REQUEST FOR PROPOSAL

RFP 24-01

Alaska Fiberoptic Project
Lower Kuskokwim River Segment
Design and Build - Terrestrial Fiber and Fiber to the Home

Alaska Communications, with its primary administrative and operational offices located at 600 Telephone Avenue, Anchorage, Alaska 99503, is requesting proposals in accordance with all specifications, terms, conditions, and provisions of this Request for Proposal ("RFP").

Alaska Communications reserves the right to accept or reject all proposals and/or waive any minor informality in the RFP process. The proposal must be returned to Alaska Communications prior to the date and time indicated below. ANY PROPOSAL RECEIVED AFTER THIS DATE AND TIME WILL NOT BE CONSIDERED AND WILL BE RETURNED TO THE PROPOSER UNOPENED.

RFP 24-01 Timeline

Issued	May 17, 2024
Mandatory Pre-Bid Meeting via Microsoft Teams	May 29, 2024 **2:00 PM, ALASKA TIME**
Deadline for Questions	June 5, 2024 **2:00 PM, ALASKA TIME**
Proposal Deadline	June 12, 2024 **2:00 PM, ALASKA TIME**
Anticipated Notice of Intent to Award	June 19, 2024

Alaska Communications hereby notifies all participants that the RFP may be cancelled at any point during the RFP process.

ISSUED BY:

ALASKA COMMUNICATIONS
PROJECT MANAGEMENT OFFICE

POINT OF CONTACT:

HEATHER MARTIN
SR. BUYER
HEATHER.MARTIN@ACSALASKA.COM

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1.1 BACKGROUND

Alaska Communications Holdings, Inc. ("Alaska Communications"), headquartered in Anchorage, Alaska, is a telecommunications provider that delivers internet, local, long distance, videoconferencing, data hosting, and managed services to its customers in many communities around the state of Alaska including those communities in hard-to-reach locations. The primary objective of the Alaska Fiberoptic Project is to install a dependable, scalable, future-proof, fiber-based broadband network capable of bridging the digital divide and providing affordable broadband services to underserved Alaska Native Villages in the Yukon-Kuskokwim Delta region, along the Kuskokwim River. The current internet service in these communities is either nonexistent or slow and unreliable, due to the lack of adequate infrastructure and harsh weather conditions. The purpose of this RFP is to solicit proposals from potential proposers to perform design-build services for the terrestrial middle-mile and last mile network via Fiber to the Home ("FTTH") to bring Alaska Communications service to these communities.

1.2 PROJECT SYNOPSIS

The goal of the Lower Kuskokwim River Segment of the Alaska Fiberoptic Project ("AFOP LKRS"), as a part of the Tribal Broadband Connectivity Program, is delivery of Alaska Communications' service to seven hard to reach Alaska Native Villages along the lower Kuskokwim River from Napakiak to Upper Kalskag, including a terrestrial link to the Yukon River. This RFP covers the scope for only the terrestrial and FTTH portions of the Lower Kuskokwim River Segment of the Alaska Fiber Optic Project as depicted in the AFOP LKRS Route Map attached hereto as Attachment 2. The Scope of Work Diagram provided as Attachment 4 serves to further clarify the proposers' scope for this RFP. Alaska Communications anticipates the commencement of construction after Environmental Assessment and permit approvals, with a completion date of no later than January 7, 2026. The Proposed Project Schedule for AFOP LKRS is provided as Attachment 3 for reference. Alaska Communications expects the schedule to be updated upon award of this RFP based on coordination between the winning proposer ("Contractor") and Alaska Communications' permitting contractor (Owl Ridge).

The Contractor will design and build a FTTH network in the villages of Napakiak, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Upper Kalskag. The Contractor will design and build terrestrial middle mile cable between the villages of Bethel, Oscarville and Napakiak; between the villages of Lower Kalskag and Upper Kalskag; and between the village of Upper Kalskag and the Yukon River south of Holy Cross. The middle-mile fiber in Bethel is expected to remain a minimum of 150 feet from existing fiber-optic cable routes to allow for diverse path routing. Contractor will install a concrete, tamper-proof beach manhole ("BMH") that is suitable for anchoring the incoming and outgoing river fiber (see Attachment 6), and terrestrial fiber between the BMH and Point of Presence ("POP") shelters in all seven FTTH villages, Bethel, and the village of Napaskiak; and a POP shelter in Oscarville (no BMH required). The in river middle mile fiber backbone between villages will be awarded under a future RFP. The scope of this RFP is to build terrestrial run fiber in nine villages from BMH to POP and fiber distribution throughout seven FTTH villages to all homes, commercial buildings, and government buildings. The middle-mile scope of this RFP is to design and build terrestrial fiber optic cable between the villages of Bethel, Oscarville and Napakiak; between the villages of Lower Kalskag and Upper Kalskag; and between the village of Upper Kalskag and the Yukon River south of Holy Cross. The FTTH communities to be served and the middle mile route are depicted in the AFOP LKRS Route Map (Attachment 2).

Proposers shall provide pricing for a single BMH connected back to the POP via terrestrial fiber. Alaska Communications requests pricing for the option to add a second BMH connected back to the POP via terrestrial fiber, in six of the seven FTTH communities (excluding Napakiak).

The Contractor is expected to work closely with Owl Ridge NRC, Inc. Included in this RFP is the Owl Ridge Field Report (Attachment 5) of work conducted by RECON LLC.

Alaska Communications is party to a Collective Bargaining Agreement ("CBA") with the International Brotherhood of Electrical Workers, Local Union No. 1547 ("IBEW 1547"). Alaska Communications will consider proposals from proposers under a current CBA, who have a letter of assent with the local IBEW 1547, or who agree that any IBEW 1547 work will be performed only by represented employees.

In addition, as a federally funded grant program, federal contracting clauses are set forth in Appendix A with additional compliance requirements.

1.3 RFP PROCESS

Proposers are encouraged to read the RFP (and any relevant documents) thoroughly. Proposers should carefully examine the entire RFP and any addenda thereto, and all related materials and data referenced in the RFP. Proposers should become fully aware of the nature of the work and the conditions likely to be encountered in performing the work. Any ambiguity, conflict, discrepancy, omission, or other problem in this RFP should be reported, via email, to the Point of Contact, as soon as possible and, in any case, prior to the deadline for proposal submittal.

