACU | 9. <u>        </u>  |            |      |      | <u>Y</u> Dominance Test is >50%                                                                               |                      |
| 4. <u>Rh. tri</u>                                                                                                             | 2          |      | FAC  | 10. <u>        </u> |            |      |      | <u>N</u> Prevalence Index is ≤3.0                                                                             |                      |
| 5. <u>Vib. edw</u>                                                                                                            | 5          |      | FACU | 11. <u>        </u> |            |      |      | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)            |                      |
| 6. <u>Sal. sw</u>                                                                                                             | 3          |      | FAC  | 12. <u>        </u> |            |      |      | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                                     |                      |
| Total Sapling/Shrub Cover: <u>66</u>                                                                                          |            |      |      |                     |            |      |      | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                      |
| 50% of total cover: <u>33</u>                                                                                                 |            |      |      |                     |            |      |      | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>           |                      |
| 20% of total cover: <u>13.2</u>                                                                                               |            |      |      |                     |            |      |      |                                                                                                               |                      |
| Herb Stratum                                                                                                                  |            |      |      |                     |            |      |      |                                                                                                               |                      |
| Species                                                                                                                       | Abs. Cov.% | Dom? | Ind. | Species             | Abs. Cov.% | Dom? | Ind. |                                                                                                               |                      |
| 1. <u>Sal. sw</u>                                                                                                             | 35         | Y    | FAC  | 12. <u>        </u> |            |      |      |                                                                                                               |                      |
| 2. <u>Alnus</u>                                                                                                               | 3          |      | FACU | 13. <u>        </u> |            |      |      |                                                                                                               |                      |
| 3. <u>Alnus</u>                                                                                                               | 7          |      | FAC  | 14. <u>        </u> |            |      |      |                                                                                                               |                      |
| 4. <u>In. ar</u>                                                                                                              | 7          |      | FACU | 15. <u>        </u> |            |      |      |                                                                                                               |                      |
| 5. <u>Fax. pa</u>                                                                                                             | 3          |      | FACU | 16. <u>        </u> |            |      |      |                                                                                                               |                      |
| 6. <u>Sal. sw</u>                                                                                                             | 7          |      | FAC  | 17. <u>        </u> |            |      |      |                                                                                                               |                      |
| 7. <u>Tha. spa</u>                                                                                                            | 7          |      | FACU | 18. <u>        </u> |            |      |      |                                                                                                               |                      |
| 8. <u>        </u>                                                                                                            |            |      |      | 19. <u>        </u> |            |      |      |                                                                                                               |                      |
| 9. <u>        </u>                                                                                                            |            |      |      | 20. <u>        </u> |            |      |      |                                                                                                               |                      |
| 10. <u>        </u>                                                                                                           |            |      |      | 21. <u>        </u> |            |      |      |                                                                                                               |                      |
| 11. <u>        </u>                                                                                                           |            |      |      | 22. <u>        </u> |            |      |      |                                                                                                               |                      |
| Total Herb Cover: <u>88</u>                                                                                                   |            |      |      |                     |            |      |      |                                                                                                               |                      |
| 50% of total cover: <u>44</u>                                                                                                 |            |      |      |                     |            |      |      |                                                                                                               |                      |
| 20% of total cover: <u>17.6</u>                                                                                               |            |      |      |                     |            |      |      |                                                                                                               |                      |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>        </u> % of bare ground: <u>0</u> |            |      |      |                     |            |      |      |                                                                                                               |                      |
| % Cover of Wetland Bryophytes <u>0</u> % Total Cover of Bryophytes <u>5</u> %                                                 |            |      |      |                     |            |      |      |                                                                                                               |                      |
| (where applicable)                                                                                                            |            |      |      |                     |            |      |      |                                                                                                               |                      |
| Remarks:                                                                                                                      |            |      |      |                     |            |      |      |                                                                                                               |                      |



## SOIL

Sampling Point #: 022

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | α,α dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |                                    |
| 0-3            | 0e                | 10YR 2/2      |     |                |    |                   |                  |                           |                                    |
| 3-5            | A                 | 10YR 3/2      | 100 |                |    |                   |                  | STL                       |                                    |
| 5-6            | 0ab               | 10YR 2/1      |     |                |    |                   |                  |                           |                                    |
| 6-8            | Ab                | 5Y 3/2        | 90  | 5YR 4/4        | 10 | C                 | PL               | SiL                       |                                    |
| 8-20           | Bg                | 5Y 4/1        | 80  | 5YR 4/4        | 20 | C                 | PL, M            | loose loess               |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; ● " in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☒ Alaska Redox (A14)
- ☒ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☒ Alaska Color Change\* (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement; explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

 Type: \_\_\_\_\_  
 Depth (inches) \_\_\_\_\_

Drainage Class: PD

Soil Map Unit Name: \_\_\_\_\_

Hydric Soil Present?

Yes ☒ No \_\_\_\_\_

Comments:

- 
- 
- 

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☒ 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)

## Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. α,α or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☒ No ☒ Depth of water (in.) \_\_\_\_\_

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 116

Seeping in at that depth but not yet filled?: \_\_\_\_\_

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 10

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present?

Yes ☒ No \_\_\_\_\_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

stream ~20' from plot.



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sv Access Borough/City: M8B Date: 9/16/2020  
 Applicant/Owner: AIDEA Sampling Point #: 023  
 Investigator(s): A. Gerdok, B. Moorhead Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.594217 Long. 150.81711 ± ' NAD 83 Recorded on GPS #: ✓ Marked on map? ✓ Field Map #: ✓  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Stream/river Slope (%): ✓ Aspect: ✓  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: ✓  
 Photo nos./descriptions: SOIL V2 N1SW Camera #: iPad Veg Type (Vioreck Level 4 or other): IIA26  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No: ✓ If no, explain. HGM type: NIA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ✓  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |              |             |                                                                                              |
|---------------------------------|--------------|-------------|----------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <u>✓</u> | No <u>✓</u> | Is the sampled area within a wetland? Yes <u>✓</u> No <u>✓</u><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <u>✓</u> | No <u>✓</u> |                                                                                              |
| Wetland Hydrology Present?      | Yes <u>✓</u> | No <u>✓</u> |                                                                                              |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

## Tree Stratum (dbh ≥ 3")

| Species           | Cov. %   | Dom? | Ind.        | Species  | Cov. % | Dom? | Ind. |
|-------------------|----------|------|-------------|----------|--------|------|------|
| 1. <u>Bet pap</u> | <u>3</u> |      | <u>FACW</u> | 5. _____ |        |      |      |
| 2. _____          |          |      |             | 6. _____ |        |      |      |
| 3. _____          |          |      |             | 7. _____ |        |      |      |
| 4. _____          |          |      |             | 8. _____ |        |      |      |

Total Tree Cover: inc. in shrubs

50% of total cover: \_\_\_\_\_

20% of total cover: \_\_\_\_\_

## Sapling/Shrub Stratum (woody plants &lt; 3" dbh)

| Species           | Abs. Cov. % | Dom?     | Ind.        | Species   | Abs. Cov. % | Dom? | Ind. |
|-------------------|-------------|----------|-------------|-----------|-------------|------|------|
| 1. <u>Vib edw</u> | <u>20</u>   | <u>4</u> | <u>FACW</u> | 7. _____  |             |      |      |
| 2. <u>Rub ida</u> | <u>3</u>    |          | <u>FACW</u> | 8. _____  |             |      |      |
| 3. <u>Ros aci</u> | <u>2</u>    |          | <u>FACW</u> | 9. _____  |             |      |      |
| 4. _____          |             |          |             | 10. _____ |             |      |      |
| 5. _____          |             |          |             | 11. _____ |             |      |      |
| 6. _____          |             |          |             | 12. _____ |             |      |      |

Total Sapling/Shrub Cover: 2850% of total cover: 1420% of total cover: 5.6

## Herb Stratum

| Species                  | Abs. Cov. % | Dom?     | Ind.        | Species   | Abs. Cov. % | Dom? | Ind. |
|--------------------------|-------------|----------|-------------|-----------|-------------|------|------|
| 1. <u>Gal can</u>        | <u>95</u>   | <u>4</u> | <u>FACW</u> | 12. _____ |             |      |      |
| 2. <u>Her can</u>        | <u>15</u>   |          | <u>FACW</u> | 13. _____ |             |      |      |
| 3. <u>Sparg</u>          |             |          |             | 14. _____ |             |      |      |
| 4. <u>Aln hel</u>        | <u>10</u>   |          | <u>FACW</u> | 15. _____ |             |      |      |
| 5. <u>Chg ang</u>        | <u>8</u>    |          | <u>FACW</u> | 16. _____ |             |      |      |
| 6. <u>Gal + R. flamm</u> | <u>2</u>    |          | <u>FACW</u> | 17. _____ |             |      |      |
| 7. <u>Del gla</u>        | <u>7</u>    |          | <u>FACW</u> | 18. _____ |             |      |      |
| 8. <u>Frag alb</u>       | <u>8</u>    |          | <u>FACW</u> | 19. _____ |             |      |      |
| 9. <u>Mer pan</u>        | <u>2</u>    |          | <u>FACW</u> | 20. _____ |             |      |      |
| 10. _____                |             |          |             | 21. _____ |             |      |      |
| 11. _____                |             |          |             | 22. _____ |             |      |      |

Total Herb Cover: 14750% of total cover: 73.520% of total cover: 29.4

Circular 1/10-ac plot ✓ or other plot dimension: \_\_\_\_\_ % of bare ground: 0  
 % Cover of Wetland Bryophytes 0 % Total Cover of Bryophytes 5 %  
 (where applicable)

Remarks:

## Dominance Test worksheet:

|                                                         |           |       |
|---------------------------------------------------------|-----------|-------|
| Number of Dominant Species That are OBL, FACW, or FAC:  | <u>1</u>  | (A)   |
| Total Number of Dominant Species Across All Strata:     | <u>2</u>  | (B)   |
| Percent of Dominant Species That are OBL, FACW, or FAC: | <u>50</u> | (A/B) |

## Prevalence Index worksheet:

| Total % Cover of:             | Multiply by:   |
|-------------------------------|----------------|
| OBL species <u>—</u>          | X1= <u>—</u>   |
| FACW species <u>7</u>         | X2= <u>14</u>  |
| FAC species <u>115</u>        | X3= <u>345</u> |
| FACU species <u>53</u>        | X4= <u>212</u> |
| UPL + NL species <u>—</u>     | X5= <u>—</u>   |
| Column Totals: <u>175</u> (A) | <u>571</u> (B) |

Prevalence Index = B/A = 3.26

## Hydrophytic Vegetation Indicators:

|                                                                                                         |
|---------------------------------------------------------------------------------------------------------|
| <u>N</u> Dominance Test is >50%                                                                         |
| <u>N</u> Prevalence Index is ≤3.0                                                                       |
| ____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |
| ____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                          |

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present?

Yes ✓ No ✓



## SOIL

Sampling Point #: 023

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | Texture | α,α dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|---------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |         |                           |                                    |
| 0-3            | A                 | 10YR 2/2      | 100 |                |    |                   |                  | FLoSa   |                           |                                    |
| 3-5            | E                 | 2.5Y 5/1      | 100 |                |    |                   |                  | FLoSa   |                           |                                    |
| 5-14           | Bw1               | 10YR 4/3      | 100 |                |    |                   |                  | FLoSa   |                           |                                    |
| 14-72          | Bw2               | 2.5Y 5/3      | 70  | 10YR 4/4       | 30 | C                 | M                | FLoSa   |                           |                                    |
|                |                   |               |     |                |    |                   |                  |         |                           |                                    |
|                |                   |               |     |                |    |                   |                  |         |                           |                                    |
|                |                   |               |     |                |    |                   |                  |         |                           |                                    |
|                |                   |               |     |                |    |                   |                  |         |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_ " in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☒ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

## Restrictive Layer (if present)

Type: \_\_\_\_\_

Depth (inches) \_\_\_\_\_

## Drainage Class: W1

Soil Map Unit Name: \_\_\_\_\_

Hydric Soil Present?

Yes \_\_\_\_\_

No ☒

## Comments:

1. too dry for a-a
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☒ 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)

Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. α,α or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes \_\_\_\_\_ No ☒

Water Table Present? Yes \_\_\_\_\_ No ☒

Seeping in at that depth but not yet filled?: \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ☒

(includes capillary fringe)

Depth of water (in.) \_\_\_\_\_

Depth to water (in.) \_\_\_\_\_

Depth to sat. (in.) \_\_\_\_\_

Epi Endo Unknown

Wetland Hydrology Present?

Yes \_\_\_\_\_

No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

## Remarks:

abandoned stream channel ~20' to west of plot ~5' lower in elev. no evidence of flow



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sv Access Borough/City: m8B Date: 9/16/2020  
 Applicant/Owner: AIDEA Sampling Point #: 028  
 Investigator(s): A. Clerck, B. Moorhead Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.594296 Long. 150.829218 ± NAD 83 Recorded on GPS #: \_\_\_\_\_ Marked on map? \_\_\_\_\_ Field Map #: \_\_\_\_\_  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Stream River Slope (%): 1 Aspect: N  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PEM1B  
 Photo nos./descriptions: soil 12 NESW stream ↑ ↓ → Camera #: \_\_\_\_\_ Veg Type (Viereck Level 4 or other): FLA2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: \_\_\_\_\_ If no, explain. HGM type: slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |          |                                                                                                                      |
|---------------------------------|-----------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No _____ | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No _____<br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No _____ |                                                                                                                      |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No _____ |                                                                                                                      |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

## Tree Stratum (dbh ≥ 3")

| Species  | Cov.% | Dom? | Ind. | Species  | Cov.% | Dom? | Ind. |
|----------|-------|------|------|----------|-------|------|------|
| 1. _____ |       |      |      | 5. _____ |       |      |      |
| 2. _____ |       |      |      | 6. _____ |       |      |      |
| 3. _____ |       |      |      | 7. _____ |       |      |      |
| 4. _____ |       |      |      | 8. _____ |       |      |      |

Total Tree Cover: \_\_\_\_\_

50% of total cover: \_\_\_\_\_

20% of total cover: \_\_\_\_\_

## Sapling/Shrub Stratum (woody plants &lt; 3" dbh)

| Species           | Abs.Cov.% | Dom?     | Ind.       | Species   | Abs.Cov.% | Dom? | Ind. |
|-------------------|-----------|----------|------------|-----------|-----------|------|------|
| 1. <u>Aln cr.</u> | <u>10</u> | <u>4</u> | <u>FAC</u> | 7. _____  |           |      |      |
| 2. <u>Sal scd</u> | <u>2</u>  |          | <u>FAC</u> | 8. _____  |           |      |      |
| 3. _____          |           |          |            | 9. _____  |           |      |      |
| 4. _____          |           |          |            | 10. _____ |           |      |      |
| 5. _____          |           |          |            | 11. _____ |           |      |      |
| 6. _____          |           |          |            | 12. _____ |           |      |      |

Total Sapling/Shrub Cover: 1250% of total cover: 620% of total cover: 2.4

## Herb Stratum

| Species           | Abs.Cov.%  | Dom?     | Ind.       | Species   | Abs.Cov.% | Dom? | Ind. |
|-------------------|------------|----------|------------|-----------|-----------|------|------|
| 1. <u>Cal can</u> | <u>100</u> | <u>4</u> | <u>FAC</u> | 12. _____ |           |      |      |
| 2. <u>Eg an</u>   | <u>10</u>  |          | <u>FAC</u> | 13. _____ |           |      |      |
| 3. <u>Eg jw</u>   | <u>2</u>   |          | <u>OBL</u> | 14. _____ |           |      |      |
| 4. _____          |            |          |            | 15. _____ |           |      |      |
| 5. _____          |            |          |            | 16. _____ |           |      |      |
| 6. _____          |            |          |            | 17. _____ |           |      |      |
| 7. _____          |            |          |            | 18. _____ |           |      |      |
| 8. _____          |            |          |            | 19. _____ |           |      |      |
| 9. _____          |            |          |            | 20. _____ |           |      |      |
| 10. _____         |            |          |            | 21. _____ |           |      |      |
| 11. _____         |            |          |            | 22. _____ |           |      |      |

Total Herb Cover: 11250% of total cover: 5620% of total cover: 22.4

Circular 1/10-ac plot ☒ or other plot dimension: 10x20 % of bare ground: 0  
 % Cover of Wetland Bryophytes 0 % Total Cover of Bryophytes 0 %  
 (where applicable)

Remarks:

## Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)Total Number of Dominant Species Across All Strata: 2 (B)Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)

## Prevalence Index worksheet:

| Total % Cover of:             | Multiply by:   |
|-------------------------------|----------------|
| OBL species <u>2</u>          | X1= <u>2</u>   |
| FACW species <u>-</u>         | X2= <u>-</u>   |
| FAC species <u>122</u>        | X3= <u>366</u> |
| FACU species <u>-</u>         | X4= <u>-</u>   |
| UPL + NL species <u>-</u>     | X5= <u>-</u>   |
| Column Totals: <u>124</u> (A) | <u>368</u> (B) |

Prevalence Index = B/A = 2.97

## Hydrophytic Vegetation Indicators:

1 Dominance Test is >50%4 Prevalence Index is ≤3.0\_\_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present?

Yes ☒ No \_\_\_\_\_







## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West SV Tract Borough/City: MSB Date: 9/18/2020  
 Applicant/Owner: ANDER Sampling Point #: 037  
 Investigator(s): A. GRIFFIN, N. HATCH Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.531292 Long. 150.485266 ± ' NAD 83 Recorded on GPS #: ✓ Marked on map? ✓ Field Map #: 15  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Lowland Slope (%): 1 Aspect: NE  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: ✓  
 Photo nos./descriptions: SDI 12 NESW Camera #: 100 Veg Type (Vioreck Level 4 or other): TC 2a - wetland  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No:     If no, explain. HGM type: N/A  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No      
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                |             |                                                                                                |
|---------------------------------|----------------|-------------|------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <u>   </u> | No <u>✓</u> | Is the sampled area within a wetland? Yes <u>   </u> No <u>✓</u><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <u>   </u> | No <u>✓</u> |                                                                                                |
| Wetland Hydrology Present?      | Yes <u>   </u> | No <u>✓</u> |                                                                                                |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                          |             |            |             |                |             |            |            | Dominance Test worksheet:                                                                                     |                    |
|--------------------------------------------------------------------------------------------------|-------------|------------|-------------|----------------|-------------|------------|------------|---------------------------------------------------------------------------------------------------------------|--------------------|
| Species                                                                                          | Cov. %      | Dom?       | Ind.        | Species        | Cov. %      | Dom?       | Ind.       | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                    |
| 1. <u>Pop. pap</u>                                                                               | <u>15</u>   | <u>4</u>   | <u>FACW</u> | 5. <u>   </u>  | <u>   </u>  | <u>   </u> | <u>   </u> | <u>1</u>                                                                                                      | (A)                |
| 2. <u>Pop. tre</u>                                                                               | <u>5</u>    | <u>4</u>   | <u>FACW</u> | 6. <u>   </u>  | <u>   </u>  | <u>   </u> | <u>   </u> | <u>5</u>                                                                                                      | (B)                |
| 3. <u>Pice. gla</u>                                                                              | <u>3</u>    | <u>   </u> | <u>FACW</u> | 7. <u>   </u>  | <u>   </u>  | <u>   </u> | <u>   </u> | <u>20</u>                                                                                                     | (A/B)              |
| 4. <u>Pice. gla. snp</u>                                                                         | <u>12</u>   | <u>   </u> | <u>   </u>  | 8. <u>   </u>  | <u>   </u>  | <u>   </u> | <u>   </u> |                                                                                                               |                    |
| Total Tree Cover: <u>13</u>                                                                      |             |            |             |                |             |            |            |                                                                                                               |                    |
| 50% of total cover: <u>11.5</u>                                                                  |             |            |             |                |             |            |            | 20% of total cover: <u>4.6</u>                                                                                |                    |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                    |             |            |             |                |             |            |            | Prevalence Index worksheet:                                                                                   |                    |
| Species                                                                                          | Abs. Cov. % | Dom?       | Ind.        | Species        | Abs. Cov. % | Dom?       | Ind.       | Total % Cover of:                                                                                             | Multiply by:       |
| 1. <u>Man. fr</u>                                                                                | <u>75</u>   | <u>4</u>   | <u>FACW</u> | 7. <u>   </u>  | <u>   </u>  | <u>   </u> | <u>   </u> | OBL species <u>   </u>                                                                                        | X1= <u>   </u>     |
| 2. <u>Yale. ova</u>                                                                              | <u>15</u>   | <u>   </u> | <u>FAC</u>  | 8. <u>   </u>  | <u>   </u>  | <u>   </u> | <u>   </u> | FACW species <u>   </u>                                                                                       | X2= <u>   </u>     |
| 3. <u>Aln. cri</u>                                                                               | <u>2</u>    | <u>   </u> | <u>FAC</u>  | 9. <u>   </u>  | <u>   </u>  | <u>   </u> | <u>   </u> | FAC species <u>39</u>                                                                                         | X3= <u>117</u>     |
| 4. <u>Cor. dan</u>                                                                               | <u>2</u>    | <u>   </u> | <u>FACW</u> | 10. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> | FACU species <u>134</u>                                                                                       | X4= <u>536</u>     |
| 5. <u>Ros. aci</u>                                                                               | <u>8</u>    | <u>   </u> | <u>FACW</u> | 11. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> | UPL + NL species <u>   </u>                                                                                   | X5= <u>   </u>     |
| 6. <u>Spr. sdc</u>                                                                               | <u>13</u>   | <u>   </u> | <u>FACW</u> | 12. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> | Column Totals: <u>173</u>                                                                                     | (A) <u>653</u> (B) |
| Total Sapling/Shrub Cover: <u>115</u>                                                            |             |            |             |                |             |            |            | Prevalence Index = B/A = <u>3.77</u>                                                                          |                    |
| 50% of total cover: <u>57.5</u>                                                                  |             |            |             |                |             |            |            | 20% of total cover: <u>23</u>                                                                                 |                    |
| Herb Stratum                                                                                     |             |            |             |                |             |            |            | Hydrophytic Vegetation Indicators:                                                                            |                    |
| Species                                                                                          | Abs. Cov. % | Dom?       | Ind.        | Species        | Abs. Cov. % | Dom?       | Ind.       | <u>N</u> Dominance Test is >50%                                                                               |                    |
| 1. <u>Cal. can</u>                                                                               | <u>10</u>   | <u>4</u>   | <u>FAC</u>  | 12. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> | <u>N</u> Prevalence Index is ≤3.0                                                                             |                    |
| 2. <u>Dry. di</u>                                                                                | <u>10</u>   | <u>4</u>   | <u>FACU</u> | 13. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)            |                    |
| 3. <u>Lup. can</u>                                                                               | <u>3</u>    | <u>   </u> | <u>FACW</u> | 14. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                                     |                    |
| 4. <u>Fad. syl</u>                                                                               | <u>2</u>    | <u>   </u> | <u>FAC</u>  | 15. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                    |
| 5. <u>Rub. ped</u>                                                                               | <u>7</u>    | <u>   </u> | <u>FAC</u>  | 16. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> | Hydrophytic Vegetation Present? Yes <u>   </u> No <u>✓</u>                                                    |                    |
| 6. <u>   </u>                                                                                    | <u>   </u>  | <u>   </u> | <u>   </u>  | 17. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> |                                                                                                               |                    |
| 7. <u>   </u>                                                                                    | <u>   </u>  | <u>   </u> | <u>   </u>  | 18. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> |                                                                                                               |                    |
| 8. <u>   </u>                                                                                    | <u>   </u>  | <u>   </u> | <u>   </u>  | 19. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> |                                                                                                               |                    |
| 9. <u>   </u>                                                                                    | <u>   </u>  | <u>   </u> | <u>   </u>  | 20. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> |                                                                                                               |                    |
| 10. <u>   </u>                                                                                   | <u>   </u>  | <u>   </u> | <u>   </u>  | 21. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> |                                                                                                               |                    |
| 11. <u>   </u>                                                                                   | <u>   </u>  | <u>   </u> | <u>   </u>  | 22. <u>   </u> | <u>   </u>  | <u>   </u> | <u>   </u> |                                                                                                               |                    |
| Total Herb Cover: <u>35</u>                                                                      |             |            |             |                |             |            |            |                                                                                                               |                    |
| 50% of total cover: <u>17.5</u>                                                                  |             |            |             |                |             |            |            | 20% of total cover: <u>7</u>                                                                                  |                    |
| Circular 1/10-ac plot <u>   </u> or other plot dimension: <u>   </u> % of bare ground: <u>15</u> |             |            |             |                |             |            |            |                                                                                                               |                    |
| % Cover of Wetland Bryophytes <u>0</u> % Total Cover of Bryophytes <u>5</u> %                    |             |            |             |                |             |            |            |                                                                                                               |                    |
| Remarks: <u>leaf litter</u>                                                                      |             |            |             |                |             |            |            |                                                                                                               |                    |



## SOIL

Sampling Point #: 037

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |                                    |
| 0-2            | 0e                | 10YR3/2       |     |                |    |                   |                  |                           |                                    |
| 2-3            | A                 | 2.5Y4/2       | 100 |                |    |                   |                  | S.L                       |                                    |
| 3-5            | E                 | 2.5Y4/1       | 100 |                |    |                   |                  | S.L                       |                                    |
| 5-15           | B1                | 2.5Y4/2       | 85  | 7.5YR3/4       | 15 | C                 | PL,RL,M          | S.L                       |                                    |
| 15-20          | B2                | 2.5Y5/4       | 60  | 5YR 7/6        | 20 | C                 | PL,mpc           | S.L                       |                                    |
|                |                   | 2.5Y4/2       | 20  |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; \* in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☒ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue - no primary w/10
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement; explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present) \_\_\_\_\_

Type: \_\_\_\_\_

Depth (inches) \_\_\_\_\_

Drainage Class: WD

Soil Map Unit Name: \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

## Comments:

1. soil moist below 15'
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☒ 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)

## Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3) (w/in 24", can perch H2O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes \_\_\_\_\_ No ☒

Water Table Present? Yes \_\_\_\_\_ No ☒

Seeping in at that depth but not yet filled?: \_\_\_\_\_

Saturation Present? Yes ☒ No \_\_\_\_\_

(includes capillary fringe)

Depth of water (in.) \_\_\_\_\_

Depth to water (in.) \_\_\_\_\_

Depth to sat. (in.) 19

Epi Endo Unknown

Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West SV Access Borough/City: MSB Date: 9/18/2020  
 Applicant/Owner: AIDEA Sampling Point #: 040  
 Investigator(s): A. Geler, N. Hetch Firm: HDR Alaska, Inc.  
 Lat. (dec.) (61.532344) Long. 150.492835 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☒ Field Map #: 5  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: gully Slope (%): 3 Aspect: SW  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PSSIC  
 Photo nos./descriptions: 507 x2 NFW surface flow Camera #: iPod Veg Type (Vioreck Level 4 or other): ILB2b  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: riverine  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                                    |             |          |             |           |             |      |      | Dominance Test worksheet:                                                                                                  |                               |
|--------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------|-------------|-----------|-------------|------|------|----------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Species                                                                                                                                    | Cov. %      | Dom?     | Ind.        | Species   | Cov. %      | Dom? | Ind. | Number of Dominant Species That are OBL, FACW, or FAC:                                                                     |                               |
| 1. _____                                                                                                                                   |             |          |             | 5. _____  |             |      |      | 2                                                                                                                          | (A)                           |
| 2. _____                                                                                                                                   |             |          |             | 6. _____  |             |      |      | Total Number of Dominant Species Across All Strata:                                                                        | 2 (B)                         |
| 3. _____                                                                                                                                   |             |          |             | 7. _____  |             |      |      | Percent of Dominant Species That are OBL, FACW, or FAC:                                                                    | 100 (A/B)                     |
| 4. _____                                                                                                                                   |             |          |             | 8. _____  |             |      |      |                                                                                                                            |                               |
| Total Tree Cover: _____                                                                                                                    |             |          |             |           |             |      |      |                                                                                                                            |                               |
| 50% of total cover: _____ 20% of total cover: _____                                                                                        |             |          |             |           |             |      |      |                                                                                                                            |                               |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                              |             |          |             |           |             |      |      | Prevalence Index worksheet:                                                                                                |                               |
| Species                                                                                                                                    | Abs. Cov. % | Dom?     | Ind.        | Species   | Abs. Cov. % | Dom? | Ind. | Total % Cover of:                                                                                                          | Multiply by:                  |
| 1. <u>Aln ten</u>                                                                                                                          | <u>10</u>   | <u>Y</u> | <u>FAC</u>  | 7. _____  |             |      |      | OBL species                                                                                                                | X1= _____                     |
| 2. <u>Vib edn</u>                                                                                                                          | <u>3</u>    |          | <u>FACW</u> | 8. _____  |             |      |      | FACW species                                                                                                               | X2= _____                     |
| 3. <u>Rib tri</u>                                                                                                                          | <u>5</u>    |          | <u>FAC</u>  | 9. _____  |             |      |      | FAC species                                                                                                                | X3= <u>441</u>                |
| 4. _____                                                                                                                                   |             |          |             | 10. _____ |             |      |      | FACU species                                                                                                               | X4= <u>40</u>                 |
| 5. _____                                                                                                                                   |             |          |             | 11. _____ |             |      |      | UPL + NL species                                                                                                           | X5= _____                     |
| 6. _____                                                                                                                                   |             |          |             | 12. _____ |             |      |      | Column Totals:                                                                                                             | <u>157</u> (A) <u>481</u> (B) |
| Total Sapling/Shrub Cover: <u>70</u>                                                                                                       |             |          |             |           |             |      |      | Prevalence Index = B/A = <u>3.06</u>                                                                                       |                               |
| 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>                                                                                |             |          |             |           |             |      |      |                                                                                                                            |                               |
| Herb Stratum                                                                                                                               |             |          |             |           |             |      |      | Hydrophytic Vegetation Indicators:                                                                                         |                               |
| Species                                                                                                                                    | Abs. Cov. % | Dom?     | Ind.        | Species   | Abs. Cov. % | Dom? | Ind. | <input checked="" type="checkbox"/> Dominance Test is >50%<br><input checked="" type="checkbox"/> Prevalence Index is ≤3.0 |                               |
| 1. <u>Cal can</u>                                                                                                                          | <u>15</u>   | <u>Y</u> | <u>FAC</u>  | 12. _____ |             |      |      | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)                         |                               |
| 2. <u>Eg uarv</u>                                                                                                                          | <u>5</u>    |          | <u>FAC</u>  | 13. _____ |             |      |      | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                                                  |                               |
| 3. <u>Sag can</u>                                                                                                                          | <u>1</u>    |          | <u>FACW</u> | 14. _____ |             |      |      |                                                                                                                            |                               |
| 4. <u>Gym dry</u>                                                                                                                          | <u>1</u>    |          | <u>FACW</u> | 15. _____ |             |      |      |                                                                                                                            |                               |
| 5. <u>Vib so</u>                                                                                                                           | <u>1</u>    |          |             | 16. _____ |             |      |      |                                                                                                                            |                               |
| 6. <u>Rub pall</u>                                                                                                                         | <u>1</u>    |          | <u>FAC</u>  | 17. _____ |             |      |      |                                                                                                                            |                               |
| 7. <u>Tha spa</u>                                                                                                                          | <u>1</u>    |          | <u>FACW</u> | 18. _____ |             |      |      |                                                                                                                            |                               |
| 8. <u>Dry dil</u>                                                                                                                          | <u>7</u>    |          | <u>FACW</u> | 19. _____ |             |      |      |                                                                                                                            |                               |
| 9. _____                                                                                                                                   |             |          |             | 20. _____ |             |      |      |                                                                                                                            |                               |
| 10. _____                                                                                                                                  |             |          |             | 21. _____ |             |      |      |                                                                                                                            |                               |
| 11. _____                                                                                                                                  |             |          |             | 22. _____ |             |      |      |                                                                                                                            |                               |
| Total Herb Cover: <u>87</u>                                                                                                                |             |          |             |           |             |      |      |                                                                                                                            |                               |
| 50% of total cover: <u>43.5</u> 20% of total cover: <u>17.4</u>                                                                            |             |          |             |           |             |      |      |                                                                                                                            |                               |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: _____ % of bare ground: <u>15</u>                       |             |          |             |           |             |      |      |                                                                                                                            |                               |
| % Cover of Wetland Bryophytes <u>0</u> % Total Cover of Bryophytes <u>5</u> %                                                              |             |          |             |           |             |      |      |                                                                                                                            |                               |
| (where applicable)                                                                                                                         |             |          |             |           |             |      |      |                                                                                                                            |                               |
| Remarks: <u>Gym dry, Dry dil, Tha spa on downed trees out of saturated soil</u> <u>water drift deposits</u><br><u>upland on knob to NW</u> |             |          |             |           |             |      |      |                                                                                                                            |                               |



## SOIL

Sampling Point #: 040

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators)

[illegible]

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

**Hydric Soil Indicators** (check ones that apply, measure from top of mineral layers unless otherwise noted):

**Standard Indicators:**

- ☒ Histosol or Histel (A1)
- ☒ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- ☐ Black Histic (A3)
- ☒ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ ☒ in this pit)
- ☒ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

### Indicators for Problematic Hydric Soils<sup>2</sup>:

- ☒ Alaska Color Change<sup>4</sup> (TA4)  
☐ Alaska Alpine Swales (TA5)  
☐ Alaska Redox with 2.5Y Hue  
☐ Alaska Gleyed without Hue 5Y or Redder  
☐ Underlying Layer  
☐ Other (a.g., see p 91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: \_\_\_\_\_

Depth (inches) \_\_\_\_\_

Drainage Class: VPD

Soil Map Unit Name:

Hydric Soil Present? Yes ✓ No     

Yes ✓ No     

No \_\_\_\_\_

Comments:

- 1.
- 2.
- 3.

## HYDROLOGY

**Wetland Hydrology Indicators (check ones that apply, measure from soil surface):**

Primary Indicators (any one indicator is sufficient)

- |                                                                      |                                                                               |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Surface Water (A1)               | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2) (w/in 12") | <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input checked="" type="checkbox"/> Saturation (A3) (w/in 12")       | <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |
| <input checked="" type="checkbox"/> Water Marks (B1)                 | <input checked="" type="checkbox"/> Marl Deposits (B15)                       |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)           | <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)                |
| <input checked="" type="checkbox"/> Drift Deposits (B3)              | <input checked="" type="checkbox"/> Dry-Season Water Table (C2)               |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)          | <input checked="" type="checkbox"/> Other (explain)                           |
| <input checked="" type="checkbox"/> Iron Deposits (B5)               |                                                                               |

Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4)  
(pos.  $\alpha, \alpha$  or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1) *alder*
- ☒ Geomorphic Position (D2) *gully*
- ☒ Shallow Aquitard (D3)  
(w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5)  
(# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☒ No ☐ Depth of water (in.) 2-8

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 12

Seeping in at that depth but not yet filled?: 4

Saturation Present? Yes ✓ No      Depth to sat. (in.) 0

| (includes capillary fringe) | Epi | Endo | Unknown |
|-----------------------------|-----|------|---------|
|-----------------------------|-----|------|---------|

**Wetland Hydrology Present?** Yes ☒ No ☐

Yes ☒ No ☐

No \_\_\_\_\_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

stream ~120' to SE at 031. Surface flow throughout gully bottom. High rains this week.  
small stream ~1' wide adjacent to plot. Evidence of sediment deposits on veg throughout.



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Side Access Borough/City: MSB Date: 9/18/2020  
 Applicant/Owner: AIDEA Sampling Point #: 012  
 Investigator(s): A. Gierke, N. Hatch Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61.514607 Long. 150.454556 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #: \_\_\_\_\_  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: lowland Slope (%): \_\_\_\_\_ Aspect: \_\_\_\_\_  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PSS1/4B  
 Photo nos./descriptions: soil x2 NESW Camera # Pad Veg Type (Viereck Level 4 or other): IC3 - black spruce / paper birch  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: flat  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                    |              |              |              |                    |              |              |              | Dominance Test worksheet:                                                                                     |                 |
|----------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|--------------------|--------------|--------------|--------------|---------------------------------------------------------------------------------------------------------------|-----------------|
| Species                                                                                                                    | Cov. %       | Dom?         | Ind.         | Species            | Cov. %       | Dom?         | Ind.         | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                 |
| 1. <u>Pic mar</u>                                                                                                          | <u>15</u>    | <u>Y</u>     | <u>FACW</u>  | 5. <u>_____</u>    | <u>_____</u> | <u>_____</u> | <u>_____</u> | <u>4</u>                                                                                                      | (A)             |
| 2. <u>Bet pap</u>                                                                                                          | <u>3</u>     | <u>_____</u> | <u>FAC</u>   | 6. <u>_____</u>    | <u>_____</u> | <u>_____</u> | <u>_____</u> | Total Number of Dominant Species Across All Strata:                                                           | <u>5</u> (B)    |
| 3. <u>_____</u>                                                                                                            | <u>_____</u> | <u>_____</u> | <u>_____</u> | 7. <u>_____</u>    | <u>_____</u> | <u>_____</u> | <u>_____</u> | Percent of Dominant Species That are OBL, FACW, or FAC:                                                       | <u>80</u> (A/B) |
| 4. <u>_____</u>                                                                                                            | <u>_____</u> | <u>_____</u> | <u>_____</u> | 8. <u>_____</u>    | <u>_____</u> | <u>_____</u> | <u>_____</u> | Prevalence Index worksheet:                                                                                   |                 |
| Total Tree Cover: <u>18</u>                                                                                                |              |              |              |                    |              |              |              | Total % Cover of: <u>_____</u> Multiply by: <u>_____</u>                                                      |                 |
| 50% of total cover: <u>9</u> 20% of total cover: <u>3.6</u>                                                                |              |              |              |                    |              |              |              | OBL species <u>_____</u> X1= <u>_____</u>                                                                     |                 |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                              |              |              |              |                    |              |              |              | FACW species <u>40</u> X2= <u>80</u>                                                                          |                 |
| Species                                                                                                                    | Abs. Cov. %  | Dom?         | Ind.         | Species            | Abs. Cov. %  | Dom?         | Ind.         | FAC species <u>64</u> X3= <u>192</u>                                                                          |                 |
| 1. <u>Pic mar</u>                                                                                                          | <u>20</u>    | <u>Y</u>     | <u>FACW</u>  | 7. <u>Aln cris</u> | <u>3</u>     | <u>_____</u> | <u>FAC</u>   | FACU species <u>28</u> X4= <u>112</u>                                                                         |                 |
| 2. <u>Men for</u>                                                                                                          | <u>25</u>    | <u>Y</u>     | <u>FACW</u>  | 8. <u>Spi ste</u>  | <u>2</u>     | <u>_____</u> | <u>FACW</u>  | UPL + NL species <u>_____</u> X5= <u>_____</u>                                                                |                 |
| 3. <u>Rho gro</u>                                                                                                          | <u>15</u>    | <u>_____</u> | <u>FAC</u>   | 9. <u>Vire ova</u> | <u>7</u>     | <u>_____</u> | <u>FAC</u>   | Column Totals: <u>132</u> (A) <u>384</u> (B)                                                                  |                 |
| 4. <u>Emp rig</u>                                                                                                          | <u>1</u>     | <u>_____</u> | <u>FAC</u>   | 10. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> | Prevalence Index = B/A = <u>2.91</u>                                                                          |                 |
| 5. <u>Vac vit</u>                                                                                                          | <u>2</u>     | <u>_____</u> | <u>FAC</u>   | 11. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> |                                                                                                               |                 |
| 6. <u>Bet nan</u>                                                                                                          | <u>8</u>     | <u>_____</u> | <u>FAC</u>   | 12. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> |                                                                                                               |                 |
| Total Sapling/Shrub Cover: <u>83</u>                                                                                       |              |              |              |                    |              |              |              |                                                                                                               |                 |
| 50% of total cover: <u>41.5</u> 20% of total cover: <u>16.6</u>                                                            |              |              |              |                    |              |              |              |                                                                                                               |                 |
| Herb Stratum                                                                                                               |              |              |              |                    |              |              |              | Hydrophytic Vegetation Indicators:                                                                            |                 |
| Species                                                                                                                    | Abs. Cov. %  | Dom?         | Ind.         | Species            | Abs. Cov. %  | Dom?         | Ind.         | 4 Dominance Test is >50%                                                                                      |                 |
| 1. <u>Gal con</u>                                                                                                          | <u>10</u>    | <u>Y</u>     | <u>FAC</u>   | 12. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> | 4 Prevalence Index is ≤3.0                                                                                    |                 |
| 2. <u>Lyc ann</u>                                                                                                          | <u>1</u>     | <u>_____</u> | <u>FACW</u>  | 13. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)            |                 |
| 3. <u>Equis</u>                                                                                                            | <u>7</u>     | <u>Y</u>     | <u>FAC</u>   | 14. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                                     |                 |
| 4. <u>Car laly</u>                                                                                                         | <u>5</u>     | <u>_____</u> | <u>FACW</u>  | 15. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                 |
| 5. <u>Geo lv</u>                                                                                                           | <u>7</u>     | <u>_____</u> | <u>FACW</u>  | 16. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> |                                                                                                               |                 |
| 6. <u>_____</u>                                                                                                            | <u>_____</u> | <u>_____</u> | <u>_____</u> | 17. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> |                                                                                                               |                 |
| 7. <u>_____</u>                                                                                                            | <u>_____</u> | <u>_____</u> | <u>_____</u> | 18. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> |                                                                                                               |                 |
| 8. <u>_____</u>                                                                                                            | <u>_____</u> | <u>_____</u> | <u>_____</u> | 19. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> |                                                                                                               |                 |
| 9. <u>_____</u>                                                                                                            | <u>_____</u> | <u>_____</u> | <u>_____</u> | 20. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> |                                                                                                               |                 |
| 10. <u>_____</u>                                                                                                           | <u>_____</u> | <u>_____</u> | <u>_____</u> | 21. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> |                                                                                                               |                 |
| 11. <u>_____</u>                                                                                                           | <u>_____</u> | <u>_____</u> | <u>_____</u> | 22. <u>_____</u>   | <u>_____</u> | <u>_____</u> | <u>_____</u> |                                                                                                               |                 |
| Total Herb Cover: <u>31</u>                                                                                                |              |              |              |                    |              |              |              | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>           |                 |
| 50% of total cover: <u>15.5</u> 20% of total cover: <u>6.2</u>                                                             |              |              |              |                    |              |              |              |                                                                                                               |                 |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>_____</u> % of bare ground: <u>2</u> |              |              |              |                    |              |              |              |                                                                                                               |                 |
| % Cover of Wetland Bryophytes <u>45</u> % Total Cover of Bryophytes <u>5</u> % (where applicable)                          |              |              |              |                    |              |              |              |                                                                                                               |                 |

Remarks: plot is w/in slightly transitional area, slightly higher in elev. than larger wetland.



## SOIL

Sampling Point #: 012

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                           |                                    |
| 0-3            | 0e                | 10YR 2/1      | 100 |                |    |                   |                  |                           |                                    |
| 3-5            | A                 | 2.5Y 5/2      | 100 |                |    |                   | S                | SiL                       | inclusions of charcoal             |
| 5-11           | B1                | 2.5Y 4/3      | 85  | 5YR 3/6        | 15 | C                 | PL, RC           | S, L                      |                                    |
| 11-17          | B2                | 2.5Y 3/3      | 95  | 2.5YR 3/3      | 5  | C                 | PL               | SiL                       | PL = sandgaging                    |
| 17-20          | B3                | 5Y 5/2        | 40  | 5YR 4/4        | 60 | C                 | PL               | SaLo                      |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)  
☒ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≥ 2)  
☒ Black Histic (A3)  
☒ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_" in this pit)  
☒ Thick Dark Surface (A12)  
☒ Alaska Gleyed (A13)  
☒ Alaska Redox (A14) ✓  
☒ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☒ Alaska Color Change<sup>4</sup> (TA4)  
☒ Alaska Alpine Swales (TA5)  
☒ Alaska Redox with 2.5Y Hue ✓  
☒ Alaska Gleyed without Hue 5Y or Redder Underlying Layer  
☒ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.  
<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: \_\_\_\_\_  
 Depth (inches) \_\_\_\_\_

Drainage Class: SPD

Soil Map Unit Name: \_\_\_\_\_

Hydric Soil Present?

Yes ☒ No ☐

## Comments:

1. no saturation in pit - saturation at 6" w/in 15' of pit. Pit on slight rise. B3 within 2" of satisfying  
 2. AK Pedon (starts at 14")  
 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1) ☒ Surface Soil Cracks (B6)  
☒ High Water Table (A2) (w/in 12") ☒ Inundation Visible on Aerial Imagery (B7)  
☒ Saturation (A3) (w/in 12") ☒ Sparsely Vegetated Concave Surface (B8)  
☒ Water Marks (B1) ☒ Marl Deposits (B15)  
☒ Sediment Deposits (B2) ☒ Hydrogen Sulfide Odor (C1)  
☒ Drift Deposits (B3) ☒ Dry-Season Water Table (C2)  
☒ Algal Mat or Crust (B4) ☒ Other (explain)  
☒ Iron Deposits (B5)

Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)  
☒ Drainage Patterns (B10)  
☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")  
☒ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")  
☒ Salt Deposits (C5)  
☒ Stunted or Stressed Plants (D1)  
☒ Geomorphic Position (D2)  
☒ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")  
☒ Microtopographic Relief (D4) (caused by water)  
☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.) \_\_\_\_\_  
 Water Table Present? Yes ☐ No ☒ Depth to water (in.) \_\_\_\_\_  
 Seeping in at that depth but not yet filled?: \_\_\_\_\_  
 Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 6  
 (includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present?

Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

## Remarks:

saturation at 6" ~15' from pit, and at surface ~30' from pit. Plot is in transition area on slight rise. Surface water observed in wetland to NE, outside plot.



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sv Access Borough/City: MSB Date: 9/18/2020  
 Applicant/Owner: ANDEA Sampling Point #: 043a  
 Investigator(s): A. Gierke, N. Hatch Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.51397 Long. 150.454800 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #: ☐  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: lowland Slope (%): — Aspect: —  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PSS1E-M1B  
 Photo nos./descriptions: soil 2 NW Camera #: 124 Veg Type (Vioreck Level 4 or other): PEC 2j  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: flat  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes: ☒ No: ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                           |                            |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                           |                            |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                           |                            |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                |       |      |      |              |       |      |      | Dominance Test worksheet:                                                                                     |           |  |  |
|------------------------------------------------------------------------------------------------------------------------|-------|------|------|--------------|-------|------|------|---------------------------------------------------------------------------------------------------------------|-----------|--|--|
| Species                                                                                                                | Cov.% | Dom? | Ind. | Species      | Cov.% | Dom? | Ind. | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |           |  |  |
| 1. <u>Myr gal</u>                                                                                                      | 30    | 4    | OBL  | 5. <u>—</u>  | —     | —    | —    | 4                                                                                                             | (A)       |  |  |
| 2. <u>—</u>                                                                                                            | —     | —    | —    | 6. <u>—</u>  | —     | —    | —    | Total Number of Dominant Species Across All Strata:                                                           | 4 (B)     |  |  |
| 3. <u>—</u>                                                                                                            | —     | —    | —    | 7. <u>—</u>  | —     | —    | —    | Percent of Dominant Species That are OBL, FACW, or FAC:                                                       | 100 (A/B) |  |  |
| 4. <u>—</u>                                                                                                            | —     | —    | —    | 8. <u>—</u>  | —     | —    | —    | Prevalence Index worksheet:                                                                                   |           |  |  |
| Total Tree Cover: <u>65</u>                                                                                            |       |      |      |              |       |      |      | Total % Cover of:                                                                                             |           |  |  |
| 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>                                                          |       |      |      |              |       |      |      | Multiply by:                                                                                                  |           |  |  |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                          |       |      |      |              |       |      |      | OBL species <u>60</u> X1= <u>60</u>                                                                           |           |  |  |
| Abs.Cov.% Dom? Ind.                                                                                                    |       |      |      |              |       |      |      | FACW species <u>17</u> X2= <u>34</u>                                                                          |           |  |  |
| 1. <u>Myr gal</u>                                                                                                      | 30    | 4    | OBL  | 7. <u>—</u>  | —     | —    | —    | FAC species <u>35</u> X3= <u>105</u>                                                                          |           |  |  |
| 2. <u>—</u>                                                                                                            | 15    | 4    | FAC  | 8. <u>—</u>  | —     | —    | —    | FACU species <u>—</u> X4= <u>—</u>                                                                            |           |  |  |
| 3. <u>—</u>                                                                                                            | 10    | —    | FACW | 9. <u>—</u>  | —     | —    | —    | UPL + NL species <u>—</u> X5= <u>—</u>                                                                        |           |  |  |
| 4. <u>—</u>                                                                                                            | 3     | —    | OBL  | 10. <u>—</u> | —     | —    | —    | Column Totals: <u>120</u> (A) <u>207</u> (B)                                                                  |           |  |  |
| 5. <u>—</u>                                                                                                            | 5     | —    | FACW | 11. <u>—</u> | —     | —    | —    | Prevalence Index = B/A = <u>1.73</u>                                                                          |           |  |  |
| 6. <u>—</u>                                                                                                            | 2     | —    | FACW | 12. <u>—</u> | —     | —    | —    | Hydrophytic Vegetation Indicators:                                                                            |           |  |  |
| Total Sapling/Shrub Cover: <u>65</u>                                                                                   |       |      |      |              |       |      |      | 4 Dominance Test is >50%                                                                                      |           |  |  |
| 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>                                                          |       |      |      |              |       |      |      | 4 Prevalence Index is ≤3.0                                                                                    |           |  |  |
| Herb Stratum                                                                                                           |       |      |      |              |       |      |      | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)            |           |  |  |
| Abs.Cov.% Dom? Ind.                                                                                                    |       |      |      |              |       |      |      | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                                     |           |  |  |
| 1. <u>Cal can</u>                                                                                                      | 5     | —    | FAC  | 12. <u>—</u> | —     | —    | —    | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |           |  |  |
| 2. <u>Car May</u>                                                                                                      | 5     | —    | OBL  | 13. <u>—</u> | —     | —    | —    | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>           |           |  |  |
| 3. <u>Gri sch</u>                                                                                                      | 30    | 4    | OBL  | 14. <u>—</u> | —     | —    | —    |                                                                                                               |           |  |  |
| 4. <u>—</u>                                                                                                            | 15    | 4    | FAC  | 15. <u>—</u> | —     | —    | —    |                                                                                                               |           |  |  |
| 5. <u>—</u>                                                                                                            | —     | —    | —    | 16. <u>—</u> | —     | —    | —    |                                                                                                               |           |  |  |
| 6. <u>—</u>                                                                                                            | —     | —    | —    | 17. <u>—</u> | —     | —    | —    |                                                                                                               |           |  |  |
| 7. <u>—</u>                                                                                                            | —     | —    | —    | 18. <u>—</u> | —     | —    | —    |                                                                                                               |           |  |  |
| 8. <u>—</u>                                                                                                            | —     | —    | —    | 19. <u>—</u> | —     | —    | —    |                                                                                                               |           |  |  |
| 9. <u>—</u>                                                                                                            | —     | —    | —    | 20. <u>—</u> | —     | —    | —    |                                                                                                               |           |  |  |
| 10. <u>—</u>                                                                                                           | —     | —    | —    | 21. <u>—</u> | —     | —    | —    |                                                                                                               |           |  |  |
| 11. <u>—</u>                                                                                                           | —     | —    | —    | 22. <u>—</u> | —     | —    | —    |                                                                                                               |           |  |  |
| Total Herb Cover: <u>55</u>                                                                                            |       |      |      |              |       |      |      |                                                                                                               |           |  |  |
| 50% of total cover: <u>27.5</u> 20% of total cover: <u>11</u>                                                          |       |      |      |              |       |      |      |                                                                                                               |           |  |  |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>—</u> % of bare ground: <u>—</u> |       |      |      |              |       |      |      |                                                                                                               |           |  |  |
| % Cover of Wetland Bryophytes <u>80</u> % Total Cover of Bryophytes <u>80</u> % (where applicable)                     |       |      |      |              |       |      |      |                                                                                                               |           |  |  |
| Remarks: <u>Sphagnum</u>                                                                                               |       |      |      |              |       |      |      |                                                                                                               |           |  |  |



## SOIL

Sampling Point #: 230

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators)

[illegible]

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

**Hydric Soil Indicators** (check ones that apply, measure from top of mineral layers unless otherwise noted):

**Standard Indicators:**

- N Histosol or Histel (A1)
- Y Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- N Black Histic (A3)
- Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_" in this pit)
- Thick Dark Surface (A12)
- Alaska Gleyed (A13)
- Alaska Redox (A14)
- Alaska Gleyed Pores (A15)

### Indicators for Problematic Hydric Soils<sup>2</sup>:

✓ Alaska Color Change<sup>4</sup> (TA4)  
 — Alaska Alpine Swales (TA5)  
 — Alaska Redox with 2.5Y Hue  
 — Alaska Gleyed without Hue.5Y or Redder  
 Underlying Layer  
 — Other (e.g., see p.91 of 2007  
 Supplement; explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: \_\_\_\_\_  
Depth (inches) \_\_\_\_\_

Drainage Class: PD

Soil Map Unit Name:

Hydric Soil Present? Yes ☒ No ☐

Comments:

- 1.
- 2.
- 3.

## HYDROLOGY

**Wetland Hydrology Indicators (check ones that apply, measure from soil surface):**

**Primary Indicators** (any one indicator is sufficient)

|                                                                      |                                                                               |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Surface Water (A1)               | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2) (w/in 12") | <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input checked="" type="checkbox"/> Saturation (A3) (w/in 12")       | <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |
| <input checked="" type="checkbox"/> Water Marks (B1)                 | <input checked="" type="checkbox"/> Marl Deposits (B15)                       |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)           | <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)                |
| <input checked="" type="checkbox"/> Drift Deposits (B3)              | <input checked="" type="checkbox"/> Dry-Season Water Table (C2)               |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)          | <input checked="" type="checkbox"/> Other (explain)                           |
| <input checked="" type="checkbox"/> Iron Deposits (B5)               |                                                                               |

**Secondary Indicators (at least 2 are required)**

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4)  
(pos.  $\alpha, \alpha$  or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3)  
(w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5)  
(# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.) \_\_\_\_\_

Water Table Present? Yes ☒ No ☐ Depth to water (in.) \_\_\_\_\_

Seeping in at that depth but not yet filled?: 0

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 2

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WASCO Access Borough/City: MSB Date: 9/18/2020  
 Applicant/Owner: ATOCA Sampling Point #: 045  
 Investigator(s): A. Garck, N. Plota Firm: HDR Alaska, Inc.  
 Lat. (dec.): 61.512386 Long. 150.457730 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #: ☐  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: lowland Slope (%): - Aspect: -  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PSS4/1B  
 Photo nos./descriptions: 807 v2 N6SW Camera #: Ped Veg Type (Viereck Level 4 or other): PABd  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: Mar  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                             |           |                                     |               |                                                                |          |       |               | Dominance Test worksheet:                                                                                                                                                   |                               |
|---------------------------------------------------------------------------------------------------------------------|-----------|-------------------------------------|---------------|----------------------------------------------------------------|----------|-------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Species                                                                                                             | Cov. %    | Dom?                                | Ind.          | Species                                                        | Cov. %   | Dom?  | Ind.          | Number of Dominant Species That are OBL, FACW, or FAC:                                                                                                                      | (A)                           |
| 1. <u>P. mar</u>                                                                                                    | <u>20</u> | <u>1</u>                            | <u>P. mar</u> | 5. _____                                                       | _____    | _____ | _____         | Total Number of Dominant Species Across All Strata:                                                                                                                         | <u>4</u> (B)                  |
| 2. _____                                                                                                            | _____     | _____                               | _____         | 6. _____                                                       | _____    | _____ | _____         | Percent of Dominant Species That are OBL, FACW, or FAC:                                                                                                                     | _____ (A/B)                   |
| 3. _____                                                                                                            | _____     | _____                               | _____         | 7. _____                                                       | _____    | _____ | _____         | Prevalence Index worksheet:                                                                                                                                                 |                               |
| 4. _____                                                                                                            | _____     | _____                               | _____         | 8. _____                                                       | _____    | _____ | _____         | Total % Cover of:                                                                                                                                                           | Multiply by:                  |
| Total Tree Cover: <u>20</u>                                                                                         |           |                                     |               | 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>     |          |       |               | OBL species                                                                                                                                                                 | X1= <u>-</u>                  |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                       |           |                                     |               |                                                                |          |       |               | FACW species                                                                                                                                                                | X2= <u>70</u>                 |
| 1. <u>P. mar</u>                                                                                                    | <u>15</u> | <u>4</u>                            | <u>P. mar</u> | 7. <u>V. vit</u>                                               | <u>1</u> | _____ | <u>P. mar</u> | FAC species                                                                                                                                                                 | X3= <u>141</u>                |
| 2. <u>R. gro</u>                                                                                                    | <u>5</u>  | _____                               | <u>FAC</u>    | 8. <u>...</u>                                                  | <u>1</u> | _____ | <u>...</u>    | FACU species                                                                                                                                                                | X4= <u>72</u>                 |
| 3. <u>Men</u>                                                                                                       | <u>7</u>  | _____                               | <u>FACU</u>   | 9. <u>...</u>                                                  | <u>2</u> | _____ | <u>FACU</u>   | UPL + NL species                                                                                                                                                            | X5= <u>-</u>                  |
| 4. <u>Bet</u>                                                                                                       | <u>10</u> | <u>4</u>                            | <u>FAC</u>    | 10. <u>R. rom</u>                                              | <u>1</u> | _____ | <u>P. mar</u> | Column Totals:                                                                                                                                                              | <u>100</u> (A) <u>283</u> (B) |
| 5. <u>S. sc</u>                                                                                                     | <u>8</u>  | _____                               | <u>FACU</u>   | 11. <u>...</u>                                                 | <u>1</u> | _____ | <u>FAC</u>    | Prevalence Index = B/A = <u>2.83</u>                                                                                                                                        |                               |
| 6. <u>A. cr</u>                                                                                                     | <u>2</u>  | _____                               | <u>FAC</u>    | 12. _____                                                      | _____    | _____ | _____         | Hydrophytic Vegetation Indicators:                                                                                                                                          |                               |
| Total Sapling/Shrub Cover: <u>49</u>                                                                                |           |                                     |               | 50% of total cover: <u>24.5</u> 20% of total cover: <u>9.8</u> |          |       |               | <u>4</u> Dominance Test is >50%<br><u>4</u> Prevalence Index is ≤3.0                                                                                                        |                               |
| Herb Stratum                                                                                                        |           |                                     |               |                                                                |          |       |               | _____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |                               |
| 1. <u>Cal can</u>                                                                                                   | <u>25</u> | <input checked="" type="checkbox"/> | <u>FAC</u>    | 12. _____                                                      | _____    | _____ | _____         | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.                                                               |                               |
| 2. <u>E. syl</u>                                                                                                    | <u>5</u>  | _____                               | <u>FAC</u>    | 13. _____                                                      | _____    | _____ | _____         | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>                                                                         |                               |
| 3. <u>G. m</u>                                                                                                      | <u>1</u>  | _____                               | <u>FACU</u>   | 14. _____                                                      | _____    | _____ | _____         |                                                                                                                                                                             |                               |
| 4. <u>S. ar</u>                                                                                                     | <u>1</u>  | _____                               | <u>FACU</u>   | 15. _____                                                      | _____    | _____ | _____         | Remarks: <u>depressions</u>                                                                                                                                                 |                               |
| 5. <u>Car can</u>                                                                                                   | <u>1</u>  | _____                               | <u>FACU</u>   | 16. _____                                                      | _____    | _____ | _____         |                                                                                                                                                                             |                               |
| 6. _____                                                                                                            | _____     | _____                               | _____         | 17. _____                                                      | _____    | _____ | _____         |                                                                                                                                                                             |                               |
| 7. _____                                                                                                            | _____     | _____                               | _____         | 18. _____                                                      | _____    | _____ | _____         |                                                                                                                                                                             |                               |
| 8. _____                                                                                                            | _____     | _____                               | _____         | 19. _____                                                      | _____    | _____ | _____         |                                                                                                                                                                             |                               |
| 9. _____                                                                                                            | _____     | _____                               | _____         | 20. _____                                                      | _____    | _____ | _____         |                                                                                                                                                                             |                               |
| 10. _____                                                                                                           | _____     | _____                               | _____         | 21. _____                                                      | _____    | _____ | _____         |                                                                                                                                                                             |                               |
| 11. _____                                                                                                           | _____     | _____                               | _____         | 22. _____                                                      | _____    | _____ | _____         |                                                                                                                                                                             |                               |
| Total Herb Cover: <u>31</u>                                                                                         |           |                                     |               | 50% of total cover: <u>15.5</u> 20% of total cover: <u>6.2</u> |          |       |               |                                                                                                                                                                             |                               |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: _____ % of bare ground: <u>5</u> |           |                                     |               |                                                                |          |       |               |                                                                                                                                                                             |                               |
| % Cover of Wetland Bryophytes <u>10</u> % Total Cover of Bryophytes <u>30</u> % (where applicable)                  |           |                                     |               |                                                                |          |       |               |                                                                                                                                                                             |                               |



## SOIL

Sampling Point #: 045

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |   | Redox Features |   |                   |                  | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|---|----------------|---|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | % | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |                                    |
| 0-9            | OL                | 10YR 2/2      | — | —              | — | —                 | —                | —                         | —                                  |
| 9-11           | A                 | 10YR 2/2      | — | —              | — | —                 | —                | Sil                       | —                                  |
| 11-18          | B                 | 7.5YR 2.5/3   | — | —              | — | —                 | —                | Sil                       | fgm + a-a. high                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)
- ☒ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- ☒ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_ in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☒ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: \_\_\_\_\_

Depth (Inches) \_\_\_\_\_

Drainage Class: PD

Soil Map Unit Name: \_\_\_\_\_

Hydric Soil Present?

Yes ☒No ☐

Comments:

- 1.
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☒ 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)

## Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☒ No ☐ Depth of water (in.) 2

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 17

Seeping in at that depth but not yet filled?: 10

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 2

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present?

Yes ☒No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

surface water in depressions



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West 81 Access Borough/City: MSB Date: 9/18/2020  
 Applicant/Owner: AIDEA Sampling Point #: 054  
 Investigator(s): A. GORLE, N. FLOREN Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.511033 Long. 150.450728 ± ' NAD 83 Recorded on GPS #: \_\_\_\_\_ Marked on map? \_\_\_\_\_ Field Map #: \_\_\_\_\_  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Knob Slope (%): 2 Aspect: SE  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: \_\_\_\_\_  
 Photo nos./descriptions: SPT 12 NBSW Camera #: \_\_\_\_\_ Veg Type (Viereck Level 4 or other): ILL-Black spruce  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: \_\_\_\_\_ If no, explain. HGM type: NIA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                                        |                                                                                        |                            |
|---------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------|----------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Is the sampled area within a wetland? Yes _____ No <input checked="" type="checkbox"/> | Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes _____                               | No <input checked="" type="checkbox"/> |                                                                                        |                            |
| Wetland Hydrology Present?      | Yes _____                               | No <input checked="" type="checkbox"/> |                                                                                        |                            |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                             |           |          |             |                   |          |       |            | Dominance Test worksheet:                                                                                     |                               |
|---------------------------------------------------------------------------------------------------------------------|-----------|----------|-------------|-------------------|----------|-------|------------|---------------------------------------------------------------------------------------------------------------|-------------------------------|
| Species                                                                                                             | Cov. %    | Dom?     | Ind.        | Species           | Cov. %   | Dom?  | Ind.       | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                               |
| 1. <u>Pic mar</u>                                                                                                   | <u>15</u> | <u>4</u> | <u>FACW</u> | 5. _____          | _____    | _____ | _____      | <u>5</u>                                                                                                      | (A)                           |
| 2. <u>Bet pap</u>                                                                                                   | <u>10</u> | <u>4</u> | <u>FACW</u> | 6. _____          | _____    | _____ | _____      | Total Number of Dominant Species Across All Strata:                                                           | <u>7</u> (B)                  |
| 3. _____                                                                                                            | _____     | _____    | _____       | 7. _____          | _____    | _____ | _____      | Percent of Dominant Species That are OBL, FACW, or FAC:                                                       | <u>71%</u> (A/B)              |
| 4. _____                                                                                                            | _____     | _____    | _____       | 8. _____          | _____    | _____ | _____      | Prevalence Index worksheet:                                                                                   |                               |
| Total Tree Cover: <u>25</u>                                                                                         |           |          |             |                   |          |       |            | Total % Cover of:                                                                                             |                               |
| 50% of total cover: <u>12.5</u>                                                                                     |           |          |             |                   |          |       |            | Multiply by:                                                                                                  |                               |
| 20% of total cover: <u>5</u>                                                                                        |           |          |             |                   |          |       |            | OBL species                                                                                                   |                               |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                       |           |          |             |                   |          |       |            | FACW species                                                                                                  |                               |
| 1. <u>Pic mar</u>                                                                                                   | <u>10</u> | _____    | <u>FACW</u> | 7. <u>Emp nig</u> | <u>1</u> | _____ | <u>FAC</u> | X1= <u>25</u>                                                                                                 |                               |
| 2. <u>Men fr</u>                                                                                                    | <u>60</u> | <u>4</u> | <u>FACW</u> | 8. <u>Val vit</u> | <u>1</u> | _____ | <u>FAC</u> | X2= <u>99</u>                                                                                                 |                               |
| 3. <u>Vib bra</u>                                                                                                   | <u>20</u> | <u>4</u> | <u>FAC</u>  | 9. _____          | _____    | _____ | _____      | X3= <u>308</u>                                                                                                |                               |
| 4. <u>Bet pap</u>                                                                                                   | <u>5</u>  | _____    | <u>FACW</u> | 10. _____         | _____    | _____ | _____      | X4= <u>432</u>                                                                                                | (B)                           |
| 5. <u>Lin bar</u>                                                                                                   | <u>2</u>  | _____    | <u>FACW</u> | 11. _____         | _____    | _____ | _____      | UPL + NL species                                                                                              | _____                         |
| 6. <u>Rhogyro</u>                                                                                                   | <u>3</u>  | _____    | <u>FAC</u>  | 12. _____         | _____    | _____ | _____      | Column Totals:                                                                                                | <u>135</u> (A) <u>432</u> (B) |
| Total Sapling/Shrub Cover: <u>100</u>                                                                               |           |          |             |                   |          |       |            | Prevalence Index = B/A = <u>3.20</u>                                                                          |                               |
| 50% of total cover: <u>50</u>                                                                                       |           |          |             |                   |          |       |            | 20% of total cover: <u>20</u>                                                                                 |                               |
| Herb Stratum                                                                                                        |           |          |             |                   |          |       |            | Hydrophytic Vegetation Indicators:                                                                            |                               |
| 1. <u>Rub ped</u>                                                                                                   | <u>2</u>  | <u>4</u> | <u>FAC</u>  | 12. _____         | _____    | _____ | _____      | <u>1</u> Dominance Test is >50%                                                                               |                               |
| 2. <u>Ely syl</u>                                                                                                   | <u>5</u>  | <u>4</u> | <u>FAC</u>  | 13. _____         | _____    | _____ | _____      | <u>N</u> Prevalence Index is ≤3.0                                                                             |                               |
| 3. <u>Car con</u>                                                                                                   | <u>5</u>  | <u>4</u> | <u>FAC</u>  | 14. _____         | _____    | _____ | _____      | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)            |                               |
| 4. <u>Car con</u>                                                                                                   | <u>1</u>  | _____    | <u>FACW</u> | 15. _____         | _____    | _____ | _____      | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                                     |                               |
| 5. _____                                                                                                            | _____     | _____    | _____       | 16. _____         | _____    | _____ | _____      | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                               |
| 6. _____                                                                                                            | _____     | _____    | _____       | 17. _____         | _____    | _____ | _____      | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____                              |                               |
| 7. _____                                                                                                            | _____     | _____    | _____       | 18. _____         | _____    | _____ | _____      |                                                                                                               |                               |
| 8. _____                                                                                                            | _____     | _____    | _____       | 19. _____         | _____    | _____ | _____      |                                                                                                               |                               |
| 9. _____                                                                                                            | _____     | _____    | _____       | 20. _____         | _____    | _____ | _____      |                                                                                                               |                               |
| 10. _____                                                                                                           | _____     | _____    | _____       | 21. _____         | _____    | _____ | _____      |                                                                                                               |                               |
| 11. _____                                                                                                           | _____     | _____    | _____       | 22. _____         | _____    | _____ | _____      | Total Herb Cover: <u>10</u>                                                                                   |                               |
| 50% of total cover: <u>5</u>                                                                                        |           |          |             |                   |          |       |            | 20% of total cover: <u>2</u>                                                                                  |                               |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: _____ % of bare ground: <u>0</u> |           |          |             |                   |          |       |            |                                                                                                               |                               |
| % Cover of Wetland Bryophytes <u>0</u> % Total Cover of Bryophytes <u>10</u> %                                      |           |          |             |                   |          |       |            |                                                                                                               |                               |
| Remarks:                                                                                                            |           |          |             |                   |          |       |            |                                                                                                               |                               |



## SOIL

Sampling Point #: 054

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |    | Redox Features |    |                         |                  | α,α dip. |               | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|----|----------------|----|-------------------------|------------------|----------|---------------|------------------------------------|
|                |                   | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup>       | Loc <sup>2</sup> | Texture  | (pos/<br>neg) |                                    |
| 0-4            | 0e                |               |    |                |    |                         |                  |          |               |                                    |
| 4-11           | B1                | 7.5Y4/2       | 85 | 7.5YR3/3       | 5  | C                       | CS               | LoSi     | -             | inclusions of sand + hum           |
|                |                   |               |    | 7.5YR2.5/1     | 1b | ash/charcoal inclusions |                  |          |               |                                    |
| 11-17          | B2                | 10YR4/2       | 80 | 7.5YR3/4       | 20 | C                       | CS               | Sand     |               |                                    |
|                |                   |               |    |                |    |                         |                  |          |               |                                    |
|                |                   |               |    |                |    |                         |                  |          |               |                                    |
|                |                   |               |    |                |    |                         |                  |          |               |                                    |
|                |                   |               |    |                |    |                         |                  |          |               |                                    |
|                |                   |               |    |                |    |                         |                  |          |               |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_ in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☒ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder
- ☐ Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: \_\_\_\_\_

Depth (inches) \_\_\_\_\_

Drainage Class: WD

Soil Map Unit Name:

Hydric Soil Present?

Yes \_\_\_\_\_ No ☒

## Comments:

1. Soil moist but not saturated
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☒ 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)

## Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. α,α or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth of water (in.) \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No ☒ Depth to water (in.) \_\_\_\_\_

Seeping in at that depth but not yet filled?: \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ☒ Depth to sat. (in.) \_\_\_\_\_

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present?

Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West. Su Borough/City: MSB Date: 7/15/2020  
 Applicant/Owner: AIDEA Sampling Point #: 500  
 Investigator(s): ERIN CUNNINGHAM; NORA HOTCH Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.977642 Long. 152.549897 NAD 83 Recorded on GPS #: ind Marked on map? ☒ Field Map #: 1/2  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: hillside Slope (%): 30 Aspect: S  
 Local relief: Shape across slope: linear convex concave Shape up/downslope: linear / convex / concave NWI classification: V  
 Photo nos./descriptions: SOILS x 2, N.E.S.W Camera #: ind Veg Type (Vioreck Level 4 or other): LC2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                              |                                        |                                                                                                                                         |
|---------------------------------|------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |                                                                                                                                         |

VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3") |           |          |             |          |       |       |       |
|-------------------------|-----------|----------|-------------|----------|-------|-------|-------|
| Species                 | Cov.%     | Dom?     | Ind.        | Species  | Cov.% | Dom?  | Ind.  |
| 1. <u>Picea glauca</u>  | <u>20</u> | <u>Y</u> | <u>FACM</u> | 5. _____ | _____ | _____ | _____ |
| 2. <u>Bet pap</u>       | <u>5</u>  | <u>-</u> | <u>FACU</u> | 6. _____ | _____ | _____ | _____ |
| 3. <u>Bet ken</u>       | <u>13</u> | <u>Y</u> | <u>FACU</u> | 7. _____ | _____ | _____ | _____ |
| 4. <u>Salix bae</u>     | <u>10</u> | <u>Y</u> | <u>FACU</u> | 8. _____ | _____ | _____ | _____ |

Total Tree Cover: 4850% of total cover: 2420% of total cover: 9.6

## Dominance Test worksheet:

|                                                         |                  |
|---------------------------------------------------------|------------------|
| Number of Dominant Species That are OBL, FACW, or FAC:  | <u>4</u> (A)     |
| Total Number of Dominant Species Across All Strata:     | <u>9</u> (B)     |
| Percent of Dominant Species That are OBL, FACW, or FAC: | <u>44%</u> (A/B) |

## Prevalence Index worksheet:

| Total % Cover of:             | Multiply by:   |
|-------------------------------|----------------|
| OBL species _____             | X1= _____      |
| FACW species _____            | X2= _____      |
| FAC species <u>65</u>         | X3= <u>195</u> |
| FACU species <u>114</u>       | X4= <u>456</u> |
| UPL + NL species _____        | X5= _____      |
| Column Totals: <u>179</u> (A) | <u>651</u> (B) |

Prevalence Index = B/A = 3.63

## Sapling/Shrub Stratum (woody plants &lt; 3" dbh)

| Species                | Abs.Cov.% | Dom?     | Ind.        | Species              | Abs.Cov.% | Dom?     | Ind.        |
|------------------------|-----------|----------|-------------|----------------------|-----------|----------|-------------|
| 1. <u>Picea glauca</u> | <u>15</u> | <u>Y</u> | <u>FACM</u> | 7. <u>Salix bae</u>  | <u>8</u>  | <u>Y</u> | <u>FACU</u> |
| 2. <u>Alnus sin</u>    | <u>5</u>  | <u>-</u> | <u>FACU</u> | 8. <u>Ros. aca</u>   | <u>3</u>  | <u>-</u> | <u>FACU</u> |
| 3. <u>Bet ken</u>      | <u>5</u>  | <u>-</u> | <u>FACU</u> | 9. <u>Vac vit</u>    | <u>2</u>  | <u>-</u> | <u>FACU</u> |
| 4. <u>Lys ann</u>      | <u>10</u> | <u>Y</u> | <u>FACU</u> | 10. <u>Spic beau</u> | <u>5</u>  | <u>-</u> | <u>FACU</u> |
| 5. <u>Lys clarkii</u>  | <u>5</u>  | <u>Y</u> | <u>FACU</u> | 11. <u>Pop trem</u>  | <u>5</u>  | <u>-</u> | <u>FACU</u> |
| 6. <u>Linn bar</u>     | <u>5</u>  | <u>-</u> | <u>FACU</u> | 12. <u>Vib edule</u> | <u>3</u>  | <u>-</u> | <u>FACU</u> |

Total Sapling/Shrub Cover: 7150% of total cover: 35.520% of total cover: 14.2

## Herb Stratum

| Species                | Abs.Cov.% | Dom?     | Ind.        | Species   | Abs.Cov.% | Dom?  | Ind.  |
|------------------------|-----------|----------|-------------|-----------|-----------|-------|-------|
| 1. <u>Gal can</u>      | <u>30</u> | <u>Y</u> | <u>FACU</u> | 12. _____ | _____     | _____ | _____ |
| 2. <u>Corn can</u>     | <u>7</u>  | <u>-</u> | <u>FACU</u> | 13. _____ | _____     | _____ | _____ |
| 3. <u>Cham ang</u>     | <u>8</u>  | <u>-</u> | <u>FACU</u> | 14. _____ | _____     | _____ | _____ |
| 4. <u>Lys cur</u>      | <u>10</u> | <u>Y</u> | <u>FACU</u> | 15. _____ | _____     | _____ | _____ |
| 5. <u>Tric cur</u>     | <u>2</u>  | <u>-</u> | <u>FACU</u> | 16. _____ | _____     | _____ | _____ |
| 6. <u>Comandra liv</u> | <u>3</u>  | <u>-</u> | <u>FACU</u> | 17. _____ | _____     | _____ | _____ |
| 7. _____               | _____     | _____    | _____       | 18. _____ | _____     | _____ | _____ |
| 8. _____               | _____     | _____    | _____       | 19. _____ | _____     | _____ | _____ |
| 9. _____               | _____     | _____    | _____       | 20. _____ | _____     | _____ | _____ |
| 10. _____              | _____     | _____    | _____       | 21. _____ | _____     | _____ | _____ |
| 11. _____              | _____     | _____    | _____       | 22. _____ | _____     | _____ | _____ |

Total Herb Cover: 6050% of total cover: 3020% of total cover: 12

Circular 1/10-ac plot ☒ or other plot dimension: \_\_\_\_\_ % of bare ground: 15  
 % Cover of Wetland Bryophytes 10 % Total Cover of Bryophytes \_\_\_\_\_ %  
 (where applicable)

Remarks: leaf litter covers some of bare ground

## Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%  
☐ Prevalence Index is ≤3.0  
☐ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present?

