Prince William Sound Ferry Terminals Environmental Assessment

Chenega, Cordova, and Tatitlek Ferry Terminals, Alaska
Federal Project #003290, 0851073, 003289 |
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Appendix J: Office-Based Wetland and Waterbody Delineation Report

Alaska Department of Transportation & Public Facilities

September 2025

Office-Based Wetland and Waterbody Delineation Report

PWS Ferry Terminal Improvements: Chenega, Cordova, and Tatitlek

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Prepared by:
HDR Engineering, Inc.
582 E 36th Avenue, Suite 500
Anchorage, Alaska 99503

Prepared for:
Alaska Department of Transportation and Public Facilities
PO Box 112500
3132 Channel Drive
Juneau, Alaska 99811-2500

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by DOT&PF pursuant to 23 USC 327 and a Memorandum of Understanding dated April 13, 2023, and executed by FHWA and DOT&PF.

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Abbreviations and Acronyms

DOT&PF	Alaska Department of Transportation and Public Facilities
GIS	Geographic Information System
HDR	HDR Engineering, Inc.
HTL	high tide line
MHW	mean high water
MLLW	Mean lower low water
NAD83	North American Datum of 1983
NWI	National Wetlands Inventory
PWS	Prince William Sound
RPW	relatively permanent water
TNW	traditional navigable water
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 Department of Transportation and Public Facilities (DOT&PF) Southcoast Region is partnering with the Prince Williams Sound Economic Development District under a Maritime Administration Multimodal Project Discretionary Grant to upgrade three ferry terminals in PWS at Chenega, Cordova, and Tatitlek. Construction of these ferry terminal improvements may impact wetlands and marine waters under jurisdiction of the U.S. Army Corps of Engineers (USACE). DOT&PF has contracted HDR Engineering, Inc. (HDR), to provide an office-based delineation of wetlands and waterbodies within three study areas covering the proposed improvements and to preliminarily determine whether those wetlands and waterbodies are subject to USACE jurisdiction under authority of Section 404 of the Clean Water Act of 1972 (as amended) or Section 10 of the Rivers and Harbors Act of 1899.

1.1. Study Area Description

The three study areas, one surrounding each existing ferry terminal at Chenega, Cordova, and Tatitlek, are located in the Chugach Census Area within the PWS region (Figure 1). The ferry terminals accommodate ferries that are part of the Alaska Marine Highway System. Combined, the study areas total 45.4 acres and include the marine waters of the Gulf of Alaska and the shoreside components of the existing ferry terminals. Additional information on the location of each study area is included in Table 1.

Table 1. Study Area Location Information

Study Area	Size (acres)	Latitude/ Longitude (NAD83)	Public Land Survey System	USGS Quad	12-digit Hydrologic Unit Code[a]	Ecoregion[b]	Major Land Resource Area[c]
Chenega Ferry Terminal Improvements	6.4	60.0638740°N/ 148.0090734°W	Township 15 South, Range 3 West, Sections 21 and 22, Copper River Meridian	Seward A-3	Latouche Island-Frontal Latouche Passage - 190202030304	Coastal Western Hemlock-Sitka Spruce Forests	Alexander Archipelago-Gulf of Alaska Coast
Cordova Ferry Terminal Improvements	26.7	60.5576372°N/ 145.7538802°W	Township 1 South, Range 8 East, Section 25, Seward Meridian	Cordova C-5	Orca Inlet-Frontal Prince William Sound - 190202010200	Coastal Western Hemlock-Sitka Spruce Forests	Alexander Archipelago-Gulf of Alaska Coast
Tatitlek Ferry Terminal Improvements	12.3	60.8594315°N/ 146.6759209°W	Township 12 South, Range 8 West, Section 5, Copper River Meridian	Cordova D-8	Black Creek-Frontal Prince William Sound - 190202011202	Coastal Western Hemlock-Sitka Spruce Forests	Alexander Archipelago-Gulf of Alaska Coast

Note: NAD83 = North American Datum of 1983.
[a] USGS 2024.
[b] Gallant et al. 1995.
[c] Natural Resources Conservation Service 2004.