Any proposer desiring an explanation or interpretation of this RFP must contact the Point of Contact via email for any inquiries regarding any aspect of this RFP or its requirements. All correspondence should include the RFP number and title. No personal contact regarding this RFP is to be made by any of the proposer's representatives with Alaska Communications employees or any insurers regarding Alaska Communications.

No oral change or interpretation of the provisions contained in this RFP will be valid or binding on Alaska Communications. Written addenda will be issued, by the Alaska Communications Purchasing Office, when changes, clarifications, or amendments to the RFP are deemed necessary.

Alaska Communications shall give written notice of any addenda issued to all known recipients of the RFP. However, Alaska Communications shall not be responsible for any proposer's failure to receive any addenda. It is the proposer's sole responsibility to ascertain, prior to submittal, that any addenda issued to this RFP have, in fact, been received. Any proposer desiring to check on addenda issued should contact the Point of Contact by email.

Proposer will observe and abide by all applicable laws, regulations, ordinances and other rules of the federal, state and/or any political subdivisions thereof, or any other duly constituted public authority wherein work is done, or services performed. Proposer further agrees to indemnify and hold Alaska Communications harmless from any and all liability or penalty which may be imposed or asserted by reason of the proposer's failure or alleged failure to observe and abide thereby.

SECTION 2. PROPOSAL REQUIREMENTS

2.1 SUBMITTAL

Proposals are to be prepared in such a way as to provide a straightforward, concise delineation of the Proposer's capabilities to satisfy the requirements of this RFP. Emphasis should be concentrated on:

1) Conformance to the RFP instructions
2) Responsiveness to the RFP requirements
3) Completeness and clarity of content

Proposals should be organized and must be sufficiently detailed to allow for the evaluation of proposed solutions against competing proposals. Any assumptions, exceptions, or exclusions must be detailed on the first page of the proposal.

2.2 PROPOSAL DELIVERABLES AND SELECTION CRITERIA

2.2.1 EXPERIENCE (20%)

Proposer shall demonstrate, in its proposal, its experience providing design-build services, highlighting (if applicable) HDD, terrestrial OSP and FTTH projects with requirements similar to those set forth in this RFP. Proposals must include the following:

A. A comprehensive overview of the firm's experience in designing, permitting, managing, and constructing terrestrial OSP and FTTH projects with emphasis on any work performed in Alaska Native Villages along the Yukon and Kuskokwim Rivers.

B. Three (3) specific examples (within the last five years) of projects where Proposer performed the services defined within this RFP. Proposer must include written authorization allowing Alaska Communications to discuss the Proposer's performance with the Proposer's customers. Proposer shall include for each example:
   1) Customer name, point of contact, email address, and phone number
   2) Project start and finish dates
   3) Technical standards and procedures employed
   4) Quality control measures employed
   5) Issues encountered and how they were addressed
   6) Any additional pertinent information

2.2.2 APPROACH AND WORK PLAN (30%)

Proposer shall provide a detailed work plan showing its ability to perform design-build services and install the middle mile and last mile FTTH service to meet Alaska Communications' intent to serve all the homes, commercial buildings, and government buildings in each FTTH village in accordance with the terms and conditions outlined herein.

Contractor will provide all materials for the complete construction for the middle mile and fiber to the home as detailed in this RFP. Alaska Communications will provide and install transmission and FTTH electronics. Middle-mile fiber shall be 48-strand with stainless steel strand armoring and an attenuation no greater than 0.2 dB/km at 1550 nm per the G652.D standard or better. Aerial fiber used in FTTH distribution shall be, at minimum, single armored. If any of the proposed installation methods change the above material, the proposer should call out the material change. Proposals must include the following:

A. Approach to Network Design and Planning including:
    1) Conduct a thorough site survey to assess the existing infrastructure, including potential fiber routes and equipment placement.
    2) Develop a detailed network design plan, considering factors such as fiber length, attenuation, splitter locations, and village size/density.
    3) Leverage software tools for network planning and simulation to optimize performance and scalability.
    4) Technical datasheet for the proposed middle-mile fiber. Include manufacturers literature regarding installation requirements and warranty information.

B. Schedule

    Alaska Communications has attached its Proposed Project Schedule for AFOP LKRS (Attachment 3). Proposer shall either provide written agreement to adhere to the Proposed Project Schedule or provide an alternative schedule with an explanation. The schedule must include durations for design (include milestones for delivery of permit package to Alaska Communications and permit approval), construction start, and completion of each village, and middle-mile route.

C. Proposed methods of construction for:
    1) FTTH (buried or aerial)
    2) Terrestrial routes (shallow trench, ground lay, aerial, etc.)
    3) HDD landings (quantity per village) and BMH material and size

2.2.3 AVAILABILITY AND DEDICATED PERSONNEL (15%)

Proposals must include the following:

A. A description of the proposing organization which includes number of employees, client base, areas of specialization and expertise, revenues for the last three years, and any other pertinent information in such a manner that a proposal evaluator may reasonably formulate a determination about the stability and financial strength of the Proposer's organization.

    1) Number of employees for specific trades (e.g., fiber splicers).
    2) Number of crews that could be fully dedicated to this project. Number of personnel per crew and their duties.
    3) List of equipment and availability to support this project.

B. A list of key personnel managing the project and their positions in the company as well as the project. one-page resume for each person highlighting:

1) Relevant education and training (include college degrees, dates, and institution name and location).
2) Licensing and certifications essential to perform the services (include specific certifications, training, and experience on the required equipment).
3) References to previous projects (including a brief description of the project, the role and responsibility of the individual, specific experience, the client's name, project start and finish dates).
4) AK-CESCL (Certified Erosion and Sediment Control Lead) numbers for key supervisory personnel.

C. A list of any/all subcontractors. A brief description of each subcontractor, including the same information requested in (A). If partnering subcontractors are to be used for specific areas, identify the proposed areas.

D. The proposer must warrant that its financial condition is sufficiently sound to permit it to provide the required labor and equipment necessary to timely complete the project. Provide a copy of the proposer's credit rating, as determined by a qualified source (i.e., TRW, Dun & Bradstreet, etc.).

2.2.4 QUALITY CONTROL AND SAFETY (5%)

Proposals must include the following:

A. A description of Proposer's formal Quality Control ("QC") program which includes, at a minimum, quality control methods employed in the field for: minimizing punch list items, maintaining the integrity of materials and equipment, ensuring and confirming compliance with manufacturers' installation requirements. The program should highlight methods including, but not limited to pictures of pertinent aspects of the installation, GPS on all handholes, 3rd Party inspection including review of all documentation and spot checks in the field.