Yes ☐ No ☒



## SOIL

Sampling Point #: 500

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.)    | Soil Matrix      |            | Redox Features |   |                   |                  | Texture     | $\alpha, \alpha$ dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|----------------------|------------------|------------|----------------|---|-------------------|------------------|-------------|----------------------------------------|------------------------------------|
|                |                      | Color (moist)    | %          | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |             |                                        |                                    |
| <u>0-2</u>     | <u>A</u>             | <u>10YR 2/1</u>  | <u>100</u> |                |   |                   |                  | <u>SiL</u>  |                                        |                                    |
| <u>2-4</u>     | <u>E</u>             | <u>10YR 5/2</u>  | <u>100</u> |                |   |                   |                  | <u>Sal</u>  |                                        | <u>too dry for a</u>               |
| <u>4-8</u>     | <u>B<sub>1</sub></u> | <u>7.5YR 3/4</u> | <u>100</u> |                |   |                   |                  | <u>FSal</u> |                                        | <u>10/buried ash/org</u>           |
| <u>8-12</u>    | <u>B<sub>2</sub></u> | <u>10YR 4/6</u>  | <u>100</u> |                |   |                   |                  | <u>Sal</u>  |                                        |                                    |
| <u>12-16</u>   | <u>B<sub>3</sub></u> | <u>2.5Y 5/6</u>  | <u>100</u> |                |   |                   |                  | <u>Sal</u>  |                                        |                                    |
|                |                      |                  |            |                |   |                   |                  |             |                                        |                                    |
|                |                      |                  |            |                |   |                   |                  |             |                                        |                                    |
|                |                      |                  |            |                |   |                   |                  |             |                                        |                                    |
|                |                      |                  |            |                |   |                   |                  |             |                                        |                                    |
|                |                      |                  |            |                |   |                   |                  |             |                                        |                                    |
|                |                      |                  |            |                |   |                   |                  |             |                                        |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- N Histosol or Histel (A1)  
N Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )  
N Black Histic (A3)  
N Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_" in this pit)  
N Thick Dark Surface (A12)  
N Alaska Gleyed (A13)  
N Alaska Redox (A14)  
N Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- N Alaska Color Change<sup>4</sup> (TA4)  
N Alaska Alpine Swales (TA5)  
N Alaska Redox with 2.5Y Hue  
N Alaska Gleyed without Hue 5Y or Redder Underlying Layer  
N Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.  
<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) \_\_\_\_\_

Drainage Class: WD

Soil Map Unit Name: \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Comments:

1. Dry; too dry to alpha alpha  
 2.  
 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- N Surface Water (A1) N Surface Soil Cracks (B6)  
N High Water Table (A2) (w/in 12") N Inundation Visible on Aerial Imagery (B7)  
N Saturation (A3) (w/in 12") N Sparsely Vegetated Concave Surface (B8)  
N Water Marks (B1) N Marl Deposits (B15)  
N Sediment Deposits (B2) N Hydrogen Sulfide Odor (C1)  
N Drift Deposits (B3) N Dry-Season Water Table (C2)  
N Algal Mat or Crust (B4) N Other (explain)  
N Iron Deposits (B5)

## Secondary Indicators (at least 2 are required)

- Water-Stained Leaves (B9)  
   Drainage Patterns (B10)  
   Oxid'd Rhizospheres on Living Roots (C3) (within 12")  
   Presence of Reduced Iron (C4) (pos.  $\alpha, \alpha$  or soil color change w/in 12")  
   Salt Deposits (C5)  
   Stunted or Stressed Plants (D1)  
   Geomorphic Position (D2)  
   Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")  
   Microtopographic Relief (D4) (caused by water)  
   FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth of water (in.) \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth to water (in.) \_\_\_\_\_Seeping in at that depth but not yet filled?:   Saturation Present? Yes \_\_\_\_\_ No ☒ Depth to sat. (in.) \_\_\_\_\_

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sn Access Borough/City: MSB Date: 9/15/2020  
 Applicant/Owner: AIDEA Sampling Point #: 501  
 Investigator(s): Chris Cunningham, Nora Hoteh Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61.977585 Long. 152.547242 ± ' NAD 83 Recorded on GPS #: 148 Marked on map? ☒ Field Map #: 1/2  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Swale Slope (%): 3 Aspect: W  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PSS1C  
 Photo nos./descriptions: SOILS x2, NESW Camera #: \_\_\_\_\_ Veg Type (Viereck Level 4 or other): IB1d  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: \_\_\_\_\_ If no, explain. HGM type: SLOPE  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |          |                                                                                                                      |
|---------------------------------|-----------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No _____ | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No _____<br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No _____ |                                                                                                                      |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No _____ |                                                                                                                      |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                 |           |          |             |           |           |       |       | Dominance Test worksheet:                                                                                     |                               |
|-------------------------------------------------------------------------------------------------------------------------|-----------|----------|-------------|-----------|-----------|-------|-------|---------------------------------------------------------------------------------------------------------------|-------------------------------|
| Species                                                                                                                 | Cov.%     | Dom?     | Ind.        | Species   | Cov.%     | Dom?  | Ind.  | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                               |
| 1. _____                                                                                                                | _____     | _____    | _____       | 5. _____  | _____     | _____ | _____ | 4                                                                                                             | (A)                           |
| 2. _____                                                                                                                | _____     | _____    | _____       | 6. _____  | _____     | _____ | _____ | Total Number of Dominant Species Across All Strata:                                                           | 5 (B)                         |
| 3. _____                                                                                                                | _____     | _____    | _____       | 7. _____  | _____     | _____ | _____ | Percent of Dominant Species That are OBL, FACW, or FAC:                                                       | 80% (A/B)                     |
| 4. _____                                                                                                                | _____     | _____    | _____       | 8. _____  | _____     | _____ | _____ | Prevalence Index worksheet:                                                                                   |                               |
| Total Tree Cover: <u>0</u>                                                                                              |           |          |             |           |           |       |       | Total % Cover of:                                                                                             | Multiply by:                  |
| 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>                                                               |           |          |             |           |           |       |       | OBL species                                                                                                   | X1= <u>—</u>                  |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                           |           |          |             |           |           |       |       | FACW species                                                                                                  | X2= <u>20</u>                 |
|                                                                                                                         | Abs.Cov.% | Dom?     | Ind.        |           | Abs.Cov.% | Dom?  | Ind.  | FAC species                                                                                                   | X3= <u>300</u>                |
| 1. <u>Alnus sin</u>                                                                                                     | <u>40</u> | <u>Y</u> | <u>FAC</u>  | 7. _____  | _____     | _____ | _____ | FACU species                                                                                                  | X4= <u>84</u>                 |
| 2. <u>Ribes tri</u>                                                                                                     | <u>10</u> | <u>—</u> | <u>FAC</u>  | 8. _____  | _____     | _____ | _____ | UPL + NL species                                                                                              | X5= <u>—</u>                  |
| 3. <u>Salix bar</u>                                                                                                     | <u>20</u> | <u>Y</u> | <u>FAC</u>  | 9. _____  | _____     | _____ | _____ | Column Totals:                                                                                                | <u>131</u> (A) <u>404</u> (B) |
| 4. <u>Salix rich</u>                                                                                                    | <u>10</u> | <u>—</u> | <u>FACW</u> | 10. _____ | _____     | _____ | _____ | Prevalence Index = B/A = <u>3.08</u>                                                                          |                               |
| 5. <u>Sorbus ser</u>                                                                                                    | <u>5</u>  | <u>—</u> | <u>FACW</u> | 11. _____ | _____     | _____ | _____ | Hydrophytic Vegetation Indicators:                                                                            |                               |
| 6. _____                                                                                                                | _____     | _____    | _____       | 12. _____ | _____     | _____ | _____ | <u>Y</u> Dominance Test is >50%                                                                               |                               |
| Total Sapling/Shrub Cover: <u>85</u>                                                                                    |           |          |             |           |           |       |       | <u>—</u> Prevalence Index is ≤3.0                                                                             |                               |
| 50% of total cover: <u>42.5</u> 20% of total cover: <u>17</u>                                                           |           |          |             |           |           |       |       | <u>—</u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)   |                               |
| Herb Stratum                                                                                                            |           |          |             |           |           |       |       | <u>—</u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                            |                               |
|                                                                                                                         | Abs.Cov.% | Dom?     | Ind.        |           | Abs.Cov.% | Dom?  | Ind.  | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                               |
| 1. <u>Equis ar v</u>                                                                                                    | <u>10</u> | <u>Y</u> | <u>FAC</u>  | 12. _____ | _____     | _____ | _____ | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____                              |                               |
| 2. <u>Tri evr</u>                                                                                                       | <u>1</u>  | <u>—</u> | <u>FACW</u> | 13. _____ | _____     | _____ | _____ |                                                                                                               |                               |
| 3. <u>Dry dilatata</u>                                                                                                  | <u>7</u>  | <u>—</u> | <u>FACW</u> | 14. _____ | _____     | _____ | _____ |                                                                                                               |                               |
| 4. <u>Polemon am</u>                                                                                                    | <u>2</u>  | <u>—</u> | <u>FAC</u>  | 15. _____ | _____     | _____ | _____ |                                                                                                               |                               |
| 5. <u>Viola sp</u>                                                                                                      | <u>2</u>  | <u>—</u> | <u>—</u>    | 16. _____ | _____     | _____ | _____ |                                                                                                               |                               |
| 6. <u>Galium tri</u>                                                                                                    | <u>2</u>  | <u>—</u> | <u>FAC</u>  | 17. _____ | _____     | _____ | _____ |                                                                                                               |                               |
| 7. <u>Athy fol-fem</u>                                                                                                  | <u>10</u> | <u>Y</u> | <u>FAC</u>  | 18. _____ | _____     | _____ | _____ |                                                                                                               |                               |
| 8. <u>Verica dioica</u>                                                                                                 | <u>8</u>  | <u>Y</u> | <u>FACW</u> | 19. _____ | _____     | _____ | _____ |                                                                                                               |                               |
| 9. <u>Axon ddp</u>                                                                                                      | <u>1</u>  | <u>—</u> | <u>FAC</u>  | 20. _____ | _____     | _____ | _____ |                                                                                                               |                               |
| 10. <u>Cal can</u>                                                                                                      | <u>3</u>  | <u>—</u> | <u>FAC</u>  | 21. _____ | _____     | _____ | _____ |                                                                                                               |                               |
| 11. _____                                                                                                               | _____     | _____    | _____       | 22. _____ | _____     | _____ | _____ |                                                                                                               |                               |
| Total Herb Cover: <u>48</u>                                                                                             |           |          |             |           |           |       |       |                                                                                                               |                               |
| 50% of total cover: <u>24</u> 20% of total cover: <u>9.6</u>                                                            |           |          |             |           |           |       |       |                                                                                                               |                               |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>—</u> % of bare ground: <u>20</u> |           |          |             |           |           |       |       |                                                                                                               |                               |
| % Cover of Wetland Bryophytes <u>15</u> % Total Cover of Bryophytes <u>—</u> % (where applicable)                       |           |          |             |           |           |       |       |                                                                                                               |                               |
| Remarks: <u>Spruce trees on edge but not within swale / plot.</u>                                                       |           |          |             |           |           |       |       |                                                                                                               |                               |







## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sea Access Borough/City: MCAB Date: 9/15/2020  
 Applicant/Owner: ADDA Sampling Point #: 503  
 Investigator(s): LEVIN CUNNINGHAM, NOVA KOTCH Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61.978795 Long. 152.546450 ± ' NAD 83 Recorded on GPS #: \_\_\_\_\_ Marked on map? ☒ Field Map #: 1/2  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: bench Slope (%): 3 Aspect: \_\_\_\_\_  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: 7  
 Photo nos./descriptions: SOILS x2, NFSW Camera #: \_\_\_\_\_ Veg Type (Viereck Level 4 or other): 11B1a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: \_\_\_\_\_ If no, explain. HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                                        |                                                                                                                      |
|---------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No _____                               | Is the sampled area within a wetland? Yes _____ No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes _____                               | No <input checked="" type="checkbox"/> |                                                                                                                      |
| Wetland Hydrology Present?      | Yes _____                               | No <input checked="" type="checkbox"/> |                                                                                                                      |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                              |             |          |             |           |             |       |       | Dominance Test worksheet:                                                                                     |                 |
|----------------------------------------------------------------------------------------------------------------------|-------------|----------|-------------|-----------|-------------|-------|-------|---------------------------------------------------------------------------------------------------------------|-----------------|
| Species                                                                                                              | Cov. %      | Dom?     | Ind.        | Species   | Cov. %      | Dom?  | Ind.  | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                 |
| 1. <u>Picea glauca</u>                                                                                               | <u>10</u>   | <u>Y</u> | <u>FACW</u> | 5. _____  | _____       | _____ | _____ | <u>3</u>                                                                                                      | (A)             |
| 2. _____                                                                                                             | _____       | _____    | _____       | 6. _____  | _____       | _____ | _____ | Total Number of Dominant Species Across All Strata:                                                           | <u>4</u> (B)    |
| 3. _____                                                                                                             | _____       | _____    | _____       | 7. _____  | _____       | _____ | _____ | Percent of Dominant Species That are OBL, FACW, or FAC:                                                       | <u>75</u> (A/B) |
| 4. _____                                                                                                             | _____       | _____    | _____       | 8. _____  | _____       | _____ | _____ | Prevalence Index worksheet:                                                                                   |                 |
| Total Tree Cover: <u>10</u>                                                                                          |             |          |             |           |             |       |       | Total % Cover of:                                                                                             |                 |
| 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>                                                            |             |          |             |           |             |       |       | Multiply by:                                                                                                  |                 |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                        |             |          |             |           |             |       |       | OBL species _____ X1= _____                                                                                   |                 |
| Species                                                                                                              | Abs. Cov. % | Dom?     | Ind.        | Species   | Abs. Cov. % | Dom?  | Ind.  | FACW species _____ X2= _____                                                                                  |                 |
| 1. <u>Vib. edule</u>                                                                                                 | <u>5</u>    | <u>-</u> | <u>FACW</u> | 7. _____  | _____       | _____ | _____ | FAC species <u>12.4</u> X3= <u>372</u>                                                                        |                 |
| 2. <u>Salix trieta</u>                                                                                               | <u>5</u>    | <u>-</u> | <u>FACW</u> | 8. _____  | _____       | _____ | _____ | FACU species <u>4.1</u> X4= <u>16.4</u>                                                                       |                 |
| 3. <u>Salix vit</u>                                                                                                  | <u>5</u>    | <u>-</u> | <u>FACW</u> | 9. _____  | _____       | _____ | _____ | UPL + NL species _____ X5= _____                                                                              |                 |
| 4. <u>Lyc ann</u>                                                                                                    | <u>5</u>    | <u>-</u> | <u>FACW</u> | 10. _____ | _____       | _____ | _____ | Column Totals: <u>165</u> (A) <u>536</u> (B)                                                                  |                 |
| 5. <u>Alnus sin</u>                                                                                                  | <u>50</u>   | <u>Y</u> | <u>FAC</u>  | 11. _____ | _____       | _____ | _____ | Prevalence Index = B/A = <u>3.24</u>                                                                          |                 |
| 6. <u>Salix bar</u>                                                                                                  | <u>7</u>    | <u>-</u> | <u>FACW</u> | 12. _____ | _____       | _____ | _____ |                                                                                                               |                 |
| Total Sapling/Shrub Cover: <u>87</u>                                                                                 |             |          |             |           |             |       |       |                                                                                                               |                 |
| 50% of total cover: <u>43.5</u> 20% of total cover: <u>17.4</u>                                                      |             |          |             |           |             |       |       |                                                                                                               |                 |
| Herb Stratum                                                                                                         |             |          |             |           |             |       |       | Hydrophytic Vegetation Indicators:                                                                            |                 |
| Species                                                                                                              | Abs. Cov. % | Dom?     | Ind.        | Species   | Abs. Cov. % | Dom?  | Ind.  | <u>Y</u> Dominance Test is >50%                                                                               |                 |
| 1. <u>Emp. ar</u>                                                                                                    | <u>25</u>   | <u>Y</u> | <u>FAC</u>  | 12. _____ | _____       | _____ | _____ | <u>-</u> Prevalence Index is ≤3.0                                                                             |                 |
| 2. <u>Athy fol pem</u>                                                                                               | <u>10</u>   | <u>Y</u> | <u>FAC</u>  | 13. _____ | _____       | _____ | _____ | <u>-</u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)   |                 |
| 3. <u>Cal can</u>                                                                                                    | <u>7</u>    | <u>-</u> | <u>FAC</u>  | 14. _____ | _____       | _____ | _____ | <u>-</u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                            |                 |
| 4. <u>Vrt aio</u>                                                                                                    | <u>5</u>    | <u>-</u> | <u>FACW</u> | 15. _____ | _____       | _____ | _____ | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                 |
| 5. <u>Cham ang</u>                                                                                                   | <u>2</u>    | <u>-</u> | <u>FACW</u> | 16. _____ | _____       | _____ | _____ |                                                                                                               |                 |
| 6. <u>Galium tri</u>                                                                                                 | <u>2</u>    | <u>-</u> | <u>FAC</u>  | 17. _____ | _____       | _____ | _____ |                                                                                                               |                 |
| 7. <u>Dry dil</u>                                                                                                    | <u>8</u>    | <u>-</u> | <u>FACW</u> | 18. _____ | _____       | _____ | _____ |                                                                                                               |                 |
| 8. <u>Acon doph</u>                                                                                                  | <u>3</u>    | <u>-</u> | <u>FAC</u>  | 19. _____ | _____       | _____ | _____ |                                                                                                               |                 |
| 9. <u>Tri. eur</u>                                                                                                   | <u>1</u>    | <u>-</u> | <u>FACW</u> | 20. _____ | _____       | _____ | _____ |                                                                                                               |                 |
| 10. <u>Equisylv</u>                                                                                                  | <u>5</u>    | <u>-</u> | <u>FAC</u>  | 21. _____ | _____       | _____ | _____ |                                                                                                               |                 |
| 11. _____                                                                                                            | _____       | _____    | _____       | 22. _____ | _____       | _____ | _____ |                                                                                                               |                 |
| Total Herb Cover: <u>68</u>                                                                                          |             |          |             |           |             |       |       | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____                              |                 |
| 50% of total cover: <u>34</u> 20% of total cover: <u>13.6</u>                                                        |             |          |             |           |             |       |       |                                                                                                               |                 |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: _____ % of bare ground: <u>25</u> |             |          |             |           |             |       |       |                                                                                                               |                 |
| % Cover of Wetland Bryophytes _____ % Total Cover of Bryophytes <u>5</u> % (where applicable)                        |             |          |             |           |             |       |       |                                                                                                               |                 |
| Remarks: <u>Several dead spruce trees 25% bare ground - leaves/needles</u>                                           |             |          |             |           |             |       |       |                                                                                                               |                 |



## SOIL

Sampling Point #: 503

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |   |                   |                  | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |                                    |
| 0-3            | Di                | 2.5YR 2.5/3   | 100 |                |   |                   |                  |                           |                                    |
| 3-6            | Da                | 10YR 2/1      | 100 |                |   |                   |                  |                           | Sand lens P 4*                     |
| 6-9            | A                 | 10YR 3/2      | 100 |                |   |                   |                  |                           |                                    |
| 9-16           | B                 | 10YR 3/3      | 100 |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ ☐ in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement; explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

## Restrictive Layer (if present)

Type: NONEDepth (inches) NADrainage Class: MWD

Soil Map Unit Name:

Hydric Soil Present?

Yes ☐No ☒

## Comments:

1. Too dry for alpha alpha
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☐ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

## Field Observations (in. from ground surface):

- Surface Water Present? Yes ☐ No ☒
- Water Table Present? Yes ☐ No ☒
- Seeping in at that depth but not yet filled?: ☐
- Saturation Present? Yes ☐ No ☒
- (includes capillary fringe)
- Depth of water (in.)
- Depth to water (in.)
- Depth to sat. (in.)
- Epi Endo Unknown

Wetland Hydrology Present?

Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

## Remarks:

site on a bench, slightly concave, at base of slope, but no obvious indications of wetland hydrology.



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sn Borough/City: MSB Date: 9/15/2020  
 Applicant/Owner: ADDA Sampling Point #: 504  
 Investigator(s): Eoin Cunningham & Nora Hotch Firm: HDR Alaska, Inc.  
 Lat. (dec.): 61.977931 Long. 152.551974 ± ' NAD 83 Recorded on GPS #: pad Marked on map? ☒ Field Map #: 1/2  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: bc slope Slope (%): 3 Aspect: 3  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PSS1/EM1B  
 Photo nos./descriptions: S01S, NESW Camera #:      Veg Type (Viereck Level 4 or other): II C2d  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No:      If no, explain:      HGM type: Slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No       
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here:     

## SUMMARY OF FINDINGS

|                                 |                                         |                |                                                                                                                                        |
|---------------------------------|-----------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <u>    </u> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <u>    </u><br>Remarks (e.g., marginal?): <u>    </u> |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <u>    </u> |                                                                                                                                        |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <u>    </u> |                                                                                                                                        |

VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total >100%.

| Tree Stratum (dbh ≥ 3")                                                                                                                       |             |             |             |                          |                             |                            |             | Dominance Test worksheet:                              |                                                                                                    |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|--------------------------|-----------------------------|----------------------------|-------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------|
| Species                                                                                                                                       | Cov. %      | Dom?        | Ind.        | Species                  | Cov. %                      | Dom?                       | Ind.        | Number of Dominant Species That are OBL, FACW, or FAC: |                                                                                                    |                 |
| 1. <u>Picea glauca</u>                                                                                                                        | <u>10</u>   | <u>Y</u>    | <u>FACW</u> | 5. <u>    </u>           | <u>    </u>                 | <u>    </u>                | <u>    </u> | <u>5</u>                                               | (A)                                                                                                |                 |
| 2. <u>    </u>                                                                                                                                | <u>    </u> | <u>    </u> | <u>    </u> | 6. <u>    </u>           | <u>    </u>                 | <u>    </u>                | <u>    </u> | Total Number of Dominant Species Across All Strata:    | <u>7</u> (B)                                                                                       |                 |
| 3. <u>    </u>                                                                                                                                | <u>    </u> | <u>    </u> | <u>    </u> | 7. <u>    </u>           | <u>    </u>                 | <u>    </u>                | <u>    </u> |                                                        |                                                                                                    |                 |
| 4. <u>    </u>                                                                                                                                | <u>    </u> | <u>    </u> | <u>    </u> | 8. <u>    </u>           | <u>    </u>                 | <u>    </u>                | <u>    </u> |                                                        |                                                                                                    |                 |
| Total Tree Cover:                                                                                                                             |             |             |             | <u>10</u>                |                             |                            |             |                                                        | Percent of Dominant Species That are OBL, FACW, or FAC:                                            | <u>71</u> (A/B) |
| 50% of total cover:                                                                                                                           |             |             |             | <u>5</u>                 | 20% of total cover:         |                            |             |                                                        | <u>2</u>                                                                                           |                 |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                                 |             |             |             |                          |                             |                            |             | Prevalence Index worksheet:                            |                                                                                                    |                 |
| Abs. Cov. %                                                                                                                                   | Dom?        | Ind.        | Abs. Cov. % | Dom?                     | Ind.                        | Total % Cover of:          |             | Multiply by:                                           |                                                                                                    |                 |
| 1. <u>Picea glauca</u>                                                                                                                        | <u>10</u>   | <u>Y</u>    | <u>FACW</u> | 7. <u>Emp nig</u>        | <u>3</u>                    | <u>-</u>                   | <u>FAC</u>  | OBL species                                            | <u>17</u> X1= <u>17</u>                                                                            |                 |
| 2. <u>Salix barclayi</u>                                                                                                                      | <u>25</u>   | <u>Y</u>    | <u>FACW</u> | 8. <u>Linn bor</u>       | <u>7</u>                    | <u>-</u>                   | <u>FACW</u> | FACW species                                           | <u>23</u> X2= <u>46</u>                                                                            |                 |
| 3. <u>Bet gland</u>                                                                                                                           | <u>3</u>    | <u>-</u>    | <u>FAC</u>  | 9. <u>Vib edule</u>      | <u>5</u>                    | <u>-</u>                   | <u>FACW</u> | FAC species                                            | <u>77</u> X3= <u>231</u>                                                                           |                 |
| 4. <u>Ros acia</u>                                                                                                                            | <u>3</u>    | <u>-</u>    | <u>FACW</u> | 10. <u>Salix pulchra</u> | <u>5</u>                    | <u>-</u>                   | <u>FAC</u>  | FACU species                                           | <u>45</u> X4= <u>180</u>                                                                           |                 |
| 5. <u>Vacc uli</u>                                                                                                                            | <u>3</u>    | <u>-</u>    | <u>FAC</u>  | 11. <u>    </u>          | <u>    </u>                 | <u>    </u>                | <u>    </u> | UPL + NL species                                       | <u>-</u> X5= <u>-</u>                                                                              |                 |
| 6. <u>Salix ret</u>                                                                                                                           | <u>1</u>    | <u>-</u>    | <u>FAC</u>  | 12. <u>    </u>          | <u>    </u>                 | <u>    </u>                | <u>    </u> | Column Totals:                                         | <u>162</u> (A) <u>474</u> (B)                                                                      |                 |
| Total Sapling/Shrub Cover:                                                                                                                    |             |             |             | <u>65</u>                |                             |                            |             |                                                        | Prevalence Index = B/A = <u>2.925</u>                                                              |                 |
| 50% of total cover:                                                                                                                           |             |             |             | <u>32.5</u>              | 20% of total cover:         |                            |             |                                                        | <u>13</u>                                                                                          |                 |
| Herb Stratum                                                                                                                                  |             |             |             |                          |                             |                            |             | Hydrophytic Vegetation Indicators:                     |                                                                                                    |                 |
| Abs. Cov. %                                                                                                                                   | Dom?        | Ind.        | Abs. Cov. % | Dom?                     | Ind.                        | Y Dominance Test is >50%   |             |                                                        |                                                                                                    |                 |
| 1. <u>Cham ang</u>                                                                                                                            | <u>5</u>    | <u>-</u>    | <u>FACW</u> | 12. <u>    </u>          | <u>    </u>                 | Y Prevalence Index is ≤3.0 |             |                                                        |                                                                                                    |                 |
| 2. <u>Cal can</u>                                                                                                                             | <u>12</u>   | <u>Y</u>    | <u>FAC</u>  | 13. <u>    </u>          | <u>    </u>                 |                            |             |                                                        |                                                                                                    |                 |
| 3. <u>Cornus can</u>                                                                                                                          | <u>5</u>    | <u>-</u>    | <u>FACW</u> | 14. <u>    </u>          | <u>    </u>                 |                            |             |                                                        |                                                                                                    |                 |
| 4. <u>Egri arv</u>                                                                                                                            | <u>12</u>   | <u>Y</u>    | <u>FAC</u>  | 15. <u>    </u>          | <u>    </u>                 |                            |             |                                                        |                                                                                                    |                 |
| 5. <u>Sang can</u>                                                                                                                            | <u>8</u>    | <u>-</u>    | <u>FACW</u> | 16. <u>    </u>          | <u>    </u>                 |                            |             |                                                        |                                                                                                    |                 |
| 6. <u>Rubus arc</u>                                                                                                                           | <u>10</u>   | <u>Y</u>    | <u>FAC</u>  | 17. <u>    </u>          | <u>    </u>                 |                            |             |                                                        |                                                                                                    |                 |
| 7. <u>Acon delph</u>                                                                                                                          | <u>3</u>    | <u>-</u>    | <u>FAC</u>  | 18. <u>    </u>          | <u>    </u>                 |                            |             |                                                        |                                                                                                    |                 |
| 8. <u>Carex media</u>                                                                                                                         | <u>7</u>    | <u>-</u>    | <u>FACW</u> | 19. <u>    </u>          | <u>    </u>                 |                            |             |                                                        |                                                                                                    |                 |
| 9. <u>Suaeda per</u>                                                                                                                          | <u>8</u>    | <u>-</u>    | <u>FACW</u> | 20. <u>    </u>          | <u>    </u>                 |                            |             |                                                        |                                                                                                    |                 |
| 10. <u>Carex aggr</u>                                                                                                                         | <u>5</u>    | <u>-</u>    | <u>OBL</u>  | 21. <u>    </u>          | <u>    </u>                 |                            |             |                                                        |                                                                                                    |                 |
| 11. <u>Carex lin</u>                                                                                                                          | <u>12</u>   | <u>Y</u>    | <u>OBL</u>  | 22. <u>    </u>          | <u>    </u>                 |                            |             |                                                        |                                                                                                    |                 |
| Total Herb Cover:                                                                                                                             |             |             |             | <u>87</u>                |                             |                            |             |                                                        | 1 Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                 |
| 50% of total cover:                                                                                                                           |             |             |             | <u>43.5</u>              | 20% of total cover:         |                            |             |                                                        | <u>17.4</u>                                                                                        |                 |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension:                                                            |             |             |             | <u>    </u>              | % of bare ground:           |                            |             |                                                        | <u>10</u>                                                                                          |                 |
| % Cover of Wetland Bryophytes                                                                                                                 |             |             |             | <u>50</u>                | % Total Cover of Bryophytes |                            |             |                                                        | <u>15</u>                                                                                          |                 |
| (where applicable)                                                                                                                            |             |             |             |                          |                             |                            |             |                                                        |                                                                                                    |                 |
| Remarks: <u>low areas = bare, look like areas of flooding.</u><br><u>site located on edge of PEM1B (which is actually PEM1/SS1B + PEM1C).</u> |             |             |             |                          |                             |                            |             |                                                        |                                                                                                    |                 |



## SOIL

Sampling Point #: 504

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix     |   | Redox Features |   |                   |                  | a,a dip.<br>(pos/<br>neg) |           | Remarks<br>(or use comment number) |
|----------------|-------------------|-----------------|---|----------------|---|-------------------|------------------|---------------------------|-----------|------------------------------------|
|                |                   | Color (moist)   | % | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |           |                                    |
| <u>0-5</u>     | <u>Oi</u>         | <u>10YR 2/1</u> |   |                |   |                   |                  | <u>OH</u>                 | <u>NT</u> |                                    |
| <u>5-9</u>     | <u>Oe</u>         | <u>"</u>        |   |                |   |                   |                  | <u>OH</u>                 | <u>NT</u> |                                    |
| <u>9-16</u>    | <u>Oa</u>         | <u>"</u>        |   |                |   |                   |                  | <u>OH</u>                 | <u>NT</u> |                                    |
|                |                   |                 |   |                |   |                   |                  |                           |           |                                    |
|                |                   |                 |   |                |   |                   |                  |                           |           |                                    |
|                |                   |                 |   |                |   |                   |                  |                           |           |                                    |
|                |                   |                 |   |                |   |                   |                  |                           |           |                                    |
|                |                   |                 |   |                |   |                   |                  |                           |           |                                    |
|                |                   |                 |   |                |   |                   |                  |                           |           |                                    |
|                |                   |                 |   |                |   |                   |                  |                           |           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_" in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement; explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NoneDepth (inches) NADrainage Class: PD

Soil Map Unit Name:

Hydric Soil Present?

Yes ☒ No ☐

## Comments:

1. mudch/debris/organics 25"
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.) —Water Table Present? Yes ☒ No ☐ Depth to water (in.) 14Seeping in at that depth but not yet filled?: 5"Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) Surface 0"  
(includes capillary fringe) Epi Endo UnknownWetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WET SW ACCESS Borough/City: MSB Date: 9/15/2020  
 Applicant/Owner: AIDEA Sampling Point #: 506  
 Investigator(s): ERIN CUNNINGHAM, NORA HOTCH Firm: HDR Alaska, Inc.  
 Lat. (dec.): 61.978839 Long. 152.552486 NAD 83 Recorded on GPS #: ☒ Marked on map? ☒ Field Map #: 1/2  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Bench Slope (%): 5 Aspect: W  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: V  
 Photo nos./descriptions: SOILS x 2, NESW Camera #:      Veg Type (Viereck Level 4 or other): 1C2a  
 Are climatic / hydrologic conditions of this site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                              |                                        |                                                                                                                                         |
|---------------------------------|------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                    |             |             |             |                      |             |             |             | Dominance Test worksheet:                                                                                     |                               |
|----------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|---------------------------------------------------------------------------------------------------------------|-------------------------------|
| Species                                                                                                                    | Cov. %      | Dom?        | Ind.        | Species              | Cov. %      | Dom?        | Ind.        | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                               |
| 1. <u>Pice glauca</u>                                                                                                      | <u>20</u>   | <u>Y</u>    | <u>FACW</u> | 5. <u>    </u>       | <u>    </u> | <u>    </u> | <u>    </u> | <u>2</u>                                                                                                      | (A)                           |
| 2. <u>Pop balsam</u>                                                                                                       | <u>15</u>   | <u>Y</u>    | <u>FACW</u> | 6. <u>    </u>       | <u>    </u> | <u>    </u> | <u>    </u> | <u>8</u>                                                                                                      | (B)                           |
| 3. <u>Bet ken</u>                                                                                                          | <u>20</u>   | <u>Y</u>    | <u>FACW</u> | 7. <u>    </u>       | <u>    </u> | <u>    </u> | <u>    </u> | <u>25</u>                                                                                                     | (A/B)                         |
| 4. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 8. <u>    </u>       | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                               |                               |
| Total Tree Cover: <u>55</u>                                                                                                |             |             |             |                      |             |             |             | Percent of Dominant Species That are OBL, FACW, or FAC: <u>25</u>                                             |                               |
| 50% of total cover: <u>27.5</u>                                                                                            |             |             |             |                      |             |             |             | 20% of total cover: <u>11.0</u>                                                                               |                               |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                              |             |             |             |                      |             |             |             | Prevalence Index worksheet:                                                                                   |                               |
| Species                                                                                                                    | Abs. Cov. % | Dom?        | Ind.        | Species              | Abs. Cov. % | Dom?        | Ind.        | Total % Cover of:                                                                                             | Multiply by:                  |
| 1. <u>Pice glauca</u>                                                                                                      | <u>5</u>    | <u>-</u>    | <u>FACW</u> | 7. <u>Pop balsam</u> | <u>10</u>   | <u>Y</u>    | <u>FACW</u> | OBL species                                                                                                   | X1= <u>    </u>               |
| 2. <u>Vib edule</u>                                                                                                        | <u>10</u>   | <u>Y</u>    | <u>FACW</u> | 8. <u>Pyrola sec</u> | <u>2</u>    | <u>    </u> | <u>    </u> | FACW species                                                                                                  | X2= <u>    </u>               |
| 3. <u>Rubus idae</u>                                                                                                       | <u>5</u>    | <u>-</u>    | <u>FACW</u> | 9. <u>    </u>       | <u>    </u> | <u>    </u> | <u>    </u> | FAC species                                                                                                   | X3= <u>195</u>                |
| 4. <u>Lyc ann</u>                                                                                                          | <u>5</u>    | <u>-</u>    | <u>FACW</u> | 10. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> | FACU species                                                                                                  | X4= <u>472</u>                |
| 5. <u>Linn boreali</u>                                                                                                     | <u>7</u>    | <u>-</u>    | <u>FACW</u> | 11. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> | UPL + NL species                                                                                              | X5= <u>    </u>               |
| 6. <u>Salix bar</u>                                                                                                        | <u>15</u>   | <u>Y</u>    | <u>FACW</u> | 12. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> | Column Totals:                                                                                                | <u>183</u> (A) <u>667</u> (B) |
| Total Sapling/Shrub Cover: <u>57</u>                                                                                       |             |             |             |                      |             |             |             | Prevalence Index = B/A = <u>3.64</u>                                                                          |                               |
| 50% of total cover: <u>28.5</u>                                                                                            |             |             |             |                      |             |             |             | 20% of total cover: <u>11.4</u>                                                                               |                               |
| Herb Stratum                                                                                                               |             |             |             |                      |             |             |             | Hydrophytic Vegetation Indicators:                                                                            |                               |
| Species                                                                                                                    | Abs. Cov. % | Dom?        | Ind.        | Species              | Abs. Cov. % | Dom?        | Ind.        |                                                                                                               |                               |
| 1. <u>Cornus can</u>                                                                                                       | <u>12</u>   | <u>Y</u>    | <u>FACW</u> | 12. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> | <input type="checkbox"/> Dominance Test is >50%                                                               |                               |
| 2. <u>Cal can</u>                                                                                                          | <u>35</u>   | <u>Y</u>    | <u>FAC</u>  | 13. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> | <input type="checkbox"/> Prevalence Index is ≤3.0                                                             |                               |
| 3. <u>Dryop dil</u>                                                                                                        | <u>2</u>    | <u>-</u>    | <u>FACW</u> | 14. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> | <u>N</u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)   |                               |
| 4. <u>Egri arv</u>                                                                                                         | <u>10</u>   | <u>-</u>    | <u>FAC</u>  | 15. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> | <u>N</u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                            |                               |
| 5. <u>Cham ang</u>                                                                                                         | <u>5</u>    | <u>-</u>    | <u>FACW</u> | 16. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                               |
| 6. <u>Rhynr fluka</u>                                                                                                      | <u>5</u>    | <u>-</u>    | <u>FAC</u>  | 17. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                               |                               |
| 7. <u>Pyrola sec</u>                                                                                                       | <u>2</u>    | <u>-</u>    | <u>FACW</u> | 18. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                               |                               |
| 8. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 19. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                               |                               |
| 9. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 20. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                               |                               |
| 10. <u>    </u>                                                                                                            | <u>    </u> | <u>    </u> | <u>    </u> | 21. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                               |                               |
| 11. <u>    </u>                                                                                                            | <u>    </u> | <u>    </u> | <u>    </u> | 22. <u>    </u>      | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                               |                               |
| Total Herb Cover: <u>71</u>                                                                                                |             |             |             |                      |             |             |             | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>           |                               |
| 50% of total cover: <u>35.5</u>                                                                                            |             |             |             |                      |             |             |             | 20% of total cover: <u>14.2</u>                                                                               |                               |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>    </u> % of bare ground: <u>10</u> |             |             |             |                      |             |             |             |                                                                                                               |                               |
| % Cover of Wetland Bryophytes <u>10</u> % Total Cover of Bryophytes <u>10</u>                                              |             |             |             |                      |             |             |             |                                                                                                               |                               |
| (where applicable)                                                                                                         |             |             |             |                      |             |             |             |                                                                                                               |                               |
| Remarks: <u>leaf litter / bare ground ~ 10%</u>                                                                            |             |             |             |                      |             |             |             |                                                                                                               |                               |



## SOIL

Sampling Point # 506

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |   |                   |                  | Texture | α, α dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------|----------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |         |                            |                                    |
| 0-4            | A                 | 10YR 2/2      | 100 | —              | — | —                 | —                | Lean    | —                          |                                    |
| 4-5            | B <sub>1</sub>    | 10YR 2/1      | 100 | —              | — | —                 | —                | Silt    | —                          |                                    |
| 5-6            | E                 | 2.5Y 3/1      | 100 | —              | — | —                 | —                | Lean    | —                          |                                    |
| 6-12           | B <sub>2</sub>    | 7.5YR 3/3     | 100 | —              | — | —                 | —                | LSw     | —                          |                                    |
| 12-16          | B <sub>3</sub>    | 10YR 3/4      | 100 | —              | — | —                 | —                | LSw     | —                          |                                    |
| —              | —                 | —             | —   | —              | — | —                 | —                | —       | —                          |                                    |
| —              | —                 | —             | —   | —              | — | —                 | —                | —       | —                          |                                    |
| —              | —                 | —             | —   | —              | — | —                 | —                | —       | —                          |                                    |

<sup>1</sup>Type: C = Condensation, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)  
☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤ 2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; ☐ " in this pit)  
☐ Thick Dark Surface (A12)  
☐ Alaska Gleyed (A13)  
☐ Alaska Redox (A14)  
☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)  
☐ Alaska Alpine Swales (TA5)  
☐ Alaska Redox with 2.5Y Hue  
☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer  
☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

 Type: NONE  
 Depth (inches) 0
Drainage Class: WD

Soil Map Unit Name:

Hydric Soil Present? Yes ☐ No ☒

Comments:

1. too dry for alpha alpha test  
 2.  
 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)  
☐ High Water Table (A2) (w/in 12")  
☐ Saturation (A3) (w/in 12")  
☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)  
☐ Drainage Patterns (B10)  
☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")  
☒ Presence of Reduced Iron (C4) (pos. α, α or soil color change w/in 12")  
☐ Salt Deposits (C5)  
☐ Stunted or Stressed Plants (D1)  
☐ Geomorphic Position (D2)  
☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")  
☐ Microtopographic Relief (D4) (caused by water)  
☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.) —  
 Water Table Present? Yes ☐ No ☒ Depth to water (in.) —  
 Seeping in at that depth but not yet filled? ☐  
 Saturation Present? Yes ☐ No ☒ Depth to sat. (in.) —  
 (includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West-Sn Access Borough/City: MSB Date: 9/15/2020  
 Applicant/Owner: ADDA Sampling Point #: 508  
 Investigator(s): Carri Cunningham, Nora H. H. H. Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.982682 Long. 152.398833 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☒ Field Map #: 4  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: toeslope Slope (%): 2 Aspect:         
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PFO1/SS1C  
 Photo nos./descriptions: Soils x2, NESW Camera #: 1P40 Veg Type (Viereck Level 4 or other): IB2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: Slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                           |                            |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                           |                            |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                           |                            |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                                            |               |               |               |                    |               |                                      |               | Dominance Test worksheet:                                                                                                   |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|--------------------|---------------|--------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------|
| Species                                                                                                                                            | Cov.%         | Dom?          | Ind.          | Species            | Cov.%         | Dom?                                 | Ind.          | Number of Dominant Species That are OBL, FACW, or FAC:                                                                      |                 |
| 1. <u>Bet pap</u>                                                                                                                                  | <u>30</u>     | <u>Y</u>      | <u>FACW</u>   | 5. <u>      </u>   | <u>      </u> | <u>      </u>                        | <u>      </u> | <u>4</u>                                                                                                                    | (A)             |
| 2. <u>Alnus ten</u>                                                                                                                                | <u>5</u>      | <u>-</u>      | <u>FAC</u>    | 6. <u>      </u>   | <u>      </u> | <u>      </u>                        | <u>      </u> | Total Number of Dominant Species Across All Strata:                                                                         | <u>8</u> (B)    |
| 3. <u>Picea glau</u>                                                                                                                               | <u>10</u>     | <u>Y</u>      | <u>FACW</u>   | 7. <u>      </u>   | <u>      </u> | <u>      </u>                        | <u>      </u> | Percent of Dominant Species That are OBL, FACW, or FAC:                                                                     | <u>50</u> (A/B) |
| 4. <u>      </u>                                                                                                                                   | <u>      </u> | <u>      </u> | <u>      </u> | 8. <u>      </u>   | <u>      </u> | <u>      </u>                        | <u>      </u> | Prevalence Index worksheet:                                                                                                 |                 |
| Total Tree Cover: <u>45</u>                                                                                                                        |               |               |               |                    |               |                                      |               | Total % Cover of:                                                                                                           |                 |
| 50% of total cover: <u>22.5</u>                                                                                                                    |               |               |               |                    |               |                                      |               | Multiply by:                                                                                                                |                 |
| 20% of total cover: <u>9</u>                                                                                                                       |               |               |               |                    |               |                                      |               | OBL species <u>7</u> X1= <u>7</u>                                                                                           |                 |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                                      |               |               |               |                    |               |                                      |               | FACW species <u>5</u> X2= <u>10</u>                                                                                         |                 |
| Abs.Cov.%                                                                                                                                          | Dom?          | Ind.          | Abs.Cov.%     | Dom?               | Ind.          | FAC species <u>70</u> X3= <u>234</u> |               | FACU species <u>78</u> X4= <u>362</u>                                                                                       |                 |
| 1. <u>Ribes tri</u>                                                                                                                                | <u>5</u>      | <u>-</u>      | <u>FAC</u>    | 7. <u>Linu bar</u> | <u>2</u>      | <u>-</u>                             | <u>FACW</u>   | UPL + NL species <u>-</u> X5= <u>-</u>                                                                                      |                 |
| 2. <u>Alnus ten</u>                                                                                                                                | <u>15</u>     | <u>Y</u>      | <u>FAC</u>    | 8. <u>Tri cur</u>  | <u>1</u>      | <u>-</u>                             | <u>      </u> | Column Totals: <u>168</u> (A) <u>562</u> (B)                                                                                |                 |
| 3. <u>Picea glau</u>                                                                                                                               | <u>8</u>      | <u>-</u>      | <u>FACW</u>   | 9. <u>      </u>   | <u>      </u> | <u>      </u>                        | <u>      </u> | Prevalence Index = B/A = <u>3.35</u>                                                                                        |                 |
| 4. <u>Vib edule</u>                                                                                                                                | <u>10</u>     | <u>Y</u>      | <u>FACW</u>   | 10. <u>      </u>  | <u>      </u> | <u>      </u>                        | <u>      </u> |                                                                                                                             |                 |
| 5. <u>Spiraea bo</u>                                                                                                                               | <u>2</u>      | <u>-</u>      | <u>FACW</u>   | 11. <u>      </u>  | <u>      </u> | <u>      </u>                        | <u>      </u> |                                                                                                                             |                 |
| 6. <u>Bet ken</u>                                                                                                                                  | <u>12</u>     | <u>Y</u>      | <u>FACW</u>   | 12. <u>      </u>  | <u>      </u> | <u>      </u>                        | <u>      </u> |                                                                                                                             |                 |
| Total Sapling/Shrub Cover: <u>54</u>                                                                                                               |               |               |               |                    |               |                                      |               |                                                                                                                             |                 |
| 50% of total cover: <u>27</u>                                                                                                                      |               |               |               |                    |               |                                      |               |                                                                                                                             |                 |
| 20% of total cover: <u>10.8</u>                                                                                                                    |               |               |               |                    |               |                                      |               |                                                                                                                             |                 |
| Herb Stratum                                                                                                                                       |               |               |               |                    |               |                                      |               |                                                                                                                             |                 |
| Abs.Cov.%                                                                                                                                          | Dom?          | Ind.          | Abs.Cov.%     | Dom?               | Ind.          |                                      |               |                                                                                                                             |                 |
| 1. <u>Pry dil</u>                                                                                                                                  | <u>3</u>      | <u>-</u>      | <u>FACW</u>   | 12. <u>      </u>  | <u>      </u> |                                      |               | Hydrophytic Vegetation Indicators:                                                                                          |                 |
| 2. <u>Egna ar v</u>                                                                                                                                | <u>10</u>     | <u>Y</u>      | <u>FAC</u>    | 13. <u>      </u>  | <u>      </u> |                                      |               | <input checked="" type="checkbox"/> Dominance Test is >50%                                                                  |                 |
| 3. <u>Egna sylv</u>                                                                                                                                | <u>10</u>     | <u>Y</u>      | <u>FAC</u>    | 14. <u>      </u>  | <u>      </u> |                                      |               | <input type="checkbox"/> Prevalence Index is ≤3.0                                                                           |                 |
| 4. <u>Cal can</u>                                                                                                                                  | <u>25</u>     | <u>Y</u>      | <u>FAC</u>    | 15. <u>      </u>  | <u>      </u> |                                      |               | <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |                 |
| 5. <u>Athyra lcl fem</u>                                                                                                                           | <u>8</u>      | <u>-</u>      | <u>FAC</u>    | 16. <u>      </u>  | <u>      </u> |                                      |               | <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                               |                 |
| 6. <u>Sang can</u>                                                                                                                                 | <u>5</u>      | <u>-</u>      | <u>FACW</u>   | 17. <u>      </u>  | <u>      </u> |                                      |               | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.               |                 |
| 7. <u>Com pal</u>                                                                                                                                  | <u>7</u>      | <u>-</u>      | <u>OBL</u>    | 18. <u>      </u>  | <u>      </u> |                                      |               |                                                                                                                             |                 |
| 8. <u>Viola sp</u>                                                                                                                                 | <u>2</u>      | <u>-</u>      | <u>      </u> | 19. <u>      </u>  | <u>      </u> |                                      |               |                                                                                                                             |                 |
| 9. <u>Tri cur</u>                                                                                                                                  | <u>1</u>      | <u>-</u>      | <u>FACW</u>   | 20. <u>      </u>  | <u>      </u> |                                      |               |                                                                                                                             |                 |
| 10. <u>      </u>                                                                                                                                  | <u>      </u> | <u>      </u> | <u>      </u> | 21. <u>      </u>  | <u>      </u> |                                      |               |                                                                                                                             |                 |
| 11. <u>      </u>                                                                                                                                  | <u>      </u> | <u>      </u> | <u>      </u> | 22. <u>      </u>  | <u>      </u> |                                      |               |                                                                                                                             |                 |
| Total Herb Cover: <u>71</u>                                                                                                                        |               |               |               |                    |               |                                      |               |                                                                                                                             |                 |
| 50% of total cover: <u>35.5</u>                                                                                                                    |               |               |               |                    |               |                                      |               |                                                                                                                             |                 |
| 20% of total cover: <u>14.2</u>                                                                                                                    |               |               |               |                    |               |                                      |               |                                                                                                                             |                 |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>      </u> % of bare ground: <u>12</u>                       |               |               |               |                    |               |                                      |               |                                                                                                                             |                 |
| % Cover of Wetland Bryophytes <u>5</u> % Total Cover of Bryophytes <u>      </u> %                                                                 |               |               |               |                    |               |                                      |               |                                                                                                                             |                 |
| (where applicable)                                                                                                                                 |               |               |               |                    |               |                                      |               |                                                                                                                             |                 |
| Remarks: <u>site occupies landscape position that collects water level to concave terrain ; meets hydric soil / hydrology (primary indicators)</u> |               |               |               |                    |               |                                      |               |                                                                                                                             |                 |



## SOIL

Sampling Point #: 509

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators)

[illegible]

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

**Hydric Soil Indicators** (check ones that apply, measure from top of mineral layers unless otherwise noted):

**Standard Indicators:**

- ☒ Histosol or Histel (A1)
- ☒ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- ☒ Black Histic (A3)
- ☒ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_" in this pit)
- ☒ Thick Dark Surface (A12)
- ☒ Alaska Gleyed (A13)
- ☒ Alaska Redox (A14)
- ☒ Alaska Gleyed Pores (A15)

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ Alaska Color Change<sup>4</sup> (TA4)  
☐ Alaska Alpine Swales (TA5)  
☐ Alaska Redox with 2.5Y Hue  
☐ Alaska Gleyed without Hue 5Y or Redder  
     Underlying Layer  
☐ Other (e.g., see p.91 of 2007  
     Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NA

Drainage Class: PD

Soil Map Unit Name:

Hydric Soil Present? Yes ☒ No ☐

Comments:

- 1.
- 2.
- 3.

## HYDROLOGY

**Wetland Hydrology Indicators (check ones that apply, measure from soil surface):**

**Primary Indicators** (any one indicator is sufficient)

|                                                                      |                                                                    |
|----------------------------------------------------------------------|--------------------------------------------------------------------|
| <input type="checkbox"/> Surface Water (A1)                          | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2) (w/in 12") | <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input checked="" type="checkbox"/> Saturation (A3) (w/in 12")       | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |
| <input type="checkbox"/> Water Marks (B1)                            | <input type="checkbox"/> Marl Deposits (B15)                       |
| <input type="checkbox"/> Sediment Deposits (B2)                      | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                |
| <input type="checkbox"/> Drift Deposits (B3)                         | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Algal Mat or Crust (B4)                     | <input type="checkbox"/> Other (explain)                           |
| <input type="checkbox"/> Iron Deposits (B5)                          |                                                                    |

Secondary Indicators (at least 2 are required)

- Water-Stained Leaves (B9)
- Y Drainage Patterns (B10) \_\_\_\_\_
- Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- NT Presence of Reduced Iron (C4)  
(pos.  $\alpha$ ,  $\alpha$  or soil color change w/in 12")
- Salt Deposits (C5)
- Stunted or Stressed Plants (D1)
- Y Geomorphic Position (D2)
- Shallow Aquitard (D3)  
(w/in 24", can perch H<sub>2</sub>O w/in 12")
- + Microtopographic Relief (D4) (caused by water)
- FAC Neutral Test (D5)  
(# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.)           

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 15

Seeping in at that depth but not yet filled?: 9

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 2

| Epithelium | Endothelium | Unknown |
|------------|-------------|---------|
| Epithelium | Endothelium | Unknown |

Wetland Hydrology Present? Yes ☒ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Seeping in @ 9"



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sn Access Borough/City: \_\_\_\_\_ Date: 9/15/2020  
 Applicant/Owner: \_\_\_\_\_ Sampling Point #: 509  
 Investigator(s): Erin Cunningham, Nora Wotz Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61.982979 Long. 152.397363 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☒ Field Map #: 4  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Beach Slope (%): 2 Aspect: \_\_\_\_\_  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: V  
 Photo nos./descriptions: Soils x 2, NESW Camera #: ☒ Veg Type (Vioreck Level 4 or other): IC2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: \_\_\_\_\_ If no, explain. HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |           |                                        |                                                                                        |                            |
|---------------------------------|-----------|----------------------------------------|----------------------------------------------------------------------------------------|----------------------------|
| Hydrophytic Vegetation Present? | Yes _____ | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes _____ No <input checked="" type="checkbox"/> | Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes _____ | No <input checked="" type="checkbox"/> |                                                                                        |                            |
| Wetland Hydrology Present?      | Yes _____ | No <input checked="" type="checkbox"/> |                                                                                        |                            |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                             |           |          |             |                     |          |                                                  |                                                                                                                            | Dominance Test worksheet:                                                                                                                                                                                                               |                   |              |
|---------------------------------------------------------------------------------------------------------------------|-----------|----------|-------------|---------------------|----------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| Species                                                                                                             | Cov.%     | Dom?     | Ind.        | Species             | Cov.%    | Dom?                                             | Ind.                                                                                                                       | Number of Dominant Species That are OBL, FACW, or FAC:                                                                                                                                                                                  |                   |              |
| 1. <u>Picea glau</u>                                                                                                | <u>35</u> | <u>Y</u> | <u>FACW</u> | 5. _____            | _____    | _____                                            | _____                                                                                                                      | <u>2</u>                                                                                                                                                                                                                                | (A)               |              |
| 2. <u>Bet pap</u>                                                                                                   | <u>15</u> | <u>Y</u> | <u>FACW</u> | 6. _____            | _____    | _____                                            | _____                                                                                                                      | Total Number of Dominant Species Across All Strata:                                                                                                                                                                                     | <u>7</u> (B)      |              |
| 3. _____                                                                                                            | _____     | _____    | _____       | 7. _____            | _____    | _____                                            | _____                                                                                                                      | Percent of Dominant Species That are OBL, FACW, or FAC:                                                                                                                                                                                 | <u>28.5</u> (A/B) |              |
| 4. _____                                                                                                            | _____     | _____    | _____       | 8. _____            | _____    | _____                                            | _____                                                                                                                      | Prevalence Index worksheet:                                                                                                                                                                                                             |                   |              |
| Total Tree Cover: <u>50</u>                                                                                         |           |          |             |                     |          |                                                  |                                                                                                                            | Total % Cover of:                                                                                                                                                                                                                       |                   | Multiply by: |
| 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>                                                         |           |          |             |                     |          |                                                  |                                                                                                                            | OBL species                                                                                                                                                                                                                             | _____             | X1= _____    |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                       |           |          |             |                     |          |                                                  |                                                                                                                            | FACW species                                                                                                                                                                                                                            | _____             | X2= _____    |
| Abs.Cov.%                                                                                                           | Dom?      | Ind.     | Abs.Cov.%   | Dom?                | Ind.     | FAC species                                      |                                                                                                                            | <u>50</u>                                                                                                                                                                                                                               | X3= <u>150</u>    |              |
| 1. <u>Picea glau</u>                                                                                                | <u>10</u> | <u>-</u> | <u>FACW</u> | 7. <u>Populus</u>   | <u>5</u> | _____                                            | FACU species                                                                                                               | <u>173</u>                                                                                                                                                                                                                              | X4= <u>692</u>    |              |
| 2. <u>Bet pap</u>                                                                                                   | <u>25</u> | <u>Y</u> | <u>FACW</u> | 8. <u>Vib edule</u> | <u>5</u> | <u>-</u>                                         | UPL + NL species                                                                                                           | _____                                                                                                                                                                                                                                   | X5= _____         |              |
| 3. <u>Spic shr</u>                                                                                                  | <u>7</u>  | <u>-</u> | <u>FACW</u> | 9. _____            | _____    | _____                                            | Column Totals:                                                                                                             | <u>223</u> (A)                                                                                                                                                                                                                          | <u>842</u> (B)    |              |
| 4. <u>Linn bar</u>                                                                                                  | <u>20</u> | <u>Y</u> | <u>FACW</u> | 10. _____           | _____    | _____                                            | Prevalence Index = B/A = <u>3.77</u>                                                                                       |                                                                                                                                                                                                                                         |                   |              |
| 5. <u>Lyso ann</u>                                                                                                  | <u>15</u> | <u>-</u> | <u>FACW</u> | 11. _____           | _____    | _____                                            | Hydrophytic Vegetation Indicators:                                                                                         |                                                                                                                                                                                                                                         |                   |              |
| 6. <u>Sorbus</u>                                                                                                    | <u>3</u>  | <u>-</u> | <u>FACW</u> | 12. _____           | _____    | _____                                            | <input checked="" type="checkbox"/> Dominance Test is >50%<br><input checked="" type="checkbox"/> Prevalence Index is ≤3.0 |                                                                                                                                                                                                                                         |                   |              |
| Total Sapling/Shrub Cover: <u>85</u>                                                                                |           |          |             |                     |          |                                                  |                                                                                                                            | <input checked="" type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |                   |              |
| 50% of total cover: <u>42.5</u> 20% of total cover: <u>17</u>                                                       |           |          |             |                     |          |                                                  |                                                                                                                            | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.                                                                                                                           |                   |              |
| Herb Stratum                                                                                                        |           |          |             |                     |          |                                                  |                                                                                                                            | Hydrophytic Vegetation Present?                                                                                                                                                                                                         |                   |              |
| Abs.Cov.%                                                                                                           | Dom?      | Ind.     | Abs.Cov.%   | Dom?                | Ind.     | Yes _____ No <input checked="" type="checkbox"/> |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| 1. <u>Cornus sylv</u>                                                                                               | <u>25</u> | <u>Y</u> | <u>FAC</u>  | 12. _____           | _____    |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| 2. <u>Rub arc</u>                                                                                                   | <u>20</u> | <u>Y</u> | <u>FAC</u>  | 13. _____           | _____    |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| 3. <u>Cham ang</u>                                                                                                  | <u>3</u>  | <u>-</u> | <u>FACW</u> | 14. _____           | _____    |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| 4. <u>Eymno dry</u>                                                                                                 | <u>30</u> | <u>Y</u> | <u>FACW</u> | 15. _____           | _____    |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| 5. <u>Cal can</u>                                                                                                   | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 16. _____           | _____    |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| 6. <u>Pyrola sec</u>                                                                                                | <u>5</u>  | <u>-</u> | <u>FACW</u> | 17. _____           | _____    |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| 7. _____                                                                                                            | _____     | _____    | 18. _____   | _____               | _____    |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| 8. _____                                                                                                            | _____     | _____    | 19. _____   | _____               | _____    |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| 9. _____                                                                                                            | _____     | _____    | 20. _____   | _____               | _____    |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| 10. _____                                                                                                           | _____     | _____    | 21. _____   | _____               | _____    |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| 11. _____                                                                                                           | _____     | _____    | 22. _____   | _____               | _____    |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| Total Herb Cover: <u>88</u>                                                                                         |           |          |             |                     |          |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| 50% of total cover: <u>44</u> 20% of total cover: <u>17.6</u>                                                       |           |          |             |                     |          |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: _____ % of bare ground: <u>8</u> |           |          |             |                     |          |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| % Cover of Wetland Bryophytes <u>40</u> % Total Cover of Bryophytes <u>8</u> % (where applicable)                   |           |          |             |                     |          |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |
| Remarks:                                                                                                            |           |          |             |                     |          |                                                  |                                                                                                                            |                                                                                                                                                                                                                                         |                   |              |



## SOIL

Sampling Point #: 509

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |   | Redox Features |   |                   |                  | a,α dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|---|----------------|---|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | % | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |                                    |
| 0-2            | 0i                | 7.5YR2.5/1    |   |                |   |                   |                  |                           |                                    |
| 2-5            | A                 | 10YR4/3       |   |                |   |                   |                  | S&L                       |                                    |
| 5-7            | E                 | 2.5Y5/2       |   |                |   |                   |                  | SiL                       | Ash layer w/ charcoal matrix       |
| 7-16           | B                 | 2.5Y5/4       |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_" in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONEDepth (inches) NADrainage Class: WD

Soil Map Unit Name:

Hydric Soil Present?

Yes

No ☒

Comments:

- 
- 
- 

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☐ Saturation (A3) (w/in 12")
- ☐ 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) \_\_\_\_\_

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. α,α or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

- Surface Water Present? Yes ☐ No ☒ Depth of water (in.) \_\_\_\_\_
- Water Table Present? Yes ☐ No ☒ Depth to water (in.) \_\_\_\_\_
- Seeping in at that depth but not yet filled?: ☐
- Saturation Present? Yes ☐ No ☒ Depth to sat. (in.) \_\_\_\_\_
- (includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present?

Yes

No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Star Access Borough/City: WSB Date: 9/14/2020  
 Applicant/Owner: AND EA Sampling Point #: 513  
 Investigator(s): Erin Cunningham, Nora Hotch Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.552459 Long. 150.699408 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #: ☐  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: flat/foot slope Slope (%): 3 Aspect: ☐  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PFO4/SS1B  
 Photo nos./descriptions: SOILS x 2, NESW Camera #: ☐ Veg Type (Viereck Level 4 or other): IA2f  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: Slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |

VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                  |           |          |             |                                       |           |       |       | Dominance Test worksheet:                                                                           |                               |
|------------------------------------------------------------------------------------------|-----------|----------|-------------|---------------------------------------|-----------|-------|-------|-----------------------------------------------------------------------------------------------------|-------------------------------|
| Species                                                                                  | Cov.%     | Dom?     | Ind.        | Species                               | Cov.%     | Dom?  | Ind.  | Number of Dominant Species That are OBL, FACW, or FAC:                                              |                               |
| 1. <u>Picea mar</u>                                                                      | <u>30</u> | <u>Y</u> | <u>FACW</u> | 5. _____                              | _____     | _____ | _____ | <u>5</u>                                                                                            | (A)                           |
| 2. <u>Bet pop</u>                                                                        | <u>5</u>  | <u>Y</u> | <u>FACW</u> | 6. _____                              | _____     | _____ | _____ | Total Number of Dominant Species Across All Strata:                                                 | <u>6</u> (B)                  |
| 3. _____                                                                                 | _____     | _____    | _____       | 7. _____                              | _____     | _____ | _____ | Percent of Dominant Species That are OBL, FACW, or FAC:                                             | <u>83</u> (A/B)               |
| 4. _____                                                                                 | _____     | _____    | _____       | 8. _____                              | _____     | _____ | _____ | Prevalence Index worksheet:                                                                         |                               |
| Total Tree Cover: <u>35</u>                                                              |           |          |             | 50% of total cover: <u>17.5</u>       |           |       |       | 20% of total cover: <u>7</u>                                                                        |                               |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                            |           |          |             |                                       |           |       |       | Total % Cover of:                                                                                   |                               |
| Species                                                                                  | Abs.Cov.% | Dom?     | Ind.        | Species                               | Abs.Cov.% | Dom?  | Ind.  | Multiply by:                                                                                        |                               |
| 1. <u>Alnus</u>                                                                          | <u>25</u> | <u>Y</u> | <u>FACW</u> | 7. _____                              | _____     | _____ | _____ | OBL species                                                                                         | <u>15</u> X1= <u>15</u>       |
| 2. <u>Menz</u>                                                                           | <u>12</u> | <u>Y</u> | <u>FACW</u> | 8. _____                              | _____     | _____ | _____ | FACW species                                                                                        | <u>58</u> X2= <u>116</u>      |
| 3. <u>Vac alask</u>                                                                      | <u>10</u> | <u>-</u> | <u>FACW</u> | 9. _____                              | _____     | _____ | _____ | FAC species                                                                                         | <u>65</u> X3= <u>195</u>      |
| 4. <u>Bet kers/pop</u>                                                                   | <u>8</u>  | <u>-</u> | <u>FACW</u> | 10. _____                             | _____     | _____ | _____ | FACU species                                                                                        | <u>32</u> X4= <u>128</u>      |
| 5. <u>Picea mar</u>                                                                      | <u>8</u>  | <u>-</u> | <u>FACW</u> | 11. _____                             | _____     | _____ | _____ | UPL + NL species                                                                                    | _____ X5= _____               |
| 6. _____                                                                                 | _____     | _____    | _____       | 12. _____                             | _____     | _____ | _____ | Column Totals:                                                                                      | <u>170</u> (A) <u>454</u> (B) |
| Total Sapling/Shrub Cover: <u>63</u>                                                     |           |          |             | 50% of total cover: <u>31.5</u>       |           |       |       | 20% of total cover: <u>12.6</u>                                                                     |                               |
| Herb Stratum                                                                             |           |          |             |                                       |           |       |       | Prevalence Index = B/A = <u>2.67</u>                                                                |                               |
| Species                                                                                  | Abs.Cov.% | Dom?     | Ind.        | Species                               | Abs.Cov.% | Dom?  | Ind.  | Hydrophytic Vegetation Indicators:                                                                  |                               |
| 1. <u>Rub cham</u>                                                                       | <u>8</u>  | <u>-</u> | <u>FACW</u> | 12. _____                             | _____     | _____ | _____ | <u>Y</u>                                                                                            | Dominance Test is >50%        |
| 2. <u>Comandra liv</u>                                                                   | <u>2</u>  | <u>-</u> | <u>FACW</u> | 13. _____                             | _____     | _____ | _____ | <u>Y</u>                                                                                            | Prevalence Index is ≤3.0      |
| 3. <u>Carex diisporma</u>                                                                | <u>12</u> | <u>Y</u> | <u>FACW</u> | 14. _____                             | _____     | _____ | _____ | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  |                               |
| 4. <u>Equis arif</u>                                                                     | <u>10</u> | <u>-</u> | <u>FACW</u> | 15. _____                             | _____     | _____ | _____ | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                           |                               |
| 5. <u>Cal can</u>                                                                        | <u>15</u> | <u>Y</u> | <u>FACW</u> | 16. _____                             | _____     | _____ | _____ | Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.    |                               |
| 6. <u>Equis fiev</u>                                                                     | <u>5</u>  | <u>-</u> | <u>OBL</u>  | 17. _____                             | _____     | _____ | _____ | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |                               |
| 7. <u>Comandra pal</u>                                                                   | <u>10</u> | <u>Y</u> | <u>OBL</u>  | 18. _____                             | _____     | _____ | _____ |                                                                                                     |                               |
| 8. <u>Tri cur</u>                                                                        | <u>2</u>  | <u>-</u> | <u>FACW</u> | 19. _____                             | _____     | _____ | _____ |                                                                                                     |                               |
| 9. <u>Arthr Al ka</u>                                                                    | <u>5</u>  | <u>-</u> | <u>FACW</u> | 20. _____                             | _____     | _____ | _____ |                                                                                                     |                               |
| 10. <u>Orthilla rec</u>                                                                  | <u>3</u>  | <u>-</u> | <u>FACW</u> | 21. _____                             | _____     | _____ | _____ |                                                                                                     |                               |
| 11. _____                                                                                | _____     | _____    | _____       | 22. _____                             | _____     | _____ | _____ |                                                                                                     |                               |
| Total Herb Cover: <u>72</u>                                                              |           |          |             | 50% of total cover: <u>36</u>         |           |       |       | 20% of total cover: <u>14.4</u>                                                                     |                               |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: _____ |           |          |             | % of bare ground: <u>15</u>           |           |       |       |                                                                                                     |                               |
| % Cover of Wetland Bryophytes <u>25</u>                                                  |           |          |             | % Total Cover of Bryophytes <u>15</u> |           |       |       |                                                                                                     |                               |
| Remarks:<br><u>Lots of dead spruce trees around/in plot.</u>                             |           |          |             |                                       |           |       |       |                                                                                                     |                               |







## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sn Access Borough/City: MSB Date: 7/16/2020  
 Applicant/Owner: AIDEA Sampling Point #: 514  
 Investigator(s): ERIN CUNNINGHAM, NORA KOTUM Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61.552917 Long. 150.698132 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #: ☐  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Bench/normal Slope (%): 2 Aspect: ☐  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: TU  
 Photo nos./descriptions: SOIL x2, NESW Camera #: ☒ Veg Type (Viereck Level 4 or other): TB1d  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                                        |                                                                                                                                                  |
|---------------------------------|-----------------------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): <u>/</u> |
| Hydric Soil Present?            | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                                                                  |
| Wetland Hydrology Present?      | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                                                                  |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                             |           |          |             |                                 |           |          |            | Dominance Test worksheet:                               |                   |                 |
|---------------------------------------------------------------------------------------------------------------------|-----------|----------|-------------|---------------------------------|-----------|----------|------------|---------------------------------------------------------|-------------------|-----------------|
| Species                                                                                                             | Cov.%     | Dom?     | Ind.        | Species                         | Cov.%     | Dom?     | Ind.       | Number of Dominant Species That are OBL, FACW, or FAC:  |                   |                 |
| 1. <u>Picea glauca</u>                                                                                              | <u>8</u>  | <u>-</u> | <u>FACU</u> | 5. _____                        | _____     | _____    | _____      | <u>3</u>                                                | (A)               |                 |
| 2. <u>Bet pop</u>                                                                                                   | <u>60</u> | <u>Y</u> | <u>FACU</u> | 6. _____                        | _____     | _____    | _____      | Total Number of Dominant Species Across All Strata:     | <u>5</u> (B)      |                 |
| 3. _____                                                                                                            | _____     | _____    | _____       | 7. _____                        | _____     | _____    | _____      | Percent of Dominant Species That are OBL, FACW, or FAC: | <u>60</u> (A/B)   |                 |
| 4. _____                                                                                                            | _____     | _____    | _____       | 8. _____                        | _____     | _____    | _____      | Prevalence Index worksheet:                             |                   |                 |
| Total Tree Cover: <u>68</u>                                                                                         |           |          |             |                                 |           |          |            |                                                         | Total % Cover of: | Multiply by:    |
| 50% of total cover: <u>34</u>                                                                                       |           |          |             | 20% of total cover: <u>13.6</u> |           |          |            | OBL species                                             | <u>-</u>          | X1= <u>-</u>    |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                       |           |          |             |                                 |           |          |            | FACW species                                            | <u>-</u>          | X2= <u>-</u>    |
| Abs.Cov.%                                                                                                           | Dom?      | Ind.     | Abs.Cov.%   | Dom?                            | Ind.      |          |            |                                                         |                   |                 |
| 1. <u>Vib edule</u>                                                                                                 | <u>20</u> | <u>Y</u> | <u>FACU</u> | 7. <u>Ribes hudson</u>          | <u>10</u> | <u>-</u> | <u>FAC</u> | FAC species                                             | <u>66</u>         | X3= <u>19.8</u> |
| 2. <u>Menz fer</u>                                                                                                  | <u>5</u>  | <u>-</u> | <u>FACU</u> | 8. _____                        | _____     | _____    | _____      | FACU species                                            | <u>127</u>        | X4= <u>508</u>  |
| 3. <u>Vac alba</u>                                                                                                  | <u>12</u> | <u>Y</u> | <u>FAC</u>  | 9. _____                        | _____     | _____    | _____      | UPL + NL species                                        | <u>-</u>          | X5= <u>-</u>    |
| 4. <u>Lyc ann</u>                                                                                                   | <u>10</u> | <u>-</u> | <u>FACU</u> | 10. _____                       | _____     | _____    | _____      | Column Totals:                                          | <u>19.3</u> (A)   | <u>706</u> (B)  |
| 5. <u>Sorbus int</u>                                                                                                | <u>3</u>  | <u>-</u> | <u>FACU</u> | 11. _____                       | _____     | _____    | _____      | Prevalence Index = B/A = <u>3.658</u>                   |                   |                 |
| 6. <u>Spiraea</u>                                                                                                   | <u>3</u>  | <u>-</u> | <u>FACU</u> | 12. _____                       | _____     | _____    | _____      |                                                         |                   |                 |
| Total Sapling/Shrub Cover: <u>63</u>                                                                                |           |          |             |                                 |           |          |            |                                                         |                   |                 |
| 50% of total cover: <u>31.5</u>                                                                                     |           |          |             | 20% of total cover: <u>12.6</u> |           |          |            |                                                         |                   |                 |
| Herb Stratum                                                                                                        |           |          |             |                                 |           |          |            | Hydrophytic Vegetation Indicators:                      |                   |                 |
| Abs.Cov.%                                                                                                           | Dom?      | Ind.     | Abs.Cov.%   | Dom?                            | Ind.      |          |            |                                                         |                   |                 |
| 1. <u>Cornus can</u>                                                                                                | <u>25</u> | <u>Y</u> | <u>FAC</u>  | 12. _____                       | _____     |          |            |                                                         |                   |                 |
| 2. <u>Gymn adn</u>                                                                                                  | <u>8</u>  | <u>-</u> | <u>FACU</u> | 13. _____                       | _____     |          |            |                                                         |                   |                 |
| 3. <u>Dracopis del</u>                                                                                              | <u>8</u>  | <u>-</u> | <u>FACU</u> | 14. _____                       | _____     |          |            |                                                         |                   |                 |
| 4. <u>Cal can</u>                                                                                                   | <u>7</u>  | <u>-</u> | <u>FAC</u>  | 15. _____                       | _____     |          |            |                                                         |                   |                 |
| 5. <u>Chen ang</u>                                                                                                  | <u>2</u>  | <u>-</u> | <u>FACU</u> | 16. _____                       | _____     |          |            |                                                         |                   |                 |
| 6. <u>Rubus ped</u>                                                                                                 | <u>12</u> | <u>Y</u> | <u>FAC</u>  | 17. _____                       | _____     |          |            |                                                         |                   |                 |
| 7. _____                                                                                                            | _____     | _____    | 18. _____   | _____                           | _____     |          |            |                                                         |                   |                 |
| 8. _____                                                                                                            | _____     | _____    | 19. _____   | _____                           | _____     |          |            |                                                         |                   |                 |
| 9. _____                                                                                                            | _____     | _____    | 20. _____   | _____                           | _____     |          |            |                                                         |                   |                 |
| 10. _____                                                                                                           | _____     | _____    | 21. _____   | _____                           | _____     |          |            |                                                         |                   |                 |
| 11. _____                                                                                                           | _____     | _____    | 22. _____   | _____                           | _____     |          |            |                                                         |                   |                 |
| Total Herb Cover: <u>62</u>                                                                                         |           |          |             |                                 |           |          |            |                                                         |                   |                 |
| 50% of total cover: <u>31</u>                                                                                       |           |          |             | 20% of total cover: <u>12.4</u> |           |          |            |                                                         |                   |                 |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: _____ % of bare ground: <u>5</u> |           |          |             |                                 |           |          |            |                                                         |                   |                 |
| % Cover of Wetland Bryophytes <u>5</u> % Total Cover of Bryophytes _____ %                                          |           |          |             |                                 |           |          |            |                                                         |                   |                 |
| Remarks:                                                                                                            |           |          |             |                                 |           |          |            |                                                         |                   |                 |



## SOIL

Sampling Point #: 514

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |   |                   |                  | Texture | $\alpha, \alpha$ dlp.<br>(pos/<br>neg) | Remarks<br>(or use comment number)       |
|----------------|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------|----------------------------------------|------------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |         |                                        |                                          |
| 0-2            | A/B               | 7.5YR 2.5/2   | 100 | —              | — | —                 | —                | L Sa    | (10)                                   |                                          |
| 2-4            | E                 | 10YR 5/1      | 100 | —              | — | —                 | —                | LSi     | —                                      | Ash? no burn remain<br>but feels powdery |
| 4-6            | B <sub>1</sub>    | 2.5Y 2.5/3    | 100 | —              | — | —                 | —                | SiL     | —                                      |                                          |
| 6-12           | B <sub>2</sub>    | 10YR 4/6      | 100 | —              | — | —                 | —                | SiL     | —                                      |                                          |
| 12-16          | B <sub>3</sub>    | 2.5Y 4/4      | 100 | —              | — | —                 | —                | SiL     | —                                      |                                          |
|                |                   |               |     |                |   |                   |                  |         |                                        |                                          |
|                |                   |               |     |                |   |                   |                  |         |                                        |                                          |
|                |                   |               |     |                |   |                   |                  |         |                                        |                                          |
|                |                   |               |     |                |   |                   |                  |         |                                        |                                          |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface;  $\oplus$  " in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>2</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NA

Drainage Class: WD

Soil Map Unit Name:

Hydric Soil Present? Yes ☐ No ☒

Comments:

1. too dry for alpha alpha, not tested.
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☐ Saturation (A3) (w/in 12")
- ☐ 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)

Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos.  $\alpha, \alpha$  or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.) —

Water Table Present? Yes ☐ No ☒ Depth to water (in.) —

Seeping in at that depth but not yet filled? ☐

Saturation Present? Yes ☐ No ☒ Depth to sat. (in.) —

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: Wet. Site Access Borough/City: MSB Date: 7/14/2020  
 Applicant/Owner: ADDA Sampling Point #: 516  
 Investigator(s): ERIN CUNNINGHAM, NORA HOTCH Firm: HDR Alaska, Inc. hcrj07  
 Lat. (dec.): 61.552927 Long. 150.694976 ± ' NAD 83 Recorded on GPS #: Y Marked on map? Y Field Map #: Y  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Swale Slope (%): 3 Aspect: Y  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: 7H  
 Photo nos./descriptions: SOILS X2, NESW Camera #: Y Veg Type (Viereck Level 4 or other): IIA2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: Y No: Y If no, explain. HGM type: NH  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes Y No Y  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |              |             |                                                                                              |
|---------------------------------|--------------|-------------|----------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <u>Y</u> | No <u>Y</u> | Is the sampled area within a wetland? Yes <u>Y</u> No <u>Y</u><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <u>Y</u> | No <u>Y</u> |                                                                                              |
| Wetland Hydrology Present?      | Yes <u>Y</u> | No <u>Y</u> |                                                                                              |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                  |           |          |             |                                 |           |       |       | Dominance Test worksheet:                                                                            |                 |
|------------------------------------------------------------------------------------------|-----------|----------|-------------|---------------------------------|-----------|-------|-------|------------------------------------------------------------------------------------------------------|-----------------|
| Species                                                                                  | Cov.%     | Dom?     | Ind.        | Species                         | Cov.%     | Dom?  | Ind.  | Number of Dominant Species That are OBL, FACW, or FAC:                                               | (A)             |
| 1. <u>Bet. papyrus</u>                                                                   | <u>8</u>  | <u>Y</u> | <u>FACW</u> | 5. _____                        | _____     | _____ | _____ | Total Number of Dominant Species Across All Strata:                                                  | <u>4</u>        |
| 2. _____                                                                                 | _____     | _____    | _____       | 6. _____                        | _____     | _____ | _____ | Percent of Dominant Species That are OBL, FACW, or FAC:                                              | <u>25</u> (A/B) |
| 3. _____                                                                                 | _____     | _____    | _____       | 7. _____                        | _____     | _____ | _____ | Prevalence Index worksheet:                                                                          |                 |
| 4. _____                                                                                 | _____     | _____    | _____       | 8. _____                        | _____     | _____ | _____ | Total % Cover of:                                                                                    | Multiply by:    |
| Total Tree Cover: <u>8</u>                                                               |           |          |             | 50% of total cover: <u>4</u>    |           |       |       | 20% of total cover: <u>1.6</u>                                                                       |                 |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                            |           |          |             |                                 |           |       |       | OBL species _____ X1= _____                                                                          |                 |
| Species                                                                                  | Abs.Cov.% | Dom?     | Ind.        | Species                         | Abs.Cov.% | Dom?  | Ind.  | FACW species _____ X2= _____                                                                         |                 |
| 1. <u>Rubus idae</u>                                                                     | <u>5</u>  | <u>Y</u> | <u>FACW</u> | 7. _____                        | _____     | _____ | _____ | FAC species <u>80</u> X3= <u>240</u>                                                                 |                 |
| 2. <u>Rosa acn</u>                                                                       | <u>3</u>  | <u>Y</u> | <u>FACW</u> | 8. _____                        | _____     | _____ | _____ | FACU species <u>38</u> X4= <u>156</u>                                                                |                 |
| 3. <u>Vib. edule</u>                                                                     | <u>10</u> | <u>Y</u> | <u>FACW</u> | 9. _____                        | _____     | _____ | _____ | UPL + NL species _____ X5= _____                                                                     |                 |
| 4. _____                                                                                 | _____     | _____    | _____       | 10. _____                       | _____     | _____ | _____ | Column Totals: <u>119</u> (A) <u>39.6</u> (B)                                                        |                 |
| 5. _____                                                                                 | _____     | _____    | _____       | 11. _____                       | _____     | _____ | _____ | Prevalence Index = B/A = <u>3.32</u>                                                                 |                 |
| 6. _____                                                                                 | _____     | _____    | _____       | 12. _____                       | _____     | _____ | _____ |                                                                                                      |                 |
| Total Sapling/Shrub Cover: <u>18</u>                                                     |           |          |             | 50% of total cover: <u>9</u>    |           |       |       | 20% of total cover: <u>3.6</u>                                                                       |                 |
| Herb Stratum                                                                             |           |          |             |                                 |           |       |       | Hydrophytic Vegetation Indicators:                                                                   |                 |
| Species                                                                                  | Abs.Cov.% | Dom?     | Ind.        | Species                         | Abs.Cov.% | Dom?  | Ind.  | — Dominance Test is >50%                                                                             |                 |
| 1. <u>Cal. can</u>                                                                       | <u>80</u> | <u>Y</u> | <u>FAC</u>  | 12. _____                       | _____     | _____ | _____ | — Prevalence Index is ≤3.0                                                                           |                 |
| 2. <u>Her. len</u>                                                                       | <u>10</u> | <u>Y</u> | <u>FACW</u> | 13. _____                       | _____     | _____ | _____ | — Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |                 |
| 3. <u>Rhyn. ay</u>                                                                       | <u>3</u>  | <u>Y</u> | <u>FACW</u> | 14. _____                       | _____     | _____ | _____ | — Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                          |                 |
| 4. _____                                                                                 | _____     | _____    | _____       | 15. _____                       | _____     | _____ | _____ |                                                                                                      |                 |
| 5. _____                                                                                 | _____     | _____    | _____       | 16. _____                       | _____     | _____ | _____ |                                                                                                      |                 |
| 6. _____                                                                                 | _____     | _____    | _____       | 17. _____                       | _____     | _____ | _____ |                                                                                                      |                 |
| 7. _____                                                                                 | _____     | _____    | _____       | 18. _____                       | _____     | _____ | _____ |                                                                                                      |                 |
| 8. _____                                                                                 | _____     | _____    | _____       | 19. _____                       | _____     | _____ | _____ |                                                                                                      |                 |
| 9. _____                                                                                 | _____     | _____    | _____       | 20. _____                       | _____     | _____ | _____ |                                                                                                      |                 |
| 10. _____                                                                                | _____     | _____    | _____       | 21. _____                       | _____     | _____ | _____ |                                                                                                      |                 |
| 11. _____                                                                                | _____     | _____    | _____       | 22. _____                       | _____     | _____ | _____ |                                                                                                      |                 |
| Total Herb Cover: <u>93</u>                                                              |           |          |             | 50% of total cover: <u>46.5</u> |           |       |       | 20% of total cover: <u>18.6</u>                                                                      |                 |
| Circular 1/10-ac plot <u>Y</u> or other plot dimension: _____ % of bare ground: <u>Y</u> |           |          |             |                                 |           |       |       | Hydrophytic Vegetation Present? Yes <u>Y</u> No <u>Y</u>                                             |                 |
| % Cover of Wetland Bryophytes _____ % Total Cover of Bryophytes _____ %                  |           |          |             |                                 |           |       |       |                                                                                                      |                 |
| Remarks:                                                                                 |           |          |             |                                 |           |       |       |                                                                                                      |                 |



## SOIL

Sampling Point #: 516

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |   |                   |                  | Texture | α, α dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------|----------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |         |                            |                                    |
| 0-2            | 0i                | 10YR3/2       | 100 |                |   |                   |                  | OKA     |                            |                                    |
| 2-4            | A                 | 10YR2/2       | 100 |                |   |                   |                  |         | neg                        |                                    |
| 4-5            | E                 | 2.5Y4/2       | 100 |                |   |                   |                  | SIL     | neg                        |                                    |
| 5-9            | B <sub>1</sub>    | 10YR3/4       | 100 |                |   |                   |                  |         | neg                        |                                    |
| 9-15           | B <sub>2</sub>    | 2.5Y4/3       | 95  | 7.5YR3/4       | 5 | C                 | RC               | SIL     | neg                        |                                    |
| 15-16          | C                 | 10YR4/6       | 100 |                |   |                   |                  |         | NT                         |                                    |
|                |                   |               |     |                |   |                   |                  |         |                            |                                    |
|                |                   |               |     |                |   |                   |                  |         |                            |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_" in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONEDepth (inches) NADrainage Class: WD

Soil Map Unit Name:

Hydric Soil Present?

