



# **Juneau Access Improvements Project Draft Supplemental Environmental Impact Statement**

## **Update to Appendix X Draft Section 404/10 Permit Application Draft Section 404(b)(1) Analysis**

**Prepared for:**

**Alaska Department of Transportation  
& Public Facilities  
6860 Glacier Highway  
Juneau, Alaska 99801-7999**

**State Project Number: 71100  
Federal Project Number: STP-000S(131)**

**Prepared by:**

**HDR, Inc.  
2525 C Street, Suite 305  
Anchorage, AK 99503**

**September 2014**

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**U.S. ARMY CORPS OF ENGINEERS  
APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT**

33 CFR 325. The proponent agency is CECW-CO-R.

OMB APPROVAL NO. 0710-0003  
EXPIRES: 28 FEBRUARY 2013

Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

**PRIVACY ACT STATEMENT**

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

**(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)**

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
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**(ITEMS BELOW TO BE FILLED BY APPLICANT)**

5. APPLICANT'S NAME First - Jane                      Middle -                      Last - Gendron Company - Alaska Department of Transportation & Public Facilities E-mail Address - jane.gendron@alaska.gov			8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First -                                      Middle -                                      Last - Company - E-mail Address -		
6. APPLICANT'S ADDRESS: Address- 6860 Glacier Highway City - Juneau                      State - Alaska      Zip - 99811      Country -			9. AGENT'S ADDRESS: Address- City -                                      State -                                      Zip -                                      Country -		
7. APPLICANT'S PHONE NOS. w/AREA CODE a. Residence                      b. Business                      c. Fax (907) 465-4499                      (907) 465-3506			10. AGENTS PHONE NOS. w/AREA CODE a. Residence                      b. Business                      c. Fax		

**STATEMENT OF AUTHORIZATION**

11. I hereby authorize, \_\_\_\_\_ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

\_\_\_\_\_  
SIGNATURE OF APPLICANT

\_\_\_\_\_  
DATE

**NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY**

12. PROJECT NAME OR TITLE (see instructions) Juneau Access Improvements Project (POA-2006-597)			
13. NAME OF WATERBODY, IF KNOWN (if applicable) Berners Bay/Lynn Canal		14. PROJECT STREET ADDRESS (if applicable) Address	
15. LOCATION OF PROJECT Latitude: °N See Attached Block 15      Longitude: °W See Attached		City -	State -                      Zip -
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID                      Municipality City and Borough of Juneau and Haines Borough Section - See Attached                      Township -                      See Attached                      Range - See Attached			

17. DIRECTIONS TO THE SITE

From downtown Juneau, take Egan Drive northwest 40.5 miles along Glacier Highway to Echo Cove, which is where the project begins (Latitude 58.663344 °N, Longitude -134.903281 °W). Continue north and west 50.8 miles, following the existing alignment of the Glacier Highway from Echo Cove to Cascade Point, along the eastern coast of Lynn Canal, and ending at the proposed ferry terminal just north of the mouth of the Katzehin River delta (Latitude 59.227191 °N, Longitude -135.327309 °W).

18. Nature of Activity (Description of project, include all features)

Place dredged and fill material into approximately 95.7 acres of waters of the U.S. (60.7 acres of palustrine wetlands (primarily forested), and 32.1 acres of marine waters (primarily rocky shore) and 2.9 acres of steam channel), in conjunction with the construction of a 50.8 mile long two-lane highway (including 47.9 miles of new highway and widening of 2.9 miles of the existing Glacier Highway from Echo Cove to Cascade Point) to a new ferry terminal two miles north of the Katzehin River. This project includes modifications to the Skagway Ferry Terminal to include a new end berth and construction of a new conventional monohull ferry to operate between Haines and Skagway. Mainline ferry service would end at Auke Bay. See Attachment 1, Block 18, 21, and 22 Continuation and drawings in Attachment 2 for more information.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The purpose of the Juneau Access Improvements Project is to provide improved surface transportation to and from Juneau within the Lynn Canal corridor, that will provide the capacity to meet the transportation demand in the corridor, provide flexibility and improve opportunity for travel, reduce travel time between the Lynn Canal communities of Juneau, Haines, and Skagway, reduce state and user costs for transportation in the corridor. See Attachment 1, Block 19 Continuation. A full discussion of the purpose and need for the proposed project is included in Section 1.4 of the Draft Supplemental Environmental Impact Statement.

**USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED**

20. Reason(s) for Discharge

Discharge fill material in wetlands, marine waters and streams, as well as dredging in a marine area, to construct a highway and ferry terminal. The highway alignment and ferry terminal and surrounding environments are described in context of topography and other features, such as eagle nest trees, in Section 2.3.3 of the Draft Supplemental Environmental Impact Statement (See Attachment 1, Block 18 Continuation and the drawings in See Attachment 2).

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type	Type	Type
Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards

See Attachment 1, Block 21-22 Continuation

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres See Attachment 1, Block 21-22 Continuation  
or  
Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

Avoidance, minimization, and compensatory mitigation were identified, evaluated and finalized during the original permit evaluation process (POA-2006-597-2). This DA permit application reflects an overall reduction to aquatic resource impacts from what was previously authorized. In the current design for Alternative 2B, all palustrine emergent wetlands and estuarine emergent wetlands have been avoided and the need for deep water disposal has been eliminated. Potential impacts to forested wetlands and intertidal areas have been minimized by alignment changes, extensions of bridges, and slope steepening. See Attachment 3, Block 23 Continuation.



24. Is Any Portion of the Work Already Complete?  Yes  No IF YES, DESCRIBE THE COMPLETED WORK

The proposed project incorporates the existing Glacier Highway from Echo Cove to Cascade Point, which was constructed for a different purpose under a separate permit. Use of this road avoids the impact of having two parallel roads. The proposed project would widen a portion of the existing Glacier Highway from Echo Cove to Cascade Point.

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- Beth Pendleton, U.S. Forest Service, Regional Forester, Alaska Regional Office, P.O. Box 21628

City - Juneau State - Alaska Zip - 99802

b. Address- Wayne Zigarlik, General Manager, Coeur Alaska, Inc., Kensington Mine, 3031 Clinton Drive, Suite 202

City - Juneau State - Alaska Zip - 99801

c. Address- Robert Loiselle, President/CEO, Goldbelt Inc., 3075 Vintage Blvd, Suite 200

City - Juneau State - Alaska Zip - 99801

d. Address- See Attachment 1, Block 25 Continuation

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
See Attachment 1,	Block 26 continuation				

\* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

\_\_\_\_\_  
SIGNATURE OF APPLICANT

\_\_\_\_\_  
DATE

\_\_\_\_\_  
SIGNATURE OF AGENT

\_\_\_\_\_  
DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

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**Attachment 1**

**USACE Permit Application  
Continuation of Question Blocks**

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Attachment 1  
USACE Permit Application, Continuation of Question Blocks

**Block 15-16 Continuation –**

Project beginning at Glacier Highway: Latitude 58.663344° N, Longitude -134.903281 °W

Katzehin Ferry Terminal: Latitude 59.227191° N, Longitude -135.327309°W

Skagway Ferry Terminal: Latitude 59.450576° N, Longitude -135.326960°W

Sections, Townships, and Ranges include:

- Township 36 S., Range 63 E., Sections 4, 5, 8, 9, 16, and 20-21
- Township 35 S., Range 63 E., Sections 19, 20, 28-30, and 33
- Township 35 S., Range 62 E., Sections 6, 7, 18-20, 24, 25, 28, 29, 32-35
- Township 34 S., Range 62 E., Sections 19, 30, and 31
- Township 34 S., Range 61 E., Sections 1, 12-13, and 24
- Township 33 S., Range 61 E., Section 2, 11, 13-14, 24, 25, and 36
- Township 32 S., Range 61 E., Sections 18, 19, 30, and 31
- Township 32 S., Range 60 E., Sections 1, 12-13, 24
- Township 31 S., Range 60 E., Sections 9, 10, 14, 15, 22, 23, 26, and 36
- Township 28 S., Range 59 E., Section 14

**Block 18 Continuation – Nature of Work**

Additionally, the project would dredge material from 4.4 acres of marine waters at the Katzehin ferry terminal facility and include installation of approximately 266 culverts in non-fish bearing waters. A multiple-ferry shuttle service to both Skagway and Haines would be provided from a new terminal at Katzehin. This is an overall reduction in impacts to waters of the U.S. of 14.5 acres from the previous USACE permit authorization. The highway alignment and ferry terminal and surrounding environments are described in context of topography and other features, such as eagle nest trees, in Section 2.3.3 of the Draft Supplemental Environmental Impact Statement (EIS).

**Highway**

The highway will have a 30-foot pavement width consisting of two 11-foot-wide vehicle lanes and four-foot shoulders. The roadway will typically include the following: 30-foot wide pavement, 8-foot wide traversable slopes above 1.5:1 fill slopes; stabilization of unsuitable soils including geotextile separation fabric if necessary; 2-inch asphalt concrete and 2-inch asphalt treated base above a 4-inch aggregate base course and a minimum of 24 inches of selected material consisting of useable excavated material. Excess excavated material and construction debris would be placed adjacent to road embankment in upland areas only. Soil cuts would be 1.5:1, and peat cuts would be 0.5:1. On tidelands, the highway will consist of shot rock fill, with a 6-foot thick riprap protection.

**Ferry Terminal**

The Katzehin terminal facility will include a fill pad in the intertidal area, two rubble mound breakwaters, a stern berth, and a dredged mooring basin. Dredged material will be incorporated into the fill for the terminal building, staging and parking. The terminal area fill will be approximately 640 feet by 450 feet. A six foot thick layer of riprap will surround the fill. The breakwater will be about 500 feet long, the northwest breakwater approximately 400 feet long. The breakwaters will be up to 160 feet wide with an additional 10-foot riprap toe protection areas on each side. A mooring basin will be dredged to -25 foot elevation. The vessel mooring facility includes a stern berth with 60 feet x 80 feet steel float and 20 feet x 143 feet steel transfer bridge, six mooring structures, and a sheetpile wave barrier located in front of the northwest breakwater. The breakwaters will contain gaps or culverts to allow fish passage.

**Streams and drainages**

Three crossings over streams require fill in marine areas below the High Tide Line (HTL):

- Bridge 9E (Independence Creek, non-anadromous). Approximately 100 cubic yards of rock highway embankment and riprap will be placed below HTL impacting 0.01 acre of marine habitat.
- Bridge 27E (unnamed non-anadromous stream about one mile south of Katzehin River). Approximately 45,930 cubic yards of rock highway embankment and riprap will be placed below HTL. Approximately 0.63 acres of fill will be placed below HTL on the north and south sides of the stream.



Attachment 1  
USACE Permit Application, Continuation of Question Blocks

- Katzehin River (anadromous). Approximately 64,480 cubic yards of rock highway embankment and riprap will be placed below HTL on the south shore of the mouth of Katzehin River in the intertidal area to create a bridge approach. The fill area will be about 3.15 acres.

Culverts will be installed in appropriate locations to maintain natural flow patterns for surface water. Culverts will typically be in a bedding footprint of 1.5 feet on either side of the pipe, with approximately 1.5 feet of bedding below and above the pipe. Pipe alignments and gradients will match the natural stream beds except where excavation or excessive skew make this not feasible. In areas outside of wetlands, approximately 4,900 cubic yards of material consisting of riprap, bedding and concrete covering 2.9 acres will be placed in waters of the U.S. for culvert installation. Fill material associated with placement of culverts in wetlands is included in stated wetland fill amounts.

Diversions of streams would be done during low flow periods using standard procedures to minimize water quality impacts. Depending on flows, water may be pumped around the site where the culvert is being placed, or the stream may be diverted to a temporary lined channel.

**Methods of Construction**

Excavation of soil will be done by bulldozer and tracked excavator. Rock excavation will be by dozer ripping or drilling and blasting. Grubbing within the cut and fill limits will be done by dozer or excavator. No mechanized land clearing will occur in wetlands outside the cut and fill limits. Clearing in wetlands beyond the toe slope will be by hand (chain saw) or brush hog on the roadbed. Pile driving at the Katzehin Ferry Terminal will be by vibratory hammers to the extent practicable. Dredging at the terminal will be by suction or clam shell scoop. The riprap outer walls of the terminal fill pad will be placed first, during low tide stages, and dredged material will be contained within the fill.

**Additional Information**

No blasting is anticipated in waters of the U.S. All blasting would be controlled to avoid discharge of blasted materials into waters of the U.S. (including wetlands) adjacent to the project.

Any construction camps, staging sites, borrow pits, and waste areas will be located in upland areas and stabilized during and after use to avoid water quality impacts.

Wastewater from the ferry terminal public restrooms will be treated to Alaska Department of Environmental Conservation (ADEC) standards and discharged through a leach field within the fill pad, if practicable. If not, the National Sanitation Foundation approved self contained treatment plant would be installed.

Attachment 1  
USACE Permit Application, Continuation of Question Blocks

**Block 19 Continuation – Project Purpose**

Juneau is the largest community on the North American continent not connected to the continental highway system. Because of its location and lack of highway access, all freight, vehicle, and passenger movement to and from Juneau is by air or sea. The only public surface transportation available to and from Juneau is the Alaska Marine Highway System (AMHS), a state-owned ferry system that provides transportation to many of Southeast Alaska’s coastal communities. AMHS service from Juneau connects to the continental highway system in Prince Rupert, British Columbia, and Bellingham, Washington to the south, and in Haines and Skagway to the north. The AMHS is the National Highway System (NHS) link to Juneau, Haines, and Skagway.

**Block 21-22 Continuation – Types/Amount of Discharge Material and Surface Area in Waters of the U.S.**

Discharge up to 646,650 cubic yards of fill material into 95.7 acres of waters of the U.S., and dredge 4.4 acres of unvegetated marine waters, as follows:

<b>Facilities</b>	<b>Surface Area To Be Filled or Dredged (Acres)</b>	<b>Volume (cubic yards)</b>
Roadway Fill/Slope Stabilization	60.7 (palustrine wetlands)	531,100
Channel Work	2.9 (stream channel)	4,948
Roadway Marine Fill	25.5 (marine waters)	Captured in roadway fill quantity
Ferry Terminal Pad/Breakwaters	6.6 (marine waters)	110,600
Ferry Terminal Dredging	4.4 (marine waters)	40,000
<b>TOTAL</b>	<b>100.1</b>	<b>686,648</b>

**Roadway Fill:** Approximately 60.7 acres of freshwater palustrine (mostly forested) wetlands will have rock fill placed within the prepared site. Fill will consist of 531,100 cubic yards of clean excavated 8-inch diameter or smaller rock and mineral soil (sand and gravel).

**Stream Channel Work:** The installation of 266 new culverts will require the discharge of approximately 4,948 cubic yards of bedding, rip rap, and concrete into approximately 2.9 acres of waters of the U.S. below the ordinary high water mark of streams. The culverts will typically be placed in a bedding footprint of 1.5 feet on either side of the pipe, with approximately 1.5 feet of bedding below the pipe. Pipe alignments and gradients will match the natural stream beds except where excavation or excessive skew make this impracticable. The culverts will be installed by temporary diversion, by either pumping water around the site or by diverting the water through a temporary lined channel.

**Roadway Fill in Marine Waters of the U.S.:** The road will be placed, for part of its length along the shoreline, in approximately 25.5 acres of marine (tidal) waters along the east side of Lynn Canal, north of Comet Beach. The road, which will be composed of shot rock fill, will be protected at its base with 6 feet of Class IV riprap extending up to elevation +24 feet above the 0.0 foot contour.

**Ferry Terminal Dredging:** Dredging of 4.4 acres of material (40,000 cubic yards) consisting of silt and sand deposited in subtidal areas from Katzeihin River discharge.

**Ferry Terminal and Breakwaters:** Approximately 6.6 acres of fill will be placed for two ferry terminals (3.9 acres) and breakwaters (2.7 acres). Fill will consist of 110,600 cubic yards of rock and dredged ferry terminal material; six foot thick outer riprap face (24-60 inch diameter rock) with shot rock (6-36 inch diameter) and dredged material core.