B. Description of proposer's safety program and safety record for last three years.

2.2.5 PRICE (30%)

A. Proposer shall provide Not-to-Exceed ("NTE") pricing for the work defined in this RFP and in accordance with all aspects of this RFP. Proposer shall provide a breakdown of the NTE price depicting the engineering, construction, and material costs. Proposer shall also provide T & M rates.

B. Proposer's price shall be for the fully burdened turnkey price proposal in accordance with the requirements provided within this RFP including, but not limited to:
1.) Providing the tested services from terminal to Optical Line Terminal ("OLT"), fiber shall be connected and tested in accordance with the testing specifications provided herein.
2.) All engineering, planning, and design.
3.) All permitting, SWPPP and/or any other environmental requirements as required per the Authority Having Jurisdiction ("AHJ").
4.) Construction and associated activities, i.e., travel to and from the location(s), restoration to pre-existing conditions when applicable, removal of spoil and debris, etc.

5.) All materials, equipment, and labor required for installation of:
   - Middle-mile terrestrial fiber between Lower Kalskag and Upper Kalskag; from Upper Kalskag to the Yukon River south of Holy Cross; and from Bethel to Oscarville and Napakiak.
   - FTTH (including terrestrial fiber between BMH and POP shelters) in the villages of Napakiak, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Upper Kalskag
   - Terrestrial fiber between BMH and POP shelter in Napaskiak.

6.) Administrative overhead including meetings with Calista, villages, permitting agencies, and utilities.

7.) Any aerial make-ready work.

SECTION 3. EVALUATION AND AWARD

3.1 RESPONSIVE PROPOSER

Proposers who submit a proposal that conforms in all material respects to the requirements of this RFP, including but not limited to 1.) clearly demonstrating its plan to complete the work and 2.) certifying that it is available to perform the work, will be considered a Responsive Proposer. Proposals from proposers that do not meet this definition, in the sole judgment of Alaska Communications, will be considered non-responsive and these proposals will be rejected.

3.2 EVALUATION CRITERIA

A. Evaluation Criteria Weighting

1.	Experience	20 points
2.	Approach and Work Plan	30 points
3.	Availability and Dedicated Personnel	15 points
4.	Quality Control and Safety	5 points
5.	Price	30 points
Total Points Available		100 points

B. Qualitative Evaluation Criterion

Proposals will be ranked using the following qualitative rating factors for each RFP criterion:

1.0	Outstanding
0.8	Excellent
0.6	Good
0.4	Fair
0.2	Poor
-0-	Unsatisfactory

* The rating factor for each criteria category will be multiplied against the points available to determine the total points for that category.

EXAMPLE: If an evaluator decides that the response provided for a criterion that has a maximum of 30 points was "Good," they will assign a "qualitative rating factor" of 0.6 to that criterion. The qualitative rating factor is then multiplied by the maximum points available (30) for a resultant 18 points.

C. Quantitative Evaluation Criterion

If Cost is an evaluation criterion, then the following shall be used:

The award of the "cost" points will be determined by the calculation shown below. The lowest cost proposal will receive the maximum number of points awarded for the "cost" criteria:

$$\frac{\text{Lowest cost proposal} \times \text{Maximum \# points for category}}{\text{Cost of proposal being scored}}$$

[EXAMPLE]

Method used to convert Total Cost to Points (30 points maximum):

[STEP 1]

List all proposal costs.

Proposer #1	-	$40,000
Proposer #2	-	$45,000
Proposer #3	-	$48,000

[STEP 2]

The RFP awards a maximum of 30% (30 points) of the total of 100 points for price.

Proposer #1 receives 30 points.

Proposer #1 receives 30 points (the max) because they submitted the lowest cost proposal.

Proposer #2 receives 26.7 points.

$$\frac{\$40{,}000 \times 30}{\$45{,}000}$$

Proposer #3 receives 25 points.

$$\frac{\$40{,}000 \times 30}{\$48{,}000}$$

3.3 EVALUATION COMMITTEE

A committee of individuals representing Alaska Communications will perform an evaluation of the proposal(s). The committee will rank the proposal(s) as submitted. Alaska Communications reserves the right to award a contract solely on the written proposal.

Alaska Communications also reserves the right to conduct interviews in order to request expansion upon a proposal after the Proposal Deadline. If interviews are conducted, the proposals from the associated firm may be re-evaluated. The same categories and point ranges will be used during the second evaluation as for the first. The

highest ranked Proposer after the second scoring, if performed, may be invited to enter into final negotiations with Alaska Communications for the purposes of contract award.

Alaska Communications reserves the right to terminate negotiations with any Proposer should it be in Alaska Communications' best interest. Alaska Communications reserves the right to reject any and all proposals submitted.

SECTION 4. PROPOSER'S REPRESENTATION

Each proposer, by signature on and submission of their proposal, represents that they have read and understand the proposal documents, have received all documents listed on this RFP and subsequent addenda, and that its proposal is submitted in accordance therewith.

The undersigned acknowledges that the company he/she represents has carefully read the specifications and standards and other documents related to this RFP and that the proposer has informed itself of the nature of the work. The proposal submitted by the proposer represents its proposal based upon the information presented in this RFP.

Signature	Proposing Organization
Printed Name	Address
Title	City, State, Zip Code
Date	Phone / Fax
Email Address	

APPENDIX A
CONTRACT COMPLIANCE REQUIREMENTS

A.1 MASTER GENERAL CONSTRUCTION AGREEMENT ("MGCA")

The Alaska Communications MGCA is attached as Attachment 1 in electronic file format as a pdf. The MGCA terms and conditions are hereby incorporated in and by reference made a part of this RFP, as amended as follows:

a. The bond provisions of the MGCA are amended to name Calista Corporation as the beneficiary for all performance and payment bonds furnished by contractors and subcontractors.
b. The insurance provisions of the MGCA are amended to name Calista Corporation as an additional insured under the commercial general liability insurance policy.

All terms of the MGCA shall remain in force and effect for the term of any work pursuant to an award.

The RFP shall prevail for any conflict between provisions contained in the RFP and the MGCA.

A.2 CALISTA SHAREHOLDER HIRE PREFERENCE

Shareholder Hiring Preference

Shareholder Definition. For purposes of this Agreement, (i) the term "Shareholder" means all Calista shareholders and descendants and the spouses and family members of Calista shareholders and descendants, and (ii) the term "descendant" means a lineal descendant of a Calista shareholder. ACS shall have no obligation to independently confirm whether an individual qualifies as a Shareholder and may rely upon Calista's representations or identification of who constitutes a Shareholder.