1.2. Regulatory Definitions

Wetlands, waterbodies, and uplands (non-wetlands or waters), as referenced in this report, are defined below.

Wetlands: "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 Code of Federal Regulations §328.3(b)). Note that the definition does not include unvegetated areas such as streams and ponds.

As described in the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the 2007 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual, Alaska Region* (USACE 2007), wetlands must possess the following three characteristics: (1) a vegetation community dominated by plant species that are typically adapted for life in saturated soils; (2) inundation or saturation of the soil during the growing season; and (3) soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions.

Waterbodies: Waterbodies include unvegetated areas covered by surface water, such as navigable waters, lakes, ponds, and streams, that are also potentially regulated by USACE.

Uplands: Non-water and non-wetland areas are called uplands.

2.0 Methods

2.1. Wetland and Waterbody Mapping and Classification

HDR wetland scientists conducted this office-based evaluation and mapping effort using a combination of publicly available data sources and survey data prepared by DOT&PF for the project. Scientists reviewed the following datasets in a Geographic Information System (GIS) to delineate wetlands and waterbodies in the study area:

- AK Red Green Blue High-Resolution Imagery (50 centimeters). Maxar Products. Dynamic Mosaic (© 2020 Maxar Technologies), Alaska Geospatial Office, U.S. Geological Survey (USGS; USGS 2020)
- Esri World Imagery high-resolution satellite and aerial imagery at 1-meter resolution or better (Esri 2020)
- Survey data including contour lines, mean lower low (MLLW), mean high water (MHW), and high tide line (HTL) provided by DOT&PF to HDR in September 2024
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping (Figure 2; USFWS 2022)
- USGS Watershed Boundary Dataset (USGS 2024)

For this effort, wetlands were delineated at a scale of approximately 1:1,200, and waterbodies were delineated at a scale of 1:400, where possible. Delineating wetlands and waterbodies 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.

Mapped polygons identifying homogeneous wetland and waterbody areas in the GIS-based mapping were modified or mapped based on the datasets described above and were attributed with NWI mapping codes based on the USFWS *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979).

3.0 Wetland and Waterbody Mapping Results

An estimated 30.29 acres (approximately 66.7 percent) of the 45.44-acre study areas were mapped as wetlands or waterbodies. Approximately 0.27 acre of the area was mapped as freshwater wetlands containing either emergent vegetation or a mixture of emergent and scrub-shrub vegetation. The other 30.02 acres were mapped as marine waters. Of the 30.02 acres of marine water mapped below the HTL, 25.70 acres were mapped as subtidal (i.e., below MLLW) and 3.13 acres were mapped as regularly flooded (i.e., between MHW and MLLW). The remaining 15.15 acres (approximately 33.3 percent) of the study area were identified as uplands.

Wetland and waterbody classes found within the study area and acreages, presented by the office-based mapping efforts, are provided by NWI type in Table 2.

Figure 3 displays wetland, upland, and waterbody boundaries as well as the boundaries between different wetland and waterbody types.

Table 2. Wetland, Waterbody, and Upland Mapping Summary by NWI Type

NWI Code[a]	Description	Total Area (acres)[b]
Chenega Ferry Terminal Study Area		
Waterbodies		
M1UBL	Subtidal marine waters with an unconsolidated bottom	3.76
M2USN	Regularly flooded intertidal marine waters with an unconsolidated shore	0.43
M2USP	Irregularly flooded intertidal marine waters with an unconsolidated shore	0.18
Uplands		
U	Upland	2.05
	Total Chenega Ferry Terminal Study Area	**6.43**
Cordova Ferry Terminal Study Area		
Waterbodies		
M1UBL	Subtidal marine waters with an unconsolidated bottom	13.21
M2USN	Regularly flooded intertidal marine waters with an unconsolidated shore	1.68
M2USP	Irregularly flooded intertidal marine waters with an unconsolidated shore	0.55
Uplands		
U	Upland	11.29