Attachment 1  
USACE Permit Application, Continuation of Question Blocks

**Block 25 Continuation – Addresses of Adjoining Property Owners**

- David Kelley, Regional Land Manager, State of Alaska, Department of Natural Resources, Division of Mining, Land and Water, Southeast Region Office, 400 Willoughby Ave., Ste 400, P.O. Box 111020, Juneau, Alaska 99811-1020
- Brian Kleinhenz, Natural Resources Manager, Sealaska Corporation, One Sealaska Plaza, Suite 201, Juneau, Alaska 99801
- Gail Olds, et al., 9644 Flying Eagle Lane, Las Vegas, NV 89123 (U.S. Mineral Survey 318)
- John Edwin Campbell, 7963 Jack Way, Klamath Falls, OR 97603 (U.S. Mineral Survey 318)
- Thomas Robert Campbell, 10138 219th Place NE, Redmond, WA 98053-766 (U.S. Mineral Survey 318)

**Block 26 Continuation – List of Other Certifications or Approvals/Denials from other Federal, State, or Local Agencies for Work Described in This Application**

Agency	Type Approval	Identification Number	Date Applied	Date Approved	Date Denied
ADEC	401 WQC	AK 0603-07		May 18, 2011	
ADNR OHMP	Title 41 Fish Habitat*	FH06-I-0041		June 30, 2006	
ADNR OHMP	Title 41 Fish Habitat*	FH06-I-0042		June 30, 2006	
ADNR OHMP	Title 41 Fish Habitat*	FH06-I-0043		June 30, 2006	

\*Title 41 Fish Habitat permits will be reissued by the ADF&G under Title 16.

The following approvals would be applied for prior to construction:

- U.S. Forest Service special use permit for project facilities in the Tongass National Forest
- National Marine Fisheries Service (NMFS) Endangered Species Act (ESA) Section 7 consultation for threatened and endangered species
- NMFS Marine Mammal Protection Act (MMPA) Incidental Harassment Authorization for marine mammals
- Alaska Pollutant Discharge Elimination System (APDES) Alaska General Permit for storm water discharge during construction\*\*
- Alaska Department of Natural Resources, Division of Mining Land and Water Interagency Land Management Assignment for use of tidelands at the Katzeihin Ferry Terminal and easements for highway segments built below mean high water
- Authorization from Alaska Department of Environmental Conservation (ADEC) for treated wastewater discharge from the Katzeihin Ferry Terminal
- ADEC review of the Storm Water Pollution Prevention Plan (SWPPP) under the APDES Alaska General Permit\*\*

\*\*This project would be constructed in phases. Each phase would have a separate Construction General Permit and SWPPP.

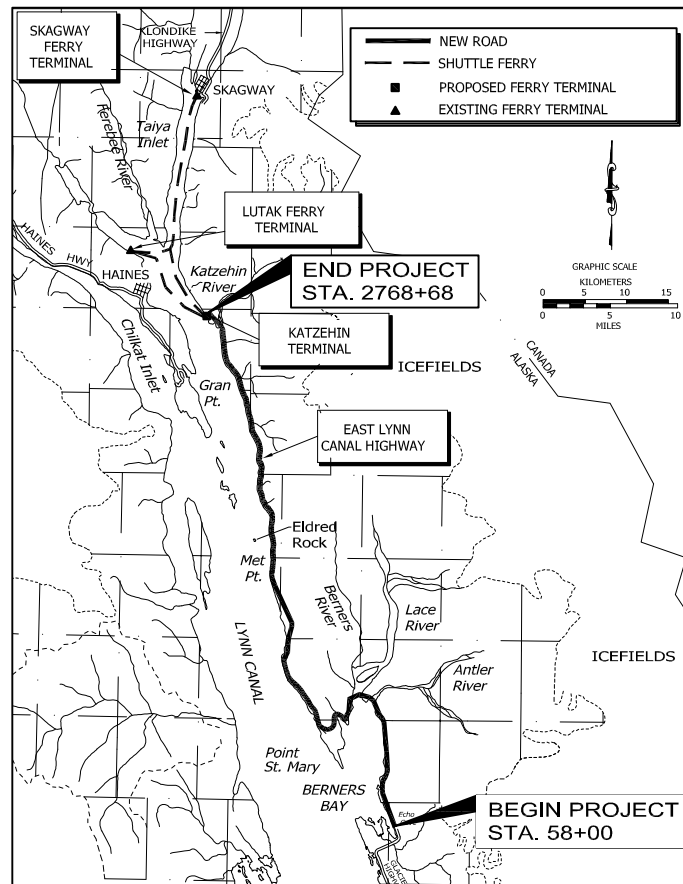
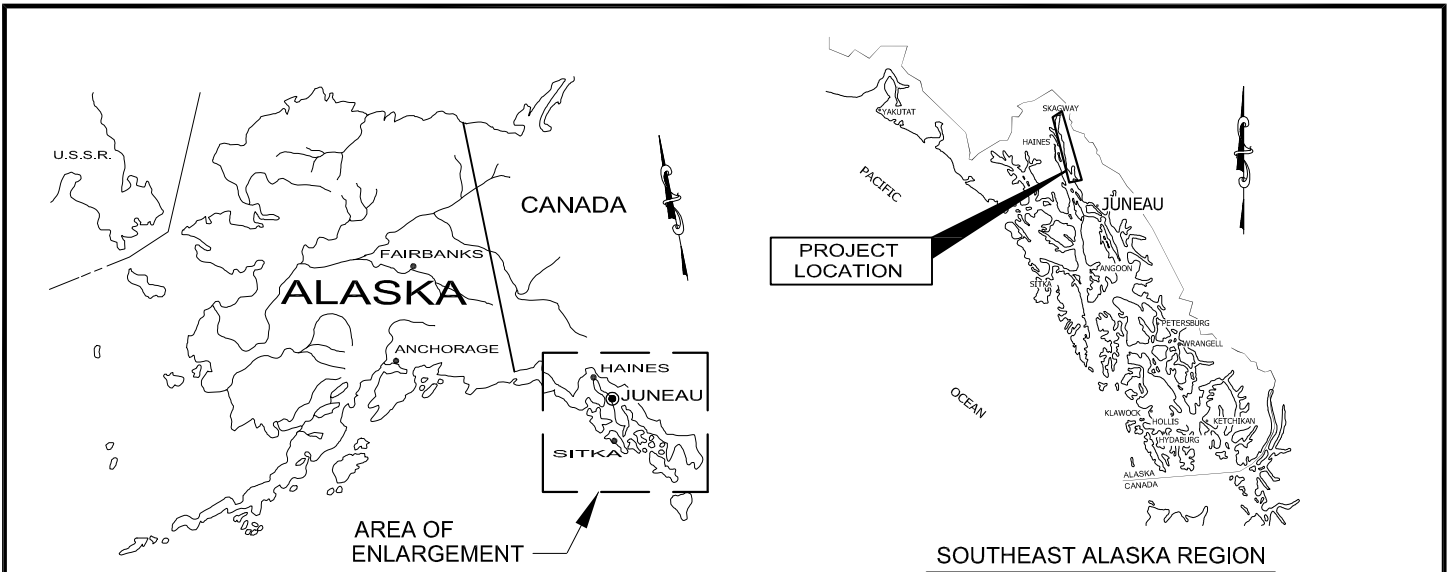
**Attachment 2**

**USACE Permit Application**

**Plan Sheets and Details**

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ADJACENT PROPERTY OWNERS:  
PROPOSED ACCESS ROAD

WATER BODY:  
LYNN CANAL AND BERNERS BAY

**LOCATION AND VICINITY MAPS**

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

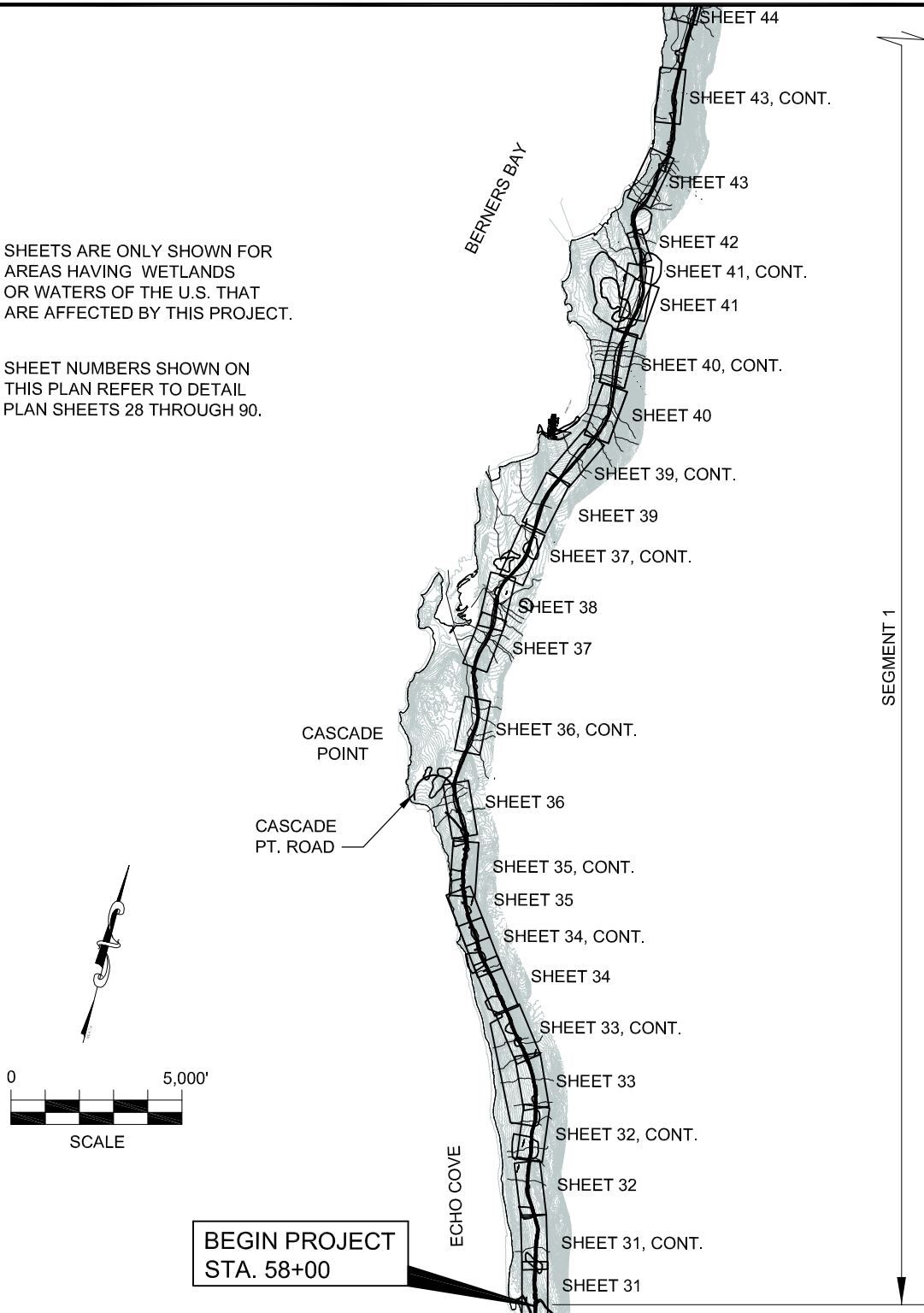
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FILE # : POA - 2006 - 597 - 2  
AT: JUNEAU, ALASKA  
LOCATED IN: T. 31 S. TO T. 37 S. & R. 60 E. TO R. 64 E.

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **1** OF **93**

SHEETS ARE ONLY SHOWN FOR AREAS HAVING WETLANDS OR WATERS OF THE U.S. THAT ARE AFFECTED BY THIS PROJECT.

SHEET NUMBERS SHOWN ON THIS PLAN REFER TO DETAIL PLAN SHEETS 28 THROUGH 90.



ADJACENT PROPERTY OWNERS:

1. U.S. FOREST SERVICE AND OTHERS, VARIES
2. GOLDBELT, INC.
3. SEALASKA, CORP.

WATER BODY:

LYNN CANAL AND BERNERS BAY

**Legend  
Detail Plan  
Sheet Numbers**

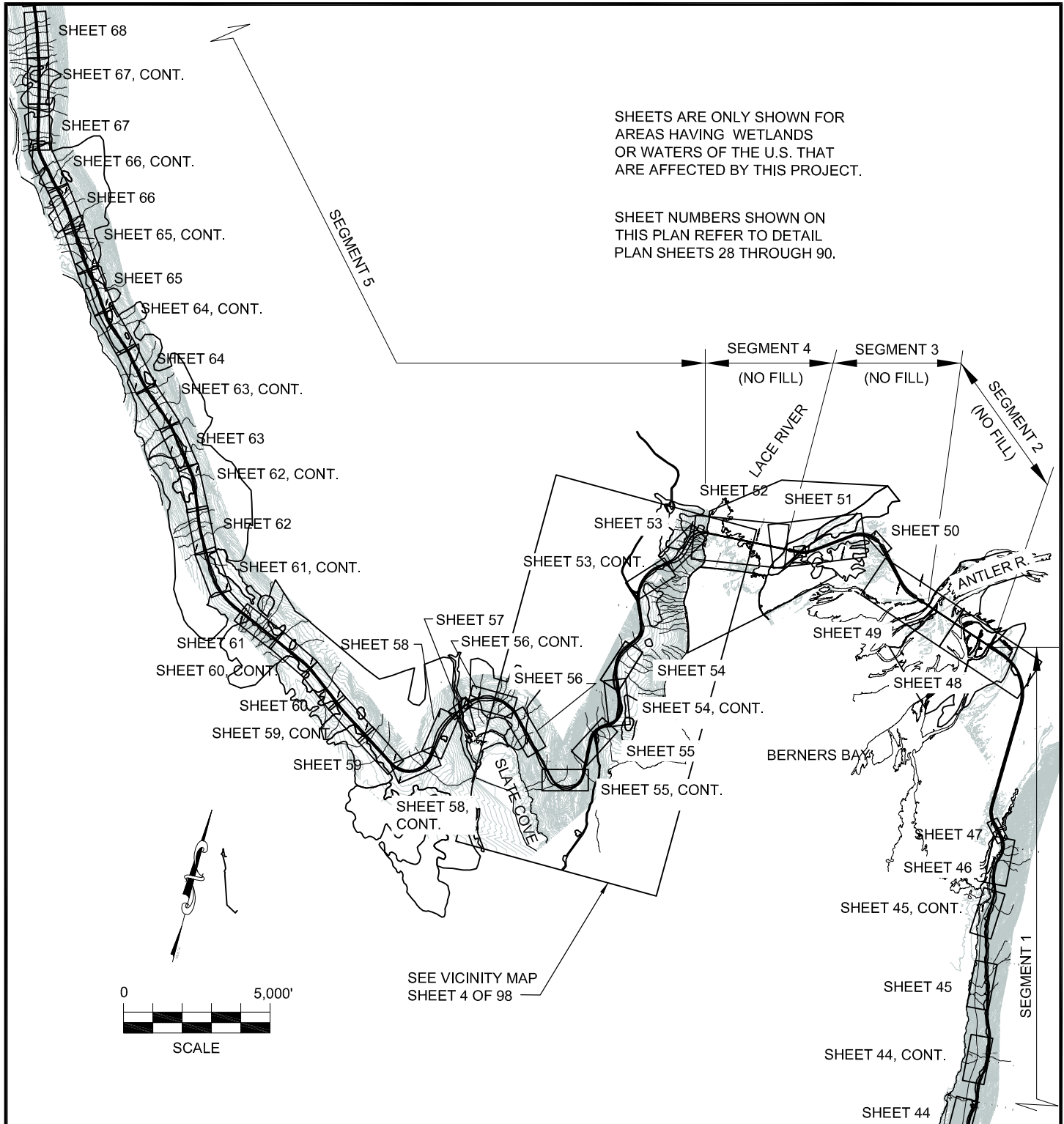
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ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA

LOCATED IN: T. 36 S., R. 63 E.,  
T. 37 S., R. 63 E.,  
T. 37 S., R. 64 E.