Intent. ACS recognizes that it is in its best interests to hire local persons as employees whenever possible. Therefore, during the term of this Agreement, contractors shall use all reasonable efforts to hire Shareholders for positions for which they are suitably qualified or experienced and available at the time of proposed hire in connection with ACS's operations on the Project at prevailing market wage and salary rates, subject to any applicable collective bargaining agreement.

A.3 FEDERAL GRANT CONTRACT CLAUSES

This Project is funded through a Grant Award under the Tribal Broadband Connectivity Program. The Recipient is Usgu LLC, a wholly owned subsidiary of Calista Corporation. Alaska Communications and the Recipient have entered into a Subrecipient Agreement. Pursuant to 2 CFR Part 200 Appendix 11 – Contract Provisions for Non-Federal Entity Contracts Under Federal Awards, the following federal contract clauses are hereby incorporated into the Master General Construction Contract between ACS and Contractor:

A. Domestic Preference Pursuant to 2 C.F.R. 200.322. Contractor will, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or

materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). This section's requirements must be included in all subawards including all subcontracts and purchase orders for work or products pursuant to this Agreement.

B. Equal Opportunity

1. Contractor must take all necessary affirmative steps pursuant to 2 CFR § 200.321 to assure that minority businesses, women's business enterprises and labor surplus area firms are used when possible. Contractor should specifically focus on subcontract opportunities for Alaskan Native-Owned businesses including Alaskan Native Corporations and Tribally owned entities, consistent with preference practices in place in RECIPIENT procurement policies.

2. Subject to the foregoing, the Contractor will comply with all applicable provisions of Executive Order No. 11246 of September 24, 1965, and applicable provisions of the rules, regulations, and relevant orders of the Secretary of Labor.

3. The Contractor will include the provisions of subsections (1) through (2) of this Section in every subcontract unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor.

C. Lobbying Restriction. Contractor agrees that no funds provided under this Agreement will be used to attempt to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

D. Copeland Anti-Kickback Act. Contractor shall comply with the requirements of the Copeland Anti-Kickback Act (18 U.S.C. 874), as supplemented by Department of Labor regulations (29 CFR part 3, "RECIPIENTs and RECIPIENTs on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each RECIPIENT, SUBRECIPIENT, or Contractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public Work, to give up any part of the compensation to which he is otherwise entitled., which shall be reported RECIPIENT'S Contracts Representative.

E. Contract Work Hours and Safety Standards Act. Contractor shall comply with Sections 102 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-333), as supplemented by Department of Labor regulations (29 CFR part 5). Under Section 102 of the Act, Contractor shall be required to compute the wages of every mechanic and laborer based on a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than 1 ½ times the basic rate of pay for all hours worked in excess of 40 hours in the work week. Section 107 of the Act applies to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous.

F. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or from subrecipients for transportation or transmission of intelligence.

G. Environmental and National Historical Preservation Requirements. Contractors are required to comply with the environmental and historic preservation requirements listed in the SACs, including the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.) and the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.). NTIA will provide guidance regarding how to meet these requirements. (EIS) (project is expected to significantly affect the quality of the human environment). NTIA expects recipients to design their projects to minimize the potential for adverse impacts on the environment. Impacts required to be assessed include those to environmental (e.g., wetland, endangered species, and others), historic, or cultural resources.

H. Disputes Concerning Labor Standards. The United States Department of Labor has set forth in 29 CFR Parts 5, 6, and 7 procedures for resolving disputes concerning labor standards requirements. Such disputes shall be resolved in accordance with those procedures to the extent applicable, and not the section of this Agreement titled "DISPUTES." Disputes, within the meaning of this Section, include disputes between the SUBRECIPIENT (and any of its subrecipients) and RECIPIENT, the U.S. Department of Labor, or the employees or their representatives.

I. Property Trust Relationship And Public Notice Filings for Grant Acquired Property. In accordance with 2 C.F.R. 200.316, real property, equipment, and intangible property, that are acquired or improved with this Subrecipient Agreement must be held in trust by the RECIPIENT/CONTRACTOR as trustee for the beneficiaries of the TBCP program under which the property was acquired or improved.

J. If requested by NTIA in accordance with the terms of the Grant, SUBRECIPIENT/CONTRACTOR shall assist RECIPIENT in executing and recording any statement of interest, financing statement (Form UCC- 1), lien, mortgage or other public notice of record to indicate that real or personal property acquired or improved in whole or in part pursuant to this Agreement is subject to a Federal Interest, and that certain use and disposition requirements apply to the property.

K. Other Contract Clauses. For the purposes of this grant, the **FEDERAL DAVIS BACON ACT IS NOT APPLICABLE.** In addition to the contract clauses above, Contractor should carefully review and comply with 2 CFR Section 200.317-327.

APPENDIX B
DESIGN AND CONSTRUCTION REQUIREMENTS

All requirements contained in this Appendix shall be a material part of the SOW resulting from this RFP and shall be set forth and considered in addition to the requirements contained in the MGCA.

B.1 ROUTE DESIGN

B.1.1 Contractor must provide an Asset ROM per each Village during design for review at 30% to include cable by size and location (OH or UG), conduit, Fiber Distribution Hub ("FDH") by size, splice case, peds, vaults. Actual quantities will be provided with final design and the estimates during design percentage phases.

Drawings, site drawings, permit drawings, and computerized design maps and electronically stored consolidated field notes for the entire route must be included in the Contractor's documentation. The method of installation will dictate the additional types of documentation that should be provided. For example, documentation of underground installation should include conduit design, conduit detailing, manhole detailing, preparation of all forms and documentation for approval of conduit construction and installation, verification of as-builts and computerized maps.

