

STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF LAND

[ ] Northern Region
3700 Airport Way
Fairbanks, AK 99709
(907) 451-2705

[x] Southcentral Region
PO Box 107005
Anchorage, AK 99510-7005
(907) 762-2284

[ ] Southeast Region
400 Willoughby, #400
Juneau, AK 99801
(907) 465-3400

APPLICATION FOR RIGHT-OF-WAY or EASEMENT (R/W/E)
AS 38.05.850

Non-refundable \$100.00 Application Fee

ADL # 227328
(to be filed in by state)

Alaska United Fiber System Partnership
Applicant Name Doing Business As
2550 Denali Street, Suite 1000, Anchorage, AK 99503
Mailing Address City State Zip
( ) N/A (907) 265-5563 91-1844091
Home Phone Work Phone Social Security and/or Tax ID #

Is applicant a nonprofit cooperative association? [ ] yes [x] no. If yes, are you applying for an exemption under AS 38.05.850(B)? [ ] yes [ ] no. If yes, please submit proof of nonprofit status (e.g. by-laws, articles of incorporation, tax statement).

Legal Description/Location of activity: Please see Attachment A. Municipality

Meridian Township Range Section 1/4 1/4, Section 1/4 1/4,
Township Range Section 1/4 1/4, Section 1/4 1/4, (attach extra sheets as needed)

Total length of applied for R/W/E feet: 1,622,347 Total width of applied for R/W/E feet: 20'

Acres encompassed by R/W/E: 745 (43,560 square feet = 1 acre)

Purpose of Right-of-Way/Easement, (e.g. Utility, Road, Bridge, Airstrip/Airport, Driveway, Trail, Drainage), and type of anticipated traffic, (e.g. plane, truck, heavy equipment): Explain Submarine telecommunication fiber optic cable. Please see Attachment B for additional information.

Are you applying for a Public R/W/E? [ ] yes [x] no. Private R/W/E? [x] yes [ ] no (Annual Fee Required for private R/W/E)

State briefly the standards and methods of construction: i.e., regulated standards, winter trail, dirt trail, gravel road, paved road, etc.; clearing by hand, clearing/construction by mechanical equipment (state type of equipment to be used, e.g. J.D. 350, 944 F.E. loader, hydro axe, D-8), or establish by use only.

Please see Attachment B.

See 11 AAC 05.010 regarding fees for federal, state, and local government agencies

Date Stamp:

RECEIVED
NOV 19 1997
DIVISION OF LAND
SOUTHCENTRAL REGION

STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF LAND  
3601 C Street, Suite 1080  
Anchorage, Alaska 99503-5937  
(907) 269-8552

APPLICANT ENVIRONMENTAL RISK QUESTIONNAIRE

The purpose of this questionnaire is to help clarify the types of activities you propose to undertake. The questions are meant to help identify the level of environmental risk that may be associated with the proposed activity. The Division of Land's evaluation of environmental risk for the proposed activity does not imply that the parcel or the proposed activity is an environmental risk from the presence or use of hazardous substances.

Through this analysis, you may become aware of environmental risks that you did not know about. If so, you may want to consult with an environmental engineer or an attorney.

Alaska United Fiber System Partnership

Applicant Name		Doing Business As	
2550 Denali Street, Suite 1000, Anchorage, AK		99503	
Address	City	State	Zip
( N/A )	( 907 265-5563		
Home Phone	Work Phone	Contact Person	
		Bruce Rein	

Describe the proposed activity:

Telecommunication fiber optic cable from Whittier to Valdez and Juneau, Alaska.

Please see Attachment A: Project Overview for additional information.

In the course of your proposed activity will you generate, use, store, transport, dispose of, or otherwise come in contact with toxic and/or hazardous materials, and/or hydrocarbons? Yes [ ] No [x]

If yes, please list the substances and the associated quantities. Use a separate sheet of paper, if necessary.