DETAIL PLAN SHEETS  
DATE: JULY 2014



**ADJACENT PROPERTY OWNERS:**

1. U.S. FOREST SERVICE AND OTHERS, VARIES
2. A.D.N.R.
3. COEUR ALASKA, INC.

**WATER BODY:**

LYNN CANAL AND BERNERS BAY

**Legend  
Detail Plan  
Sheet Numbers**

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

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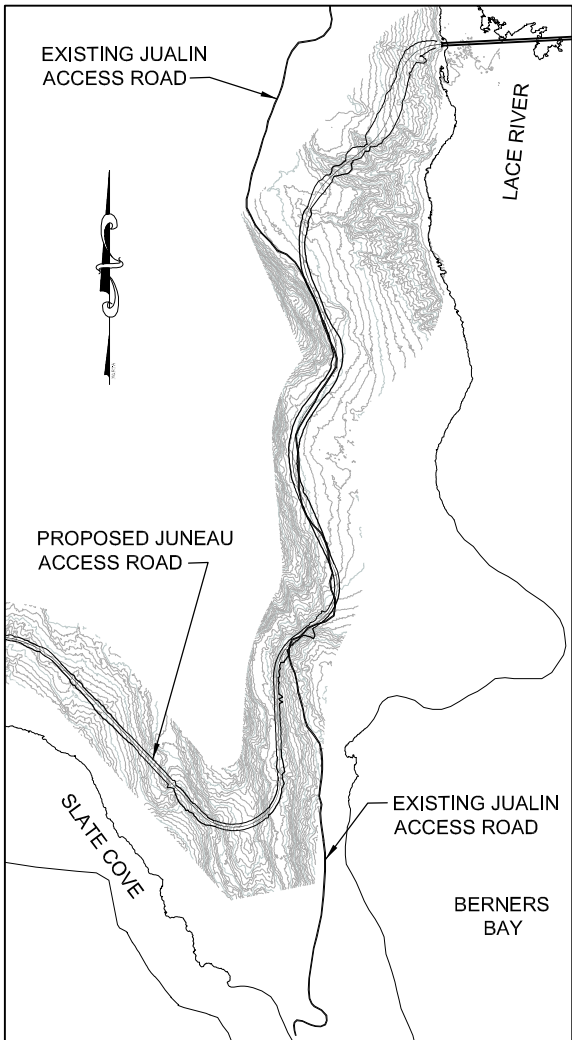
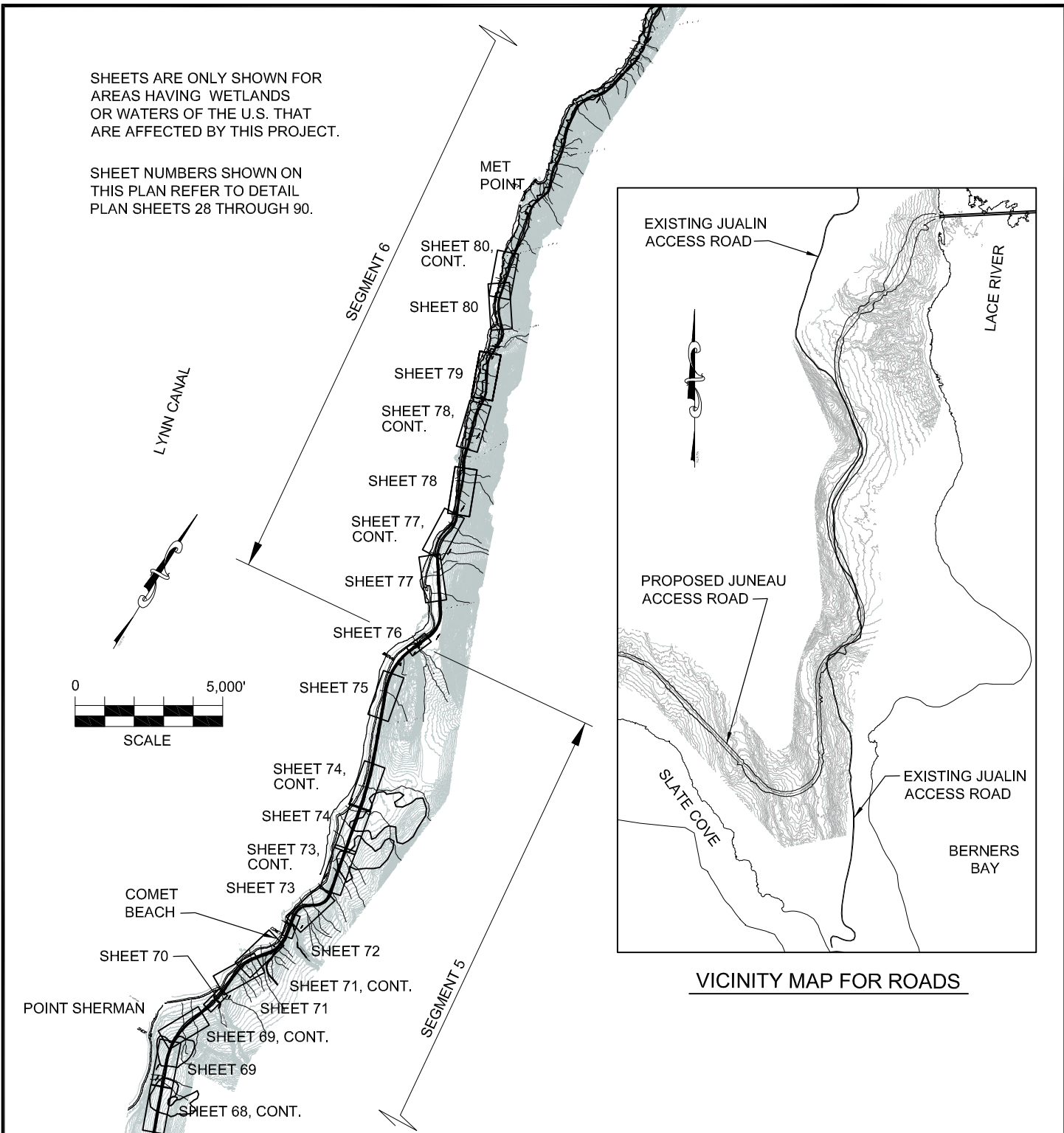
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T. 35 S., R. 62 E.

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VICINITY MAP FOR ROADS

ADJACENT PROPERTY OWNERS:

1. U.S. FOREST SERVICE AND OTHERS, VARIES
2. A.D.N.R.
3. COEUR ALASKA, INC.

WATER BODY:

LYNN CANAL AND BERNERS BAY

**Legend  
Detail Plan  
Sheet Numbers**

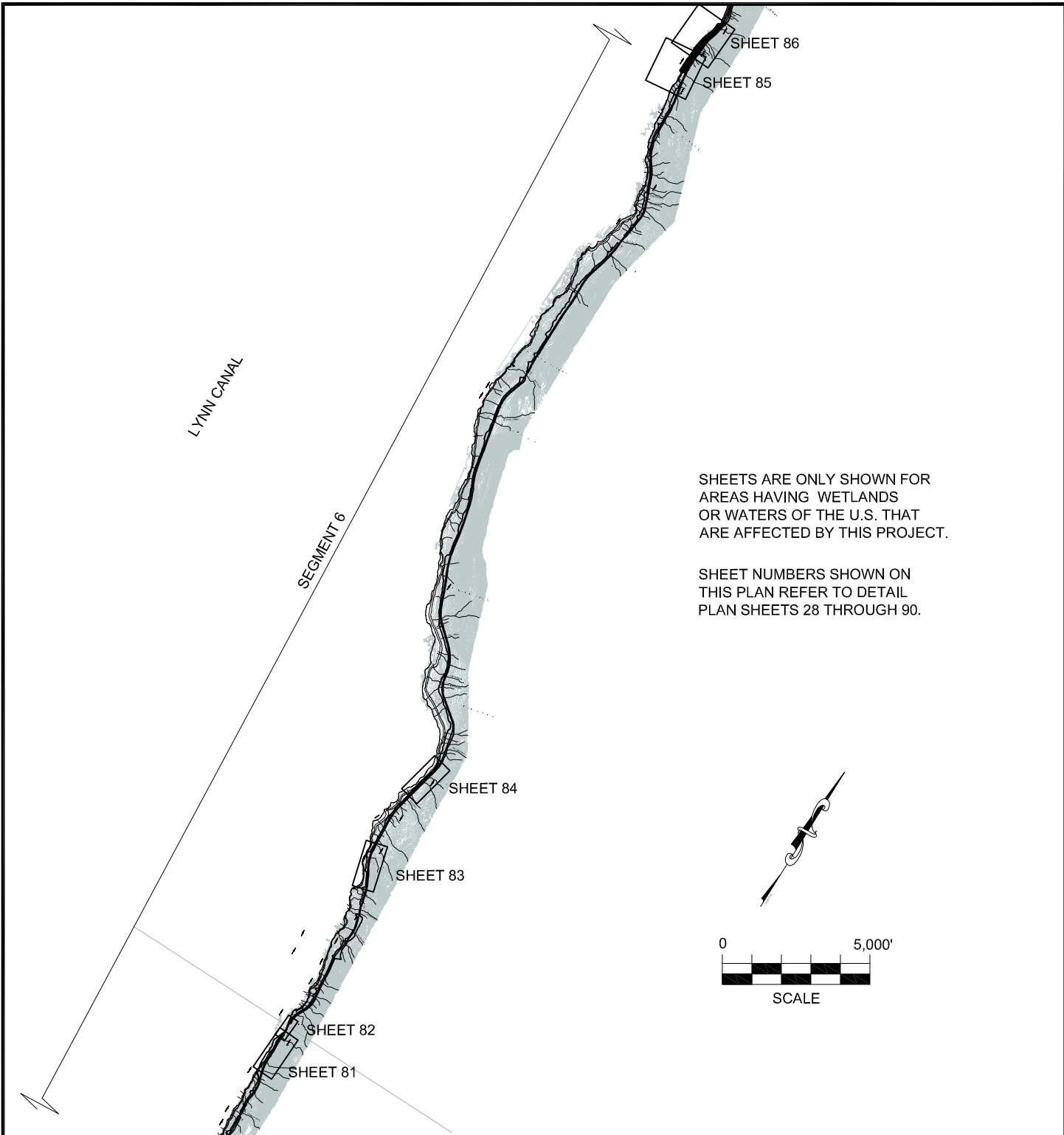
APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA

LOCATED IN: T. 34 S., R. 61 E.,  
T. 34 S., R. 62 E.,  
T. 35 S., R. 62 E.,  
T. 33 S., R. 61 E.

DETAIL PLAN SHEETS  
DATE: JULY 2014



**ADJACENT PROPERTY OWNERS:**

1. U.S. FOREST SERVICE AND OTHERS, VARIES
2. A.D.N.R.

**WATER BODY:**

LYNN CANAL AND BERNERS BAY

**Legend  
Detail Plan  
Sheet Numbers**

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
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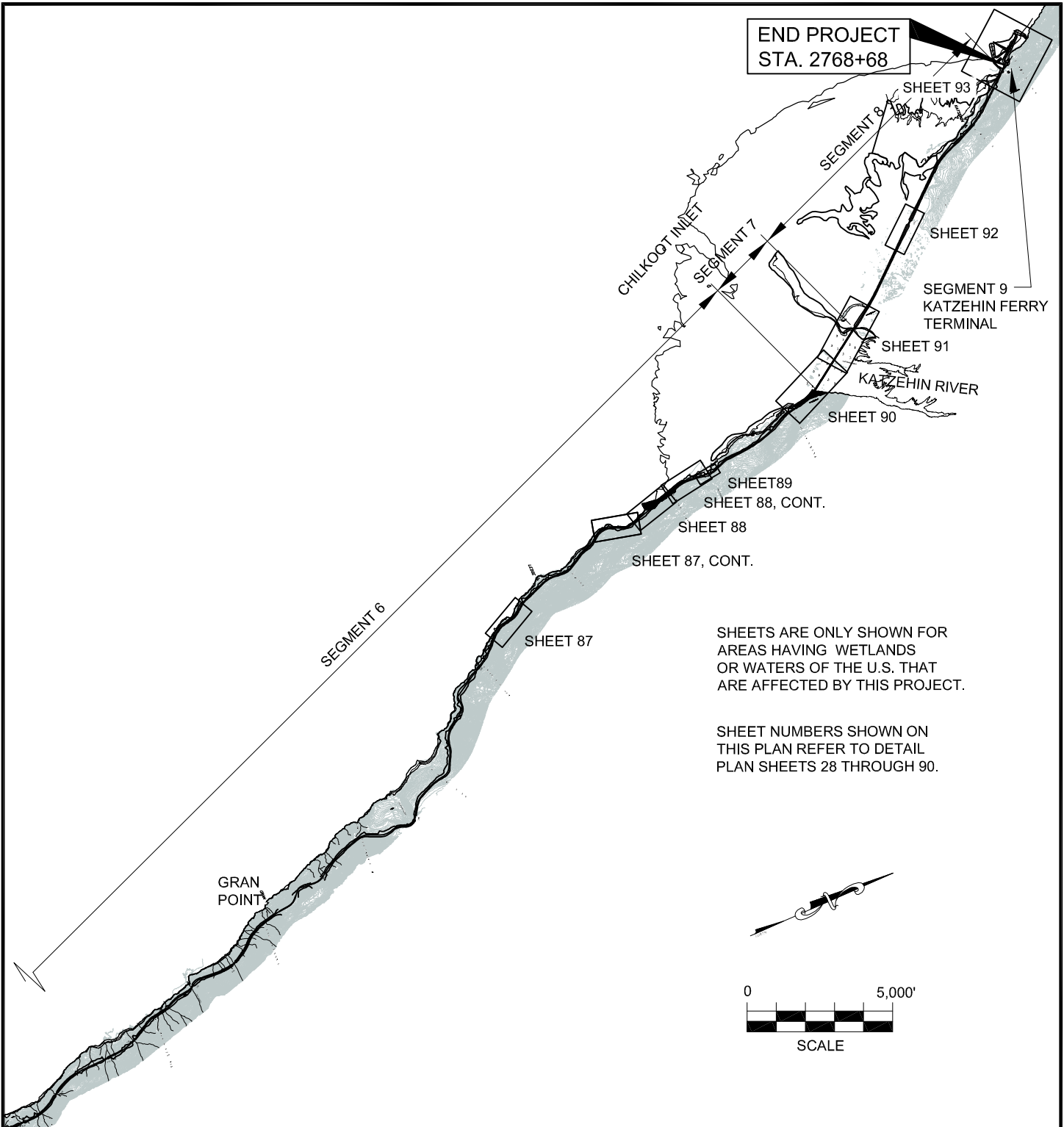
AT: JUNEAU, ALASKA

LOCATED IN: T. 33 S., R. 61 E.,  
T. 32 S., R. 61 E.,

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **5** OF **93**





SHEETS ARE ONLY SHOWN FOR AREAS HAVING WETLANDS OR WATERS OF THE U.S. THAT ARE AFFECTED BY THIS PROJECT.

SHEET NUMBERS SHOWN ON THIS PLAN REFER TO DETAIL PLAN SHEETS 28 THROUGH 90.

**ADJACENT PROPERTY OWNERS:**

- 1. U.S. FOREST SERVICE AND OTHERS, VARIES

**WATER BODY:**

LYNN CANAL AND BERNERS BAY

**Legend  
Detail Plan  
Sheet Numbers**

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

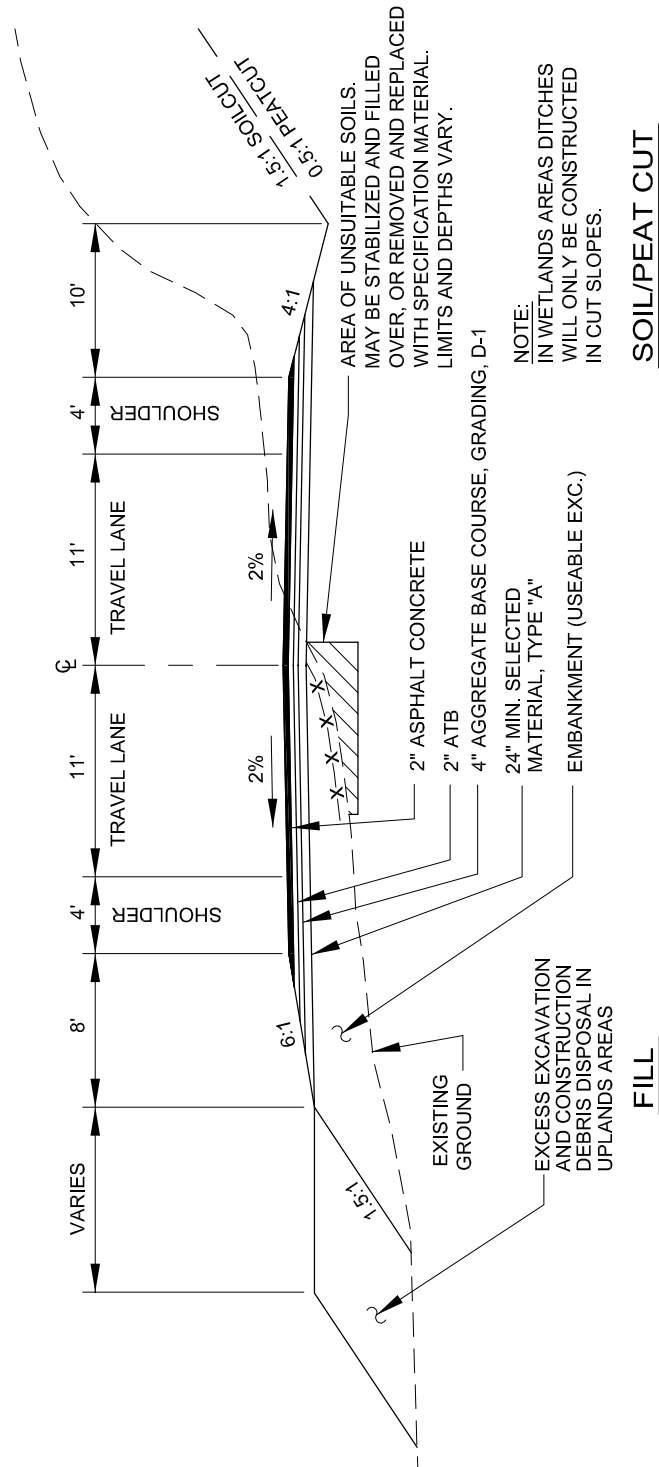
JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA

LOCATED IN: T. 32 S., R. 60 E.,  
T. 31 S., R. 60 E.,

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **6** OF **93**



**TYPICAL ROADWAY SECTION**

CUT AND FILL TYPICAL BOTH SIDES OF ROADWAY

**ADJACENT PROPERTY OWNERS:**

- 1. U.S. FOREST SERVICE AND OTHERS, VARIES

**WATER BODY:**

LYNN CANAL AND BERNERS BAY

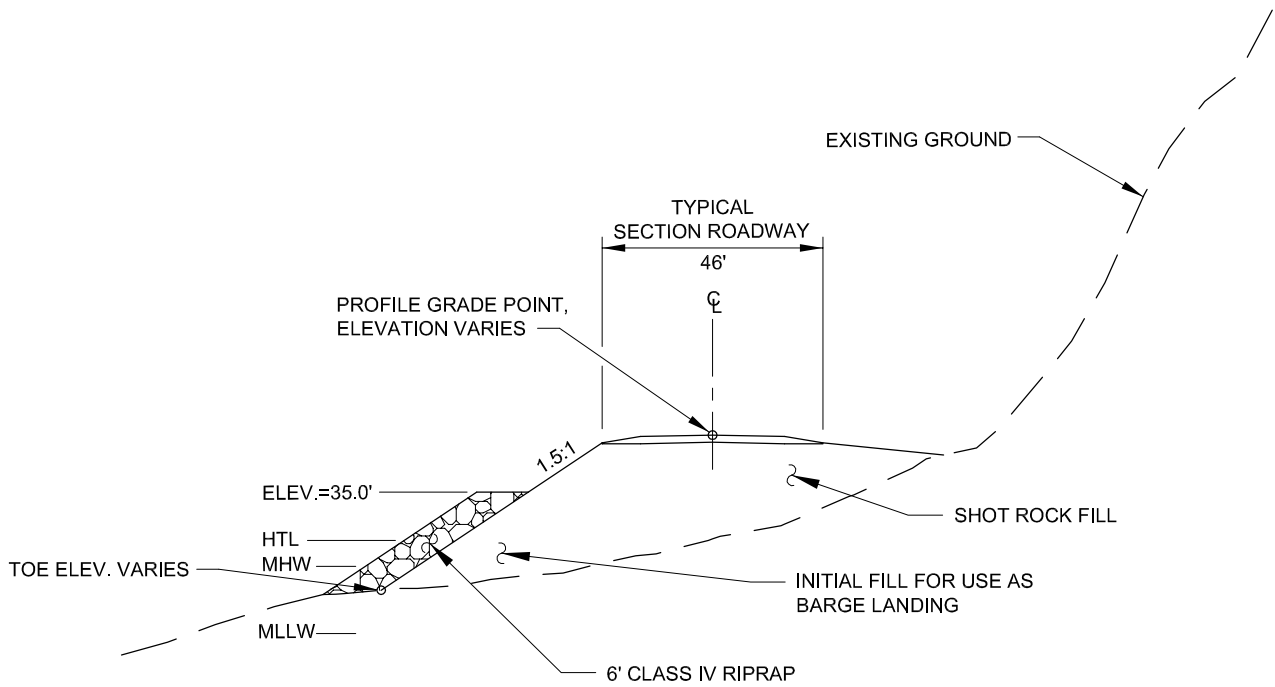
**TYPICAL ROADWAY SECTION**

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE #: POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA  
LOCATED IN: T. 32 S., R. 60 E.,  
T. 31 S., R. 60 E.,

DETAIL PLAN SHEETS  
DATE: JULY 2014

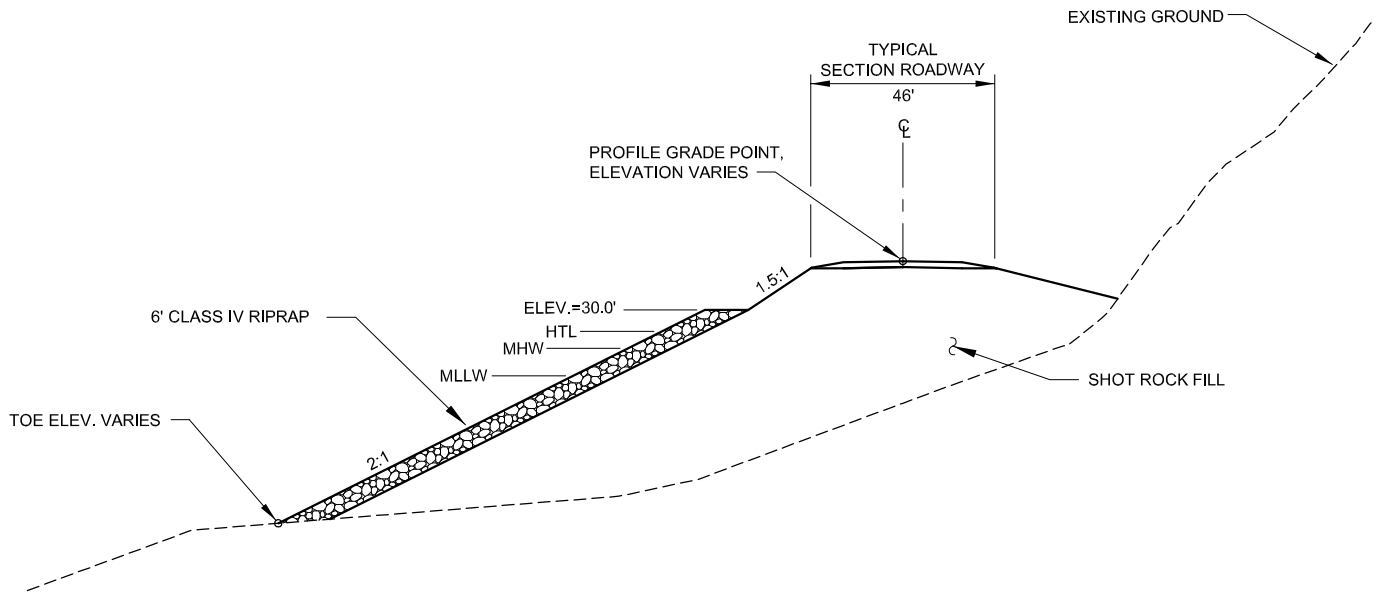


### TIDELANDS FILL TYPICAL

NOTE:

FOR ALL DRAWINGS:  
 HIGH TIDE LINE (HTL) = 21.0'  
 MEAN HIGH WATER (MHW) = 15.6'  
 MEAN LOWER LOW WATER (MLLW) = 0.0'

<p><u>ADJACENT PROPERTY OWNERS:</u></p> <p>1. U.S. FOREST SERVICE AND OTHERS, VARIES</p> <p><u>WATER BODY:</u>                  LYNN CANAL AND BERNERS BAY</p>	<p style="text-align: center;"><b>TIDELANDS FILL TYPICAL</b></p> <p style="text-align: center;">APPLICATION BY:                  ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES                  S.E. REGION DESIGN &amp; ENGINEERING SERVICES</p>	<p style="text-align: center;">JUNEAU ACCESS IMPROVEMENTS                  FILE # : POA - 2006 - 597 - 2</p> <p>AT: JUNEAU, ALASKA</p> <p>LOCATED IN: T. 32 S., R. 60 E.,                  T. 31 S., R. 60 E.,</p> <p>DETAIL PLAN SHEETS                  DATE: JULY 2014</p> <p style="text-align: right;">SHEET <b>8</b> OF <b>93</b></p>
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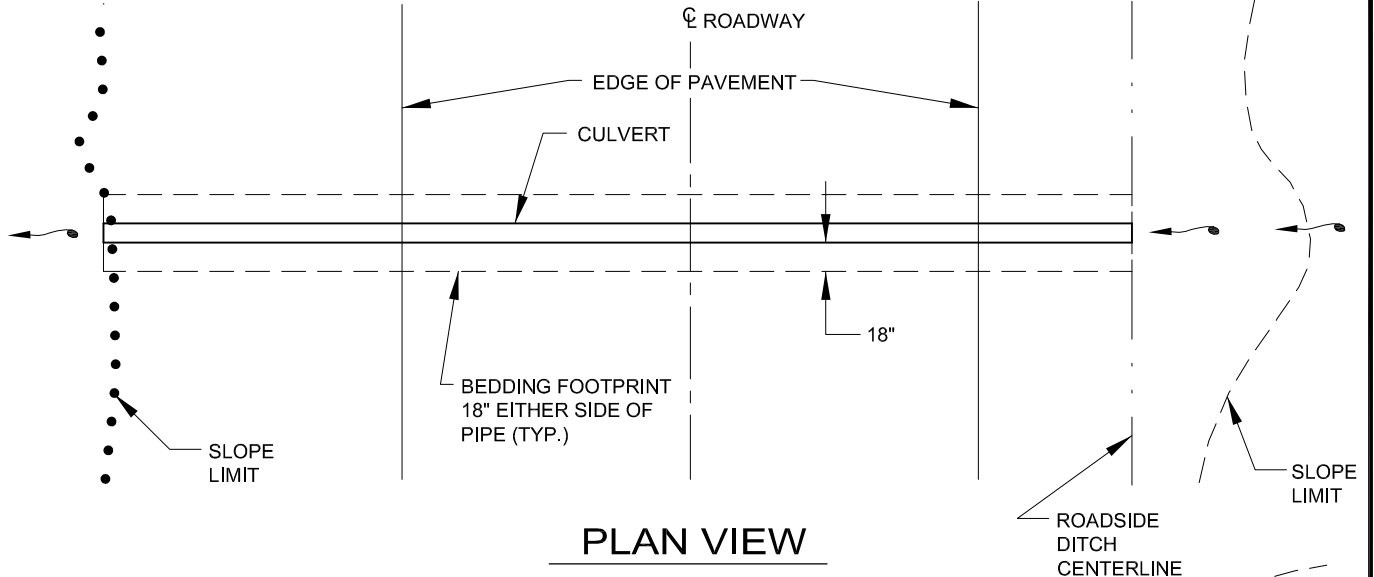


### DEEP WATER FILL TYPICAL

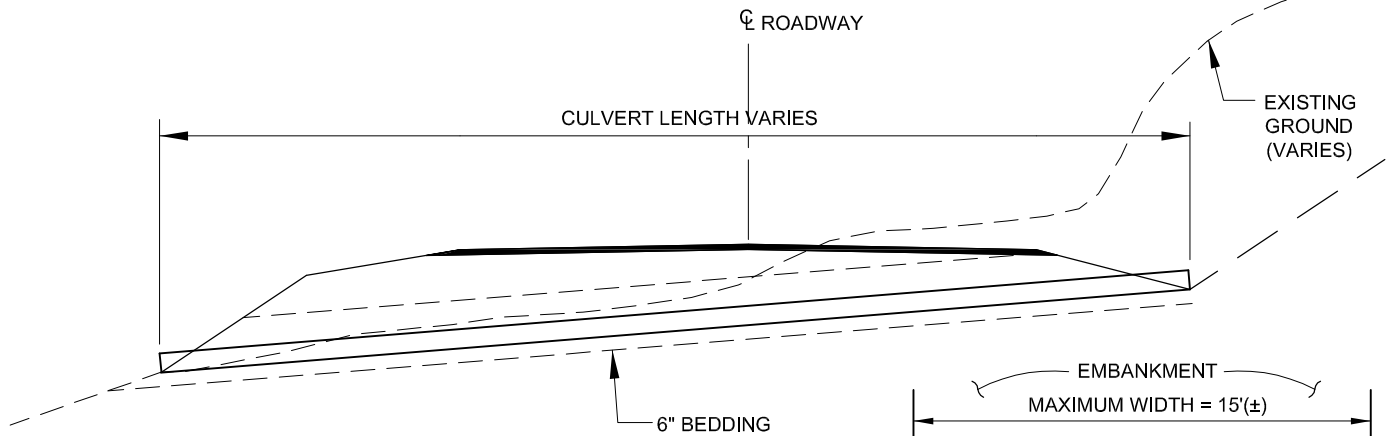
NOTE:

FOR ALL DRAWINGS:  
 HIGH TIDE LINE (HTL) = 21.0'  
 MEAN HIGH WATER (MHW) = 15.6'  
 MEAN LOWER LOW WATER (MLLW) = 0.0'

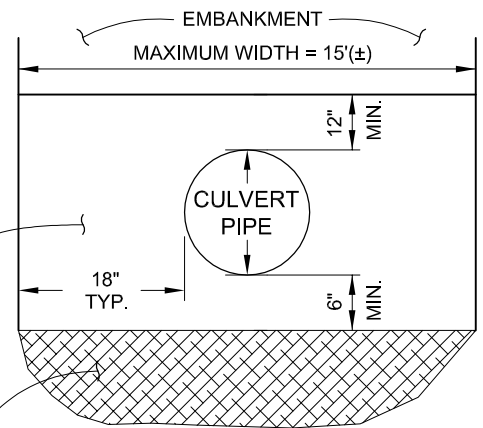
<p><u>ADJACENT PROPERTY OWNERS:</u></p> <p>1. U.S. FOREST SERVICE AND OTHERS, VARIES</p> <p><u>WATER BODY:</u>                  LYNN CANAL AND BERNERS BAY</p>	<p><b>DEEP WATER FILL TYPICAL</b></p> <p>APPLICATION BY:                  ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES                  S.E. REGION DESIGN &amp; ENGINEERING SERVICES</p>	<p>JUNEAU ACCESS IMPROVEMENTS                  FILE # : POA - 2006 - 597 - 2</p> <p>AT: JUNEAU, ALASKA</p> <p>LOCATED IN: T. 32 S., R. 60 E.,                  T. 31 S., R. 60 E.,</p> <p>DETAIL PLAN SHEETS                  DATE: JULY 2014</p> <p style="text-align: right;">SHEET <b>9</b> OF <b>93</b></p>
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**PLAN VIEW**



**SECTION VIEW**



**TYPICAL PIPE TRENCHING & BEDDING DETAIL**

N.T.S.