B.1.2 Engineered Drawings and Staking Sheets must include the following, if applicable:

A. Cover sheet shall include a vicinity map (AutoCAD base map provided by Alaska Communications to the Contractor)
B. Tabulation sheets must include (master tab):
    1) Number of houses passed
    2) Number of drops installed
    3) Sequentials and drop footage (separated via size). Required, unless it is part of the ACAD Checker, to be developed.
    4) Number of NIDs installed
    5) Sequentials and cable footage (separated via size). Required, unless it is part of the ACAD Checker, to be developed.
    6) Sequentials and conduit footage (separated via size). Required, unless it is part of the ACAD Checker, to be developed.
    7) Number of FDH installed (separate via size)
    8) Number of vaults installed (separated via size)
    9) Number of pedestals installed (separated via size)
C. North seeking arrow that orientated to either the top or the left side of the page
D. Breakdown of the units for that sheet. Work Locations will add up to a Master Tab using an excel sheet.
E. The direction to the Central Office ("CO") with distance in kilofeet (kft)
F. Design Alaska Communications approval required at 30%, 80%, and 100%, which can be accomplished through reoccurring meetings.
H. Pole riser locations (quarter or detail on where to place riser)
I. Alaska Communications approved symbology, to be provided to Contractor
J. Match lines for route continuity through the drawing set

B.1.3 Contractor will provide Fiber Optic details by providing the fiber specification sheet, which will include:

A. Manufacturer
B. Cable Type, Diameter
C. Jacket Type: Single Mode or Multi-Mode
D. Fiber core and cladding diameter

E. Fiber attenuation per Kilometer
F. Fiber bandwidth and dispersion
G. Index of refraction

B.1.4 Manhole details will include:

A. Butterfly fold out drawings with cardinal direction walls indicated
B. 360-degree pictures imbedded in the butterfly
C. North seeking arrow
D. Vault identifier and location
E. Indicate previous vault and next access vault
F. Innerducts and cables with sizes
G. Location of groundbar/lug locations

B.2 ADDITIONAL DESIGN GUIDANCE AND SPECIFICATIONS

Labelling will be reviewed with the contractor prior to the commencement of the services. Alaska Communications' current standard is explained below, to include an example:

a. FDH standard: site location (address) & Fiber Area: 273060

1. FSA Boundaries: ANCSW060
2. GRID:1234
3. R11311 QUEST CIRCLE SPL
4. TERM LOC: PED
5. FA:123460
6. IN:
7. IN:F88,1-5
8. OUT:
9. OUT:SPT1234FA,1-32
10. OUT:SPT1234FA,33-64
11. OUT:SPT1234FA,65-96
12. OUT:SPT1234FA,97-128
13. Terminal Details:
14. F88,1 SPT1234FA,1-32 SIZE:32 EXISTING
15. F88,2 SPT1234FA,33-64 SIZE:32 EXISTING
16. F88,3 SPT1234FA,65-96 SIZE:32 EXISTING
17. F88,4 SPT1234FA,97-128 SIZE:32 EXISTING

b. SPLITTER

1. R11311 QUEST CIRCLE SPL
2. TERM LOC: PED
3. FA:1234FA
4. IN:
5. IN:SPT1234FA,1-32
6. SPT1234FA,33-64
7. SPT1234FA,65-96
8. SPT1234FA,97-128
9. OUT: PON1201FA,1-864

B.3 PERMITTING

B.3.1 Project Permitting and Authorizations

Alaska Communications has retained Owl Ridge Natural Resource Consultants, Inc. ("Owl Ridge") to support Alaska Communications and Calista in obtaining all required permits and authorizations for the project including preparation of and Environmental Assessment. The basis for the permitting is preparation of a detailed Plan of Work describing the proposed route, installation methods, construction schedule, HDD locations, material and equipment. The Contractor will be responsible for providing the engineering required information expected to be included in the 30% drawings by August 1, 2024, as provided in the Project Schedule for AFOP LKRS (Attachment 3). This allows additional environmental field data to be collected before the end of the 2024 summer field season. Close coordination with Owl Ridge through the design phase (project start – August 1) will be paramount to help plan and coordinate field efforts. Data representing the 30% drawings will be provided in a format importable into geographical information systems (GIS) to allow for data gaps review and field planning efforts to close those gaps.

B.3.2 Construction - Operations Permits

Contractor must adhere to all applicable laws, rules, and requirements per specification per local borough or city ordinance, or State statute or law applicable to where the infrastructure is being placed. All traffic control, in accordance with local, state, borough, or permitting agency laws, regulations, and requirements, will be the Contractor's responsibility.

Contractor will address all SWPPP requirements and environmental issues. The Contractor's construction schedule will take into consideration sufficient time for the development and approval of any/all environmental plans.

B.4 AS-BUILTS AND REDLINE DRAWINGS

Upon completion of construction, Contractor shall record changes on a Final As-Built set of the drawings, including shop drawings, Foreman's Field Notes, etc. Contractor shall provide 11 x 17-inch PDF digital copies of the Final As-Builts to Alaska Communications. Within ten calendar days of construction completion (services available, line and splice complete) in each Village, Contractor shall submit the Final As-Builts per the MGCA to Alaska Communications at as-builts@acsalaska.com.

As-built measurements shall be required for all constructed facilities and improvements to confirm the dimensions, lines, grades, elevations, locations, and materials as shown on the drawings. As-built information shall be marked in red on a clean set of issued-for-construction drawings clearly marked "Red-Lined Drawings". The Red-Lined Drawings shall be updated weekly by the Contractor to the satisfaction of Alaska Communications' Authorized Representative.

Requirements for Red-Lined Drawings:

a. As-built changes shall be marked in red to clearly identify the changes to the original design.

b. Changed stationing, elevations, and notes shall be crossed out with single lines, with the as-built values and modified notation shown in red directly above, below, or beside the crossed-out information.

c. Pre-existing utility lines or any construction that has been deleted or relocated shall be neatly crossed out and remain legible.

d. Reference information used to prepare red-lined drawings such as change orders and field books shall be referenced on the plans.

e. All as-built GPS coordinates called out by Alaska Communications shall be provided on the red-lined drawings in a format acceptable to Alaska Communications Administrator.

B.5 MATERIALS

Pursuant to 2 C.F.R. 200.322, Contractor will, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards including all contracts and purchase orders for work or products pursuant to this RFP.

In the event any materials are provided by Alaska Communications, Contractor assumes responsibility for Alaska Communications' supplied materials upon taking possession of said materials whether materials are retrieved from Alaska Communications' Warehouse or retrieved or delivered to a location as determined by the Alaska Communications Administrator. Costs of any/all materials not used and not returned to Alaska Communications warehouse within two days of completion of the project shall be deducted from Contractor's final invoice. All signed return tickets must be included in the close-out package to avoid charges for unused materials not returned.

B.6 TRACER WIRE INSTALLATION AND LOCATE POSTS

Contractor shall place an 18awg tracer wire with all conduits installed unless armored or traceable cable or duct is used. Contractor shall provide the tracer wire and shall install, splice, and test the tracer wire and provide proof of continuity. If the tracer wire is broken during installation, the Contractor shall repair and test the wire for continuity after repair.