Yes ☐No ☒

## Comments:

1. moist enough for dpcr dpcr, not saturated though.
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☐ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos. α, α or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.)     Water Table Present? Yes ☐ No ☒ Depth to water (in.)     Seeping in at that depth but not yet filled?: ☐Saturation Present? Yes ☐ No ☒ Depth to sat. (in.)     

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present?

Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

## Remarks:

located in low swale, gentle slope



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sn Access Borough/City: MSB Date: 9/16/2020  
 Applicant/Owner: ANDEA Sampling Point #: 520  
 Investigator(s): Erin Cunningham, Nora Huth Firm: HDR Alaska, Inc.  
 Lat. (dec.): 61.607730 Long. 160.872589 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:           
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: swale Slope (%): 3 Aspect: W  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PFO4/PSS16  
 Photo nos./descriptions: NESW, SOILS Camera #: Yum Veg Type (Viereck Level 4 or other): IA 2f  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: Slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                              |                 |                 |                 |                     |                 |                                                                                                                             |                 | Dominance Test worksheet:                               |                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|---------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------|---------------------------------------------------------------------|
| Species                                                                                                                              | Cov.%           | Dom?            | Ind.            | Species             | Cov.%           | Dom?                                                                                                                        | Ind.            | Number of Dominant Species That are OBL, FACW, or FAC:  |                                                                     |
| 1. <u>Picea mar</u>                                                                                                                  | <u>30</u>       | <u>Y</u>        | <u>tree</u>     | 5. <u>        </u>  | <u>        </u> | <u>        </u>                                                                                                             | <u>        </u> | <u>6</u>                                                | (A)                                                                 |
| 2. <u>        </u>                                                                                                                   | <u>        </u> | <u>        </u> | <u>        </u> | 6. <u>        </u>  | <u>        </u> | <u>        </u>                                                                                                             | <u>        </u> | Total Number of Dominant Species Across All Strata:     | <u>7</u> (B)                                                        |
| 3. <u>        </u>                                                                                                                   | <u>        </u> | <u>        </u> | <u>        </u> | 7. <u>        </u>  | <u>        </u> | <u>        </u>                                                                                                             | <u>        </u> | Percent of Dominant Species That are OBL, FACW, or FAC: | <u>185.7</u> (A/B)                                                  |
| 4. <u>        </u>                                                                                                                   | <u>        </u> | <u>        </u> | <u>        </u> | 8. <u>        </u>  | <u>        </u> | <u>        </u>                                                                                                             | <u>        </u> | Prevalence Index worksheet:                             |                                                                     |
| Total Tree Cover: <u>30</u>                                                                                                          |                 |                 |                 |                     |                 |                                                                                                                             |                 | Total % Cover of:                                       | Multiply by:                                                        |
| 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>                                                                           |                 |                 |                 |                     |                 |                                                                                                                             |                 | OBL species                                             | <u>25</u> X1= <u>25</u>                                             |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                        |                 |                 |                 |                     |                 |                                                                                                                             |                 | FACW species                                            | <u>62</u> X2= <u>124</u>                                            |
| Abs.Cov.%                                                                                                                            | Dom?            | Ind.            | Abs.Cov.%       | Dom?                | Ind.            | FAC species                                                                                                                 |                 |                                                         |                                                                     |
| 1. <u>Picea mar</u>                                                                                                                  | <u>15</u>       | <u>Y</u>        | <u>FACW</u>     | 7. <u>Myr. ferr</u> | <u>7</u>        | <u>Y</u>                                                                                                                    | <u>FACW</u>     | X3= <u>135</u>                                          |                                                                     |
| 2. <u>Bet gland</u>                                                                                                                  | <u>12</u>       | <u>Y</u>        | <u>FAC</u>      | 8. <u>Alnus ten</u> | <u>2</u>        | <u>-</u>                                                                                                                    | <u>FAC</u>      | X4= <u>28</u>                                           |                                                                     |
| 3. <u>Vac vit</u>                                                                                                                    | <u>3</u>        | <u>-</u>        | <u>FAC</u>      | 9. <u>        </u>  | <u>        </u> | <u>        </u>                                                                                                             | <u>        </u> | X5= <u>-</u>                                            |                                                                     |
| 4. <u>Vac uli</u>                                                                                                                    | <u>5</u>        | <u>-</u>        | <u>FAC</u>      | 10. <u>        </u> | <u>        </u> | <u>        </u>                                                                                                             | <u>        </u> | UPL + NL species                                        |                                                                     |
| 5. <u>Rhu tom</u>                                                                                                                    | <u>7</u>        | <u>Y</u>        | <u>FACW</u>     | 11. <u>        </u> | <u>        </u> | <u>        </u>                                                                                                             | <u>        </u> | Column Totals:                                          |                                                                     |
| 6. <u>Vac oval</u>                                                                                                                   | <u>3</u>        | <u>-</u>        | <u>FAC</u>      | 12. <u>        </u> | <u>        </u> | <u>        </u>                                                                                                             | <u>        </u> | <u>139</u> (A) <u>312</u> (B)                           |                                                                     |
| Total Sapling/Shrub Cover: <u>54</u>                                                                                                 |                 |                 |                 |                     |                 |                                                                                                                             |                 | Prevalence Index = B/A =                                | <u>2.24</u>                                                         |
| 50% of total cover: <u>27</u> 20% of total cover: <u>10.8</u>                                                                        |                 |                 |                 |                     |                 |                                                                                                                             |                 |                                                         |                                                                     |
| Herb Stratum                                                                                                                         |                 |                 |                 |                     |                 |                                                                                                                             |                 | Hydrophytic Vegetation Indicators:                      |                                                                     |
| Abs.Cov.%                                                                                                                            | Dom?            | Ind.            | Abs. Cov.%      | Dom?                | Ind.            |                                                                                                                             |                 |                                                         |                                                                     |
| 1. <u>Carex aqua</u>                                                                                                                 | <u>25</u>       | <u>Y</u>        | <u>OBL</u>      | 12. <u>        </u> | <u>        </u> | <input checked="" type="checkbox"/> Dominance Test is >50%                                                                  |                 |                                                         |                                                                     |
| 2. <u>Equis ar</u>                                                                                                                   | <u>10</u>       | <u>Y</u>        | <u>FAC</u>      | 13. <u>        </u> | <u>        </u> | <input checked="" type="checkbox"/> Prevalence Index is ≤3.0                                                                |                 |                                                         |                                                                     |
| 3. <u>Equis prat</u>                                                                                                                 | <u>5</u>        | <u>-</u>        | <u>FACW</u>     | 14. <u>        </u> | <u>        </u> | <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |                 |                                                         |                                                                     |
| 4. <u>Rubus chm</u>                                                                                                                  | <u>5</u>        | <u>-</u>        | <u>FACW</u>     | 15. <u>        </u> | <u>        </u> | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                          |                 |                                                         |                                                                     |
| 5. <u>Cal can</u>                                                                                                                    | <u>5</u>        | <u>-</u>        | <u>FAC</u>      | 16. <u>        </u> | <u>        </u> | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.               |                 |                                                         |                                                                     |
| 6. <u>Rubus are</u>                                                                                                                  | <u>5</u>        | <u>-</u>        | <u>FAC</u>      | 17. <u>        </u> | <u>        </u> |                                                                                                                             |                 |                                                         |                                                                     |
| 7. <u>        </u>                                                                                                                   | <u>        </u> | <u>        </u> | <u>        </u> | 18. <u>        </u> | <u>        </u> |                                                                                                                             |                 |                                                         |                                                                     |
| 8. <u>        </u>                                                                                                                   | <u>        </u> | <u>        </u> | <u>        </u> | 19. <u>        </u> | <u>        </u> |                                                                                                                             |                 |                                                         |                                                                     |
| 9. <u>        </u>                                                                                                                   | <u>        </u> | <u>        </u> | <u>        </u> | 20. <u>        </u> | <u>        </u> |                                                                                                                             |                 |                                                         |                                                                     |
| 10. <u>        </u>                                                                                                                  | <u>        </u> | <u>        </u> | <u>        </u> | 21. <u>        </u> | <u>        </u> |                                                                                                                             |                 |                                                         |                                                                     |
| 11. <u>        </u>                                                                                                                  | <u>        </u> | <u>        </u> | <u>        </u> | 22. <u>        </u> | <u>        </u> |                                                                                                                             |                 |                                                         |                                                                     |
| Total Herb Cover: <u>55</u>                                                                                                          |                 |                 |                 |                     |                 |                                                                                                                             |                 | Hydrophytic Vegetation Present?                         | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| 50% of total cover: <u>27.5</u> 20% of total cover: <u>11</u>                                                                        |                 |                 |                 |                     |                 |                                                                                                                             |                 |                                                         |                                                                     |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>        </u> % of bare ground: <u>        </u> |                 |                 |                 |                     |                 |                                                                                                                             |                 |                                                         |                                                                     |
| % Cover of Wetland Bryophytes <u>80</u> % Total Cover of Bryophytes <u>80</u> % (where applicable)                                   |                 |                 |                 |                     |                 |                                                                                                                             |                 |                                                         |                                                                     |
| Remarks: <u>several small swaths of standing water - no definitive stream channel but standing water throughout.</u>                 |                 |                 |                 |                     |                 |                                                                                                                             |                 |                                                         |                                                                     |







## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West SA 10044 Borough/City: MSB Date: 9/16/2020  
 Applicant/Owner: AIDEA Sampling Point #: 522  
 Investigator(s): erin cunningham, Nora Hetch Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.607311 Long. 150.869170 NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #: ☐  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Top of slope Slope (%): 3 Aspect: ☐  
 Local relief: Shape across slope: linear convex / concave Shape up/downslope: linear convex / concave NWI classification: PSS1B  
 Photo nos./descriptions: SOILS, NESW Camera #: ☒ Veg Type (Viereck Level 4 or other): 1B2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: Slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                               |           |          |             |                        |           |                                                                                                    |                                              | Dominance Test worksheet:                                                                           |                 |  |
|-----------------------------------------------------------------------------------------------------------------------|-----------|----------|-------------|------------------------|-----------|----------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------|--|
| Species                                                                                                               | Cov. %    | Dom?     | Ind.        | Species                | Cov. %    | Dom?                                                                                               | Ind.                                         | Number of Dominant Species That are OBL, FACW, or FAC:                                              |                 |  |
| 1. <u>Bet pop</u>                                                                                                     | <u>25</u> | <u>Y</u> | <u>FACW</u> | 5. _____               | _____     | _____                                                                                              | _____                                        | <u>5</u>                                                                                            | (A)             |  |
| 2. <u>Picea mar</u>                                                                                                   | <u>17</u> | <u>Y</u> | <u>FACW</u> | 6. _____               | _____     | _____                                                                                              | _____                                        | Total Number of Dominant Species Across All Strata:                                                 | <u>6</u> (B)    |  |
| 3. _____                                                                                                              | _____     | _____    | _____       | 7. _____               | _____     | _____                                                                                              | _____                                        | Percent of Dominant Species That are OBL, FACW, or FAC:                                             | <u>83</u> (A/B) |  |
| 4. _____                                                                                                              | _____     | _____    | _____       | 8. _____               | _____     | _____                                                                                              | _____                                        | Prevalence Index worksheet:                                                                         |                 |  |
| Total Tree Cover: <u>32</u>                                                                                           |           |          |             |                        |           |                                                                                                    |                                              | Total % Cover of: _____ Multiply by: _____                                                          |                 |  |
| 50% of total cover: <u>16</u> 20% of total cover: <u>6.4</u>                                                          |           |          |             |                        |           |                                                                                                    |                                              | OBL species _____ X1= _____                                                                         |                 |  |
| Sampling/Shrub Stratum (woody plants < 3" dbh)                                                                        |           |          |             |                        |           |                                                                                                    |                                              | FACW species <u>7</u> X2= <u>14</u>                                                                 |                 |  |
| Abs. Cov. %                                                                                                           | Dom?      | Ind.     | Abs. Cov. % | Dom?                   | Ind.      | FAC species <u>196</u> X3= <u>238</u>                                                              |                                              |                                                                                                     |                 |  |
| 1. <u>Alnus sin</u>                                                                                                   | <u>60</u> | <u>Y</u> | <u>FAC</u>  | 7. <u>Lyc ann</u>      | <u>2</u>  | <u>FACW</u>                                                                                        | FACU species <u>65</u> X4= <u>260</u>        |                                                                                                     |                 |  |
| 2. <u>Vac alack</u>                                                                                                   | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 8. <u>Pyrola secun</u> | <u>1</u>  | <u>FACW</u>                                                                                        | UPL + NL species _____ X5= _____             |                                                                                                     |                 |  |
| 3. <u>Rubus brist</u>                                                                                                 | <u>3</u>  | <u>-</u> | <u>FAC</u>  | 9. <u>Opl hor</u>      | <u>12</u> | <u>FACW</u>                                                                                        | Column Totals: <u>168</u> (A) <u>562</u> (B) |                                                                                                     |                 |  |
| 4. <u>Sorbus fr</u>                                                                                                   | <u>2</u>  | <u>-</u> | <u>FACW</u> | 10. _____              | _____     | _____                                                                                              | Prevalence Index = B/A = <u>3.345</u>        |                                                                                                     |                 |  |
| 5. <u>Rosa alca</u>                                                                                                   | <u>3</u>  | <u>-</u> | <u>FACW</u> | 11. _____              | _____     | _____                                                                                              |                                              |                                                                                                     |                 |  |
| 6. <u>Spir bea</u>                                                                                                    | <u>7</u>  | <u>-</u> | <u>FACW</u> | 12. _____              | _____     | _____                                                                                              |                                              |                                                                                                     |                 |  |
| Total Sapling/Shrub Cover: <u>94</u>                                                                                  |           |          |             |                        |           |                                                                                                    |                                              |                                                                                                     |                 |  |
| 50% of total cover: <u>47</u> 20% of total cover: <u>18.8</u>                                                         |           |          |             |                        |           |                                                                                                    |                                              |                                                                                                     |                 |  |
| Herb Stratum                                                                                                          |           |          |             |                        |           |                                                                                                    |                                              | Hydrophytic Vegetation Indicators:                                                                  |                 |  |
| Abs. Cov. %                                                                                                           | Dom?      | Ind.     | Abs. Cov. % | Dom?                   | Ind.      | Y Dominance Test is >50%<br>Prevalence Index is ≤3.0                                               |                                              |                                                                                                     |                 |  |
| 1. <u>Cal can</u>                                                                                                     | <u>10</u> | <u>Y</u> | <u>FAC</u>  | 12. _____              | _____     | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |                                              |                                                                                                     |                 |  |
| 2. <u>Equisylv</u>                                                                                                    | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 13. _____              | _____     | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                          |                                              |                                                                                                     |                 |  |
| 3. <u>Dry dil</u>                                                                                                     | <u>8</u>  | <u>Y</u> | <u>FACW</u> | 14. _____              | _____     |                                                                                                    |                                              |                                                                                                     |                 |  |
| 4. <u>Equis an</u>                                                                                                    | <u>7</u>  | <u>Y</u> | <u>FAC</u>  | 15. _____              | _____     |                                                                                                    |                                              |                                                                                                     |                 |  |
| 5. <u>Gyban dry</u>                                                                                                   | <u>5</u>  | <u>-</u> | <u>FACW</u> | 16. _____              | _____     |                                                                                                    |                                              |                                                                                                     |                 |  |
| 6. <u>Gallium tr</u>                                                                                                  | <u>1</u>  | <u>-</u> | <u>FAC</u>  | 17. _____              | _____     |                                                                                                    |                                              |                                                                                                     |                 |  |
| 7. <u>Opl hor</u>                                                                                                     | <u>12</u> | <u>-</u> | <u>FACW</u> | 18. _____              | _____     |                                                                                                    |                                              |                                                                                                     |                 |  |
| 8. <u>Rub ped</u>                                                                                                     | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 19. _____              | _____     |                                                                                                    |                                              |                                                                                                     |                 |  |
| 9. <u>Viola sp</u>                                                                                                    | <u>2</u>  | <u>-</u> | <u>-</u>    | 20. _____              | _____     |                                                                                                    |                                              |                                                                                                     |                 |  |
| 10. <u>Pyrola sec</u>                                                                                                 | <u>1</u>  | <u>-</u> | <u>FACW</u> | 21. _____              | _____     |                                                                                                    |                                              |                                                                                                     |                 |  |
| 11. _____                                                                                                             | _____     | _____    | _____       | 22. _____              | _____     |                                                                                                    |                                              |                                                                                                     |                 |  |
| Total Herb Cover: <u>44</u>                                                                                           |           |          |             |                        |           |                                                                                                    |                                              | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |                 |  |
| 50% of total cover: <u>22</u> 20% of total cover: <u>8.8</u>                                                          |           |          |             |                        |           |                                                                                                    |                                              |                                                                                                     |                 |  |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: _____ % of bare ground: <u>15%</u> |           |          |             |                        |           |                                                                                                    |                                              |                                                                                                     |                 |  |
| % Cover of Wetland Bryophytes <u>0</u> % Total Cover of Bryophytes <u>5</u>                                           |           |          |             |                        |           |                                                                                                    |                                              |                                                                                                     |                 |  |
| Remarks:                                                                                                              |           |          |             |                        |           |                                                                                                    |                                              |                                                                                                     |                 |  |



## SOIL

Sampling Point #: 522

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |   |                   |                  | Texture         | a, a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|----------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |                            |                                    |
| 0-1            | 0i                | 5YR2.5/1      |     |                |   |                   |                  | ORG             |                            |                                    |
| 1-5            | 0a                | "             |     |                |   |                   |                  |                 |                            |                                    |
| 5-8            | 0a                |               |     |                |   |                   |                  |                 |                            |                                    |
| 8-9            | A                 | 5YR2.5/1      | 100 |                |   |                   |                  | Silt            | NT                         |                                    |
| 9-14           | B <sub>1</sub>    | 5YR2.5/1      | 50% |                |   |                   |                  | Silt + organics |                            | 50% organics                       |
| 14-16          | B <sub>2</sub>    | 7.5YR2.5/2    | 75% |                |   |                   |                  | Silt + organics |                            | 25% buried organics                |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☒ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☒ Black Histic (A3)
- ☒ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ 8" in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement; explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NA

Drainage Class: PD

Soil Map Unit Name:

Hydric Soil Present?

Yes ☒No ☐

Comments:

- 
- 
- 

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☐ 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)

Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. a, a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.)Water Table Present? Yes ☒ No ☐ Depth to water (in.)

Seeping in at that depth but not yet filled?: 10"

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 2

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Seeping in at 11 inches, came up to 10 before we left.  
located at toe of slope w/ gradient ~3%



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: Wetland Assessment Borough/City: MSB Date: 9/16/2020  
 Applicant/Owner: Alaska Sampling Point #: 528  
 Investigator(s): Edun Cunningham, NIRA HATCH Firm: HDR Alaska, Inc.  
 Lat. (dec.): 61.553493 Long. 150.668311 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:         
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Toe of slope Slope (%): 4 Aspect:         
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear convex / concave NWI classification: PF01/SS1C  
 Photo nos./descriptions: SOILS < 2, NBSW Camera #:        Veg Type (Viereck Level 4 or other): IB2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                          |               |               |               |                   |               |               |               | Dominance Test worksheet:                                                                           |                 |  |  |
|----------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|-------------------|---------------|---------------|---------------|-----------------------------------------------------------------------------------------------------|-----------------|--|--|
| Species                                                                                                                          | Cov.%         | Dom?          | Ind.          | Species           | Cov.%         | Dom?          | Ind.          | Number of Dominant Species That are OBL, FACW, or FAC:                                              |                 |  |  |
| 1. <u>Bet pop</u>                                                                                                                | <u>35</u>     | <u>Y</u>      | <u>FACW</u>   | 5. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | <u>5</u>                                                                                            | (A)             |  |  |
| 2. <u>Pic mar</u>                                                                                                                | <u>10</u>     | <u>Y</u>      | <u>FACW</u>   | 6. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | Total Number of Dominant Species Across All Strata:                                                 | <u>6</u> (B)    |  |  |
| 3. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 7. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | Percent of Dominant Species That are OBL, FACW, or FAC:                                             | <u>83</u> (A/B) |  |  |
| 4. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 8. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | Prevalence Index worksheet:                                                                         |                 |  |  |
| Total Tree Cover: <u>45</u>                                                                                                      |               |               |               |                   |               |               |               | Total % Cover of:                                                                                   |                 |  |  |
| 50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>                                                                     |               |               |               |                   |               |               |               | Multiply by:                                                                                        |                 |  |  |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                    |               |               |               |                   |               |               |               | OBL species <u>8</u> X1= <u>8</u>                                                                   |                 |  |  |
| Species                                                                                                                          | Abs.Cov.%     | Dom?          | Ind.          | Species           | Abs.Cov.%     | Dom?          | Ind.          | FACW species <u>20</u> X2= <u>40</u>                                                                |                 |  |  |
| 1. <u>Alnus ten</u>                                                                                                              | <u>25</u>     | <u>Y</u>      | <u>FAC</u>    | 7. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | FAC species <u>193</u> X3= <u>279</u>                                                               |                 |  |  |
| 2. <u>Menz ferr</u>                                                                                                              | <u>10</u>     | <u>-</u>      | <u>FACW</u>   | 8. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | FACU species <u>817</u> X4= <u>324</u>                                                              |                 |  |  |
| 3. <u>Lys ann</u>                                                                                                                | <u>5</u>      | <u>-</u>      | <u>FACW</u>   | 9. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | UPL + NL species <u>      </u> X5= <u>      </u>                                                    |                 |  |  |
| 4. <u>Bet pop</u>                                                                                                                | <u>10</u>     | <u>-</u>      | <u>FACW</u>   | 10. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | Column Totals: <u>202</u> (A) <u>654</u> (B)                                                        |                 |  |  |
| 5. <u>Vac alask</u>                                                                                                              | <u>15</u>     | <u>Y</u>      | <u>FAC</u>    | 11. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | Prevalence Index = B/A = <u>2.82</u> <u>3.22</u>                                                    |                 |  |  |
| 6. <u>Ople horr</u>                                                                                                              | <u>19</u>     | <u>-</u>      | <u>FACW</u>   | 12. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |                 |  |  |
| Total Sapling/Shrub Cover: <u>75</u>                                                                                             |               |               |               |                   |               |               |               |                                                                                                     |                 |  |  |
| 50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u>                                                                    |               |               |               |                   |               |               |               |                                                                                                     |                 |  |  |
| Herb Stratum                                                                                                                     |               |               |               |                   |               |               |               | Hydrophytic Vegetation Indicators:                                                                  |                 |  |  |
| Species                                                                                                                          | Abs.Cov.%     | Dom?          | Ind.          | Species           | Abs.Cov.%     | Dom?          | Ind.          | Y Dominance Test is >50%<br>Prevalence Index is ≤3.0 (no)                                           |                 |  |  |
| 1. <u>Athy fol fen</u>                                                                                                           | <u>8</u>      | <u>-</u>      | <u>FAC</u>    | 12. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  |                 |  |  |
| 2. <u>Cal can</u>                                                                                                                | <u>40</u>     | <u>Y</u>      | <u>FAC</u>    | 13. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                           |                 |  |  |
| 3. <u>Drn dil</u>                                                                                                                | <u>7</u>      | <u>-</u>      | <u>FACW</u>   | 14. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |                 |  |  |
| 4. <u>Com pal</u>                                                                                                                | <u>8</u>      | <u>-</u>      | <u>OBL</u>    | 15. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |                 |  |  |
| 5. <u>Egm prat</u>                                                                                                               | <u>10</u>     | <u>Y</u>      | <u>FACW</u>   | 16. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |                 |  |  |
| 6. <u>Tri eur</u>                                                                                                                | <u>2</u>      | <u>-</u>      | <u>FACW</u>   | 17. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |                 |  |  |
| 7. <u>Erm cyl</u>                                                                                                                | <u>5</u>      | <u>-</u>      | <u>FAC</u>    | 18. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |                 |  |  |
| 8. <u>Gymn dry</u>                                                                                                               | <u>2</u>      | <u>-</u>      | <u>FACW</u>   | 19. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |                 |  |  |
| 9. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 20. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |                 |  |  |
| 10. <u>      </u>                                                                                                                | <u>      </u> | <u>      </u> | <u>      </u> | 21. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |                 |  |  |
| 11. <u>      </u>                                                                                                                | <u>      </u> | <u>      </u> | <u>      </u> | 22. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |                 |  |  |
| Total Herb Cover: <u>82</u>                                                                                                      |               |               |               |                   |               |               |               | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |                 |  |  |
| 50% of total cover: <u>41</u> 20% of total cover: <u>16.4</u>                                                                    |               |               |               |                   |               |               |               |                                                                                                     |                 |  |  |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>      </u> % of bare ground: <u>      </u> |               |               |               |                   |               |               |               |                                                                                                     |                 |  |  |
| % Cover of Wetland Bryophytes <u>30</u> % Total Cover of Bryophytes <u>30</u> % (where applicable)                               |               |               |               |                   |               |               |               |                                                                                                     |                 |  |  |
| Remarks:                                                                                                                         |               |               |               |                   |               |               |               |                                                                                                     |                 |  |  |







## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST SH ACCESS Borough/City: MSB Date: 9/16/2020  
 Applicant/Owner: ADDA Sampling Point #: 529  
 Investigator(s): ERIN CUNNINGHAM, NOVA HOTCH Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.553186 Long. 150.068786 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #: ☐  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Hillsides Slope (%): 25 Aspect: SE  
 Local relief: Shape across slope linear / convex / concave Shape up/downslope linear / convex / concave NWI classification: 2  
 Photo nos./descriptions: SOILS x 2, NBW Camera #:        Veg Type (Viereck Level 4 or other): II B2b  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                                        |                                                                                                           |                            |
|---------------------------------|-----------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                           |                            |
| Wetland Hydrology Present?      | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                           |                            |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

## Tree Stratum (dbh ≥ 3")

| Species           | Cov. %        | Dom?          | Ind.          | Species          | Cov. %        | Dom?          | Ind.          |
|-------------------|---------------|---------------|---------------|------------------|---------------|---------------|---------------|
| 1. <u>Ret pap</u> | <u>10</u>     | <u>Y</u>      | <u>FACW</u>   | 5. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 2. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | 6. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 3. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | 7. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 4. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | 8. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |

Total Tree Cover: 1050% of total cover: 5 20% of total cover: 2

## Sapling/Shrub Stratum (woody plants &lt; 3" dbh)

| Species               | Abs. Cov. % | Dom?     | Ind.        | Species              | Abs. Cov. %   | Dom?          | Ind.          |
|-----------------------|-------------|----------|-------------|----------------------|---------------|---------------|---------------|
| 1. <u>Alnus sin</u>   | <u>10</u>   | <u>Y</u> | <u>FAC</u>  | 7. <u>Picea glau</u> | <u>5</u>      | <u>-</u>      | <u>FACW</u>   |
| 2. <u>Samb rac</u>    | <u>10</u>   | <u>Y</u> | <u>FACW</u> | 8. <u>      </u>     | <u>      </u> | <u>      </u> | <u>      </u> |
| 3. <u>Oplopan hur</u> | <u>20</u>   | <u>Y</u> | <u>FACW</u> | 9. <u>      </u>     | <u>      </u> | <u>      </u> | <u>      </u> |
| 4. <u>Dry pit</u>     | <u>10</u>   | <u>-</u> | <u>FACW</u> | 10. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> |
| 5. <u>Sorbus lit</u>  | <u>5</u>    | <u>-</u> | <u>FACW</u> | 11. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> |
| 6. <u>Vib edule</u>   | <u>5</u>    | <u>-</u> | <u>FACW</u> | 12. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> |

Total Sapling/Shrub Cover: 5550% of total cover: 27.5 20% of total cover: 11

## Herb Stratum

| Species                  | Abs. Cov. %   | Dom?          | Ind.          | Species           | Abs. Cov. %   | Dom?          | Ind.          |
|--------------------------|---------------|---------------|---------------|-------------------|---------------|---------------|---------------|
| 1. <u>Athyrium filix</u> | <u>20</u>     | <u>Y</u>      | <u>FAC</u>    | 12. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 2. <u>Equis sylv</u>     | <u>3</u>      | <u>-</u>      | <u>FAC</u>    | 13. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 3. <u>Equis arv</u>      | <u>3</u>      | <u>-</u>      | <u>FAC</u>    | 14. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 4. <u>Galium tri</u>     | <u>1</u>      | <u>-</u>      | <u>FAC</u>    | 15. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 5. <u>Gymno dry</u>      | <u>5</u>      | <u>-</u>      | <u>FACW</u>   | 16. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 6. <u>Cal can</u>        | <u>15</u>     | <u>Y</u>      | <u>FAC</u>    | 17. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 7. <u>Dry dell</u>       | <u>10</u>     | <u>-</u>      | <u>FACW</u>   | 18. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 8. <u>      </u>         | <u>      </u> | <u>      </u> | <u>      </u> | 19. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 9. <u>      </u>         | <u>      </u> | <u>      </u> | <u>      </u> | 20. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 10. <u>      </u>        | <u>      </u> | <u>      </u> | <u>      </u> | 21. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |
| 11. <u>      </u>        | <u>      </u> | <u>      </u> | <u>      </u> | 22. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> |

Total Herb Cover: 5750% of total cover: 28.5 20% of total cover: 11.4

Circular 1/10-ac plot ☒ or other plot dimension:        % of bare ground: 5  
 % Cover of Wetland Bryophytes 0 % Total Cover of Bryophytes 0 %  
 (where applicable)

Remarks: leaf litter

## Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)Total Number of Dominant Species Across All Strata: 6 (B)Percent of Dominant Species That are OBL, FACW, or FAC: 50 (A/B)

## Prevalence Index worksheet:

| Total % Cover of:              | Multiply by:      |
|--------------------------------|-------------------|
| OBL species <u>      </u>      | X1= <u>      </u> |
| FACW species <u>      </u>     | X2= <u>      </u> |
| FAC species <u>52</u>          | X3= <u>156</u>    |
| FACU species <u>20</u>         | X4= <u>200</u>    |
| UPL + NL species <u>      </u> | X5= <u>      </u> |
| Column Totals: <u>122</u> (A)  | <u>436</u> (B)    |

Prevalence Index = B/A = 3.57

## Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%  
☒ Prevalence Index is ≤3.0

☐ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present?

Yes ☒ No ☒



## SOIL

Sampling Point #: 529

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | a, a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|----------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                    |                                    |
| 0-2            | 0i                |               |     |                |    |                   |                  |                            |                                    |
| 2-3            | A                 | 10R2.5/2      | 100 |                |    |                   |                  |                            |                                    |
| 3-5            | B                 | 7.5YR3/1      | 100 |                |    |                   |                  | SiL                        | neg                                |
| 5-6            | B                 | 7.5YR2.5/1    | 100 |                |    |                   |                  | SiL                        | neg                                |
| 6-7            | B                 | 5YR2.5/1      | 100 |                |    |                   |                  | SiL                        | neg                                |
| 7-9            | B                 | 5YR3/3        | 100 |                |    |                   |                  | SiL                        | neg                                |
| 9-14           | B                 | 10YR3/4       | 85  | 2.5YR2.5/3     | 15 | C                 | PL RC            | SiL                        | neg                                |
| 14-17          | B                 | 10YR4/3       | 100 |                |    |                   |                  |                            |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; ☐ in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NA

Drainage Class: UD

Soil Map Unit Name:

Hydric Soil Present?

Yes

No

Comments:

- 
- 
- 

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☐ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos. a, a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H2O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

- Surface Water Present? Yes ☐ No ☒
- Water Table Present? Yes ☐ No ☒
- Seeping in at that depth but not yet filled?: ☐
- Saturation Present? Yes ☐ No ☒
- (includes capillary fringe)
- Depth of water (in.) ☐
- Depth to water (in.) ☐
- Depth to sat. (in.) ☐
- Epi Endo Unknown

Wetland Hydrology Present?

Yes

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sn Access Borough/City: MSB Date: 9/18/2020  
 Applicant/Owner: ADDA Sampling Point #: 534  
 Investigator(s): EC, B. Monahan Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61.556648 Long. 150.612046 ± ' NAD 83 Recorded on GPS #: \_\_\_\_\_ Marked on map? \_\_\_\_\_ Field Map #: \_\_\_\_\_  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Footslope/flat Slope (%): 3 Aspect: \_\_\_\_\_  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: P1B2V  
 Photo nos./descriptions: Soils x2, NBSW Camera #: \_\_\_\_\_ Veg Type (Vioreck Level 4 or other): IB2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: \_\_\_\_\_ If no, explain. HGM type: SLP NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                                        |                                                                                                                      |
|---------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes _____                               | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes _____ No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input checked="" type="checkbox"/> |                                                                                                                      |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No _____                               |                                                                                                                      |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                               |           |          |             |                    |           |          |             | Dominance Test worksheet:                                                                                                                                                                                                               |                   |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|-------------|--------------------|-----------|----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Species                                                                                                                               | Cov.%     | Dom?     | Ind.        | Species            | Cov.%     | Dom?     | Ind.        | Number of Dominant Species That are OBL, FACW, or FAC:                                                                                                                                                                                  |                   |
| 1. <u>Bet pap</u>                                                                                                                     | <u>20</u> | <u>Y</u> | <u>FACU</u> | 5. _____           | _____     | _____    | _____       | <u>9</u>                                                                                                                                                                                                                                | (A)               |
| 2. <u>Picea glau</u>                                                                                                                  | <u>5</u>  | <u>Y</u> | <u>FACU</u> | 6. _____           | _____     | _____    | _____       | Total Number of Dominant Species Across All Strata:                                                                                                                                                                                     | <u>6</u> (B)      |
| 3. _____                                                                                                                              | _____     | _____    | _____       | 7. _____           | _____     | _____    | _____       | Percent of Dominant Species That are OBL, FACW, or FAC:                                                                                                                                                                                 | <u>16.6</u> (A/B) |
| 4. _____                                                                                                                              | _____     | _____    | _____       | 8. _____           | _____     | _____    | _____       | Prevalence Index worksheet:                                                                                                                                                                                                             |                   |
| Total Tree Cover: <u>25</u>                                                                                                           |           |          |             |                    |           |          |             | Total % Cover of:                                                                                                                                                                                                                       |                   |
| 50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>                                                                          |           |          |             |                    |           |          |             | Multiply by:                                                                                                                                                                                                                            |                   |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                         |           |          |             |                    |           |          |             | OBL species _____ X1= _____                                                                                                                                                                                                             |                   |
| Species                                                                                                                               | Abs.Cov.% | Dom?     | Ind.        | Species            | Abs.Cov.% | Dom?     | Ind.        | FACW species _____ X2= _____                                                                                                                                                                                                            |                   |
| 1. <u>Vib edule</u>                                                                                                                   | <u>10</u> | <u>Y</u> | <u>FACU</u> | 7. <u>Res acic</u> | <u>5</u>  | <u>-</u> | <u>FACU</u> | FAC species <u>98</u> X3= <u>294</u>                                                                                                                                                                                                    |                   |
| 2. <u>Ople horr</u>                                                                                                                   | <u>15</u> | <u>Y</u> | <u>FACU</u> | 8. _____           | _____     | _____    | _____       | FACU species <u>91</u> X4= <u>364</u>                                                                                                                                                                                                   |                   |
| 3. <u>Alnus ten</u>                                                                                                                   | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 9. _____           | _____     | _____    | _____       | UPL + NL species _____ X5= _____                                                                                                                                                                                                        |                   |
| 4. <u>Vac alack</u>                                                                                                                   | <u>3</u>  | <u>-</u> | <u>FAC</u>  | 10. _____          | _____     | _____    | _____       | Column Totals: <u>139</u> (A) <u>658</u> (B)                                                                                                                                                                                            |                   |
| 5. <u>Picea glau</u>                                                                                                                  | <u>5</u>  | <u>-</u> | <u>FACU</u> | 11. _____          | _____     | _____    | _____       | Prevalence Index = B/A = <u>3.48</u>                                                                                                                                                                                                    |                   |
| 6. <u>Betula pap</u>                                                                                                                  | <u>10</u> | <u>Y</u> | <u>FACU</u> | 12. _____          | _____     | _____    | _____       |                                                                                                                                                                                                                                         |                   |
| Total Sapling/Shrub Cover: <u>53</u>                                                                                                  |           |          |             |                    |           |          |             | Hydrophytic Vegetation Indicators:                                                                                                                                                                                                      |                   |
| 50% of total cover: <u>26.5</u> 20% of total cover: <u>10.6</u>                                                                       |           |          |             |                    |           |          |             | <input checked="" type="checkbox"/> Dominance Test is >50%<br><input checked="" type="checkbox"/> Prevalence Index is ≤3.0                                                                                                              |                   |
| Herb Stratum                                                                                                                          |           |          |             |                    |           |          |             | <input checked="" type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |                   |
| Species                                                                                                                               | Abs.Cov.% | Dom?     | Ind.        | Species            | Abs.Cov.% | Dom?     | Ind.        | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or <u>unstable</u>                                                                                                                        |                   |
| 1. <u>Gal can</u>                                                                                                                     | <u>70</u> | <u>Y</u> | <u>FAC</u>  | 12. _____          | _____     | _____    | _____       | Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>                                                                                                                                                        |                   |
| 2. <u>Dry clip</u>                                                                                                                    | <u>10</u> | <u>-</u> | <u>FACU</u> | 13. _____          | _____     | _____    | _____       |                                                                                                                                                                                                                                         |                   |
| 3. <u>Equis ar</u>                                                                                                                    | <u>8</u>  | <u>-</u> | <u>FAC</u>  | 14. _____          | _____     | _____    | _____       |                                                                                                                                                                                                                                         |                   |
| 4. <u>Chen ang</u>                                                                                                                    | <u>5</u>  | <u>-</u> | <u>FACU</u> | 15. _____          | _____     | _____    | _____       |                                                                                                                                                                                                                                         |                   |
| 5. <u>Gymn dry</u>                                                                                                                    | <u>5</u>  | <u>-</u> | <u>FACU</u> | 16. _____          | _____     | _____    | _____       |                                                                                                                                                                                                                                         |                   |
| 6. <u>Athyx fil-fer</u>                                                                                                               | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 17. _____          | _____     | _____    | _____       |                                                                                                                                                                                                                                         |                   |
| 7. <u>Rub ped</u>                                                                                                                     | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 18. _____          | _____     | _____    | _____       |                                                                                                                                                                                                                                         |                   |
| 8. <u>Equis sylv</u>                                                                                                                  | <u>2</u>  | <u>-</u> | <u>FAC</u>  | 19. _____          | _____     | _____    | _____       |                                                                                                                                                                                                                                         |                   |
| 9. <u>Cornus can</u>                                                                                                                  | <u>1</u>  | <u>-</u> | <u>FACU</u> | 20. _____          | _____     | _____    | _____       |                                                                                                                                                                                                                                         |                   |
| 10. _____                                                                                                                             | _____     | _____    | _____       | 21. _____          | _____     | _____    | _____       |                                                                                                                                                                                                                                         |                   |
| 11. _____                                                                                                                             | _____     | _____    | _____       | 22. _____          | _____     | _____    | _____       |                                                                                                                                                                                                                                         |                   |
| Total Herb Cover: <u>111</u>                                                                                                          |           |          |             |                    |           |          |             |                                                                                                                                                                                                                                         |                   |
| 50% of total cover: <u>55.5</u> 20% of total cover: <u>22.2</u>                                                                       |           |          |             |                    |           |          |             |                                                                                                                                                                                                                                         |                   |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: _____ % of bare ground: <u>0</u>                   |           |          |             |                    |           |          |             |                                                                                                                                                                                                                                         |                   |
| % Cover of Wetland Bryophytes _____ % Total Cover of Bryophytes <u>5</u> %                                                            |           |          |             |                    |           |          |             |                                                                                                                                                                                                                                         |                   |
| (where applicable)                                                                                                                    |           |          |             |                    |           |          |             |                                                                                                                                                                                                                                         |                   |
| Remarks: <u>plot on the edge of dead spruce patch; Several dead spruce trees around. Mature Bet pap trees quarried, saplings not.</u> |           |          |             |                    |           |          |             |                                                                                                                                                                                                                                         |                   |



## SOIL

Sampling Point #: 534

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | a,a dip. |                       | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|----------|-----------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> | Texture  | (pos/<br>neg)<br>N.T. |                                    |
| 0-3            | Di                | 10YR 2/1      | 100 | —              | —  | —                 | —                | ORG      | —                     |                                    |
| 3-7            | A                 | 10YR 3/1      | 90  | 7.5YR 4/4      | 2  | C                 | MiPL             | S.L      | neg                   |                                    |
| 7-12           | Bw                | 10YR 5/4      | 80  | 7.5YR 5/6      | 20 | C                 | MiPL             | S.L      | neg                   |                                    |
| 12-22          | Bg                | 10YR 5/2      | 90  | 7.5YR 3/4      | 10 | C                 | MiPL             | S.L      | neg                   |                                    |
|                |                   |               |     |                |    |                   |                  |          |                       |                                    |
|                |                   |               |     |                |    |                   |                  |          |                       |                                    |
|                |                   |               |     |                |    |                   |                  |          |                       |                                    |
|                |                   |               |     |                |    |                   |                  |          |                       |                                    |
|                |                   |               |     |                |    |                   |                  |          |                       |                                    |
|                |                   |               |     |                |    |                   |                  |          |                       |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)  
☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; ☐ in this pit)  
☐ Thick Dark Surface (A12)  
☐ Alaska Gleyed (A13)  
☐ Alaska Redox (A14)  
☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)  
☐ Alaska Alpine Swales (TA5)  
☐ Alaska Redox with 2.5Y Hue  
☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer  
☐ Other (e.g., see p.91 of 2007 Supplement; explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.  
<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE  
 Depth (inches) —

Drainage Class: PD

Soil Map Unit Name:

Hydric Soil Present?

Yes ☒ No ☒

## Comments:

1. - soil would meet Test Indicator Fb (just barely).  
 2. not met (unless deemed pathologic) adaptations; which even then would not meet.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)  
☒ High Water Table (A2) (w/in 12")  
☒ Saturation (A3) (w/in 12")  
☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)  
☐ Drainage Patterns (B10)  
☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")  
☐ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")  
☐ Salt Deposits (C5)  
☒ Stunted or Stressed Plants (D1)  
☐ Geomorphic Position (D2)  
☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")  
☐ Microtopographic Relief (D4) (caused by water)  
☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☒ No ☒ Depth of water (in.) —  
 Water Table Present? Yes ☒ No ☐ Depth to water (in.) 12  
 Seeping in at that depth but not yet filled?: 10  
 Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 8  
 (includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Several dead spruce trees. Water level @ 14" & up to 12" when data collection complete.



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sn Access Borough/City: MSB Date: 9/18/2020  
 Applicant/Owner: ADDA Sampling Point #: 536  
 Investigator(s): ELBM Firm: HDR Alaska, Inc.  
 Lat. (dec.): 61.556302 Long: 150.612148 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:       
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: upland frozen Slope (%): 2 Aspect: S  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: U  
 Photo nos./descriptions: 50165 & 2, NEG W Camera #:      Veg Type (Vioreck Level 4 or other): TE2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: N/A  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                              |                                        |                                                                                                           |                            |
|---------------------------------|------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|
| Hydrophytic Vegetation Present? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |                                                                                                           |                            |
| Wetland Hydrology Present?      | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |                                                                                                           |                            |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                      |             |             |             |                        |             |                                                                                                      |                                                                                                                             | Dominance Test worksheet:                               |                 |                 |             |  |
|------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|------------------------|-------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-----------------|-----------------|-------------|--|
| Species                                                                                                                      | Cov.%       | Dom?        | Ind.        | Species                | Cov.%       | Dom?                                                                                                 | Ind.                                                                                                                        | Number of Dominant Species That are OBL, FACW, or FAC:  |                 |                 |             |  |
| 1. <u>Picea glauca</u>                                                                                                       | <u>15</u>   | <u>Y</u>    | <u>FACW</u> | 5. <u>    </u>         | <u>    </u> | <u>    </u>                                                                                          | <u>    </u>                                                                                                                 | <u>3</u>                                                | (A)             |                 |             |  |
| 2. <u>Bet. pap.</u>                                                                                                          | <u>40</u>   | <u>Y</u>    | <u>FACW</u> | 6. <u>    </u>         | <u>    </u> | <u>    </u>                                                                                          | <u>    </u>                                                                                                                 | Total Number of Dominant Species Across All Strata:     | <u>10</u> (B)   |                 |             |  |
| 3. <u>    </u>                                                                                                               | <u>    </u> | <u>    </u> | <u>    </u> | 7. <u>    </u>         | <u>    </u> | <u>    </u>                                                                                          | <u>    </u>                                                                                                                 | Percent of Dominant Species That are OBL, FACW, or FAC: | <u>30</u> (A/B) |                 |             |  |
| 4. <u>    </u>                                                                                                               | <u>    </u> | <u>    </u> | <u>    </u> | 8. <u>    </u>         | <u>    </u> | <u>    </u>                                                                                          | <u>    </u>                                                                                                                 | Prevalence Index worksheet:                             |                 |                 |             |  |
| Total Tree Cover: <u>55</u>                                                                                                  |             |             |             |                        |             |                                                                                                      |                                                                                                                             | Total % Cover of:                                       | Multiply by:    |                 |             |  |
| 50% of total cover: <u>27.5</u> 20% of total cover: <u>11</u>                                                                |             |             |             |                        |             |                                                                                                      |                                                                                                                             | OBL species                                             | <u>    </u>     | X1=             | <u>    </u> |  |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                |             |             |             |                        |             |                                                                                                      |                                                                                                                             | FACW species                                            | <u>1</u>        | X2=             | <u>1</u>    |  |
| Abs.Cov.%                                                                                                                    | Dom?        | Ind.        | Abs.Cov.%   | Dom?                   | Ind.        | FAC species                                                                                          | <u>35</u>                                                                                                                   | X3=                                                     | <u>215</u>      |                 |             |  |
| 1. <u>Picea glauca</u>                                                                                                       | <u>5</u>    | <u>Y</u>    | <u>FACW</u> | 7. <u>Spir. beea</u>   | <u>3</u>    | <u>Y</u>                                                                                             | <u>FACW</u>                                                                                                                 | FACU species                                            | <u>169</u>      | X4=             | <u>676</u>  |  |
| 2. <u>Bet. pap.</u>                                                                                                          | <u>7</u>    | <u>Y</u>    | <u>FACW</u> | 8. <u>V. viticida</u>  | <u>1</u>    | <u>Y</u>                                                                                             | <u>FACW</u>                                                                                                                 | UPL + NL species                                        | <u>    </u>     | X5=             | <u>    </u> |  |
| 3. <u>Vib. edule</u>                                                                                                         | <u>20</u>   | <u>Y</u>    | <u>FACW</u> | 9. <u>Ophi. herb</u>   | <u>5</u>    | <u>Y</u>                                                                                             | <u>FACW</u>                                                                                                                 | Column Totals:                                          | <u>245</u> (A)  | <u>9015</u> (B) |             |  |
| 4. <u>Ribes hnd</u>                                                                                                          | <u>10</u>   | <u>Y</u>    | <u>FAC</u>  | 10. <u>Lyc. ann</u>    | <u>7</u>    | <u>Y</u>                                                                                             | <u>FACW</u>                                                                                                                 | Prevalence Index = B/A =                                | <u>3.677</u>    |                 |             |  |
| 5. <u>Vac. oval</u>                                                                                                          | <u>0</u>    | <u>Y</u>    | <u>FAC</u>  | 11. <u>Alnus sin</u>   | <u>5</u>    | <u>Y</u>                                                                                             | <u>FAC</u>                                                                                                                  |                                                         |                 |                 |             |  |
| 6. <u>Ros. acn</u>                                                                                                           | <u>5</u>    | <u>Y</u>    | <u>FACW</u> | 12. <u>Ribes glau</u>  | <u>5</u>    | <u>Y</u>                                                                                             | <u>FAC</u>                                                                                                                  |                                                         |                 |                 |             |  |
| Total Sapling/Shrub Cover: <u>80</u>                                                                                         |             |             |             |                        |             |                                                                                                      |                                                                                                                             |                                                         |                 |                 |             |  |
| 50% of total cover: <u>40.0</u> 20% of total cover: <u>16.0</u>                                                              |             |             |             |                        |             |                                                                                                      |                                                                                                                             |                                                         |                 |                 |             |  |
| Herb Stratum                                                                                                                 |             |             |             |                        |             |                                                                                                      |                                                                                                                             | Hydrophytic Vegetation Indicators:                      |                 |                 |             |  |
| Abs.Cov.%                                                                                                                    | Dom?        | Ind.        | Abs.Cov.%   | Dom?                   | Ind.        | <input type="checkbox"/> Dominance Test is >50%<br><input type="checkbox"/> Prevalence Index is ≤3.0 |                                                                                                                             |                                                         |                 |                 |             |  |
| 1. <u>Rub. ped</u>                                                                                                           | <u>25</u>   | <u>Y</u>    | <u>FAC</u>  | 12. <u>Galium tin</u>  | <u>1</u>    | <u>Y</u>                                                                                             | <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |                                                         |                 |                 |             |  |
| 2. <u>Cornus can</u>                                                                                                         | <u>15</u>   | <u>Y</u>    | <u>FACW</u> | 13. <u>Ver. viride</u> | <u>1</u>    | <u>Y</u>                                                                                             | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                          |                                                         |                 |                 |             |  |
| 3. <u>Athy. fil fem</u>                                                                                                      | <u>5</u>    | <u>Y</u>    | <u>FAC</u>  | 14. <u>    </u>        | <u>    </u> | <u>    </u>                                                                                          | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.               |                                                         |                 |                 |             |  |
| 4. <u>Cal. can</u>                                                                                                           | <u>10</u>   | <u>Y</u>    | <u>FAC</u>  | 15. <u>    </u>        | <u>    </u> | <u>    </u>                                                                                          | Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>                         |                                                         |                 |                 |             |  |
| 5. <u>Pyrola asn</u>                                                                                                         | <u>30</u>   | <u>Y</u>    | <u>FACW</u> | 16. <u>    </u>        | <u>    </u> | <u>    </u>                                                                                          |                                                                                                                             |                                                         |                 |                 |             |  |
| 6. <u>Gymn. dry</u>                                                                                                          | <u>7</u>    | <u>Y</u>    | <u>FACW</u> | 17. <u>    </u>        | <u>    </u> | <u>    </u>                                                                                          |                                                                                                                             |                                                         |                 |                 |             |  |
| 7. <u>Ger. eri</u>                                                                                                           | <u>2</u>    | <u>Y</u>    | <u>FACW</u> | 18. <u>    </u>        | <u>    </u> | <u>    </u>                                                                                          |                                                                                                                             |                                                         |                 |                 |             |  |
| 8. <u>Cham. ang</u>                                                                                                          | <u>3</u>    | <u>Y</u>    | <u>FACW</u> | 19. <u>    </u>        | <u>    </u> | <u>    </u>                                                                                          |                                                                                                                             |                                                         |                 |                 |             |  |
| 9. <u>Equis. arv</u>                                                                                                         | <u>5</u>    | <u>Y</u>    | <u>FAC</u>  | 20. <u>    </u>        | <u>    </u> | <u>    </u>                                                                                          |                                                                                                                             |                                                         |                 |                 |             |  |
| 10. <u>Dry. dilata</u>                                                                                                       | <u>5</u>    | <u>Y</u>    | <u>FACW</u> | 21. <u>    </u>        | <u>    </u> | <u>    </u>                                                                                          |                                                                                                                             |                                                         |                 |                 |             |  |
| 11. <u>Sag. can</u>                                                                                                          | <u>1</u>    | <u>Y</u>    | <u>FACW</u> | 22. <u>    </u>        | <u>    </u> | <u>    </u>                                                                                          |                                                                                                                             |                                                         |                 |                 |             |  |
| Total Herb Cover: <u>108</u>                                                                                                 |             |             |             |                        |             |                                                                                                      |                                                                                                                             |                                                         |                 |                 |             |  |
| 50% of total cover: <u>54</u> 20% of total cover: <u>22</u>                                                                  |             |             |             |                        |             |                                                                                                      |                                                                                                                             |                                                         |                 |                 |             |  |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>    </u> % of bare ground: <u>    </u> |             |             |             |                        |             |                                                                                                      |                                                                                                                             |                                                         |                 |                 |             |  |
| % Cover of Wetland Bryophytes <u>    </u> % Total Cover of Bryophytes <u>    </u>                                            |             |             |             |                        |             |                                                                                                      |                                                                                                                             |                                                         |                 |                 |             |  |
| (where applicable)                                                                                                           |             |             |             |                        |             |                                                                                                      |                                                                                                                             |                                                         |                 |                 |             |  |
| Remarks:                                                                                                                     |             |             |             |                        |             |                                                                                                      |                                                                                                                             |                                                         |                 |                 |             |  |



## SOIL

Sampling Point #: **536**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |                                    |
| 0-2            | Oc                | 10YR2/2       |     |                |    |                   |                  |                           |                                    |
| 2-3            | E                 | 2.5Y6/1       | 100 |                |    |                   |                  | SiL                       | neg                                |
| 3-11           | Bh                | 10YR3/6       | 100 |                |    |                   |                  | SiL                       | neg                                |
| 11-20          | Bg                | 2.5Y6/1       | 70  | 7.5YR4/4       | 30 | C                 | M                | SiL                       | neg                                |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface;  $\oplus$  " in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONEDepth (inches) NADrainage Class: MWD

Soil Map Unit Name:

Hydric Soil Present?

Yes ☐No ☒

Comments:

- 
- 
- 

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☐ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H2O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒

Water Table Present? Yes ☐ No ☒

Seeping in at that depth but not yet filled?: ☐

Saturation Present? Yes ☐ No ☒

(includes capillary fringe)

Depth of water (in.)     

Depth to water (in.)     

Depth to sat. (in.)     

Epi Endo Unknown

Wetland Hydrology Present?

Yes ☐No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

moist but not saturated



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST SU ACCESS Borough/City: MSB Date: 9/18/2020  
 Applicant/Owner: AIDEA Sampling Point #: 537  
 Investigator(s): ELB Marshall Firm: HDR Alaska, Inc.  
 Lat. (dec.): SOILS, NESW Long. (see below) ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #: ☐  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: lowland Slope (%): 3 Aspect: 2  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PFOT/EMIC  
 Photo nos./descriptions: 61.55682B, 150.611249 Camera #: ☒ Veg Type (Vioreck Level 4 or other): IB2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: SHORE (NA)  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                                        |                                                                                                                                                    |
|---------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |                                                                                                                                                    |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |                                                                                                                                                    |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                          |           |          |             |           |       |                                                                                                                |       | Dominance Test worksheet:                                                                                                                                                                                                               |                 |
|----------------------------------------------------------------------------------------------------------------------------------|-----------|----------|-------------|-----------|-------|----------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Species                                                                                                                          | Cov.%     | Dom?     | Ind.        | Species   | Cov.% | Dom?                                                                                                           | Ind.  | Number of Dominant Species That are OBL, FACW, or FAC:                                                                                                                                                                                  |                 |
| 1. <u>Bet pap</u>                                                                                                                | <u>40</u> | <u>Y</u> | <u>FACW</u> | 5. _____  | _____ | _____                                                                                                          | _____ | <u>2</u>                                                                                                                                                                                                                                | (A)             |
| 2. <u>Picea glau</u>                                                                                                             | <u>5</u>  | <u>-</u> | <u>FACW</u> | 6. _____  | _____ | _____                                                                                                          | _____ | Total Number of Dominant Species Across All Strata:                                                                                                                                                                                     | <u>4</u> (B)    |
| 3. _____                                                                                                                         | _____     | _____    | _____       | 7. _____  | _____ | _____                                                                                                          | _____ | Percent of Dominant Species That are OBL, FACW, or FAC:                                                                                                                                                                                 | <u>50</u> (A/B) |
| 4. _____                                                                                                                         | _____     | _____    | _____       | 8. _____  | _____ | _____                                                                                                          | _____ | Prevalence Index worksheet:                                                                                                                                                                                                             |                 |
| Total Tree Cover: <u>45</u>                                                                                                      |           |          |             |           |       |                                                                                                                |       | Total % Cover of: _____ Multiply by: _____                                                                                                                                                                                              |                 |
| 50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>                                                                     |           |          |             |           |       |                                                                                                                |       | OBL species _____ X1= _____                                                                                                                                                                                                             |                 |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                    |           |          |             |           |       |                                                                                                                |       | FACW species <u>1</u> X2= <u>2</u>                                                                                                                                                                                                      |                 |
| Abs.Cov.%                                                                                                                        | Dom?      | Ind.     | Abs.Cov.%   | Dom?      | Ind.  | FAC species <u>123</u> X3= <u>369</u>                                                                          |       |                                                                                                                                                                                                                                         |                 |
| 1. <u>Vib edule</u>                                                                                                              | <u>3</u>  | <u>-</u> | <u>FACW</u> | 7. _____  | _____ | FACU species <u>72</u> X4= <u>288</u>                                                                          |       |                                                                                                                                                                                                                                         |                 |
| 2. <u>Ros arif</u>                                                                                                               | <u>5</u>  | <u>-</u> | <u>FACW</u> | 8. _____  | _____ | UPL + NL species _____ X5= _____                                                                               |       |                                                                                                                                                                                                                                         |                 |
| 3. <u>Alnus crispa</u>                                                                                                           | <u>20</u> | <u>Y</u> | <u>FAC</u>  | 9. _____  | _____ | Column Totals: <u>196</u> (A) <u>657</u> (B)                                                                   |       |                                                                                                                                                                                                                                         |                 |
| 4. <u>Ribes hndi</u>                                                                                                             | <u>3</u>  | <u>-</u> | <u>FAC</u>  | 10. _____ | _____ | Prevalence Index = B/A = <u>3.35</u>                                                                           |       |                                                                                                                                                                                                                                         |                 |
| 5. <u>Ribes trist</u>                                                                                                            | <u>2</u>  | <u>-</u> | <u>FAC</u>  | 11. _____ | _____ |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| 6. <u>Bet pap</u>                                                                                                                | <u>8</u>  | <u>Y</u> | <u>FACW</u> | 12. _____ | _____ |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| Total Sapling/Shrub Cover: <u>41</u>                                                                                             |           |          |             |           |       |                                                                                                                |       | Hydrophytic Vegetation Indicators:                                                                                                                                                                                                      |                 |
| 50% of total cover: <u>20.5</u> 20% of total cover: <u>8.2</u>                                                                   |           |          |             |           |       |                                                                                                                |       | <input checked="" type="checkbox"/> Dominance Test is >50%<br><input checked="" type="checkbox"/> Prevalence Index is ≤3.0                                                                                                              |                 |
| Herb Stratum                                                                                                                     |           |          |             |           |       |                                                                                                                |       | <input checked="" type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |                 |
| Abs.Cov.%                                                                                                                        | Dom?      | Ind.     | Abs.Cov.%   | Dom?      | Ind.  | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  |       |                                                                                                                                                                                                                                         |                 |
| 1. <u>Cal can</u>                                                                                                                | <u>00</u> | <u>Y</u> | <u>FAC</u>  | 12. _____ | _____ | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> |       |                                                                                                                                                                                                                                         |                 |
| 2. <u>Dry did</u>                                                                                                                | <u>0</u>  | <u>-</u> | <u>FAC</u>  | 13. _____ | _____ |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| 3. <u>Gymnos dry</u>                                                                                                             | <u>10</u> | <u>-</u> | <u>FACW</u> | 14. _____ | _____ |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| 4. <u>Athy fel fern</u>                                                                                                          | <u>7</u>  | <u>-</u> | <u>FAC</u>  | 15. _____ | _____ |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| 5. <u>Angelica</u>                                                                                                               | <u>1</u>  | <u>-</u> | <u>FACW</u> | 16. _____ | _____ |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| 6. <u>Equis arv</u>                                                                                                              | <u>3</u>  | <u>-</u> | <u>FAC</u>  | 17. _____ | _____ |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| 7. <u>Tric evr</u>                                                                                                               | <u>1</u>  | <u>-</u> | <u>FACW</u> | 18. _____ | _____ |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| 8. _____                                                                                                                         | _____     | _____    | _____       | 19. _____ | _____ |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| 9. _____                                                                                                                         | _____     | _____    | _____       | 20. _____ | _____ |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| 10. _____                                                                                                                        | _____     | _____    | _____       | 21. _____ | _____ |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| 11. _____                                                                                                                        | _____     | _____    | _____       | 22. _____ | _____ |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| Total Herb Cover: <u>110</u>                                                                                                     |           |          |             |           |       |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>                                                                      |           |          |             |           |       |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: _____ % of bare ground: <u>10</u>             |           |          |             |           |       |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| % Cover of Wetland Bryophytes _____ % Total Cover of Bryophytes _____ % (where applicable)                                       |           |          |             |           |       |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |
| Remarks: <u>on fringe of wetland in low lying area</u><br><u>Birch trees somewhat gnarled - close to wetland/upland boundary</u> |           |          |             |           |       |                                                                                                                |       |                                                                                                                                                                                                                                         |                 |



Sampling Point #: 537

[illegible]

1. 10%
2. some oxidized this in PL F3, F6, 1.1, 1.2
- 3.

Remarks: surface water (an inch or so) in some places likely due to ~~last~~ rain event  
microtopographic lows/swales throughout.



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sa Access Borough/City: MSB Date: 9/18/2020  
 Applicant/Owner: KIDEA Sampling Point #: 547  
 Investigator(s): EC, BM Firm: HDR Alaska, Inc.  
 Lat. (dec.): 61.554528 Long. 150.56419 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:           
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Terrace Slope (%): 5 Aspect:           
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PSS1/EM1B  
 Photo nos./descriptions: SOILS x 2, NESW Camera #: ☒ Veg Type (Viereck Level 4 or other): IB3a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| <b>Tree Stratum</b> (dbh ≥ 3")<br><table border="1"> <thead> <tr> <th>Species</th> <th>Cov. %</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Cov. %</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Alnus tenuifolia</u></td> <td><u>18</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>5. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>2. <u>Betula papyrifera</u></td> <td><u>12</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>6. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>3. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td>7. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>4. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td>8. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> </tbody> </table> <p>Total Tree Cover: <u>20</u><br/>         50% of total cover: <u>10</u> 20% of total cover: <u>4</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                     |                 |                 |                                  |                 |                 |                 | Species                                                                                             | Cov. %      | Dom? | Ind. | Species | Cov. %      | Dom? | Ind. | 1. <u>Alnus tenuifolia</u> | <u>18</u> | <u>Y</u> | <u>FAC</u> | 5. <u>        </u>               | <u>        </u> | <u>        </u> | <u>        </u> | 2. <u>Betula papyrifera</u> | <u>12</u> | <u>Y</u>        | <u>FACW</u> | 6. <u>        </u>  | <u>        </u> | <u>        </u> | <u>        </u> | 3. <u>        </u>     | <u>        </u> | <u>        </u> | <u>        </u> | 7. <u>        </u>          | <u>        </u> | <u>        </u> | <u>        </u> | 4. <u>        </u>       | <u>        </u> | <u>        </u> | <u>        </u> | 8. <u>        </u>  | <u>        </u> | <u>        </u> | <u>        </u> | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>7</u> (B)<br>Percent of Dominant Species That are OBL, FACW, or FAC: <u>57</u> (A/B)<br><b>Prevalence Index worksheet:</b><br><table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>        </u></td> <td>X1= <u>        </u></td> </tr> <tr> <td>FACW species <u>2</u></td> <td>X2= <u>4</u></td> </tr> <tr> <td>FAC species <u>100</u></td> <td>X3= <u>300</u></td> </tr> <tr> <td>FACU species <u>974</u></td> <td>X4= <u>384</u></td> </tr> <tr> <td>UPL + NL species <u>        </u></td> <td>X5= <u>        </u></td> </tr> <tr> <td>Column Totals: <u>193</u> (A)</td> <td><u>668</u> (B)</td> </tr> </tbody> </table> <p>Prevalence Index = B/A = <u>3.46</u></p> |          | Total % Cover of: | Multiply by: | OBL species <u>        </u> | X1= <u>        </u> | FACW species <u>2</u> | X2= <u>4</u>    | FAC species <u>100</u>  | X3= <u>300</u> | FACU species <u>974</u> | X4= <u>384</u> | UPL + NL species <u>        </u> | X5= <u>        </u> | Column Totals: <u>193</u> (A) | <u>668</u> (B)  |                 |           |          |             |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
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------|-----------------|-----------------|---------------------|----------|-----------------|------------|---------------------|-----------------|-----------------|-----------------|-------------------|----------|-----------------|------------|---------------------|-----------------|-----------------|-----------------|-------------------|----------|-----------------|-------------|---------------------|-----------------|-----------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Cov. %              | Dom?            | Ind.            | Species                          | Cov. %          | Dom?            | Ind.            |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                   |              |                             |                     |                       |                 |                         |                |                         |                |                                  |                     |                               |                 |                 |           |          |             |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 1. <u>Alnus tenuifolia</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <u>18</u>           | <u>Y</u>        | <u>FAC</u>      | 5. <u>        </u>               | <u>        </u> | <u>        </u> | <u>        </u> |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 2. <u>Betula papyrifera</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <u>12</u>           | <u>Y</u>        | <u>FACW</u>     | 6. <u>        </u>               | <u>        </u> | <u>        </u> | <u>        </u> |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 3. <u>        </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>        </u>     | <u>        </u> | <u>        </u> | 7. <u>        </u>               | <u>        </u> | <u>        </u> | <u>        </u> |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 4. <u>        </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| OBL species <u>        </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| FACW species <u>2</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| FAC species <u>100</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| FACU species <u>974</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| UPL + NL species <u>        </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| Column Totals: <u>193</u> (A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| <b>Sapling/Shrub Stratum</b> (woody plants < 3" dbh)<br><table border="1"> <thead> <tr> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Alnus tenuifolia</u></td> <td><u>15</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>7. <u>Rosa acuta</u></td> <td><u>2</u></td> <td><u>        </u></td> <td><u>FACW</u></td> </tr> <tr> <td>2. <u>Oplocheilichne</u></td> <td><u>12</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>8. <u>Sorbus</u></td> <td><u>2</u></td> <td><u>        </u></td> <td><u>FACW</u></td> </tr> <tr> <td>3. <u>Rubus idaeus</u></td> <td><u>8</u></td> <td><u>        </u></td> <td><u>FACW</u></td> <td>9. <u>Betula papyrifera</u></td> <td><u>10</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> </tr> <tr> <td>4. <u>Viburnum edule</u></td> <td><u>8</u></td> <td><u>        </u></td> <td><u>FACW</u></td> <td>10. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>5. <u>Rubus hirsutus</u></td> <td><u>5</u></td> <td><u>        </u></td> <td><u>FAC</u></td> <td>11. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>6. <u>Salix hastata</u></td> <td><u>3</u></td> <td><u>        </u></td> <td><u>FAC</u></td> <td>12. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> </tbody> </table> <p>Total Sapling/Shrub Cover: <u>64</u><br/>         50% of total cover: <u>32</u> 20% of total cover: <u>12.8</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                     |                 |                 |                                  |                 |                 |                 | Species                                                                                             | Abs. Cov. % | Dom? | Ind. | Species | Abs. Cov. % | Dom? | Ind. | 1. <u>Alnus tenuifolia</u> | <u>15</u> | <u>Y</u> | <u>FAC</u> | 7. <u>Rosa acuta</u>             | <u>2</u>        | <u>        </u> | <u>FACW</u>     | 2. <u>Oplocheilichne</u>    | <u>12</u> | <u>Y</u>        | <u>FACW</u> | 8. <u>Sorbus</u>    | <u>2</u>        | <u>        </u> | <u>FACW</u>     | 3. <u>Rubus idaeus</u> | <u>8</u>        | <u>        </u> | <u>FACW</u>     | 9. <u>Betula papyrifera</u> | <u>10</u>       | <u>Y</u>        | <u>FACW</u>     | 4. <u>Viburnum edule</u> | <u>8</u>        | <u>        </u> | <u>FACW</u>     | 10. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> | 5. <u>Rubus hirsutus</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <u>5</u> | <u>        </u>   | <u>FAC</u>   | 11. <u>        </u>         | <u>        </u>     | <u>        </u>       | <u>        </u> | 6. <u>Salix hastata</u> | <u>3</u>       | <u>        </u>         | <u>FAC</u>     | 12. <u>        </u>              | <u>        </u>     | <u>        </u>               | <u>        </u> |                 |           |          |             |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Abs. Cov. %         | Dom?            | Ind.            | Species                          | Abs. Cov. %     | Dom?            | Ind.            |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                   |              |                             |                     |                       |                 |                         |                |                         |                |                                  |                     |                               |                 |                 |           |          |             |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 1. <u>Alnus tenuifolia</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <u>15</u>           | <u>Y</u>        | <u>FAC</u>      | 7. <u>Rosa acuta</u>             | <u>2</u>        | <u>        </u> | <u>FACW</u>     |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |           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| 2. <u>Oplocheilichne</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>12</u>           | <u>Y</u>        | <u>FACW</u>     | 8. <u>Sorbus</u>                 | <u>2</u>        | <u>        </u> | <u>FACW</u>     |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| 3. <u>Rubus idaeus</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| 4. <u>Viburnum edule</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| 5. <u>Rubus hirsutus</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| 6. <u>Salix hastata</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| <b>Herb Stratum</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Galium</u></td> <td><u>50</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>12. <u>Athyrium filix-femina</u></td> <td><u>5</u></td> <td><u>        </u></td> <td><u>FAC</u></td> </tr> <tr> <td>2. <u>Chamaenerion</u></td> <td><u>5</u></td> <td><u>        </u></td> <td><u>FACW</u></td> <td>13. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>3. <u>Geranium</u></td> <td><u>5</u></td> <td><u>        </u></td> <td><u>FACW</u></td> <td>14. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>4. <u>Sanguinaria</u></td> <td><u>2</u></td> <td><u>        </u></td> <td><u>FACW</u></td> <td>15. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>5. <u>Coronilla</u></td> <td><u>3</u></td> <td><u>        </u></td> <td><u>FACW</u></td> <td>16. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>6. <u>Gymnocladia</u></td> <td><u>3</u></td> <td><u>        </u></td> <td><u>FACW</u></td> <td>17. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>7. <u>Dryas</u></td> <td><u>15</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>18. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>8. <u>Equisetum</u></td> <td><u>3</u></td> <td><u>        </u></td> <td><u>FAC</u></td> <td>19. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>9. <u>Equisetum</u></td> <td><u>8</u></td> <td><u>        </u></td> <td><u>FAC</u></td> <td>20. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>10. <u>Galium</u></td> <td><u>3</u></td> <td><u>        </u></td> <td><u>FAC</u></td> <td>21. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> <tr> <td>11. <u>Pyrola</u></td> <td><u>7</u></td> <td><u>        </u></td> <td><u>FACW</u></td> <td>22. <u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> <td><u>        </u></td> </tr> </tbody> </table> <p>Total Herb Cover: <u>109</u><br/>         50% of total cover: <u>54.5</u> 20% of total cover: <u>21.8</u></p> |                     |                 |                 |                                  |                 |                 |                 | Species                                                                                             | Abs. Cov. % | Dom? | Ind. | Species | Abs. Cov. % | Dom? | Ind. | 1. <u>Galium</u>           | <u>50</u> | <u>Y</u> | <u>FAC</u> | 12. <u>Athyrium filix-femina</u> | <u>5</u>        | <u>        </u> | <u>FAC</u>      | 2. <u>Chamaenerion</u>      | <u>5</u>  | <u>        </u> | <u>FACW</u> | 13. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> | 3. <u>Geranium</u>     | <u>5</u>        | <u>        </u> | <u>FACW</u>     | 14. <u>        </u>         | <u>        </u> | <u>        </u> | <u>        </u> | 4. <u>Sanguinaria</u>    | <u>2</u>        | <u>        </u> | <u>FACW</u>     | 15. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> | 5. <u>Coronilla</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>3</u> | <u>        </u>   | <u>FACW</u>  | 16. <u>        </u>         | <u>        </u>     | <u>        </u>       | <u>        </u> | 6. <u>Gymnocladia</u>   | <u>3</u>       | <u>        </u>         | <u>FACW</u>    | 17. <u>        </u>              | <u>        </u>     | <u>        </u>               | <u>        </u> | 7. <u>Dryas</u> | <u>15</u> | <u>Y</u> | <u>FACW</u> | 18. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> | 8. <u>Equisetum</u> | <u>3</u> | <u>        </u> | <u>FAC</u> | 19. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> | 9. <u>Equisetum</u> | <u>8</u> | <u>        </u> | <u>FAC</u> | 20. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> | 10. <u>Galium</u> | <u>3</u> | <u>        </u> | <u>FAC</u> | 21. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> | 11. <u>Pyrola</u> | <u>7</u> | <u>        </u> | <u>FACW</u> | 22. <u>        </u> | <u>        </u> | <u>        </u> | <u>        </u> | <b>Hydrophytic Vegetation Indicators:</b><br><u>Y</u> Dominance Test is >50%<br><u>        </u> Prevalence Index is ≤3.0<br><u>        </u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><u>        </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |  |
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Abs. Cov. %         | Dom?            | Ind.            | Species                          | Abs. Cov. %     | Dom?            | Ind.            |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                   |              |                             |                     |                       |                 |                         |                |                         |                |                                  |                     |                               |                 |                 |           |          |             |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 1. <u>Galium</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <u>50</u>           | <u>Y</u>        | <u>FAC</u>      | 12. <u>Athyrium filix-femina</u> | <u>5</u>        | <u>        </u> | <u>FAC</u>      |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| 2. <u>Chamaenerion</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <u>5</u>            | <u>        </u> | <u>FACW</u>     | 13. <u>        </u>              | <u>        </u> | <u>        </u> | <u>        </u> |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 3. <u>Geranium</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>5</u>            | <u>        </u> | <u>FACW</u>     | 14. <u>        </u>              | <u>        </u> | <u>        </u> | <u>        </u> |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| 4. <u>Sanguinaria</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <u>2</u>            | <u>        </u> | <u>FACW</u>     | 15. <u>        </u>              | <u>        </u> | <u>        </u> | <u>        </u> |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |           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| 5. <u>Coronilla</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <u>3</u>            | <u>        </u> | <u>FACW</u>     | 16. <u>        </u>              | <u>        </u> | <u>        </u> | <u>        </u> |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 6. <u>Gymnocladia</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <u>3</u>            | <u>        </u> | <u>FACW</u>     | 17. <u>        </u>              | <u>        </u> | <u>        </u> | <u>        </u> |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| 7. <u>Dryas</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <u>15</u>           | <u>Y</u>        | <u>FACW</u>     | 18. <u>        </u>              | <u>        </u> | <u>        </u> | <u>        </u> |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |           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| 8. <u>Equisetum</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <u>3</u>            | <u>        </u> | <u>FAC</u>      | 19. <u>        </u>              | <u>        </u> | <u>        </u> | <u>        </u> |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |           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| 9. <u>Equisetum</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| 10. <u>Galium</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| 11. <u>Pyrola</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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                       |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>        </u> % of bare ground: <u>10</u><br>% Cover of Wetland Bryophytes <u>        </u> % Total Cover of Bryophytes <u>        </u><br>(where applicable)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                     |                 |                 |                                  |                 |                 |                 | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                   |              |                             |                     |                       |                 |                         |                |                         |                |                                  |                     |                               |                 |                 |           |          |             |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| Remarks: <u>Dead spruce trees</u> <u>Bare ground - low spots have standing water</u><br><u>may be from rain.</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                 |                 |                                  |                 |                 |                 |                                                                                                     |             |      |      |         |             |      |      |                            |           |          |            |                                  |                 |                 |                 |                             |           |                 |             |                     |                 |                 |                 |                        |                 |                 |                 |                             |                 |                 |                 |                          |                 |                 |                 |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                   |              |                             |                     |                       |                 |                         |                |                         |                |                                  |                     |                               |                 |                 |           |          |             |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                     |          |                 |            |                     |                 |                 |                 |                   |          |                 |            |                     |                 |                 |                 |                   |          |                 |             |                     |                 |                 |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |



## SOIL

Sampling Point #: 547

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth | Horizon | Soil Matrix   |     | Redox Features |   |                   |                  | a,a dip. |           | Remarks                 |
|-------|---------|---------------|-----|----------------|---|-------------------|------------------|----------|-----------|-------------------------|
| (in.) | (opt.)  | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> | Texture  | (pos/neg) | (or use comment number) |
| 0-2   | 0a      | 10YR2/2       | 100 | —              | — | —                 | —                | DRk      | —         |                         |
| 2-11  | 0a      | 10YR3/1       | 100 | —              | — | —                 | —                | DRk      | —         |                         |
| 11-25 | 0e      | 10YR2/2       | 100 | —              | — | —                 | —                | DRk      | —         |                         |
|       |         |               |     |                |   |                   |                  |          |           |                         |
|       |         |               |     |                |   |                   |                  |          |           |                         |
|       |         |               |     |                |   |                   |                  |          |           |                         |
|       |         |               |     |                |   |                   |                  |          |           |                         |
|       |         |               |     |                |   |                   |                  |          |           |                         |
|       |         |               |     |                |   |                   |                  |          |           |                         |
|       |         |               |     |                |   |                   |                  |          |           |                         |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☒ Hydrogen Sulfide (A4) (within 12" of mineral surface; ☒ 11 in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONEDepth (inches) DNADrainage Class: VPD

Soil Map Unit Name:

Hydric Soil Present? Yes ☒ No ☐

Comments:

- 1.
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12") *inferred by surface*
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.) —

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 11

Seeping in at that depth but not yet filled? 11

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 10

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

surface water in small swales up to this point; some areas of standing water in bars near toe of slope.