UNSUITABLE MATERIAL REMOVAL AND EMBANKMENT REQUIRED

**ADJACENT PROPERTY OWNERS:**

- 1. U.S. FOREST SERVICE AND OTHERS, VARIES

**WATER BODY:**

LYNN CANAL AND BERNERS BAY

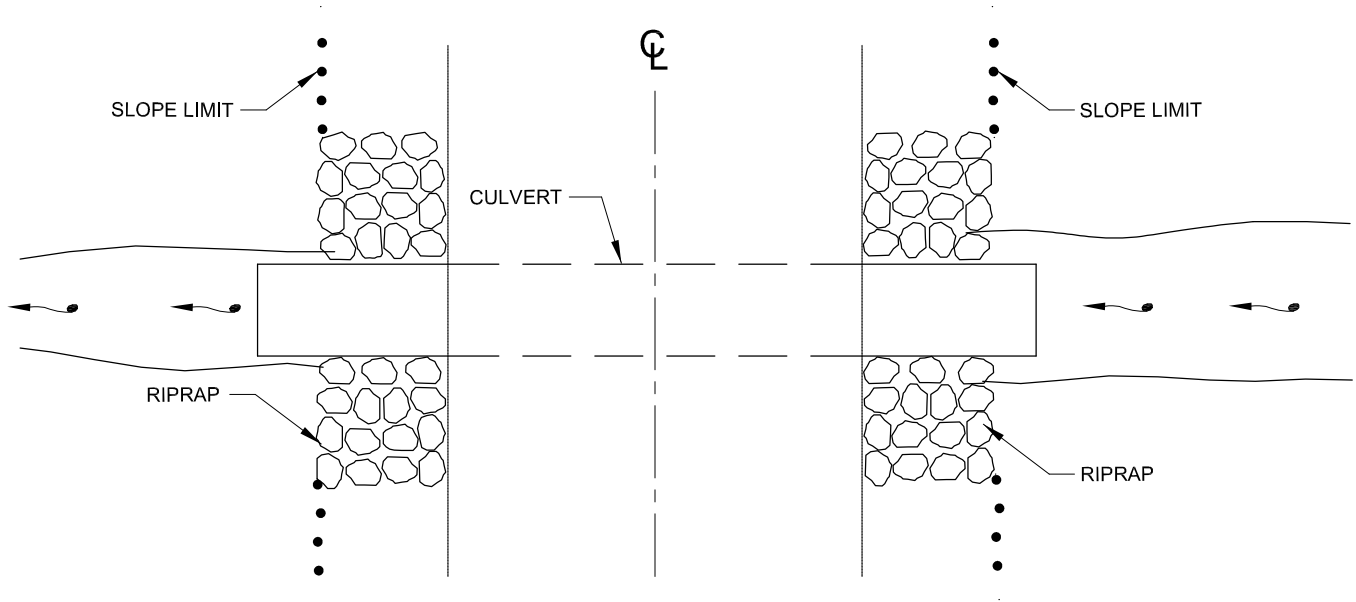
**TYPICAL CULVERT INSTALLATION DETAIL**

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE #: POA - 2006 - 597 - 2

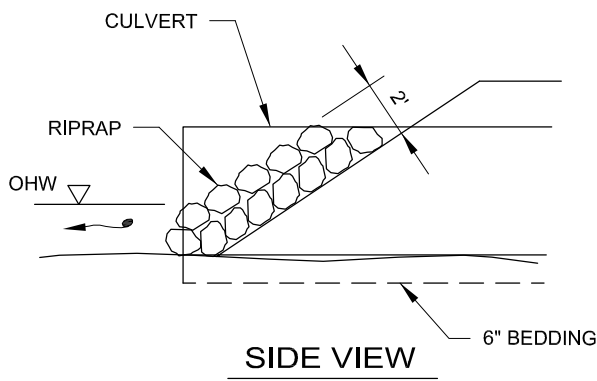
AT: JUNEAU, ALASKA  
LOCATED IN: T. 32 S., R. 60 E.,  
T. 31 S., R. 60 E.,

DETAIL PLAN SHEETS  
DATE: JULY 2014

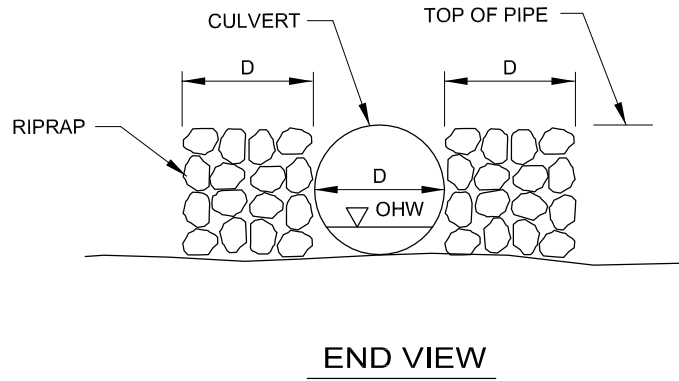


**PLAN VIEW**

N.T.S.



**SIDE VIEW**



**END VIEW**

**TYPICAL RIPRAP PLACEMENT**

N.T.S.

CULVERT NOTES:

1. PIPE LOCATIONS AS SHOWN ON THE PLAN AND PROFILE SHEETS ARE APPROXIMATE AND MAY BE CHANGED BY THE ENGINEER.
2. PIPE ALIGNMENTS AND GRADIENTS SHALL MATCH THE NATURAL STREAM BEDS UNLESS OTHERWISE SHOWN IN THE PLANS.
3. ORDINARY HIGH WATER VARIES.

ADJACENT PROPERTY OWNERS:  
 1. U.S. FOREST SERVICE AND OTHERS, VARIES

WATER BODY:  
 LYNN CANAL AND BERNERS BAY

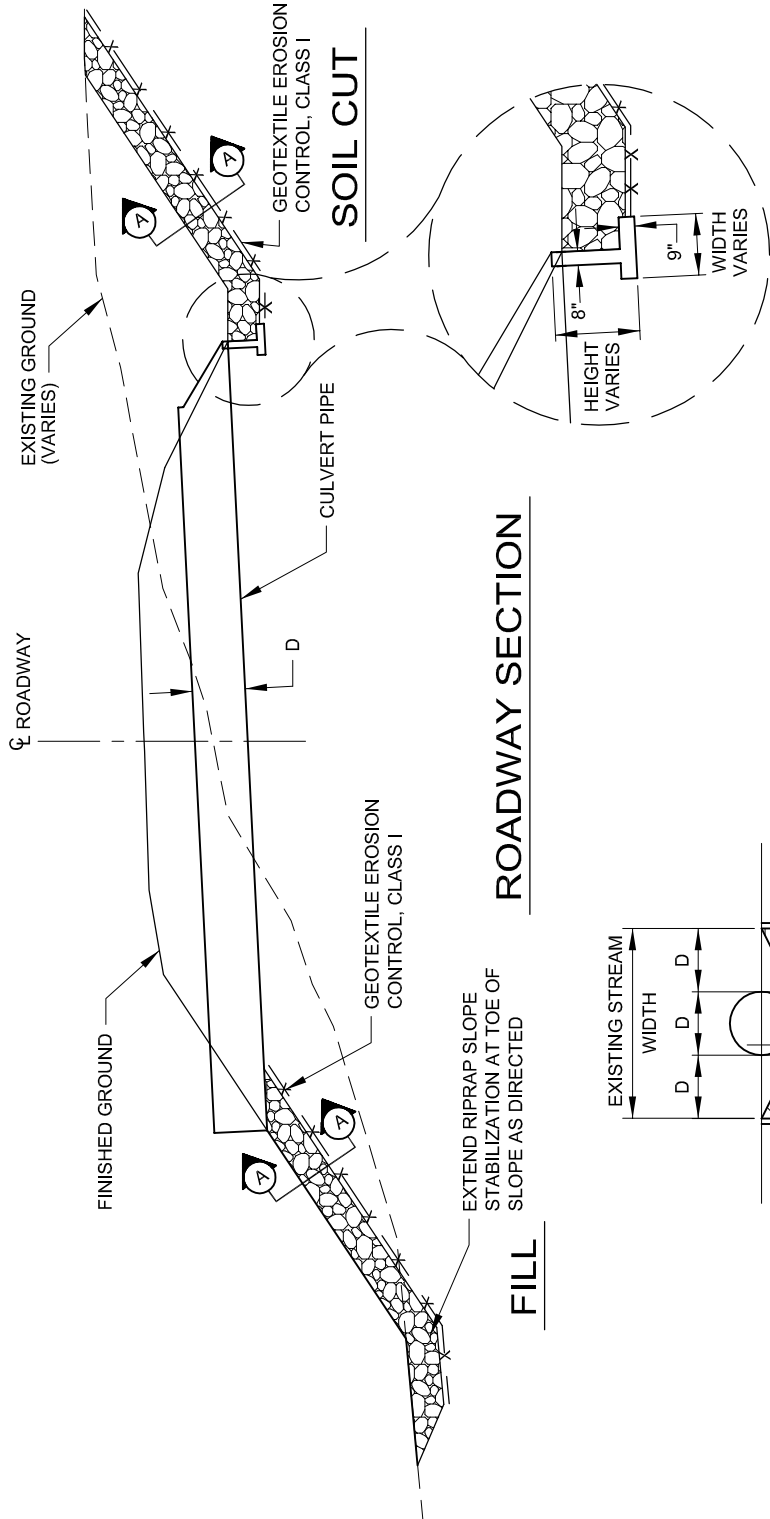
**TYPICAL CULVERT DETAILS**

APPLICATION BY:  
 ALASKA STATE DEPT. OF TRANSPORTATION AND PUBLIC FACILITIES  
 S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
 FILE #: POA - 2006 - 597 - 2  
 AT: JUNEAU, ALASKA  
 LOCATED IN: T. 32 S., R. 60 E.,  
 T. 31 S., R. 60 E.,

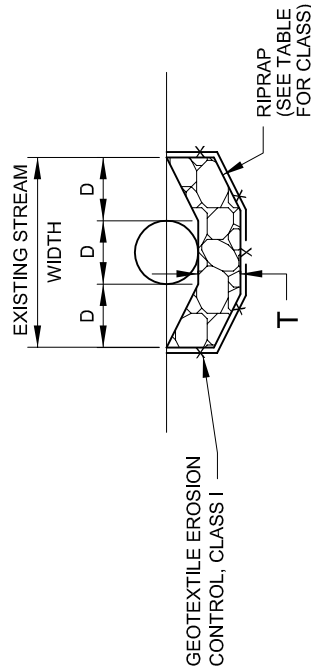
DETAIL PLAN SHEETS  
 DATE: JULY 2014

SHEET **11** OF **93**



PIPE DIA.	T	RIPRAP SIZE
24"	1.5'	CLASS I
36"	1.5'	CLASS I
48"	1.5'	CLASS I
60"	3.0'	CLASS II
72"	4.0'	CLASS II

**CONCRETE HEADWALL, TYPE 1**



D = PIPE DIAMETER  
T = THICKNESS OF RIPRAP

**SECTION "A-A"**

**NOTES**

1. CONSTRUCT CONCRETE HEADWALLS AT LOCATIONS SHOWN IN THE PLANS PER THE STANDARD DRAWINGS.
2. RIPRAP SLOPE STABILIZATION NOT REQUIRED WHERE ROCK IS ENCOUNTERED DURING EXCAVATION.

**ADJACENT PROPERTY OWNERS:**

1. U.S. FOREST SERVICE AND OTHERS, VARIES

**WATER BODY:**

LYNN CANAL AND BERNERS BAY

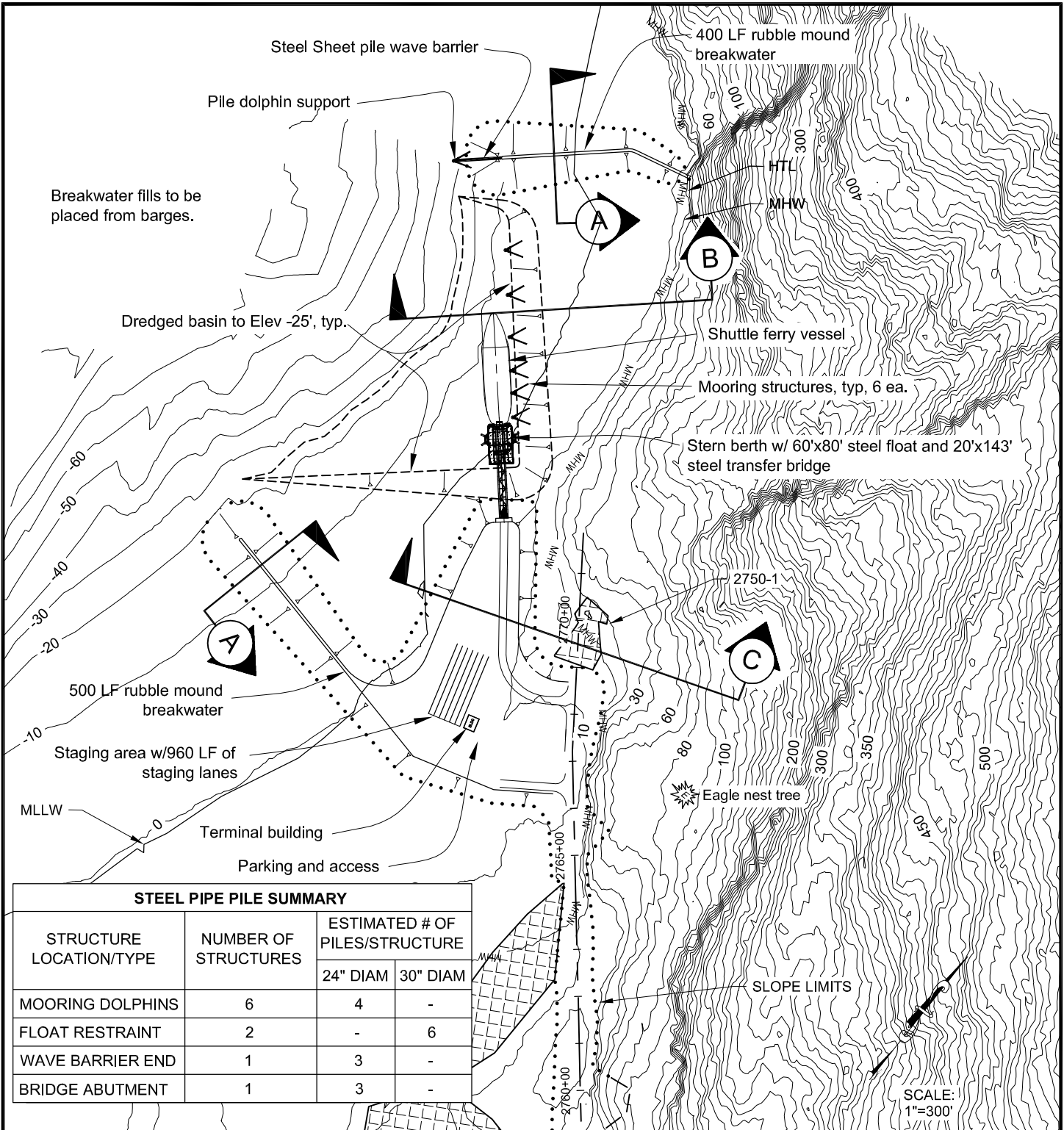
**ROCK FLUME DETAILS**

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE #: POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA  
LOCATED IN: T. 32 S., R. 60 E.,  
T. 31 S., R. 60 E.,

DETAIL PLAN SHEETS  
DATE: JULY 2014



**STEEL PIPE PILE SUMMARY**

STRUCTURE LOCATION/TYPE	NUMBER OF STRUCTURES	ESTIMATED # OF PILES/STRUCTURE	
		24" DIAM	30" DIAM
MOORING DOLPHINS	6	4	-
FLOAT RESTRAINT	2	-	6
WAVE BARRIER END	1	3	-
BRIDGE ABUTMENT	1	3	-

**ADJACENT PROPERTY OWNERS:**

1. U.S. FOREST SERVICE AND OTHERS, VARIES
2. D.N.R.

**WATER BODY:**

LYNN CANAL AND BERNERS BAY

**Katzehin Ferry Terminal Layout**

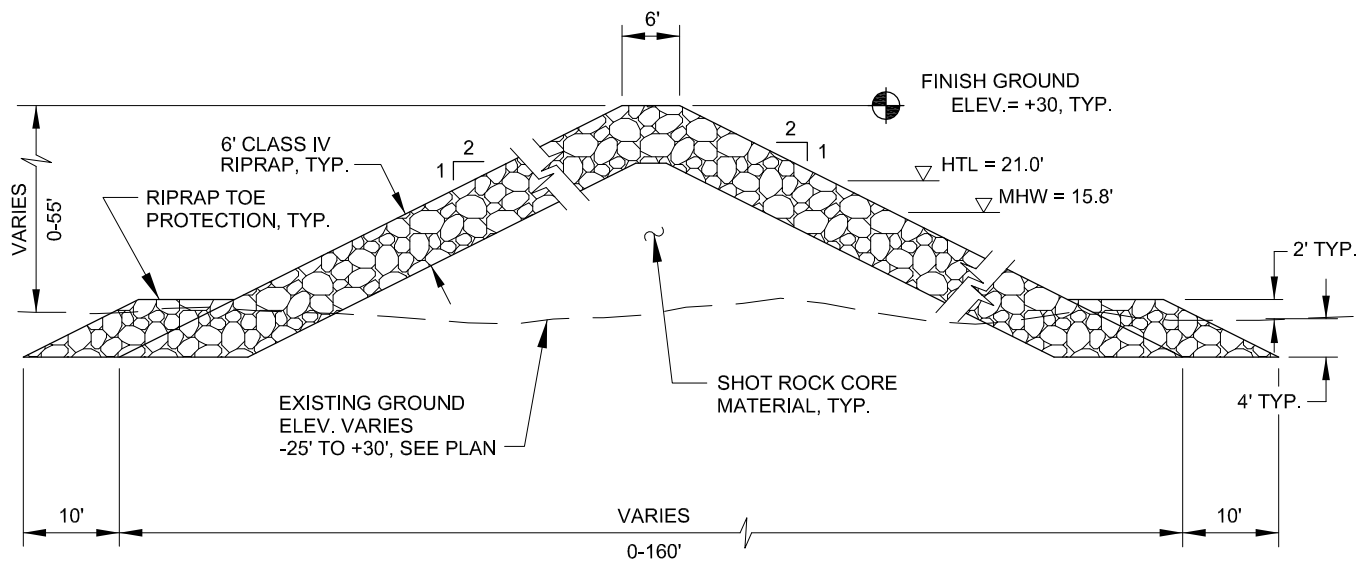
APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

**JUNEAU ACCESS IMPROVEMENTS**  
FILE #: POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA  
LOCATED IN: T. 31 S., R. 60 E., SECT. 4, C.R.M.