NWI Code[a]	Description	Total Area (acres)[b]
	Total Cordova Ferry Terminal Study Area	**26.74**
Tatitlek Ferry Terminal Study Area		
Wetlands		
PEM1C	Seasonally flooded palustrine persistent emergent wetlands	0.05
PSS1/EM1B	Saturated palustrine deciduous scrub-shrub/persistent emergent wetlands	0.22
Waterbodies		
M1UBL	Subtidal marine waters with an unconsolidated bottom	8.73
M2USN	Regularly flooded intertidal marine waters with an unconsolidated shore	1.02
M2USP	Irregularly flooded intertidal marine waters with an unconsolidated shore	0.45
Uplands		
U	Upland	1.81
	Total Tatitlek Ferry Terminal Study Area	**12.28**
	Total Wetlands	**0.27**
	Total Waterbodies	**30.02**
	Total Uplands	**15.15**
	Total Area	**45.44**

[a] Cowardin et al. 1979.
[b] Numbers may not add up due to rounding

4.0 Jurisdictional Analysis

This office-based delineation conducted by HDR indicates that approximately 0.27 acre is classified as wetland and approximately 30.02 acres are classified as marine waters located below the HTL.

The current regulatory regime for determining jurisdiction of wetlands and waterbodies in Alaska is pre-2015 regulatory guidance[1] in light of the *Sackett* decision.[2] Based on agency interpretation of current laws, USACE and EPA would likely assert jurisdiction over traditional navigable waters (TNW), relatively permanent waters (RPWs) that flow into TNWs, and wetlands that have a continuous surface connection to TNWs or RPWs. All of the wetlands and waterbodies within the three study areas are either TNWs or wetlands with a direct surface connection to a TNW; therefore, USACE would likely assert jurisdiction over all of the delineated wetlands and waterbodies (i.e., 30.29 acres).

USACE regulates wetlands and waterbodies under Section 404 of the Clean Water Act and navigable waters under Section 10 of the Rivers and Harbors Act. All of the 30.29 acres of mapped wetlands and waterbodies are likely jurisdictional under Section 404 of the Clean Water Act. Marine waters below the MHW of PWS are likely also jurisdictional under Section 10 of the Rivers and Harbors Act. The Section 10 jurisdictional areas include the 25.70 acres of marine waters mapped as M1UBL in the study areas. However, USACE is ultimately responsible for determining the limits of their jurisdiction.

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[1] EPA (U.S. Environmental Protection Agency) and USACE (U.S. Army Corps of Engineers). 2008. Joint Agency Memorandum: Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States* and *Carabell v. United States*. Available at https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Related-Resources/CWA-Guidance.

[2] U.S. Supreme Court majority opinion issued on May 25, 2023, in the *Sackett v. Environmental Protection Agency (EPA)* court case. Sackett et ux. v. Environmental Protection Agency et al. U.S. Supreme Court No. 21–454 (2023). Available at https://www.epa.gov/system/files/documents/2023-05/Sackett%20Opinion.pdf