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sm Access Borough/City: MSB Date: 7/18/2020  
 Applicant/Owner: ADDA Sampling Point #: 550  
 Investigator(s): EL, BM Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61.553348 Long. 150.533959 ± NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:           
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: foot slope Slope (%): 10 Aspect:           
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: V  
 Photo nos./descriptions: SOILS, NESW (veg) Camera #:          Veg Type (Viereck Level 4 or other): IB16 <sup>occult club</sup>  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                                        |                                                                                                                                         |
|---------------------------------|-----------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                        |                 |                 |                 |                     |                 |                                     |                               | Dominance Test worksheet:                               |                     |
|--------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|---------------------|-----------------|-------------------------------------|-------------------------------|---------------------------------------------------------|---------------------|
| Species                                                                                                                        | Cov.%           | Dom?            | Ind.            | Species             | Cov.%           | Dom?                                | Ind.                          | Number of Dominant Species That are OBL, FACW, or FAC:  |                     |
| 1. <u>Bot pag</u>                                                                                                              | <u>10</u>       | <u>Y</u>        | <u>FRM</u>      | 5. <u>        </u>  | <u>        </u> | <u>        </u>                     | <u>        </u>               | <u>7</u>                                                | (A)                 |
| 2. <u>        </u>                                                                                                             | <u>        </u> | <u>        </u> | <u>        </u> | 6. <u>        </u>  | <u>        </u> | <u>        </u>                     | <u>        </u>               | Total Number of Dominant Species Across All Strata:     | <u>3</u> (B)        |
| 3. <u>        </u>                                                                                                             | <u>        </u> | <u>        </u> | <u>        </u> | 7. <u>        </u>  | <u>        </u> | <u>        </u>                     | <u>        </u>               | Percent of Dominant Species That are OBL, FACW, or FAC: | <u>33.3%</u> (A/B)  |
| 4. <u>        </u>                                                                                                             | <u>        </u> | <u>        </u> | <u>        </u> | 8. <u>        </u>  | <u>        </u> | <u>        </u>                     | <u>        </u>               | Prevalence Index worksheet:                             |                     |
| Total Tree Cover: <u>10</u>                                                                                                    |                 |                 |                 |                     |                 |                                     |                               | Total % Cover of:                                       | Multiply by:        |
| 50% of total cover: <u>5</u>                                                                                                   |                 |                 |                 |                     |                 |                                     |                               | OBL species                                             | X1= <u>        </u> |
| 20% of total cover: <u>2</u>                                                                                                   |                 |                 |                 |                     |                 |                                     |                               | FACW species                                            | X2= <u>        </u> |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                  |                 |                 |                 |                     |                 |                                     |                               | FAC species                                             | X3= <u>95</u>       |
| Abs.Cov.%                                                                                                                      | Dom?            | Ind.            | Abs.Cov.%       | Dom?                | Ind.            | FACU species <td>X4= <u>83</u></td> | X4= <u>83</u>                 |                                                         |                     |
| 1. <u>Ole her</u>                                                                                                              | <u>20</u>       | <u>-</u>        | <u>FALM</u>     | 7. <u>        </u>  | <u>        </u> | UPL + NL species                    | X5= <u>        </u>           |                                                         |                     |
| 2. <u>Rub ida</u>                                                                                                              | <u>5</u>        | <u>-</u>        | <u>FALM</u>     | 8. <u>        </u>  | <u>        </u> | Column Totals:                      | <u>178</u> (A) <u>647</u> (B) |                                                         |                     |
| 3. <u>Alnus gra</u>                                                                                                            | <u>80</u>       | <u>Y</u>        | <u>FAL</u>      | 9. <u>        </u>  | <u>        </u> | Prevalence Index = B/A =            | <u>3.48</u>                   |                                                         |                     |
| 4. <u>Cibos thud</u>                                                                                                           | <u>3</u>        | <u>-</u>        | <u>FAL</u>      | 10. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| 5. <u>Ros acm</u>                                                                                                              | <u>3</u>        | <u>-</u>        | <u>FALM</u>     | 11. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| 6. <u>Ribes tribo</u>                                                                                                          | <u>2</u>        | <u>-</u>        | <u>FAL</u>      | 12. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| Total Sapling/Shrub Cover: <u>113</u>                                                                                          |                 |                 |                 |                     |                 |                                     |                               |                                                         |                     |
| 50% of total cover: <u>56.5</u>                                                                                                |                 |                 |                 |                     |                 |                                     |                               |                                                         |                     |
| 20% of total cover: <u>22.6</u>                                                                                                |                 |                 |                 |                     |                 |                                     |                               |                                                         |                     |
| Herb Stratum                                                                                                                   |                 |                 |                 |                     |                 |                                     |                               |                                                         |                     |
| Abs.Cov.%                                                                                                                      | Dom?            | Ind.            | Abs.Cov.%       | Dom?                | Ind.            |                                     |                               |                                                         |                     |
| 1. <u>Dry did</u>                                                                                                              | <u>30</u>       | <u>Y</u>        | <u>FRM</u>      | 2. <u>        </u>  | <u>        </u> |                                     |                               |                                                         |                     |
| 2. <u>Gymno dy</u>                                                                                                             | <u>10</u>       | <u>-</u>        | <u>FRM</u>      | 13. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| 3. <u>Equis acv</u>                                                                                                            | <u>5</u>        | <u>-</u>        | <u>FAL</u>      | 14. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| 4. <u>Tri cur</u>                                                                                                              | <u>1</u>        | <u>-</u>        | <u>FRM</u>      | 15. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| 5. <u>Am fel frn</u>                                                                                                           | <u>3</u>        | <u>-</u>        | <u>FAL</u>      | 16. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| 6. <u>Cal can</u>                                                                                                              | <u>5</u>        | <u>-</u>        | <u>FAL</u>      | 17. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| 7. <u>Cham ang</u>                                                                                                             | <u>1</u>        | <u>-</u>        | <u>FRM</u>      | 18. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| 8. <u>        </u>                                                                                                             | <u>        </u> | <u>        </u> | <u>        </u> | 19. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| 9. <u>        </u>                                                                                                             | <u>        </u> | <u>        </u> | <u>        </u> | 20. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| 10. <u>        </u>                                                                                                            | <u>        </u> | <u>        </u> | <u>        </u> | 21. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| 11. <u>        </u>                                                                                                            | <u>        </u> | <u>        </u> | <u>        </u> | 22. <u>        </u> | <u>        </u> |                                     |                               |                                                         |                     |
| Total Herb Cover: <u>55</u>                                                                                                    |                 |                 |                 |                     |                 |                                     |                               |                                                         |                     |
| 50% of total cover: <u>27.5</u>                                                                                                |                 |                 |                 |                     |                 |                                     |                               |                                                         |                     |
| 20% of total cover: <u>11</u>                                                                                                  |                 |                 |                 |                     |                 |                                     |                               |                                                         |                     |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>        </u> % of bare ground: <u>35</u> |                 |                 |                 |                     |                 |                                     |                               |                                                         |                     |
| % Cover of Wetland Bryophytes <u>        </u> % Total Cover of Bryophytes <u>        </u>                                      |                 |                 |                 |                     |                 |                                     |                               |                                                         |                     |
| (where applicable)                                                                                                             |                 |                 |                 |                     |                 |                                     |                               |                                                         |                     |

Remarks: leaf litter under devil's club/alders



## SOIL

Sampling Point #: 550

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix |     | <del>Problematic</del> |    | Type <sup>1</sup> | Loc <sup>2</sup> | Texture | α,α dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|-------------|-----|------------------------|----|-------------------|------------------|---------|---------------------------|------------------------------------|
| 0-4            | O <sub>c</sub>    | 7.5YR2.5/2  | —   | Split Matrix           | —  | —                 | —                | —       | —                         | —                                  |
| 4-6            | E                 | 2.5Y5/1     | —   | ↓                      | —  | —                 | —                | SIL     | —                         | —                                  |
| 6-13           | B <sub>c</sub>    | 7.5YR4/6    | 40  | 10YR4/4                | 60 | C                 | —                | SIL     | —                         | * NOT REDOX                        |
| 13-20          | B <sub>t</sub>    | 5Y6/2       | 100 | —                      | —  | —                 | —                | SIL     | —                         | —                                  |
| 6-13           | B <sub>s</sub>    | 10YR4/4     | 60  | —                      | —  | —                 | —                | SIL     | —                         | —                                  |
| —              | —                 | —           | —   | —                      | —  | —                 | —                | —       | —                         | —                                  |
| —              | —                 | —           | —   | —                      | —  | —                 | —                | —       | —                         | —                                  |
| —              | —                 | —           | —   | —                      | —  | —                 | —                | —       | —                         | —                                  |
| —              | —                 | —           | —   | —                      | —  | —                 | —                | —       | —                         | —                                  |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)  
☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; \* in this pit)  
☐ Thick Dark Surface (A12)  
☐ Alaska Gleyed (A13)  
☐ Alaska Redox (A14)  
☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)  
☐ Alaska Alpine Swales (TA5)  
☐ Alaska Redox with 2.5Y Hue  
☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer  
☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NA

Drainage Class: WD

Soil Map Unit Name:

Hydric Soil Present? Yes No ☒

## Comments:

1. Split matrix 6-13"  
 2.  
 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)  
☐ High Water Table (A2) (w/in 12")  
☐ Saturation (A3) (w/in 12")  
☐ 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)

Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)  
☐ Drainage Patterns (B10)  
☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")  
☐ Presence of Reduced Iron (C4) (pos. α,α or soil color change w/in 12")  
☐ Salt Deposits (C5)  
☐ Stunted or Stressed Plants (D1)  
☐ Geomorphic Position (D2)  
☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")  
☐ Microtopographic Relief (D4) (caused by water)  
☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes No ☒ Depth of water (in.) \_\_\_\_\_  
 Water Table Present? Yes No ☒ Depth to water (in.) \_\_\_\_\_  
 Seeping in at that depth but not yet filled?: \_\_\_\_\_  
 Saturation Present? Yes No ☒ Depth to sat. (in.) \_\_\_\_\_  
 (Includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West-Sun Access Borough/City: MSB Date: 9/18/2020  
 Applicant/Owner: ADDA Sampling Point #: 551  
 Investigator(s): ELBM Firm: HDR Alaska, Inc.

Lat. (dec.): 61.552896 Long. 150.534197 ± ' NAD 83 Recorded on GPS #: ✓ Marked on map? ✓ Field Map #: ✓

Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Slope/Fat Slope Slope (%): 5 Aspect: V

Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PEW1B in house

Photo nos./descriptions: SOILS x2, NESW Camera #: ✓ Veg Type (Vioreck Level 4 or other): IB2d

Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No: ✓ If no, explain. HGM type: SLOPE NA

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ✓

Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |              |             |                                                                                              |
|---------------------------------|--------------|-------------|----------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <u>✓</u> | No <u>✓</u> | Is the sampled area within a wetland? Yes <u>✓</u> No <u>✓</u><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <u>✓</u> | No <u>✓</u> |                                                                                              |
| Wetland Hydrology Present?      | Yes <u>✓</u> | No <u>✓</u> |                                                                                              |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                     |           |          |             |              |       |                                                                                                    |                | Dominance Test worksheet:                                                                            |                 |     |          |
|---------------------------------------------------------------------------------------------|-----------|----------|-------------|--------------|-------|----------------------------------------------------------------------------------------------------|----------------|------------------------------------------------------------------------------------------------------|-----------------|-----|----------|
| Species                                                                                     | Cov.%     | Dom?     | Ind.        | Species      | Cov.% | Dom?                                                                                               | Ind.           | Number of Dominant Species That are OBL, FACW, or FAC:                                               |                 |     |          |
| 1. <u>Samb rub</u>                                                                          | <u>10</u> | <u>Y</u> | <u>FACW</u> | 5. <u>✓</u>  |       |                                                                                                    |                | <u>2</u>                                                                                             | (A)             |     |          |
| 2. <u>Alnus ter</u>                                                                         | <u>10</u> | <u>Y</u> | <u>FAC</u>  | 6. <u>✓</u>  |       |                                                                                                    |                | Total Number of Dominant Species Across All Strata:                                                  | <u>5</u> (B)    |     |          |
| 3. <u>Bot pap</u>                                                                           | <u>5</u>  | <u>Y</u> | <u>FACW</u> | 7. <u>✓</u>  |       |                                                                                                    |                | Percent of Dominant Species That are OBL, FACW, or FAC:                                              | <u>40</u> (A/B) |     |          |
| 4. <u>✓</u>                                                                                 |           |          |             | 8. <u>✓</u>  |       |                                                                                                    |                | Prevalence Index worksheet:                                                                          |                 |     |          |
| Total Tree Cover: <u>✓</u>                                                                  |           |          |             |              |       |                                                                                                    |                | Total % Cover of:                                                                                    | Multiply by:    |     |          |
| 50% of total cover: <u>✓</u> 20% of total cover: <u>✓</u>                                   |           |          |             |              |       |                                                                                                    |                | OBL species                                                                                          | <u>✓</u>        | X1= | <u>✓</u> |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                               |           |          |             |              |       |                                                                                                    |                | FACW species                                                                                         | <u>✓</u>        | X2= | <u>✓</u> |
| Abs.Cov.%                                                                                   | Dom?      | Ind.     | Abs.Cov.%   | Dom?         | Ind.  | FAC species                                                                                        | <u>50</u>      | X3=                                                                                                  | <u>150</u>      |     |          |
| 1. <u>Samb rub</u>                                                                          | <u>10</u> | <u>Y</u> | <u>FACW</u> | 7. <u>✓</u>  |       | FACW species                                                                                       | <u>70</u>      | X4=                                                                                                  | <u>280</u>      |     |          |
| 2. <u>Alnus ter</u>                                                                         | <u>10</u> | <u>Y</u> | <u>FAC</u>  | 8. <u>✓</u>  |       | UPL + NL species                                                                                   | <u>✓</u>       | X5=                                                                                                  | <u>✓</u>        |     |          |
| 3. <u>Bot pap</u>                                                                           | <u>5</u>  | <u>Y</u> | <u>FACW</u> | 9. <u>✓</u>  |       | Column Totals:                                                                                     | <u>120</u> (A) |                                                                                                      | <u>430</u> (B)  |     |          |
| 4. <u>✓</u>                                                                                 |           |          |             | 10. <u>✓</u> |       | Prevalence Index = B/A =                                                                           | <u>3.5</u>     |                                                                                                      |                 |     |          |
| 5. <u>✓</u>                                                                                 |           |          |             | 11. <u>✓</u> |       | Hydrophytic Vegetation Indicators:                                                                 |                |                                                                                                      |                 |     |          |
| 6. <u>✓</u>                                                                                 |           |          |             | 12. <u>✓</u> |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| Total Sapling/Shrub Cover: <u>25</u>                                                        |           |          |             |              |       |                                                                                                    |                | — Dominance Test is >50%                                                                             |                 |     |          |
| 50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>                                |           |          |             |              |       |                                                                                                    |                | — Prevalence Index is ≤3.0                                                                           |                 |     |          |
| Herb Stratum                                                                                |           |          |             |              |       |                                                                                                    |                | — Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |                 |     |          |
| Abs.Cov.%                                                                                   | Dom?      | Ind.     | Abs.Cov.%   | Dom?         | Ind.  | — Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                        |                |                                                                                                      |                 |     |          |
| 1. <u>Urtica dio</u>                                                                        | <u>30</u> | <u>Y</u> | <u>FACW</u> | 12. <u>✓</u> |       | — Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                |                                                                                                      |                 |     |          |
| 2. <u>Gal can</u>                                                                           | <u>40</u> | <u>Y</u> | <u>FAC</u>  | 13. <u>✓</u> |       | Hydrophytic Vegetation Present? Yes <u>✓</u> No <u>✓</u>                                           |                |                                                                                                      |                 |     |          |
| 3. <u>Hor lan</u>                                                                           | <u>15</u> | <u>✓</u> | <u>FACW</u> | 14. <u>✓</u> |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| 4. <u>Chen arg</u>                                                                          | <u>10</u> | <u>✓</u> | <u>FACW</u> | 15. <u>✓</u> |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| 5. <u>✓</u>                                                                                 |           |          |             | 16. <u>✓</u> |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| 6. <u>✓</u>                                                                                 |           |          |             | 17. <u>✓</u> |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| 7. <u>✓</u>                                                                                 |           |          |             | 18. <u>✓</u> |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| 8. <u>✓</u>                                                                                 |           |          |             | 19. <u>✓</u> |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| 9. <u>✓</u>                                                                                 |           |          |             | 20. <u>✓</u> |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| 10. <u>✓</u>                                                                                |           |          |             | 21. <u>✓</u> |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| 11. <u>✓</u>                                                                                |           |          |             | 22. <u>✓</u> |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| Total Herb Cover: <u>95</u>                                                                 |           |          |             |              |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| 50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>                               |           |          |             |              |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| Circular 1/10-ac plot <u>✓</u> or other plot dimension: <u>✓</u> % of bare ground: <u>✓</u> |           |          |             |              |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| % Cover of Wetland Bryophytes <u>✓</u> % Total Cover of Bryophytes <u>✓</u>                 |           |          |             |              |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| (where applicable)                                                                          |           |          |             |              |       |                                                                                                    |                |                                                                                                      |                 |     |          |
| Remarks: <u>site located in swale. Veg doesn't meet, soil barely meets... so = Upland.</u>  |           |          |             |              |       |                                                                                                    |                |                                                                                                      |                 |     |          |



## SOIL

Sampling Point #: 551

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators)

[illegible]

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

**Hydric Soil Indicators** (check ones that apply, measure from top of mineral layers unless otherwise noted):

**Standard Indicators:**

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface;  $\text{H}_2\text{S}$  \_\_\_\_\_ in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

☐ Alaska Color Change<sup>4</sup> (TA4)  
☐ Alaska Alpine Swales (TA5)  
☒ Alaska Redox with 2.5Y Hue  
☐ Alaska Gleyed without Hue 5Y or Redder  
     Underlying Layer  
☐ Other (e.g., see p 91 of 2007  
     Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Drainage Class: SPB

Type: NONE  
Depth (inches) NA

Soil Map Unit Name:

Hydric Soil Present? Yes ☒ No ☐

Comments:

1. ~~meets~~ F3 - just barely...
- 2.
- 3.

## HYDROLOGY

**Wetland Hydrology Indicators** (check ones that apply, measure from soil surface):

**Secondary Indicators (at least 2 are required)**

**Primary Indicators** (any one indicator is sufficient)

|                                                                      |                                                                    |
|----------------------------------------------------------------------|--------------------------------------------------------------------|
| <input type="checkbox"/> Surface Water (A1)                          | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2) (w/in 12") | <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input checked="" type="checkbox"/> Saturation (A3) (w/in 12")       | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |
| <input type="checkbox"/> Water Marks (B1)                            | <input type="checkbox"/> Marl Deposits (B15)                       |
| <input type="checkbox"/> Sediment Deposits (B2)                      | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                |
| <input type="checkbox"/> Drift Deposits (B3)                         | <input checked="" type="checkbox"/> Dry-Season Water Table (C2)    |
| <input type="checkbox"/> Algal Mat or Crust (B4)                     | <input type="checkbox"/> Other (explain)                           |
| <input type="checkbox"/> Iron Deposits (B5)                          |                                                                    |

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10) \_\_\_\_\_
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4)  
(pos.  $\alpha, \alpha$  or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)  
(w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5)  
(# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☒ No ☒ Depth of water (in.)     

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 12

Seeping in at that depth but not yet filled?: 11

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.)     

(includes capillary fringe)

Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Seepage @ 12



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sn Borough/City: MSB Date: 9/23/2020  
 Applicant/Owner: ADBA Sampling Point #: 555  
 Investigator(s): EC, CH Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.619928 Long. 150.908174 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #: ☐  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: barland Slope (%): ~3 Aspect: N  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PFO1/SS1B  
 Photo nos./descriptions: SOILS x NESW, VP Camera #: 114 Veg Type (Viereck Level 4 or other): IG2  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: SLOPE  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                           |                            |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                           |                            |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                           |                            |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                |           |          |             |                     |           |                                              | Dominance Test worksheet: |                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------|-----------|----------|-------------|---------------------|-----------|----------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------|
| Species                                                                                                                | Cov. %    | Dom?     | Ind.        | Species             | Cov. %    | Dom?                                         | Ind.                      | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |
| 1. <u>Bet pap</u>                                                                                                      | <u>20</u> | <u>Y</u> | <u>FACU</u> | 5. _____            | _____     | _____                                        | _____                     | <u>6</u> (A)                                                                                                  |
| 2. <u>Pice mar</u>                                                                                                     | <u>10</u> | <u>Y</u> | <u>FACW</u> | 6. _____            | _____     | _____                                        | _____                     | Total Number of Dominant Species Across All Strata: <u>8</u> (B)                                              |
| 3. <u>Alnus ten</u>                                                                                                    | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 7. _____            | _____     | _____                                        | _____                     |                                                                                                               |
| 4. _____                                                                                                               | _____     | _____    | _____       | 8. _____            | _____     | _____                                        | _____                     | Percent of Dominant Species That are OBL, FACW, or FAC: <u>75%</u> (A/B)                                      |
| Total Tree Cover: <u>35</u>                                                                                            |           |          |             |                     |           |                                              |                           | Prevalence Index worksheet:                                                                                   |
| 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>                                                           |           |          |             |                     |           |                                              |                           | Total % Cover of:                                                                                             |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                          |           |          |             |                     |           |                                              |                           | Multiply by:                                                                                                  |
| Abs. Cov. %                                                                                                            | Dom?      | Ind.     | Abs. Cov. % | Dom?                | Ind.      |                                              |                           |                                                                                                               |
| 1. <u>Bet pap</u>                                                                                                      | <u>10</u> | <u>-</u> | <u>FACU</u> | 7. <u>Alnus ten</u> | <u>10</u> | <u>-</u>                                     | <u>FAC</u>                |                                                                                                               |
| 2. <u>Alnus crispa</u>                                                                                                 | <u>30</u> | <u>Y</u> | <u>FAC</u>  | 8. _____            | _____     | _____                                        | _____                     |                                                                                                               |
| 3. <u>Menz for</u>                                                                                                     | <u>10</u> | <u>Y</u> | <u>FACU</u> | 9. _____            | _____     | _____                                        | _____                     |                                                                                                               |
| 4. <u>Lyce arno</u>                                                                                                    | <u>10</u> | <u>-</u> | <u>FACU</u> | 10. _____           | _____     | _____                                        | _____                     |                                                                                                               |
| 5. <u>Vac oval</u>                                                                                                     | <u>10</u> | <u>Y</u> | <u>FAC</u>  | 11. _____           | _____     | _____                                        | _____                     |                                                                                                               |
| 6. <u>Vac alack</u>                                                                                                    | <u>10</u> | <u>-</u> | <u>FAC</u>  | 12. _____           | _____     | _____                                        | _____                     |                                                                                                               |
| Total Sapling/Shrub Cover: <u>100</u>                                                                                  |           |          |             |                     |           |                                              |                           | OBL species <u>5</u> X1= <u>5</u>                                                                             |
| 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>                                                            |           |          |             |                     |           |                                              |                           | FACW species <u>30</u> X2= <u>60</u>                                                                          |
| Herb Stratum                                                                                                           |           |          |             |                     |           |                                              |                           | FAC species <u>95</u> X3= <u>285</u>                                                                          |
| Abs. Cov. %                                                                                                            | Dom?      | Ind.     | Abs. Cov. % | Dom?                | Ind.      |                                              |                           |                                                                                                               |
| 1. <u>Egri syl</u>                                                                                                     | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 12. _____           | _____     | FACU species <u>63</u> X4= <u>252</u>        |                           |                                                                                                               |
| 2. <u>Carex dipter</u>                                                                                                 | <u>20</u> | <u>Y</u> | <u>FACW</u> | 13. _____           | _____     | UPL + NL species <u>-</u> X5= <u>-</u>       |                           |                                                                                                               |
| 3. <u>Com pal</u>                                                                                                      | <u>5</u>  | <u>-</u> | <u>OBL</u>  | 14. _____           | _____     | Column Totals: <u>193</u> (A) <u>602</u> (B) |                           |                                                                                                               |
| 4. <u>Egri arv</u>                                                                                                     | <u>10</u> | <u>Y</u> | <u>FAC</u>  | 15. _____           | _____     | Prevalence Index = B/A = <u>3.119</u>        |                           |                                                                                                               |
| 5. <u>Cornus car</u>                                                                                                   | <u>10</u> | <u>-</u> | <u>FACU</u> | 16. _____           | _____     |                                              |                           |                                                                                                               |
| 6. <u>Cal can</u>                                                                                                      | <u>10</u> | <u>Y</u> | <u>FAC</u>  | 17. _____           | _____     |                                              |                           |                                                                                                               |
| 7. _____                                                                                                               | _____     | _____    | _____       | 18. _____           | _____     |                                              |                           |                                                                                                               |
| 8. _____                                                                                                               | _____     | _____    | _____       | 19. _____           | _____     |                                              |                           |                                                                                                               |
| 9. _____                                                                                                               | _____     | _____    | _____       | 20. _____           | _____     |                                              |                           |                                                                                                               |
| 10. _____                                                                                                              | _____     | _____    | _____       | 21. _____           | _____     |                                              |                           |                                                                                                               |
| 11. _____                                                                                                              | _____     | _____    | _____       | 22. _____           | _____     |                                              |                           |                                                                                                               |
| Total Herb Cover: <u>58</u>                                                                                            |           |          |             |                     |           |                                              |                           | Hydrophytic Vegetation Indicators:                                                                            |
| 50% of total cover: <u>29</u> 20% of total cover: <u>11.6</u>                                                          |           |          |             |                     |           |                                              |                           | <u>Y</u> Dominance Test is >50%                                                                               |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: _____ % of bare ground: <u>15</u>   |           |          |             |                     |           |                                              |                           | <u>-</u> Prevalence Index is ≤3.0                                                                             |
| % Cover of Wetland Bryophytes <u>8</u> % Total Cover of Bryophytes <u>12</u> %                                         |           |          |             |                     |           |                                              |                           | <u>-</u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)   |
| (where applicable)                                                                                                     |           |          |             |                     |           |                                              |                           | <u>-</u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                            |
| Remarks: <u>lots of dead spruce. Undulating terrain - small bars &amp; drainage patterns present. slightly concave</u> |           |          |             |                     |           |                                              |                           | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>                    |           |          |             |                     |           |                                              |                           |                                                                                                               |



## SOIL

Sampling Point #: 555

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators)

[illegible]

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

**Hydric Soil Indicators** (check ones that apply, measure from top of mineral layers unless otherwise noted):

**Standard Indicators:**

- Y Histosol or Histel (A1)
- Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- Black Histic (A3)
- Hydrogen Sulfide (A4) (within 12" of mineral surface; @        in this pit)
- Thick Dark Surface (A12)
- Alaska Gleyed (A13)
- Alaska Redox (A14)
- Alaska Gleyed Pores (A15)

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement; explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

|                                                                                 |                            |                                                       |
|---------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------|
| Restrictive Layer (if present)<br>Type: <u>NONE</u><br>Depth (inches) <u>NA</u> | Drainage Class: <u>VPD</u> | Hydric Soil Present?      Yes <u>✓</u> No <u>    </u> |
|                                                                                 | Soil Map Unit Name:        |                                                       |

Comments:

- 1.
- 2.
- 3.

## HYDROLOGY

**Wetland Hydrology Indicators (check ones that apply, measure from soil surface):**

**Primary Indicators** (any one indicator is sufficient)

|                                                                      |                                                                    |
|----------------------------------------------------------------------|--------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Surface Water (A1)               | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2) (w/in 12") | <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input checked="" type="checkbox"/> Saturation (A3) (w/in 12")       | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |
| <input type="checkbox"/> Water Marks (B1)                            | <input type="checkbox"/> Marl Deposits (B15)                       |
| <input type="checkbox"/> Sediment Deposits (B2)                      | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                |
| <input type="checkbox"/> Drift Deposits (B3)                         | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Algal Mat or Crust (B4)                     | <input type="checkbox"/> Other (explain)                           |
| <input type="checkbox"/> Iron Deposits (B5)                          |                                                                    |

Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4)  
(pos.  $\alpha$ ,  $\alpha$  or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)  
(w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5)  
(# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☒ No ☐ Depth of water (in.) 1

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 4

Seeping in at that depth but not yet filled?: 3

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 0 surface

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ✓ No     

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

standing water in lows, evidence of water in lows also



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sn Borough/City: MSB Date: 9/23/2020  
 Applicant/Owner: AIDEA Sampling Point #: 556  
 Investigator(s): ELCH Firm: HDR Alaska, Inc.  
 Lat. (dec.): 61.619411 Long: 150.908299 ± NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:       
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Footslope Slope (%): 5 Aspect: N  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: 2  
 Photo nos./descriptions: 5016 x 3, NE6W Camera #:      Veg. Type (Vioreck Level 4 or other): IB2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                              |                                        |                                                                                                                                         |
|---------------------------------|------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                    |             |             |             |                    |             |             |             | Dominance Test worksheet:                                                                                      |                 |            |     |
|----------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|--------------------|-------------|-------------|-------------|----------------------------------------------------------------------------------------------------------------|-----------------|------------|-----|
| Species                                                                                                                    | Cov.%       | Dom?        | Ind.        | Species            | Cov.%       | Dom?        | Ind.        | Number of Dominant Species That are OBL, FACW, or FAC:                                                         |                 |            |     |
| 1. <u>Bet pop</u>                                                                                                          | <u>20</u>   | <u>Y</u>    | <u>FACW</u> | 5. <u>    </u>     | <u>    </u> | <u>    </u> | <u>    </u> | <u>1</u>                                                                                                       | (A)             |            |     |
| 2. <u>Alnus ten</u>                                                                                                        | <u>0</u>    | <u>-</u>    | <u>FAC</u>  | 6. <u>    </u>     | <u>    </u> | <u>    </u> | <u>    </u> | Total Number of Dominant Species Across All Strata:                                                            | <u>4</u>        | (B)        |     |
| 3. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 7. <u>    </u>     | <u>    </u> | <u>    </u> | <u>    </u> | Percent of Dominant Species That are OBL, FACW, or FAC:                                                        | <u>25%</u>      | (A/B)      |     |
| 4. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 8. <u>    </u>     | <u>    </u> | <u>    </u> | <u>    </u> | Prevalence Index worksheet:                                                                                    |                 |            |     |
| Total Tree Cover: <u>28</u>                                                                                                |             |             |             |                    |             |             |             | Total % Cover of: <u>    </u> Multiply by: <u>    </u>                                                         |                 |            |     |
| 50% of total cover: <u>14</u> 20% of total cover: <u>5.6</u>                                                               |             |             |             |                    |             |             |             | OBL species <u>    </u> X1= <u>    </u>                                                                        |                 |            |     |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                              |             |             |             |                    |             |             |             | FACW species <u>    </u> X2= <u>    </u>                                                                       |                 |            |     |
| Abs.Cov.% Dom? Ind.                                                                                                        |             |             |             |                    |             |             |             | FAC species <u>67</u> X3= <u>201</u>                                                                           |                 |            |     |
| 1. <u>Bet pop</u>                                                                                                          | <u>10</u>   | <u>-</u>    | <u>FACW</u> | 7. <u>Ople haw</u> | <u>25</u>   | <u>Y</u>    | <u>FACW</u> | FACU species <u>130</u>                                                                                        | X4= <u>520</u>  |            |     |
| 2. <u>Alnus ten</u>                                                                                                        | <u>30</u>   | <u>Y</u>    | <u>FAC</u>  | 8. <u>    </u>     | <u>    </u> | <u>    </u> | <u>    </u> | UPL + NL species <u>    </u>                                                                                   | X5= <u>    </u> |            |     |
| 3. <u>Alnus ten</u>                                                                                                        | <u>5</u>    | <u>-</u>    | <u>FAC</u>  | 9. <u>    </u>     | <u>    </u> | <u>    </u> | <u>    </u> | Column Totals: <u>197</u>                                                                                      | (A)             | <u>721</u> | (B) |
| 4. <u>Samb race</u>                                                                                                        | <u>15</u>   | <u>-</u>    | <u>FACW</u> | 10. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> | Prevalence Index = B/A = <u>3.659</u>                                                                          |                 |            |     |
| 5. <u>Rubus gland</u>                                                                                                      | <u>7</u>    | <u>-</u>    | <u>FAC</u>  | 11. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                                |                 |            |     |
| 6. <u>Rubus hwd</u>                                                                                                        | <u>5</u>    | <u>-</u>    | <u>FAC</u>  | 12. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                                |                 |            |     |
| Total Sapling/Shrub Cover: <u>97</u>                                                                                       |             |             |             |                    |             |             |             |                                                                                                                |                 |            |     |
| 50% of total cover: <u>48.5</u> 20% of total cover: <u>19.4</u>                                                            |             |             |             |                    |             |             |             |                                                                                                                |                 |            |     |
| Herb Stratum                                                                                                               |             |             |             |                    |             |             |             |                                                                                                                |                 |            |     |
| Abs.Cov.% Dom? Ind.                                                                                                        |             |             |             |                    |             |             |             | Abs. Cov.% Dom? Ind.                                                                                           |                 |            |     |
| 1. <u>Dry csp</u>                                                                                                          | <u>50</u>   | <u>Y</u>    | <u>FACW</u> | 12. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> | Hydrophytic Vegetation Indicators:                                                                             |                 |            |     |
| 2. <u>Gryllm dog</u>                                                                                                       | <u>10</u>   | <u>-</u>    | <u>FACW</u> | 13. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> | <u>NO</u> Dominance Test is >50%                                                                               |                 |            |     |
| 3. <u>Equis sylv</u>                                                                                                       | <u>12</u>   | <u>-</u>    | <u>FAC</u>  | 14. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> | <u>    </u> Prevalence Index is ≤3.0                                                                           |                 |            |     |
| 4. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 15. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> | <u>    </u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |                 |            |     |
| 5. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 16. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> | <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                          |                 |            |     |
| 6. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 17. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.  |                 |            |     |
| 7. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 18. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                                |                 |            |     |
| 8. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 19. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                                |                 |            |     |
| 9. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 20. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                                |                 |            |     |
| 10. <u>    </u>                                                                                                            | <u>    </u> | <u>    </u> | <u>    </u> | 21. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                                |                 |            |     |
| 11. <u>    </u>                                                                                                            | <u>    </u> | <u>    </u> | <u>    </u> | 22. <u>    </u>    | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                                |                 |            |     |
| Total Herb Cover: <u>72</u>                                                                                                |             |             |             |                    |             |             |             |                                                                                                                |                 |            |     |
| 50% of total cover: <u>36</u> 20% of total cover: <u>14.4</u>                                                              |             |             |             |                    |             |             |             |                                                                                                                |                 |            |     |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>    </u> % of bare ground: <u>15</u> |             |             |             |                    |             |             |             |                                                                                                                |                 |            |     |
| % Cover of Wetland Bryophytes <u>0</u> % Total Cover of Bryophytes <u>0</u>                                                |             |             |             |                    |             |             |             |                                                                                                                |                 |            |     |
| (where applicable)                                                                                                         |             |             |             |                    |             |             |             |                                                                                                                |                 |            |     |
| Remarks: <u>leaf litter</u>                                                                                                |             |             |             |                    |             |             |             |                                                                                                                |                 |            |     |



## SOIL

Sampling Point #: 556

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | Texture | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|---------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |         |                           |                                    |
| 0-1            | 0i                |               |     |                |    |                   |                  |         |                           |                                    |
| 1-3            | A                 | 10YR2/2       | 100 | —              | —  | —                 | —                | LSi     | neg                       |                                    |
| 3-12           | B                 | 7.5YR3/2      | 60  | —              | —  | —                 | —                | LSi     | neg                       |                                    |
|                |                   | 7.5YR3/4      | 40  | —              | —  | —                 | —                | SiL     | neg                       |                                    |
| 12-18          | B                 | 5Y4/3         | 90  | 5YR3/4         | 10 | C                 | PLM<br>RC        | LSi     | neg                       |                                    |
|                |                   |               |     |                |    |                   |                  |         |                           |                                    |
|                |                   |               |     |                |    |                   |                  |         |                           |                                    |
|                |                   |               |     |                |    |                   |                  |         |                           |                                    |
|                |                   |               |     |                |    |                   |                  |         |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; ☐ in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NA

Drainage Class: WD

Soil Map Unit Name:

Hydric Soil Present? Yes ☐ No ☒

Comments:

- 
- 
- 

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☐ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H2O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.) —

Water Table Present? Yes ☐ No ☒ Depth to water (in.) —

Seeping in at that depth but not yet filled?: ☐

Saturation Present? Yes ☐ No ☒ Depth to sat. (in.) —

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Project: Wustsa Access Borough/City: MSB Date: 9/23/2020  
Applicant/Owner: AIDEA Sampling Point #: 561  
Investigator(s): ELICH Firm: HDR Alaska, Inc.  
Lat. (dec.) 61.618493 Long. 150.905306 ±    NAD 83 Recorded on GPS #: ✓ Marked on map?    Field Map #:     
Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: hillslope Slope (%): 3 Aspect: N  
Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: U  
Photo nos./descriptions: SOILS x 3, NESW Camera #: ✓ Veg Type (Viereck Level 4 or other): II B2a  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No:    If no, explain. HGM type: NA  
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No     
Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

|                                 |                                         |                                        |                                                                                                                                         |
|---------------------------------|-----------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                                                         |

| Tree Stratum (dbh ≥ 3")                                                                       |           |          |             | Dominance Test worksheet:       |        |       |       |
|-----------------------------------------------------------------------------------------------|-----------|----------|-------------|---------------------------------|--------|-------|-------|
| Species                                                                                       | Cov. %    | Dom?     | Ind.        | Species                         | Cov. % | Dom?  | Ind.  |
| 1. <u>Salix bab</u>                                                                           | <u>15</u> | <u>Y</u> | <u>FAC</u>  | 5. _____                        | _____  | _____ | _____ |
| 2. <u>Salix</u>                                                                               | _____     | _____    | _____       | 6. _____                        | _____  | _____ | _____ |
| 3. <u>Bet pop</u>                                                                             | <u>5</u>  | <u>Y</u> | <u>FACW</u> | 7. _____                        | _____  | _____ | _____ |
| 4. _____                                                                                      | _____     | _____    | _____       | 8. _____                        | _____  | _____ | _____ |
| Total Tree Cover: <u>20</u>                                                                   |           |          |             |                                 |        |       |       |
| 50% of total cover: <u>10</u>                                                                 |           |          |             | 20% of total cover: <u>4</u>    |        |       |       |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                 |           |          |             |                                 |        |       |       |
| Abs. Cov. %                                                                                   | Dom?      | Ind.     | Abs. Cov. % | Dom?                            | Ind.   |       |       |
| 1. <u>Salix bar</u>                                                                           | <u>15</u> | <u>Y</u> | <u>FAC</u>  | 7. _____                        | _____  |       |       |
| 2. <u>Samb rac</u>                                                                            | <u>10</u> | <u>-</u> | <u>FAC</u>  | 8. _____                        | _____  |       |       |
| 3. <u>Salix bab</u>                                                                           | <u>30</u> | <u>Y</u> | <u>FAC</u>  | 9. _____                        | _____  |       |       |
| 4. _____                                                                                      | _____     | _____    | _____       | 10. _____                       | _____  |       |       |
| 5. _____                                                                                      | _____     | _____    | _____       | 11. _____                       | _____  |       |       |
| 6. _____                                                                                      | _____     | _____    | _____       | 12. _____                       | _____  |       |       |
| Total Sapling/Shrub Cover: <u>55</u>                                                          |           |          |             |                                 |        |       |       |
| 50% of total cover: <u>27.5</u>                                                               |           |          |             | 20% of total cover: <u>11</u>   |        |       |       |
| Herb Stratum                                                                                  |           |          |             |                                 |        |       |       |
| Abs. Cov. %                                                                                   | Dom?      | Ind.     | Abs. Cov. % | Dom?                            | Ind.   |       |       |
| 1. <u>Athy fol fem</u>                                                                        | <u>60</u> | <u>Y</u> | <u>FAC</u>  | 12. _____                       | _____  |       |       |
| 2. <u>Dry cup</u>                                                                             | <u>10</u> | <u>-</u> | <u>FACW</u> | 13. _____                       | _____  |       |       |
| 3. <u>Wet Ave</u>                                                                             | <u>10</u> | <u>-</u> | <u>FACW</u> | 14. _____                       | _____  |       |       |
| 4. <u>Thalictrum sp</u>                                                                       | <u>1</u>  | <u>-</u> | <u>FACW</u> | 15. _____                       | _____  |       |       |
| 5. <u>Equis ar</u>                                                                            | <u>3</u>  | <u>-</u> | <u>FAC</u>  | 16. _____                       | _____  |       |       |
| 6. _____                                                                                      | _____     | _____    | _____       | 17. _____                       | _____  |       |       |
| 7. _____                                                                                      | _____     | _____    | _____       | 18. _____                       | _____  |       |       |
| 8. _____                                                                                      | _____     | _____    | _____       | 19. _____                       | _____  |       |       |
| 9. _____                                                                                      | _____     | _____    | _____       | 20. _____                       | _____  |       |       |
| 10. _____                                                                                     | _____     | _____    | _____       | 21. _____                       | _____  |       |       |
| 11. _____                                                                                     | _____     | _____    | _____       | 22. _____                       | _____  |       |       |
| Total Herb Cover: <u>84</u>                                                                   |           |          |             |                                 |        |       |       |
| 50% of total cover: <u>42</u>                                                                 |           |          |             | 20% of total cover: <u>16.8</u> |        |       |       |
| Circular 1/10-ac plot _____ or other plot dimension: _____ % of bare ground: <u>10</u>        |           |          |             |                                 |        |       |       |
| % Cover of Wetland Bryophytes _____ % Total Cover of Bryophytes _____ %<br>(where applicable) |           |          |             |                                 |        |       |       |

| Dominance Test worksheet:                                                                                     |                       |
|---------------------------------------------------------------------------------------------------------------|-----------------------|
| Number of Dominant Species That are OBL, FACW, or FAC:                                                        | <u>4</u> (A)          |
| Total Number of Dominant Species Across All Strata:                                                           | <u>5</u> (B)          |
| Percent of Dominant Species That are OBL, FACW, or FAC:                                                       | <u>80%</u> (A/B)      |
| Prevalence Index worksheet:                                                                                   |                       |
| Total % Cover of:                                                                                             | Multiply by:          |
| OBL species _____                                                                                             | X1= _____             |
| FACW species _____                                                                                            | X2= _____             |
| FAC species <u>133</u>                                                                                        | X3= <u>399</u>        |
| FACU species <u>26</u>                                                                                        | X4= <u>104</u>        |
| UPL + NL species _____                                                                                        | X5= _____             |
| Column Totals: <u>159</u> (A)                                                                                 | <u>503</u> (B)        |
| Prevalence Index = B/A = <u>3.16</u>                                                                          |                       |
| Hydrophytic Vegetation Indicators:                                                                            |                       |
| <u>Y</u> Dominance Test is > 50%                                                                              |                       |
| <u>-</u> Prevalence Index is ≤ 3.0                                                                            |                       |
| <u>-</u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)   |                       |
| <u>-</u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                            |                       |
| <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                       |
| Hydrophytic Vegetation Present?                                                                               | Yes <u>✓</u> No _____ |

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Sampling Point #: 561

[illegible]

Comments:  
1. moist but not saturated  
2.  
3.

10% of redox @ 2.5YR 4/6 from 2-14, but ~~chromian~~<sup>matrix</sup>/redox  
10YR 4/2, 5YR.  
can also doesn't meet  
hydric indicators...

Wetland Hydrology Present? Yes ☐ No ☒

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# WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Side Access Borough/City: MSB Date: 9/23/2020  
 Applicant/Owner: ADDA Sampling Point #: 570  
 Investigator(s): ELCH Firm: HDR Alaska, Inc.

Lat. (dec.°) 61.619374 Long. 150.904586 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:         

Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: terrace Slope (%): 3 Aspect:         

Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: Proximal

Photo nos./descriptions: SOILS x2, NE SW Camera #:          Veg Type (Vioreck Level 4 or other): TB2a II B2b

Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: Riverine

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                                                     |                                                                                                           |                            |
|---------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|
| Hydrophytic Vegetation Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |                                                                                                           |                            |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |                                                                                                           |                            |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total >100%.

| Tree Stratum (dbh ≥ 3")     |           |          |                      |                    |       |      |      | Dominance Test worksheet:                               |                 |
|-----------------------------|-----------|----------|----------------------|--------------------|-------|------|------|---------------------------------------------------------|-----------------|
| Species                     | Cov.%     | Dom?     | Ind.                 | Species            | Cov.% | Dom? | Ind. | Number of Dominant Species That are OBL, FACW, or FAC:  |                 |
| 1. <u>bet pop</u>           | <u>35</u> | <u>Y</u> | <u>FACW 5 (EDGE)</u> |                    |       |      |      | <u>2</u>                                                | (A)             |
| 2. <u>salix pop</u>         | <u>15</u> | <u>Y</u> | <u>FACW 6 (EDGE)</u> |                    |       |      |      |                                                         |                 |
| 3. <u>rice glauc</u>        | <u>5</u>  | <u>Y</u> | <u>FACW 7 (EDGE)</u> |                    |       |      |      | <u>4</u>                                                | (B)             |
| 4. <u>        </u>          |           |          |                      | 8. <u>        </u> |       |      |      |                                                         |                 |
| Total Tree Cover: <u>55</u> |           |          |                      |                    |       |      |      | Percent of Dominant Species That are OBL, FACW, or FAC: | <u>58</u> (A/B) |

| Sapling/Shrub Stratum (woody plants < 3" dbh)                 |           |          |                       |         |           |      |      | Prevalence Index worksheet: |                              |
|---------------------------------------------------------------|-----------|----------|-----------------------|---------|-----------|------|------|-----------------------------|------------------------------|
| Species                                                       | Abs.Cov.% | Dom?     | Ind.                  | Species | Abs.Cov.% | Dom? | Ind. | Total % Cover of:           | Multiply by:                 |
| 1. <u>bet pop</u>                                             | <u>7</u>  | <u>Y</u> | <u>FACW 7 (EDGE)</u>  |         |           |      |      | OBL species                 | X1=                          |
| 2. <u>Salix fac</u>                                           | <u>0</u>  | <u>Y</u> | <u>FACW 8 (EDGE)</u>  |         |           |      |      | FACW species                | X2= <u>1</u>                 |
| 3. <u>Saxifraga</u>                                           | <u>15</u> | <u>Y</u> | <u>FACW 9 (EDGE)</u>  |         |           |      |      | FAC species                 | X3= <u>165</u>               |
| 4. <u>Ophi harr</u>                                           | <u>15</u> | <u>Y</u> | <u>FACW 10</u>        |         |           |      |      | FACU species                | X4= <u>152</u>               |
| 5. <u>Alnus kn</u>                                            | <u>5</u>  | <u>Y</u> | <u>FAC 11</u>         |         |           |      |      | UPL + NL species            | X5=                          |
| 6. <u>Vib edrob</u>                                           | <u>5</u>  | <u>Y</u> | <u>FACW 12 (EDGE)</u> |         |           |      |      | Column Totals:              | <u>03</u> (A) <u>317</u> (B) |
| Total Sapling/Shrub Cover: <u>50</u>                          |           |          |                       |         |           |      |      | Prevalence Index = B/A =    | <u>3.41</u>                  |
| 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u> |           |          |                       |         |           |      |      |                             |                              |

| Herb Stratum                                                    |           |          |                            |         |           |      |      |
|-----------------------------------------------------------------|-----------|----------|----------------------------|---------|-----------|------|------|
| Species                                                         | Abs.Cov.% | Dom?     | Ind.                       | Species | Abs.Cov.% | Dom? | Ind. |
| 1. <u>Artem fel fem</u>                                         | <u>40</u> | <u>Y</u> | <u>FAC 12 (THROUGHOUT)</u> |         |           |      |      |
| 2. <u>Dry exp</u>                                               | <u>20</u> | <u>Y</u> | <u>FAC 13 (THROUGHOUT)</u> |         |           |      |      |
| 3. <u>Corym dry</u>                                             | <u>5</u>  | <u>Y</u> | <u>FAC 14 (THROUGHOUT)</u> |         |           |      |      |
| 4. <u>Her las</u>                                               | <u>3</u>  | <u>Y</u> | <u>FAC 15 (THROUGHOUT)</u> |         |           |      |      |
| 5. <u>Cal can</u>                                               | <u>5</u>  | <u>Y</u> | <u>FAC 16 (THROUGHOUT)</u> |         |           |      |      |
| 6. <u>        </u>                                              |           |          |                            |         |           |      |      |
| 7. <u>        </u>                                              |           |          |                            |         |           |      |      |
| 8. <u>        </u>                                              |           |          |                            |         |           |      |      |
| 9. <u>        </u>                                              |           |          |                            |         |           |      |      |
| 10. <u>        </u>                                             |           |          |                            |         |           |      |      |
| 11. <u>        </u>                                             |           |          |                            |         |           |      |      |
| Total Herb Cover: <u>73</u>                                     |           |          |                            |         |           |      |      |
| 50% of total cover: <u>36.5</u> 20% of total cover: <u>14.6</u> |           |          |                            |         |           |      |      |

|                                                                                                                                   |  |
|-----------------------------------------------------------------------------------------------------------------------------------|--|
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>        </u> % of bare ground: <u>10</u> 10 |  |
| % Cover of Wetland Bryophytes <u>        </u> % Total Cover of Bryophytes <u>        </u> %                                       |  |

Remarks: Surface water, up to stream, at base of slope looks like hydro/creek may have recently changed course... Trees primarily on edges - site otherwise dominated by Artem fel fem/Dry dilatata



## SOIL

Sampling Point #: 570

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix<br>Color (moist) | %          | Redox Features<br>Color (moist) | %         | Type <sup>1</sup> | Loc <sup>2</sup> | Texture    | $\alpha, \alpha$ dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|------------------------------|------------|---------------------------------|-----------|-------------------|------------------|------------|----------------------------------------|------------------------------------|
| 0-1            | <u>Bi</u>         | <u>2.5YR 2.5/1</u>           | <u>100</u> |                                 |           |                   |                  | <u>ORL</u> |                                        |                                    |
| 1-3            | <u>A</u>          | <u>7.5YR 2.5/1</u>           |            |                                 |           |                   |                  | <u>SiL</u> | <u>pos</u>                             |                                    |
| 3-6            | <u>A/B</u>        | <u>2.5Y 4/2</u>              | <u>90</u>  |                                 |           |                   |                  | <u>SiL</u> | <u>pos</u>                             |                                    |
|                |                   | <u>10YR 4/1</u>              | <u>10</u>  |                                 |           |                   |                  | <u>SiL</u> | <u>pos</u>                             |                                    |
| 6-22           | <u>B</u>          | <u>5Y 3/2</u>                | <u>80</u>  | <u>5YR 4/6</u>                  | <u>10</u> | <u>C</u>          | <u>PLM</u>       | <u>LSi</u> | <u>pos</u>                             |                                    |
|                |                   |                              |            | <u>5YR 3/4</u>                  | <u>2</u>  |                   | <u>PLM</u>       | <u>LSi</u> | <u>pos</u>                             |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface;  $\odot$  — " in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☒ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NA

Drainage Class: SPD

Soil Map Unit Name:

Hydric Soil Present? Yes ☒ No ☐

Comments:

- 
- 
- 

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos.  $\alpha, \alpha$  or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☒ No ☐ Depth of water (in.) 8"

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 15"

Seeping in at that depth but not yet filled?: 12"

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 8"

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sa Borough/City: MSB Date: 9/23/2020  
 Applicant/Owner: ADGA Sampling Point #: 572  
 Investigator(s): EC, CM Firm: HDR Alaska, Inc.  
 Lat. (dec.): 66.583618 Long. 150.704869 ± NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:           
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: foot slope / lowland Slope (%): 3 Aspect:           
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PFO1/SS1B  
 Photo nos./descriptions: SOILS 02, NBSW Camera #:          Veg Type (Viereck Level 4 or other):           
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: SLOPE  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here. IC2 BLACK SPACES BIRCH

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                        |                 |                 |                 |                       |                 |                 |                 | Dominance Test worksheet:                                                                                     |              |       |  |
|--------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------------|-----------------|-----------------|-----------------|---------------------------------------------------------------------------------------------------------------|--------------|-------|--|
| Species                                                                                                                        | Cov. %          | Dom?            | Ind.            | Species               | Cov. %          | Dom?            | Ind.            | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |              |       |  |
| 1. <u>Picea mar</u>                                                                                                            | <u>15</u>       | <u>Y</u>        | <u>FACW</u>     | 5. <u>        </u>    | <u>        </u> | <u>        </u> | <u>        </u> | <u>7</u>                                                                                                      | (A)          |       |  |
| 2. <u>Bet pap</u>                                                                                                              | <u>15</u>       | <u>Y</u>        | <u>FACW</u>     | 6. <u>        </u>    | <u>        </u> | <u>        </u> | <u>        </u> | Total Number of Dominant Species Across All Strata:                                                           | <u>11</u>    | (B)   |  |
| 3. <u>        </u>                                                                                                             | <u>        </u> | <u>        </u> | <u>        </u> | 7. <u>        </u>    | <u>        </u> | <u>        </u> | <u>        </u> | Percent of Dominant Species That are OBL, FACW, or FAC:                                                       | <u>63.6%</u> | (A/B) |  |
| 4. <u>        </u>                                                                                                             | <u>        </u> | <u>        </u> | <u>        </u> | 8. <u>        </u>    | <u>        </u> | <u>        </u> | <u>        </u> | Prevalence Index worksheet:                                                                                   |              |       |  |
| Total Tree Cover: <u>35</u>                                                                                                    |                 |                 |                 |                       |                 |                 |                 | Total % Cover of: <u>        </u> Multiply by: <u>        </u>                                                |              |       |  |
| 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>                                                                   |                 |                 |                 |                       |                 |                 |                 | OBL species <u>25</u> X1= <u>25</u>                                                                           |              |       |  |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                  |                 |                 |                 |                       |                 |                 |                 | FACW species <u>50 55</u> X2= <u>110</u>                                                                      |              |       |  |
| Abs. Cov. %                                                                                                                    | Dom?            | Ind.            | Abs. Cov. %     | Dom?                  | Ind.            |                 |                 | FAC species <u>80 75</u> X3= <u>225</u>                                                                       |              |       |  |
| 1. <u>Bet pap</u>                                                                                                              | <u>7</u>        | <u>Y</u>        | <u>FACW</u>     | 7. <u>Alnus tenu</u>  | <u>8</u>        | <u>Y</u>        | <u>FAC</u>      | FACU species <u>70</u> X4= <u>280</u>                                                                         |              |       |  |
| 2. <u>Salix pul</u>                                                                                                            | <u>5</u>        | <u>-</u>        | <u>FACW</u>     | 8. <u>Vac vit</u>     | <u>2</u>        | <u>-</u>        | <u>FAC</u>      | UPL + NL species <u>        </u> X5= <u>        </u>                                                          |              |       |  |
| 3. <u>Vib edule</u>                                                                                                            | <u>10</u>       | <u>Y</u>        | <u>FACW</u>     | 9. <u>Picea mar</u>   | <u>5</u>        | <u>-</u>        | <u>FACW</u>     | Column Totals: <u>225</u> (A) <u>640</u> (B)                                                                  |              |       |  |
| 4. <u>Alnus ten</u>                                                                                                            | <u>10</u>       | <u>Y</u>        | <u>FAC</u>      | 10. <u>Salix herb</u> | <u>8</u>        | <u>Y</u>        | <u>FAC</u>      | Prevalence Index = B/A = <u>2.846</u>                                                                         |              |       |  |
| 5. <u>Ros acn</u>                                                                                                              | <u>5</u>        | <u>-</u>        | <u>FACW</u>     | 11. <u>Vac alask</u>  | <u>7</u>        | <u>Y</u>        | <u>FAC</u>      |                                                                                                               |              |       |  |
| 6. <u>Spir blv</u>                                                                                                             | <u>3</u>        | <u>-</u>        | <u>FACW</u>     | 12. <u>Vac oval</u>   | <u>5</u>        | <u>-</u>        | <u>FAC</u>      |                                                                                                               |              |       |  |
| Total Sapling/Shrub Cover: <u>75</u>                                                                                           |                 |                 |                 |                       |                 |                 |                 |                                                                                                               |              |       |  |
| 50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u>                                                                  |                 |                 |                 |                       |                 |                 |                 |                                                                                                               |              |       |  |
| Herb Stratum                                                                                                                   |                 |                 |                 |                       |                 |                 |                 |                                                                                                               |              |       |  |
| Abs. Cov. %                                                                                                                    | Dom?            | Ind.            | Abs. Cov. %     | Dom?                  | Ind.            |                 |                 | Hydrophytic Vegetation Indicators:                                                                            |              |       |  |
| 1. <u>Equis flav</u>                                                                                                           | <u>12</u>       | <u>-</u>        | <u>OBL</u>      | 12. <u>        </u>   | <u>        </u> |                 |                 | <u>Y</u> Dominance Test is >50%                                                                               |              |       |  |
| 2. <u>Cornus can</u>                                                                                                           | <u>15</u>       | <u>Y</u>        | <u>FACW</u>     | 13. <u>        </u>   | <u>        </u> |                 |                 | <u>Y</u> Prevalence Index is ≤3.0                                                                             |              |       |  |
| 3. <u>Com pal</u>                                                                                                              | <u>5</u>        | <u>-</u>        | <u>OBL</u>      | 14. <u>        </u>   | <u>        </u> |                 |                 | <u>-</u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)   |              |       |  |
| 4. <u>Corn dis</u>                                                                                                             | <u>20</u>       | <u>Y</u>        | <u>FACW</u>     | 15. <u>        </u>   | <u>        </u> |                 |                 | <u>-</u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                            |              |       |  |
| 5. <u>Corn magell</u>                                                                                                          | <u>8</u>        | <u>-</u>        | <u>OBL</u>      | 16. <u>        </u>   | <u>        </u> |                 |                 | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |              |       |  |
| 6. <u>Equis ar</u>                                                                                                             | <u>5</u>        | <u>-</u>        | <u>FAC</u>      | 17. <u>        </u>   | <u>        </u> |                 |                 |                                                                                                               |              |       |  |
| 7. <u>Dry cep</u>                                                                                                              | <u>5</u>        | <u>-</u>        | <u>FACW</u>     | 18. <u>        </u>   | <u>        </u> |                 |                 | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>           |              |       |  |
| 8. <u>Amy heli</u>                                                                                                             | <u>5</u>        | <u>-</u>        | <u>FAC</u>      | 19. <u>        </u>   | <u>        </u> |                 |                 |                                                                                                               |              |       |  |
| 9. <u>Viola pal</u>                                                                                                            | <u>5</u>        | <u>-</u>        | <u>FACW</u>     | 20. <u>        </u>   | <u>        </u> |                 |                 |                                                                                                               |              |       |  |
| 10. <u>CM can</u>                                                                                                              | <u>12</u>       | <u>Y</u>        | <u>FAC</u>      | 21. <u>        </u>   | <u>        </u> |                 |                 |                                                                                                               |              |       |  |
| 11. <u>Rub arl</u>                                                                                                             | <u>3</u>        | <u>-</u>        | <u>FAC</u>      | 22. <u>        </u>   | <u>        </u> |                 |                 |                                                                                                               |              |       |  |
| Total Herb Cover: <u>115</u>                                                                                                   |                 |                 |                 |                       |                 |                 |                 |                                                                                                               |              |       |  |
| 50% of total cover: <u>57.5</u> 20% of total cover: <u>23</u>                                                                  |                 |                 |                 |                       |                 |                 |                 |                                                                                                               |              |       |  |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>        </u> % of bare ground: <u>15</u> |                 |                 |                 |                       |                 |                 |                 |                                                                                                               |              |       |  |
| % Cover of Wetland Bryophytes <u>00 15</u> % Total Cover of Bryophytes <u>25</u> % (where applicable)                          |                 |                 |                 |                       |                 |                 |                 |                                                                                                               |              |       |  |
| Remarks: <u>water in low</u>                                                                                                   |                 |                 |                 |                       |                 |                 |                 |                                                                                                               |              |       |  |



## SOIL

Sampling Point #: 572

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth | Horizon | Soil Matrix   |   | Redox Features |   |                   |                  | $\alpha, \alpha$ dip. | Remarks                  |
|-------|---------|---------------|---|----------------|---|-------------------|------------------|-----------------------|--------------------------|
| (in.) | (opt.)  | Color (moist) | % | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> | (pos/<br>neg)         | (or use comment number)  |
| 0-4   | Os      | 7.5YR2.5/1    | — | —              | — | —                 | —                | ORH                   | close, but can determine |
| 4-14  | Os      | 10YR2/2       | — | —              | — | —                 | —                | ORH                   |                          |
| 14-17 | AB      | 10YR2/2       | — | —              | — | —                 | —                | LSi                   | high organic content     |
|       |         |               |   |                |   |                   |                  |                       |                          |
|       |         |               |   |                |   |                   |                  |                       |                          |
|       |         |               |   |                |   |                   |                  |                       |                          |
|       |         |               |   |                |   |                   |                  |                       |                          |
|       |         |               |   |                |   |                   |                  |                       |                          |
|       |         |               |   |                |   |                   |                  |                       |                          |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)
- ☒ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface;  $\oplus$  \_\_\_\_\_ in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: none

Depth (inches) NA

Drainage Class: PD

Soil Map Unit Name:

Hydric Soil Present? Yes ☒ No ☐

Comments:

- 1.
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☐ 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)

Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos.  $\alpha, \alpha$  or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☒ No ☐ Depth of water (in.) 2

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 7"

Seeping in at that depth but not yet filled?: ☐

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) surface

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



# WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Su Borough/City: MSB Date: 9/23/2020  
 Applicant/Owner: ADOEA Sampling Point #: 574  
 Investigator(s): ELCH Firm: HDR Alaska, Inc.  
 Lat. (dec.): 61.582789 Long. 150.785232 NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:       
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: hills Slope (%): 7 Aspect: N  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: 7  
 Photo nos./descriptions: SOILS K2, NE6W Camera #: ☒ Veg Type (Viereck Level 4 or other): IB2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                                        |                                                                                                                                         |
|---------------------------------|-----------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total >100%.

| Tree Stratum (dbh ≥ 3")                                                                                                    |             |             |             |                 |             |                                              |             | Dominance Test worksheet:                                           |                   |
|----------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-----------------|-------------|----------------------------------------------|-------------|---------------------------------------------------------------------|-------------------|
| Species                                                                                                                    | Cov.%       | Dom?        | Ind.        | Species         | Cov.%       | Dom?                                         | Ind.        | Number of Dominant Species That are OBL, FACW, or FAC:              |                   |
| 1. <u>Bet pax</u>                                                                                                          | <u>38</u>   | <u>Y</u>    | <u>FACW</u> | 5. <u>    </u>  | <u>    </u> | <u>    </u>                                  | <u>    </u> | <u>3</u>                                                            | (A)               |
| 2. <u>Picea glauca</u>                                                                                                     | <u>7</u>    | <u>-</u>    | <u>FACW</u> | 6. <u>    </u>  | <u>    </u> | <u>    </u>                                  | <u>    </u> | Total Number of Dominant Species Across All Strata:                 | <u>7</u> (B)      |
| 3. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 7. <u>    </u>  | <u>    </u> | <u>    </u>                                  | <u>    </u> | Percent of Dominant Species That are OBL, FACW, or FAC:             | <u>42.8</u> (A/B) |
| 4. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 8. <u>    </u>  | <u>    </u> | <u>    </u>                                  | <u>    </u> | Prevalence Index worksheet:                                         |                   |
| Total Tree Cover: <u>40</u>                                                                                                |             |             |             |                 |             |                                              |             | Total % Cover of:                                                   |                   |
| 50% of total cover: <u>20</u>                                                                                              |             |             |             |                 |             |                                              |             | Multiply by:                                                        |                   |
| 20% of total cover: <u>8</u>                                                                                               |             |             |             |                 |             |                                              |             | OBL species <u>    </u> X1= <u>    </u>                             |                   |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                              |             |             |             |                 |             |                                              |             | FACW species <u>    </u> X2= <u>    </u>                            |                   |
| Abs.Cov.%                                                                                                                  | Dom?        | Ind.        | Abs.Cov.%   | Dom?            | Ind.        | FAC species <u>57</u> X3= <u>171</u>         |             | FACU species <u>93</u> X4= <u>372</u>                               |                   |
| 1. <u>Samb race</u>                                                                                                        | <u>12</u>   | <u>Y</u>    | <u>FACW</u> | 7. <u>    </u>  | <u>    </u> | UPL + NL species <u>    </u> X5= <u>    </u> |             | Column Totals: <u>150</u> (A) <u>543</u> (B)                        |                   |
| 2. <u>Alnus cris</u>                                                                                                       | <u>10</u>   | <u>Y</u>    | <u>FACW</u> | 8. <u>    </u>  | <u>    </u> | Prevalence Index = B/A = <u>3.62</u>         |             |                                                                     |                   |
| 3. <u>Ole hor</u>                                                                                                          | <u>10</u>   | <u>Y</u>    | <u>FACW</u> | 9. <u>    </u>  | <u>    </u> |                                              |             |                                                                     |                   |
| 4. <u>Vib edule</u>                                                                                                        | <u>3</u>    | <u>-</u>    | <u>FACW</u> | 10. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| 5. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 11. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| 6. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 12. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| Total Sapling/Shrub Cover: <u>35</u>                                                                                       |             |             |             |                 |             |                                              |             |                                                                     |                   |
| 50% of total cover: <u>17.5</u>                                                                                            |             |             |             |                 |             |                                              |             | 20% of total cover: <u>7</u>                                        |                   |
| Herb Stratum                                                                                                               |             |             |             |                 |             |                                              |             |                                                                     |                   |
| Abs.Cov.%                                                                                                                  | Dom?        | Ind.        | Abs.Cov.%   | Dom?            | Ind.        |                                              |             |                                                                     |                   |
| 1. <u>Athy folferm</u>                                                                                                     | <u>20</u>   | <u>Y</u>    | <u>FACW</u> | 12. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| 2. <u>Galium tri</u>                                                                                                       | <u>2</u>    | <u>-</u>    | <u>FACW</u> | 13. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| 3. <u>Equis arv</u>                                                                                                        | <u>5</u>    | <u>-</u>    | <u>FACW</u> | 14. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| 4. <u>Cham ang</u>                                                                                                         | <u>8</u>    | <u>-</u>    | <u>FACW</u> | 15. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| 5. <u>Cal can</u>                                                                                                          | <u>20</u>   | <u>Y</u>    | <u>FACW</u> | 16. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| 6. <u>Py cep</u>                                                                                                           | <u>20</u>   | <u>Y</u>    | <u>FACW</u> | 17. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| 7. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 18. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| 8. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 19. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| 9. <u>    </u>                                                                                                             | <u>    </u> | <u>    </u> | <u>    </u> | 20. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| 10. <u>    </u>                                                                                                            | <u>    </u> | <u>    </u> | <u>    </u> | 21. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| 11. <u>    </u>                                                                                                            | <u>    </u> | <u>    </u> | <u>    </u> | 22. <u>    </u> | <u>    </u> |                                              |             |                                                                     |                   |
| Total Herb Cover: <u>75</u>                                                                                                |             |             |             |                 |             |                                              |             |                                                                     |                   |
| 50% of total cover: <u>37.5</u>                                                                                            |             |             |             |                 |             |                                              |             | 20% of total cover: <u>15</u>                                       |                   |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>    </u> % of bare ground: <u>15</u> |             |             |             |                 |             |                                              |             |                                                                     |                   |
| % Cover of Wetland Bryophytes <u>    </u> % Total Cover of Bryophytes <u>    </u>                                          |             |             |             |                 |             |                                              |             |                                                                     |                   |
| (where applicable)                                                                                                         |             |             |             |                 |             |                                              |             |                                                                     |                   |
| Remarks: <u>leaf litter</u>                                                                                                |             |             |             |                 |             |                                              |             |                                                                     |                   |
| Hydrophytic Vegetation Present?                                                                                            |             |             |             |                 |             |                                              |             | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |                   |



## SOIL

Sampling Point #: 574

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |   |                   |                  | Texture | α, α dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------|----------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |         |                            |                                    |
| 0-2            | O <sub>i</sub>    |               |     |                |   |                   |                  | oah/SiL |                            |                                    |
| 2-7            | A                 | 7.5YR3/3      | 98  |                |   |                   |                  | SiL     | neg                        |                                    |
| 7-11           | B                 | 10YR4/2       | 95  | 7.5YR3/4       | 3 |                   |                  | SiL     | neg                        |                                    |
|                |                   |               |     | 7.5YR4/4       | 2 |                   |                  | SiL     | neg                        |                                    |
| 11-22          | B                 | 10YR4/2       | 100 |                |   |                   |                  | SiL     | neg                        |                                    |
|                |                   |               |     |                |   |                   |                  |         |                            |                                    |
|                |                   |               |     |                |   |                   |                  |         |                            |                                    |
|                |                   |               |     |                |   |                   |                  |         |                            |                                    |
|                |                   |               |     |                |   |                   |                  |         |                            |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; ☐ " in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONEDepth (inches) N/ADrainage Class: WD

Soil Map Unit Name:

Hydric Soil Present?

Yes ☐No ☒

## Comments:

1. gravel/cobbles C 13"
2. <sup>test</sup> meots ~~indicator~~ indicator F3; however, lacks hydrophytic veg so does not meet
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☐ 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)

Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos. α, α or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒

Water Table Present? Yes ☒ No ☒

Seeping in at that depth but not yet filled?: 13

Saturation Present? Yes ☒ No ☐

(includes capillary fringe)

Depth of water (in.) —

Depth to water (in.) 16

Depth to sat. (in.) 12

Epi Endo Unknown

Wetland Hydrology Present?

Yes ☒No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sn AccessBorough/City: MSBDate: 9/23/2020Applicant/Owner: MDERSampling Point #: 577Investigator(s): ELUH

Firm: HDR Alaska, Inc.