DETAIL PLAN SHEETS  
DATE: JULY 2014





**A**  
13  
**TYPICAL SECTION**  
**RUBBLE MOUND BREAKWATER**  
HIGH TIDE LINE = 21'

**ADJACENT PROPERTY OWNERS:**

1. U.S. FOREST SERVICE AND OTHERS, VARIES

**WATER BODY:**

LYNN CANAL AND BERNERS BAY

**TYPICAL SECTION**  
**KATZEHIN FERRY**  
**TERMINAL**

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

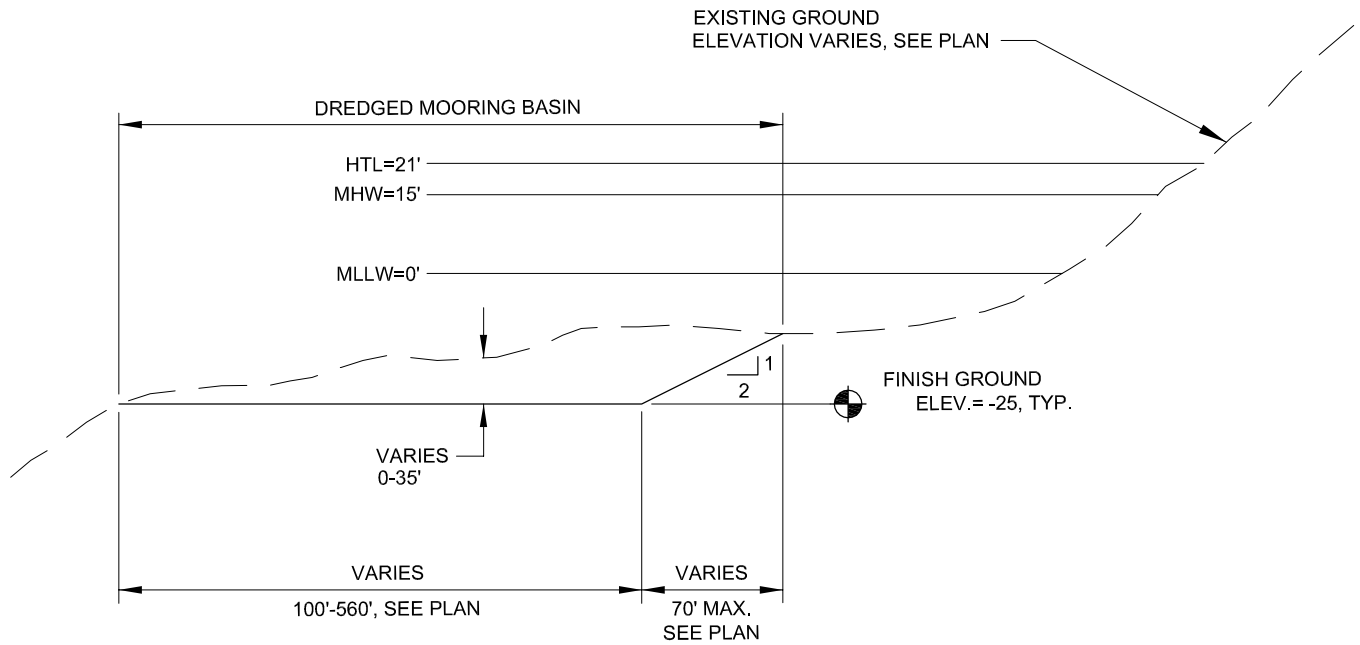
JUNEAU ACCESS IMPROVEMENTS  
FILE #: POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA

LOCATED IN: T. 32 S., R. 60 E.,  
T. 31 S., R. 60 E.,

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **14** OF **93**



**(B)**  
13

**TYPICAL SECTION  
DREDGED MOORING SECTION**

**ADJACENT PROPERTY OWNERS:**

1. U.S. FOREST SERVICE AND OTHERS, VARIES

**WATER BODY:**

LYNN CANAL AND BERNERS BAY

**TYPICAL SECTION  
KATZEHIN FERRY  
TERMINAL**

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

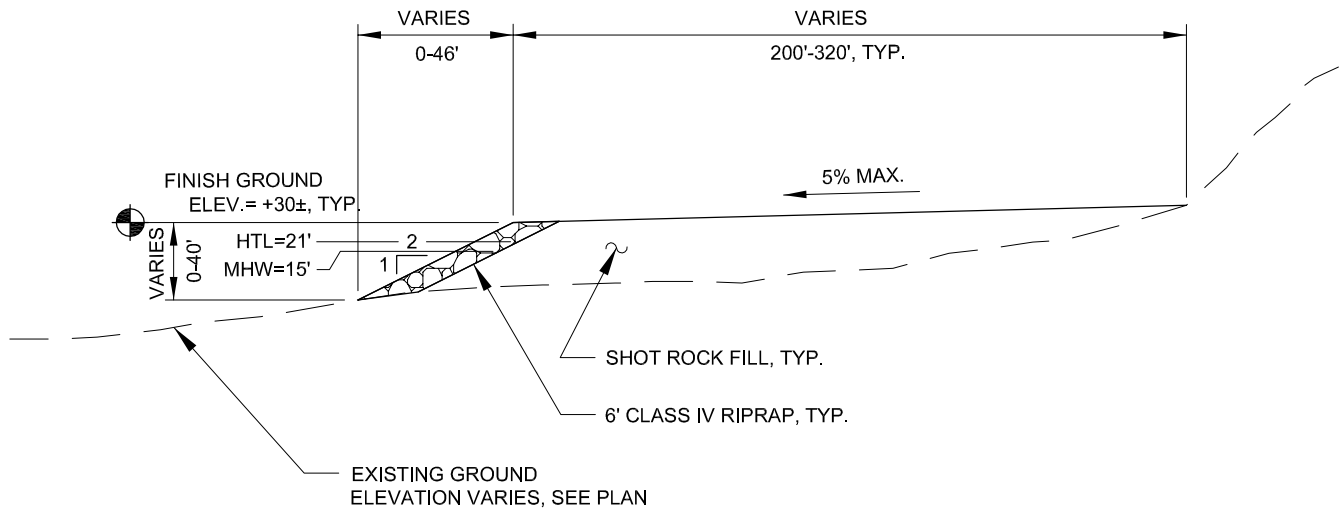
JUNEAU ACCESS IMPROVEMENTS  
FILE #: POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA

LOCATED IN: T. 32 S., R. 60 E.,  
T. 31 S., R. 60 E.,

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **15** OF **93**



C
13
**TYPICAL SECTION**  
**TERMINAL & STAGING AREA FILL**

**ADJACENT PROPERTY OWNERS:**

1. U.S. FOREST SERVICE AND OTHERS, VARIES

**WATER BODY:**

LYNN CANAL AND BERNERS BAY

**TYPICAL SECTION**  
**KATZEHIN FERRY**  
**TERMINAL**

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

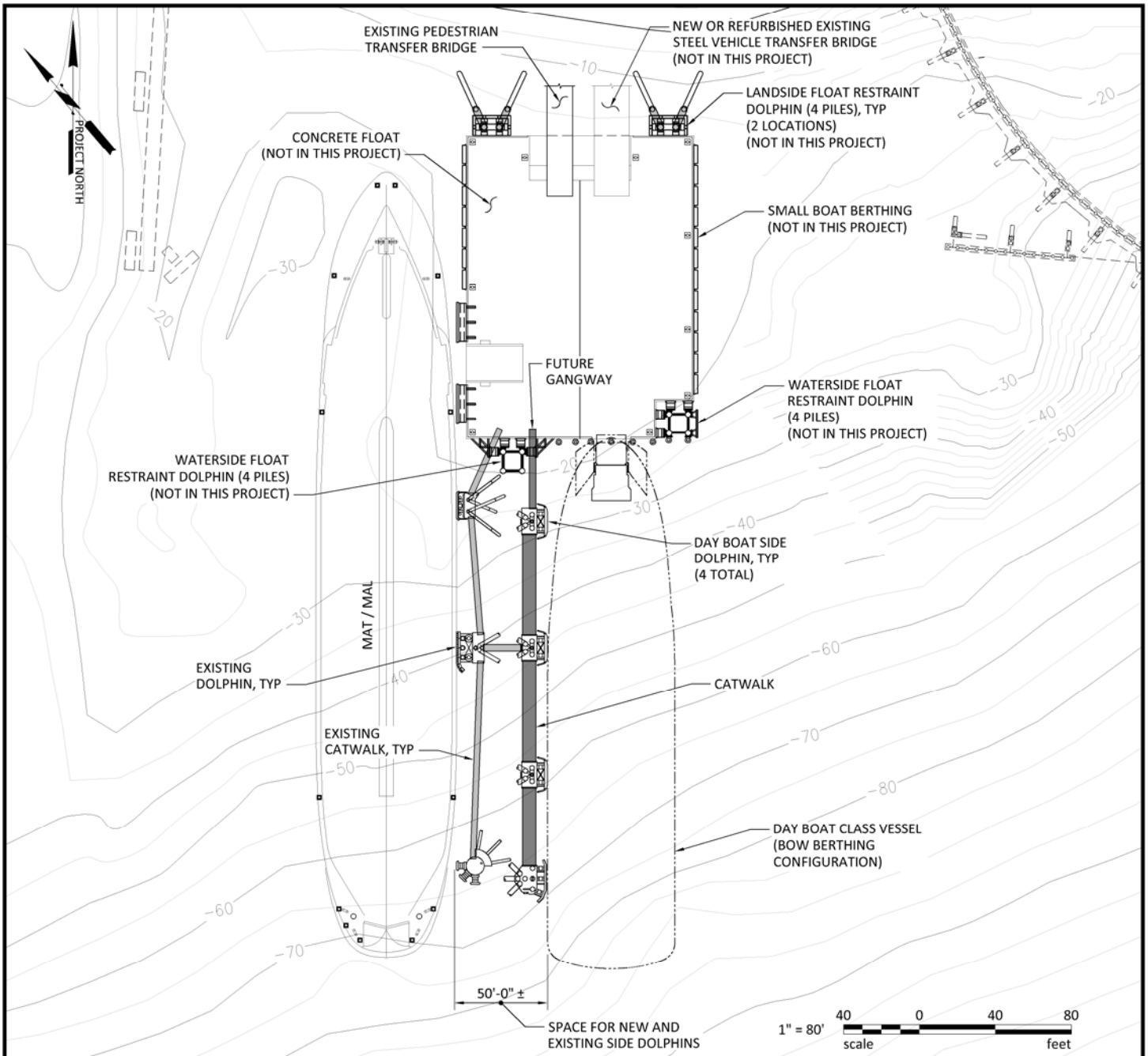
JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA

LOCATED IN: T. 32 S., R. 60 E.,  
T. 31 S., R. 60 E.,

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **16** OF **93**



**STEEL PIPE PILE SUMMARY**

STRUCTURE LOCATION/TYPE	NUMBER OF STRUCTURES	ESTIMATED # OF PILES/STRUCTURE
		30" DIAM
DOLPHIN - 4 PILE	3	4
DOLPHIN - 6 PILE	1	6

**PROPOSED SITE PLAN**

**ADJACENT PROPERTY OWNERS:**  
 1. U.S. FOREST SERVICE AND OTHERS, VARIES

**WATER BODY:**  
 LYNN CANAL AND BERNERS BAY

**SKAGWAY FERRY  
 TERMINAL LAYOUT**

APPLICATION BY:  
 ALASKA STATE DEPT. OF TRANSPORTATION  
 AND PUBLIC FACILITIES  
 S.E. REGION DESIGN & ENGINEERING SERVICES

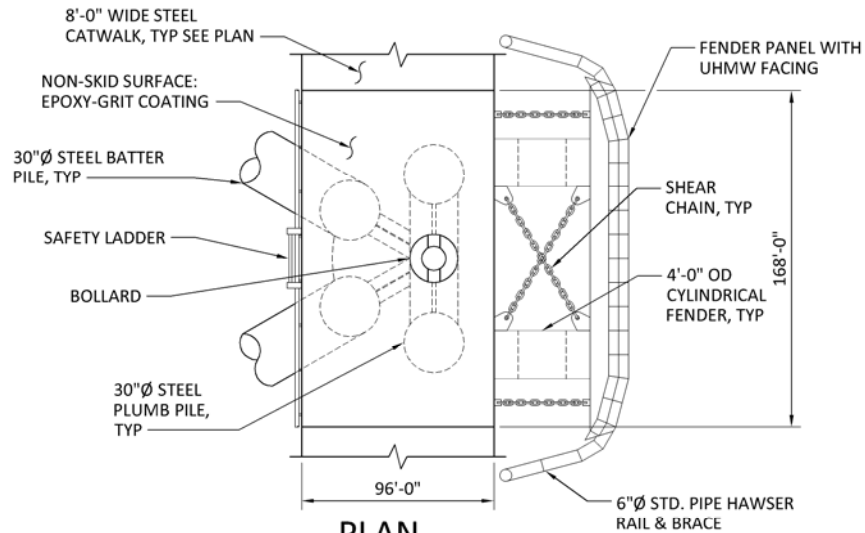
**JUNEAU ACCESS IMPROVEMENTS**  
 FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA

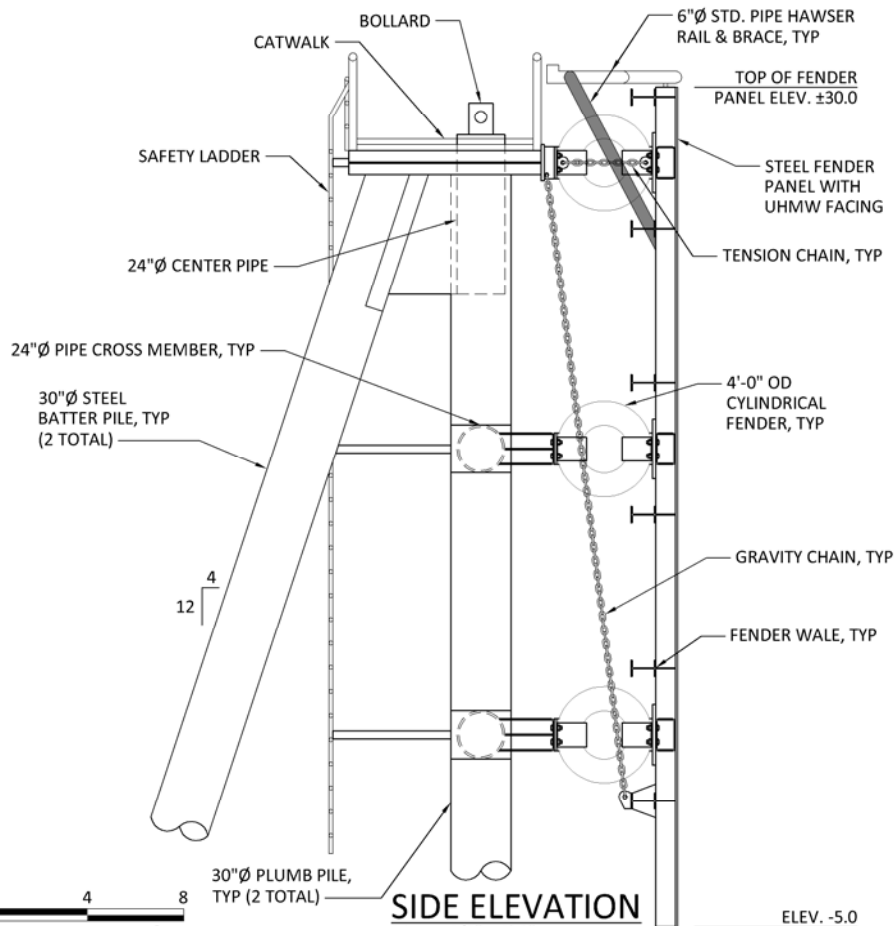
LOCATED IN: T. 32 S., R. 60 E.,  
 T. 31 S., R. 60 E.,