# **ALASKA UNITED FIBER OPTIC CABLE PROJECT WHITTIER, ALASKA TO SEATTLE, WASHINGTON**

## **PROJECT OVERVIEW ALASKA DISTRICT**

### **INTRODUCTION**

Alaska United Fiber System (AUFS) Partnership proposes to install a high capacity fiber optic telecommunication system that will connect Alaska's major population centers with the lower 48 states. The project is called Alaska United. The subject of this review is the submarine cable and its four landing sites or "shore stations": Juneau, Whittier, and Valdez, Alaska; and Norma Beach (north of Seattle), Washington (see maps in Appendix A). The overland portion of the project, from Fairbanks to Whittier, is not dependent on the submarine portion of the project, and is under separate environmental review and permitting. The Alaska District and Seattle District of the U.S. Army Corps of Engineers are being applied to concurrently for permits. The Norma Beach, Washington landing site is addressed in the application to the Seattle District.

The submarine cable route has been selected to avoid as many external aggression factors (damage from natural and human activities) as possible. Extensive research of fishing activities and practices has been done to avoid busy fishing areas. Cable armoring and burial are planned in areas where potential fishing is unavoidable. Generally, the fiber optic submarine cable will be plow buried in water less than 4,900 feet (1,500 meters) deep, where substrate conditions allow burial. Most of the depths along the proposed cable route are greater than 4,900 feet; and in these areas, the cable will be laid on the marine bottom. No explosive will be used. AUFS will ensure that the Alaska United cable route is identified as a "cable protection route" on nautical charts. AUFS will also actively communicate with the fishing industry and monitor fishing activities to decrease the possibility of damage to the cable or to fishing equipment.

### **PURPOSE AND NEED FOR THE PROJECT**

Currently, only one fiber optic cable connects Alaska with the contiguous United States. This cable, the Alaska Spur of the North Pacific Cable, has enough capacity to carry 6,048 simultaneous voice and data calls. It lands in Seward and terminates in Anchorage. The remainder of the state does not have fiber optic connectivity to the lower 48 states. If Alaska United is constructed, fiber optic capacity will multiply five times. This capacity can be increased up to 22 times the current capacity by adding shore-based electronic equipment (as opposed to adding more cable). The total design capacity of Alaska United will be enough to carry 129,024 simultaneous voice or data calls. The system has a minimum service life of 25 years.

### **TIMELINES**

Subsea Route Survey	1996-1997
Design & Specifications	December 1996 - June 1997
Subsea Cable Installed	September 1998 - November 1998

Testing November 1998 - December 1998  
Service Commences December 1998

The schedule to install the cable in Prince William Sound, Alaska is between early September and October 1998; and in Puget Sound and the Strait of Juan de Fuca, Washington, between the end of October, 1998 and mid-November, 1998.

## CONSTRUCTION METHODS

Cable installation includes:

1. Shore landing installations to connect the cable to a terrestrial cable or to terminate the cable on shore;
2. Main-lay of the cable on the ocean floor at depths greater than 4,900 feet (1,500 meters);
3. Burial of the cable approximately 3 feet (1 meter) deep in the seabed at depths less than 4,900 feet (1,500 meters) where substrate conditions allow burial.

### SHORE LANDING INSTALLATION (WHITTIER, VALDEZ, JUNEAU, ALASKA)

The landing sites have been carefully chosen to avoid impacts to the environment and other maritime activities. The shore landing sites will be located west of the marina at Whittier, at the small boat basin in Valdez, and at Lena Point near Juneau. Appendix B provides plan drawings for each site.

#### Whittier

The Whittier landing site will have a manhole approximately 6 feet (2 meters) deep, by 6 feet wide, by 8 feet (2.4 meters) long. The manhole cover will be flush to the ground. A ground plate will be placed approximately 148 feet (45 meters) off shore. From the plate, an armored power cable will be laid on the sea floor, then placed in a steel conduit from the mean low water line to the manhole.

Two directionally-drilled (or bored) conduits, approximately 3.6 inches (9 centimeters) in diameter and 236 feet (72 meters) long, from shore under the intertidal area, will house the fiber optic cables to the manhole. One cable will go to Valdez, the other to Juneau. During drilling operations, the lubricant will travel down the inside of the pipe (drill string) and through the drill motor. The lubricant exits the bore at the land-side bore entry point. A collection sump will hold the used lubricant (approximately 1,000 gallons), which will be pumped into a recycling trailer where the lubricant will be filtered and reused in the drilling operation. Lubricants used during drilling are not hazardous. Up to an estimated 500 gallons (1,895 liters) of lubricant would enter the water when the bore breaks through the subsurface.