Lat. (dec.): 61.582062 Long: 150.784668 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #: ☐Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Rollslope Slope (%): 6 Aspect: NLocal relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: UPhoto nos./descriptions: Soils x2, NGSW Camera #:        Veg Type (Viereck Level 4 or other): HA26 IB3aAre climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: NAAre Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                                                     |                                                                                                                                         |
|---------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| <b>Tree Stratum (dbh ≥ 3")</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Cov. %</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Cov. %</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Bet. psp</u></td> <td><u>20</u></td> <td><u>Y</u></td> <td><u>FACU</u></td> <td>5. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>2. <u>Picea glauca</u></td> <td><u>5</u></td> <td><u>Y</u></td> <td><u>FACU</u></td> <td>6. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>3. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td>7. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>4. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td>8. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td colspan="4">Total Tree Cover: <u>25</u></td> <td colspan="4"></td> </tr> <tr> <td colspan="4">50% of total cover: <u>12.5</u></td> <td colspan="4">20% of total cover: <u>5</u></td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |               |               |                                |               |               |               | Species                                                                                                       | Cov. %      | Dom? | Ind. | Species | Cov. %      | Dom? | Ind. | 1. <u>Bet. psp</u>   | <u>20</u> | <u>Y</u> | <u>FACU</u> | 5. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | 2. <u>Picea glauca</u>  | <u>5</u>  | <u>Y</u> | <u>FACU</u> | 6. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | 3. <u>      </u>       | <u>      </u> | <u>      </u> | <u>      </u> | 7. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | 4. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> | 8. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | Total Tree Cover: <u>25</u> |               |               |               |                   |               |               |               | 50% of total cover: <u>12.5</u> |               |               |               | 20% of total cover: <u>5</u> |               |               |               | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br>Percent of Dominant Species That are OBL, FACW, or FAC: <u>20%</u> (A/B) |          |          |             |                   |               |               |               |                                |          |          |             |                                |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                   |              |                           |                   |                            |                   |                       |                |                        |                |                                |                   |                               |                |                                     |          |          |             |                   |               |               |               |                              |  |  |  |  |  |  |  |                               |  |  |  |                               |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
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---------------|-----------------------|----------------|------------------------|----------------|--------------------------------|-------------------|-------------------------------|----------------|-------------------------------------|----------|----------|-------------|-------------------|---------------|---------------|---------------|------------------------------|--|--|--|--|--|--|--|-------------------------------|--|--|--|-------------------------------|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Cov. %            | Dom?          | Ind.          | Species                        | Cov. %        | Dom?          | Ind.          |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |                   |               |               |               |                                |          |          |             |                                |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                   |              |                           |                   |                            |                   |                       |                |                        |                |                                |                   |                               |                |                                     |          |          |             |                   |               |               |               |                              |  |  |  |  |  |  |  |                               |  |  |  |                               |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 1. <u>Bet. psp</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <u>20</u>         | <u>Y</u>      | <u>FACU</u>   | 5. <u>      </u>               | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 2. <u>Picea glauca</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <u>5</u>          | <u>Y</u>      | <u>FACU</u>   | 6. <u>      </u>               | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 3. <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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           |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 4. <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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           |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| Total Tree Cover: <u>25</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| 50% of total cover: <u>12.5</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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           |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| <b>Sapling/Shrub Stratum (woody plants &lt; 3" dbh)</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Abs. 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Cov. % | Dom? | Ind. | Species | Abs. Cov. % | Dom? | Ind. | 1. <u>Rubus idae</u> | <u>8</u>  | <u>Y</u> | <u>FACU</u> | 7. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | 2. <u>Ribes nud</u>     | <u>2</u>  | <u>-</u> | <u>FAC</u>  | 8. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | 3. <u>Sambucus rac</u> | <u>7</u>      | <u>Y</u>      | <u>FACU</u>   | 9. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | 4. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> | 10. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 5. <u>      </u>            | <u>      </u> | <u>      </u> | <u>      </u> | 11. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 6. <u>      </u>                | <u>      </u> | <u>      </u> | <u>      </u> | 12. <u>      </u>            | <u>      </u> | <u>      </u> | <u>      </u> | Total Sapling/Shrub Cover: <u>17</u>                                                                                                                                                                                                                    |          |          |             |                   |               |               |               | 50% of total cover: <u>8.5</u> |          |          |             | 20% of total cover: <u>3.4</u> |               |               |               | <b>Prevalence Index worksheet:</b><br><table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>      </u></td> <td>X1= <u>      </u></td> </tr> <tr> <td>FACW species <u>      </u></td> <td>X2= <u>      </u></td> </tr> <tr> <td>FAC species <u>91</u></td> <td>X3= <u>273</u></td> </tr> <tr> <td>FACU species <u>61</u></td> <td>X4= <u>244</u></td> </tr> <tr> <td>UPL + NL species <u>      </u></td> <td>X5= <u>      </u></td> </tr> <tr> <td>Column Totals: <u>152</u> (A)</td> <td><u>517</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.4</u></td> </tr> </tbody> </table> |           | Total % Cover of: | Multiply by: | OBL species <u>      </u> | X1= <u>      </u> | FACW species <u>      </u> | X2= <u>      </u> | FAC species <u>91</u> | X3= <u>273</u> | FACU species <u>61</u> | X4= <u>244</u> | UPL + NL species <u>      </u> | X5= <u>      </u> | Column Totals: <u>152</u> (A) | <u>517</u> (B) | Prevalence Index = B/A = <u>3.4</u> |          |          |             |                   |               |               |               |                              |  |  |  |  |  |  |  |                               |  |  |  |                               |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Abs. Cov. %       | Dom?          | Ind.          | Species                        | Abs. Cov. %   | Dom?          | Ind.          |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |                   |               |               |               |                                |          |          |             |                                |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                   |              |                           |                   |                            |                   |                       |                |                        |                |                                |                   |                               |                |                                     |          |          |             |                   |               |               |               |                              |  |  |  |  |  |  |  |                               |  |  |  |                               |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 1. <u>Rubus idae</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>8</u>          | <u>Y</u>      | <u>FACU</u>   | 7. <u>      </u>               | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 2. <u>Ribes nud</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u>2</u>          | <u>-</u>      | <u>FAC</u>    | 8. <u>      </u>               | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |                   |               |               |               |                                |          |          |             |                                |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                   |              |                           |                   |                            |         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| 3. <u>Sambucus rac</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <u>7</u>          | <u>Y</u>      | <u>FACU</u>   | 9. <u>      </u>               | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 4. <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>      </u>     | <u>      </u> | <u>      </u> | 10. <u>      </u>              | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 5. <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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           |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 6. <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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           |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| Total Sapling/Shrub Cover: <u>17</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| 50% of total cover: <u>8.5</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |               |               | 20% of total cover: <u>3.4</u> |               |               |               |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| Total % Cover of:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| OBL species <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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           |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| FACW species <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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           |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| FAC species <u>91</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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           |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| FACU species <u>61</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | X4= <u>244</u>    |               |               |                                |               |               |               |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| UPL + NL species <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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           |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| Column Totals: <u>152</u> (A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <u>517</u> (B)    |               |               |                                |               |               |               |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| Prevalence Index = B/A = <u>3.4</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| <b>Herb Stratum</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Cal can</u></td> <td><u>60</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>12. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>2. <u>Amn. fel. par</u></td> <td><u>20</u></td> <td><u>-</u></td> <td><u>FAC</u></td> <td>13. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>3. <u>Gal. triflor</u></td> <td><u>2</u></td> <td><u>-</u></td> <td><u>FAC</u></td> <td>14. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>4. <u>Inc. eur.</u></td> <td><u>1</u></td> <td><u>-</u></td> <td><u>FAC</u></td> <td>15. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>5. <u>Yera. viri</u></td> <td><u>1</u></td> <td><u>-</u></td> <td><u>FAC</u></td> <td>16. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>6. <u>Gymn. dy</u></td> <td><u>2</u></td> <td><u>-</u></td> <td><u>FACU</u></td> <td>17. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>7. <u>Mert. par</u></td> <td><u>2</u></td> <td><u>-</u></td> <td><u>FACU</u></td> <td>18. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>8. <u>Chan. ar</u></td> <td><u>5</u></td> <td><u>-</u></td> <td><u>FACU</u></td> <td>19. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>9. <u>Dry. exp</u></td> <td><u>10</u></td> <td><u>-</u></td> <td><u>FACU</u></td> <td>20. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>10. <u>Egri. ar</u></td> <td><u>5</u></td> <td><u>-</u></td> <td><u>FAC</u></td> <td>21. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>11. <u>Her. lan</u></td> <td><u>2</u></td> <td><u>-</u></td> <td><u>FACU</u></td> <td>22. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td colspan="4">Total Herb Cover: <u>110</u></td> <td colspan="4"></td> </tr> <tr> <td colspan="4">50% of total cover: <u>55</u></td> <td colspan="4">20% of total cover: <u>22</u></td> </tr> </tbody> </table> |                   |               |               |                                |               |               |               | Species                                                                                                       | Abs. Cov. % | Dom? | Ind. | Species | Abs. Cov. % | Dom? | Ind. | 1. <u>Cal can</u>    | <u>60</u> | <u>Y</u> | <u>FAC</u>  | 12. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 2. <u>Amn. fel. par</u> | <u>20</u> | <u>-</u> | <u>FAC</u>  | 13. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 3. <u>Gal. triflor</u> | <u>2</u>      | <u>-</u>      | <u>FAC</u>    | 14. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 4. <u>Inc. eur.</u> | <u>1</u>      | <u>-</u>      | <u>FAC</u>    | 15. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 5. <u>Yera. viri</u>        | <u>1</u>      | <u>-</u>      | <u>FAC</u>    | 16. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 6. <u>Gymn. dy</u>              | <u>2</u>      | <u>-</u>      | <u>FACU</u>   | 17. <u>      </u>            | <u>      </u> | <u>      </u> | <u>      </u> | 7. <u>Mert. par</u>                                                                                                                                                                                                                                     | <u>2</u> | <u>-</u> | <u>FACU</u> | 18. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 8. <u>Chan. ar</u>             | <u>5</u> | <u>-</u> | <u>FACU</u> | 19. <u>      </u>              | <u>      </u> | <u>      </u> | <u>      </u> | 9. <u>Dry. exp</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <u>10</u> | <u>-</u>          | <u>FACU</u>  | 20. <u>      </u>         | <u>      </u>     | <u>      </u>              | <u>      </u>     | 10. <u>Egri. ar</u>   | <u>5</u>       | <u>-</u>               | <u>FAC</u>     | 21. <u>      </u>              | <u>      </u>     | <u>      </u>                 | <u>      </u>  | 11. <u>Her. lan</u>                 | <u>2</u> | <u>-</u> | <u>FACU</u> | 22. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | Total Herb Cover: <u>110</u> |  |  |  |  |  |  |  | 50% of total cover: <u>55</u> |  |  |  | 20% of total cover: <u>22</u> |  |  |  | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> Dominance Test is >50%<br><input type="checkbox"/> Prevalence Index is ≤3.0<br><input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |  |
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Abs. Cov. %       | Dom?          | Ind.          | Species                        | Abs. Cov. %   | Dom?          | Ind.          |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |                   |               |               |               |                                |          |          |             |                                |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                   |              |                           |                   |                            |                   |                       |                |                        |                |                                |                   |                               |                |                                     |          |          |             |                   |               |               |               |                              |  |  |  |  |  |  |  |                               |  |  |  |                               |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 1. <u>Cal can</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <u>60</u>         | <u>Y</u>      | <u>FAC</u>    | 12. <u>      </u>              | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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          |                       |                |                        |                |                                |                   |                               |                |                                     |          |          |             |                   |               |               |               |                              |  |  |  |  |  |  |  |                               |  |  |  |                               |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 2. <u>Amn. fel. par</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <u>20</u>         | <u>-</u>      | <u>FAC</u>    | 13. <u>      </u>              | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 3. <u>Gal. triflor</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <u>2</u>          | <u>-</u>      | <u>FAC</u>    | 14. <u>      </u>              | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 4. <u>Inc. eur.</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u>1</u>          | <u>-</u>      | <u>FAC</u>    | 15. <u>      </u>              | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 5. <u>Yera. viri</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>1</u>          | <u>-</u>      | <u>FAC</u>    | 16. <u>      </u>              | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 6. <u>Gymn. dy</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <u>2</u>          | <u>-</u>      | <u>FACU</u>   | 17. <u>      </u>              | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 7. <u>Mert. par</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| 8. <u>Chan. ar</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <u>5</u>          | <u>-</u>      | <u>FACU</u>   | 19. <u>      </u>              | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 9. <u>Dry. exp</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <u>10</u>         | <u>-</u>      | <u>FACU</u>   | 20. <u>      </u>              | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |            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| 10. <u>Egri. ar</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u>5</u>          | <u>-</u>      | <u>FAC</u>    | 21. <u>      </u>              | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |                   |               |               |               |                                |          |          |             |                                |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                   |              |                           |                   |                            |                   |                       |                |                        |                |                                |                   |                               |                |                                     |          |          |             |                   |               |               |               |                              |  |  |  |  |  |  |  |                               |  |  |  |                               |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 11. <u>Her. lan</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u>2</u>          | <u>-</u>      | <u>FACU</u>   | 22. <u>      </u>              | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |                   |               |               |               |                                |          |          |             |                                |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                   |              |                           |                   |                            |                   |                       |                |                        |                |                                |                   |                               |                |                                     |          |          |             |                   |               |               |               |                              |  |  |  |  |  |  |  |                               |  |  |  |                               |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Total Herb Cover: <u>110</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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           |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |                   |               |               |               |                                |          |          |             |                                |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                   |              |                           |                   |                            |                   |                       |                |                        |                |                                |                   |                               |                |                                     |          |          |             |                   |               |               |               |                              |  |  |  |  |  |  |  |                               |  |  |  |                               |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 50% of total cover: <u>55</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |               |               | 20% of total cover: <u>22</u>  |               |               |               |                                                                                                               |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |                   |               |               |               |                                |          |          |             |                                |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                   |              |                           |                   |                            |                   |                       |                |                        |                |                                |                   |                               |                |                                     |          |          |             |                   |               |               |               |                              |  |  |  |  |  |  |  |                               |  |  |  |                               |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>      </u> % of bare ground: <u>      </u><br>% Cover of Wetland Bryophytes <u>      </u> % Total Cover of Bryophytes <u>      </u> %<br>(where applicable)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |               |               |                                |               |               |               | <b>Hydrophytic Vegetation Present?</b><br>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |             |      |      |         |             |      |      |                      |           |          |             |                   |               |               |               |                         |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |                   |               |               |               |                                |          |          |             |                                |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                   |              |                           |                   |                            |                   |                       |                |                        |                |                                |                   |                               |                |                                     |          |          |             |                   |               |               |               |                              |  |  |  |  |  |  |  |                               |  |  |  |                               |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Remarks:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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           |           |          |             |                   |               |               |               |                        |               |               |               |                   |               |               |               |                     |               |               |               |                   |               |               |               |                             |               |               |               |                   |               |               |               |                                 |               |               |               |                              |               |               |               |                                                                                                                                                                                                                                                         |          |          |             |                   |               |               |               |                                |          |          |             |                                |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                   |              |                           |                   |                            |                   |                       |                |                        |                |                                |                   |                               |                |                                     |          |          |             |                   |               |               |               |                              |  |  |  |  |  |  |  |                               |  |  |  |                               |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |



## SOIL

Sampling Point #: 577

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | Texture  | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|----------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |          |                           |                                    |
| 0-1            | Oi                |               |     |                |    |                   |                  | org/lean | neg                       |                                    |
| 2-4            | Oe                |               |     |                |    |                   |                  | org/lean | neg                       |                                    |
| 4-6            | A                 | 5YR2.5/1      | 100 | —              | —  | —                 | —                | Sil      | neg                       |                                    |
| 6-10           | B                 | 7.5YR2.5/3    | 100 | —              | —  | —                 | —                | Sil      | neg                       |                                    |
| 10-14          | B                 | 2.5Y4/2       | 90  | 2.5YR3/6       | 10 | C                 | M, PL            | Sil      | neg                       |                                    |
| 14-20          | B                 | 2.5Y4/2       | 85  | 2.5YR3/6       | 10 | C                 | M, PL            | Sil      | neg                       |                                    |
|                |                   |               |     | 5YR5/8         | 5  | C                 | M, PL            | Sil      | neg                       |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☒ Histosol or Histel (A1)
- ☒ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☒ Black Histic (A3)
- ☒ Hydrogen Sulfide (A4) (within 12" of mineral surface; ☒ in this pit)
- ☒ Thick Dark Surface (A12)
- ☒ Alaska Gleyed (A13)
- ☒ Alaska Redox (A14)
- ☒ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☒ Alaska Color Change<sup>4</sup> (TA4)
- ☒ Alaska Alpine Swales (TA5)
- ☒ Alaska Redox with 2.5Y Hue
- ☒ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☒ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NA

Drainage Class: WD

Soil Map Unit Name:

Hydric Soil Present? Yes ☐ No ☒

## Comments:

1. moist but not freely saturated. Does not meet any hydric soil indicators. No primary hydrology
2. would also not meet test indicator AK Redox w/ 2.5Y HUE (problematic).
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☒ 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)

## Secondary Indicators (at least 2 are required)

- ☒ Water-Stained Leaves (B9)
- ☒ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☒ Salt Deposits (C5)
- ☒ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☒ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.) —

Water Table Present? Yes ☐ No ☒ Depth to water (in.) —

Seeping in at that depth but not yet filled? ☐

Saturation Present? Yes ☐ No ☒ Depth to sat. (in.) —

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Sn Access Borough/City: MSB Date: 9/23/2020  
 Applicant/Owner: ANDEA Sampling Point #: 579  
 Investigator(s): EC, CH Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61.582666 Long. 150.783417 ± ' NAD 83 Recorded on GPS #: \_\_\_\_\_ Marked on map? \_\_\_\_\_ Field Map #: \_\_\_\_\_  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: be slope Slope (%): 3 Aspect: \_\_\_\_\_  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: RFO1/SS1B  
 Photo nos./descriptions: NE SW 1/4 12 Camera #: \_\_\_\_\_ Veg Type (Viereck Level 4 or other): IB2  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☒ If no, explain. HGM type: SLOPE  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |          |                                                                                                                      |
|---------------------------------|-----------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No _____ | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No _____<br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No _____ |                                                                                                                      |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No _____ |                                                                                                                      |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                    |           |          |             |                      |           |          |             | Dominance Test worksheet:                                                                                     |                  |
|--------------------------------------------------------------------------------------------|-----------|----------|-------------|----------------------|-----------|----------|-------------|---------------------------------------------------------------------------------------------------------------|------------------|
| Species                                                                                    | Cov.%     | Dom?     | Ind.        | Species              | Cov.%     | Dom?     | Ind.        | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                  |
| 1. <u>Bet pag</u>                                                                          | <u>30</u> | <u>Y</u> | <u>FACW</u> | 5. _____             | _____     | _____    | _____       | <u>4</u>                                                                                                      | (A)              |
| 2. _____                                                                                   | _____     | _____    | _____       | 6. _____             | _____     | _____    | _____       | Total Number of Dominant Species Across All Strata:                                                           | <u>7</u> (B)     |
| 3. _____                                                                                   | _____     | _____    | _____       | 7. _____             | _____     | _____    | _____       | Percent of Dominant Species That are OBL, FACW, or FAC:                                                       | <u>57%</u> (A/B) |
| 4. _____                                                                                   | _____     | _____    | _____       | 8. _____             | _____     | _____    | _____       | Prevalence Index worksheet:                                                                                   |                  |
| Total Tree Cover: <u>30</u>                                                                |           |          |             |                      |           |          |             | Total % Cover of:                                                                                             |                  |
| 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>                                 |           |          |             |                      |           |          |             | Multiply by:                                                                                                  |                  |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                              |           |          |             |                      |           |          |             | OBL species _____ X1= _____                                                                                   |                  |
| Species                                                                                    | Abs.Cov.% | Dom?     | Ind.        | Species              | Abs.Cov.% | Dom?     | Ind.        | FACW species _____ X2= _____                                                                                  |                  |
| 1. <u>Oplo horr</u>                                                                        | <u>10</u> | <u>Y</u> | <u>FACW</u> | 7. <u>Ribes hnd</u>  | <u>7</u>  | <u>Y</u> | <u>FAC</u>  | FAC species <u>79</u> X3= <u>237</u>                                                                          |                  |
| 2. <u>Alnus ten</u>                                                                        | <u>10</u> | <u>Y</u> | <u>FAC</u>  | 8. <u>Morus fers</u> | <u>5</u>  | <u>-</u> | <u>FACW</u> | FACU species <u>183</u> X4= <u>382</u>                                                                        |                  |
| 3. <u>Vib edulis</u>                                                                       | <u>3</u>  | <u>-</u> | <u>FACW</u> | 9. _____             | _____     | _____    | _____       | UPL + NL species _____ X5= _____                                                                              |                  |
| 4. <u>Rubus ida</u>                                                                        | <u>5</u>  | <u>-</u> | <u>FACW</u> | 10. _____            | _____     | _____    | _____       | Column Totals: <u>162</u> (A) <u>569</u> (B)                                                                  |                  |
| 5. <u>Bet pag</u>                                                                          | <u>5</u>  | <u>-</u> | <u>FACW</u> | 11. _____            | _____     | _____    | _____       | Prevalence Index = B/A = <u>3.56</u>                                                                          |                  |
| 6. <u>Vacc alask</u>                                                                       | <u>3</u>  | <u>-</u> | <u>FAC</u>  | 12. _____            | _____     | _____    | _____       |                                                                                                               |                  |
| Total Sapling/Shrub Cover: <u>48</u>                                                       |           |          |             |                      |           |          |             |                                                                                                               |                  |
| 50% of total cover: <u>24</u> 20% of total cover: <u>9.6</u>                               |           |          |             |                      |           |          |             |                                                                                                               |                  |
| Herb Stratum                                                                               |           |          |             |                      |           |          |             | Hydrophytic Vegetation Indicators:                                                                            |                  |
| Species                                                                                    | Abs.Cov.% | Dom?     | Ind.        | Species              | Abs.Cov.% | Dom?     | Ind.        | <u>Y</u> Dominance Test is >50%                                                                               |                  |
| 1. <u>Cal can</u>                                                                          | <u>20</u> | <u>Y</u> | <u>FAC</u>  | 12. _____            | _____     | _____    | _____       | <u>-</u> Prevalence Index is ≤3.0                                                                             |                  |
| 2. <u>Dry gladiol</u>                                                                      | <u>25</u> | <u>Y</u> | <u>FACW</u> | 13. _____            | _____     | _____    | _____       | <u>-</u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)   |                  |
| 3. <u>Mny fol fern</u>                                                                     | <u>20</u> | <u>Y</u> | <u>FAC</u>  | 14. _____            | _____     | _____    | _____       | <u>-</u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                            |                  |
| 4. <u>Equis arif</u>                                                                       | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 15. _____            | _____     | _____    | _____       | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                  |
| 5. <u>Gal trifl</u>                                                                        | <u>2</u>  | <u>-</u> | <u>FAC</u>  | 16. _____            | _____     | _____    | _____       |                                                                                                               |                  |
| 6. <u>Equis sulv</u>                                                                       | <u>2</u>  | <u>-</u> | <u>FAC</u>  | 17. _____            | _____     | _____    | _____       |                                                                                                               |                  |
| 7. _____                                                                                   | _____     | _____    | _____       | 18. _____            | _____     | _____    | _____       |                                                                                                               |                  |
| 8. _____                                                                                   | _____     | _____    | _____       | 19. _____            | _____     | _____    | _____       |                                                                                                               |                  |
| 9. _____                                                                                   | _____     | _____    | _____       | 20. _____            | _____     | _____    | _____       |                                                                                                               |                  |
| 10. _____                                                                                  | _____     | _____    | _____       | 21. _____            | _____     | _____    | _____       |                                                                                                               |                  |
| 11. _____                                                                                  | _____     | _____    | _____       | 22. _____            | _____     | _____    | _____       |                                                                                                               |                  |
| Total Herb Cover: <u>84</u>                                                                |           |          |             |                      |           |          |             | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____                              |                  |
| 50% of total cover: <u>42</u> 20% of total cover: <u>16.8</u>                              |           |          |             |                      |           |          |             |                                                                                                               |                  |
| Circular 1/10-ac plot _____ or other plot dimension: _____ % of bare ground: _____         |           |          |             |                      |           |          |             |                                                                                                               |                  |
| % Cover of Wetland Bryophytes _____ % Total Cover of Bryophytes _____ % (where applicable) |           |          |             |                      |           |          |             |                                                                                                               |                  |
| Remarks: <u>transitional boundary</u>                                                      |           |          |             |                      |           |          |             |                                                                                                               |                  |



## SOIL

Sampling Point #: 579

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |                                    |
| 0-2            | 0i                |               |     |                |    |                   |                  |                           |                                    |
| 2.5-13         | A/B               | 10YR 4/2      | 85  | 5YR 3/4        | 10 | C                 | 4PLM             | S/L                       | neg                                |
|                |                   |               |     | 5YR 4/6        | 5  | C                 | 4PLM             | S/L                       | neg                                |
| 13-15          | B                 | 10YR 3/2      | 100 |                |    |                   |                  | S/L                       | neg                                |
| 15-18          | B                 | 6YR 3/3       | 100 |                |    |                   |                  | S/L                       | neg                                |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |
|                |                   |               |     |                |    |                   |                  |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; ☒ " in this pit)
- ☐ Thick Dark Surface (A12)
- ☒ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☒ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NR

Drainage Class: SPD

Soil Map Unit Name:

Hydric Soil Present?

Yes ☒No ☐

## Comments:

1. meets F3 test indicator + pit/area has primary hydrology, + hydrophytic veg community
2. TEST INDICATOR
3. TEST INDICATOR

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos. α,α or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

- Surface Water Present? Yes ☐ No ☒ Depth of water (in.) 1
- Water Table Present? Yes ☒ No ☐ Depth to water (in.) 12
- Seeping in at that depth but not yet filled? 1
- Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 8
- (includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present?

Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



# WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST SN ACCESS Borough/City: MSB Date: 9/29/2020  
 Applicant/Owner: AIDEA Sampling Point #: 583  
 Investigator(s): ELCH Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61.485403 Long. 150.228911 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:       
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Footslope Slope (%): 6 Aspect: E  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: 7  
 Photo nos./descriptions: Soil x2, NESW Camera #: YMD Veg Type (Vioreck Level 4 or other): IB3a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                                        |                                                                                                           |
|---------------------------------|-----------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Hydric Soil Present?            | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                           |
| Wetland Hydrology Present?      | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                           |
| Remarks (e.g., marginal?):      |                                         |                                        |                                                                                                           |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total >100%.

| <b>Tree Stratum (dbh ≥ 3")</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Cov.%</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Cov.%</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Bet pop</u></td> <td><u>10</u></td> <td><u>Y</u></td> <td><u>FACU</u></td> <td>5. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>2. <u>Picea mar</u></td> <td><u>3</u></td> <td><u>Y</u></td> <td><u>FACU</u></td> <td>6. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>3. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> <td>7. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>4. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> <td>8. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> </tbody> </table> <p>Total Tree Cover: <u>13</u><br/>         50% of total cover: <u>6.5</u> 20% of total cover: <u>2.6</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |             |                            |                |             |             |             | Species                                                                                                       | Cov.% | Dom? | Ind.      | Species | Cov.% | Dom?                | Ind.      | 1. <u>Bet pop</u> | <u>10</u>             | <u>Y</u>    | <u>FACU</u> | 5. <u>    </u>       | <u>    </u> | <u>    </u> | <u>    </u>             | 2. <u>Picea mar</u> | <u>3</u>    | <u>Y</u>               | <u>FACU</u> | 6. <u>    </u> | <u>    </u>                | <u>    </u> | <u>    </u> | 3. <u>    </u>     | <u>    </u> | <u>    </u> | <u>    </u>     | 7. <u>    </u> | <u>    </u> | <u>    </u>           | <u>    </u> | 4. <u>    </u> | <u>    </u>     | <u>    </u> | <u>    </u> | 8. <u>    </u>       | <u>    </u> | <u>    </u> | <u>    </u>     | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>7</u> (B)<br>Percent of Dominant Species That are OBL, FACW, or FAC: <u>57</u> (A/B) |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|----------------------------|----------------|-------------|-------------|-------------|---------------------------------------------------------------------------------------------------------------|-------|------|-----------|---------|-------|---------------------|-----------|-------------------|-----------------------|-------------|-------------|----------------------|-------------|-------------|-------------------------|---------------------|-------------|------------------------|-------------|----------------|----------------------------|-------------|-------------|--------------------|-------------|-------------|-----------------|----------------|-------------|-----------------------|-------------|----------------|-----------------|-------------|-------------|----------------------|-------------|-------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-----------------|-------------------|--------------|-------------------------|-----------------|-----------------------|-----------------|-----------------------|----------------|------------------------|----------------|------------------------------|-----------------|-------------------------------|----------------|-----------------|-------------|-------------|-----------------|-------------|-------------|-----------------|-------------|-------------|-----------------|-------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cov.%           | Dom?        | Ind.                       | Species        | Cov.%       | Dom?        | Ind.        |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 1. <u>Bet pop</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <u>10</u>       | <u>Y</u>    | <u>FACU</u>                | 5. <u>    </u> | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 2. <u>Picea mar</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>3</u>        | <u>Y</u>    | <u>FACU</u>                | 6. <u>    </u> | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 3. <u>    </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <u>    </u>     | <u>    </u> | <u>    </u>                | 7. <u>    </u> | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 4. <u>    </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <u>    </u>     | <u>    </u> | <u>    </u>                | 8. <u>    </u> | <u>    </u> | <u>    </u> | <u>    </u> |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| <b>Sapling/Shrub Stratum (woody plants &lt; 3" dbh)</b><br><table border="1"> <thead> <tr> <th>Abs.Cov.%</th> <th>Dom?</th> <th>Ind.</th> <th>Abs.Cov.%</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Picea mar</u></td> <td><u>5</u></td> <td><u>Y</u></td> <td>7. <u>Picea gland</u></td> <td><u>5</u></td> <td><u>Y</u></td> </tr> <tr> <td>2. <u>Rubus idae</u></td> <td><u>3</u></td> <td><u>-</u></td> <td>8. <u>Rubus pedatus</u></td> <td><u>7</u></td> <td><u>Y</u></td> </tr> <tr> <td>3. <u>Rosa acut</u></td> <td><u>3</u></td> <td><u>-</u></td> <td>9. <u>(moved to herbs)</u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>4. <u>Lyc anno</u></td> <td><u>10</u></td> <td><u>Y</u></td> <td>10. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>5. <u>Linn boreal</u></td> <td><u>2</u></td> <td><u>-</u></td> <td>11. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>6. <u>Vacc vit</u></td> <td><u>3</u></td> <td><u>-</u></td> <td>12. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> </tbody> </table> <p>Total Sapling/Shrub Cover: <u>31</u><br/>         50% of total cover: <u>15.5</u> 20% of total cover: <u>7.6.2</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |             |                            |                |             |             |             | Abs.Cov.%                                                                                                     | Dom?  | Ind. | Abs.Cov.% | Dom?    | Ind.  | 1. <u>Picea mar</u> | <u>5</u>  | <u>Y</u>          | 7. <u>Picea gland</u> | <u>5</u>    | <u>Y</u>    | 2. <u>Rubus idae</u> | <u>3</u>    | <u>-</u>    | 8. <u>Rubus pedatus</u> | <u>7</u>            | <u>Y</u>    | 3. <u>Rosa acut</u>    | <u>3</u>    | <u>-</u>       | 9. <u>(moved to herbs)</u> | <u>    </u> | <u>    </u> | 4. <u>Lyc anno</u> | <u>10</u>   | <u>Y</u>    | 10. <u>    </u> | <u>    </u>    | <u>    </u> | 5. <u>Linn boreal</u> | <u>2</u>    | <u>-</u>       | 11. <u>    </u> | <u>    </u> | <u>    </u> | 6. <u>Vacc vit</u>   | <u>3</u>    | <u>-</u>    | 12. <u>    </u> | <u>    </u>                                                                                                                                                                                                                                            | <u>    </u> | <b>Prevalence Index worksheet:</b><br><table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>    </u></td> <td>X1= <u>    </u></td> </tr> <tr> <td>FACW species <u>8</u></td> <td>X2= <u>16</u></td> </tr> <tr> <td>FAC species <u>85</u></td> <td>X3= <u>265</u></td> </tr> <tr> <td>FACU species <u>53</u></td> <td>X4= <u>212</u></td> </tr> <tr> <td>UPL + NL species <u>    </u></td> <td>X5= <u>    </u></td> </tr> <tr> <td>Column Totals: <u>146</u> (A)</td> <td><u>483</u> (B)</td> </tr> </tbody> </table> <p>Prevalence Index = B/A = <u>3.3</u></p> |          |          |                 | Total % Cover of: | Multiply by: | OBL species <u>    </u> | X1= <u>    </u> | FACW species <u>8</u> | X2= <u>16</u>   | FAC species <u>85</u> | X3= <u>265</u> | FACU species <u>53</u> | X4= <u>212</u> | UPL + NL species <u>    </u> | X5= <u>    </u> | Column Totals: <u>146</u> (A) | <u>483</u> (B) |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| Abs.Cov.%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Dom?            | Ind.        | Abs.Cov.%                  | Dom?           | Ind.        |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 1. <u>Picea mar</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>5</u>        | <u>Y</u>    | 7. <u>Picea gland</u>      | <u>5</u>       | <u>Y</u>    |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 2. <u>Rubus idae</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>3</u>        | <u>-</u>    | 8. <u>Rubus pedatus</u>    | <u>7</u>       | <u>Y</u>    |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 3. <u>Rosa acut</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>3</u>        | <u>-</u>    | 9. <u>(moved to herbs)</u> | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 4. <u>Lyc anno</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <u>10</u>       | <u>Y</u>    | 10. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 5. <u>Linn boreal</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <u>2</u>        | <u>-</u>    | 11. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 6. <u>Vacc vit</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <u>3</u>        | <u>-</u>    | 12. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| Total % Cover of:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Multiply by:    |             |                            |                |             |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| OBL species <u>    </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | X1= <u>    </u> |             |                            |                |             |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| FACW species <u>8</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X2= <u>16</u>   |             |                            |                |             |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| FAC species <u>85</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X3= <u>265</u>  |             |                            |                |             |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| FACU species <u>53</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | X4= <u>212</u>  |             |                            |                |             |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| UPL + NL species <u>    </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | X5= <u>    </u> |             |                            |                |             |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| Column Totals: <u>146</u> (A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>483</u> (B)  |             |                            |                |             |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| <b>Herb Stratum</b><br><table border="1"> <thead> <tr> <th>Abs.Cov.%</th> <th>Dom?</th> <th>Ind.</th> <th>Abs.Cov.%</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Cal can</u></td> <td><u>40</u></td> <td><u>Y</u></td> <td>12. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>2. <u>Dry del</u></td> <td><u>20</u></td> <td><u>Y</u></td> <td>13. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>3. <u>Amey fol fan</u></td> <td><u>15</u></td> <td><u>-</u></td> <td>14. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>4. <u>Equis ar</u></td> <td><u>10</u></td> <td><u>-</u></td> <td>15. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>5. <u>Cornus can</u></td> <td><u>5</u></td> <td><u>-</u></td> <td>16. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>6. <u>Corone sue</u></td> <td><u>5</u></td> <td><u>-</u></td> <td>17. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>7. <u>Rubus ped</u></td> <td><u>7</u></td> <td><u>-</u></td> <td>18. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>8. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> <td>19. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>9. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> <td>20. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>10. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> <td>21. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> <tr> <td>11. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> <td>22. <u>    </u></td> <td><u>    </u></td> <td><u>    </u></td> </tr> </tbody> </table> <p>Total Herb Cover: <u>102</u><br/>         50% of total cover: <u>51</u> 20% of total cover: <u>20.4</u></p> |                 |             |                            |                |             |             |             | Abs.Cov.%                                                                                                     | Dom?  | Ind. | Abs.Cov.% | Dom?    | Ind.  | 1. <u>Cal can</u>   | <u>40</u> | <u>Y</u>          | 12. <u>    </u>       | <u>    </u> | <u>    </u> | 2. <u>Dry del</u>    | <u>20</u>   | <u>Y</u>    | 13. <u>    </u>         | <u>    </u>         | <u>    </u> | 3. <u>Amey fol fan</u> | <u>15</u>   | <u>-</u>       | 14. <u>    </u>            | <u>    </u> | <u>    </u> | 4. <u>Equis ar</u> | <u>10</u>   | <u>-</u>    | 15. <u>    </u> | <u>    </u>    | <u>    </u> | 5. <u>Cornus can</u>  | <u>5</u>    | <u>-</u>       | 16. <u>    </u> | <u>    </u> | <u>    </u> | 6. <u>Corone sue</u> | <u>5</u>    | <u>-</u>    | 17. <u>    </u> | <u>    </u>                                                                                                                                                                                                                                            | <u>    </u> | 7. <u>Rubus ped</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <u>7</u> | <u>-</u> | 18. <u>    </u> | <u>    </u>       | <u>    </u>  | 8. <u>    </u>          | <u>    </u>     | <u>    </u>           | 19. <u>    </u> | <u>    </u>           | <u>    </u>    | 9. <u>    </u>         | <u>    </u>    | <u>    </u>                  | 20. <u>    </u> | <u>    </u>                   | <u>    </u>    | 10. <u>    </u> | <u>    </u> | <u>    </u> | 21. <u>    </u> | <u>    </u> | <u>    </u> | 11. <u>    </u> | <u>    </u> | <u>    </u> | 22. <u>    </u> | <u>    </u> | <u>    </u> | <b>Hydrophytic Vegetation Indicators:</b><br><u>Y</u> Dominance Test is >50%<br><u>    </u> Prevalence Index is ≤3.0<br><u>    </u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |  |  |  |
| Abs.Cov.%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Dom?            | Ind.        | Abs.Cov.%                  | Dom?           | Ind.        |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 1. <u>Cal can</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <u>40</u>       | <u>Y</u>    | 12. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 2. <u>Dry del</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <u>20</u>       | <u>Y</u>    | 13. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 3. <u>Amey fol fan</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <u>15</u>       | <u>-</u>    | 14. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 4. <u>Equis ar</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <u>10</u>       | <u>-</u>    | 15. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 5. <u>Cornus can</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>5</u>        | <u>-</u>    | 16. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 6. <u>Corone sue</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>5</u>        | <u>-</u>    | 17. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 7. <u>Rubus ped</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>7</u>        | <u>-</u>    | 18. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 8. <u>    </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <u>    </u>     | <u>    </u> | 19. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 9. <u>    </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <u>    </u>     | <u>    </u> | 20. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 10. <u>    </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <u>    </u>     | <u>    </u> | 21. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| 11. <u>    </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <u>    </u>     | <u>    </u> | 22. <u>    </u>            | <u>    </u>    | <u>    </u> |             |             |                                                                                                               |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
| Circular 1/10-ac plot <u>    </u> or other plot dimension: <u>    </u> % of bare ground: <u>    </u><br>% Cover of Wetland Bryophytes <u>    </u> % Total Cover of Bryophytes <u>10</u> %<br>(where applicable)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |             |                            |                |             |             |             | <b>Hydrophytic Vegetation Present?</b><br>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |       |      |           |         |       |                     |           |                   |                       |             |             |                      |             |             |                         |                     |             |                        |             |                |                            |             |             |                    |             |             |                 |                |             |                       |             |                |                 |             |             |                      |             |             |                 |                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                 |                   |              |                         |                 |                       |                 |                       |                |                        |                |                              |                 |                               |                |                 |             |             |                 |             |             |                 |             |             |                 |             |             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |

Remarks:  
 most of the spruce trees in this area are dead.



## SOIL

Sampling Point #: 583

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |   |                   |                  | α,α dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |                                    |
| 0-2            | OC                | 5.YR 2.5/1    |     | —              | — | —                 | —                | arg                       | neg                                |
| 2-3            | E                 | 5Y 6/1        | 100 | —              | — | —                 | —                | LSi                       | neg                                |
| 3-5            | B <sub>1</sub>    | 7.5YR 2.5/1   | 100 | —              | — | —                 | —                | Sil                       | neg                                |
| 5-7            | B <sub>2</sub>    | 5YR 3/3       | 100 | —              | — | —                 | —                | Sil                       | neg                                |
| 7-14           | B <sub>3</sub>    | 10YR 4/3      | 100 | —              | — | —                 | —                | Sil                       | neg                                |
| 14-17          | B <sub>4</sub>    | 2.5Y 4/4      | 100 | —              | — | —                 | —                | Sil                       | neg                                |
| 17-22.5        | B <sub>5</sub>    | 5Y 5/2        | 100 | —              | — | —                 | —                | Sil                       | neg                                |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface;  $\odot$  " in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NA

Drainage Class: WD

Soil Map Unit Name:

Hydric Soil Present?

Yes

No ☒

Comments:

1. moist but not saturated.
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☐ Saturation (A3) (w/in 12")
- ☐ 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)

Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos. α,α or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

- Surface Water Present? Yes ☐ No ☒ Depth of water (in.) ☐
- Water Table Present? Yes ☐ No ☒ Depth to water (in.) ☐
- Seeping in at that depth but not yet filled? ☐
- Saturation Present? Yes ☐ No ☒ Depth to sat. (in.) ☐
- (includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present?

Yes

No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST SU ACCESSBorough/City: MSBDate: 9/29/2020Applicant/Owner: HDRSampling Point #: 584Investigator(s): ECN

Firm: HDR Alaska, Inc.

Lat. (dec.) 61.485393 Long. 150.228499 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: top of slope Slope (%): 3 Aspect: ELocal relief: Shape across slope: linear convex / concave Shape up/downslope: linear / convex / concave NWI classification: PF04/S1BPhoto nos./descriptions: SOIL x 2, NESW Camera #: ☒ Veg Type (Viereck Level 4 or other): IA20Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: SlopeAre Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

IC2 BLACK SPRUCE GREEN

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                                                         |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| <b>Tree Stratum (dbh ≥ 3")</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Cov. %</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Cov. %</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Picea mar</u></td> <td><u>30</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>5. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>2. <u>Bot pap</u></td> <td><u>15</u></td> <td><u>Y</u></td> <td><u>FACU</u></td> <td>6. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>3. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>7. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>4. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>8. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table> <p>Total Tree Cover: <u>45</u></p> <p>50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |          |             |           |             |       |       | Species                                                                                             | Cov. %      | Dom? | Ind. | Species | Cov. %      | Dom? | Ind. | 1. <u>Picea mar</u> | <u>30</u> | <u>Y</u> | <u>FACW</u> | 5. _____  | _____ | _____ | _____ | 2. <u>Bot pap</u>   | <u>15</u> | <u>Y</u> | <u>FACU</u> | 6. _____  | _____ | _____ | _____ | 3. _____          | _____     | _____    | _____       | 7. _____  | _____ | _____ | _____ | 4. _____          | _____    | _____    | _____       | 8. _____  | _____ | _____ | _____ | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That are OBL, FACW, or FAC: <u>6</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>7</u> (B)<br>Percent of Dominant Species That are OBL, FACW, or FAC: <u>85.7</u> (A/B) |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
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| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Cov. %         | Dom?     | Ind.        | Species   | Cov. %      | Dom?  | Ind.  |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 1. <u>Picea mar</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>30</u>      | <u>Y</u> | <u>FACW</u> | 5. _____  | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 2. <u>Bot pap</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>15</u>      | <u>Y</u> | <u>FACU</u> | 6. _____  | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 3. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | _____          | _____    | _____       | 7. _____  | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 4. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | _____          | _____    | _____       | 8. _____  | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| <b>Sapling/Shrub Stratum (woody plants &lt; 3" dbh)</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Picea mar</u></td> <td><u>10</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>7. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>2. <u>Vac vit</u></td> <td><u>5</u></td> <td><u>-</u></td> <td><u>FAC</u></td> <td>8. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>3. <u>Rub ped</u></td> <td><u>15</u></td> <td><u>Y</u></td> <td><u>FACU</u></td> <td>9. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>4. <u>V. vit</u></td> <td><u>2</u></td> <td><u>-</u></td> <td><u>FACU</u></td> <td>10. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>5. <u>Lin bor</u></td> <td><u>10</u></td> <td><u>Y</u></td> <td><u>FACU</u></td> <td>11. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>6. <u>Spic bean</u></td> <td><u>10</u></td> <td><u>Y</u></td> <td><u>FACU</u></td> <td>12. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table> <p>Total Sapling/Shrub Cover: <u>27</u></p> <p>50% of total cover: <u>13.5</u> 20% of total cover: <u>5.4</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                |          |             |           |             |       |       | Species                                                                                             | Abs. Cov. % | Dom? | Ind. | Species | Abs. Cov. % | Dom? | Ind. | 1. <u>Picea mar</u> | <u>10</u> | <u>Y</u> | <u>FACW</u> | 7. _____  | _____ | _____ | _____ | 2. <u>Vac vit</u>   | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 8. _____  | _____ | _____ | _____ | 3. <u>Rub ped</u> | <u>15</u> | <u>Y</u> | <u>FACU</u> | 9. _____  | _____ | _____ | _____ | 4. <u>V. vit</u>  | <u>2</u> | <u>-</u> | <u>FACU</u> | 10. _____ | _____ | _____ | _____ | 5. <u>Lin bor</u>                                                                                                                                                                                                                                        | <u>10</u> | <u>Y</u> | <u>FACU</u> | 11. _____ | _____ | _____ | _____ | 6. <u>Spic bean</u> | <u>10</u> | <u>Y</u> | <u>FACU</u> | 12. _____ | _____ | _____ | _____ | <b>Prevalence Index worksheet:</b><br><table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species _____</td> <td>X1= _____</td> </tr> <tr> <td>FACW species <u>40</u></td> <td>X2= <u>80</u></td> </tr> <tr> <td>FAC species <u>45</u></td> <td>X3= <u>135</u></td> </tr> <tr> <td>FACU species <u>32</u></td> <td>X4= <u>128</u></td> </tr> <tr> <td>UPL + NL species _____</td> <td>X5= _____</td> </tr> <tr> <td>Column Totals: <u>147</u> (A)</td> <td><u>348</u> (B)</td> </tr> </tbody> </table> <p>Prevalence Index = B/A = <u>2.9</u></p> |       | Total % Cover of: | Multiply by: | OBL species _____ | X1= _____ | FACW species <u>40</u> | X2= <u>80</u> | FAC species <u>45</u> | X3= <u>135</u> | FACU species <u>32</u> | X4= <u>128</u> | UPL + NL species _____ | X5= _____ | Column Totals: <u>147</u> (A) | <u>348</u> (B) |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Abs. Cov. %    | Dom?     | Ind.        | Species   | Abs. Cov. % | Dom?  | Ind.  |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 1. <u>Picea mar</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>10</u>      | <u>Y</u> | <u>FACW</u> | 7. _____  | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 2. <u>Vac vit</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>5</u>       | <u>-</u> | <u>FAC</u>  | 8. _____  | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 3. <u>Rub ped</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>15</u>      | <u>Y</u> | <u>FACU</u> | 9. _____  | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 4. <u>V. vit</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <u>2</u>       | <u>-</u> | <u>FACU</u> | 10. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 5. <u>Lin bor</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>10</u>      | <u>Y</u> | <u>FACU</u> | 11. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 6. <u>Spic bean</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>10</u>      | <u>Y</u> | <u>FACU</u> | 12. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Total % Cover of:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Multiply by:   |          |             |           |             |       |       |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| OBL species _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | X1= _____      |          |             |           |             |       |       |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| FACW species <u>40</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | X2= <u>80</u>  |          |             |           |             |       |       |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| FAC species <u>45</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | X3= <u>135</u> |          |             |           |             |       |       |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| FACU species <u>32</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | X4= <u>128</u> |          |             |           |             |       |       |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| UPL + NL species _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | X5= _____      |          |             |           |             |       |       |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Column Totals: <u>147</u> (A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>348</u> (B) |          |             |           |             |       |       |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| <b>Herb Stratum</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Fern an</u></td> <td><u>15</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>12. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>2. <u>Carex can</u></td> <td><u>2</u></td> <td><u>-</u></td> <td><u>FACU</u></td> <td>13. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>3. <u>Cal can</u></td> <td><u>10</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>14. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>4. <u>Dry exp</u></td> <td><u>3</u></td> <td><u>-</u></td> <td><u>FACU</u></td> <td>15. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>5. <u>Rub ped</u></td> <td><u>15</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>16. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>6. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>17. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>7. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>18. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>8. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>19. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>9. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>20. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>10. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>21. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>11. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>22. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table> <p>Total Herb Cover: <u>45</u></p> <p>50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u></p> |                |          |             |           |             |       |       | Species                                                                                             | Abs. Cov. % | Dom? | Ind. | Species | Abs. Cov. % | Dom? | Ind. | 1. <u>Fern an</u>   | <u>15</u> | <u>Y</u> | <u>FAC</u>  | 12. _____ | _____ | _____ | _____ | 2. <u>Carex can</u> | <u>2</u>  | <u>-</u> | <u>FACU</u> | 13. _____ | _____ | _____ | _____ | 3. <u>Cal can</u> | <u>10</u> | <u>Y</u> | <u>FAC</u>  | 14. _____ | _____ | _____ | _____ | 4. <u>Dry exp</u> | <u>3</u> | <u>-</u> | <u>FACU</u> | 15. _____ | _____ | _____ | _____ | 5. <u>Rub ped</u>                                                                                                                                                                                                                                        | <u>15</u> | <u>Y</u> | <u>FAC</u>  | 16. _____ | _____ | _____ | _____ | 6. _____            | _____     | _____    | _____       | 17. _____ | _____ | _____ | _____ | 7. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | _____ | _____             | _____        | 18. _____         | _____     | _____                  | _____         | 8. _____              | _____          | _____                  | _____          | 19. _____              | _____     | _____                         | _____          | 9. _____ | _____ | _____ | _____ | 20. _____ | _____ | _____ | _____ | 10. _____ | _____ | _____ | _____ | 21. _____ | _____ | _____ | _____ | 11. _____ | _____ | _____ | _____ | 22. _____ | _____ | _____ | _____ | <b>Hydrophytic Vegetation Indicators:</b><br>Y Dominance Test is >50%<br>Y Prevalence Index is ≤3.0<br>_____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |  |
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Abs. Cov. %    | Dom?     | Ind.        | Species   | Abs. Cov. % | Dom?  | Ind.  |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 1. <u>Fern an</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>15</u>      | <u>Y</u> | <u>FAC</u>  | 12. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 2. <u>Carex can</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <u>2</u>       | <u>-</u> | <u>FACU</u> | 13. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 3. <u>Cal can</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>10</u>      | <u>Y</u> | <u>FAC</u>  | 14. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 4. <u>Dry exp</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>3</u>       | <u>-</u> | <u>FACU</u> | 15. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 5. <u>Rub ped</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>15</u>      | <u>Y</u> | <u>FAC</u>  | 16. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 6. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | _____          | _____    | _____       | 17. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 7. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | _____          | _____    | _____       | 18. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 8. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | _____          | _____    | _____       | 19. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 9. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | _____          | _____    | _____       | 20. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 10. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | _____          | _____    | _____       | 21. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 11. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | _____          | _____    | _____       | 22. _____ | _____       | _____ | _____ |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: _____ % of bare ground: _____<br>% Cover of Wetland Bryophytes <u>15</u> % Total Cover of Bryophytes <u>40</u> %<br>(where applicable)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |          |             |           |             |       |       | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Remarks:<br><u>Note: IC2[a] - does not reflect presence of Black spruce.</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                |          |             |           |             |       |       |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                   |           |          |             |           |       |       |       |                   |          |          |             |           |       |       |       |                                                                                                                                                                                                                                                          |           |          |             |           |       |       |       |                     |           |          |             |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |                   |              |                   |           |                        |               |                       |                |                        |                |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                     |  |



## SOIL

Sampling Point #: 584

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |   |                   |                  | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                           |                                    |
| 0-2            | 0i                | 7.5YR 2.5/1   |     |                |   |                   |                  | neg                       |                                    |
| 2-16           | AB                | 2.5Y 4/2      | 60  | 5YR 4/4        | 2 | C                 |                  | pos                       | mixed matrix                       |
|                |                   | 7.5YR 3/1     | 30  |                | 2 |                   |                  |                           | w/ lots of organics                |
| 16-21          | B                 | 7.5YR 3/2     | 100 | —              | — | —                 | —                |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; ☒ in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☒ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder
- ☐ Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

## Restrictive Layer (if present)

Type: NONEDepth (inches) NADrainage Class: SPD

Soil Map Unit Name:

Hydric Soil Present?

Yes ☒No ☐

## Comments:

1. soils meet F3 - depleted matrix
2. ~~soils meet F3 - depleted matrix~~
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☐ 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)

Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2) top of slope
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☒ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☒ No ☐ Depth of water (in.) 1

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 14

Seeping in at that depth but not yet filled?: 10

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 4

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present?

Yes ☒No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

## Remarks:

standing water in microlows - could be from rain potentially; more standing water closer to forest edge.



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST 54 Borough/City: MSB Date: 9/29/2020  
 Applicant/Owner: ANDEA Sampling Point #: 585  
 Investigator(s): EC, CH Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.485625 Long. 150.221675 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:         
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Rollslope Slope (%): 3 Aspect: W  
 Local relief: Shape across slope: linear convex / concave Shape up/downslope: linear convex / concave NWI classification: PF04/ss3B  
 Photo nos./descriptions: SOIL #2, N56W Camera #:        Veg Type (Vioreck Level 4 or other): IA2P  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: slope  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                             |                                                                                                           |                            |
|---------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                           |                            |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |                                                                                                           |                            |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                          |               |               |               |                     |               |               |               | Dominance Test worksheet:                                                                           |             |       |  |
|----------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------------|---------------|---------------|---------------|-----------------------------------------------------------------------------------------------------|-------------|-------|--|
| Species                                                                                                                          | Cov.%         | Dom?          | Ind.          | Species             | Cov.%         | Dom?          | Ind.          | Number of Dominant Species That are OBL, FACW, or FAC:                                              |             |       |  |
| 1. <u>Picea mar</u>                                                                                                              | <u>35</u>     | <u>Y</u>      | <u>FACW</u>   | 5. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> | <u>5</u>                                                                                            | (A)         |       |  |
| 2. <u>Bet pap</u>                                                                                                                | <u>5</u>      | <u>-</u>      | <u>FACW</u>   | 6. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> | Total Number of Dominant Species Across All Strata:                                                 | <u>5</u>    | (B)   |  |
| 3. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 7. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> | Percent of Dominant Species That are OBL, FACW, or FAC:                                             | <u>100%</u> | (A/B) |  |
| 4. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 8. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> | Prevalence Index worksheet:                                                                         |             |       |  |
| Total Tree Cover: <u>40</u>                                                                                                      |               |               |               |                     |               |               |               | Total % Cover of:                                                                                   |             |       |  |
| 50% of total cover: <u>20</u> 20% of total cover: <u>8</u>                                                                       |               |               |               |                     |               |               |               | Multiply by:                                                                                        |             |       |  |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                    |               |               |               |                     |               |               |               | OBL species <u>      </u> X1= <u>      </u>                                                         |             |       |  |
| Species                                                                                                                          | Abs.Cov.%     | Dom?          | Ind.          | Species             | Abs.Cov.%     | Dom?          | Ind.          | FACW species <u>47</u> X2= <u>94</u>                                                                |             |       |  |
| 1. <u>Vacc vit</u>                                                                                                               | <u>12</u>     | <u>Y</u>      | <u>FAC</u>    | 7. <u>Ros aca</u>   | <u>1</u>      | <u>-</u>      | <u>FACW</u>   | FAC species <u>50</u> X3= <u>150</u>                                                                |             |       |  |
| 2. <u>Emp nig</u>                                                                                                                | <u>8</u>      | <u>Y</u>      | <u>FAC</u>    | 8. <u>Vacc vit</u>  | <u>2</u>      | <u>-</u>      | <u>FAC</u>    | FACU species <u>28</u> X4= <u>112</u>                                                               |             |       |  |
| 3. <u>Linn bor</u>                                                                                                               | <u>5</u>      | <u>-</u>      | <u>FACW</u>   | 9. <u>Picea mar</u> | <u>12</u>     | <u>Y</u>      | <u>FACW</u>   | UPL + NL species <u>      </u> X5= <u>      </u>                                                    |             |       |  |
| 4. <u>Rhe glaz</u>                                                                                                               | <u>3</u>      | <u>-</u>      | <u>FAC</u>    | 10. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | Column Totals: <u>125</u> (A) <u>356</u> (B)                                                        |             |       |  |
| 5. <u>Rubus ped</u>                                                                                                              | <u>3</u>      | <u>-</u>      | <u>      </u> | 11. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | Prevalence Index = B/A = <u>2.8</u>                                                                 |             |       |  |
| 6. <u>Spir beau</u>                                                                                                              | <u>7</u>      | <u>-</u>      | <u>FACW</u>   | 12. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |       |  |
| Total Sapling/Shrub Cover: <u>50</u>                                                                                             |               |               |               |                     |               |               |               |                                                                                                     |             |       |  |
| 50% of total cover: <u>25.5</u> 20% of total cover: <u>10.6</u>                                                                  |               |               |               |                     |               |               |               |                                                                                                     |             |       |  |
| Herb Stratum                                                                                                                     |               |               |               |                     |               |               |               | Hydrophytic Vegetation Indicators:                                                                  |             |       |  |
| Species                                                                                                                          | Abs.Cov.%     | Dom?          | Ind.          | Species             | Abs.Cov.%     | Dom?          | Ind.          | Y Dominance Test is >50%                                                                            |             |       |  |
| 1. <u>Equis arv</u>                                                                                                              | <u>20</u>     | <u>Y</u>      | <u>FAC</u>    | 12. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | Y Prevalence Index is ≤3.0                                                                          |             |       |  |
| 2. <u>Cornus can</u>                                                                                                             | <u>3</u>      | <u>-</u>      | <u>FACW</u>   | 13. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  |             |       |  |
| 3. <u>Geo liv</u>                                                                                                                | <u>5</u>      | <u>-</u>      | <u>FACW</u>   | 14. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                           |             |       |  |
| 4. <u>Cal can</u>                                                                                                                | <u>2</u>      | <u>-</u>      | <u>FAC</u>    | 15. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |       |  |
| 5. <u>Dry exp</u>                                                                                                                | <u>1</u>      | <u>-</u>      | <u>FACW</u>   | 16. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |       |  |
| 6. <u>Chen arg</u>                                                                                                               | <u>1</u>      | <u>-</u>      | <u>FACW</u>   | 17. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |       |  |
| 7. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 18. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |       |  |
| 8. <u>Rubus ped</u>                                                                                                              | <u>3</u>      | <u>-</u>      | <u>FAC</u>    | 19. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |       |  |
| 9. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 20. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |       |  |
| 10. <u>      </u>                                                                                                                | <u>      </u> | <u>      </u> | <u>      </u> | 21. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |       |  |
| 11. <u>      </u>                                                                                                                | <u>      </u> | <u>      </u> | <u>      </u> | 22. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |       |  |
| Total Herb Cover: <u>35</u>                                                                                                      |               |               |               |                     |               |               |               | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |             |       |  |
| 50% of total cover: <u>17.5</u> 20% of total cover: <u>7.4</u>                                                                   |               |               |               |                     |               |               |               |                                                                                                     |             |       |  |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>      </u> % of bare ground: <u>      </u> |               |               |               |                     |               |               |               |                                                                                                     |             |       |  |
| % Cover of Wetland Bryophytes <u>0</u> % Total Cover of Bryophytes <u>60</u> % (where applicable)                                |               |               |               |                     |               |               |               |                                                                                                     |             |       |  |
| Remarks:                                                                                                                         |               |               |               |                     |               |               |               |                                                                                                     |             |       |  |



Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |   |                   |                  | a,a dip.<br>(pos/<br>neg) |   | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------------------------|---|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |   |                                    |
| 0-2            | 02                | 5YR2.5/1      | —   | —              | — | —                 | —                | —                         | — | —                                  |
| 2-4            | A                 | 7.5YR2.5/1    | —   | —              | — | —                 | —                | SiL                       | — | —                                  |
| 4-4.5          | E                 | 5Y5/1         | —   | —              | — | —                 | —                | SiL                       | — | larger layer on north side         |
| 4.5-5.5        | B <sub>1</sub>    | 7.5YR2.5/3    | —   | —              | — | —                 | —                | SiL                       | — | —                                  |
| 5.5-19         | B <sub>2</sub>    | 5Y5/1         | 68  | 7.5YR4/6       | 0 | C                 | PLRC             | SiL                       | — | —                                  |
| —              | —                 | 6YR4/3        | 15  | 7.5YR4/4       | 7 | C                 | PLRC             | —                         | — | —                                  |
| —              | —                 | —             | —   | 5YR3/4         | 2 | C                 | PLRC             | —                         | — | —                                  |
| 19-22          | B <sub>3</sub>    | 2.5Y 3/2      | 100 | —              | — | —                 | —                | LSa                       | — | —                                  |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)  
☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; ☐ " in this pit)  
☐ Thick Dark Surface (A12)  
☐ Alaska Gleyed (A13)  
☒ Alaska Redox (A14)  
☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)  
☐ Alaska Alpine Swales (TA5)  
☐ Alaska Redox with 2.5Y Hue  
☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer  
☐ Other (e.g., see p.91 of 2007 Supplement; explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONEDepth (inches) NADrainage Class: MWD

Soil Map Unit Name:

Hydric Soil Present? Yes ☒ No ☐

Comments:

- 1.
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1) ☐ Surface Soil Cracks (B6)  
☐ High Water Table (A2) (w/in 12") ☐ Inundation Visible on Aerial Imagery (B7)  
☐ Saturation (A3) (w/in 12") ☐ Sparsely Vegetated Concave Surface (B8)  
☐ Water Marks (B1) ☐ Marl Deposits (B15)  
☐ Sediment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1)  
☐ Drift Deposits (B3) ☐ Dry-Season Water Table (C2)  
☐ Algal Mat or Crust (B4) ☐ Other (explain)  
☐ Iron Deposits (B5)

Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)  
☐ Drainage Patterns (B10)  
☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")  
☐ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")  
☐ Salt Deposits (C5)  
☐ Stunted or Stressed Plants (D1)  
☒ Geomorphic Position (D2)  
☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")  
☐ Microtopographic Relief (D4) (caused by water)  
☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.) —Water Table Present? Yes ☐ No ☒ Depth to water (in.) —

Seeping in at that depth but not yet filled?

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 13

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: West Su Access Borough/City: MSB Date: 9/29/2020  
 Applicant/Owner: ADDA Sampling Point #: 586  
 Investigator(s): ELCH Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.485538 Long. 150.226008 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:         
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: MOUND Slope (%): NK Aspect:         
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: 7  
 Photo nos./descriptions: 5015 x 2, NESW Camera #: ☒ Veg Type (Vioreck Level 4 or other): I42F  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here. IC2 BIRCH

## SUMMARY OF FINDINGS

|                                 |                                         |                                        |                                                                                                                                         |
|---------------------------------|-----------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            | Is the sampled area within a wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                                                         |
| Wetland Hydrology Present?      | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |                                                                                                                                         |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| <b>Tree Stratum (dbh ≥ 3")</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Cov. %</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Cov. %</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Picea mar</u></td> <td><u>20</u></td> <td><u>Y</u></td> <td><u>FACW5</u></td> <td>5. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>2. <u>Bet Pap</u></td> <td><u>15</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>6. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>3. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td>7. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>4. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td>8. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> </tbody> </table> <p>Total Tree Cover: <u>35</u><br/>         50% of total cover: <u>      </u> 20% of total cover: <u>7</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |               |               |                     |               |               |               | Species                                                                                             | Cov. %      | Dom? | Ind. | Species | Cov. %      | Dom? | Ind. | 1. <u>Picea mar</u> | <u>20</u> | <u>Y</u> | <u>FACW5</u> | 5. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> | 2. <u>Bet Pap</u>   | <u>15</u> | <u>Y</u>      | <u>FACW</u> | 6. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | 3. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | 7. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | 4. <u>      </u>     | <u>      </u> | <u>      </u> | <u>      </u> | 8. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That are OBL, FACW, or FAC: <u>7</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>10</u> (B)<br>Percent of Dominant Species That are OBL, FACW, or FAC: <u>70%</u> (A/B) |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                   |              |                           |                   |                        |                |                       |                |                        |                |                                |                   |                               |                |                  |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
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------------|---------------|---------------|-------------------|---------------|---------------|---------------|-------------------|---------------|---------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Cov. %            | Dom?          | Ind.          | Species             | Cov. %        | Dom?          | Ind.          |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                   |              |                           |                   |                        |                |                       |                |                        |                |                                |                   |                               |                |                  |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 1. <u>Picea mar</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <u>20</u>         | <u>Y</u>      | <u>FACW5</u>  | 5. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 2. <u>Bet Pap</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>15</u>         | <u>Y</u>      | <u>FACW</u>   | 6. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 3. <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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         |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 4. <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>      </u>     | <u>      </u> | <u>      </u> | 8. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Sapling/Shrub Stratum (woody plants &lt; 3" dbh)</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Picea mar</u></td> <td><u>35</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>7. <u>Lycro ann</u></td> <td><u>5</u></td> <td><u>      </u></td> <td><u>FACW</u></td> </tr> <tr> <td>2. <u>Bet pap</u></td> <td><u>5</u></td> <td><u>      </u></td> <td><u>FACW</u></td> <td>8. <u>Linu bar</u></td> <td><u>5</u></td> <td><u>      </u></td> <td><u>FACW</u></td> </tr> <tr> <td>3. <u>Vacc vit</u></td> <td><u>15</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>9. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>4. <u>Bes aca</u></td> <td><u>10</u></td> <td><u>      </u></td> <td><u>FACW</u></td> <td>10. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>5. <u>Vacc vit</u></td> <td><u>1</u></td> <td><u>      </u></td> <td><u>FAC</u></td> <td>11. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>6. <u>Emp nig</u></td> <td><u>15</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>12. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> </tbody> </table> <p>Total Sapling/Shrub Cover: <u>910</u><br/>         50% of total cover: <u>45</u> 20% of total cover: <u>182</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |               |               |                     |               |               |               | Species                                                                                             | Abs. Cov. % | Dom? | Ind. | Species | Abs. Cov. % | Dom? | Ind. | 1. <u>Picea mar</u> | <u>35</u> | <u>Y</u> | <u>FACW</u>  | 7. <u>Lycro ann</u> | <u>5</u>      | <u>      </u> | <u>FACW</u>   | 2. <u>Bet pap</u>   | <u>5</u>  | <u>      </u> | <u>FACW</u> | 8. <u>Linu bar</u> | <u>5</u>      | <u>      </u> | <u>FACW</u>   | 3. <u>Vacc vit</u> | <u>15</u>     | <u>Y</u>      | <u>FAC</u>    | 9. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | 4. <u>Bes aca</u>    | <u>10</u>     | <u>      </u> | <u>FACW</u>   | 10. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 5. <u>Vacc vit</u>                                                                                                                                                                                                                                       | <u>1</u> | <u>      </u> | <u>FAC</u>  | 11. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 6. <u>Emp nig</u> | <u>15</u> | <u>Y</u> | <u>FAC</u>  | 12. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | <b>Prevalence Index worksheet:</b><br><table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>      </u></td> <td>X1= <u>      </u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>X2= <u>110</u></td> </tr> <tr> <td>FAC species <u>53</u></td> <td>X3= <u>159</u></td> </tr> <tr> <td>FACU species <u>54</u></td> <td>X4= <u>216</u></td> </tr> <tr> <td>UPL + NL species <u>      </u></td> <td>X5= <u>      </u></td> </tr> <tr> <td>Column Totals: <u>162</u> (A)</td> <td><u>485</u> (B)</td> </tr> </tbody> </table> <p>Prevalence Index = B/A = <u>2.99</u></p> |          | Total % Cover of: | Multiply by: | OBL species <u>      </u> | X1= <u>      </u> | FACW species <u>55</u> | X2= <u>110</u> | FAC species <u>53</u> | X3= <u>159</u> | FACU species <u>54</u> | X4= <u>216</u> | UPL + NL species <u>      </u> | X5= <u>      </u> | Column Totals: <u>162</u> (A) | <u>485</u> (B) |                  |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Abs. Cov. %       | Dom?          | Ind.          | Species             | Abs. Cov. %   | Dom?          | Ind.          |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                   |              |                           |                   |                        |                |                       |                |                        |                |                                |                   |                               |                |                  |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 1. <u>Picea mar</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <u>35</u>         | <u>Y</u>      | <u>FACW</u>   | 7. <u>Lycro ann</u> | <u>5</u>      | <u>      </u> | <u>FACW</u>   |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 2. <u>Bet pap</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>5</u>          | <u>      </u> | <u>FACW</u>   | 8. <u>Linu bar</u>  | <u>5</u>      | <u>      </u> | <u>FACW</u>   |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 3. <u>Vacc vit</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <u>15</u>         | <u>Y</u>      | <u>FAC</u>    | 9. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 4. <u>Bes aca</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>10</u>         | <u>      </u> | <u>FACW</u>   | 10. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 5. <u>Vacc vit</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <u>1</u>          | <u>      </u> | <u>FAC</u>    | 11. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 6. <u>Emp nig</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>15</u>         | <u>Y</u>      | <u>FAC</u>    | 12. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |           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| Total % Cover of:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| OBL species <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| FACW species <u>55</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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         |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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| FAC species <u>53</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| FACU species <u>54</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | X4= <u>216</u>    |               |               |                     |               |               |               |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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| UPL + NL species <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| Column Totals: <u>162</u> (A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| <b>Herb Stratum</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Abs. Cov. %</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Equis ar</u></td> <td><u>10</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>12. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>2. <u>Trien cur</u></td> <td><u>2</u></td> <td><u>      </u></td> <td><u>FACW</u></td> <td>13. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>3. <u>Cal car</u></td> <td><u>5</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>14. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>4. <u>Cornus sup</u></td> <td><u>8</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>15. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>5. <u>Cornus can</u></td> <td><u>5</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>16. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>6. <u>Dry cup</u></td> <td><u>5</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>17. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>7. <u>Cacoc liv</u></td> <td><u>2</u></td> <td><u>      </u></td> <td><u>FACW</u></td> <td>18. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>8. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td>19. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>9. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td>20. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>10. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td>21. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> <tr> <td>11. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td>22. <u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> <td><u>      </u></td> </tr> </tbody> </table> <p>Total Herb Cover: <u>37</u><br/>         50% of total cover: <u>18.5</u> 20% of total cover: <u>7.4</u></p> |                   |               |               |                     |               |               |               | Species                                                                                             | Abs. Cov. % | Dom? | Ind. | Species | Abs. Cov. % | Dom? | Ind. | 1. <u>Equis ar</u>  | <u>10</u> | <u>Y</u> | <u>FAC</u>   | 12. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | 2. <u>Trien cur</u> | <u>2</u>  | <u>      </u> | <u>FACW</u> | 13. <u>      </u>  | <u>      </u> | <u>      </u> | <u>      </u> | 3. <u>Cal car</u>  | <u>5</u>      | <u>Y</u>      | <u>FAC</u>    | 14. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 4. <u>Cornus sup</u> | <u>8</u>      | <u>Y</u>      | <u>FAC</u>    | 15. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 5. <u>Cornus can</u>                                                                                                                                                                                                                                     | <u>5</u> | <u>Y</u>      | <u>FACW</u> | 16. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 6. <u>Dry cup</u> | <u>5</u>  | <u>Y</u> | <u>FACW</u> | 17. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 7. <u>Cacoc liv</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <u>2</u> | <u>      </u>     | <u>FACW</u>  | 18. <u>      </u>         | <u>      </u>     | <u>      </u>          | <u>      </u>  | 8. <u>      </u>      | <u>      </u>  | <u>      </u>          | <u>      </u>  | 19. <u>      </u>              | <u>      </u>     | <u>      </u>                 | <u>      </u>  | 9. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 20. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 10. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 21. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 11. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | 22. <u>      </u> | <u>      </u> | <u>      </u> | <u>      </u> | <b>Hydrophytic Vegetation Indicators:</b><br><input checked="" type="checkbox"/> Dominance Test is >50%<br><input checked="" type="checkbox"/> Prevalence Index is ≤3.0<br><input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |  |
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Abs. Cov. %       | Dom?          | Ind.          | Species             | Abs. Cov. %   | Dom?          | Ind.          |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                   |              |                           |                   |                        |                |                       |                |                        |                |                                |                   |                               |                |                  |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 1. <u>Equis ar</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <u>10</u>         | <u>Y</u>      | <u>FAC</u>    | 12. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 2. <u>Trien cur</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <u>2</u>          | <u>      </u> | <u>FACW</u>   | 13. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 3. <u>Cal car</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>5</u>          | <u>Y</u>      | <u>FAC</u>    | 14. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 4. <u>Cornus sup</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>8</u>          | <u>Y</u>      | <u>FAC</u>    | 15. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 5. <u>Cornus can</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>5</u>          | <u>Y</u>      | <u>FACW</u>   | 16. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 6. <u>Dry cup</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>5</u>          | <u>Y</u>      | <u>FACW</u>   | 17. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 7. <u>Cacoc liv</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <u>2</u>          | <u>      </u> | <u>FACW</u>   | 18. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 8. <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>      </u>     | <u>      </u> | <u>      </u> | 19. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 9. <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>      </u>     | <u>      </u> | <u>      </u> | 20. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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| 10. <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>      </u>     | <u>      </u> | <u>      </u> | 21. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 11. <u>      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>      </u>     | <u>      </u> | <u>      </u> | 22. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                     |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                      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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>      </u> % of bare ground: <u>      </u><br>% Cover of Wetland Bryophytes <u>0</u> % Total Cover of Bryophytes <u>50</u> %<br>(where applicable)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |               |               |                     |               |               |               | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |             |      |      |         |             |      |      |                     |           |          |              |                     |               |               |               |                     |           |               |             |                    |               |               |               |                    |               |               |               |                   |               |               |               |                      |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                          |          |               |             |                   |               |               |               |                   |           |          |             |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |          |                   |              |                           |                   |                        |                |                       |                |                        |                |                                |                   |                               |                |                  |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Remarks:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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       |               |               |                   |               |               |               |                   |               |               |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |



Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |    | Redox Features |   |                   |                  | Texture | a, a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|----|----------------|---|-------------------|------------------|---------|----------------------------|------------------------------------|
|                |                   | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |         |                            |                                    |
| 0-1.5          | 0i                | 5YR2.5/1      | —  | —              | — | —                 | —                | —       | NT                         | WAVY                               |
| 1.5-3          | E                 | 5Y5/1         | —  | —              | — | —                 | —                | SiL     | NT                         | "                                  |
| 3-4.5          | B                 | 2.5YR2.5/2    | —  | —              | — | —                 | —                | SiL     | NT                         | "                                  |
| 4.5-5          | B <sub>1</sub>    | 5YR3/4        | —  | —              | — | —                 | —                | LSi     | neg                        | "                                  |
| 5-11           | B <sub>2</sub>    | 2.5Y4/4       | 50 | —              | — | —                 | —                | LSi     | neg                        | —                                  |
|                |                   | 2.5Y5/3       | 50 | —              | — | —                 | —                | LSi     | neg                        | —                                  |
| 11-18          | B <sub>3</sub>    | 2.5Y4/4       | —  | —              | — | —                 | —                | LSi     | —                          | —                                  |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface;  $\odot$  — " in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☒ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☒ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (Inches) NA

Drainage Class: WD

Soil Map Unit Name:

Hydric Soil Present? Yes ☐ No ☒

Comments:

- 
- 
- 

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☐ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos. a, a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.) —

Water Table Present? Yes ☐ No ☒ Depth to water (in.) —

Seeping in at that depth but not yet filled?: ☐

Saturation Present? Yes ☐ No ☒ Depth to sat. (in.) —

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

moist but not saturated



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST SU ACCESS Borough/City: WASB Date: 7/29/2020  
 Applicant/Owner: ADDA Sampling Point #: 587  
 Investigator(s): EZ, CH Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.485510 Long. 150.224452 ± ' NAD 83 Recorded on GPS #: \_\_\_\_\_ Marked on map? \_\_\_\_\_ Field Map #: \_\_\_\_\_  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Lowland Slope (%): 2 Aspect: \_\_\_\_\_  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PFO1/SS4C  
 Photo nos./descriptions: SOILS, NEW Camera #: ✓ Veg Type (Vioreck Level 4 or other): IA2F  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No: \_\_\_\_\_ If no, explain. HGM type: SLOPE  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |              |          |                                                                                                 |
|---------------------------------|--------------|----------|-------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <u>✓</u> | No _____ | Is the sampled area within a wetland? Yes <u>✓</u> No _____<br>Remarks (e.g., marginal?): _____ |
| Hydric Soil Present?            | Yes <u>✓</u> | No _____ |                                                                                                 |
| Wetland Hydrology Present?      | Yes <u>✓</u> | No _____ |                                                                                                 |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| <b>Tree Stratum (dbh ≥ 3")</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Cov.%</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Cov.%</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Pice mar</u></td> <td><u>40</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>5. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>2. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>6. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>3. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>7. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>4. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>8. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table> <p>Total Tree Cover: <u>40</u><br/>         50% of total cover: <u>20</u> 20% of total cover: <u>8</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |          |             |           |           |       |       | Species                                                         | Cov.%     | Dom? | Ind. | Species | Cov.%     | Dom? | Ind. | 1. <u>Pice mar</u> | <u>40</u> | <u>Y</u> | <u>FACW</u> | 5. _____  | _____ | _____ | _____ | 2. _____            | _____     | _____    | _____      | 6. _____  | _____ | _____ | _____ | 3. _____           | _____     | _____    | _____       | 7. _____  | _____ | _____ | _____ | 4. _____            | _____    | _____    | _____      | 8. _____  | _____ | _____ | _____ | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br>Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B) |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
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| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cov.%          | Dom?     | Ind.        | Species   | Cov.%     | Dom?  | Ind.  |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 1. <u>Pice mar</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <u>40</u>      | <u>Y</u> | <u>FACW</u> | 5. _____  | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 2. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _____          | _____    | _____       | 6. _____  | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 3. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _____          | _____    | _____       | 7. _____  | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 4. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _____          | _____    | _____       | 8. _____  | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| <b>Sapling/Shrub Stratum (woody plants &lt; 3" dbh)</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Abs.Cov.%</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Abs.Cov.%</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Pice mar</u></td> <td><u>45</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>7. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>2. <u>Rho green</u></td> <td><u>12</u></td> <td><u>-</u></td> <td><u>FAC</u></td> <td>8. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>3. <u>Emp nig</u></td> <td><u>5</u></td> <td><u>-</u></td> <td><u>FAC</u></td> <td>9. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>4. <u>Vet vit</u></td> <td><u>8</u></td> <td><u>-</u></td> <td><u>FAC</u></td> <td>10. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>5. <u>Bet gland</u></td> <td><u>5</u></td> <td><u>-</u></td> <td><u>FAC</u></td> <td>11. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>6. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>12. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table> <p>Total Sapling/Shrub Cover: <u>75</u><br/>         50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |          |             |           |           |       |       | Species                                                         | Abs.Cov.% | Dom? | Ind. | Species | Abs.Cov.% | Dom? | Ind. | 1. <u>Pice mar</u> | <u>45</u> | <u>Y</u> | <u>FACW</u> | 7. _____  | _____ | _____ | _____ | 2. <u>Rho green</u> | <u>12</u> | <u>-</u> | <u>FAC</u> | 8. _____  | _____ | _____ | _____ | 3. <u>Emp nig</u>  | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 9. _____  | _____ | _____ | _____ | 4. <u>Vet vit</u>   | <u>8</u> | <u>-</u> | <u>FAC</u> | 10. _____ | _____ | _____ | _____ | 5. <u>Bet gland</u>                                                                                                                                                                                                                                     | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 11. _____ | _____ | _____ | _____ | 6. _____ | _____ | _____ | _____ | 12. _____ | _____ | _____ | _____ | <b>Prevalence Index worksheet:</b><br><table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species _____</td> <td>X1= _____</td> </tr> <tr> <td>FACW species <u>110</u></td> <td>X2= <u>220</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td>X3= <u>165</u></td> </tr> <tr> <td>FACU species _____</td> <td>X4= _____</td> </tr> <tr> <td>UPL + NL species _____</td> <td>X5= _____</td> </tr> <tr> <td>Column Totals: <u>165</u> (A)</td> <td><u>385</u> (B)</td> </tr> </tbody> </table> <p>Prevalence Index = B/A = <u>2.3</u></p> |       | Total % Cover of: | Multiply by: | OBL species _____ | X1= _____ | FACW species <u>110</u> | X2= <u>220</u> | FAC species <u>55</u> | X3= <u>165</u> | FACU species _____ | X4= _____ | UPL + NL species _____ | X5= _____ | Column Totals: <u>165</u> (A) | <u>385</u> (B) |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Abs.Cov.%      | Dom?     | Ind.        | Species   | Abs.Cov.% | Dom?  | Ind.  |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 1. <u>Pice mar</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <u>45</u>      | <u>Y</u> | <u>FACW</u> | 7. _____  | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 2. <u>Rho green</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>12</u>      | <u>-</u> | <u>FAC</u>  | 8. _____  | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 3. <u>Emp nig</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <u>5</u>       | <u>-</u> | <u>FAC</u>  | 9. _____  | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 4. <u>Vet vit</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <u>8</u>       | <u>-</u> | <u>FAC</u>  | 10. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 5. <u>Bet gland</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>5</u>       | <u>-</u> | <u>FAC</u>  | 11. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 6. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _____          | _____    | _____       | 12. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| Total % Cover of:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Multiply by:   |          |             |           |           |       |       |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| OBL species _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X1= _____      |          |             |           |           |       |       |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| FACW species <u>110</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | X2= <u>220</u> |          |             |           |           |       |       |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| FAC species <u>55</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X3= <u>165</u> |          |             |           |           |       |       |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| FACU species _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | X4= _____      |          |             |           |           |       |       |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| UPL + NL species _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | X5= _____      |          |             |           |           |       |       |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| Column Totals: <u>165</u> (A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>385</u> (B) |          |             |           |           |       |       |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| <b>Herb Stratum</b><br><table border="1"> <thead> <tr> <th>Species</th> <th>Abs.Cov.%</th> <th>Dom?</th> <th>Ind.</th> <th>Species</th> <th>Abs.Cov.%</th> <th>Dom?</th> <th>Ind.</th> </tr> </thead> <tbody> <tr> <td>1. <u>Cal can</u></td> <td><u>5</u></td> <td><u>-</u></td> <td><u>FAC</u></td> <td>12. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>2. <u>Egri arr</u></td> <td><u>15</u></td> <td><u>Y</u></td> <td><u>FAC</u></td> <td>13. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>3. <u>Rub cham</u></td> <td><u>10</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>14. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>4. <u>Egri sylv</u></td> <td><u>5</u></td> <td><u>-</u></td> <td><u>FAC</u></td> <td>15. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>5. <u>Carex spec</u></td> <td><u>15</u></td> <td><u>Y</u></td> <td><u>FACW</u></td> <td>16. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>6. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>17. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>7. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>18. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>8. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>19. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>9. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>20. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>10. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>21. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>11. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>22. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table> <p>Total Herb Cover: <u>50</u><br/>         50% of total cover: <u>25</u> 20% of total cover: <u>10</u></p> |                |          |             |           |           |       |       | Species                                                         | Abs.Cov.% | Dom? | Ind. | Species | Abs.Cov.% | Dom? | Ind. | 1. <u>Cal can</u>  | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 12. _____ | _____ | _____ | _____ | 2. <u>Egri arr</u>  | <u>15</u> | <u>Y</u> | <u>FAC</u> | 13. _____ | _____ | _____ | _____ | 3. <u>Rub cham</u> | <u>10</u> | <u>Y</u> | <u>FACW</u> | 14. _____ | _____ | _____ | _____ | 4. <u>Egri sylv</u> | <u>5</u> | <u>-</u> | <u>FAC</u> | 15. _____ | _____ | _____ | _____ | 5. <u>Carex spec</u>                                                                                                                                                                                                                                    | <u>15</u> | <u>Y</u> | <u>FACW</u> | 16. _____ | _____ | _____ | _____ | 6. _____ | _____ | _____ | _____ | 17. _____ | _____ | _____ | _____ | 7. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _____ | _____             | _____        | 18. _____         | _____     | _____                   | _____          | 8. _____              | _____          | _____              | _____     | 19. _____              | _____     | _____                         | _____          | 9. _____ | _____ | _____ | _____ | 20. _____ | _____ | _____ | _____ | 10. _____ | _____ | _____ | _____ | 21. _____ | _____ | _____ | _____ | 11. _____ | _____ | _____ | _____ | 22. _____ | _____ | _____ | _____ | <b>Hydrophytic Vegetation Indicators:</b><br><u>Y</u> Dominance Test is >50%<br><u>Y</u> Prevalence Index is ≤3.0<br>_____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |  |
| Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Abs.Cov.%      | Dom?     | Ind.        | Species   | Abs.Cov.% | Dom?  | Ind.  |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 1. <u>Cal can</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <u>5</u>       | <u>-</u> | <u>FAC</u>  | 12. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 2. <u>Egri arr</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <u>15</u>      | <u>Y</u> | <u>FAC</u>  | 13. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 3. <u>Rub cham</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <u>10</u>      | <u>Y</u> | <u>FACW</u> | 14. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 4. <u>Egri sylv</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>5</u>       | <u>-</u> | <u>FAC</u>  | 15. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 5. <u>Carex spec</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>15</u>      | <u>Y</u> | <u>FACW</u> | 16. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 6. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _____          | _____    | _____       | 17. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 7. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _____          | _____    | _____       | 18. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 8. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _____          | _____    | _____       | 19. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 9. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _____          | _____    | _____       | 20. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 10. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | _____          | _____    | _____       | 21. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 11. _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | _____          | _____    | _____       | 22. _____ | _____     | _____ | _____ |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| Circular 1/10-ac plot <u>✓</u> or other plot dimension: _____ % of bare ground: _____<br>% Cover of Wetland Bryophytes _____ % Total Cover of Bryophytes _____ (where applicable)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |          |             |           |           |       |       | <b>Hydrophytic Vegetation Present?</b><br>Yes <u>✓</u> No _____ |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| Remarks: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |          |             |           |           |       |       |                                                                 |           |      |      |         |           |      |      |                    |           |          |             |           |       |       |       |                     |           |          |            |           |       |       |       |                    |           |          |             |           |       |       |       |                     |          |          |            |           |       |       |       |                                                                                                                                                                                                                                                         |           |          |             |           |       |       |       |          |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                   |              |                   |           |                         |                |                       |                |                    |           |                        |           |                               |                |          |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |           |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |



## SOIL

Sampling Point #: 587

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |   |                   |                  | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |                                    |
| 0-6            | O <sub>i</sub>    |               |     |                |   |                   |                  |                           |                                    |
| 6-9            | O <sub>e</sub>    |               |     |                |   |                   |                  |                           |                                    |
| 9-12           | A                 | 2.5Y 3/1      | 100 |                |   |                   |                  |                           |                                    |
| 12-15          | B                 | 5Y 4/2        | 100 |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☒ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\geq 2$ )
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface;  $\odot$         in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NA

Drainage Class: PD

Soil Map Unit Name:

Hydric Soil Present? Yes ☒ No ☐

Comments:

- 
- 
- 

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☒ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☒ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☒ No ☐ Depth of water (in.) 1

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 10

Seeping in at that depth but not yet filled?:       