DETAIL PLAN SHEETS  
 DATE: JULY 2014

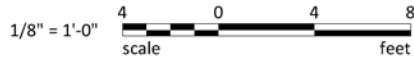
SHEET **17** OF **93**



**PLAN**  
SCALE: 1/8" = 1'-0"



**SIDE ELEVATION**  
SCALE: 1/8" = 1'-0"



**ADJACENT PROPERTY OWNERS:**

1. U.S. FOREST SERVICE AND OTHERS, VARIES

**WATER BODY:**

LYNN CANAL AND BERNERS BAY

**FOUR-PILE DOLPHIN  
DETAILS  
SKAGWAY FERRY TERMINAL**

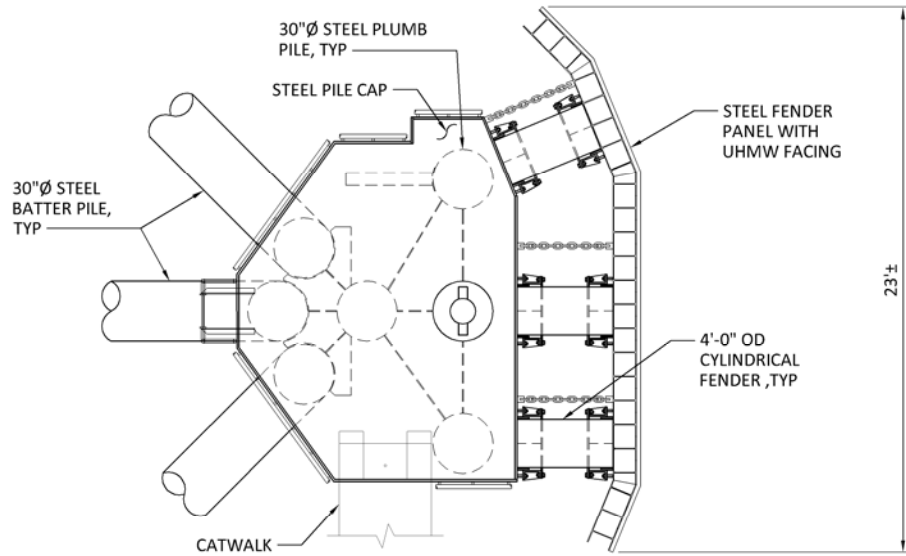
APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

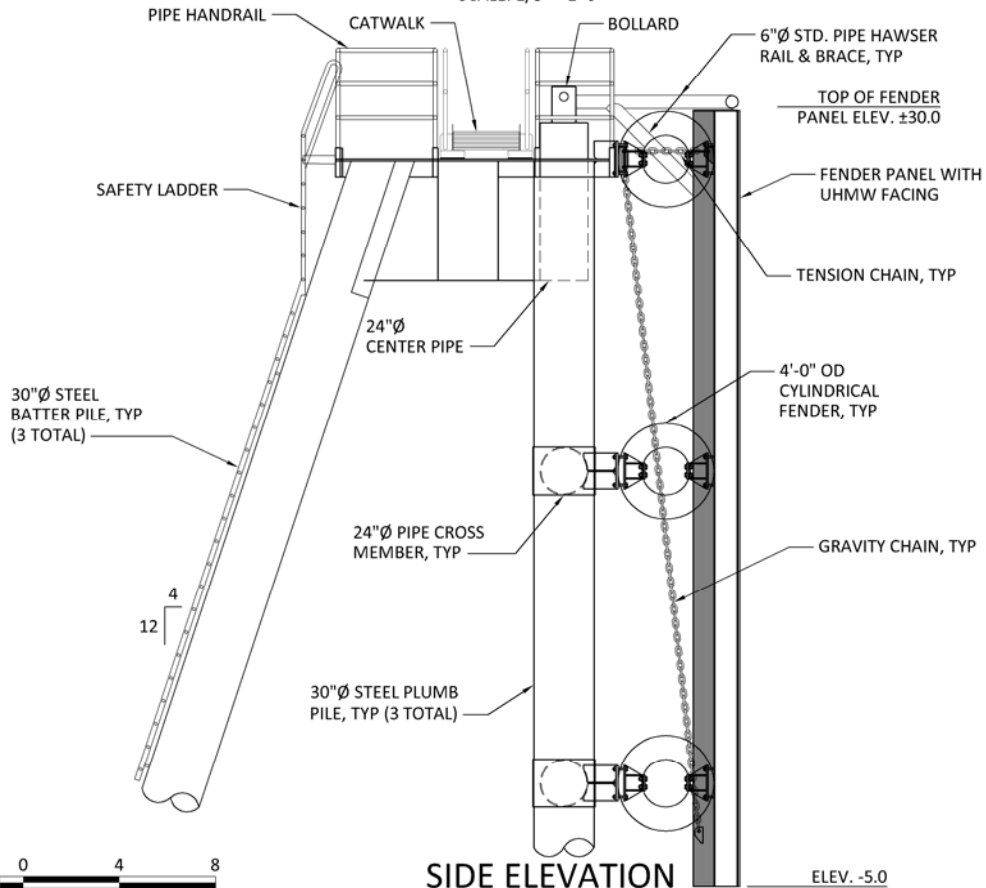
AT: JUNEAU, ALASKA

LOCATED IN: T. 32 S., R. 60 E.,  
T. 31 S., R. 60 E.,

DETAIL PLAN SHEETS  
DATE: JULY 2014



**PLAN**  
SCALE: 1/8" = 1'-0"



**SIDE ELEVATION**  
SCALE: 1/8" = 1'-0"

1/8" = 1'-0"  
4 0 4 8  
scale feet

ELEV. -5.0

**ADJACENT PROPERTY OWNERS:**

1. U.S. FOREST SERVICE AND OTHERS, VARIES

**WATER BODY:**

LYNN CANAL AND BERNERS BAY

**SIX-PILE DOLPHIN  
DETAILS  
SKAGWAY FERRY TERMINAL**

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE #: POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA  
LOCATED IN: T. 32 S., R. 60 E.,  
T. 31 S., R. 60 E.,

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **19** OF **93**

**WETLAND FILL AREAS**

SHEET	ID	STATION	TO	STATION	LENGTH (FT)	TYPE	FILL IMPACT			**EXCAVATION IMPACT		TOTAL IMPACT	
							S.F.	ACRE	VOL. (C.Y.)	S.F.	ACRE	S.F.	ACRE
28	75+08	73+13		77+29	416	PFO4B	1310	0.03	54	0	0.00	1310	0.03
28	79+41	80+80		84+64	384	PFO4B	1745	0.04	3	0	0.00	1745	0.04
29	107+39	107+46		113+59	613	PFO4B	4795	0.11	200	0	0.00	4795	0.11
29-30	116+94	117+20		157+40	4020	PFO4B	12635	0.29	750	0	0.00	12635	0.29
31	165+92	166+00		166+10	10	PFO4B	45	0.00	0	0	0.00	45	*** 0.00
31	167+41	167+80		171+48	368	PFO4B	2180	0.05	45	0	0.00	2180	0.05
31	172+39	172+11		172+58	47	PFO4B	440	0.01	0	0	0.00	440	0.01
31	178+91	178+93		179+32	39	PFO4B	45	0.00	0	0	0.00	45	*** 0.00
32	185+40	186+10		186+83	73	PFO4B	20	0.00	0	0	0.00	20	*** 0.00
32	191+50	191+53		191+77	24	PFO4B	20	0.00	0	0	0.00	20	*** 0.00
32	194+00	194+00		195+53	153	PFO4B	440	0.01	35	0	0.00	440	0.01
32	202+00	201+76		202+34	58	PFO4B	15	0.00	0	0	0.00	15	*** 0.00
32	205+26	193+91		196+00	209	PFO4B	1745	0.04	5	0	0.00	1745	0.04
34	340-1	284+22		289+51	529	PSS1B/PFO4B	20352	0.47	1400	12071	0.28	32422	0.74
38	415-1	358+30		378+90	2060	PFO4B	112700	2.59	39500	82700	1.90	174680	4.01
50	800-1	765+00		767+20	220	PFO4B	750	0.02	64	17765	0.41	18515	0.43
53	895-1	892+31		914+45	2214	PFO4B	110299	2.53	*20400	103406	2.37	213705	4.91
54	910-2	918+20		921+20	300	PFO4B	7549	0.17	300	30849	0.71	38398	0.88
54-58	955-2	923+43		1026+57	10314	PFO4B	589011	13.52	126600	247715	5.69	836726	19.21
58-60	955-2	1040+00		1087+75	4775	PFO4B	276138	6.34	62300	62811	1.44	338949	7.78
60-61	955-2	1096+55		1125+25	2870	PFO4B	163688	3.76	29000	29369	0.67	193057	4.43
61	955-2	1129+25		1140+20	1095	PFO4B	64161	1.47	13700	14065	0.32	78226	1.80
61-62	1185-1	1140+20		1163+73	2353	PFO4B/PSS1B	117360	2.69	16600	44530	1.02	161890	3.72
62	1185-1	1169+31		1172+62	331	PFO4B/PSS1B	15944	0.37	2100	12630	0.29	28574	0.66
63	1185-1	1177+45		1187+30	985	PFO4B/PSS1B	66447	1.53	17500	6915	0.16	73362	1.68
63-64	1185-1	1190+32		1206+70	1638	PFO4B/PSS1B	89807	2.06	17000	23818	0.55	113625	2.61
64	1185-1	1207+60		1215+84	824	PFO4B/PSS1B	41219	0.95	4600	10429	0.24	51648	1.19
64	1220-1	1218+40		1229+08	1068	PFO4B/PSS1B	59485	1.37	10400	10091	0.23	69576	1.60
64	1220-1	1232+00		1233+31	131	PFO4B/PSS1B	7263	0.17	1100	1769	0.04	9032	0.21
65-66	1260-1	1261+15		1272+80	1165	PFO4B/PSS4B	59966	1.38	9900	10592	0.24	70558	1.62
66	1275-1	1276+88		1287+40	1052	PFO4B	36748	0.84	2700	10027	0.23	46775	1.07
70	1360-1	1370+40		1377+26	686	PFO4B	33899	0.78	5300	7840	0.18	41739	0.96
71	1375-1	1384+76		1388+92	416	PFO4B	12218	0.28	800	13762	0.32	25980	0.60

<b>TOTAL FILL IMPACT =</b>							<b>43.86</b>	<b>361,956</b>					
							<b>**TOTAL EXCAVATION IMPACT =</b>		<b>17.29</b>				
									<b>TOTAL IMPACT =</b>		<b>60.67</b>		

\* Includes 2.4 C.Y., 66 S.F. ditch block (See sheet 53 of 90 for location)

"ID" refers to wetland identification numbers in Wetland Report, Appendix O, of the Final EIS, also found on detail sheets, e.g., ID 340-1 is found on sheet 34 of 90.

\*\* The excavation impacts are outside of the fill impacts.

\*\*\* Sliver fill to totaling less than 0.01 acre.

**WETLANDS SUMMARY**

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA  
LOCATED IN:

DETAIL PLAN SHEETS  
DATE: JULY 2014

FILL BELOW HIGH TIDE LINE (21.0')										
SHEET #	SURVEY #	STATION	TO	STATION	LENGTH (FT)	FILL				
						S.F.	ACRES	VOL. (C.Y.)		
								< 21.0'	>21.0' *	
73	NA	1454+00				435	0.01	50	50	
74-75	EIT-36	1489+15		1515+50	2,635	127,000	2.92	16,265	20,620	
77	EIT-35	1571+50		1575+65	415	16,065	0.37	885	1,650	
77	EIT-34	1581+40		1582+25	85	1,190	0.03	30	70	
78	EIT-24 & STN-3	1719+70		1735+58	1,588	151,425	3.48	3,945	10,500	
80	EIT-22	1804+50		1805+75	125	870	0.02	20	45	
81	EIT-21	1831+00		1844+00	1,300	22,840	0.52	550	1,370	
82-83	STN 6-8	2099+85		2124+30	2,445	314,705	7.22	11,115	13,590	
84	EIT-21	2503+18		2503+94	76	815	0.02	15	50	
84	EIT-21	2551+65		2561+90	1,025	52,250	1.20	7,165	2,540	
85	EIT-21	2565+50		2581+85	1,635	230,470	5.29	39,010	29,020	
85-86	EIT-14	2585+00		2592+30	730	27,455	0.63	7,185	38,745	
87	EIT-13	2628+50		2637+65	915	137,215	3.15	20,135	44,345	
90	KATZ 1-4	2761+75		2766+25	450	26,920	0.62	3,310	6,550	
90	KATZ 1-4	FERRY TERMINAL					166,728	3.83	61,200	14,400
<b>TOTALS =</b>						<b>1,276,383</b>	<b>29.31</b>	<b>170,880</b>	<b>183,545</b>	
<b>KATZEHIN FERRY TERMINAL BREAKWATER FILL</b>										
						<b>S.F.</b>	<b>ACRES</b>			
	EIT-11/ KATZ 1-4					119,388	2.74	49,400	1,600	
<b>KATZEHIN FERRY TERMINAL DREDGE</b>										
						<b>S.F.</b>	<b>ACRES</b>	<b>VOL. C.Y.</b>		
	KATZ 1-4					191,720	4.40	40000		

\* Fill above elevation 21.0', but seaward of the vertical plane of the 21.0' contour.

Survey # refers to ID found on detail sheets.

## TIDELANDS FILL SUMMARY

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA  
LOCATED IN:

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **21** OF **93**



## CULVERT AND STREAM FILL SUMMARY

STATION	CULVERT LENGTH						RIPRAP (C.Y.)	BEDDING (C.Y.)	FOOTPRINT (S.F.)	CONCRETE (C.Y.)	COMMENTS	
	24" D	36" D	48" D	60" D	72" D	OTHER						
From STA 58+00 to 200+00: Glacier Hwy Extension, Proj No. 69583 completes all culvert work shown in 2006 Corp Permit.												
203+57						42		N/A	N/A		CASCADE CREEK 18'0"x5'9" ALUMINUM ARCH	
206+71		126						39.5	756			
208+60	90							19.8	450			
211+54	88							19.3	440			
224+40			150					62.3	1050			
225+39	125' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											DRAINAGE FILLED. FLOW INTERCEPTED AT FOLLOWING CULVERT
225+69			132					54.8	924			
227+65			114					47.4	798			
232+70	66							14.5	330			
234+89	76							16.7	380			
254+50		110						34.5	660			
256+65		106						33.2	636			
257+69	92							20.2	460			
275+77		95						29.8	570			
286+63		96						*	576			
288+80	62							*	310			
290+50	57							12.5	285			
299+41		74						23.2	444			
316+57		178						55.8	1068			
325+97			104					43.2	728			
330+37				65			53	34.1	520	2.8	2-TYPE I HEADWALLS, PIPE OUTLET SPILLWAY	
333+79	90							19.8	450			
335+04			132					54.8	924			
341+65		122						38.3	732			
342+78		128						40.1	768			
343+64		134						42.0	804			
347+69		140					39	43.9	840		PIPE OUTLET SPILLWAY RIPRAP	
349+90		138					58	43.3	828		PIPE OUTLET SPILLWAY RIPRAP	
351+31				150			129	78.8	1200	2.8	2-TYPE I HEADWALLS, PIPE OUTLET SPILLWAY	
352+19			136				104	56.5	952		PIPE OUTLET SPILLWAY RIPRAP	
353+53	116						16	25.5	580		PIPE OUTLET SPILLWAY RIPRAP	
361+97	66							*	330			
366+85		98					*	*	588		PIPE OUTLET SPILLWAY RIPRAP	
369+42		130						*	780			
386+42		73					28	22.9	438		PIPE OUTLET SPILLWAY RIPRAP	
397+38		152						47.7	912		PIPE OUTLET SPILLWAY RIPRAP	
400+18		58					46	18.2	348		PIPE OUTLET SPILLWAY RIPRAP	
402+49		54					56	16.9	324		PIPE OUTLET SPILLWAY RIPRAP	
409+94						307	50	465.6	4605	9.2	144" PIPE, 2-TYPE I HEADWALLS, PIPE OUTLET SPILLWAY	
424+08	52						18	11.4	260		PIPE OUTLET SPILLWAY RIPRAP	
442+82		196						61.5	1176			

\* QUANTITY OF THIS ITEM IS INCLUDED IN WETLANDS FILL VOLUME. NOTE: EACH CULVERT LISTING GIVES LENGTH IN FEET.