Where non-locatable cable and non-metallic conduit material is used for buried duct, such as PVC or HDPE without a locate conductor, a conductive tracer wire is required to be installed. In the cases of well grouped duct bank systems, such as four ducts in a tight two by two configuration, the conductive tracer wire will be installed on the exterior of the duct, centered, and on the top of the duct bank. Locate tape will not be accepted without prior Alaska Communications approval.

Each wire will be labeled as to the direction it leaves the manhole, and if possible, the manhole or building that it is heading toward to allow easy identification and attachment of a tone generator to assist in future cable path location efforts. The tracer wire will be tested for continuity and functionality with a locater before acceptance.

Install one fiber warning locate post at every handhole and manhole. Tracer wire must be tied into the ground via ground rod or ground bar and/or fiber warning locate post.

B.7 DEPTH OF BURIAL

Except where otherwise specified by AHJ and permitting agencies, the cable shall be placed to a minimum depth of 18 inches of cover from the top of product for fiber and ducts.

Where cable crosses existing sub-surface pipes, cables, or other structures: at foreign object crossings, the cable will be placed to maintain a minimum of 12 inches of clearance from the object or the minimum clearance required by the object's owner, whichever is greater.

B.8 HIGHWAY, RAILROAD, AND OTHER BORED CROSSING

Contractor shall adhere to AHJ requirements.

All crossings of state or federal highways and railroads right-of-way shall be made by boring and placing a pipe casing terminated at both ends with a vault or pedestal. The cable shall be placed through the pipe casing. Country road and other roadways shall be bored, trenched, or plowed as approved by the appropriate local authority.

Where the cable route crosses railroad right-of-way, the cable shall be placed at a minimum depth of 65 inches below the base of rail, unless the controlling authority requires additional depth, in which case the greatest depth will be maintained. The wireline/innerduct must be encased completely across the railroad ROW with a minimum of SDR-11 conduit.

B.9 HANDHOLES AND MANHOLES

Handholes will be placed in accordance with standard industry practice following the specifications provided in the construction plans, typical drawings, and detail drawings. Special attention and planning must be exercised to ensure accessibility by other groups after construction has been completed.

If handholes/manholes are constructed in a manner that requires assembly of sections on site, assembly will require the use of an approved sealant for each joint location (joint seams in walls/lids, neck riser ring seams, etc.) such as Rub 'R Nek LTM RU106, Ram-Nek RN103, or equivalent.

All handholes and manholes will be buried with tamper-proof lids placed at grade to allow for proper drainage, unless otherwise stipulated by the drawings or as directed by the Alaska Communications Administrator.

Immediately after placement, the soil around and over the handhole/manhole will be tamped and compacted. Should any washouts occur, the Contractor will be responsible for correcting the problem immediately without additional cost to Alaska Communications.

After cable placement, all ducts will be sealed with jack moon plugs or equivalent.

All splice handholes/manholes will be grounded with 8-foot ground rod and #6AWG solid bare copper conductor; 48 in x 78 in or larger vaults will have two ground rods installed.

A minimum of 100 feet coil of cable shall be left in each handhole/vault/building for splicing use. Additional slack may be necessary as needed to facilitate splicing van/trailer parking.

Drop slack length to be determined.

All handholes/manholes shall be constructed on paved surfaces within an allowable tolerance of 0.1 foot of the plan location and elevation in any phase of the construction. Outside of paved surfaces allowable tolerance is five feet of location and match grade.

Require a 17-inch riser in handhole/vault at FDH (to address snow).

Contractor shall backfill all handhole/manhole installations within 48 hours. Subbase preparation shall consist of geotextile fabric installed with NFS material being D-1 and placed to a depth of 12 inches below design grade and compacted to 95% of its maximum density. On streets, roads, and paved surfaces, density testing will be provided by the Contractor and test results shall be submitted with the closeout documentation. Other locations, the base

must be tamped. If the gravel foundation proves to be inadequate to support the handhole/manhole, the Contractor shall remove the handhole/manhole and re-compact to meet the requirements stated above.

Sub grade shall be leveled on all sides and smoothed in preparation for the handhole/manhole base. All trench sections within eight feet of concrete handhole/manhole conduit entries shall be compacted to the requirements stated above. Contractor shall supply and place pea gravel in handholes per the typical. Prefabricated handholes/manholes are installed in sections; concrete handholes/manholes require ramnek joint sealer (or equivalent) between sections. All cables shall enter through the bottom of hand holes. No drilling of walls is allowed without prior written Alaska Communications Project Manager's approval.

Alaska Communications standard Handhole/Manhole sizes are:

a. 48 x 78 Concrete Manhole
b. 30 x 48 x 36 Handhole
c. 36 x 96 x 42 Handhole

Once installation of the handhole/manhole is completed, all penetrations will be sealed (ground rod penetrations, duct entry points through walls, ducts themselves, etc.) to prevent infiltration of ground water into the container. Each penetration type will be sealed with a method appropriate to the long-term operation of the handhole/manhole container, i.e., grout around conduit penetrations, removable plugs. Contractor shall propose a method for sealing and must have Alaska Communications written approval before implementing.

Knock outs are provided for conduit entries and terminations in manhole and shall be either duct sealed, mortared, or urethane foamed at the direction of the Alaska Communications Inspector. Contractor shall ensure that all terminations into a manhole are sealed to prevent water intrusion.

The handhole or manhole frame and cover shall be set to the designed finished grade of the proposed paving or existing ground level as designed.

In wet areas, Contractor shall supply raised gravel pads for handhole installation to avoid water intrusion. Elevations for pad placement shall be field verified by the Contractor who will provide written and visual confirmation to the Alaska Communications Inspector. Pads shall consist of D-1 or Alaska Communications approved material being three feet on all sides of the handhole with no more than a 1:1 slope to existing grade or as determined by the Alaska Communications Administrator.

Contractor will place two 8-foot ground rods, one on each end of each manhole excavation, and shall place one 8-foot ground rod on all handholes. Ground rods shall be driven from the base level down and connected to the handhole/manhole ground wire leaving a 6-foot loop of that same wire inside the handhole/manhole as shown in the plans. An additional MGN ground wire, bonded to the multi-neutral ground to power is required if available.