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 0

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST SU ACCESS Borough/City: MSB Date: 9/29/2020  
 Applicant/Owner: ADRA Sampling Point #: 592  
 Investigator(s): EZ, CH Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.558279 Long. 150.594453 ± ' NAD 83 Recorded on GPS #: ✓ Marked on map? ✓ Field Map #: ✓  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Point/ridge Slope (%): 2 Aspect: ✓  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PSS4B  
 Photo nos./descriptions: NE SW 1 S 1 L 5 Camera #: ✓ Veg Type (Viereck Level 4 or other): IAZf  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No: ✓ If no, explain. HGM type: SLOPE  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ✓  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |              |             |                                                                                              |
|---------------------------------|--------------|-------------|----------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <u>✓</u> | No <u>✓</u> | Is the sampled area within a wetland? Yes <u>✓</u> No <u>✓</u><br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <u>✓</u> | No <u>✓</u> |                                                                                              |
| Wetland Hydrology Present?      | Yes <u>✓</u> | No <u>✓</u> |                                                                                              |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                            |           |          |             |                       |          |          |             | Dominance Test worksheet:                                                                                     |                  |  |  |
|----------------------------------------------------------------------------------------------------|-----------|----------|-------------|-----------------------|----------|----------|-------------|---------------------------------------------------------------------------------------------------------------|------------------|--|--|
| Species                                                                                            | Cov.%     | Dom?     | Ind.        | Species               | Cov.%    | Dom?     | Ind.        | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                  |  |  |
| 1. <u>Picea mar</u>                                                                                | <u>20</u> | <u>Y</u> | <u>FACW</u> | 5. _____              | _____    | _____    | _____       | <u>6</u>                                                                                                      | (A)              |  |  |
| 2. _____                                                                                           | _____     | _____    | _____       | 6. _____              | _____    | _____    | _____       | Total Number of Dominant Species Across All Strata:                                                           | <u>6</u> (B)     |  |  |
| 3. _____                                                                                           | _____     | _____    | _____       | 7. _____              | _____    | _____    | _____       | Percent of Dominant Species That are OBL, FACW, or FAC:                                                       | <u>100</u> (A/B) |  |  |
| 4. _____                                                                                           | _____     | _____    | _____       | 8. _____              | _____    | _____    | _____       | Prevalence Index worksheet:                                                                                   |                  |  |  |
| Total Tree Cover: <u>20</u>                                                                        |           |          |             |                       |          |          |             | Total % Cover of: _____ Multiply by: _____                                                                    |                  |  |  |
| 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>                                         |           |          |             |                       |          |          |             | OBL species <u>18</u> X1= <u>18</u>                                                                           |                  |  |  |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                      |           |          |             |                       |          |          |             | FACW species <u>100</u> X2= <u>200</u>                                                                        |                  |  |  |
| Abs.Cov.%                                                                                          | Dom?      | Ind.     | Abs.Cov.%   | Dom?                  | Ind.     |          |             | FAC species <u>50</u> X3= <u>150</u>                                                                          |                  |  |  |
| 1. <u>Picea mar</u>                                                                                | <u>30</u> | <u>Y</u> | <u>FACW</u> | 7. <u>Vacc oxy</u>    | <u>1</u> | <u>-</u> | <u>OBL</u>  | FACU species <u>5+8=13</u> X4= <u>52</u>                                                                      |                  |  |  |
| 2. <u>Rho groen</u>                                                                                | <u>20</u> | <u>Y</u> | <u>FAC</u>  | 8. <u>Bet gland</u>   | <u>5</u> | <u>-</u> | <u>FAC</u>  | UPL + NL species _____ X5= _____                                                                              |                  |  |  |
| 3. <u>Vacc vit</u>                                                                                 | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 9. <u>Vacc oval</u>   | <u>0</u> | <u>-</u> | <u>FAC</u>  | Column Totals: <u>181</u> (A) <u>420</u> (B)                                                                  |                  |  |  |
| 4. <u>Eury nig</u>                                                                                 | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 10. <u>Merz fern</u>  | <u>5</u> | <u>-</u> | <u>FACW</u> | Prevalence Index = B/A = <u>2.32</u>                                                                          |                  |  |  |
| 5. <u>Vacc ulig</u>                                                                                | <u>7</u>  | <u>-</u> | <u>FAC</u>  | 11. <u>Androm ped</u> | <u>5</u> | <u>-</u> | <u>FACW</u> |                                                                                                               |                  |  |  |
| 6. <u>Chama dactyl</u>                                                                             | <u>10</u> | <u>Y</u> | <u>FACW</u> | 12. _____             | _____    | _____    | _____       |                                                                                                               |                  |  |  |
| Total Sapling/Shrub Cover: <u>101</u>                                                              |           |          |             |                       |          |          |             |                                                                                                               |                  |  |  |
| 50% of total cover: <u>50.5</u> 20% of total cover: <u>20.2</u>                                    |           |          |             |                       |          |          |             |                                                                                                               |                  |  |  |
| Herb Stratum                                                                                       |           |          |             |                       |          |          |             | Hydrophytic Vegetation Indicators:                                                                            |                  |  |  |
| Abs.Cov.%                                                                                          | Dom?      | Ind.     | Abs.Cov.%   | Dom?                  | Ind.     |          |             | Y Dominance Test is >50%                                                                                      |                  |  |  |
| 1. <u>Rub cham</u>                                                                                 | <u>30</u> | <u>Y</u> | <u>FACW</u> | 12. _____             | _____    |          |             | Y Prevalence Index is ≤3.0                                                                                    |                  |  |  |
| 2. <u>Carex pauc</u>                                                                               | <u>10</u> | <u>Y</u> | <u>OBL</u>  | 13. _____             | _____    |          |             | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)            |                  |  |  |
| 3. <u>Carex lasiocarpa</u>                                                                         | <u>7</u>  | <u>-</u> | <u>OBL</u>  | 14. _____             | _____    |          |             | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                                     |                  |  |  |
| 4. <u>Gro liv</u>                                                                                  | <u>3</u>  | <u>-</u> | <u>FACW</u> | 15. _____             | _____    |          |             | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                  |  |  |
| 5. <u>Cornus can</u>                                                                               | <u>5</u>  | <u>-</u> | <u>FACW</u> | 16. _____             | _____    |          |             | Hydrophytic Vegetation Present? Yes <u>✓</u> No _____                                                         |                  |  |  |
| 6. <u>Carex microgl</u>                                                                            | <u>5</u>  | <u>-</u> | <u>FACW</u> | 17. _____             | _____    |          |             |                                                                                                               |                  |  |  |
| 7. _____                                                                                           | _____     | _____    | _____       | 18. _____             | _____    |          |             |                                                                                                               |                  |  |  |
| 8. _____                                                                                           | _____     | _____    | _____       | 19. _____             | _____    |          |             |                                                                                                               |                  |  |  |
| 9. _____                                                                                           | _____     | _____    | _____       | 20. _____             | _____    |          |             |                                                                                                               |                  |  |  |
| 10. _____                                                                                          | _____     | _____    | _____       | 21. _____             | _____    |          |             |                                                                                                               |                  |  |  |
| 11. _____                                                                                          | _____     | _____    | _____       | 22. _____             | _____    |          |             |                                                                                                               |                  |  |  |
| Total Herb Cover: <u>60</u>                                                                        |           |          |             |                       |          |          |             |                                                                                                               |                  |  |  |
| 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>                                        |           |          |             |                       |          |          |             |                                                                                                               |                  |  |  |
| Circular 1/10-ac plot <u>✓</u> or other plot dimension: _____ % of bare ground: _____              |           |          |             |                       |          |          |             |                                                                                                               |                  |  |  |
| % Cover of Wetland Bryophytes <u>00</u> % Total Cover of Bryophytes <u>00</u> % (where applicable) |           |          |             |                       |          |          |             |                                                                                                               |                  |  |  |
| Remarks:                                                                                           |           |          |             |                       |          |          |             |                                                                                                               |                  |  |  |







## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST SU ACCESS Borough/City: MSB Date: 9/29/2020  
 Applicant/Owner: HDR Sampling Point #: 593  
 Investigator(s): EL, CH Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.557547 Long. 150.594947 ± ' NAD 83 Recorded on GPS #: \_\_\_\_\_ Marked on map? \_\_\_\_\_ Field Map #: \_\_\_\_\_  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Topo Slope (%): 3 Aspect: \_\_\_\_\_  
 Local relief: Shape across slope: linear convex / concave Shape up/downslope: linear convex / concave NWI classification: I-B2a  
 Photo nos./descriptions: SOIL X2; NESW Camera #: \_\_\_\_\_ Veg Type (Vioreck Level 4 or other): PEM1LB/S1LB  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: \_\_\_\_\_ If no, explain. HGM type: SLOPE  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |          |                                                                                                                      |
|---------------------------------|-----------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No _____ | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No _____<br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No _____ |                                                                                                                      |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No _____ |                                                                                                                      |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                            |           |          |             |         |           |      |      | Dominance Test worksheet:                                                                                                   |                               |
|----------------------------------------------------------------------------------------------------|-----------|----------|-------------|---------|-----------|------|------|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Species                                                                                            | Cov.%     | Dom?     | Ind.        | Species | Cov.%     | Dom? | Ind. | Number of Dominant Species That are OBL, FACW, or FAC:                                                                      |                               |
| 1. <u>Picea mar</u>                                                                                | <u>10</u> | <u>Y</u> | <u>FACW</u> |         |           |      |      | <u>4</u>                                                                                                                    | (A)                           |
| 2. <u>Bet pap</u>                                                                                  | <u>15</u> | <u>Y</u> | <u>FACW</u> |         |           |      |      |                                                                                                                             |                               |
| 3. _____                                                                                           |           |          |             |         |           |      |      |                                                                                                                             |                               |
| 4. _____                                                                                           |           |          |             |         |           |      |      |                                                                                                                             |                               |
| Total Tree Cover: <u>25</u>                                                                        |           |          |             |         |           |      |      | Total Number of Dominant Species Across All Strata:                                                                         | <u>5</u> (B)                  |
| 50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>                                       |           |          |             |         |           |      |      | Percent of Dominant Species That are OBL, FACW, or FAC:                                                                     | <u>80</u> (A/B)               |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                      |           |          |             |         |           |      |      | Prevalence Index worksheet:                                                                                                 |                               |
| Species                                                                                            | Abs.Cov.% | Dom?     | Ind.        | Species | Abs.Cov.% | Dom? | Ind. | Total % Cover of:                                                                                                           | Multiply by:                  |
| 1. <u>Alnus crispa</u>                                                                             | <u>30</u> | <u>Y</u> | <u>FAC</u>  |         |           |      |      | OBL species                                                                                                                 | X1= _____                     |
| 2. <u>Spiraea b</u>                                                                                | <u>7</u>  | <u>-</u> | <u>FACW</u> |         |           |      |      | FACW species                                                                                                                | X2= <u>20</u>                 |
| 3. <u>Menz ferr</u>                                                                                | <u>12</u> | <u>Y</u> | <u>FACW</u> |         |           |      |      | FAC species                                                                                                                 | X3= <u>354</u>                |
| 4. <u>Vac oval</u>                                                                                 | <u>8</u>  | <u>-</u> | <u>FAC</u>  |         |           |      |      | FACU species                                                                                                                | X4= <u>186</u>                |
| 5. <u>Bet pap</u>                                                                                  | <u>5</u>  | <u>-</u> | <u>FACW</u> |         |           |      |      | UPL + NL species                                                                                                            | X5= _____                     |
| 6. _____                                                                                           |           |          |             |         |           |      |      | Column Totals:                                                                                                              | <u>177</u> (A) <u>570</u> (B) |
| Total Sapling/Shrub Cover: <u>62</u>                                                               |           |          |             |         |           |      |      | Prevalence Index = B/A =                                                                                                    | <u>3.228</u>                  |
| 50% of total cover: <u>31</u> 20% of total cover: <u>12.4</u>                                      |           |          |             |         |           |      |      |                                                                                                                             |                               |
| Herb Stratum                                                                                       |           |          |             |         |           |      |      | Hydrophytic Vegetation Indicators:                                                                                          |                               |
| Species                                                                                            | Abs.Cov.% | Dom?     | Ind.        | Species | Abs.Cov.% | Dom? | Ind. | <input checked="" type="checkbox"/> Dominance Test is >50%<br><input checked="" type="checkbox"/> Prevalence Index is ≤3.0  |                               |
| 1. <u>Sal car</u>                                                                                  | <u>65</u> | <u>Y</u> | <u>FAC</u>  |         |           |      |      | <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |                               |
| 2. <u>Dry exp</u>                                                                                  | <u>10</u> | <u>-</u> | <u>FACW</u> |         |           |      |      | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                          |                               |
| 3. <u>Egna air</u>                                                                                 | <u>10</u> | <u>-</u> | <u>FAC</u>  |         |           |      |      | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.               |                               |
| 4. <u>Egna sylv</u>                                                                                | <u>5</u>  | <u>-</u> | <u>FAC</u>  |         |           |      |      |                                                                                                                             |                               |
| 5. _____                                                                                           |           |          |             |         |           |      |      |                                                                                                                             |                               |
| 6. _____                                                                                           |           |          |             |         |           |      |      |                                                                                                                             |                               |
| 7. _____                                                                                           |           |          |             |         |           |      |      |                                                                                                                             |                               |
| 8. _____                                                                                           |           |          |             |         |           |      |      |                                                                                                                             |                               |
| 9. _____                                                                                           |           |          |             |         |           |      |      |                                                                                                                             |                               |
| 10. _____                                                                                          |           |          |             |         |           |      |      |                                                                                                                             |                               |
| 11. _____                                                                                          |           |          |             |         |           |      |      |                                                                                                                             |                               |
| Total Herb Cover: <u>90</u>                                                                        |           |          |             |         |           |      |      | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____                                            |                               |
| 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>                                        |           |          |             |         |           |      |      |                                                                                                                             |                               |
| Circular 1/10-ac plot _____ or other plot dimension: _____ % of bare ground: _____                 |           |          |             |         |           |      |      |                                                                                                                             |                               |
| % Cover of Wetland Bryophytes <u>20</u> % Total Cover of Bryophytes <u>20</u> % (where applicable) |           |          |             |         |           |      |      |                                                                                                                             |                               |
| Remarks: <u>Dead spruce trees &amp; standing water in some bays. Located at toe of slope</u>       |           |          |             |         |           |      |      |                                                                                                                             |                               |



## SOIL

Sampling Point #: 593

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators)

[illegible]

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

**Hydric Soil Indicators** (check ones that apply, measure from top of mineral layers unless otherwise noted):

**Standard Indicators:**

- ☐ Histosol or Histel (A1)
- ☒ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_ in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ Alaska Color Change<sup>4</sup> (TA4)  
☐ Alaska Alpine Swales (TA5)  
☐ Alaska Redox with 2.5Y Hue  
☐ Alaska Gleyed without Hue 5Y or Redder  
     Underlying Layer  
☐ Other (e.g., see p.91 of 2007  
     Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NA

Drainage Class: PD

Soil Map Unit Name:

Hydric Soil Present? Yes ☒ No ☐

Comments:

- 1.
- 2.
- 3.

## HYDROLOGY

**Wetland Hydrology Indicators (check ones that apply, measure from soil surface):**

Primary Indicators (any one indicator is sufficient)

|                                                                      |                                                                    |
|----------------------------------------------------------------------|--------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Surface Water (A1)               | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2) (w/in 12") | <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input checked="" type="checkbox"/> Saturation (A3) (w/in 12")       | <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |
| <input type="checkbox"/> Water Marks (B1)                            | <input type="checkbox"/> Marl Deposits (B15)                       |
| <input type="checkbox"/> Sediment Deposits (B2)                      | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                |
| <input type="checkbox"/> Drift Deposits (B3)                         | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Algal Mat or Crust (B4)                     | <input type="checkbox"/> Other (explain)                           |
| <input type="checkbox"/> Iron Deposits (B5)                          |                                                                    |

Secondary Indicators (at least 2 are required)

- Water-Stained Leaves (B9)
- Drainage Patterns (B10)
- Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- Presence of Reduced Iron (C4)  
(pos.  $\alpha, \alpha$  or soil color change w/in 12")
- Salt Deposits (C5)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)  
(w/in 24", can perch H<sub>2</sub>O w/in 12")
- Microtopographic Relief (D4) (caused by water)
- FAC Neutral Test (D5)  
(# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes X No      Depth of water (in.) 2

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 16

Seeping in at that depth but not yet filled?: 4

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 0 surface

|                             | Epi | Endo | Unknown |
|-----------------------------|-----|------|---------|
| (includes capillary fringe) |     |      |         |

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST SU Borough/City: MSB Date: 9/29/2020  
 Applicant/Owner: ADDA Sampling Point #: 594  
 Investigator(s): EC, CH Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61.557422 Long. 150.595639 ± ' NAD 83 Recorded on GPS #: \_\_\_\_\_ Marked on map? \_\_\_\_\_ Field Map #: \_\_\_\_\_  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Foot slope Slope (%): 7 Aspect: \_\_\_\_\_  
 Local relief: Shape across slope: linear convex / concave Shape up/downslope: linear / convex / concave NWI classification: 2  
 Photo nos./descriptions: SOILS x 2, NESW Camera #: ✓ Veg Type (Viereck Level 4 or other): IC2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No: \_\_\_\_\_ If no, explain. \_\_\_\_\_ HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here. \_\_\_\_\_

## SUMMARY OF FINDINGS

|                                 |           |             |                                                                                                 |
|---------------------------------|-----------|-------------|-------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes _____ | No <u>✓</u> | Is the sampled area within a wetland? Yes _____ No <u>✓</u><br>Remarks (e.g., marginal?): _____ |
| Hydric Soil Present?            | Yes _____ | No <u>✓</u> |                                                                                                 |
| Wetland Hydrology Present?      | Yes _____ | No <u>✓</u> |                                                                                                 |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

## Tree Stratum (dbh ≥ 3")

| Species                | Cov.%     | Dom?     | Ind.        | Species  | Cov.% | Dom?  | Ind.  |
|------------------------|-----------|----------|-------------|----------|-------|-------|-------|
| 1. <u>Picea glauca</u> | <u>20</u> | <u>Y</u> | <u>FACU</u> | 5. _____ | _____ | _____ | _____ |
| 2. <u>Bet. pop</u>     | <u>15</u> | <u>Y</u> | <u>FACU</u> | 6. _____ | _____ | _____ | _____ |
| 3. _____               | _____     | _____    | _____       | 7. _____ | _____ | _____ | _____ |
| 4. _____               | _____     | _____    | _____       | 8. _____ | _____ | _____ | _____ |

Total Tree Cover: 3550% of total cover: 17.5 20% of total cover: 7

## Sapling/Shrub Stratum (woody plants &lt; 3" dbh)

| Abs.Cov.%              | Dom?     | Ind.        | Abs.Cov.%            | Dom?     | Ind.        |
|------------------------|----------|-------------|----------------------|----------|-------------|
| 1. <u>Ople. horr</u>   | <u>Y</u> | <u>FACU</u> | 7. <u>Menz. ferr</u> | <u>Y</u> | <u>FACU</u> |
| 2. <u>Vib. edule</u>   | <u>-</u> | <u>FACU</u> | 8. <u>Rosa. acia</u> | <u>-</u> | <u>FACU</u> |
| 3. <u>Picea glauca</u> | <u>-</u> | <u>FACU</u> | 9. <u>Lyc. an</u>    | <u>-</u> | <u>FACU</u> |
| 4. <u>Bet. pop</u>     | <u>-</u> | <u>FACU</u> | 10. _____            | _____    | _____       |
| 5. <u>Rub. idae</u>    | <u>-</u> | <u>FACU</u> | 11. _____            | _____    | _____       |
| 6. <u>Pyrola as</u>    | <u>-</u> | <u>FACU</u> | 12. _____            | _____    | _____       |

Total Sapling/Shrub Cover: 10050% of total cover: 50 20% of total cover: 20

## Herb Stratum

| Abs.Cov.%            | Dom?     | Ind.        | Abs. Cov.% | Dom?  | Ind.  |
|----------------------|----------|-------------|------------|-------|-------|
| 1. <u>Cornus can</u> | <u>Y</u> | <u>FACU</u> | 12. _____  | _____ | _____ |
| 2. <u>Egri. sylv</u> | <u>Y</u> | <u>FACU</u> | 13. _____  | _____ | _____ |
| 3. <u>DM. exp</u>    | <u>Y</u> | <u>FACU</u> | 14. _____  | _____ | _____ |
| 4. <u>Egri. arc</u>  | <u>Y</u> | <u>FACU</u> | 15. _____  | _____ | _____ |
| 5. <u>Cal. can</u>   | <u>Y</u> | <u>FACU</u> | 16. _____  | _____ | _____ |
| 6. <u>Gymno. dy</u>  | <u>Y</u> | <u>FACU</u> | 17. _____  | _____ | _____ |
| 7. _____             | _____    | _____       | 18. _____  | _____ | _____ |
| 8. _____             | _____    | _____       | 19. _____  | _____ | _____ |
| 9. _____             | _____    | _____       | 20. _____  | _____ | _____ |
| 10. _____            | _____    | _____       | 21. _____  | _____ | _____ |
| 11. _____            | _____    | _____       | 22. _____  | _____ | _____ |

Total Herb Cover: 3550% of total cover: 17.5 20% of total cover: 7

Circular 1/10-ac plot ✓ or other plot dimension: \_\_\_\_\_ % of bare ground: \_\_\_\_\_  
 % Cover of Wetland Bryophytes \_\_\_\_\_ % Total Cover of Bryophytes \_\_\_\_\_  
 (where applicable)

Remarks:

## Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)Total Number of Dominant Species Across All Strata: 10 (B)Percent of Dominant Species That are OBL, FACW, or FAC: 30% (A/B)

## Prevalence Index worksheet:

| Total % Cover of:             | Multiply by:   |
|-------------------------------|----------------|
| OBL species _____             | X1= _____      |
| FACW species _____            | X2= _____      |
| FAC species <u>15</u>         | X3= <u>145</u> |
| FACU species <u>155</u>       | X4= <u>620</u> |
| UPL + NL species _____        | X5= _____      |
| Column Totals: <u>170</u> (A) | <u>665</u> (B) |

Prevalence Index = B/A = 3.935

## Hydrophytic Vegetation Indicators:

\_\_\_\_\_ Dominance Test is >50%  
 \_\_\_\_\_ Prevalence Index is ≤3.0

✓ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

\_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present?

Yes \_\_\_\_\_ No ✓



## SOIL

Sampling Point #: 594

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | α, α dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|----------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                    |                                    |
| 0-2            | A                 |               |     |                |    |                   |                  |                            |                                    |
| 2-6            | E                 | 5Y5/1         | 75  | 10YR2/1        | 25 |                   |                  | SIL                        | w/argemess                         |
|                |                   | 10YR2/1       | 25  |                |    |                   |                  | SIL                        |                                    |
| 6-11           | B <sub>1</sub>    | 10YR3/6       | 60  |                |    |                   |                  | SIL                        |                                    |
|                |                   | 7.5YR3/4      | 40  |                |    |                   |                  | SIL                        | noted throughout<br>(split matrix) |
| 11-18          | B <sub>2</sub>    | 2.5Y4/4       | 100 |                |    |                   |                  | SIL                        |                                    |
|                |                   |               |     |                |    |                   |                  |                            |                                    |
|                |                   |               |     |                |    |                   |                  |                            |                                    |
|                |                   |               |     |                |    |                   |                  |                            |                                    |
|                |                   |               |     |                |    |                   |                  |                            |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; ☐ in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONEDepth (inches) NADrainage Class: WD

Soil Map Unit Name:

Hydric Soil Present? Yes ☐ No ☒

Comments:

- 
- 
- 

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☐ Saturation (A3) (w/in 12")
- ☐ 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)

Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos. α, α or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.) —Water Table Present? Yes ☐ No ☒ Depth to water (in.) —Seeping in at that depth but not yet filled?: —Saturation Present? Yes ☐ No ☒ Depth to sat. (in.) —

(Includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST SU Borough/City: MSB Date: 9/29/20  
 Applicant/Owner: MOEA Sampling Point #: 595  
 Investigator(s): EL, CH Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.556973 Long. 150.594826 ± ' NAD 83 Recorded on GPS #: \_\_\_\_\_ Marked on map? \_\_\_\_\_ Field Map #: \_\_\_\_\_  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: Swale / toeslope Slope (%): 5 Aspect: S  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PEA1/SS1/B ✓  
 Photo nos./descriptions: SOILS x2, NBSW Camera #: \_\_\_\_\_ Veg Type (Vioreck Level 4 or other): TE2a  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No: \_\_\_\_\_ If no, explain. HGM type: SLOPE  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No NA  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

NOTE:  
BLACK SPALLS  
TOO

## SUMMARY OF FINDINGS

|                                 |              |             |                                                                                           |
|---------------------------------|--------------|-------------|-------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <u>✓</u> | No <u>✓</u> | Is the sampled area within a wetland? Yes <u>✓</u> No _____<br>Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <u>✓</u> | No _____    |                                                                                           |
| Wetland Hydrology Present?      | Yes <u>✓</u> | No _____    |                                                                                           |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                            |           |          |             |                             |           |          |             | Dominance Test worksheet:                                                                                                   |                 |
|----------------------------------------------------------------------------------------------------|-----------|----------|-------------|-----------------------------|-----------|----------|-------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------|
| Species                                                                                            | Cov.%     | Dom?     | Ind.        | Species                     | Cov.%     | Dom?     | Ind.        | Number of Dominant Species That are OBL, FACW, or FAC:                                                                      |                 |
| 1. <u>Bet pop</u>                                                                                  | <u>20</u> | <u>Y</u> | <u>FACW</u> | 5. _____                    | _____     | _____    | _____       | <u>3</u>                                                                                                                    | (A)             |
| 2. <u>Picea mar</u>                                                                                | <u>10</u> | <u>Y</u> | <u>FACW</u> | 6. _____                    | _____     | _____    | _____       | Total Number of Dominant Species Across All Strata:                                                                         | <u>6</u> (B)    |
| 3. <u>Picea glauca</u>                                                                             | <u>10</u> | <u>Y</u> | <u>FACW</u> | 7. _____                    | _____     | _____    | _____       | Percent of Dominant Species That are OBL, FACW, or FAC:                                                                     | <u>50</u> (A/B) |
| 4. _____                                                                                           | _____     | _____    | _____       | 8. _____                    | _____     | _____    | _____       | Prevalence Index worksheet:                                                                                                 |                 |
| Total Tree Cover: <u>40</u>                                                                        |           |          |             |                             |           |          |             | Total % Cover of:                                                                                                           |                 |
| 50% of total cover: <u>20</u> 20% of total cover: <u>8</u>                                         |           |          |             |                             |           |          |             | Multiply by:                                                                                                                |                 |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                      |           |          |             |                             |           |          |             | OBL species _____ X1= _____                                                                                                 |                 |
| Species                                                                                            | Abs.Cov.% | Dom?     | Ind.        | Species                     | Abs.Cov.% | Dom?     | Ind.        | FACW species <u>10</u> X2= <u>20</u>                                                                                        |                 |
| 1. <u>Vac oval</u>                                                                                 | <u>10</u> | <u>-</u> | <u>FAC</u>  | 7. <u>Vib edule</u>         | <u>2</u>  | <u>-</u> | <u>FACW</u> | FAC species <u>80</u> X3= <u>240</u>                                                                                        |                 |
| 2. <u>Spiraea</u>                                                                                  | <u>10</u> | <u>-</u> | <u>FACW</u> | 8. _____                    | _____     | _____    | _____       | FACU species <u>764</u> X4= <u>304</u>                                                                                      |                 |
| 3. <u>Menz ferr</u>                                                                                | <u>15</u> | <u>Y</u> | <u>FACW</u> | 9. _____                    | _____     | _____    | _____       | UPL + NL species _____ X5= _____                                                                                            |                 |
| 4. <u>Alnus crispa</u>                                                                             | <u>15</u> | <u>Y</u> | <u>FAC</u>  | 10. _____                   | _____     | _____    | _____       | Column Totals: <u>166</u> (A) <u>564</u> (B)                                                                                |                 |
| 5. <u>Lycop ann</u>                                                                                | <u>3</u>  | <u>-</u> | <u>FACW</u> | 11. _____                   | _____     | _____    | _____       | Prevalence Index = B/A = <u>3.39</u>                                                                                        |                 |
| 6. <u>Rubus ped</u>                                                                                | <u>7</u>  | <u>-</u> | <u>FAC</u>  | 12. <u>(moved to herbs)</u> | _____     | _____    | _____       |                                                                                                                             |                 |
| Total Sapling/Shrub Cover: <u>55</u>                                                               |           |          |             |                             |           |          |             |                                                                                                                             |                 |
| 50% of total cover: <u>27.5</u> 20% of total cover: <u>11</u>                                      |           |          |             |                             |           |          |             |                                                                                                                             |                 |
| Herb Stratum                                                                                       |           |          |             |                             |           |          |             | Hydrophytic Vegetation Indicators:                                                                                          |                 |
| Species                                                                                            | Abs.Cov.% | Dom?     | Ind.        | Species                     | Abs.Cov.% | Dom?     | Ind.        | <input checked="" type="checkbox"/> Dominance Test is >50%<br><input checked="" type="checkbox"/> Prevalence Index is ≤3.0  |                 |
| 1. <u>Cal can</u>                                                                                  | <u>40</u> | <u>Y</u> | <u>FAC</u>  | 12. _____                   | _____     | _____    | _____       | <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |                 |
| 2. <u>Equis ar</u>                                                                                 | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 13. _____                   | _____     | _____    | _____       | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                          |                 |
| 3. <u>Dry exp</u>                                                                                  | <u>8</u>  | <u>-</u> | <u>FACW</u> | 14. _____                   | _____     | _____    | _____       | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.               |                 |
| 4. <u>Athy fol fer</u>                                                                             | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 15. _____                   | _____     | _____    | _____       |                                                                                                                             |                 |
| 5. <u>Equis sylv</u>                                                                               | <u>5</u>  | <u>-</u> | <u>FAC</u>  | 16. _____                   | _____     | _____    | _____       |                                                                                                                             |                 |
| 6. <u>Tricuro</u>                                                                                  | <u>1</u>  | <u>-</u> | <u>FACW</u> | 17. _____                   | _____     | _____    | _____       |                                                                                                                             |                 |
| 7. <u>Rub ped</u>                                                                                  | <u>7</u>  | <u>-</u> | <u>FACW</u> | 18. _____                   | _____     | _____    | _____       |                                                                                                                             |                 |
| 8. _____                                                                                           | _____     | _____    | _____       | 19. _____                   | _____     | _____    | _____       |                                                                                                                             |                 |
| 9. _____                                                                                           | _____     | _____    | _____       | 20. _____                   | _____     | _____    | _____       |                                                                                                                             |                 |
| 10. _____                                                                                          | _____     | _____    | _____       | 21. _____                   | _____     | _____    | _____       |                                                                                                                             |                 |
| 11. _____                                                                                          | _____     | _____    | _____       | 22. _____                   | _____     | _____    | _____       |                                                                                                                             |                 |
| Total Herb Cover: <u>71</u>                                                                        |           |          |             |                             |           |          |             | Hydrophytic Vegetation Present? Yes <u>✓</u> No <u>✓</u>                                                                    |                 |
| 50% of total cover: <u>35.5</u> 20% of total cover: <u>14.2</u>                                    |           |          |             |                             |           |          |             |                                                                                                                             |                 |
| Circular 1/10-ac plot <u>✓</u> or other plot dimension: _____ % of bare ground: _____              |           |          |             |                             |           |          |             |                                                                                                                             |                 |
| % Cover of Wetland Bryophytes <u>10</u> % Total Cover of Bryophytes <u>20</u> % (where applicable) |           |          |             |                             |           |          |             |                                                                                                                             |                 |
| Remarks: <u>vegetation doesn't quite meet.</u>                                                     |           |          |             |                             |           |          |             |                                                                                                                             |                 |



## SOIL

Sampling Point #: **595**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |   | Redox Features |   |                   |                  | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|---|----------------|---|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | % | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |                                    |
| 0-9            | O <sub>i</sub>    | 10YR2/1       | — | —              | — | —                 | —                | org                       | —                                  |
| 9-11           | A                 | 10YR2/2       | — | —              | — | —                 | —                | SiL                       | neg                                |
| 11-15          | B <sub>1</sub>    | 5YR2.5/2      | — | —              | — | —                 | —                | SiL                       | neg                                |
| 15-18          | B <sub>2</sub>    | 10YR3/2       | — | —              | — | —                 | —                | SiL                       | neg                                |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |
|                |                   |               |   |                |   |                   |                  |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☒ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; @ \_\_\_\_\_" in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONEDepth (inches) NADrainage Class: SPD

Soil Map Unit Name:

Hydric Soil Present? Yes ☒ No ☐

Comments:

- 1.
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.) —Water Table Present? Yes ☒ No ☐ Depth to water (in.) 16Seeping in at that depth but not yet filled? 8Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) surface

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST SV Borough/City: MCB Date: 1/29/2020  
 Applicant/Owner: ADDA Sampling Point #: 596  
 Investigator(s): EZ, CH Firm: HDR Alaska, Inc.  
 Lat. (dec.) 61.556488 Long. 150.595174 ± ' NAD 83 Recorded on GPS #: ☒ Marked on map? ☐ Field Map #:         
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: flat Slope (%):        Aspect:         
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: PERMITS 7  
 Photo nos./descriptions: SOILS x2, NE2W Camera #:        Veg Type (Viereck Level 4 or other): PO 1C2c  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ☒ No: ☐ If no, explain. HGM type: SCOPE NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |                                         |                                        |                                                                                                                      |                            |
|---------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------|
| Hydrophytic Vegetation Present? | Yes <input checked="" type="checkbox"/> | No <input checked="" type="checkbox"/> | Is the sampled area within a wetland? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> | Remarks (e.g., marginal?): |
| Hydric Soil Present?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |                                                                                                                      |                            |
| Wetland Hydrology Present?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |                                                                                                                      |                            |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                                                          |               |               |               |                     |               |               |               | Dominance Test worksheet:                                                                                                   |                   |
|----------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------------|---------------|---------------|---------------|-----------------------------------------------------------------------------------------------------------------------------|-------------------|
| Species                                                                                                                          | Cov.%         | Dom?          | Ind.          | Species             | Cov.%         | Dom?          | Ind.          | Number of Dominant Species That are OBL, FACW, or FAC:                                                                      |                   |
| 1. <u>Bet pap</u>                                                                                                                | <u>20</u>     | <u>Y</u>      | <u>FACW</u>   | 5. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> | <u>5</u> (A)                                                                                                                |                   |
| 2. <u>Pice glauca</u>                                                                                                            | <u>10</u>     | <u>Y</u>      | <u>FACW</u>   | 6. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> | Total Number of Dominant Species Across All Strata:                                                                         | <u>10</u> (B)     |
| 3. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 7. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> | Percent of Dominant Species That are OBL, FACW, or FAC:                                                                     | <u>6050</u> (A/B) |
| 4. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 8. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> | Prevalence Index worksheet:                                                                                                 |                   |
| Total Tree Cover: <u>30</u>                                                                                                      |               |               |               |                     |               |               |               | Total % Cover of:                                                                                                           |                   |
| 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>                                                                       |               |               |               |                     |               |               |               | Multiply by:                                                                                                                |                   |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                                                    |               |               |               |                     |               |               |               | OBL species <u>      </u> X1= <u>      </u>                                                                                 |                   |
| Species                                                                                                                          | Abs.Cov.%     | Dom?          | Ind.          | Species             | Abs.Cov.%     | Dom?          | Ind.          | FACW species <u>      </u> X2= <u>      </u>                                                                                |                   |
| 1. <u>Vib edule</u>                                                                                                              | <u>5</u>      | <u>Y</u>      | <u>FACW</u>   | 7. <u>Ribes hnd</u> | <u>2</u>      | <u>-</u>      | <u>FAC</u>    | FAC species <u>112</u> X3= <u>336</u>                                                                                       |                   |
| 2. <u>Alnus crispa</u>                                                                                                           | <u>10</u>     | <u>Y</u>      | <u>FAC</u>    | 8. <u>Vac oval</u>  | <u>5</u>      | <u>Y</u>      | <u>FAC</u>    | FACU species <u>4055</u> X4= <u>220</u>                                                                                     |                   |
| 3. <u>Lois ala</u>                                                                                                               | <u>3</u>      | <u>-</u>      | <u>FACW</u>   | 9. <u>      </u>    | <u>      </u> | <u>      </u> | <u>      </u> | UPL + NL species <u>      </u> X5= <u>      </u>                                                                            |                   |
| 4. <u>Rub ida</u>                                                                                                                | <u>5</u>      | <u>Y</u>      | <u>FACW</u>   | 10. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | Column Totals: <u>167</u> (A) <u>556</u> (B)                                                                                |                   |
| 5. <u>Menz fern</u>                                                                                                              | <u>7</u>      | <u>Y</u>      | <u>FACW</u>   | 11. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | Prevalence Index = B/A = <u>3328</u>                                                                                        |                   |
| 6. <u>Alnus ten</u>                                                                                                              | <u>5</u>      | <u>Y</u>      | <u>FAC</u>    | 12. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                                             |                   |
| Total Sapling/Shrub Cover: <u>42</u>                                                                                             |               |               |               |                     |               |               |               |                                                                                                                             |                   |
| 50% of total cover: <u>21</u> 20% of total cover: <u>8.4</u>                                                                     |               |               |               |                     |               |               |               |                                                                                                                             |                   |
| Herb Stratum                                                                                                                     |               |               |               |                     |               |               |               | Hydrophytic Vegetation Indicators:                                                                                          |                   |
| Species                                                                                                                          | Abs.Cov.%     | Dom?          | Ind.          | Species             | Abs.Cov.%     | Dom?          | Ind.          | <input checked="" type="checkbox"/> Dominance Test is >50%                                                                  |                   |
| 1. <u>Cal can</u>                                                                                                                | <u>35</u>     | <u>Y</u>      | <u>FAC</u>    | 12. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | <input type="checkbox"/> Prevalence Index is ≤3.0                                                                           |                   |
| 2. <u>Athy. filifol</u>                                                                                                          | <u>45</u>     | <u>Y</u>      | <u>FAC</u>    | 13. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |                   |
| 3. <u>Vera vir</u>                                                                                                               | <u>3</u>      | <u>-</u>      | <u>FAC</u>    | 14. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                          |                   |
| 4. <u>Equis ar</u>                                                                                                               | <u>7</u>      | <u>-</u>      | <u>FAC</u>    | 15. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                                             |                   |
| 5. <u>Corn can</u>                                                                                                               | <u>5</u>      | <u>-</u>      | <u>FACW</u>   | 16. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                                             |                   |
| 6. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 17. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                                             |                   |
| 7. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 18. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                                             |                   |
| 8. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 19. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                                             |                   |
| 9. <u>      </u>                                                                                                                 | <u>      </u> | <u>      </u> | <u>      </u> | 20. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                                             |                   |
| 10. <u>      </u>                                                                                                                | <u>      </u> | <u>      </u> | <u>      </u> | 21. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                                             |                   |
| 11. <u>      </u>                                                                                                                | <u>      </u> | <u>      </u> | <u>      </u> | 22. <u>      </u>   | <u>      </u> | <u>      </u> | <u>      </u> |                                                                                                                             |                   |
| Total Herb Cover: <u>95</u>                                                                                                      |               |               |               |                     |               |               |               |                                                                                                                             |                   |
| 50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>                                                                    |               |               |               |                     |               |               |               |                                                                                                                             |                   |
| Circular 1/10-ac plot <input checked="" type="checkbox"/> or other plot dimension: <u>      </u> % of bare ground: <u>      </u> |               |               |               |                     |               |               |               | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>              |                   |
| % Cover of Wetland Bryophytes <u>      </u> % Total Cover of Bryophytes <u>      </u> (where applicable)                         |               |               |               |                     |               |               |               |                                                                                                                             |                   |

Remarks:

Several dead spruce tree, but vegetation doesn't quite meet.



## SOIL

Sampling Point #: 596

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix<br>Color (moist) | %  | Redox Features<br>Color (moist) | %  | Type <sup>1</sup> | Loc <sup>2</sup> | Texture | $\alpha, \alpha$ dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|------------------------------|----|---------------------------------|----|-------------------|------------------|---------|----------------------------------------|------------------------------------|
| 0-2            | A                 | 7.5YR2.5/1                   | —  | —                               | —  | —                 | —                | —       | —                                      | —                                  |
| 2-6            | E                 | 5Y5/1                        | —  | —                               | —  | —                 | —                | SL      | neg                                    | buried organics                    |
| 6-8            | B <sub>1</sub>    | 10YR3/2                      | —  | —                               | —  | —                 | —                | SL      | neg                                    | —                                  |
| 8-10           | B <sub>2</sub>    | 10YR4/2                      | BS | 2.5YR2.5/3                      | 2  | C                 | RC               | SL      | neg                                    | —                                  |
| —              | —                 | —                            | —  | 5YR3/4                          | 13 | C                 | M                | SL      | —                                      | (diffuse redox)                    |
| —              | —                 | —                            | —  | —                               | —  | —                 | —                | —       | —                                      | —                                  |
| —              | —                 | —                            | —  | —                               | —  | —                 | —                | —       | —                                      | —                                  |
| —              | —                 | —                            | —  | —                               | —  | —                 | —                | —       | —                                      | —                                  |
| —              | —                 | —                            | —  | —                               | —  | —                 | —                | —       | —                                      | —                                  |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma  $\leq 2$ )
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface;  $\oplus$  " in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: NONE

Depth (inches) NA

Drainage Class: WD

Soil Map Unit Name:

Hydric Soil Present?

Yes ☒ No ☒

Comments:

1. —
2. —
3. Soil meets F3<sup>2</sup>-Depleted Matrix, but some hydrophytism not present, doesn't meet soils

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos.  $\alpha, \alpha$  or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒

Water Table Present? Yes ☐ No ☒

Seeping in at that depth but not yet filled?: ☐

Saturation Present? Yes ☒ No ☐

(includes capillary fringe)

Depth of water (in.) —

Depth to water (in.) —

Depth to sat. (in.) 12

Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturated @ 12"



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST SN ACCESS Borough/City: MSB Date: 9/29/2020  
 Applicant/Owner: AIDEA Sampling Point #: 597  
 Investigator(s): EC, CH Firm: HDR Alaska, Inc.

Lat. (dec.) 61.555612 Long. 150.596686 ± ' NAD 83 Recorded on GPS #: \_\_\_\_\_ Marked on map? \_\_\_\_\_ Field Map #: \_\_\_\_\_

Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: lowland Slope (%): 3 Aspect: \_\_\_\_\_

Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: 8B1B 7

Photo nos./descriptions: SOILS, NESW Camera #: ✓ Veg Type (Vioreck Level 4 or other): IIA2a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No: \_\_\_\_\_ If no, explain. HGM type: slope

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No \_\_\_\_\_

Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here.

## SUMMARY OF FINDINGS

|                                 |              |             |                                                                                              |
|---------------------------------|--------------|-------------|----------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <u>✓</u> | No <u>✓</u> | Is the sampled area within a wetland? Yes _____ No _____<br>Remarks (e.g., marginal?): _____ |
| Hydric Soil Present?            | Yes <u>✓</u> | No <u>✓</u> |                                                                                              |
| Wetland Hydrology Present?      | Yes <u>✓</u> | No _____    |                                                                                              |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                               |            |          |             |           |           |      |      | Dominance Test worksheet:                                                                                                                             |                               |
|---------------------------------------------------------------------------------------|------------|----------|-------------|-----------|-----------|------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Species                                                                               | Cov.%      | Dom?     | Ind.        | Species   | Cov.%     | Dom? | Ind. | Number of Dominant Species That are OBL, FACW, or FAC:                                                                                                |                               |
| 1. _____                                                                              |            |          |             | 5. _____  |           |      |      | 2                                                                                                                                                     | (A)                           |
| 2. _____                                                                              |            |          |             | 6. _____  |           |      |      | Total Number of Dominant Species Across All Strata:                                                                                                   | 4                             |
| 3. _____                                                                              |            |          |             | 7. _____  |           |      |      |                                                                                                                                                       |                               |
| 4. _____                                                                              |            |          |             | 8. _____  |           |      |      |                                                                                                                                                       |                               |
| Total Tree Cover: <u>1</u>                                                            |            |          |             |           |           |      |      | Percent of Dominant Species That are OBL, FACW, or FAC:                                                                                               | 50 (A/B)                      |
| 50% of total cover: _____ 20% of total cover: _____                                   |            |          |             |           |           |      |      | Prevalence Index worksheet:                                                                                                                           |                               |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                         |            |          |             |           |           |      |      | Total % Cover of:                                                                                                                                     | Multiply by:                  |
| Species                                                                               | Abs.Cov.%  | Dom?     | Ind.        | Species   | Abs.Cov.% | Dom? | Ind. | OBL species                                                                                                                                           | X1=                           |
| 1. <u>Samb. rac</u>                                                                   | <u>5</u>   | <u>Y</u> | <u>FACW</u> | 7. _____  |           |      |      | FACW species                                                                                                                                          | X2=                           |
| 2. <u>Alnus ten</u>                                                                   | <u>13</u>  | <u>Y</u> | <u>FAC</u>  | 8. _____  |           |      |      | FAC species                                                                                                                                           | <u>120</u> X3= <u>360</u>     |
| 3. <u>Rubus idae</u>                                                                  | <u>5</u>   | <u>Y</u> | <u>FACW</u> | 9. _____  |           |      |      | FACU species                                                                                                                                          | <u>18</u> X4= <u>72</u>       |
| 4. <u>Rubus frisk</u>                                                                 | <u>2</u>   | <u>-</u> | <u>FAC</u>  | 10. _____ |           |      |      | UPL + NL species                                                                                                                                      | X5=                           |
| 5. _____                                                                              |            |          |             | 11. _____ |           |      |      | Column Totals:                                                                                                                                        | <u>138</u> (A) <u>432</u> (B) |
| 6. _____                                                                              |            |          |             | 12. _____ |           |      |      | Prevalence Index = B/A = <u>3.13</u>                                                                                                                  |                               |
| Total Sapling/Shrub Cover: <u>25</u>                                                  |            |          |             |           |           |      |      |                                                                                                                                                       |                               |
| 50% of total cover: <u>12.5</u> 20% of total cover: <u>4.95</u>                       |            |          |             |           |           |      |      |                                                                                                                                                       |                               |
| Herb Stratum                                                                          |            |          |             |           |           |      |      | Hydrophytic Vegetation Indicators:                                                                                                                    |                               |
| Species                                                                               | Abs.Cov.%  | Dom?     | Ind.        | Species   | Abs.Cov.% | Dom? | Ind. | <input checked="" type="checkbox"/> Dominance Test is >50% (50, not over 50)<br><input type="checkbox"/> Prevalence Index is ≤3.0 <u>doesn't meet</u> |                               |
| 1. <u>Cal can</u>                                                                     | <u>190</u> | <u>Y</u> | <u>FAC</u>  | 12. _____ |           |      |      | <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)                           |                               |
| 2. <u>Equis. arif</u>                                                                 | <u>10</u>  | <u>-</u> | <u>FAC</u>  | 13. _____ |           |      |      | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                                                    |                               |
| 3. <u>Equis. arif</u>                                                                 | <u>10</u>  | <u>-</u> | <u>FAC</u>  | 14. _____ |           |      |      | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.                                         |                               |
| 4. <u>Dry cup</u>                                                                     | <u>8</u>   | <u>-</u> | <u>FACW</u> | 15. _____ |           |      |      | <input type="checkbox"/>                                                                                                                              |                               |
| 5. <u>Viola pedic</u>                                                                 | <u>2</u>   | <u>-</u> | <u>-</u>    | 16. _____ |           |      |      | <input type="checkbox"/>                                                                                                                              |                               |
| 6. <u>Equis. sylv</u>                                                                 | <u>5</u>   | <u>-</u> | <u>FAC</u>  | 17. _____ |           |      |      | <input type="checkbox"/>                                                                                                                              |                               |
| 7. _____                                                                              |            |          |             | 18. _____ |           |      |      | <input type="checkbox"/>                                                                                                                              |                               |
| 8. _____                                                                              |            |          |             | 19. _____ |           |      |      | <input type="checkbox"/>                                                                                                                              |                               |
| 9. _____                                                                              |            |          |             | 20. _____ |           |      |      | <input type="checkbox"/>                                                                                                                              |                               |
| 10. _____                                                                             |            |          |             | 21. _____ |           |      |      | <input type="checkbox"/>                                                                                                                              |                               |
| 11. _____                                                                             |            |          |             | 22. _____ |           |      |      | <input type="checkbox"/>                                                                                                                              |                               |
| Total Herb Cover: <u>115</u>                                                          |            |          |             |           |           |      |      | Hydrophytic Vegetation Present? Yes <u>✓</u> No <u>✓</u>                                                                                              |                               |
| 50% of total cover: <u>57.5</u> 20% of total cover: <u>23</u>                         |            |          |             |           |           |      |      |                                                                                                                                                       |                               |
| Circular 1/10-ac plot <u>✓</u> or other plot dimension: _____ % of bare ground: _____ |            |          |             |           |           |      |      |                                                                                                                                                       |                               |
| % Cover of Wetland Bryophytes _____ % Total Cover of Bryophytes <u>10</u> %           |            |          |             |           |           |      |      |                                                                                                                                                       |                               |
| Remarks: _____                                                                        |            |          |             |           |           |      |      |                                                                                                                                                       |                               |



## SOIL

Sampling Point #: 597

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |    |                   |                  | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|----|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                           |                                    |
| 0-5            | O <sub>0</sub>    |               |     |                |    |                   |                  |                           |                                    |
| 5-7            | A                 | 10YR 2/1      | 100 |                |    |                   |                  |                           |                                    |
| 7-10           | B <sub>1</sub>    | 10YR 3/2      | 95  | 5YR 3/4        | 5  | C                 | S/L              | M, RC                     | neg (dark brown)                   |
| 10-14          | B <sub>2</sub>    | 10YR 4/2      | 80  | 5YR 4/6        | 15 | C                 | S/L              | M, RC, PL                 | neg                                |
|                |                   |               |     | 5YR 4/4        | 5  | C                 | S/L              | M, RC, PL                 |                                    |
| 14-18          | B <sub>3</sub>    | 10YR 4/2      | 92  | 5YR 4/6        | 7  | C                 | S/L              | M, RC, PL                 |                                    |
|                |                   |               |     | 5YR 4/4        | 6  | C                 | S/L              | M, PL                     |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☒ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤ 2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface; ② \_\_\_\_\_ in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: None

Depth (inches) NA

Drainage Class: PP

Soil Map Unit Name:

Hydric Soil Present? Yes ☒ No ☒

## Comments:

1. Look at notes, Redox, does not meet ☒ FS since veg is not hydrophytic
- 2.
- 3.

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2) (w/in 12")
- ☒ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☒ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☒ No ☒ Depth of water (in.) —

Water Table Present? Yes ☒ No ☐ Depth to water (in.) 11

Seeping in at that depth but not yet filled?: 9

Saturation Present? Yes ☒ No ☐ Depth to sat. (in.) 3

(includes capillary fringe) Epi Endo Unknown

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

## Remarks:

lowland, slope less than 3%



## WETLAND DETERMINATION DATA FORM - Alaska Region

Project: WEST SU AZLES Borough/City: MSB Date: 9/29/2020  
 Applicant/Owner: ADORA Sampling Point #: 598  
 Investigator(s): EC, CH Firm: HDR Alaska, Inc.  
 Lat. (dec.°) 61.557030 Long. 150.592705 ± NAD 83 Recorded on GPS #: \_\_\_\_\_ Marked on map? \_\_\_\_\_ Field Map #: \_\_\_\_\_  
 Subregion (circle one): SE Southcentral Western Aleutian Interior Northern Landform: mountain/hillside Slope (%): 8 Aspect: \_\_\_\_\_  
 Local relief: Shape across slope: linear / convex / concave Shape up/downslope: linear / convex / concave NWI classification: V  
 Photo nos./descriptions: SOILS x2, NESW Camera #: ✓ Veg Type (Vioreck Level 4 or other): IC2  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes: ✓ No: \_\_\_\_\_ If no, explain. HGM type: NA  
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? If needed, explain answers here. Black Spruce  
+ Birch

## SUMMARY OF FINDINGS

|                                 |              |             |                                                                                                 |
|---------------------------------|--------------|-------------|-------------------------------------------------------------------------------------------------|
| Hydrophytic Vegetation Present? | Yes <u>✓</u> | No _____    | Is the sampled area within a wetland? Yes _____ No <u>✓</u><br>Remarks (e.g., marginal?): _____ |
| Hydric Soil Present?            | Yes _____    | No <u>✓</u> |                                                                                                 |
| Wetland Hydrology Present?      | Yes _____    | No <u>✓</u> |                                                                                                 |

## VEGETATION (Use scientific names.) Estimate absolute % cover (not relative cover). % can total &gt;100%.

| Tree Stratum (dbh ≥ 3")                                                                        |           |          |             |                    |           |          |             | Dominance Test worksheet:                                                                                     |                               |
|------------------------------------------------------------------------------------------------|-----------|----------|-------------|--------------------|-----------|----------|-------------|---------------------------------------------------------------------------------------------------------------|-------------------------------|
| Species                                                                                        | Cov.%     | Dom?     | Ind.        | Species            | Cov.%     | Dom?     | Ind.        | Number of Dominant Species That are OBL, FACW, or FAC:                                                        |                               |
| 1. <u>Picea mar</u>                                                                            | <u>20</u> | <u>Y</u> | <u>FACW</u> | 5. _____           | _____     | _____    | _____       | <u>5</u>                                                                                                      | (A)                           |
| 2. <u>Bet psp</u>                                                                              | <u>30</u> | <u>Y</u> | <u>FACW</u> | 6. _____           | _____     | _____    | _____       | <u>7</u>                                                                                                      | (B)                           |
| 3. _____                                                                                       | _____     | _____    | _____       | 7. _____           | _____     | _____    | _____       | <u>71</u>                                                                                                     | (A/B)                         |
| 4. _____                                                                                       | _____     | _____    | _____       | 8. _____           | _____     | _____    | _____       |                                                                                                               |                               |
| Total Tree Cover: <u>50</u>                                                                    |           |          |             |                    |           |          |             | Percent of Dominant Species That are OBL, FACW, or FAC: <u>71</u> (A/B)                                       |                               |
| 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>                                    |           |          |             |                    |           |          |             | Prevalence Index worksheet:                                                                                   |                               |
| Sapling/Shrub Stratum (woody plants < 3" dbh)                                                  |           |          |             |                    |           |          |             | Total % Cover of: _____ Multiply by: _____                                                                    |                               |
| Species                                                                                        | Abs.Cov.% | Dom?     | Ind.        | Species            | Abs.Cov.% | Dom?     | Ind.        | OBL species                                                                                                   | X1= _____                     |
| 1. <u>Menz fir</u>                                                                             | <u>20</u> | <u>Y</u> | <u>FACW</u> | 7. <u>Vac vit</u>  | <u>8</u>  | <u>-</u> | <u>FACW</u> | FACW species                                                                                                  | <u>36</u> X2= <u>70</u>       |
| 2. <u>Picea mar</u>                                                                            | <u>18</u> | <u>Y</u> | <u>FACW</u> | 8. <u>Lyc and</u>  | <u>7</u>  | <u>-</u> | <u>FACW</u> | FAC species                                                                                                   | <u>61</u> X3= <u>183</u>      |
| 3. <u>Bet psp</u>                                                                              | <u>3</u>  | <u>-</u> | <u>FACW</u> | 9. <u>Wier bar</u> | <u>5</u>  | <u>-</u> | <u>FACW</u> | FACU species                                                                                                  | <u>75</u> X4= <u>292</u>      |
| 4. <u>Vib edule</u>                                                                            | <u>8</u>  | <u>-</u> | <u>FACW</u> | 10. <u>Lyc cla</u> | <u>1</u>  | <u>-</u> | <u>FACW</u> | UPL + NL species                                                                                              | X5= _____                     |
| 5. <u>Vac oval</u>                                                                             | <u>10</u> | <u>-</u> | <u>FACW</u> | 11. _____          | _____     | _____    | _____       | Column Totals:                                                                                                | <u>169</u> (A) <u>445</u> (B) |
| 6. <u>Alnus cri</u>                                                                            | <u>15</u> | <u>Y</u> | <u>FACW</u> | 12. _____          | _____     | _____    | _____       | Prevalence Index = B/A = <u>2.6</u>                                                                           |                               |
| Total Sapling/Shrub Cover: <u>91</u>                                                           |           |          |             |                    |           |          |             |                                                                                                               |                               |
| 50% of total cover: <u>45.5</u> 20% of total cover: <u>18.2</u>                                |           |          |             |                    |           |          |             |                                                                                                               |                               |
| Herb Stratum                                                                                   |           |          |             |                    |           |          |             | Hydrophytic Vegetation Indicators:                                                                            |                               |
| Species                                                                                        | Abs.Cov.% | Dom?     | Ind.        | Species            | Abs.Cov.% | Dom?     | Ind.        | <u>Y</u> Dominance Test is >50%                                                                               |                               |
| 1. <u>Dry exp</u>                                                                              | <u>10</u> | <u>Y</u> | <u>FACW</u> | 12. _____          | _____     | _____    | _____       | <u>Y</u> Prevalence Index is ≤3.0                                                                             |                               |
| 2. <u>Cornus can</u>                                                                           | <u>5</u>  | <u>-</u> | <u>FACW</u> | 13. _____          | _____     | _____    | _____       | <u>-</u> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)   |                               |
| 3. <u>Geo liv</u>                                                                              | <u>5</u>  | <u>-</u> | <u>FACW</u> | 14. _____          | _____     | _____    | _____       | <u>-</u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                                            |                               |
| 4. <u>Rub ped</u>                                                                              | <u>8</u>  | <u>Y</u> | <u>FACW</u> | 15. _____          | _____     | _____    | _____       | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic. |                               |
| 5. _____                                                                                       | _____     | _____    | _____       | 16. _____          | _____     | _____    | _____       | Hydrophytic Vegetation Present? Yes <u>✓</u> No _____                                                         |                               |
| 6. _____                                                                                       | _____     | _____    | _____       | 17. _____          | _____     | _____    | _____       |                                                                                                               |                               |
| 7. _____                                                                                       | _____     | _____    | _____       | 18. _____          | _____     | _____    | _____       |                                                                                                               |                               |
| 8. _____                                                                                       | _____     | _____    | _____       | 19. _____          | _____     | _____    | _____       |                                                                                                               |                               |
| 9. _____                                                                                       | _____     | _____    | _____       | 20. _____          | _____     | _____    | _____       |                                                                                                               |                               |
| 10. _____                                                                                      | _____     | _____    | _____       | 21. _____          | _____     | _____    | _____       |                                                                                                               |                               |
| 11. _____                                                                                      | _____     | _____    | _____       | 22. _____          | _____     | _____    | _____       |                                                                                                               |                               |
| Total Herb Cover: <u>28</u>                                                                    |           |          |             |                    |           |          |             |                                                                                                               |                               |
| 50% of total cover: <u>14</u> 20% of total cover: <u>5.6</u>                                   |           |          |             |                    |           |          |             |                                                                                                               |                               |
| Circular 1/10-ac plot <u>✓</u> or other plot dimension: _____ % of bare ground: _____          |           |          |             |                    |           |          |             |                                                                                                               |                               |
| % Cover of Wetland Bryophytes _____ % Total Cover of Bryophytes <u>20</u> % (where applicable) |           |          |             |                    |           |          |             |                                                                                                               |                               |
| Remarks: _____                                                                                 |           |          |             |                    |           |          |             |                                                                                                               |                               |



Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

| Depth<br>(in.) | Horizon<br>(opt.) | Soil Matrix   |     | Redox Features |   |                   |                  | a,a dip.<br>(pos/<br>neg) | Remarks<br>(or use comment number) |
|----------------|-------------------|---------------|-----|----------------|---|-------------------|------------------|---------------------------|------------------------------------|
|                |                   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   |                                    |
| 0-3            | O <sub>1</sub>    | 5YR 2.5/1     | 100 |                |   |                   |                  |                           |                                    |
| 2-9            | A                 | 5Y 5/1        | 100 |                |   |                   |                  | LS                        |                                    |
| 9-11           | B <sub>1</sub>    | 2.5YR 2.2/2   | 100 |                |   |                   |                  | SIL                       |                                    |
| 11-13          | B <sub>2</sub>    | 10YR 4/6      | 100 |                |   |                   |                  | SIL                       |                                    |
| 13-14          | B <sub>3</sub>    | 10YR 5/4      | 100 |                |   |                   |                  | SIL                       |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |
|                |                   |               |     |                |   |                   |                  |                           |                                    |

<sup>1</sup>Type: C = Concentration, D = Depletion, RM = Reduced Matrix, CS=Coated Sand Grains <sup>2</sup>Location: PL = Pore Lining, RC = Root Channel, M = Matrix

Hydric Soil Indicators (check ones that apply, measure from top of mineral layers unless otherwise noted):

## Standard Indicators:

- ☐ Histosol or Histel (A1)
- ☐ Histic Epipedon (A2) (8-16" organics, sat'd, underlain by mineral soil with chroma ≤2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4) (within 12" of mineral surface;  $\oplus$  " in this pit)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Alaska Color Change<sup>4</sup> (TA4)
- ☐ Alaska Alpine Swales (TA5)
- ☐ Alaska Redox with 2.5Y Hue
- ☐ Alaska Gleyed without Hue 5Y or Redder Underlying Layer
- ☐ Other (e.g., see p.91 of 2007 Supplement: explain in Remarks)

<sup>3</sup>One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

<sup>4</sup>Give details of color change in Remarks.

Restrictive Layer (if present)

Type: none

Depth (inches) na

Drainage Class: wp

Soil Map Unit Name:

Hydric Soil Present? Yes ☐ No ☒

Comments:

- 
- 
- 

## HYDROLOGY

Wetland Hydrology Indicators (check ones that apply, measure from soil surface):

## Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2) (w/in 12")
- ☐ Saturation (A3) (w/in 12")
- ☐ 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)

## Secondary Indicators (at least 2 are required)

- ☐ Water-Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxid'd Rhizospheres on Living Roots (C3) (within 12")
- ☐ Presence of Reduced Iron (C4) (pos. a,a or soil color change w/in 12")
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3) (w/in 24", can perch H<sub>2</sub>O w/in 12")
- ☐ Microtopographic Relief (D4) (caused by water)
- ☐ FAC Neutral Test (D5) (# OBL+FACW dominants > # FACU+UPL dominants)

Field Observations (in. from ground surface):

Surface Water Present? Yes ☐ No ☒ Depth of water (in.)     

Water Table Present? Yes ☐ No ☒ Depth to water (in.)     

Seeping in at that depth but not yet filled? ☐

Saturation Present? Yes ☐ No ☒ Depth to sat. (in.)     

(includes capillary fringe) Ept Endo Unknown

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:





**Site 002:** Soil. Photo taken September 15, 2020.



**Site 002:** Northern view of vegetation. Photo taken September 15, 2020.





**Site 002:** Southern view of vegetation. Photo taken September 15, 2020.



**Site 002:** Western view of vegetation. Photo taken September 15, 2020.





**Site 004:** Soil. Photo taken September 15, 2020.



**Site 004:** Soil. Photo taken September 15, 2020.





**Site 004:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 004:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 009:** Soil. Photo taken September 15, 2020.



**Site 009:** Soil. Photo taken September 15, 2020.





**Site 009:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 009:** Eastern view of vegetation. Photo taken September 15, 2020.





**Site 011:** Soil. Photo taken September 15, 2020.



**Site 011:** Northern view of vegetation. Photo taken September 15, 2020.





**Site 011:** Eastern view of vegetation. Photo taken September 15, 2020.



**Site 011:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 015:** Soil. Photo taken September 15, 2020.



**Site 015:** Soil. Photo taken September 15, 2020.





**Site 015:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 015:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 016:** Soil. Photo taken September 16, 2020.



**Site 016:** Northern view of vegetation. Photo taken September 16, 2020.





**Site 016:** Eastern view of vegetation. Photo taken September 16, 2020.



**Site 016:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 017:** Soil. Photo taken September 16, 2020.



**Site 017:** Northern view of vegetation. Photo taken September 16, 2020.





**Site 017:** Southern view of vegetation. Photo taken September 16, 2020.



**Site 017:** Western view of vegetation. Photo taken September 16, 2020.





**Site 022:** Soil. Photo taken September 16, 2020.



**Site 022:** Soil. Photo taken September 16, 2020.





**Site 022:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 022:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 023:** Soil. Photo taken September 16, 2020.



**Site 023:** Soil. Photo taken September 16, 2020.





**Site 023:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 023:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 028:** Soil. Photo taken September 16, 2020.



**Site 028:** Soil. Photo taken September 16, 2020.





**Site 028:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 028:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 037:** Soil. Photo taken September 18, 2020.



**Site 037:** Soil. Photo taken September 18, 2020.





**Site 037:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 037:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 040:** Soil. Photo taken September 18, 2020.



**Site 040:** Soil. Photo taken September 18, 2020.





**Site 040:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 040:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 042:** Soil. Photo taken September 18, 2020.



**Site 042:** Soil. Photo taken September 18, 2020.





**Site 042:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 042:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 043a:** Soil. Photo taken September 18, 2020.



**Site 043a:** Soil. Photo taken September 18, 2020.





**Site 043a:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 043a:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 045:** Soil. Photo taken September 18, 2020.



**Site 045:** Soil. Photo taken September 18, 2020.





**Site 045:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 045:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 054:** Soil. Photo taken September 18, 2020.



**Site 054:** Soil. Photo taken September 18, 2020.





**Site 054:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 054:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 500:** Soil. Photo taken September 15, 2020.



**Site 500:** Soil. Photo taken September 15, 2020.





**Site 500:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 500:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 501:** Soil. Photo taken September 15, 2020.



**Site 501:** Soil. Photo taken September 15, 2020.





**Site 501:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 501:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 503:** Soil. Photo taken September 15, 2020.



**Site 503:** Soil. Photo taken September 15, 2020.





**Site 503:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 503:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 504:** Soil. Photo taken September 15, 2020.



**Site 504:** Northern view of vegetation. Photo taken September 15, 2020.





**Site 504:** Eastern view of vegetation. Photo taken September 15, 2020.



**Site 504:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 506:** Soil. Photo taken September 15, 2020.



**Site 506:** Soil. Photo taken September 15, 2020.





**Site 506:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 506:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 508:** Soil. Photo taken September 15, 2020.



**Site 508:** Soil. Photo taken September 15, 2020.





**Site 508:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 508:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 509:** Soil. Photo taken September 15, 2020.



**Site 509:** Soil. Photo taken September 15, 2020.





**Site 509:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 509:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 513:** Soil. Photo taken September 16, 2020.



**Site 513:** Soil. Photo taken September 16, 2020.





**Site 513:** Eastern view of vegetation. Photo taken September 16, 2020.



**Site 513:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 514:** Soil. Photo taken September 16, 2020.



**Site 514:** Soil. Photo taken September 16, 2020.





**Site 514:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 514:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 516:** Soil. Photo taken September 16, 2020.



**Site 516:** Soil. Photo taken September 16, 2020.





**Site 516:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 516:** Western view of vegetation. Photo taken September 16, 2020.





**Site 520:** Soil. Photo taken September 16, 2020.



**Site 520:** Soil. Photo taken September 16, 2020.





**Site 520:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 520:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 522:** Soil. Photo taken September 16, 2020.



**Site 522:** Soil. Photo taken September 16, 2020.





**Site 522:** Southern view of vegetation. Photo taken September 16, 2020.



**Site 522:** Western view of vegetation. Photo taken September 16, 2020.





**Site 528:** Soil. Photo taken September 16, 2020.



**Site 528:** Soil. Photo taken September 16, 2020.





**Site 528:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 528:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 529:** Soil. Photo taken September 16, 2020.



**Site 529:** Soil. Photo taken September 16, 2020.





**Site 529:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 529:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 534:** Soil. Photo taken September 18, 2020.



**Site 534:** Soil. Photo taken September 18, 2020.





**Site 534:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 534:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 536:** Soil. Photo taken September 18, 2020.



**Site 536:** Soil. Photo taken September 18, 2020.





**Site 536:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 536:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 537:** Soil. Photo taken September 18, 2020.



**Site 537:** Soil. Photo taken September 18, 2020.





**Site 537:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 537:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 547:** Soil. Photo taken September 18, 2020.



**Site 547:** Soil. Photo taken September 18, 2020.





**Site 547:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 547:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 550:** Soil. Photo taken September 18, 2020.



**Site 550:** Soil. Photo taken September 18, 2020.





**Site 550:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 550:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 551:** Soil. Photo taken September 18, 2020.



**Site 551:** Soil. Photo taken September 18, 2020.





**Site 551:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 551:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 555:** Soil. Photo taken September 23, 2020.



**Site 555:** Soil. Photo taken September 23, 2020.





**Site 555:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 555:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 556:** Soil. Photo taken September 23, 2020.



**Site 556:** Soil. Photo taken September 23, 2020.





**Site 556:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 556:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 561:** Soil. Photo taken September 23, 2020.



**Site 561:** Soil. Photo taken September 23, 2020.





**Site 561:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 561:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 572:** Soil. Photo taken September 23, 2020.



**Site 572:** Soil. Photo taken September 23, 2020.





**Site 572:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 572:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 574:** Soil. Photo taken September 23, 2020.



**Site 574:** Soil. Photo taken September 23, 2020.





**Site 574:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 574:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 577:** Soil. Photo taken September 23, 2020.



**Site 577:** Soil. Photo taken September 23, 2020.





**Site 577:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 577:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 579:** Soil. Photo taken September 23, 2020.



**Site 579:** Soil. Photo taken September 23, 2020.





**Site 579:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 579:** Eastern view of vegetation. Photo taken September 23, 2020.





**Site 583:** Soil. Photo taken September 29, 2020.



**Site 583:** Soil. Photo taken September 29, 2020.





**Site 583:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 583:** Southern view of vegetation. Photo taken September 29, 2020.





**Site 584:** Soil. Photo taken September 29, 2020.



**Site 584:** Soil. Photo taken September 29, 2020.





**Site 584:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 584:** Southern view of vegetation. Photo taken September 29, 2020.





**Site 585:** Soil. Photo taken September 29, 2020.



**Site 585:** Soil. Photo taken September 29, 2020.





**Site 585:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 585:** Southern view of vegetation. Photo taken September 29, 2020.





**Site 586:** Soil. Photo taken September 29, 2020.



**Site 586:** Soil. Photo taken September 29, 2020.





**Site 586:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 586:** Western view of vegetation. Photo taken September 29, 2020.





**Site 587:** Soil. Photo taken September 29, 2020.



**Site 587:** Soil. Photo taken September 29, 2020.





**Site 587:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 587:** Southern view of vegetation. Photo taken September 29, 2020.





**Site 592:** Soil. Photo taken September 29, 2020.



**Site 592:** Soil. Photo taken September 29, 2020.





**Site 592:** Eastern view of vegetation. Photo taken September 29, 2020.



**Site 592:** Western view of vegetation. Photo taken September 29, 2020.





**Site 593:** Soil. Photo taken September 29, 2020.



**Site 593:** Soil. Photo taken September 29, 2020.





**Site 593:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 593:** Southern view of vegetation. Photo taken September 29, 2020.





**Site 594:** Soil. Photo taken September 29, 2020.



**Site 594:** Soil. Photo taken September 29, 2020.





**Site 594:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 594:** Southern view of vegetation. Photo taken September 29, 2020.





**Site 595:** Soil. Photo taken September 29, 2020.



**Site 595:** Soil. Photo taken September 29, 2020.





**Site 595:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 595:** Southern view of vegetation. Photo taken September 29, 2020.





**Site 596:** Soil. Photo taken September 29, 2020.



**Site 596:** Soil. Photo taken September 29, 2020.





**Site 596:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 596:** Southern view of vegetation. Photo taken September 29, 2020.





**Site 597:** Soil. Photo taken September 29, 2020.



**Site 597:** Soil. Photo taken September 29, 2020.





**Site 597:** Eastern view of vegetation. Photo taken September 29, 2020.



**Site 597:** Western view of vegetation. Photo taken September 29, 2020.





**Site 598:** Soil. Photo taken September 29, 2020.



**Site 598:** Soil. Photo taken September 29, 2020.





**Site 598:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 598:** Western view of vegetation. Photo taken September 29, 2020.



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## Appendix B

### Observation Point Photographs

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September 15, 16, 18, 23, and 29, 2020



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### Appendix B: Summary of Observation Point Sites

| Site | Latitude | Longitude  | NWI Code <sup>a</sup> | HGM Class <sup>b</sup> |
|------|----------|------------|-----------------------|------------------------|
| 001  | 61.98064 | -152.58670 | PEM1C                 | Slope                  |
| 003  | 61.98162 | -152.59311 | R3UBH                 | Riverine Channel       |
| 005  | 61.98106 | -152.59301 | U                     | N/A                    |
| 006  | 61.98040 | -152.59151 | PUBH                  | Slope                  |
| 007  | 61.98000 | -152.59017 | U                     | N/A                    |
| 008  | 61.98041 | -152.58867 | U                     | N/A                    |
| 010  | 61.98660 | -152.42671 | U                     | N/A                    |
| 012  | 61.98684 | -152.42736 | PEM1F                 | Riverine               |
| 013  | 61.98544 | -152.42868 | PUBH                  | Slope                  |
| 014  | 61.98567 | -152.42651 | PSS1F                 | Slope                  |
| 018  | 61.55398 | -150.71889 | R3UBH                 | Riverine Channel       |
| 019  | 61.55353 | -150.71974 | U                     | N/A                    |
| 020  | 61.55402 | -150.71780 | R3UBH                 | Riverine Channel       |
| 021  | 61.55455 | -150.71617 | PEM1B                 | Slope                  |
| 024  | 61.59414 | -150.82504 | U                     | N/A                    |
| 025  | 61.59350 | -150.82701 | U                     | N/A                    |
| 026  | 61.59369 | -150.82818 | U                     | N/A                    |
| 027  | 61.59358 | -150.82854 | R3UBH                 | Riverine Channel       |
| 029  | 61.59430 | -150.82855 | U                     | N/A                    |
| 030  | 61.59495 | -150.82637 | U                     | N/A                    |
| 031  | 61.59482 | -150.82527 | PSS1/USA              | Riverine               |
| 032  | 61.59458 | -150.82300 | PEM1F                 | Riverine               |
| 033  | 61.59464 | -150.82282 | PEM1/SS1B             | Riverine               |
| 034  | 61.59496 | -150.82274 | R3UBH                 | Riverine Channel       |
| 035  | 61.59512 | -150.81949 | PEM1F /<br>PSS1/EM1C  | Riverine               |
| 036  | 61.59420 | -150.82069 | U                     | N/A                    |
| 038  | 61.53119 | -150.48716 | U                     | N/A                    |
| 039  | 61.53245 | -150.49238 | R3UBH                 | Riverine Channel       |
| 041  | 61.53240 | -150.49044 | U                     | N/A                    |
| 043b | 61.51292 | -150.45450 | PSS1B                 | Flat                   |
| 044  | 61.51268 | -150.45575 | U                     | N/A                    |
| 046  | 61.51185 | -150.45725 | PSS1B                 | Flat                   |
| 047  | 61.51075 | -150.45468 | U                     | N/A                    |





### Appendix B: Summary of Observation Point Sites

| Site | Latitude | Longitude  | NWI Code <sup>a</sup> | HGM Class <sup>b</sup> |
|------|----------|------------|-----------------------|------------------------|
| 048  | 61.51067 | -150.45408 | PSS1/EM1B             | Depressional           |
| 049  | 61.51057 | -150.45229 | PEM1C                 | Flat                   |
| 050  | 61.50890 | -150.45035 | PSS4B                 | Flat                   |
| 051  | 61.50859 | -150.44930 | PSS4/EM1C             | Flat                   |
| 052  | 61.50829 | -150.44888 | PSS1B                 | Flat                   |
| 053  | 61.51059 | -150.45028 | PSS1/EM1B             | Flat                   |
| 502  | 61.97828 | -152.54631 | U                     | N/A                    |
| 505  | 61.97761 | -152.55238 | PEM1C                 | Slope                  |
| 507  | 61.98263 | -152.39943 | PEM1/SS1C             | Slope                  |
| 510  | 61.98351 | -152.39778 | PEM1C                 | Slope                  |
| 511  | 61.55482 | -150.69886 | PEM1/SS1C             | Slope                  |
| 512  | 61.55457 | -150.69908 | PSS1B                 | Slope                  |
| 515  | 61.55291 | -150.69726 | PFO1/EM1B             | Slope                  |
| 517  | 61.55324 | -150.69612 | U                     | N/A                    |
| 518  | 61.55396 | -150.69793 | PSS1/EM1B             | Slope                  |
| 519  | 61.60733 | -150.87529 | PSS1/EM1C             | Slope                  |
| 521  | 61.60729 | -150.87135 | PEM1/SS1C             | Slope                  |
| 523  | 61.60718 | -150.86851 | R3UBH                 | Riverine Channel       |
| 524  | 61.60706 | -150.86868 | U                     | N/A                    |
| 525  | 61.60701 | -150.86830 | R3UBH                 | Riverine Channel       |
| 526  | 61.60744 | -150.87565 | R3UBH                 | Riverine Channel       |
| 527  | 61.55446 | -150.66673 | PEM1/SS1C             | Slope                  |
| 530  | 61.55406 | -150.66871 | PSS3/EM1C             | Slope                  |
| 531  | 61.55506 | -150.66426 | PEM1/SS1B             | Slope                  |
| 532  | 61.55778 | -150.60789 | PSS1/EM1C             | Slope                  |
| 533  | 61.55716 | -150.61033 | PSS1/EM1C             | Slope                  |
| 535  | 61.55668 | -150.61223 | PFO1/SS1B             | Slope                  |
| 538  | 61.55629 | -150.61141 | PSS1/EM1B             | Slope                  |
| 539  | 61.55632 | -150.61084 | R3UBH                 | Riverine Channel       |
| 540  | 61.55627 | -150.60793 | PEM1/SS1B             | Slope                  |
| 541  | 61.55596 | -150.60744 | U                     | N/A                    |
| 542  | 61.55591 | -150.60770 | PSS1/EM1C             | Slope                  |
| 543  | 61.55642 | -150.60718 | U                     | N/A                    |



### Appendix B: Summary of Observation Point Sites

| Site | Latitude | Longitude  | NWI Code <sup>a</sup> | HGM Class <sup>b</sup> |
|------|----------|------------|-----------------------|------------------------|
| 544  | 61.55676 | -150.60769 | PFO1/SS1B             | Slope                  |
| 545  | 61.55444 | -150.56319 | PEM1C                 | Riverine               |
| 546  | 61.55434 | -150.56358 | PEM1F                 | Riverine               |
| 548  | 61.55452 | -150.56440 | U                     | N/A                    |
| 549  | 61.55452 | -150.56304 | R3UBH                 | Riverine Channel       |
| 552  | 61.55255 | -150.53489 | PSS1/EM1B             | Slope                  |
| 553  | 61.55250 | -150.53482 | U                     | N/A                    |
| 554  | 61.62049 | -150.90951 | PSS1B                 | Slope                  |
| 557  | 61.61919 | -150.90708 | R3UBH                 | Riverine Channel       |
| 558  | 61.61910 | -150.90612 | R3UBH                 | Riverine Channel       |
| 559  | 61.61916 | -150.90584 | PUBH                  | Riverine               |
| 560  | 61.61887 | -150.90517 | R3UBH                 | Riverine Channel       |
| 562  | 61.61818 | -150.90518 | U                     | N/A                    |
| 563  | 61.61825 | -150.90485 | R3UBH                 | Riverine Channel       |
| 564  | 61.61835 | -150.90433 | R3UBH                 | Riverine Channel       |
| 565  | 61.61828 | -150.90401 | U                     | N/A                    |
| 566  | 61.61854 | -150.90443 | R3UBH                 | Riverine Channel       |
| 567  | 61.61890 | -150.90417 | R3UBH                 | Riverine Channel       |
| 568  | 61.61928 | -150.90422 | PUBH                  | N/A                    |
| 569  | 61.61949 | -150.90469 | R3UBH                 | Riverine Channel       |
| 571  | 61.61987 | -150.90716 | R3UBH                 | Riverine Channel       |
| 573  | 61.58322 | -150.78503 | PFO1/SS1B             | Slope                  |
| 575  | 61.58234 | -150.78536 | U                     | N/A                    |
| 576  | 61.58218 | -150.78524 | U                     | N/A                    |
| 578  | 61.58235 | -150.78409 | U                     | N/A                    |
| 580  | 61.58277 | -150.78308 | PFO1/SS1B             | Slope                  |
| 581  | 61.48553 | -150.22736 | PEM1/SS1F             | Slope                  |
| 582  | 61.48556 | -150.22779 | PSS1/EM1C             | Slope                  |
| 588  | 61.48580 | -150.22491 | PFO4/SS1C             | Slope                  |
| 589  | 61.48584 | -150.22608 | PFO4/SS1B             | Slope                  |
| 590  | 61.48560 | -150.22704 | PFO4/SS1C             | Slope                  |
| 591  | 61.55867 | -150.59431 | PEM1/SS4B             | Slope                  |

<sup>a</sup> NWI: National Wetlands Inventory. Cowardin et al. 1979. See Table 4 for full descriptions.