### CULVERT SUMMARY

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA  
LOCATED IN:

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **22** OF **93**

## CULVERT AND STREAM FILL SUMMARY

STATION	CULVERT LENGTH						RIPRAP (C.Y.)	BEDDING (C.Y.)	FOOTPRINT (S.F.)	CONCRETE (C.Y.)	COMMENTS	
	24" D	36" D	48" D	60" D	72" D	OTHER						
450+88		120						37.6	720			
453+60		102						32.0	612			
457+51		169						53.0	1014			
468+06		105						32.9	630			
501+08		199						62.4	1194			
506+14		143						44.8	858			
510+96		196						61.5	1176			
537+03			102					42.4	714			
552+58					77			49.5	693			
555+68	100' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											DRAINAGE FILLED-FLOW CARRIED ALONG DITCH
556+25	90' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											DRAINAGE FILLED-FLOW CARRIED ALONG DITCH
757+70		54					39	16.9	324		PIPE OUTLET SPILLWAY RIPRAP	
758+48	240' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											THRU CUT-FLOW CARRIED ALONG DITCH
759+37		63					29	19.8	378		BACKSLOPE SPILLWAY RIPRAP	
760+33	220' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											THRU CUT-FLOW CARRIED ALONG DITCH
760+53		87					29	27.3	522		BACKSLOPE SPILLWAY RIPRAP	
761+46	230' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											THRU CUT-FLOW CARRIED ALONG DITCH
762+09	210' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											THRU CUT-FLOW CARRIED ALONG DITCH
262+64	210' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											THRU CUT-FLOW CARRIED ALONG DITCH
763+73		55					10	17.2	330		BACKSLOPE SPILLWAY RIPRAP	
763+92	210' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											THRU CUT-FLOW CARRIED ALONG DITCH
764+78	200' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											THRU CUT-FLOW CARRIED ALONG DITCH
765+74		52						16.3	312			
766+56	230' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											THRU CUT-FLOW CARRIED ALONG DITCH
768+32	350' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											THRU CUT-FLOW CARRIED ALONG DITCH
770+32	200' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											THRU CUT-FLOW CARRIED ALONG DITCH
773+00		80					8	25.1	480		PIPE OUTLET SPILLWAY RIPRAP	
777+43		156					18	48.9	936		PIPE OUTLET SPILLWAY RIPRAP	
784+20		84						26.3	504			
789+66	63							13.8	315			
800+54	106							23.3	530			
801+81		88					13	27.6	528		PIPE OUTLET SPILLWAY RIPRAP	
803+41	86						13	18.9	430		PIPE OUTLET SPILLWAY RIPRAP	
806+43	126							27.7	630			
810+70		125						39.2	750			

\* QUANTITY OF THIS ITEM IS INCLUDED IN WETLANDS FILL VOLUME. NOTE: EACH CULVERT LISTING GIVES LENGTH IN FEET.

### CULVERT SUMMARY

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA  
LOCATED IN:

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **23** OF **93**

## CULVERT AND STREAM FILL SUMMARY

STATION	CULVERT LENGTH						RIPRAP (C.Y.)	BEDDING (C.Y.)	FOOTPRINT (S.F.)	CONCRETE (C.Y.)	COMMENTS	
	24" D	36" D	48" D	60" D	72" D	OTHER						
815+39	97							21.3	485			
819+18	72							15.8	360			
824+41	75							16.5	375			
829+91	71							15.6	355			
833+91	77							16.9	385			
835+91	68							14.9	340			
837+41	54							11.9	270			
840+54		68					50	21.3	408		SKEW 14°-21', RT. AHEAD, PIPE OUTLET SPILLWAY	
843+03	66							14.5	330			
845+21	68						22	14.9	340		PIPE OUTLET SPILLWAY RIPRAP	
848+41	68						3	14.9	340		PIPE OUTLET SPILLWAY RIPRAP	
850+80	60						20	13.2	300		PIPE OUTLET SPILLWAY RIPRAP	
853+21	78							17.1	390			
855+01	75							16.5	375			
858+91		99						31.0	594			
861+91		58						18.2	348			
864+81		67						21.0	402			
872+39		90						28.2	540			
877+68		94					11	29.5	564		PIPE OUTLET SPILLWAY RIPRAP	
886+40		74						23.2	444			
889+94		90						28.2	540			
891+70		106						33.2	636			
892+70		82						25.7	492			
895+70		71						22.3	426			
897+07				73				38.3	584		SKEW 15°-42', RT. AHEAD, TYPE 1 HEADWALL	
904+15		72						22.6	432			
905+80		58						18.2	348			
907+02		71						22.3	426		SKEW 28°-4' LT. AHEAD	
907+62		76						23.8	456		SKEW 6°-53' RT. AHEAD	
911+41	53							11.6	265			
914+12		57						*	342		BACKSLOPE SPILLWAY RIPRAP	
914+65	150' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											THRU CUT-FLOW CARRIED ALONG DITCH
917+41	54							11.9	270			
920+00		59						*	354			
923+70		53						*	318			
929+70		53						*	318			
935+70		52						*	312			
944+28	51							*	255			
945+50	64							*	320			
947+90		74						*	444			
953+92	56							*	280			
956+88	65							*	325			
959+91	66							*	330			
961+85	68							*	340			

\* QUANTITY OF THIS ITEM IS INCLUDED IN WETLANDS FILL VOLUME. NOTE: EACH CULVERT LISTING GIVES LENGTH IN FEET.

### CULVERT SUMMARY

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA  
LOCATED IN:

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **24** OF **93**

## CULVERT AND STREAM FILL SUMMARY

STATION	CULVERT LENGTH						RIPRAP (C.Y.)	BEDDING (C.Y.)	FOOTPRINT (S.F.)	CONCRETE (C.Y.)	COMMENTS
	24" D	36" D	48" D	60" D	72" D	OTHER					
964+90	68						*	340			
968+31	66						*	330			
971+41	70						*	350			
974+41	67						*	335			
977+06		62					*	372			
980+41	62						*	310			
984+41	57						*	285			
987+41	60						*	300			
991+03		64					*	384			
993+86	61						*	305			
996+41	59						*	295			
1001+41	68						*	340			
1004+41	67						*	335			
1008+15		73					*	438			
1011+93	55						*	275			
1016+15					88		*	792	*	TYPE 1 HEADWALL	
1016+40	130' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED										DRAINAGE FILLED. FLOW INTERCEPTED AT PRECEDING CULVERT
1018+86			83				34.5	581			
1020+44	65						*	325		PIPE OUTLET SPILLWAY RIPRAP	
1021+06	73						*	365		PIPE OUTLET SPILLWAY RIPRAP	
1022+52					91		*	819	*	SKEW 11°-23' LT AHEAD, TYPE 1 HEADWALL	
1024+25				106			*	848	*	SKEW 12°-50' RT. AHEAD, TYPE 1 HEADWALL	
1027+27	55						12.1	275			
1028+18	52						11.4	260		SKEW 19°-28' RT. AHEAD	
1029+26	55						12.1	275			
1031+93		62					19.4	372			
1034+94		63					19.8	378			
1042+10		72					*	432		PIPE OUTLET SPILLWAY RIPRAP	
1051+08	75						*	375			
1051+65	160' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED										DRAINAGE FILLED. FLOW INTERCEPTED AT PRECEDING CULVERT
1053+93		70					*	420		PIPE OUTLET SPILLWAY RIPRAP	
1056+92		64					*	384		PIPE OUTLET SPILLWAY RIPRAP	
1059+93			85				*	595		SKEW 15°-33' RT. AHEAD	
1063+45	62						*	310			
1065+29	62						*	310		SKEW 20°-34' LT. AHEAD	
1067+08	74						*	370		SKEW 33°-19' RT. AHEAD	
1070+40	53						*	265			
1073+41	59						*	295			
1076+41	60						*	300			
1081+19			75				*	525			
1085+40		74					*	444			

\* QUANTITY OF THIS ITEM IS INCLUDED IN WETLANDS FILL VOLUME. NOTE: EACH CULVERT LISTING GIVES LENGTH IN FEET.

### CULVERT SUMMARY

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA  
LOCATED IN:

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **25** OF **93**

## CULVERT AND STREAM FILL SUMMARY

STATION	CULVERT LENGTH						RIPRAP (C.Y.)	BEDDING (C.Y.)	FOOTPRINT (S.F.)	CONCRETE (C.Y.)	COMMENTS	
	24" D	36" D	48" D	60" D	72" D	OTHER						
1089+75			113					46.9	791			
1095+90		66						20.7	396			
1099+50					68		*	*	612	*	PIPE OUTLET SPILLWAY, TYPE 1 HEADWALL	
1103+19		87						*	522		SKEW 30°-38' RT. AHEAD	
1107+72		86						*	516		SKEW 32°-24' RT. AHEAD	
1109+33	68							*	340		SKEW 32°-24' RT. AHEAD	
1113+85		68						*	408		SKEW 14°-05' LT. AHEAD	
1114+91		75						*	450		SKEW 20°-02' LT. AHEAD	
1116+90	54							*	270			
1120+23					72		*	*	648	*	SKEW 8°-20' RT. AHEAD, TYPE 1 HEADWALL	
1124+03	78							*	390			
1127+40		62						19.4	372			
1135+40		60					*	*	360		PIPE OUTLET SPILLWAY RIPRAP	
1139+60					86		*	*	774	*	SKEW 38°-33' RT. AHEAD, TYPE 1 HEADWALL	
1139+82	130' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											DRAINAGE FILLED. FLOW INTERCEPTED AT PRECEDING CULVERT
1141+90	57							*	285			
1146+90		59						*	354			
1150+60	65							*	325			
1152+44				60			*	*	480	*	PIPE OUTLET SPILLWAY, TYPE 1 HEADWALL	
1155+36		81						*	486		SKEW 28° RT. AHEAD	
1161+41		50						*	300			
1162+20	420' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											DRAINAGE FILLED. FLOW INTERCEPTED AT PRECEDING CULVERT
1164+41		71						22.3	426			
1168+89		62						19.4	372			
1172+13		70						*	420			
1173+78	75							14	16.5	375	PIPE OUTLET SPILLWAY RIPRAP	
1176+50	63							12	13.8	315	SKEW 8°-17' LT. AHEAD, PIPE OUTLET SPILLWAY	
1178+07		61					*	*	366		SKEW 12°-51' RT. AHEAD, PIPE OUTLET SPILLWAY	
1183+00		72					*	*	432		SKEW 28°-42' RT. AHEAD, PIPE OUTLET SPILLWAY	
1185+40	72							*	360		SKEW 19°-46' RT. AHEAD	
1186+76	60							*	300			
1189+41	72							15.8	360			
1193+13		79						*	474			
1198+08					90		*	*	810	*	PIPE OUTLET SPILLWAY, TYPE 1 HEADWALL	
1201+40	50							*	250			
1203+97	58							*	290			
1205+96	63							*	315			

\* QUANTITY OF THIS ITEM IS INCLUDED IN WETLANDS FILL VOLUME. NOTE: EACH CULVERT LISTING GIVES LENGTH IN FEET.

### CULVERT SUMMARY

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA  
LOCATED IN:

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **26** OF **93**

## CULVERT AND STREAM FILL SUMMARY

STATION	CULVERT LENGTH						RIPRAP (C.Y.)	BEDDING (C.Y.)	FOOTPRINT (S.F.)	CONCRETE (C.Y.)	COMMENTS	
	24" D	36" D	48" D	60" D	72" D	OTHER						
1207+08	67							14.7	335		SKEW 19°-21' RT. AHEAD	
1208+57	62							*	310			
1210+94		76						*	456			
1213+40	52							*	260			
1216+40	64							14.1	320			
1218+93			79					*	553			
1222+78			59					*	413			
1225+60	65							*	325			
1227+42	61							*	305			
1230+16		69						21.6	414			
1233+19			52					*	364		PIPE OUTLET SPILLWAY RIPRAP	
1235+21	47						13	10.3	235		PIPE OUTLET SPILLWAY RIPRAP	
1238+05	100' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											DRAINAGE FILLED. FLOW INTERCEPTED AT FOLLOWING CULVERT
1238+29		83					4	26.0	498		PIPE OUTLET SPILLWAY RIPRAP	
1240+01	62						12	13.6	310		PIPE OUTLET SPILLWAY RIPRAP	
1240+95		60					14	18.8	360		PIPE OUTLET SPILLWAY RIPRAP	
1244+57		55					8	17.2	330		PIPE OUTLET SPILLWAY RIPRAP	
1246+53	60						4	13.2	300		SKEW 16°-30' RT. AHEAD, PIPE OUTLET SPILLWAY	
1248+22	57							12.5	285			
1251+41	55							12.1	275			
1254+40	56							12.3	280			
1257+41	59							13.0	295			
1262+41	62							*	310			
1264+91	57							*	285			
1267+91	53							*	265			
1271+21		69						*	414		SKEW 20°-09' LT. AHEAD	
1273+00		84						26.3	504		SKEW 20°-26' LT. AHEAD	
1274+90	76							16.7	380			
1279+41	60							*	300			
1282+42	50							*	250			
1291+16		106						33.2	636		SKEW 36°-27' LT. AHEAD	
1295+71	84							18.4	420		SKEW 25°-10' LT. AHEAD	
1317+41	52							11.4	260			
1321+62	71							15.6	355			
1324+14		56						17.6	336			
1328+05		74						23.2	444			
1329+43		78						24.5	468			
1331+66		83						26.0	498			
1334+30		98						30.7	588			
1335+46		76						23.8	456			
1350+80						89					240" PIPE	
1354+36		56						17.6	336			
1362+27		68					8	21.3	408		PIPE OUTLET SPILLWAY RIPRAP	
1364+51	66							14.5	330			
1369+10	71							15.6	355			

\* QUANTITY OF THIS ITEM IS INCLUDED IN WETLANDS FILL VOLUME. NOTE: EACH CULVERT LISTING GIVES LENGTH IN FEET.

### CULVERT SUMMARY

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
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S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
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LOCATED IN:

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **27** OF **93**

## CULVERT AND STREAM FILL SUMMARY

STATION	CULVERT LENGTH						RIPRAP (C.Y.)	BEDDING (C.Y.)	FOOTPRINT (S.F.)	CONCRETE (C.Y.)	COMMENTS	
	24" D	36" D	48" D	60" D	72" D	OTHER						
1369+87	65							14.3	325			
1372+29	73						*	*	365		PIPE OUTLET SPILLWAY RIPRAP	
1374+03	72							15.8	360			
1377+50	88							19.3	440		SKEW 48°-39' LT. AHEAD	
1381+51	59							13.0	295			
1384+87	58							*	290			
1391+28	56							12.3	280			
1395+50	54							11.9	270			
1400+00		85						26.7	510			
1406+06	73							16.0	365			
1409+08	63							13.8	315			
1411+51	67							14.7	335			
1414+51	67						3	14.7	335		PIPE OUTLET SPILLWAY RIPRAP	
1418+51	67						8	14.7	335		PIPE OUTLET SPILLWAY RIPRAP	
1422+51	67						4	14.7	335		PIPE OUTLET SPILLWAY RIPRAP	
1425+52	54						8	11.9	270		PIPE OUTLET SPILLWAY RIPRAP	
1433+01		68						21.3	408			
1446+39	66							14.5	330			
1474+23				78			4.5	41.0	624	1.4	TYPE 1 HEADWALL	
1480+35				88			4.5	46.2	704	1.4	TYPE 1 HEADWALL	
1481+65				68				35.7	544			
1487+35				96			4.5	50.4	768	1.4	TYPE 1 HEADWALL	
1492+61				68			4.5	35.7	544	1.4	TYPE 1 HEADWALL	
1498+78				82			4.5	43.1	656	1.4	TYPE 1 HEADWALL	
1502+23			106					44.0	742			
1508+30			102					42.4	714			
1511+11			100					41.5	700			
1514+51				80			4.5'	42.0	640	1.4	TYPE 1 HEADWALL	
1517+10				164				86.1	1312			
1517+46	190' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											DRAINAGE FILLED. FLOW INTERCEPTED AT PRECEDING CULVERT
1525+60	90' OF DRAINAGE CHANNEL REMOVED AND RE-ROUTED											DRAINAGE FILLED. FLOW INTERCEPTED AT FOLLOWING CULVERT
1525+76	72							15.8	360			
1528+36	54							11.9	270			
1530+54	72							15.8	360			
1532+90	54							11.9	270			
1534+84	82							18.0	410			
1538+26	75							16.5	375			
1539+53	75							16.5	375			
1541+26	72							15.8	360			
1543+67		102						32.0	612			
1546+10		143						44.8	858			
1549+00		156						48.9	936			
1552+27	79							17.3	395			
1558+85		186						58.3	1116			
<b>** TOTALS</b>	266 CULVERTS							997	4,948	127,444	23	

\* QUANTITY OF THIS ITEM IS INCLUDED IN WETLANDS FILL VOLUME. NOTE: EACH CULVERT LISTING GIVES LENGTH IN FEET.

**NOTE: EACH CULVERT LISTING GIVES LENGTH IN FEET.**

**\* THE QUANTITY OF THIS ITEM IS INCLUDED IN WETLANDS FILL VOLUME.**

**\*\* THIS TOTAL IS FOR SHEETS 19 TO 25.**

## CULVERT SUMMARY

APPLICATION BY:  
ALASKA STATE DEPT. OF TRANSPORTATION  
AND PUBLIC FACILITIES  
S.E. REGION DESIGN & ENGINEERING SERVICES

JUNEAU ACCESS IMPROVEMENTS  
FILE # : POA - 2006 - 597 - 2

AT: JUNEAU, ALASKA

LOCATED IN:

DETAIL PLAN SHEETS  
DATE: JULY 2014

SHEET **28** OF **93**