After drilling is complete, the bore pipe will be cut and capped at 4 feet (1.2 meters) below grade. The construction site will be cleared of all waste and the collection pond will be cleaned and backfilled, and the dried lubricant disposed of in accordance with local regulations (e.g. in a landfill). Landing site construction activities may take one to two weeks; and be performed approximately one month prior to the arrival of the cable-laying ship.

The shore landing installation consists of floating cable ashore from the cable-laying ship by temporarily affixing balloon floats to the cable approximately every 33 feet (10 meters). The ship will be holding position (i.e., no anchors) approximately 656 feet (200 meters) off shore. A combination of small work-boat and shore-based pulling equipment will be used to pull sufficient slack to allow the cable to be placed in the manhole where the cable will be spliced to a land cable. Any excavation will be backfilled and the site returned to its original condition immediately after completion of the shore landing installation. The entire process takes approximately 6 to 8 hours.

#### Valdez and Juneau

The cable landing at Valdez and Juneau will not include directional drilling, and will use the following methodology. Prior to the designated landing date, a trench will be dug from the AUFS manhole to the mean low water line. The trench will be approximately 2 feet (.6 meters) deep and 3 feet (1 meter) wide. Spoils from the trench will be staged along side the trench and will be later used for backfill. A ground bed will be installed at Juneau but not at Valdez. Methods for ground bed installation and the shore facility installation will be similar to the description for Whittier.

#### MAIN LAY AND BURIAL OPERATIONS

The Cable Ship Global Sentinel (CSGS) is the vessel scheduled to install the marine portion of the cable system. Once the shore operations are completed and the cable is tested satisfactorily, the cable vessel will move offshore along the pre-determined route. Continuous surveillance of the depth recorders are used to adjust to changes in bottom profile. The shipboard computer will store all as-laid information and make available instantaneous calculations for adjustments to cable speed, slack, and ship's speed. The ship's speed will be adjusted to allow for safe deployment of repeater and splice boxes.

Sea Plow VII cable burial system uses a modified hollow share blade (approximately 12 inches wide) that cuts, places cable, and leaves the sediments relatively undisturbed. The plow is designed to bury cable up to a depth of 3 feet (1.0 meter) in the seabed with the least amount of disturbance to the sea floor. Sea Plow does not use water injection, saw, or chain cutting apparatus. The plow method of burial significantly reduces the amount of sediments that are placed in suspension during the cable-laying operation. The system does not require divers for deployment or recovery and is equipped with an array of instruments to ensure the safe and

effective burial of the cable. During cable operations, the vessel proceeds at speeds under 1.0 knot.

### DESCRIPTION OF THE CABLE

The submarine fiber optic cable, with double armoring, is approximately 2 inches (50 millimeters) in diameter. On land, the cable is .8 inches or less in diameter. The submarine cable is solid, though flexible, and does not contain any fluids that could leak if it were to break.

The electrical current used in the cable system is DC current at medium voltage levels with less than 1 amp of current, and are all electrically shielded. The shield is grounded and eliminates the creation of a magnetic field outside of the cable. This feature also provides a low-resistance ground path for the current if the cable were to be damaged.

### **U.S. ARMY CORPS OF ENGINEERS REGULATORY COMPLIANCE**

#### SECTION 10 AND SECTION 404

Alaska United Fiber System Partnership respectfully requests a review and concurrence from the Corps of Engineers, Alaska District, to construct the project under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. The fiber optic cable is subject to Section 10 permitting because it crosses Prince William Sound, Lynn Canal, and the Gulf of Alaska. It is anticipated that Section 404 review will be conducted as part of the Section 10 review process. The project is designed to avoid obstructions to navigation, dredging, or filling operations and to minimize potential conflicts with fishing operations. The project is also designed to minimize any environmental impacts during construction of the cable. Additional information regarding anticipated environmental impacts is provided in an Environmental Assessment provided for the Corps' use. The project includes the following measures:

1. The cable route is designed to avoid busy fishing areas.
2. A notice to mariners will be issued prior to cable-laying operations to notify marine vehicles of the dates and locations of operations.
3. The cable route will be identified on nautical charts.
4. At water depths of less than 4,900 feet (1,500 meters), the cable will be buried to avoid conflicts with fishing or shipping operations.
5. The method of installing cable using a plow minimizes the amount and duration of turbidity.
6. No explosives or hazardous materials will be used.
7. The shore landing site will not affect fishing, shipping, or recreational activities.
8. Construction areas will be returned to original conditions within a day of completion.