<sup>b</sup> HGM: Hydrogeomorphic. Brinson 1993





**Site 001:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 001:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 003:** Upstream view of stream. Photo taken September 15, 2020.



**Site 003:** Downstream view of stream. Photo taken September 15, 2020.





**Site 005:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 005:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 006:** Eastern view of waterbody. Photo taken September 15, 2020.



**Site 006:** Western view of vegetation. Photo taken September 15, 2020.





**Site 007:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 007:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 008:** Eastern view of vegetation. Photo taken September 15, 2020.



**Site 008:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 010:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 010:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 012:** Northeastern view of vegetation. Photo taken September 15, 2020.



**Site 012:** Southwestern view of vegetation. Photo taken September 15, 2020.





**Site 013:** Northeastern view of waterbody. Photo taken September 15, 2020.



**Site 013:** Southwestern view of waterbody. Photo taken September 15, 2020.





**Site 014:** Upstream view of stream. Photo taken September 15, 2020.



**Site 014:** Downstream view of stream. Photo taken September 15, 2020.





**Site 018:** Upstream view of stream. Photo taken September 16, 2020.



**Site 018:** Downstream view of stream. Photo taken September 16, 2020.





**Site 019:** Northern view of vegetation. Photo taken September 16, 2020.

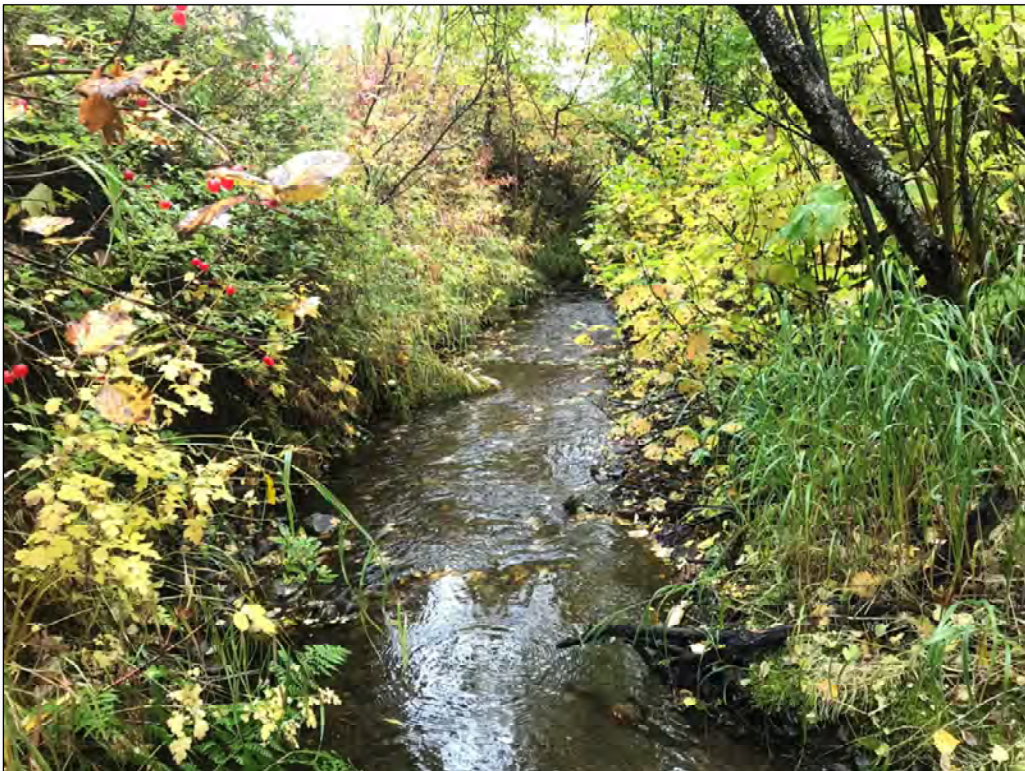


**Site 019:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 020:** Upstream view of stream. Photo taken September 16, 2020.



**Site 020:** Downstream view of stream. Photo taken September 16, 2020.





**Site 021:** Northeast view of vegetation. Photo taken September 16, 2020.



**Site 021:** Southwest view of vegetation. Photo taken September 16, 2020.





**Site 024:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 024:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 025:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 025:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 026:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 026:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 027:** Upstream view of stream. Photo taken September 16, 2020.



**Site 027:** Downstream view of stream. Photo taken September 16, 2020.





**Site 029:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 029:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 030:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 030:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 031:** Northern view of gravel bar. Photo taken September 16, 2020.



**Site 031:** Southern view of gravel bar. Photo taken September 16, 2020.





**Site 032:** Upstream view of stream. Photo taken September 16, 2020.



**Site 032:** Downstream view of stream. Photo taken September 16, 2020.





**Site 033:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 033:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 034:** Upstream view of stream. Photo taken September 16, 2020.



**Site 034:** Downstream view of stream. Photo taken September 16, 2020.





**Site 035:** Upstream view of stream. Photo taken September 16, 2020.



**Site 035:** Downstream view of stream. Photo taken September 16, 2020.





**Site 036:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 036:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 038:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 038:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 039:** Upstream view of stream. Photo taken September 18, 2020.



**Site 039:** Downstream view of stream. Photo taken September 18, 2020.





**Site 041:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 041:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 043b:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 043b:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 044:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 044:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 046:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 046:** Eastern view of vegetation. Photo taken September 18, 2020.





**Site 047:** Eastern view of vegetation. Photo taken September 18, 2020.



**Site 047:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 048:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 048:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 049:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 049:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 050:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 050:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 051:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 051:** Western view of vegetation. Photo taken September 18, 2020.





**Site 052:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 052:** Eastern view of vegetation. Photo taken September 18, 2020.





**Site 053:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 053:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 502:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 502:** Eastern view of vegetation. Photo taken September 15, 2020.





**Site 505:** Eastern view of vegetation. Photo taken September 15, 2020.



**Site 505:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 507:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 507:** Southern view of vegetation. Photo taken September 15, 2020.





**Site 510:** Northern view of vegetation. Photo taken September 15, 2020.



**Site 510:** Western view of vegetation. Photo taken September 15, 2020.





**Site 511:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 511:** Eastern view of vegetation. Photo taken September 16, 2020.





**Site 512:** Eastern view of vegetation. Photo taken September 16, 2020.



**Site 512:** Western view of vegetation. Photo taken September 16, 2020.





**Site 515:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 515:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 517:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 517:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 518:** Northern view of vegetation. Photo taken September 16, 2020.

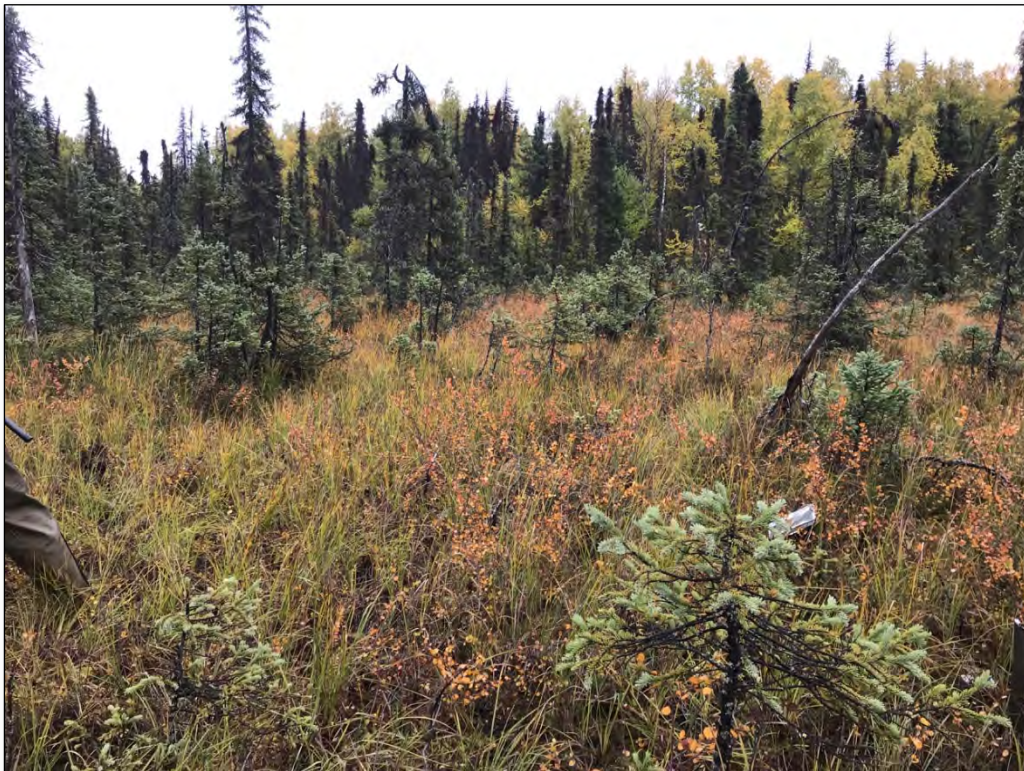


**Site 518:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 521:** View of small waterbody. Photo taken September 16, 2020.



**Site 521:** View of vegetation. Photo taken September 16, 2020.





**Site 523:** Upstream view of stream. Photo taken September 16, 2020.



**Site 523:** Downstream view of stream. Photo taken September 16, 2020.





**Site 524:** Eastern view of vegetation. Photo taken September 16, 2020.



**Site 524:** Western view of vegetation. Photo taken September 16, 2020.





**Site 525:** Upstream view of seep at toeslope. Photo taken September 16, 2020.



**Site 525:** Northwestern view across stream. Photo taken September 16, 2020.





**Site 526:** Upstream view of stream. Photo taken September 16, 2020.



**Site 526:** Downstream view of stream. Photo taken September 16, 2020.





**Site 527:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 527:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 530:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 530:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 531:** Northern view of vegetation. Photo taken September 16, 2020.



**Site 531:** Southern view of vegetation. Photo taken September 16, 2020.





**Site 532:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 532:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 533:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 533:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 535:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 535:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 538:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 538:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 539:** Upstream view of stream. Photo taken September 18, 2020.



**Site 539:** Downstream view of stream. Photo taken September 18, 2020.





**Site 540:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 540:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 541:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 541:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 542:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 542:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 543:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 543:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 544:** Eastern view of vegetation. Photo taken September 18, 2020.



**Site 544:** Western view of vegetation. Photo taken September 18, 2020.





**Site 545:** Eastern view of vegetation. Photo taken September 18, 2020.



**Site 545:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 546:** Eastern view of vegetation. Photo taken September 18, 2020.



**Site 546:** Western view of vegetation. Photo taken September 18, 2020.





**Site 548:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 548:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 549:** View across stream. Photo taken September 18, 2020.



**Site 549:** Downstream view of stream. Photo taken September 18, 2020.





**Site 552:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 552:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 553:** Northern view of vegetation. Photo taken September 18, 2020.



**Site 553:** Southern view of vegetation. Photo taken September 18, 2020.





**Site 554:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 554:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 557:** Upstream view of stream. Photo taken September 23, 2020.



**Site 557:** Downstream view of stream. Photo taken September 23, 2020.





**Site 558:** Upstream view of stream. Photo taken September 23, 2020.



**Site 558:** Downstream view of stream. Photo taken September 23, 2020.





**Site 559:** View across stream. Photo taken September 23, 2020.



**Site 559:** View of relic channel. Photo taken September 23, 2020.





**Site 560:** Upstream view of stream. Photo taken September 23, 2020.



**Site 560:** Downstream view of stream. Photo taken September 23, 2020.





**Site 562:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 562:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 563:** Upstream view of stream. Photo taken September 23, 2020.



**Site 563:** Downstream view of stream. Photo taken September 23, 2020.





**Site 564:** Upstream view of stream. Photo taken September 23, 2020.



**Site 564:** Downstream view of stream. Photo taken September 23, 2020.





**Site 565:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 565:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 566:** Upstream view of stream. Photo taken September 23, 2020.



**Site 566:** Downstream view of stream. Photo taken September 23, 2020.





**Site 567:** Upstream view of stream. Photo taken September 23, 2020.



**Site 567:** Downstream view of stream. Photo taken September 23, 2020.





**Site 568:** View of waterbody. Photo taken September 23, 2020.



**Site 568:** Northern view of vegetation. Photo taken September 23, 2020.





**Site 569:** Upstream view of stream. Photo taken September 23, 2020.



**Site 569:** Downstream view of stream. Photo taken September 23, 2020.





**Site 571:** Upstream view of stream. Photo taken September 23, 2020.



**Site 571:** Downstream view of stream. Photo taken September 23, 2020.





**Site 573:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 573:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 575:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 575:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 576:** Southern view of vegetation. Photo taken September 23, 2020.



**Site 576:** Western view of vegetation. Photo taken September 23, 2020.





**Site 578:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 578:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 580:** Northern view of vegetation. Photo taken September 23, 2020.



**Site 580:** Southern view of vegetation. Photo taken September 23, 2020.





**Site 581:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 581:** Southern view of vegetation. Photo taken September 29, 2020.





**Site 582:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 582:** Southern view of vegetation. Photo taken September 29, 2020.





**Site 588:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 588:** Western view of vegetation. Photo taken September 29, 2020.





**Site 589:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 589:** Southern view of vegetation. Photo taken September 29, 2020.





**Site 590:** Eastern view of vegetation. Photo taken September 29, 2020.



**Site 590:** Western view of vegetation. Photo taken September 29, 2020.





**Site 591:** Northern view of vegetation. Photo taken September 29, 2020.



**Site 591:** Southern view of vegetation. Photo taken September 29, 2020.



## Appendix C

### Antecedent Precipitation Tool Output

September 15, 16, 18, 23, and 29, 2020



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# Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

Generated on 2020-11-24

## User Inputs

|                  |                      |
|------------------|----------------------|
| Coordinates      | 61.98382, -152.49168 |
| Date             | 2020-09-15           |
| Geographic Scope | Custom Polygon       |

## Intermediate Data

|                          |                      |
|--------------------------|----------------------|
| Custom Watershed Name    | 09152020_fieldwork_2 |
| Watershed Size           | 3.02 mi <sup>2</sup> |
| # Random Sampling Points | 3                    |

## Preliminary Result

|                                        |                   |
|----------------------------------------|-------------------|
| Average Antecedent Precipitation Score | 12.0              |
| Preliminary Determination              | Normal Conditions |



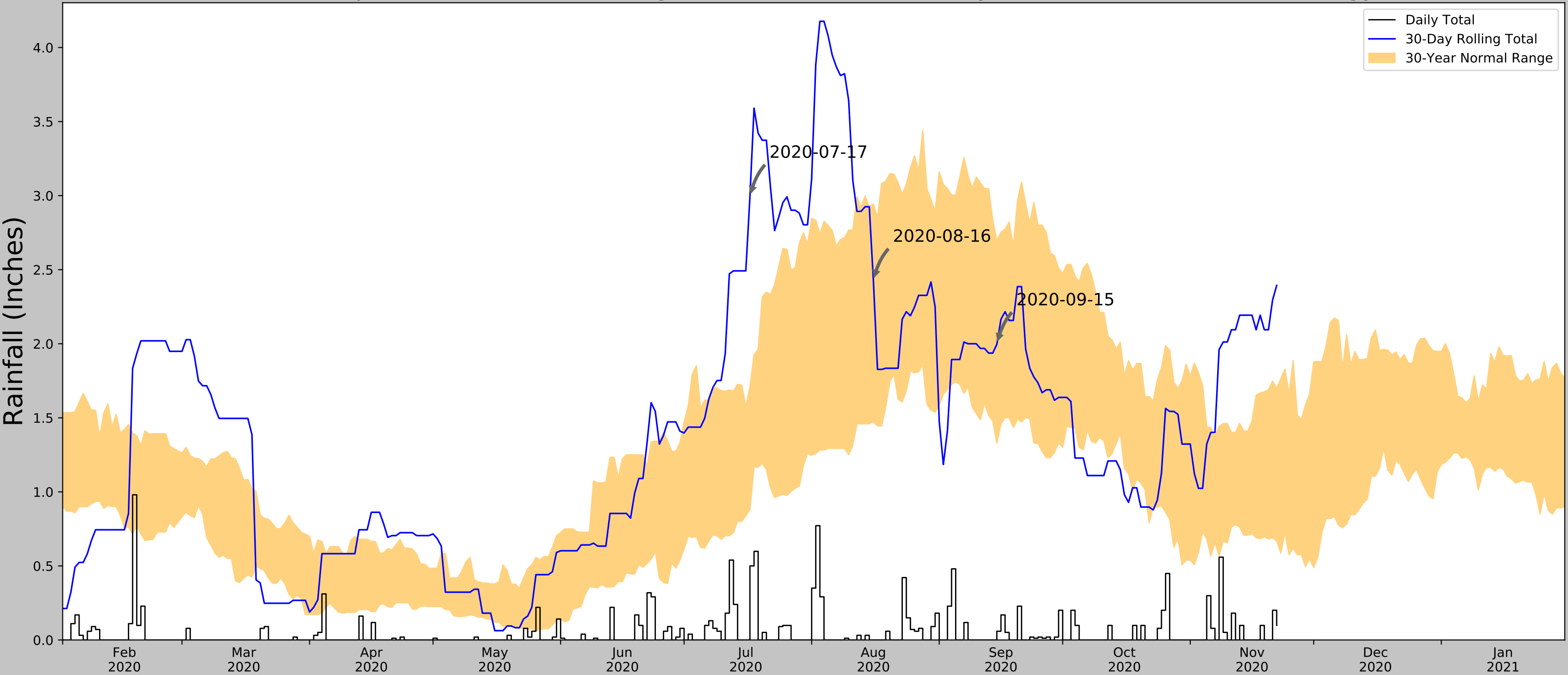
Normal Conditions

## Sampling Point Breakdown

| Antecedent Precipitation Score | Antecedent Precipitation Condition | WebWIMP H <sub>2</sub> O Balance | Drought Index (PDSI) | # of Points |
|--------------------------------|------------------------------------|----------------------------------|----------------------|-------------|
| 13                             | Normal Conditions                  | Wet Season                       | Not available        | 1           |
| 13                             | Normal Conditions                  | Dry Season                       | Not available        | 1           |
| 10                             | Normal Conditions                  | Wet Season                       | Not available        | 1           |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                      |
|----------------------------------|----------------------|
| Coordinates                      | 61.98382, -152.49168 |
| Observation Date                 | 2020-09-15           |
| Elevation (ft)                   | 1492.79              |
| Drought Index (PDSI)             | Not available        |
| WebWIMP H <sub>2</sub> O Balance | Wet Season           |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-15     | 1.328346                   | 2.697638                   | 1.996063      | Normal            | 2               | 3            | 6                      |
| 2020-08-16     | 1.472835                   | 2.943701                   | 2.425197      | Normal            | 2               | 2            | 4                      |
| 2020-07-17     | 0.881102                   | 1.707087                   | 2.992126      | Wet               | 3               | 1            | 3                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 13 |



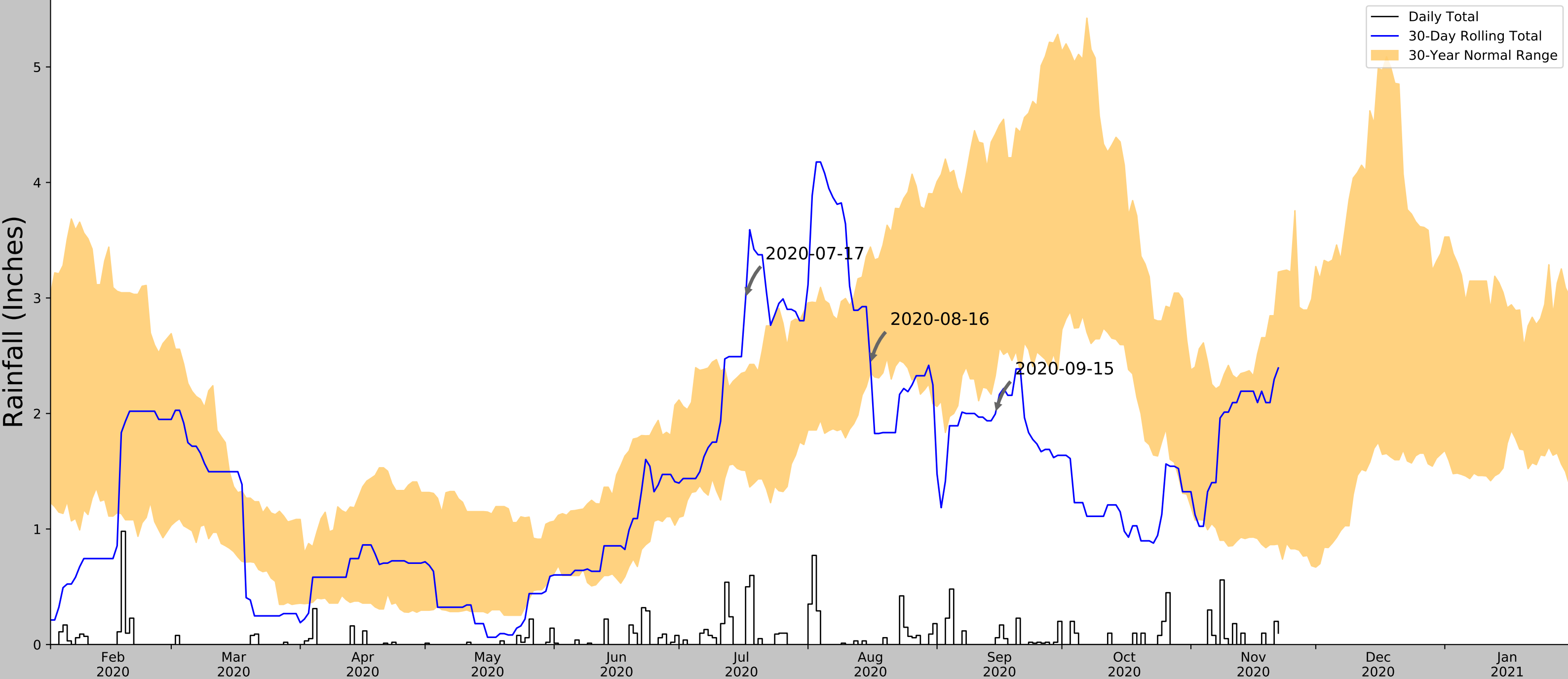
Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

|                   |                    |          |        |          |         |      |    |
|-------------------|--------------------|----------|--------|----------|---------|------|----|
| PUNTILLA          | 62.0911, -152.735  | 1857.94  | 10.821 | 365.15   | 8.821   | 9834 | 84 |
| HAYES RIVER       | 61.9872, -152.0758 | 1000.0   | 13.498 | 492.79   | 12.726  | 789  | 0  |
| FAREWELL LAKE     | 62.5422, -153.6206 | 1060.039 | 52.973 | 432.751  | 46.762  | 87   | 0  |
| Telaquana Lake    | 60.98, -153.92     | 1274.934 | 83.843 | 217.856  | 55.995  | 364  | 6  |
| SKWENTNA          | 61.9772, -151.2169 | 149.934  | 41.379 | 1342.856 | 74.187  | 222  | 0  |
| Tokositna Valley  | 62.63, -150.78     | 850.066  | 70.807 | 642.724  | 77.373  | 55   | 0  |
| TRAPPER CREEK 7SW | 62.2622, -150.4228 | 424.869  | 69.547 | 1067.921 | 105.567 | 1    | 0  |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.986165, -152.373392 |
| Observation Date                 | 2020-09-15             |
| Elevation (ft)                   | 1492.79                |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-15     | 2.327165                   | 4.417717                   | 1.996063      | Dry               | 1               | 3            | 3                      |
| 2020-08-16     | 2.359055                   | 3.441339                   | 2.425197      | Normal            | 2               | 2            | 4                      |
| 2020-07-17     | 1.506299                   | 2.359449                   | 2.992126      | Wet               | 3               | 1            | 3                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 10 |




Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

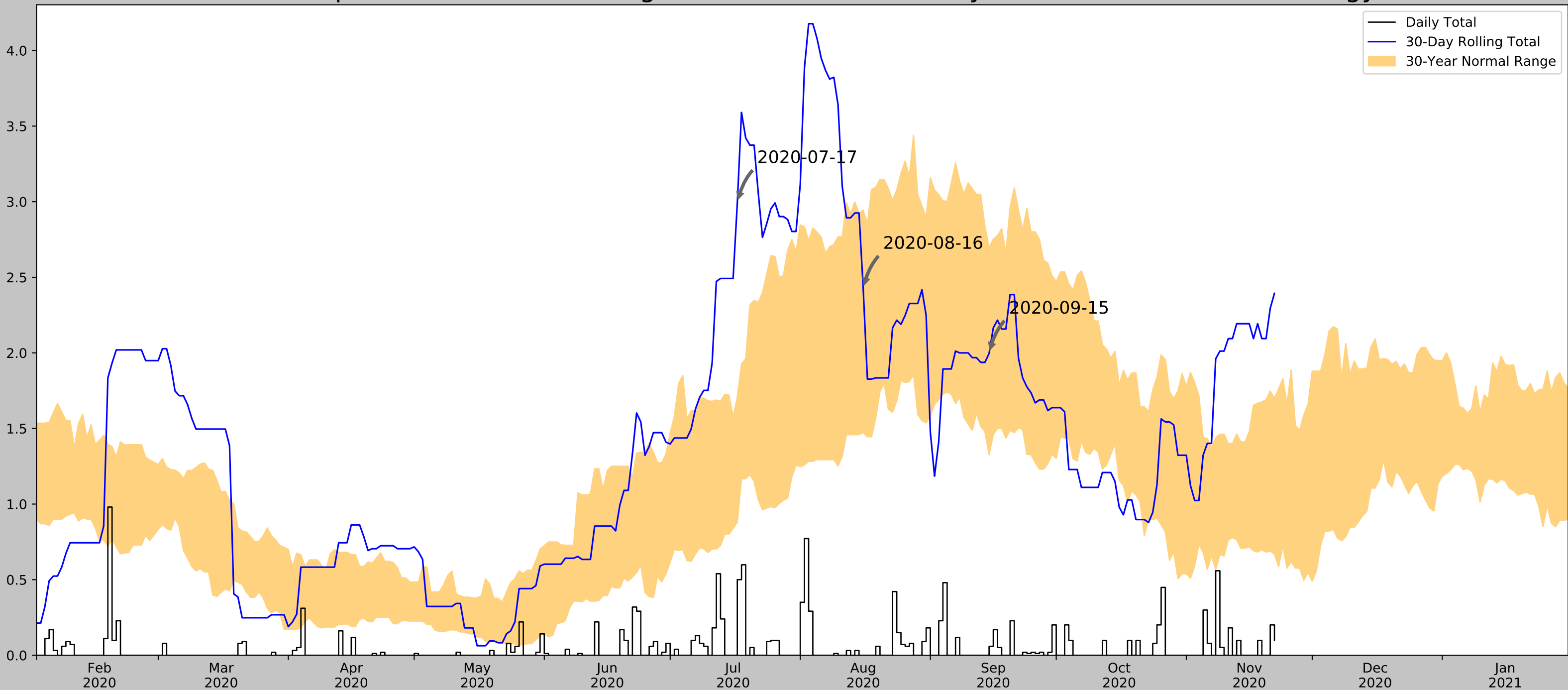
Written by Jason Deters  
U.S. Army Corps of Engineers

|                   |                    |          |        |          |        |      |    |
|-------------------|--------------------|----------|--------|----------|--------|------|----|
| HAYES RIVER       | 61.9872, -152.0758 | 1000.0   | 9.658  | 492.79   | 9.105  | 7115 | 0  |
| PUNTILLA          | 62.0911, -152.735  | 1857.94  | 13.777 | 365.15   | 11.23  | 3508 | 84 |
| FAREWELL LAKE     | 62.5422, -153.6206 | 1060.039 | 55.535 | 432.751  | 49.024 | 87   | 0  |
| Telaquana Lake    | 60.98, -153.92     | 1274.934 | 86.225 | 217.856  | 57.586 | 364  | 6  |
| SKWENTNA          | 61.9772, -151.2169 | 149.934  | 37.541 | 1342.856 | 67.306 | 222  | 0  |
| Tokositna Valley  | 62.63, -150.78     | 850.066  | 67.794 | 642.724  | 74.08  | 55   | 0  |
| TRAPPER CREEK 7SW | 62.2622, -150.4228 | 424.869  | 65.834 | 1067.921 | 99.931 | 1    | 0  |



# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.981638, -152.610186 |
| Observation Date                 | 2020-09-15             |
| Elevation (ft)                   | 1649.23                |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Dry Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-15     | 1.328346                   | 2.697638                   | 1.996063      | Normal            | 2               | 3            | 6                      |
| 2020-08-16     | 1.472835                   | 2.943701                   | 2.425197      | Normal            | 2               | 2            | 4                      |
| 2020-07-17     | 0.881102                   | 1.707087                   | 2.992126      | Wet               | 3               | 1            | 3                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 13 |

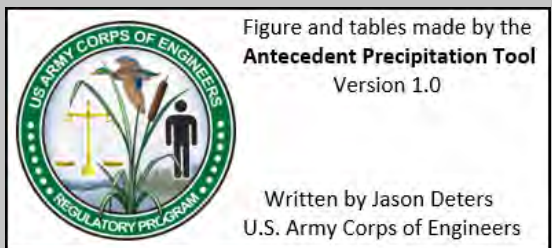


Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation $\Delta$ | Weighted $\Delta$ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|--------------------|-------------------|---------------|-------------------|
| PUNTILLA             | 62.0911, -152.735  | 1857.94        | 8.576         | 208.71             | 5.649             | 9834          | 84                |
| HAYES RIVER          | 61.9872, -152.0758 | 1000.0         | 17.347        | 649.23             | 19.068            | 789           | 0                 |
| FAREWELL LAKE        | 62.5422, -153.6206 | 1060.039       | 50.555        | 589.191            | 52.536            | 87            | 0                 |
| Telaquana Lake       | 60.98, -153.92     | 1274.934       | 81.584        | 374.296            | 67.249            | 364           | 6                 |
| SKWENTNA             | 61.9772, -151.2169 | 149.934        | 45.225        | 1499.296           | 88.157            | 222           | 0                 |
| Tokositna Valley     | 62.63, -150.78     | 850.066        | 73.892        | 799.164            | 92.303            | 55            | 0                 |
| TRAPPER CREEK 7SW    | 62.2622, -150.4228 | 424.869        | 73.275        | 1224.361           | 122.689           | 1             | 0                 |



# Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

Generated on 2020-11-23

## User Inputs

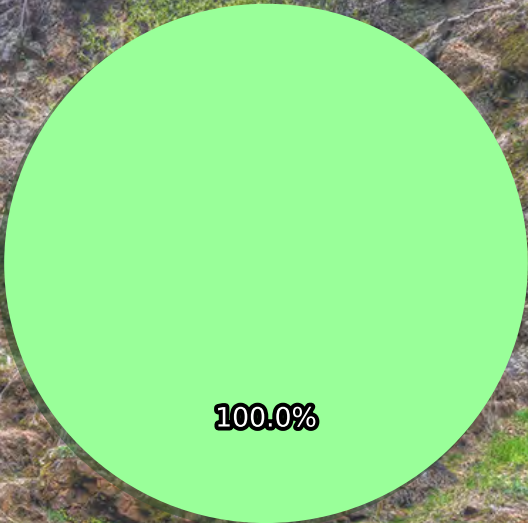
|                  |                      |
|------------------|----------------------|
| Coordinates      | 61.55589, -150.57133 |
| Date             | 2020-09-16           |
| Geographic Scope | Custom Polygon       |

## Intermediate Data

|                          |                       |
|--------------------------|-----------------------|
| Custom Watershed Name    | 0916-09292020_Field   |
| Watershed Size           | 11.28 mi <sup>2</sup> |
| # Random Sampling Points | 6                     |

## Preliminary Result

|                                        |                   |
|----------------------------------------|-------------------|
| Average Antecedent Precipitation Score | 12.33             |
| Preliminary Determination              | Normal Conditions |



Normal Conditions

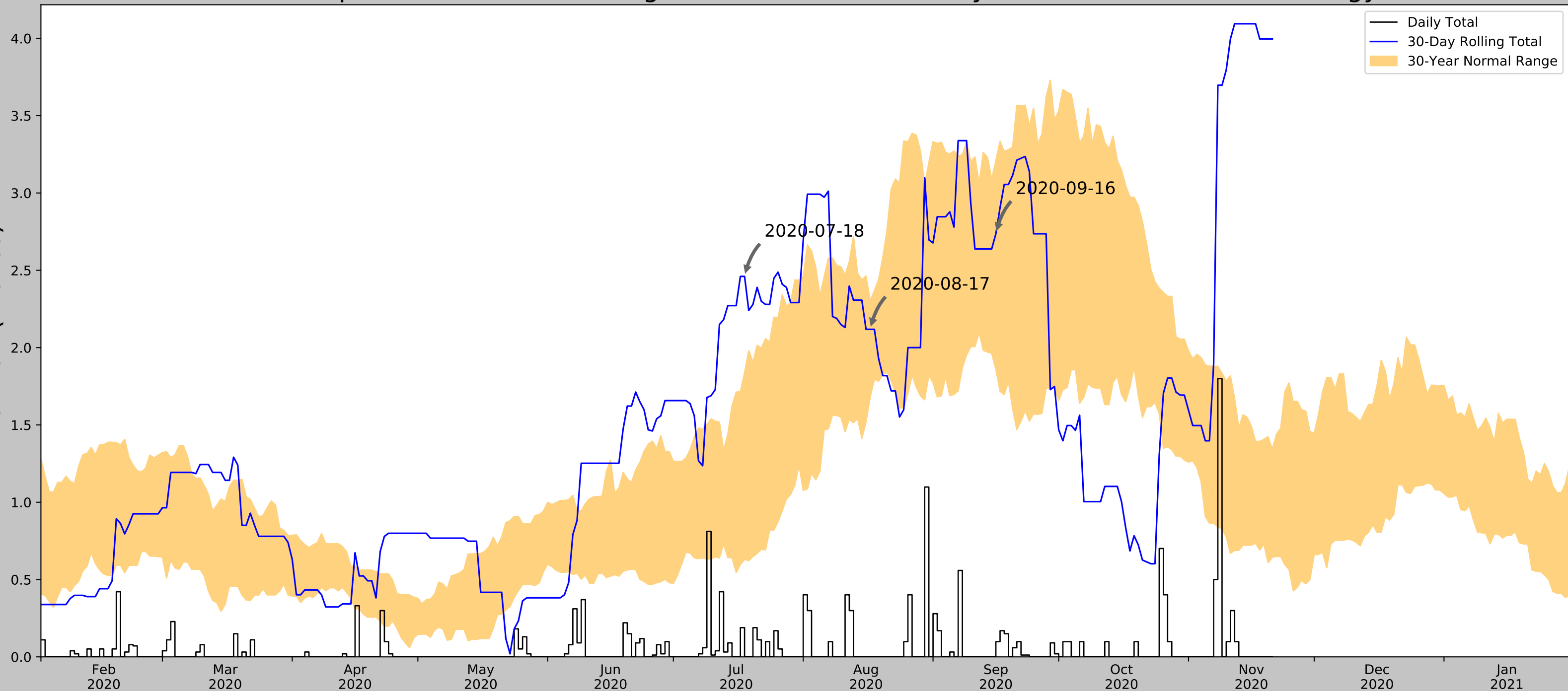
## Sampling Point Breakdown

| Antecedent Precipitation Score | Antecedent Precipitation Condition | WebWIMP H <sub>2</sub> O Balance | Drought Index (PDSI) | # of Points |
|--------------------------------|------------------------------------|----------------------------------|----------------------|-------------|
| 13                             | Normal Conditions                  | Wet Season                       | Not available        | 2           |
| 12                             | Normal Conditions                  | Wet Season                       | Not available        | 4           |



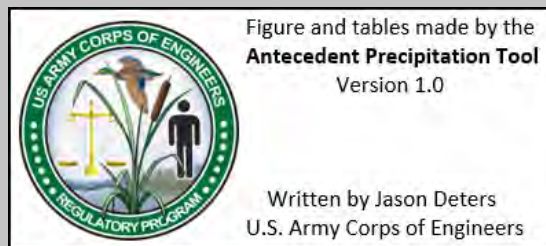
# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                      |
|----------------------------------|----------------------|
| Coordinates                      | 61.55589, -150.57133 |
| Observation Date                 | 2020-09-16           |
| Elevation (ft)                   | 1635.5               |
| Drought Index (PDSI)             | Not available        |
| WebWIMP H <sub>2</sub> O Balance | Wet Season           |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-16     | 1.860236                   | 3.208268                   | 2.736221      | Normal            | 2               | 3            | 6                      |
| 2020-08-17     | 1.680709                   | 2.301575                   | 2.11811       | Normal            | 2               | 2            | 4                      |
| 2020-07-18     | 0.630315                   | 1.838189                   | 2.46063       | Wet               | 3               | 1            | 3                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 13 |

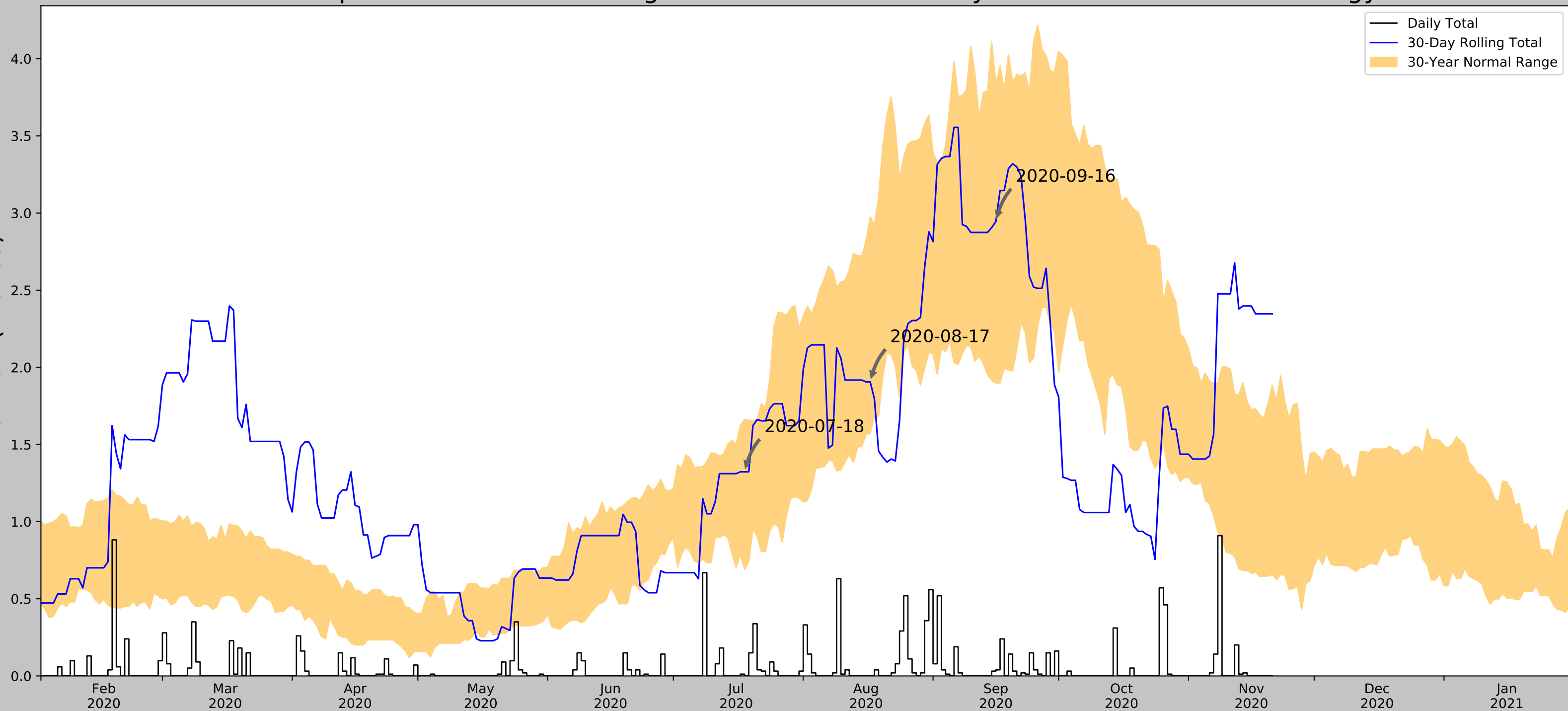


| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| FT RICHARDSON WTP    | 61.2272, -149.6503 | 470.144        | 38.002        | 1165.356    | 61.387     | 9556          | 59                |
| Alexander Lake       | 61.75, -150.89     | 160.105        | 17.005        | 1475.395    | 32.741     | 351           | 31                |
| WILLOW 4SW           | 61.7064, -150.1139 | 212.927        | 18.266        | 1422.573    | 34.204     | 1             | 0                 |
| POINT MACKENZIE      | 61.4169, -150.0819 | 160.105        | 18.783        | 1475.395    | 36.165     | 502           | 0                 |
| WILLOW 3.6 SE        | 61.6995, -149.9897 | 304.134        | 21.521        | 1331.366    | 38.337     | 617           | 0                 |
| Point Mackenzie      | 61.39, -150.03     | 250.0          | 21.223        | 1385.5      | 38.955     | 325           | 0                 |



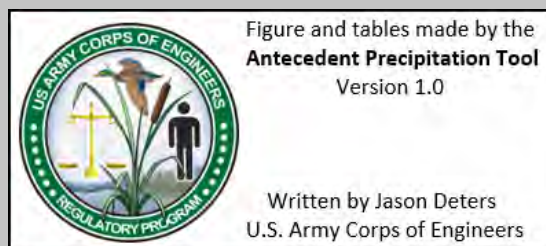
# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.490541, -150.251776 |
| Observation Date                 | 2020-09-16             |
| Elevation (ft)                   | 91.27                  |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-16     | 1.897638                   | 3.834252                   | 2.944882      | Normal            | 2               | 3            | 6                      |
| 2020-08-17     | 1.572047                   | 2.975591                   | 1.905512      | Normal            | 2               | 2            | 4                      |
| 2020-07-18     | 0.690551                   | 1.661811                   | 1.322835      | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 12 |

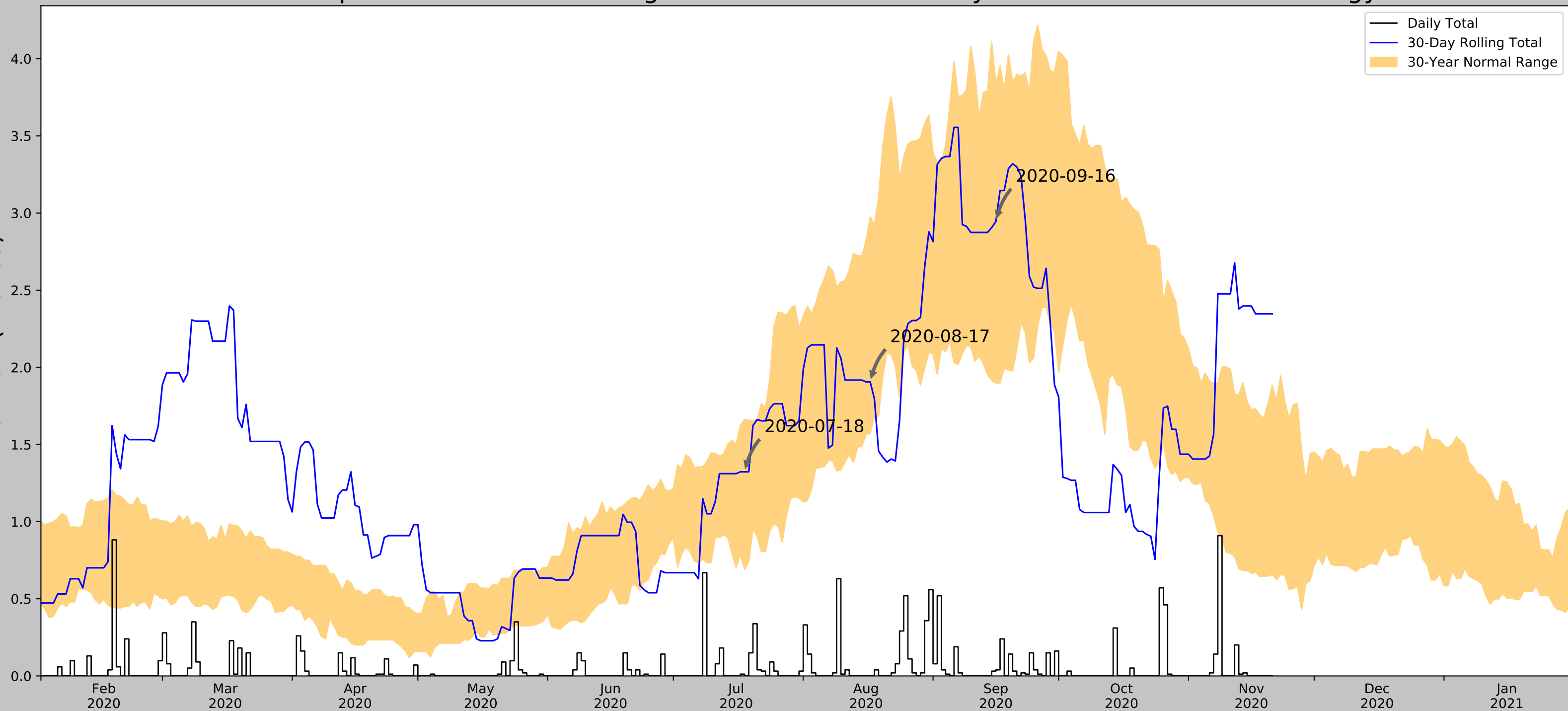


| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation $\Delta$ | Weighted $\Delta$ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|--------------------|-------------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 23.431        | 28.809             | 11.219            | 11352         | 90                |



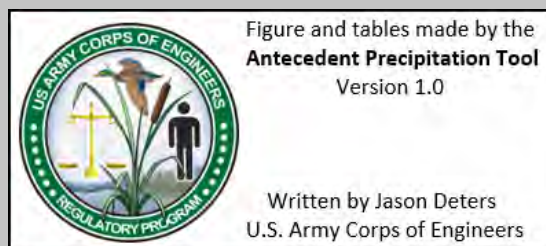
# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.499097, -150.416405 |
| Observation Date                 | 2020-09-16             |
| Elevation (ft)                   | 113.47                 |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

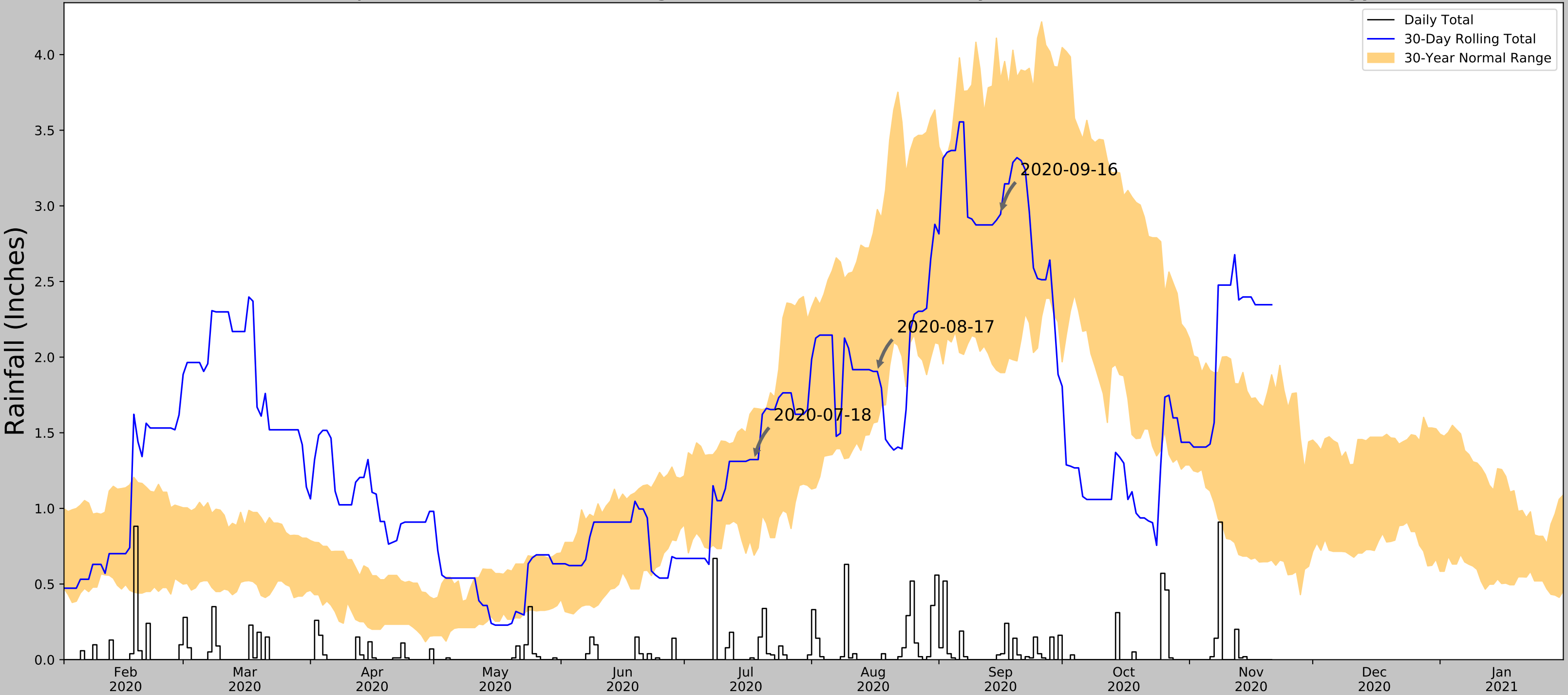
| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-16     | 1.897638                   | 3.834252                   | 2.944882      | Normal            | 2               | 3            | 6                      |
| 2020-08-17     | 1.572047                   | 2.975591                   | 1.905512      | Normal            | 2               | 2            | 4                      |
| 2020-07-18     | 0.690551                   | 1.661811                   | 1.322835      | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 12 |



| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation $\Delta$ | Weighted $\Delta$ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|--------------------|-------------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 26.199        | 6.609              | 11.963            | 11352         | 90                |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.554038, -150.693957 |
| Observation Date                 | 2020-09-16             |
| Elevation (ft)                   | 158.03                 |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-16     | 1.897638                   | 3.834252                   | 2.944882      | Normal            | 2               | 3            | 6                      |
| 2020-08-17     | 1.572047                   | 2.975591                   | 1.905512      | Normal            | 2               | 2            | 4                      |
| 2020-07-18     | 0.690551                   | 1.661811                   | 1.322835      | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 12 |



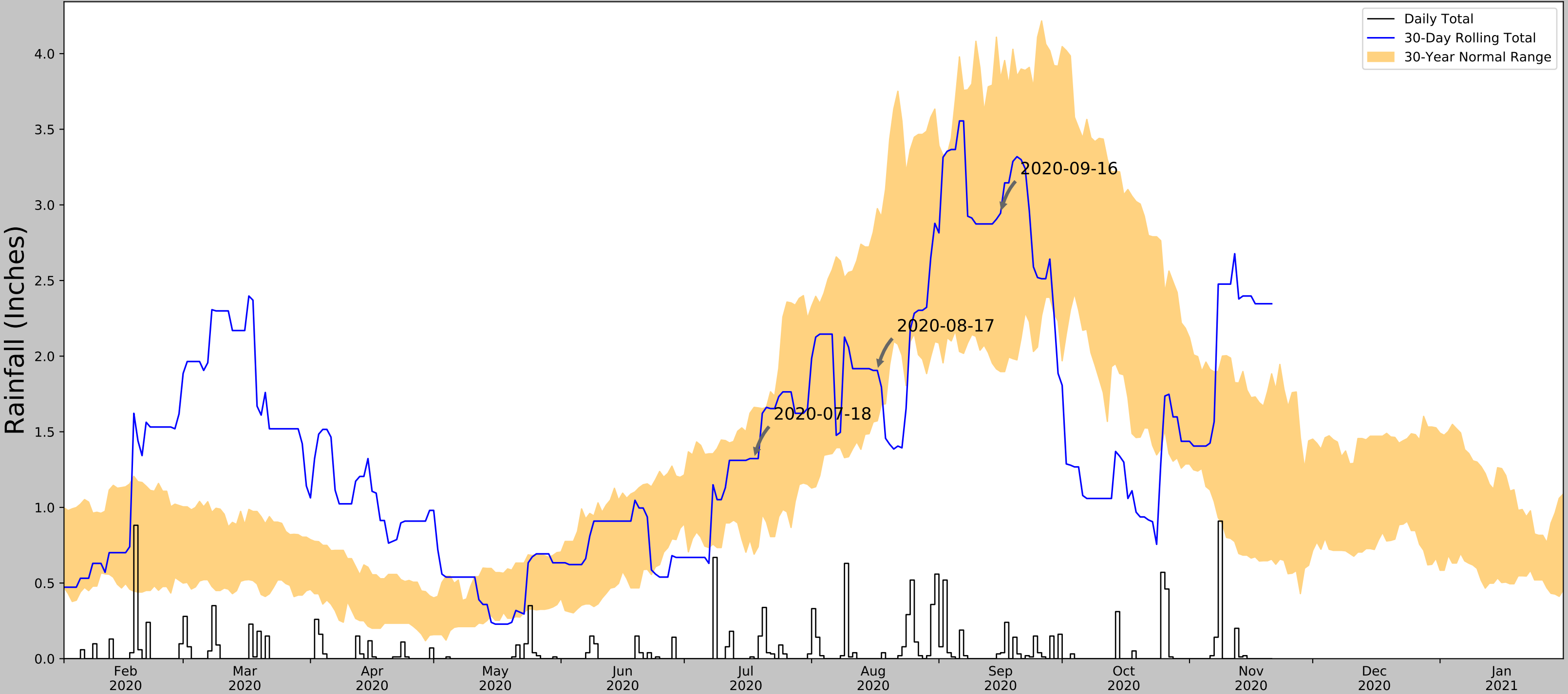
Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 34.565        | 37.951      | 16.866     | 11352         | 90                |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.583817, -150.791276 |
| Observation Date                 | 2020-09-16             |
| Elevation (ft)                   | 280.91                 |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-16     | 1.897638                   | 3.834252                   | 2.944882      | Normal            | 2               | 3            | 6                      |
| 2020-08-17     | 1.572047                   | 2.975591                   | 1.905512      | Normal            | 2               | 2            | 4                      |
| 2020-07-18     | 0.690551                   | 1.661811                   | 1.322835      | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 12 |



Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

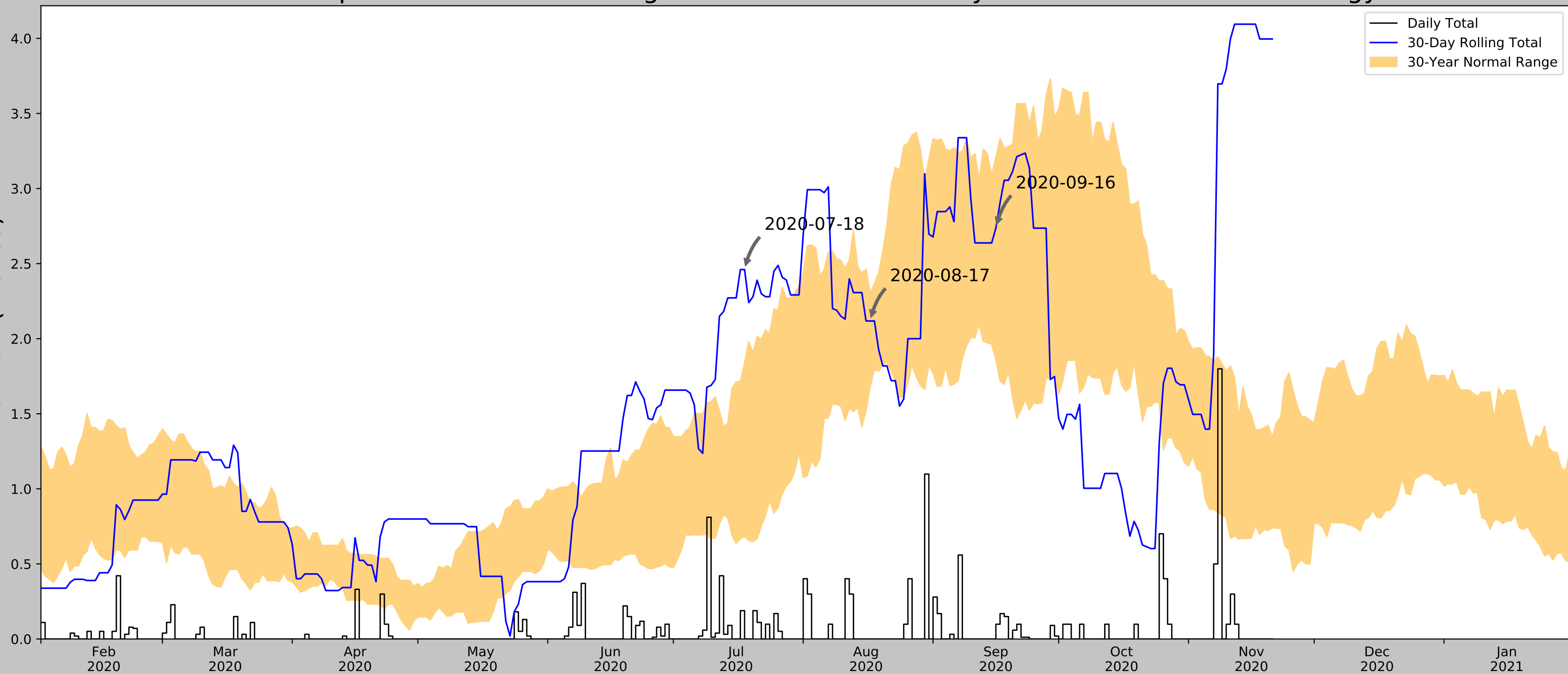
Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 38.216        | 160.831     | 23.344     | 11352         | 90                |



# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                       |
|----------------------------------|-----------------------|
| Coordinates                      | 61.618172, -150.90291 |
| Observation Date                 | 2020-09-16            |
| Elevation (ft)                   | 361.04                |
| Drought Index (PDSI)             | Not available         |
| WebWIMP H <sub>2</sub> O Balance | Wet Season            |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-16     | 1.860236                   | 3.208268                   | 2.736221      | Normal            | 2               | 3            | 6                      |
| 2020-08-17     | 1.680709                   | 2.301575                   | 2.11811       | Normal            | 2               | 2            | 4                      |
| 2020-07-18     | 0.682283                   | 1.838189                   | 2.46063       | Wet               | 3               | 1            | 3                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 13 |

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| FT RICHARDSON WTP    | 61.2272, -149.6503 | 470.144        | 49.432        | 109.104     | 27.638     | 9556          | 59                |
| Alexander Lake       | 61.75, -150.89     | 160.105        | 9.118         | 200.935     | 5.935      | 351           | 31                |
| WILLOW 3.6 SE        | 61.6995, -149.9897 | 304.134        | 30.476        | 56.906      | 15.448     | 617           | 0                 |
| WILLOW 4SW           | 61.7064, -150.1139 | 212.927        | 26.585        | 148.113     | 15.901     | 1             | 0                 |
| WHITES CROSSING      | 61.7067, -149.9978 | 270.013        | 30.308        | 91.027      | 16.397     | 720           | 0                 |
| WILLOW HWY CAMP      | 61.7667, -150.05   | 229.987        | 29.77         | 131.053     | 17.298     | 5             | 0                 |
| WILLOW WEST          | 61.7481, -150.0542 | 205.053        | 29.228        | 155.987     | 17.712     | 63            | 0                 |
| SKWENTNA             | 61.9772, -151.2169 | 149.934        | 26.842        | 211.106     | 17.745     | 30            | 0                 |
| Point Mackenzie      | 61.39, -150.03     | 250.0          | 32.81         | 111.04      | 18.408     | 9             | 0                 |

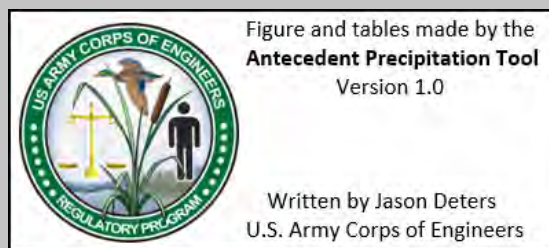


Figure and tables made by the  
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U.S. Army Corps of Engineers



# Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

Generated on 2020-11-23

## User Inputs

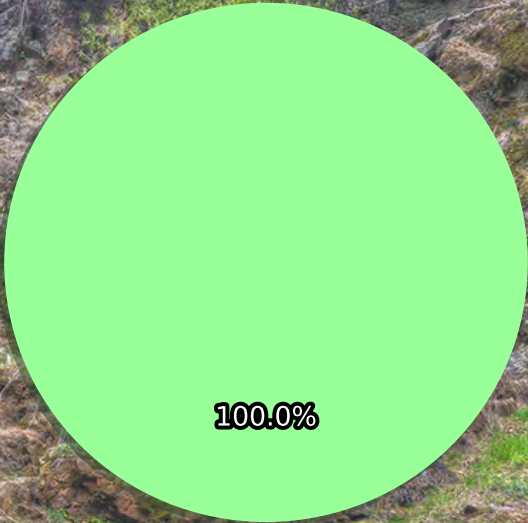
|                  |                      |
|------------------|----------------------|
| Coordinates      | 61.55589, -150.57133 |
| Date             | 2020-09-18           |
| Geographic Scope | Custom Polygon       |

## Intermediate Data

|                          |                       |
|--------------------------|-----------------------|
| Custom Watershed Name    | 0916-09292020_Field   |
| Watershed Size           | 11.28 mi <sup>2</sup> |
| # Random Sampling Points | 7                     |

## Preliminary Result

|                                        |                   |
|----------------------------------------|-------------------|
| Average Antecedent Precipitation Score | 10.86             |
| Preliminary Determination              | Normal Conditions |



Normal Conditions

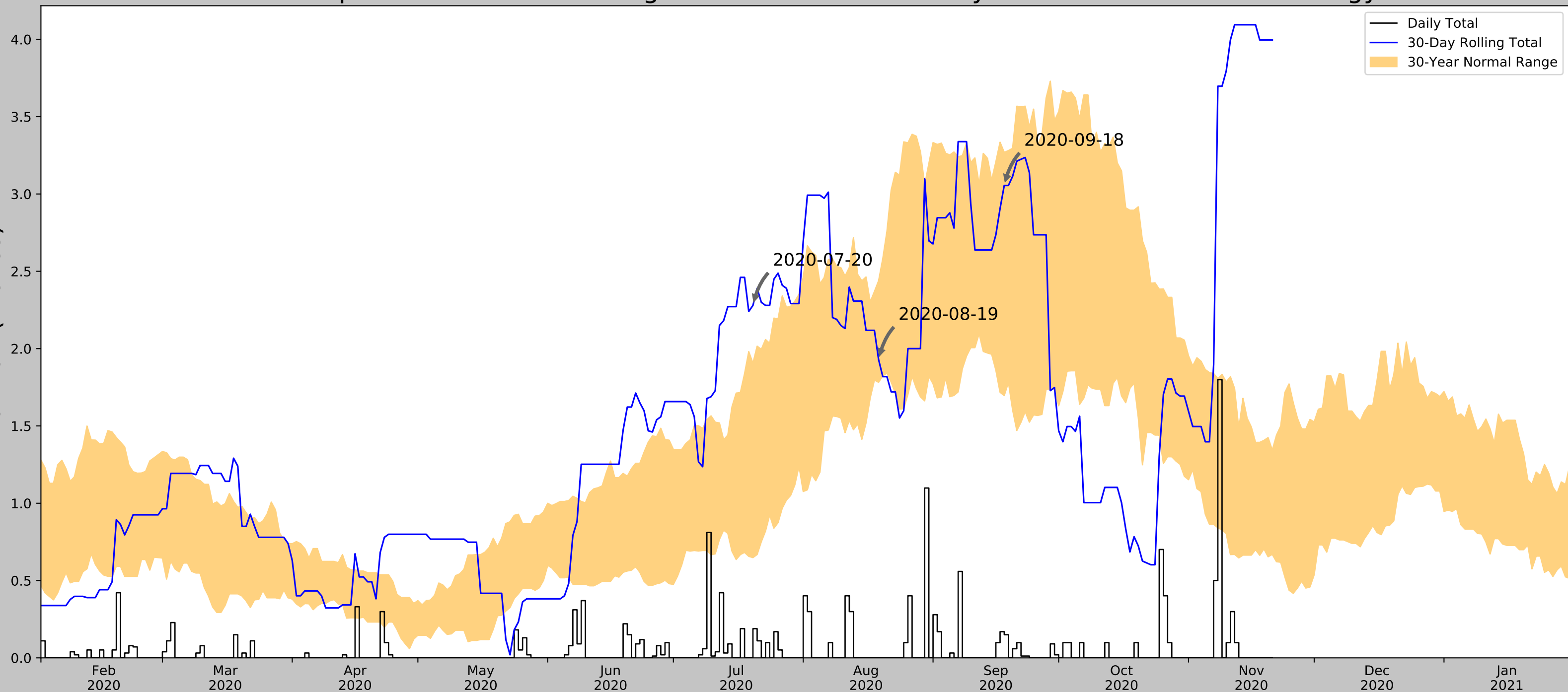
## Sampling Point Breakdown

| Antecedent Precipitation Score | Antecedent Precipitation Condition | WebWIMP H <sub>2</sub> O Balance | Drought Index (PDSI) | # of Points |
|--------------------------------|------------------------------------|----------------------------------|----------------------|-------------|
| 13                             | Normal Conditions                  | Wet Season                       | Not available        | 2           |
| 10                             | Normal Conditions                  | Wet Season                       | Not available        | 5           |



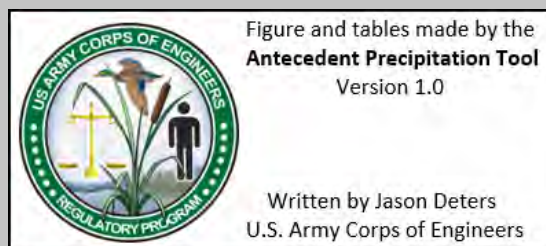
# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                      |
|----------------------------------|----------------------|
| Coordinates                      | 61.55589, -150.57133 |
| Observation Date                 | 2020-09-18           |
| Elevation (ft)                   | 382.86               |
| Drought Index (PDSI)             | Not available        |
| WebWIMP H <sub>2</sub> O Balance | Wet Season           |

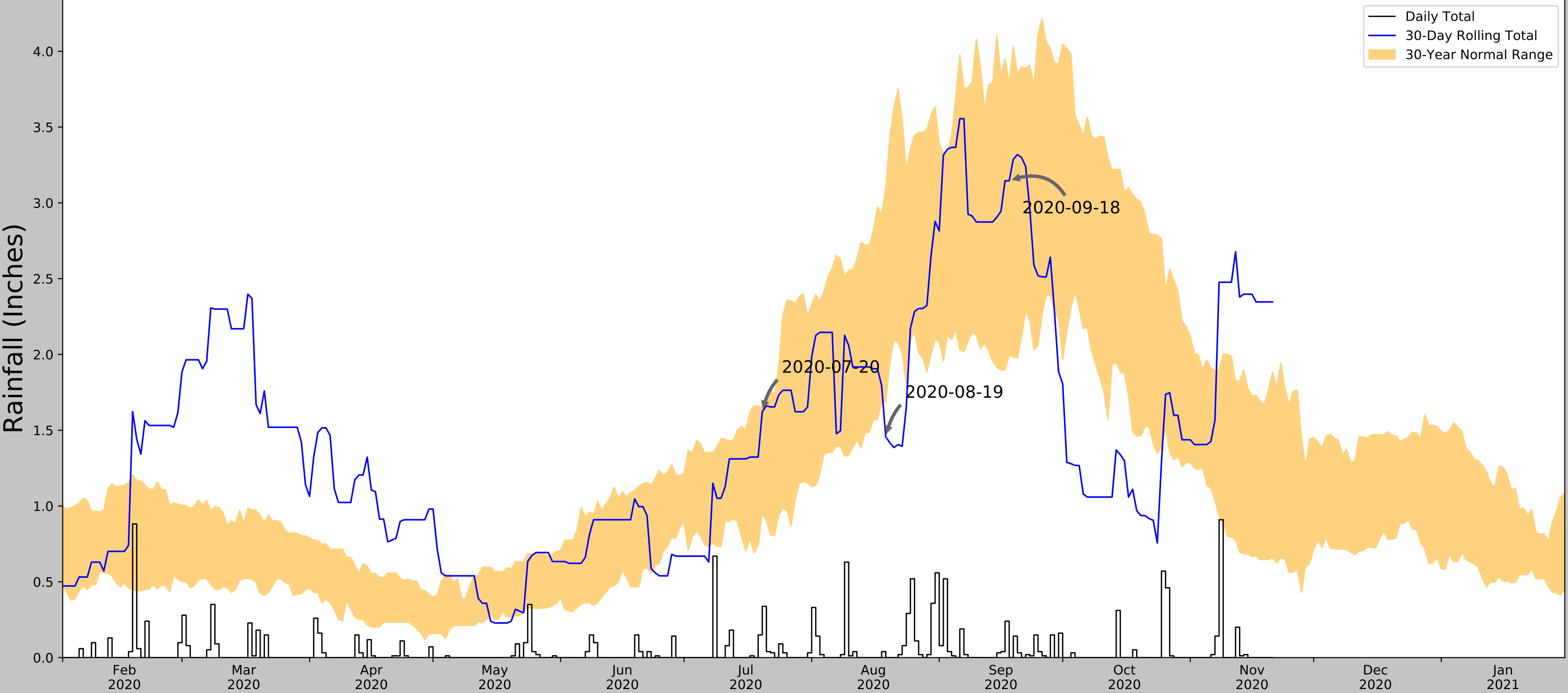
| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-18     | 1.696063                   | 3.268898                   | 3.055118      | Normal            | 2               | 3            | 6                      |
| 2020-08-19     | 1.782284                   | 2.438583                   | 1.929134      | Normal            | 2               | 2            | 4                      |
| 2020-07-20     | 0.648425                   | 1.905512                   | 2.279528      | Wet               | 3               | 1            | 3                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 13 |



| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| FT RICHARDSON WTP    | 61.2272, -149.6503 | 470.144        | 38.002        | 87.284      | 20.418     | 9556          | 59                |
| WILLOW 4SW           | 61.7064, -150.1139 | 212.927        | 18.266        | 169.933     | 11.324     | 1             | 0                 |
| WILLOW 3.6 SE        | 61.6995, -149.9897 | 304.134        | 21.521        | 78.726      | 11.379     | 889           | 0                 |
| Alexander Lake       | 61.75, -150.89     | 160.105        | 17.005        | 222.755     | 11.44      | 79            | 31                |
| WHITES CROSSING      | 61.7067, -149.9978 | 270.013        | 21.519        | 112.847     | 12.112     | 720           | 0                 |
| Point Mackenzie      | 61.39, -150.03     | 250.0          | 21.223        | 132.86      | 12.37      | 107           | 0                 |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                       |
|----------------------------------|-----------------------|
| Coordinates                      | 61.482536, -150.20089 |
| Observation Date                 | 2020-09-18            |
| Elevation (ft)                   | 108.6                 |
| Drought Index (PDSI)             | Not available         |
| WebWIMP H <sub>2</sub> O Balance | Wet Season            |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-18     | 1.994095                   | 3.792126                   | 3.145669      | Normal            | 2               | 3            | 6                      |
| 2020-08-19     | 1.684646                   | 3.103543                   | 1.456693      | Dry               | 1               | 2            | 2                      |
| 2020-07-20     | 0.953937                   | 1.653543                   | 1.622047      | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 10 |




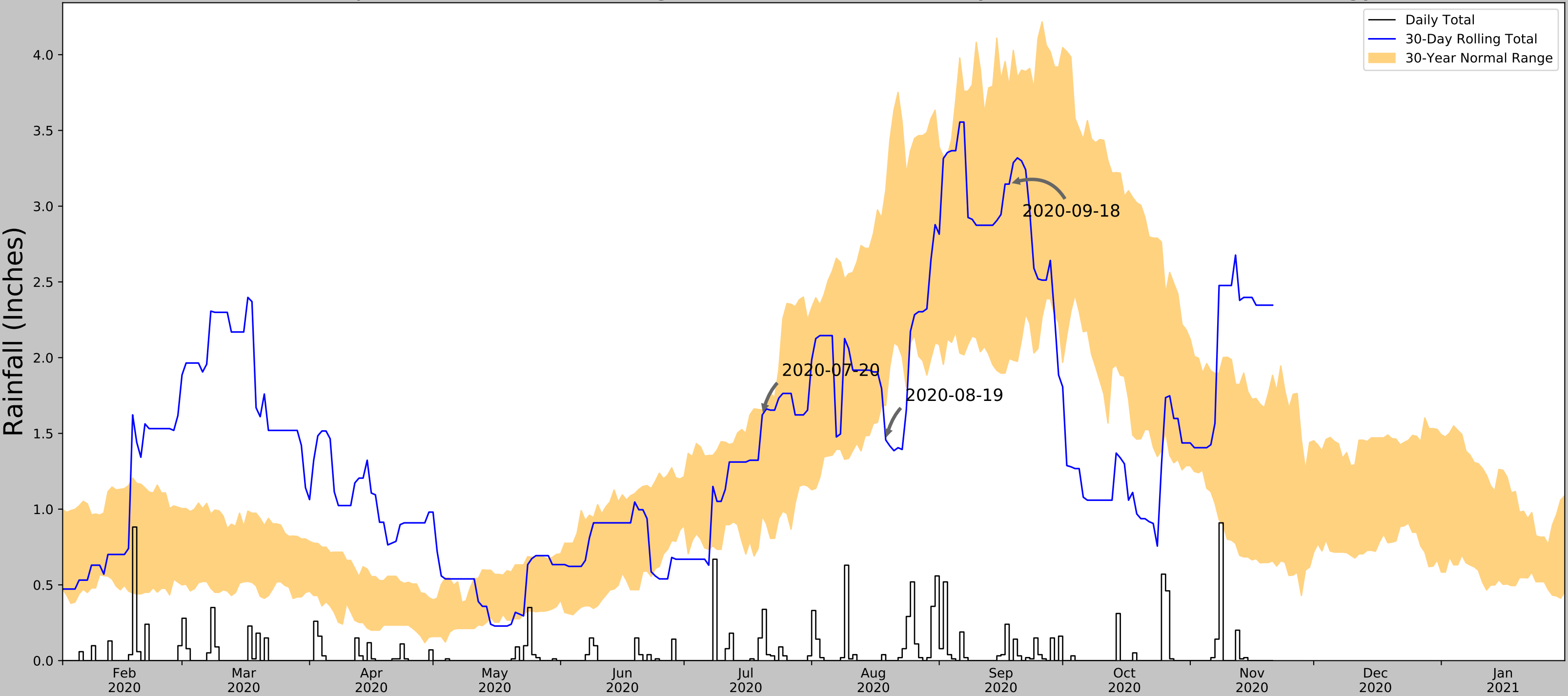
Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 22.417        | 11.479      | 10.345     | 11352         | 90                |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.596464, -150.823003 |
| Observation Date                 | 2020-09-18             |
| Elevation (ft)                   | 298.85                 |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-18     | 1.994095                   | 3.792126                   | 3.145669      | Normal            | 2               | 3            | 6                      |
| 2020-08-19     | 1.684646                   | 3.103543                   | 1.456693      | Dry               | 1               | 2            | 2                      |
| 2020-07-20     | 0.953937                   | 1.653543                   | 1.622047      | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 10 |



Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

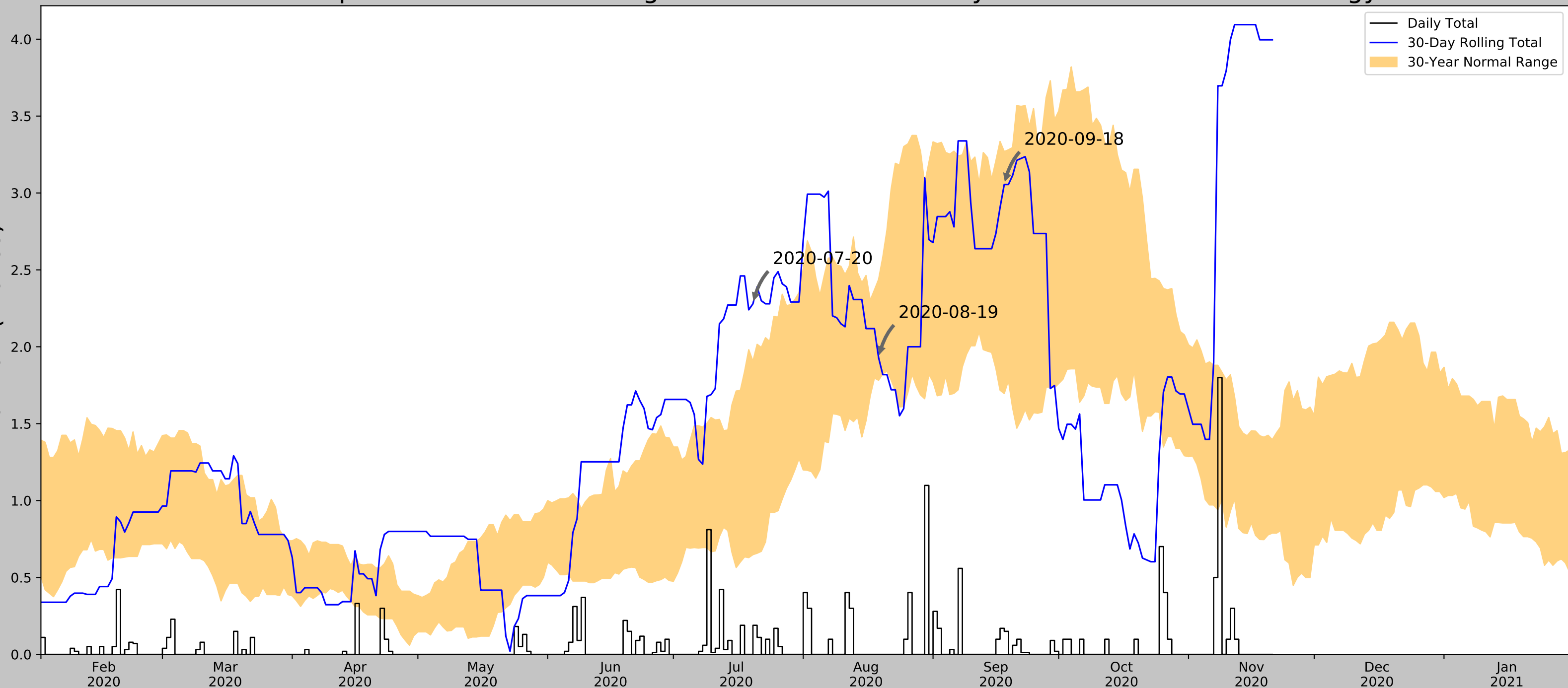
Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 39.562        | 178.771     | 24.875     | 11352         | 90                |