5.0 References

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Figures

Figure 1. Project Area Overview

Figure 2. Existing Wetland Mapping – Chenega

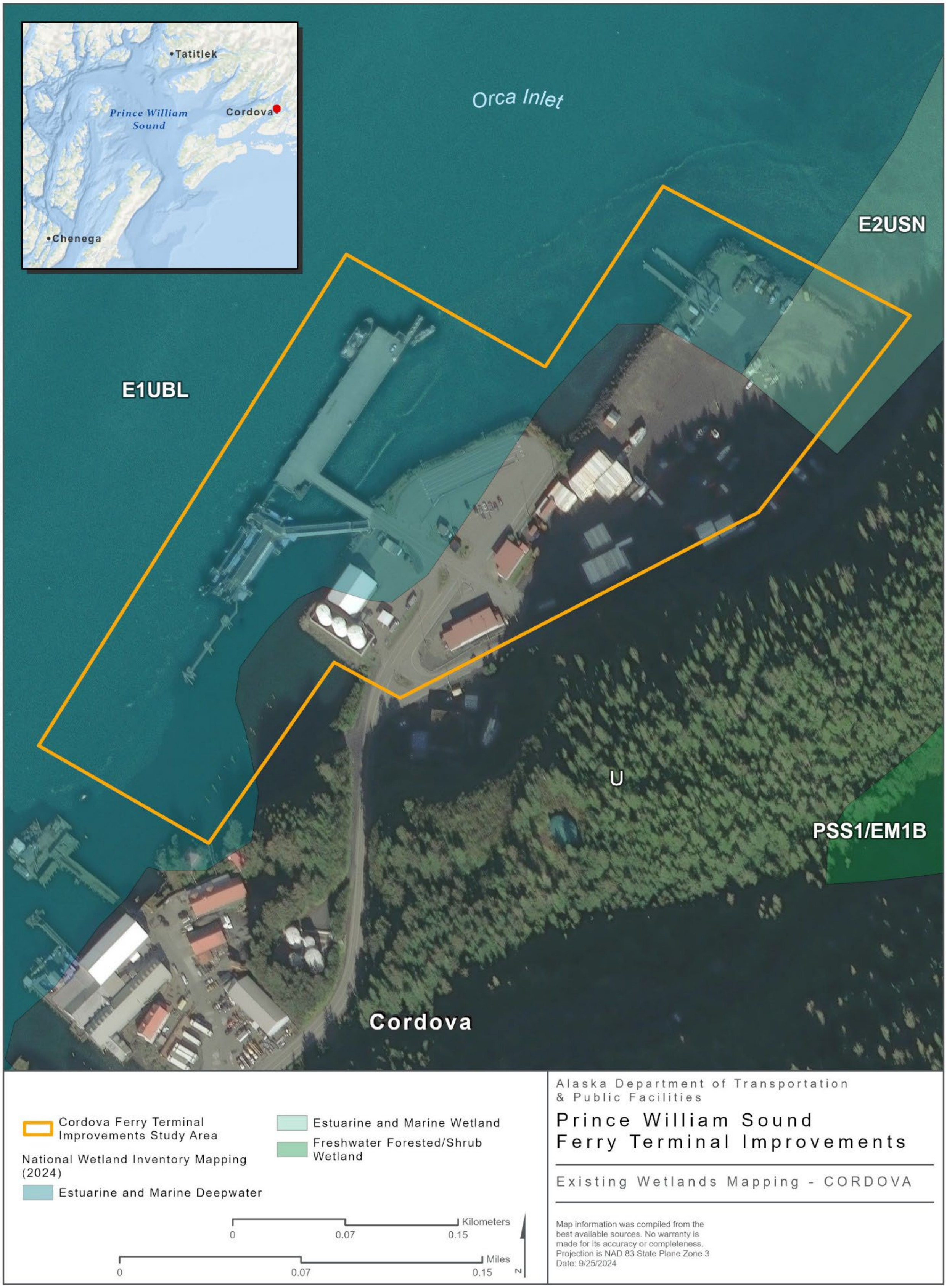

Figure 2. Existing Wetland Mapping – Cordova