B.10 AERIAL PLANT

Contractor shall construct aerial plant as to industry standards, as described within Exhibit B of the MGCA, RUS, and Alaska Communications specifications. All construction of aerial plant shall conform to utility clearances as prescribed within the construction procedures of the operating AHJ being power utilities and the NESC. The work shall include, but not be limited to, placement or removal of poles, anchors, down guys, strand, pole contacts, attachments, and telephone cables.

Contractor shall install new cable, bug nuts, and straps in conformance to cable manufacturer's requirements. Contractor shall ensure that labor is equipped with all proper equipment for cable installation, i.e., appropriately sized lashers, clamps, tensioning equipment, pulling eyes, travelers, corner travelers, bucket trucks, ladder trucks, cable socks, p-line, bull wheels, cable blocks, and winches required for the work.

Contractor is advised, prior to cutting any cable, the Contractor must obtain authorization to cut cable from the Alaska Communications Inspector. Cutting cable without authorization may subject the Contractor to damages. The contractor shall incorporate into the aerial installation slack loops ("snowshoe") in aerial fiber trays at those locations as depicted on the plans. Cable markers shall be installed at every pole and splice case as required.

B.11 RESTORATION

All work sites will be restored to as near their original undisturbed condition as possible, all cleanup will be to the satisfaction of Alaska Communications Administrator, any permitting agencies, and property owners.

Restoration shall be completed within 72 hours for all areas where no additional intrusion is required. Roads, streets, parking lots, etc. shall only be closed for as long as is required to complete the work and allow the slurry, concrete, and asphalt to properly set in accordance with the manufacturer's specifications. The contractor is responsible for complying with all restrictions and requirements for certain streets or roadways that may have cutting restrictions or special conditions that require traffic to be resumed as soon as possible.

Work site restoration will include the placement of seed, mulch, sod, water, gravel, soil, sand, and all other materials as warranted.

Backfill material will consist of clean fill. Backfilling, tamping, and compaction will be performed to the satisfaction of Alaska Communications Administrator and any permitting agency representative.

Contractor shall be responsible for remedying any restoration complaints arising within one year after Alaska Communications' final acceptance.

Excess material and debris from clearing operations will be properly disposed of by the Contractor as required by the AHJ.

Road shoulders, roadbeds, and railroad property will be dressed up at the end of each day. No payment for installation will be permitted until cleanup has been completed to the satisfaction of the permitting agencies and Alaska Communications.

Improved areas, roadways, walks, paved areas, and other surfaces disturbed during construction shall be resurfaced with the same type of material and to the same thickness as the original surface. Roadways shall have a minimum thickness of 3.5 inches (90 mm) of resurfaced pavement.

All grass surfaces shall be leveled and reseeded, unless otherwise directed (such as the placement of sod). For grassy areas where the installer shall have to bring heavy equipment back onto the construction site, the areas shall be rough graded and covered with protective matting to prevent erosion. For durations longer than two weeks between construction and final disturbance, the installer shall rough seed the area to provide cover until final grading and seeding are accomplished.

Site clean-up will include the restoration of all concrete, asphalt, or other paving materials to the satisfaction of the permitting agencies and Alaska Communications.

B.12 CABLE INSTALLATION

The contractor shall be responsible for on-reel verification of cable quality prior to placement. The contractor shall verify each reel is labeled with the manufacturer's supplied test forms and shall submit the forms to Alaska Communications Administrator with the closeout package.

Contractor shall supply all tools, test equipment, consumables, and incidentals necessary to perform quality testing.

Contractor shall follow the most stringent installation standards for the cable installed.

The contractor shall guarantee that proper installation techniques were adhered to by examining the installed cable plant prior to any formal testing. Contractor shall also ensure the cable plant is devoid of signs of kinking, stretching, or snagging.

B.13 FIBER SPLICING AND TESTING

All fiber runs shall have a fiber launch box containing a minimum of 1,000 feet of cable for testing purposes, unless Alaska Communications approved to use a shorter launch box.

Contractor is instructed to never cut cable prior to approval by Alaska Communications Inspector.

All fiber splicing will be performed by fusion splicing. No mechanical splicing will be considered or authorized.

All splice cases shall have two wraps of buffer tube and two wraps inside splicing trays unless authorized in advance by the Alaska Communications Administrator. Assembly of splice case shall follow manufacturer's specifications.

Fiber shall be tested per Alaska Communications specifications.

All testing equipment shall have been calibrated and Contractor shall provide a current certificate of calibration for each machine with the close-out package.

An Alaska Communications approved OTDR, such as EXFO/Fluke, or an Alaska Communications approved equivalent shall be used for all testing. The output format of the equipment shall be in a form suitable to the Alaska Communications Administrator and a copy of the viewer software shall be provided.

Each circuit shall be tested. Acceptance testing will only be conducted after all the splice closures have been sealed and the cable has been racked. FDH feed shall be tested end-to-end and OTDR bidirectional. Testing of terminals will be one-way OTDR from FDH, and VFL light verified for counts. OTDR testing will utilize an OTDR at 1310, 1550 nm, or another wavelength as determined by the Alaska Communications Administrator. Each circuit's traces shall include splice loss from each direction and the optical length between splices. The contractor shall record and map each circuit and submit all information to the Alaska Communications Administrator. The contractor is advised that additional information may be required.

Once a house has requested service an end-to-end light loss test will be completed from House to FDH. Loss levels will be recorded and sent to Alaska Communications.

Unless previously advised by the Alaska Communications Inspector, OTDR traces will be saved in a standard file naming convention, i.e., XX1YY15T.ZZZ, defined as follows:

A. XX is an abbreviation for the testing site.
B. 1 is the first cable.
C. YY is an abbreviation for the next site.

D. ZZZ is the fiber count.

For each fiber, the Contractor shall produce test results in electronic format including:

A. General Information/Job information (i.e., contractor, test date, file name, work order number, comments, cable ID #, fiber ID #, single mode)
B. Test Parameters (i.e., wavelength, range, pulse, duration, resolution)
C. Test settings (i.e., IOR, backscatter, splice loss threshold, reflectance threshold, end of fiber threshold, acquisition time, pulse width)
D. Results (i.e., span length, span loss, average loss)
E. Graphic (OTDR Trace)
F. Event Table and Marker Information
G. End-to-end optical length measurement
H. Attenuation per kilometer
I. Final end-to-end bi-directional measurements test results shall be presented as an Excel formatted cover page indicating pass/fail results, bi-directional measurements (loss or gain) for each fiber; this shall also include total loss or gain for each fiber for 1310, 1550, or other Alaska Communications specified wavelength. This includes bare end testing of unterminated fibers.