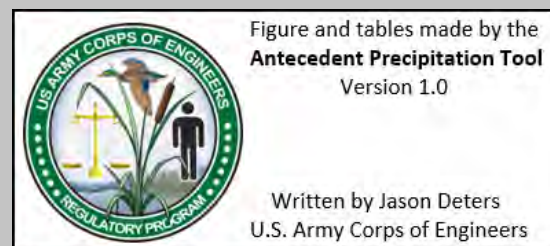
# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.634403, -150.949181 |
| Observation Date                 | 2020-09-18             |
| Elevation (ft)                   | 428.55                 |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-18     | 1.696063                   | 3.268898                   | 3.055118      | Normal            | 2               | 3            | 6                      |
| 2020-08-19     | 1.782284                   | 2.437402                   | 1.929134      | Normal            | 2               | 2            | 4                      |
| 2020-07-20     | 0.648425                   | 1.905512                   | 2.279528      | Wet               | 3               | 1            | 3                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 13 |

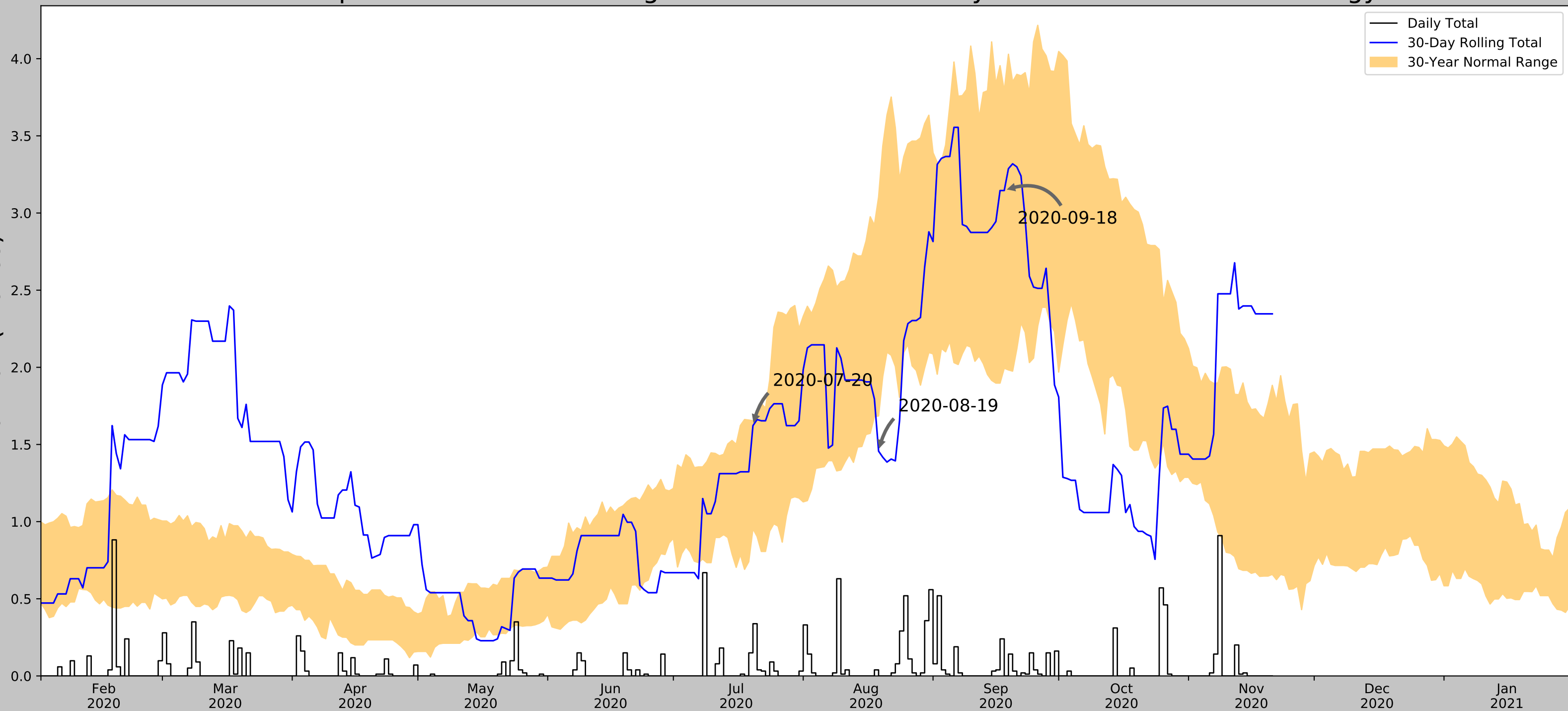


| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| FT RICHARDSON WTP    | 61.2272, -149.6503 | 470.144        | 51.316        | 41.594      | 25.227     | 9556          | 59                |
| Alexander Lake       | 61.75, -150.89     | 160.105        | 8.219         | 268.445     | 5.905      | 351           | 31                |
| WILLOW 3.6 SE        | 61.6995, -149.9897 | 304.134        | 31.782        | 124.416     | 18.256     | 617           | 0                 |
| SKWENTNA             | 61.9772, -151.2169 | 149.934        | 25.246        | 278.616     | 18.395     | 755           | 0                 |
| WHITES CROSSING      | 61.7067, -149.9978 | 270.013        | 31.591        | 158.537     | 19.224     | 62            | 0                 |
| WILLOW WEST          | 61.7481, -150.0542 | 205.053        | 30.358        | 223.497     | 20.446     | 2             | 0                 |
| Point Mackenzie      | 61.39, -150.03     | 250.0          | 34.681        | 178.55      | 21.799     | 9             | 0                 |



# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                       |
|----------------------------------|-----------------------|
| Coordinates                      | 61.55484, -150.720269 |
| Observation Date                 | 2020-09-18            |
| Elevation (ft)                   | 196                   |
| Drought Index (PDSI)             | Not available         |
| WebWIMP H <sub>2</sub> O Balance | Wet Season            |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-18     | 1.994095                   | 3.792126                   | 3.145669      | Normal            | 2               | 3            | 6                      |
| 2020-08-19     | 1.684646                   | 3.103543                   | 1.456693      | Dry               | 1               | 2            | 2                      |
| 2020-07-20     | 0.953937                   | 1.653543                   | 1.622047      | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 10 |

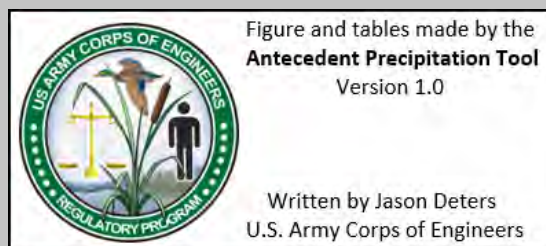


Figure and tables made by the  
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Version 1.0

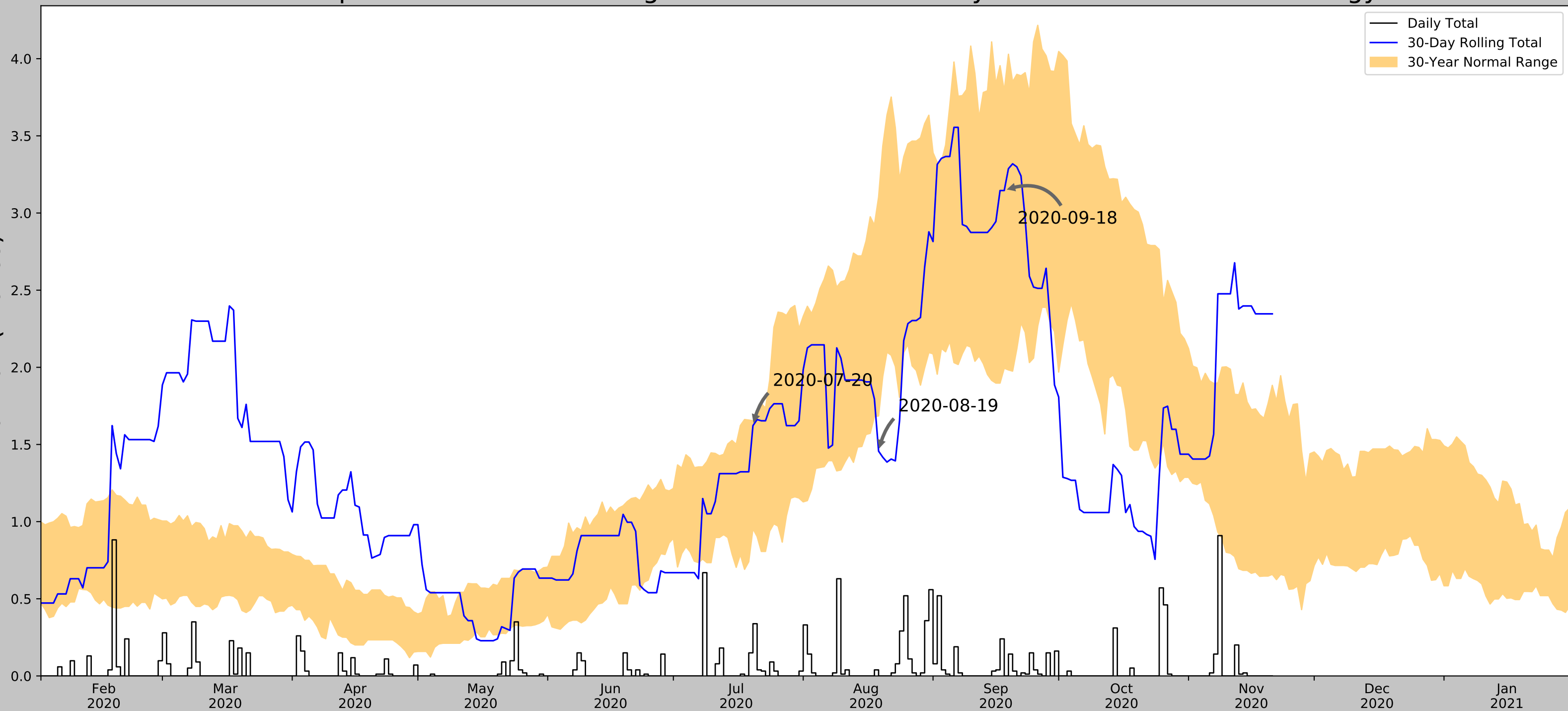
Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation $\Delta$ | Weighted $\Delta$ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|--------------------|-------------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 35.169        | 75.921             | 18.496            | 11352         | 90                |



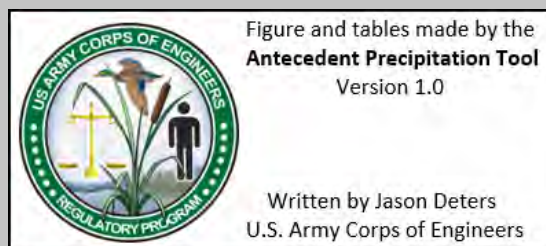
# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.490805, -150.369468 |
| Observation Date                 | 2020-09-18             |
| Elevation (ft)                   | 83.74                  |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-18     | 1.994095                   | 3.792126                   | 3.145669      | Normal            | 2               | 3            | 6                      |
| 2020-08-19     | 1.684646                   | 3.103543                   | 1.456693      | Dry               | 1               | 2            | 2                      |
| 2020-07-20     | 0.953937                   | 1.653543                   | 1.622047      | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 10 |

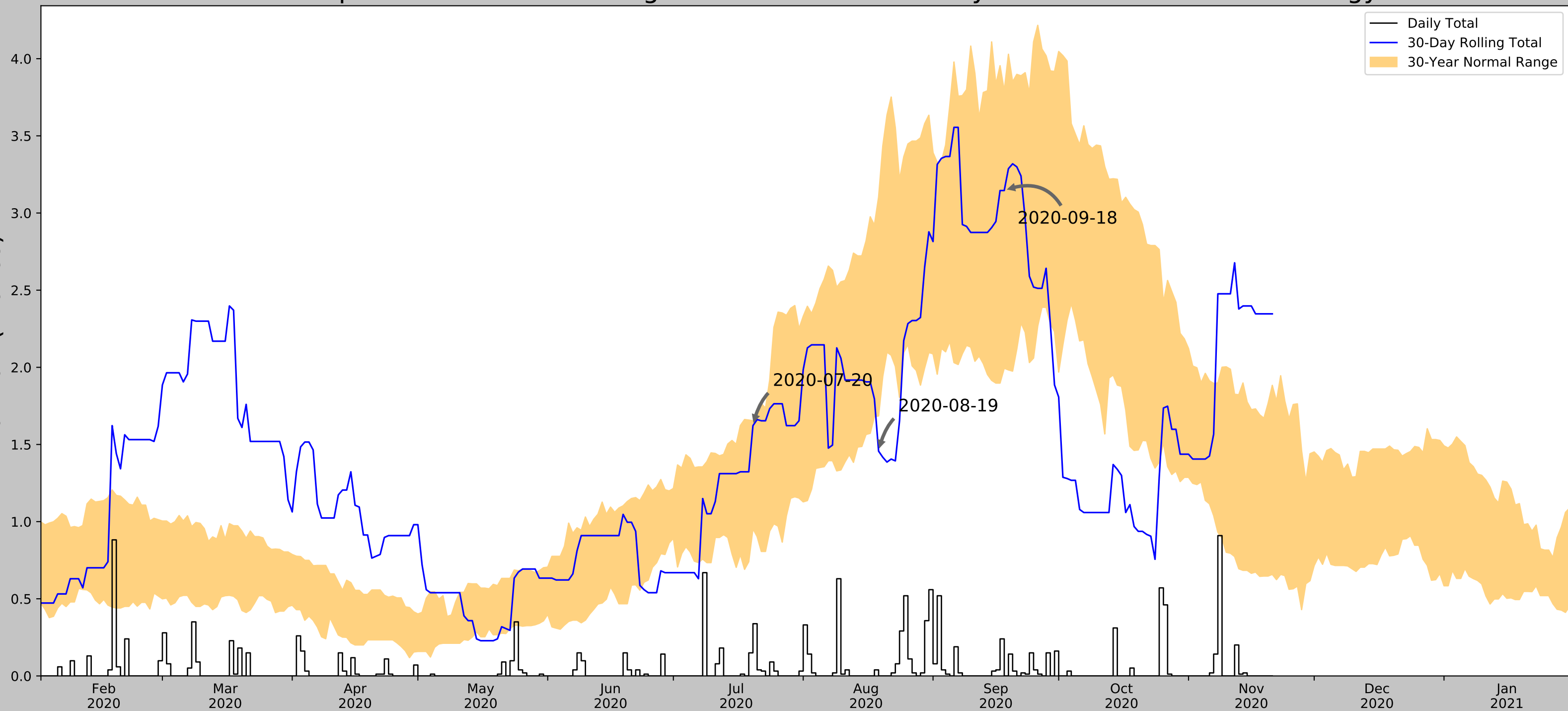


| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation $\Delta$ | Weighted $\Delta$ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|--------------------|-------------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 24.959        | 36.339             | 12.139            | 11352         | 90                |



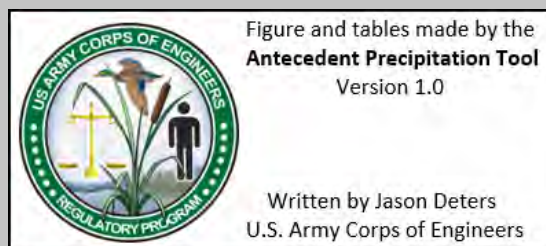
# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.524331, -150.474343 |
| Observation Date                 | 2020-09-18             |
| Elevation (ft)                   | 107.13                 |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-18     | 1.994095                   | 3.792126                   | 3.145669      | Normal            | 2               | 3            | 6                      |
| 2020-08-19     | 1.684646                   | 3.103543                   | 1.456693      | Dry               | 1               | 2            | 2                      |
| 2020-07-20     | 0.953937                   | 1.653543                   | 1.622047      | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 10 |



| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation $\Delta$ | Weighted $\Delta$ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|--------------------|-------------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 28.67         | 12.949             | 13.273            | 11352         | 90                |



# Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

Generated on 2020-11-23

## User Inputs

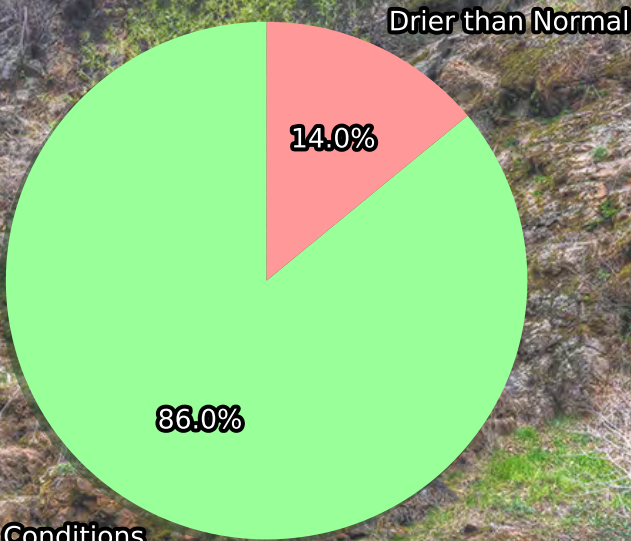
|                  |                      |
|------------------|----------------------|
| Coordinates      | 61.55589, -150.57133 |
| Date             | 2020-09-23           |
| Geographic Scope | Custom Polygon       |

## Intermediate Data

|                          |                       |
|--------------------------|-----------------------|
| Custom Watershed Name    | 0916-09292020_Field   |
| Watershed Size           | 11.28 mi <sup>2</sup> |
| # Random Sampling Points | 7                     |

## Preliminary Result

|                                        |                   |
|----------------------------------------|-------------------|
| Average Antecedent Precipitation Score | 9.71              |
| Preliminary Determination              | Drier than Normal |



Normal Conditions

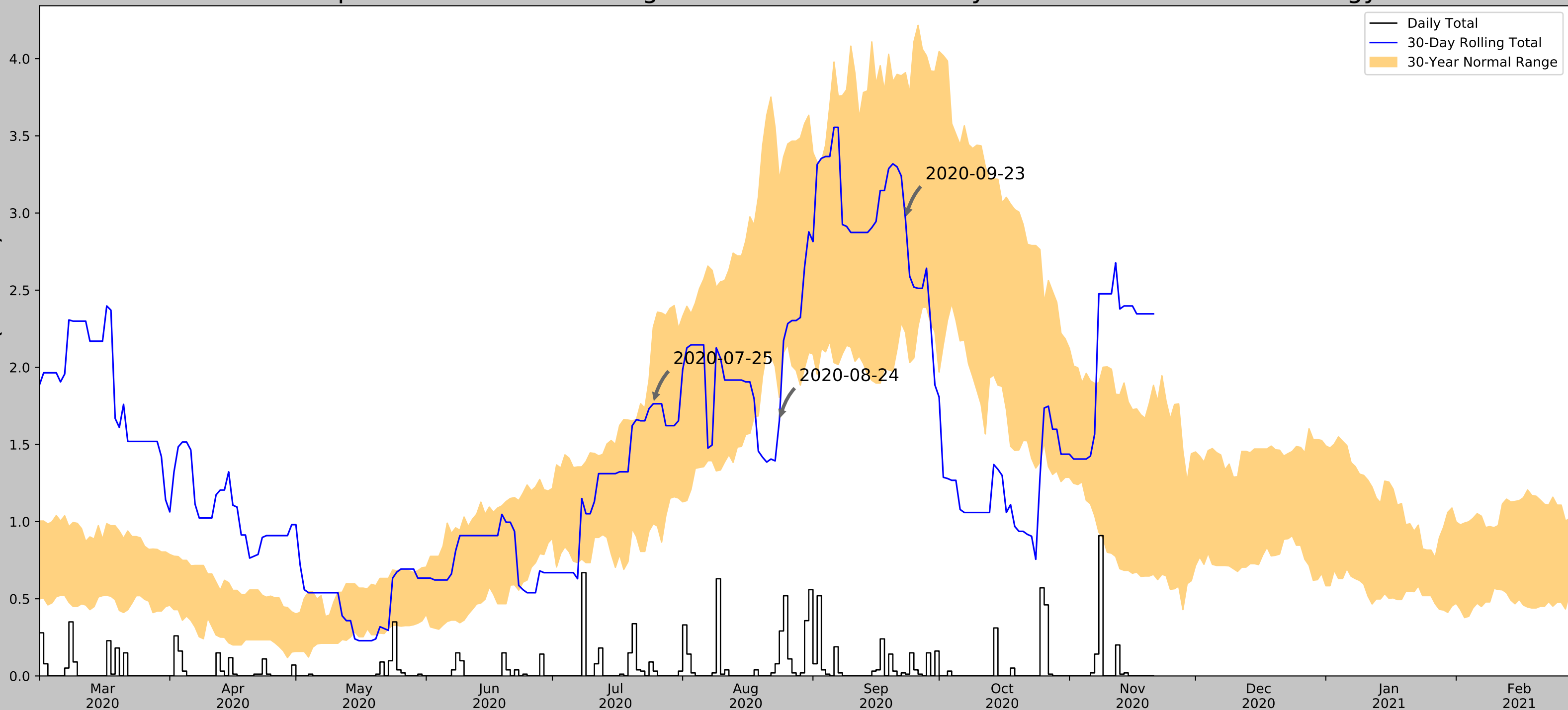
## Sampling Point Breakdown

| Antecedent Precipitation Score | Antecedent Precipitation Condition | WebWIMP H <sub>2</sub> O Balance | Drought Index (PDSI) | # of Points |
|--------------------------------|------------------------------------|----------------------------------|----------------------|-------------|
| 10                             | Normal Conditions                  | Wet Season                       | Not available        | 6           |
| 8                              | Drier than Normal                  | Wet Season                       | Not available        | 1           |



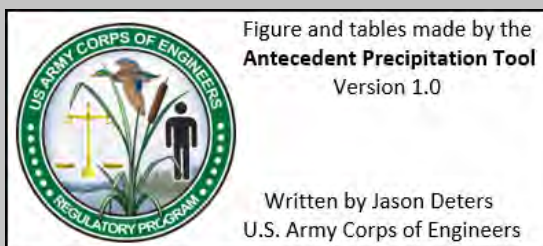
# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                      |
|----------------------------------|----------------------|
| Coordinates                      | 61.55589, -150.57133 |
| Observation Date                 | 2020-09-23           |
| Elevation (ft)                   | 227.84               |
| Drought Index (PDSI)             | Not available        |
| WebWIMP H <sub>2</sub> O Balance | Wet Season           |

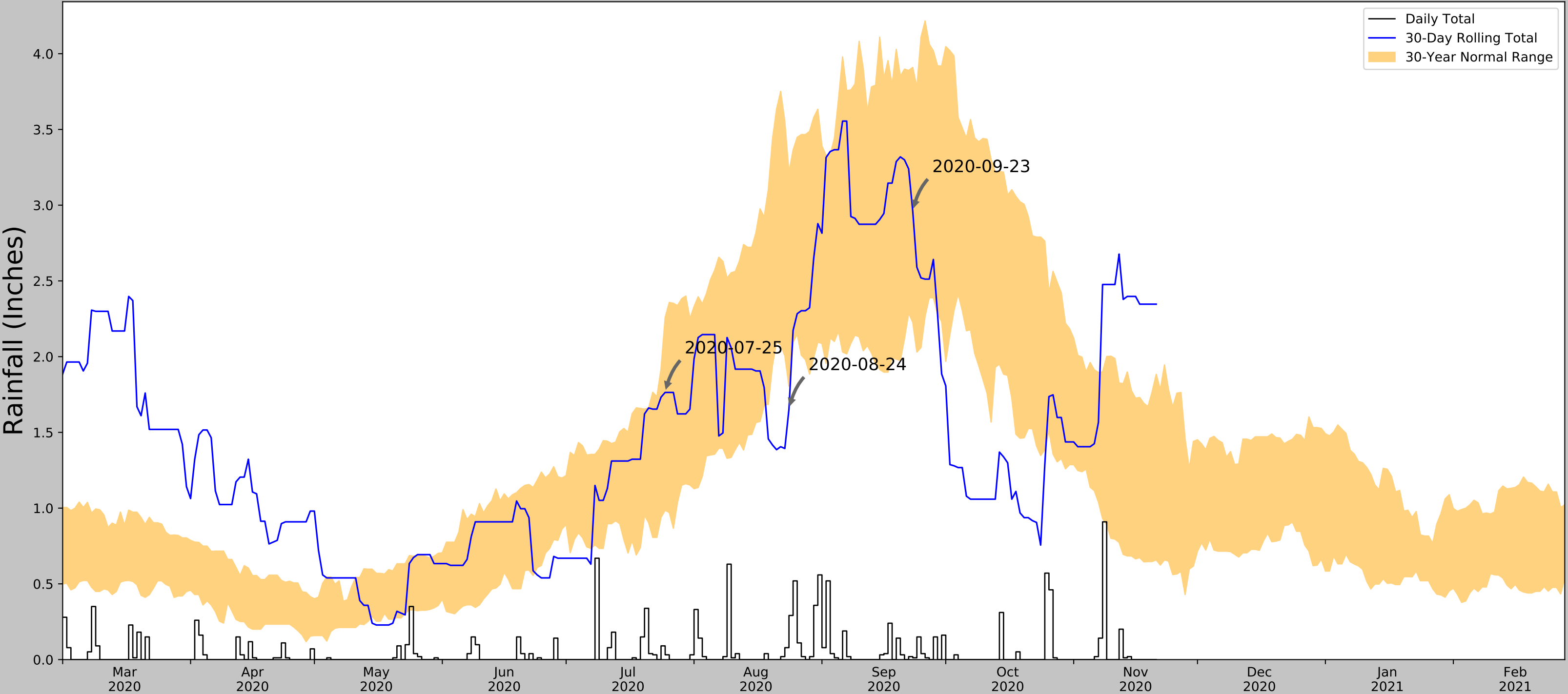
| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-23     | 2.226772                   | 3.909449                   | 2.96063       | Normal            | 2               | 3            | 6                      |
| 2020-08-24     | 1.805512                   | 3.214961                   | 1.653543      | Dry               | 1               | 2            | 2                      |
| 2020-07-25     | 0.986221                   | 2.258661                   | 1.76378       | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 10 |



| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation $\Delta$ | Weighted $\Delta$ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|--------------------|-------------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 32.232        | 107.761            | 17.978            | 11352         | 90                |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                       |
|----------------------------------|-----------------------|
| Coordinates                      | 61.491107, -150.24861 |
| Observation Date                 | 2020-09-23            |
| Elevation (ft)                   | 94.12                 |
| Drought Index (PDSI)             | Not available         |
| WebWIMP H <sub>2</sub> O Balance | Wet Season            |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-23     | 2.226772                   | 3.909449                   | 2.96063       | Normal            | 2               | 3            | 6                      |
| 2020-08-24     | 1.805512                   | 3.214961                   | 1.653543      | Dry               | 1               | 2            | 2                      |
| 2020-07-25     | 0.986221                   | 2.258661                   | 1.76378       | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 10 |



Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

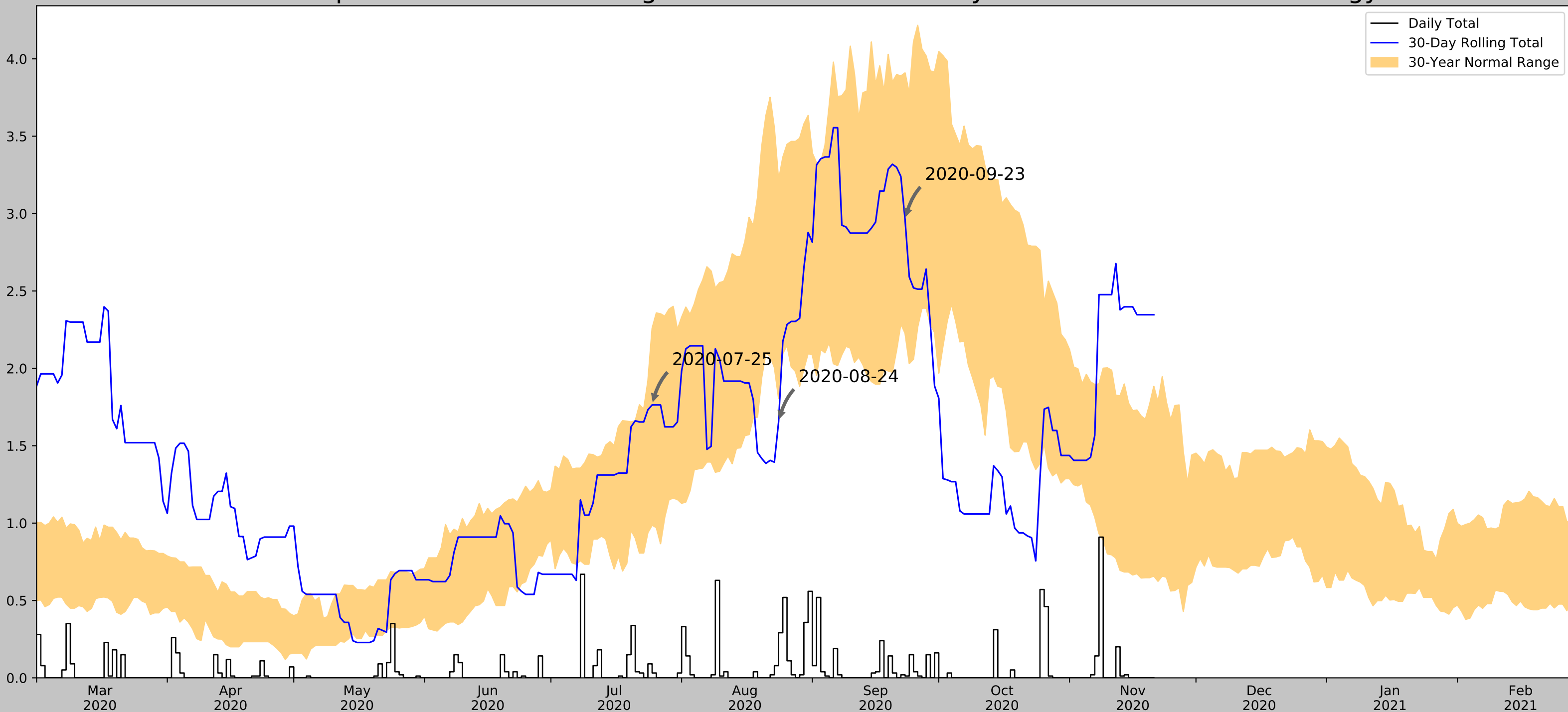
Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 23.435        | 25.959      | 11.154     | 11352         | 90                |



# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.491349, -150.362664 |
| Observation Date                 | 2020-09-23             |
| Elevation (ft)                   | 74.55                  |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-23     | 2.226772                   | 3.909449                   | 2.96063       | Normal            | 2               | 3            | 6                      |
| 2020-08-24     | 1.805512                   | 3.214961                   | 1.653543      | Dry               | 1               | 2            | 2                      |
| 2020-07-25     | 0.986221                   | 2.258661                   | 1.76378       | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 10 |

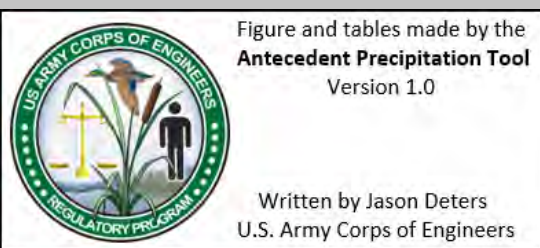


Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

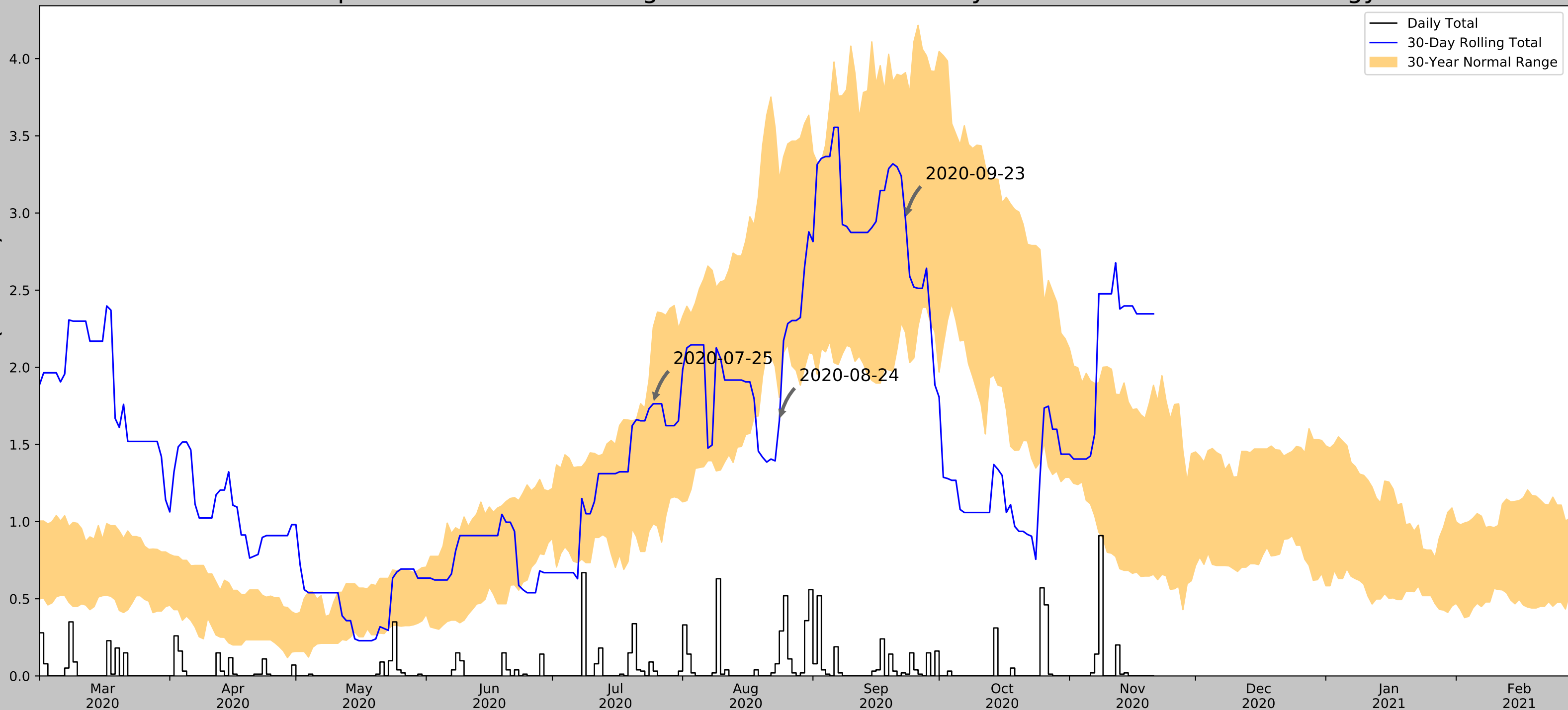
Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation $\Delta$ | Weighted $\Delta$ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|--------------------|-------------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 24.891        | 45.529             | 12.334            | 11352         | 90                |



# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                       |
|----------------------------------|-----------------------|
| Coordinates                      | 61.58599, -150.806726 |
| Observation Date                 | 2020-09-23            |
| Elevation (ft)                   | 357.14                |
| Drought Index (PDSI)             | Not available         |
| WebWIMP H <sub>2</sub> O Balance | Wet Season            |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-23     | 2.226772                   | 3.909449                   | 2.96063       | Normal            | 2               | 3            | 6                      |
| 2020-08-24     | 1.805512                   | 3.214961                   | 1.653543      | Dry               | 1               | 2            | 2                      |
| 2020-07-25     | 0.986221                   | 2.258661                   | 1.76378       | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 10 |

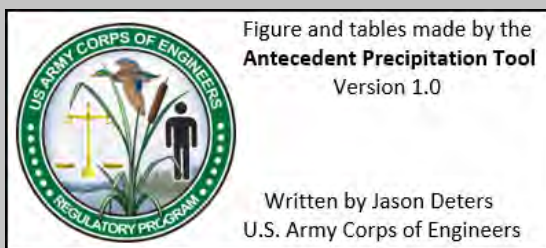


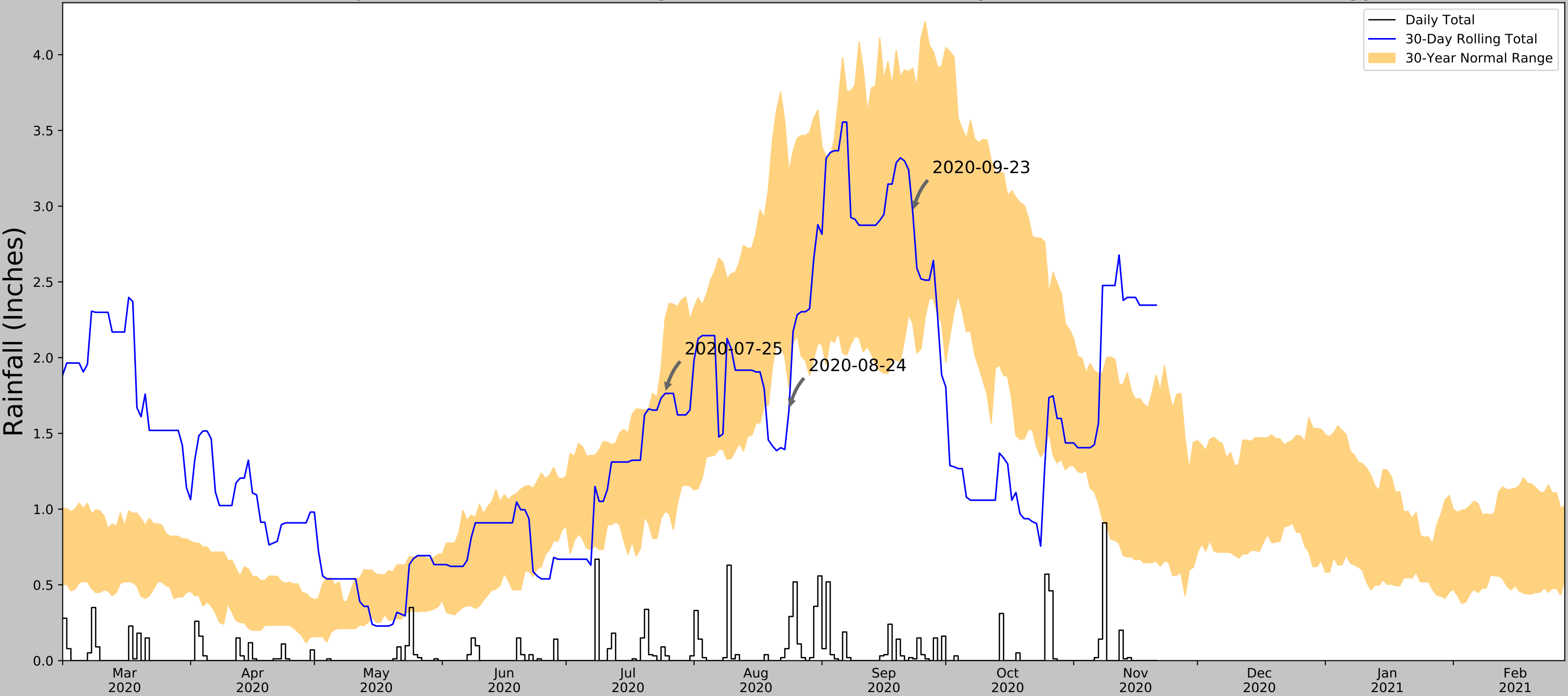
Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

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U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation $\Delta$ | Weighted $\Delta$ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|--------------------|-------------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 38.667        | 237.061            | 26.567            | 11352         | 90                |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.550448, -150.715999 |
| Observation Date                 | 2020-09-23             |
| Elevation (ft)                   | 229.3                  |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-23     | 2.226772                   | 3.909449                   | 2.96063       | Normal            | 2               | 3            | 6                      |
| 2020-08-24     | 1.805512                   | 3.214961                   | 1.653543      | Dry               | 1               | 2            | 2                      |
| 2020-07-25     | 0.986221                   | 2.258661                   | 1.76378       | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 10 |



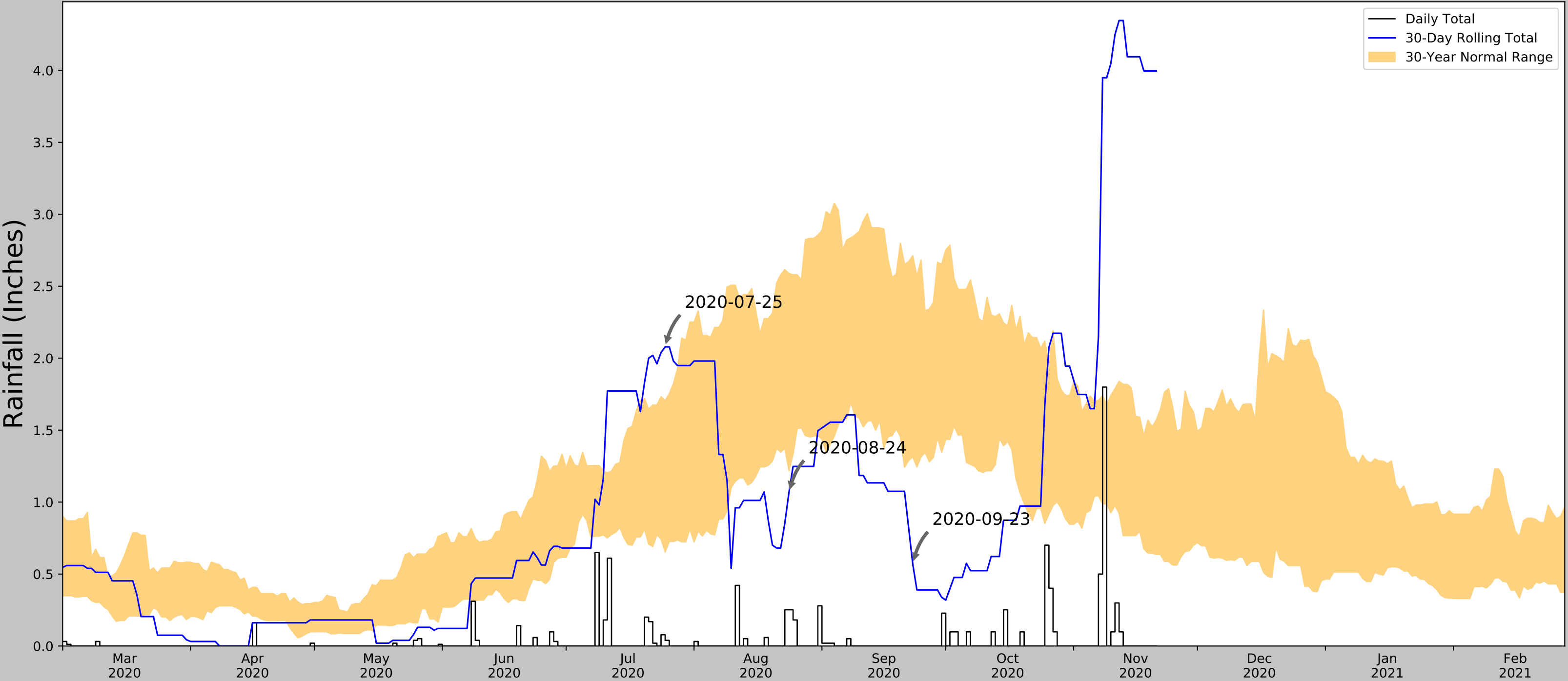
Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 34.848        | 109.221     | 19.488     | 11352         | 90                |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.636211, -150.956091 |
| Observation Date                 | 2020-09-23             |
| Elevation (ft)                   | 441.54                 |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product               |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|-----------------------|
| 2020-09-23     | 1.315748                   | 2.711811                   | 0.570866      | Dry               | 1               | 3            | 3                     |
| 2020-08-24     | 1.219685                   | 2.588583                   | 1.066929      | Dry               | 1               | 2            | 2                     |
| 2020-07-25     | 0.652756                   | 1.705118                   | 2.07874       | Wet               | 3               | 1            | 3                     |
| Result         |                            |                            |               |                   |                 |              | Drier than Normal - 8 |



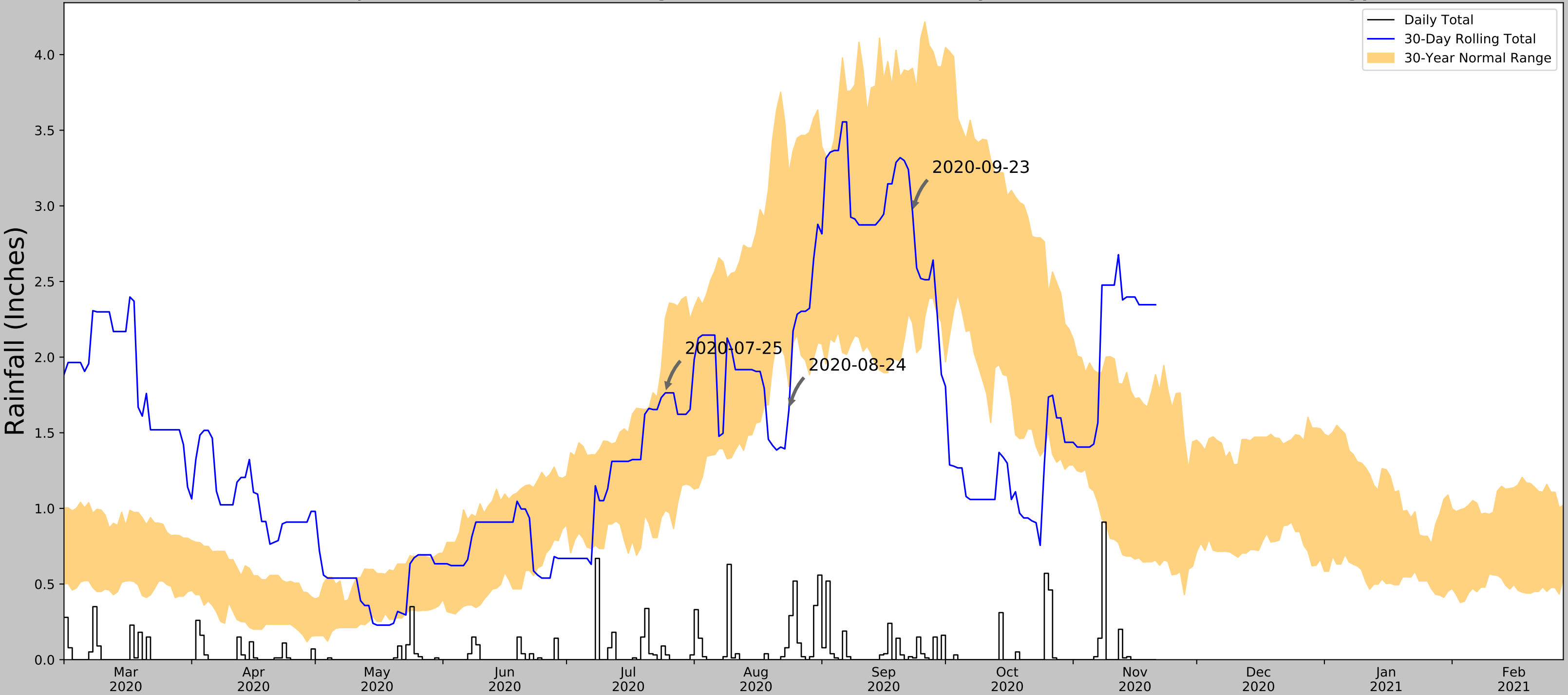
Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| EAGLE RVR 5 SE       | 61.2967, -149.44   | 498.032        | 55.261        | 56.492      | 27.989     | 10444         | 90                |
| Alexander Lake       | 61.75, -150.89     | 160.105        | 8.155         | 281.435     | 5.965      | 12            | 0                 |
| SKWENTNA             | 61.9772, -151.2169 | 149.934        | 25.051        | 291.606     | 18.578     | 865           | 0                 |
| WHITES CROSSING      | 61.7067, -149.9978 | 270.013        | 31.794        | 171.527     | 19.761     | 30            | 0                 |
| Point Mackenzie      | 61.39, -150.03     | 250.0          | 34.94         | 191.54      | 22.415     | 1             | 0                 |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                       |
|----------------------------------|-----------------------|
| Coordinates                      | 61.515751, -150.46797 |
| Observation Date                 | 2020-09-23            |
| Elevation (ft)                   | 101.95                |
| Drought Index (PDSI)             | Not available         |
| WebWIMP H <sub>2</sub> O Balance | Wet Season            |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product                |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|------------------------|
| 2020-09-23     | 2.226772                   | 3.909449                   | 2.96063       | Normal            | 2               | 3            | 6                      |
| 2020-08-24     | 1.805512                   | 3.214961                   | 1.653543      | Dry               | 1               | 2            | 2                      |
| 2020-07-25     | 0.986221                   | 2.258661                   | 1.76378       | Normal            | 2               | 1            | 2                      |
| Result         |                            |                            |               |                   |                 |              | Normal Conditions - 10 |



Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

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U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 28.054        | 18.129      | 13.133     | 11352         | 90                |



# Antecedent Precipitation Tool v.1.0 - Watershed Sampling Summary

Generated on 2020-11-23

## User Inputs

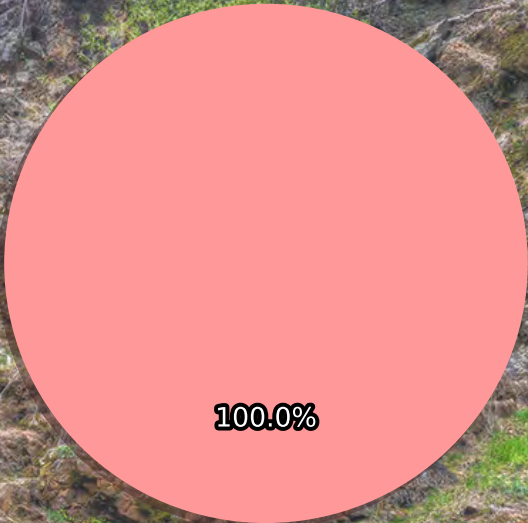
|                  |                      |
|------------------|----------------------|
| Coordinates      | 61.55589, -150.57133 |
| Date             | 2020-09-29           |
| Geographic Scope | Custom Polygon       |

## Intermediate Data

|                          |                       |
|--------------------------|-----------------------|
| Custom Watershed Name    | 0916-09292020_Field   |
| Watershed Size           | 11.28 mi <sup>2</sup> |
| # Random Sampling Points | 6                     |

## Preliminary Result

|                                        |                   |
|----------------------------------------|-------------------|
| Average Antecedent Precipitation Score | 9.0               |
| Preliminary Determination              | Drier than Normal |



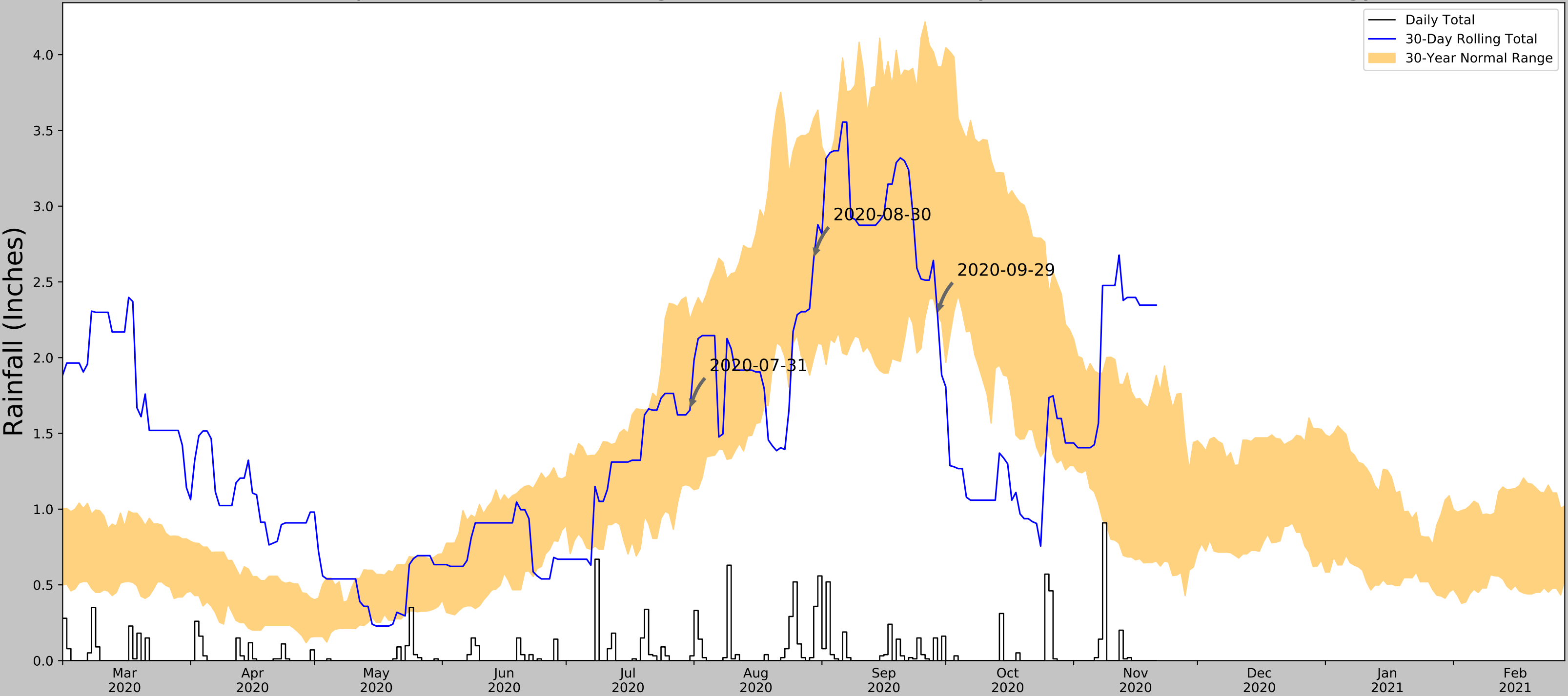
Drier than Normal

## Sampling Point Breakdown

| Antecedent Precipitation Score | Antecedent Precipitation Condition | WebWIMP H <sub>2</sub> O Balance | Drought Index (PDSI) | # of Points |
|--------------------------------|------------------------------------|----------------------------------|----------------------|-------------|
| 9                              | Drier than Normal                  | Wet Season                       | Not available        | 6           |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                      |
|----------------------------------|----------------------|
| Coordinates                      | 61.55589, -150.57133 |
| Observation Date                 | 2020-09-29           |
| Elevation (ft)                   | 275.32               |
| Drought Index (PDSI)             | Not available        |
| WebWIMP H <sub>2</sub> O Balance | Wet Season           |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product               |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|-----------------------|
| 2020-09-29     | 2.285433                   | 3.920866                   | 2.283465      | Dry               | 1               | 3            | 3                     |
| 2020-08-30     | 1.996457                   | 3.579134                   | 2.649606      | Normal            | 2               | 2            | 4                     |
| 2020-07-31     | 1.152756                   | 2.250394                   | 1.653543      | Normal            | 2               | 1            | 2                     |
| Result         |                            |                            |               |                   |                 |              | Drier than Normal - 9 |



Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

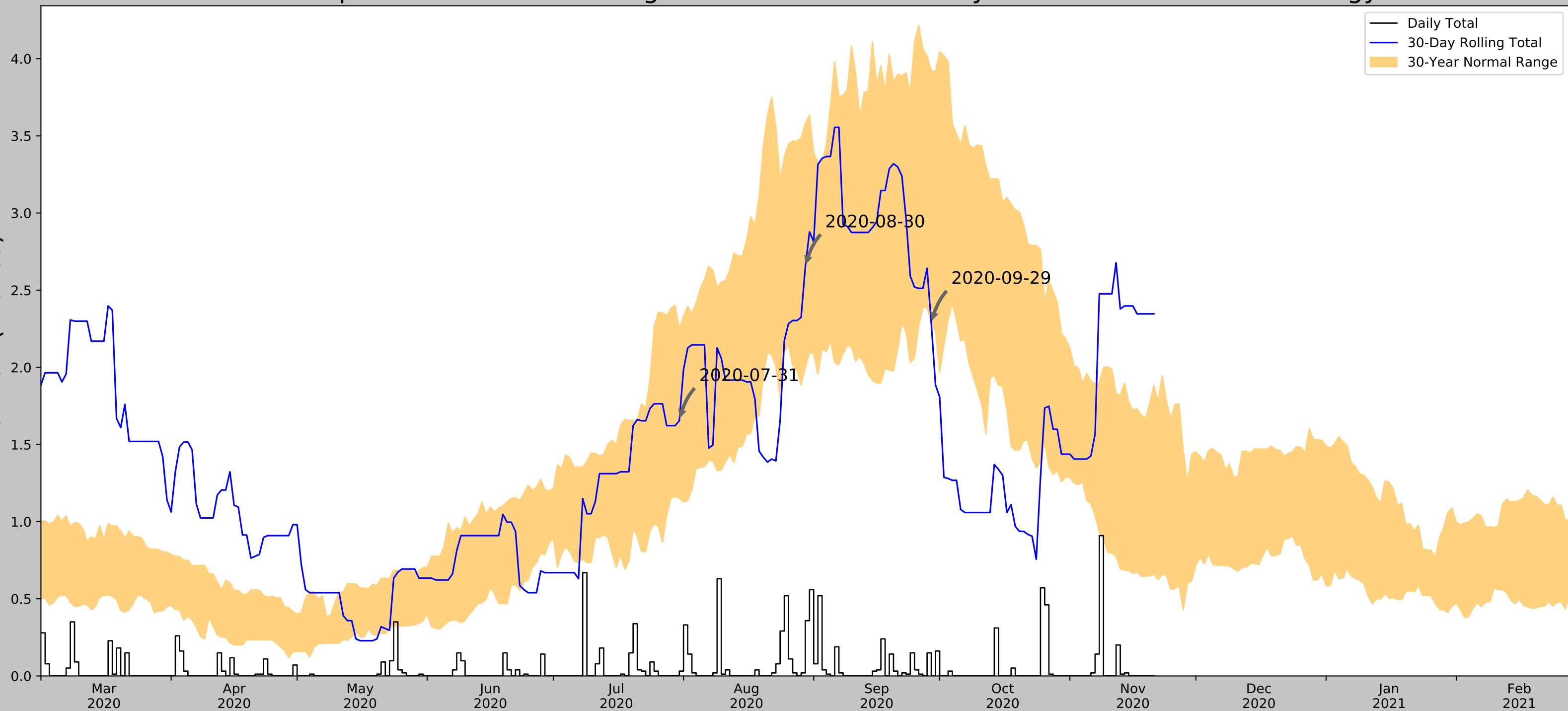
Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 32.232        | 155.241     | 19.508     | 11352         | 90                |



# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.618851, -150.909453 |
| Observation Date                 | 2020-09-29             |
| Elevation (ft)                   | 385.92                 |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product               |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|-----------------------|
| 2020-09-29     | 2.285433                   | 3.920866                   | 2.283465      | Dry               | 1               | 3            | 3                     |
| 2020-08-30     | 1.996457                   | 3.579134                   | 2.649606      | Normal            | 2               | 2            | 4                     |
| 2020-07-31     | 1.152756                   | 2.250394                   | 1.653543      | Normal            | 2               | 1            | 2                     |
| Result         |                            |                            |               |                   |                 |              | Drier than Normal - 9 |

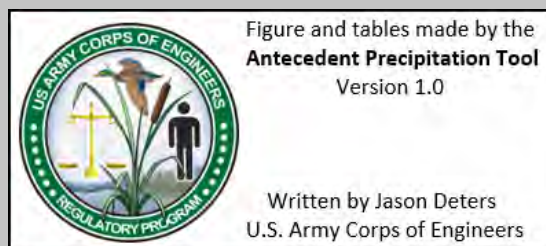


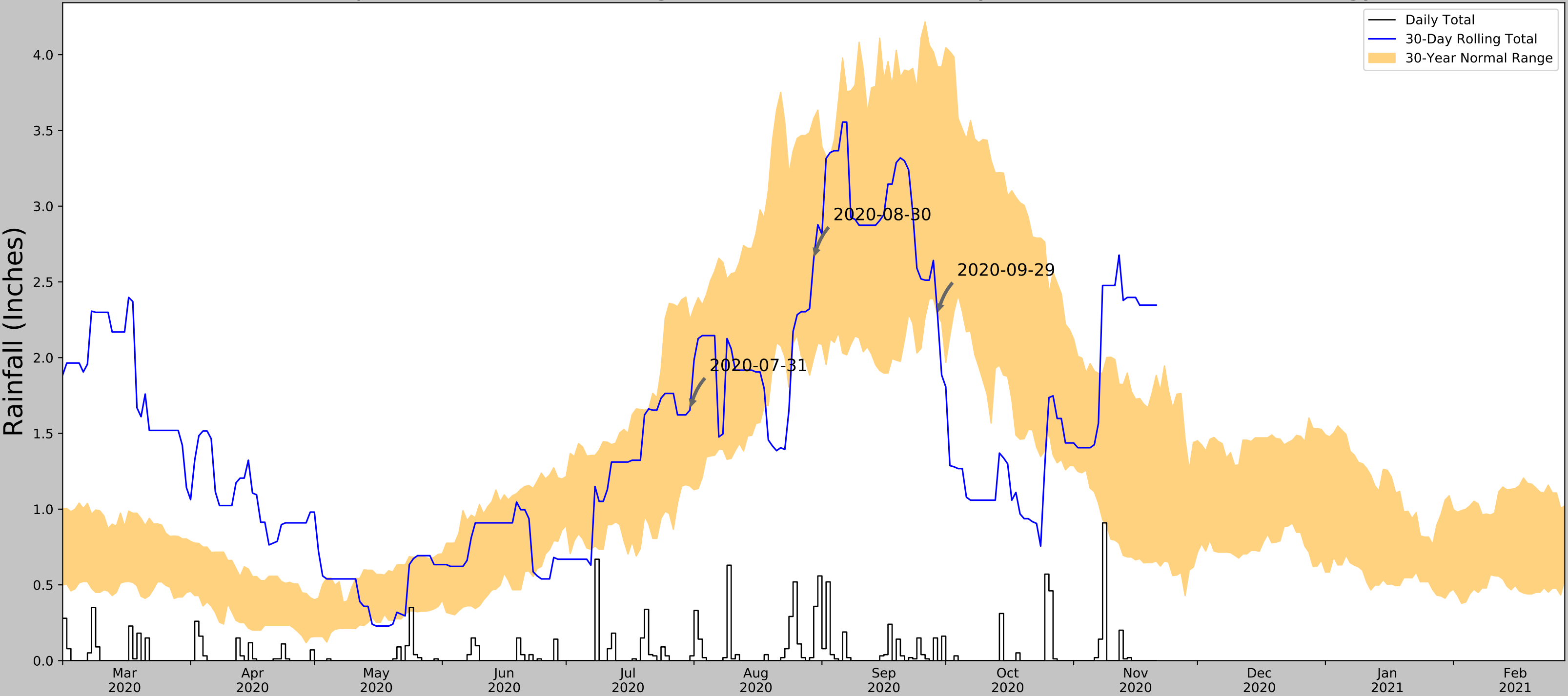
Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation $\Delta$ | Weighted $\Delta$ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|--------------------|-------------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 42.627        | 265.841            | 30.514            | 11352         | 90                |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.551894, -150.711119 |
| Observation Date                 | 2020-09-29             |
| Elevation (ft)                   | 193.64                 |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product               |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|-----------------------|
| 2020-09-29     | 2.285433                   | 3.920866                   | 2.283465      | Dry               | 1               | 3            | 3                     |
| 2020-08-30     | 1.996457                   | 3.579134                   | 2.649606      | Normal            | 2               | 2            | 4                     |
| 2020-07-31     | 1.152756                   | 2.250394                   | 1.653543      | Normal            | 2               | 1            | 2                     |
| Result         |                            |                            |               |                   |                 |              | Drier than Normal - 9 |



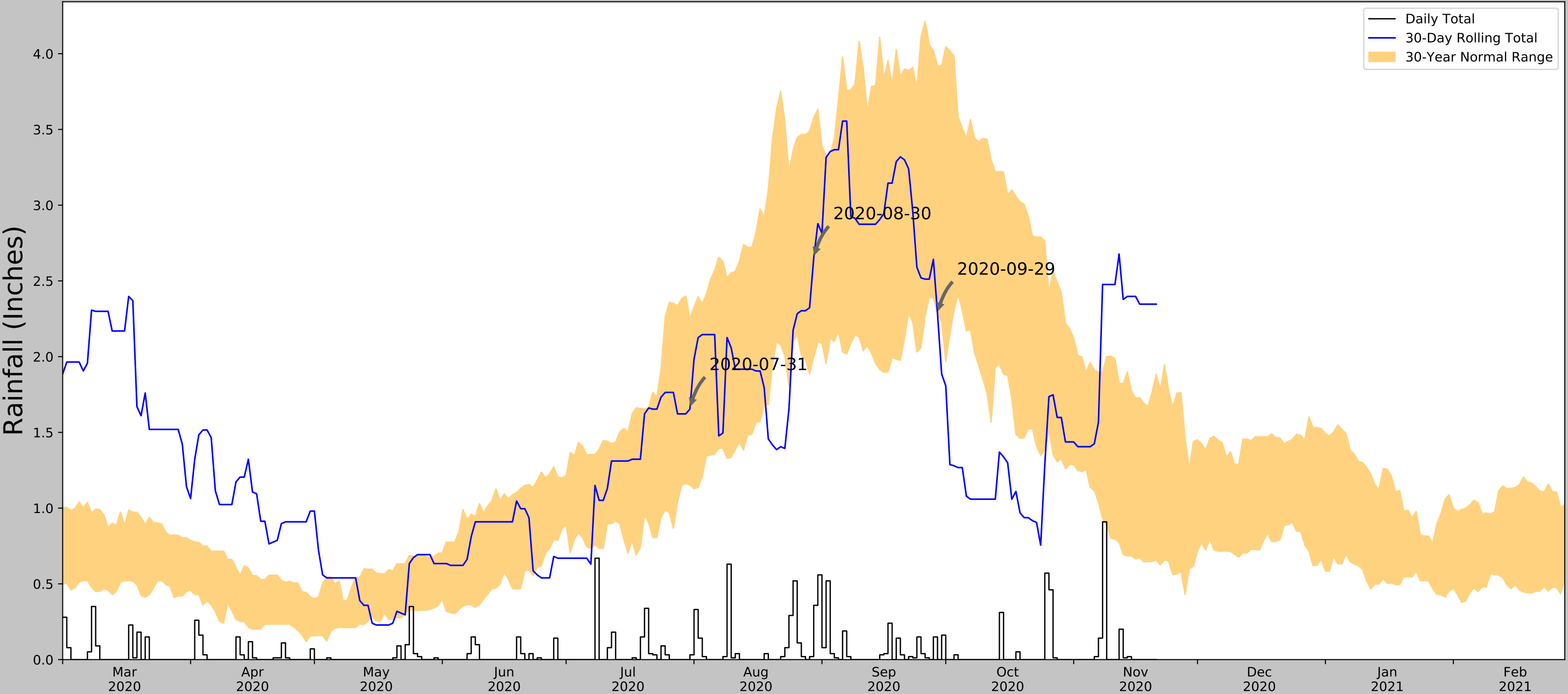
Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 34.818        | 73.561      | 18.229     | 11352         | 90                |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.493788, -150.301212 |
| Observation Date                 | 2020-09-29             |
| Elevation (ft)                   | 86.65                  |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product               |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|-----------------------|
| 2020-09-29     | 2.285433                   | 3.920866                   | 2.283465      | Dry               | 1               | 3            | 3                     |
| 2020-08-30     | 1.996457                   | 3.579134                   | 2.649606      | Normal            | 2               | 2            | 4                     |
| 2020-07-31     | 1.152756                   | 2.250394                   | 1.653543      | Normal            | 2               | 1            | 2                     |
| Result         |                            |                            |               |                   |                 |              | Drier than Normal - 9 |



Figure and tables made by the  
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Version 1.0

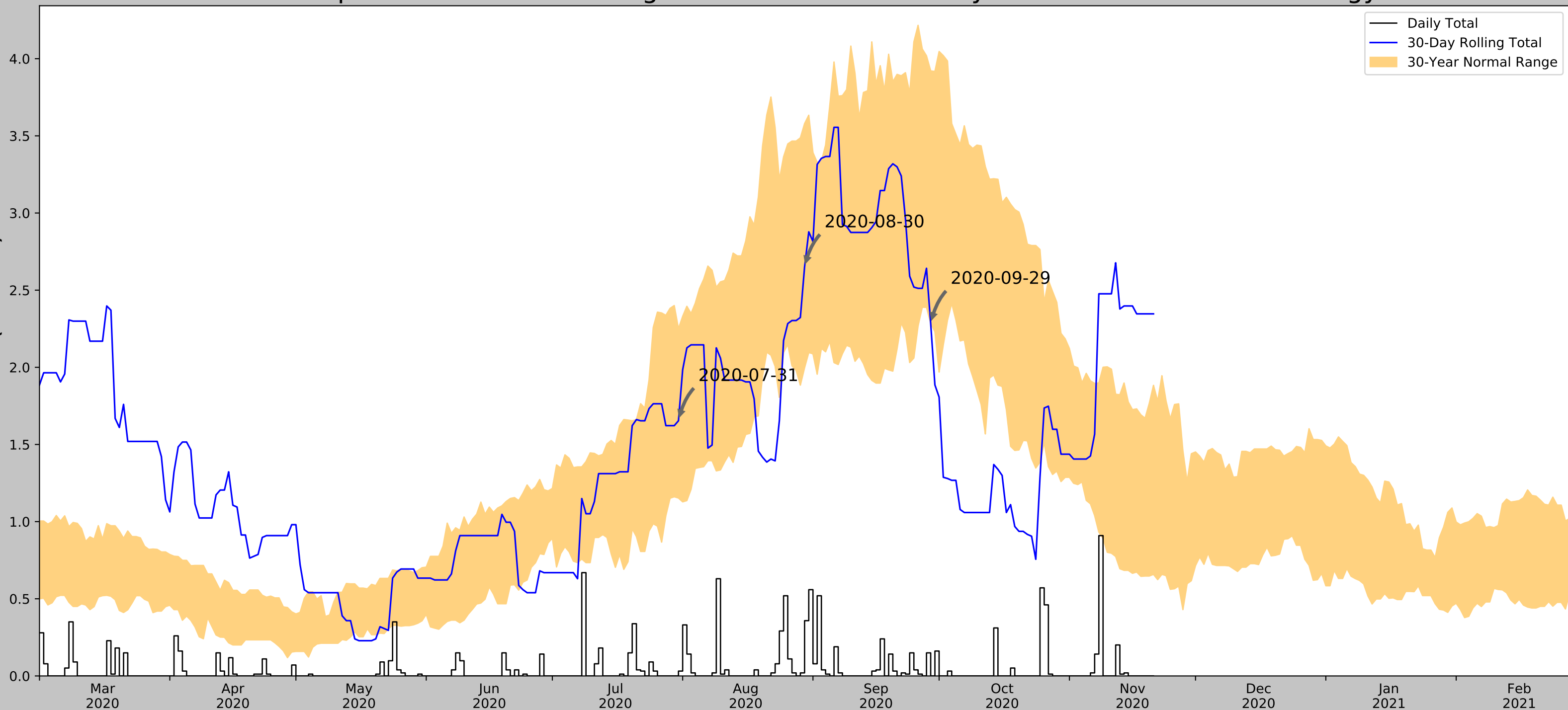
Written by Jason Deters  
U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 24.208        | 33.429      | 11.703     | 11352         | 90                |



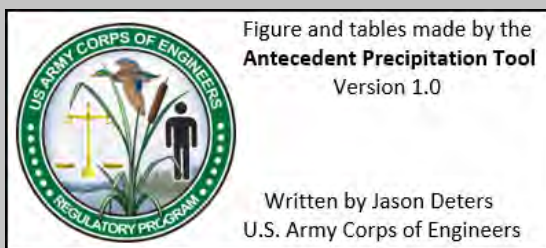
# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



|                                  |                       |
|----------------------------------|-----------------------|
| Coordinates                      | 61.50212, -150.437902 |
| Observation Date                 | 2020-09-29            |
| Elevation (ft)                   | 99.75                 |
| Drought Index (PDSI)             | Not available         |
| WebWIMP H <sub>2</sub> O Balance | Wet Season            |

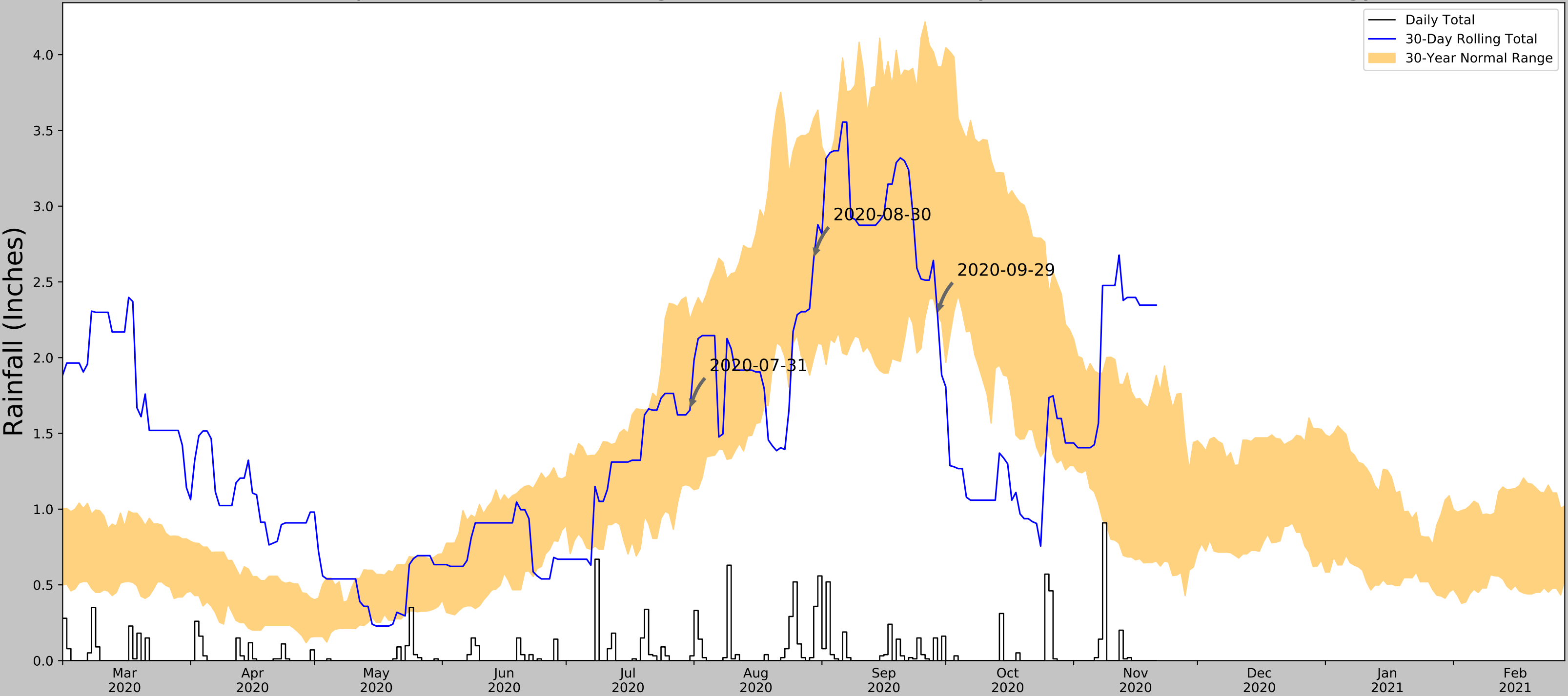
| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product               |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|-----------------------|
| 2020-09-29     | 2.285433                   | 3.920866                   | 2.283465      | Dry               | 1               | 3            | 3                     |
| 2020-08-30     | 1.996457                   | 3.579134                   | 2.649606      | Normal            | 2               | 2            | 4                     |
| 2020-07-31     | 1.152756                   | 2.250394                   | 1.653543      | Normal            | 2               | 1            | 2                     |
| Result         |                            |                            |               |                   |                 |              | Drier than Normal - 9 |



| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation $\Delta$ | Weighted $\Delta$ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|--------------------|-------------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 26.736        | 20.329             | 12.575            | 11352         | 90                |



Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



|                                  |                        |
|----------------------------------|------------------------|
| Coordinates                      | 61.587018, -150.803005 |
| Observation Date                 | 2020-09-29             |
| Elevation (ft)                   | 271.47                 |
| Drought Index (PDSI)             | Not available          |
| WebWIMP H <sub>2</sub> O Balance | Wet Season             |

| 30 Days Ending | 30 <sup>th</sup> %ile (in) | 70 <sup>th</sup> %ile (in) | Observed (in) | Wetness Condition | Condition Value | Month Weight | Product               |
|----------------|----------------------------|----------------------------|---------------|-------------------|-----------------|--------------|-----------------------|
| 2020-09-29     | 2.285433                   | 3.920866                   | 2.283465      | Dry               | 1               | 3            | 3                     |
| 2020-08-30     | 1.996457                   | 3.579134                   | 2.649606      | Normal            | 2               | 2            | 4                     |
| 2020-07-31     | 1.152756                   | 2.250394                   | 1.653543      | Normal            | 2               | 1            | 2                     |
| Result         |                            |                            |               |                   |                 |              | Drier than Normal - 9 |




Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

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U.S. Army Corps of Engineers

| Weather Station Name | Coordinates        | Elevation (ft) | Distance (mi) | Elevation Δ | Weighted Δ | Days (Normal) | Days (Antecedent) |
|----------------------|--------------------|----------------|---------------|-------------|------------|---------------|-------------------|
| ANCHORAGE INTL AP    | 61.1689, -150.0278 | 120.079        | 38.638        | 151.391     | 23.237     | 11352         | 90                |