Figure 2. Existing Wetland Mapping – Tatitlek

Figure 3. Wetland and Waterbody Mapping – Chenega

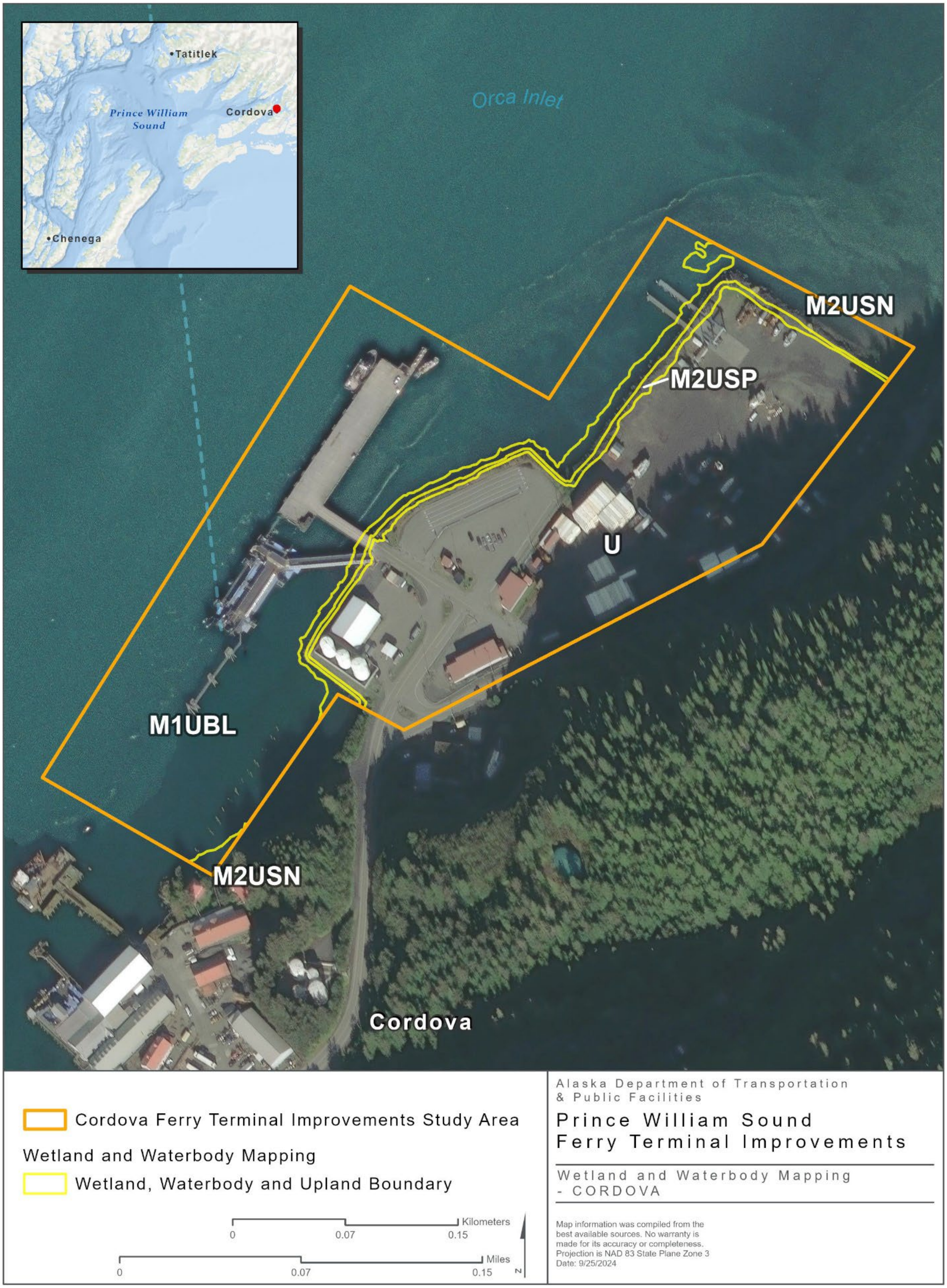

Figure 3. Wetland and Waterbody Mapping – Cordova

Figure 3. Wetland and Waterbody Mapping – Tatitlek