The target average bi-directional splice loss on a span is 0.10 dB (0.15 dB for ribbon splice distribution fiber) for dispersion un-shifted fiber (standard single mode) and 0.10 dB for non-zero dispersion-shifted fiber.

A. Where the target is not achieved, the maximum average value for three consecutive splices shall be 0.07 and 0.09 dB respectively with no single splice exceeding 0.15 dB for either type of fiber.
B. When the average bi-directional splice loss on a span exceeds these numbers, the splice shall be broken and re-spliced (up to three attempts to achieve the desired loss) and the fiber shall be retested with the OTDR.
C. If the overall targets are not achieved by correcting individual high-loss splices, the Contractor shall review the equipment and procedures used with the Alaska Communications Inspector. Alaska Communications Inspector may require the entire span to be re-spliced.

When fiber test results reveal a fault within a closure and corrective splicing is deemed necessary by the Alaska Communications Inspector, the Contractor shall fix the fault and retest all hairs within the closure for acceptance. These locations shall be identified in the Foreman's Field Notes

Factory connectorized fiber terminations shall be factory made and polished to achieve a maximum 0.50 dB connector loss.

Contractor shall seal cable ends upon completion of testing.

Contractor shall provide fiber test results in electronic format within 72 hours of testing. The numbers shall be provided in absolute values, i.e., adjusted to consider the reference level. Alaska Communications reserves ten days to accept or reject the results. The contractor shall be subject to an administrative fee of $300 per day until the fiber test results have been received by Alaska Communications.

Fiber to fiber fusion splicing of optical fibers at each point including head ends is required.

Complete testing services, such as end to end, reel testing, and splice loss testing, ORL, power meter/laser source testing and WDM testing is required.

B.14 FIBER BLOWING AND PULLING

Contractor shall inform Alaska Communications Inspector via email 48 hours prior to proofing all ducts. Contractor shall proof all duct by passing an Alaska Communications approved and Contractor provided mandrel for locating crushed and damaged sections. The contractor shall immediately notify, via email, the Alaska Communications Inspector of the proofing results. Proofing is acceptable upon successful passing of the mandrel. Date and notes on proofing shall be included in the Foreman's Field Notes

Fiber shall be installed by means of blowing/jetting or pulling with special attention given to the fiber cable manufacturer's recommendations and standards for cable handling and installation.

Contractor shall utilize an Alaska Communications approved fiber blower or equivalent. The Contractor is responsible to provide blowing equipment and air compressors of sufficient size and quantity to install cable between designed hand hole distances.

Contractor shall utilize a powered winch and hydraulic-powered assist pulling wheels. The maximum pulling tension for fiber cable pulled in conduit shall not exceed 600 pounds or amount specified by the fiber cable manufacturer, whichever is less.

Contractor must obtain approval from the Alaska Communications Administrator prior to commencement of hydraulic pulling. When hydraulic pulling is approved by Alaska Communications, Contractor shall use a dynamometer or tension limiter to determine pulling tension.

A breakaway swivel rated for 600 pounds will be used during all pulling operations.

Fiber cable shall not be subjected to a bending radius of less than 20-times the outside diameter of the cable.

Contractor shall always utilize cable and inner duct lubrication during cable installation.

Once fiber cable is in place, Contractor shall:

A. Seal inner duct ends with jack moon plugs or other Alaska Communications approved sealing plug or temporary duct seal.
B. Mark the central office cable with blue tape.

Contractor will label with Fiber Tags. Fibers could have feeds from both directions.

Fiber tags shall be used at all hand hole, vault, C.O., etc. locations and fiber shall be marked on both ends (in and out). Fiber tags shall be filled out with appropriate cable information.

B.15 INNERDUCT SPLICING

All inner duct splices shall be airtight mechanical screw on with heat shrink sleeve or fusion spliced utilizing an Electro Fusion Processor or Alaska Communications approved equivalent. The contractor shall ensure that all splices are verified as "accepted" by the Electro Fusion Processor and record the duct footage marks at the point of splice. The contractor shall ensure continuity of any/all locating conductors with the conduit are verified and tested.

Contractor shall mark the as-built and Foreman's Field Notes with location and either mechanical or fusion splice.

Electrode ports shall be cut flush with the splice case and properly cooled prior to continuing installation operations.

All inner duct splices shall be adequately staggered. The contractor shall provide pictures.

Contractor shall ensure that all inner duct splice installations shall be cleaned of dirt and debris.

If for any reason the inner duct is left exposed overnight on the ROW, the Contractor shall be responsible for the security of the inner duct, the safety of the public, and in accordance with the requirements of the AHJ. The contractor shall employ whatever means necessary to protect the public from injury and the exposed portion of inner duct from damage.

B.16 FIBER WARNING MARKERS

Fiber warning markers shall be placed within 48 hours of cable installation. Subject to ROW or property owner requirements, markers shall be placed at all change in directions including significant diversions from obstacles or laterals for buildings, splices, fence line crossings, where other utilities cross the conduit, at both sides of railroad, and stream crossings, culverts, and other points on the route. Markers shall be placed no farther than 500 feet apart in urban areas and 1,000 feet apart in non-urban areas. In addition, on highway ROW, the markers shall be at the highway ROW line. Markers shall always be located so that they can be seen from the location of the cable and previous marker.

Fiber warning markers will include a decal sign to indicate the network's presence. The marker is a 66-inch-long orange HDPE. The marker of the presence of fiber cable. Contact information (phone number) will be provided on the marker and used as a “call before you dig” number.

B.17 DUCT INSTALLATION

As a clearance test, Contractor shall pass a rigid mandrel with a length not less than 12 inches, and a diameter 0.25 inches less than the inside diameter of the bore, leaving in place a 500-pound mule tape. This does not apply to microduct with an inner diameter less than 0.25 inches.

B.18 DIRECTIONAL BORING SERVICES

Contractor shall utilize equipment being a “Fluid Assisted” bore machine with sub grade remote tracking equipment enabling depth monitoring, multi directional alignment of either a pilot head or rotating cutting head, support equipment for drilling fluid, small excavator, and pump truck for cleanup of drilling fluid.

Potholing must be conducted whenever the possibility of conflict is suspected. Bores may be launched from surface conditions, and equipment must be capable of providing up to a 14-inch bore diameter option (back reamed diameter in favorable conditions). The contractor supplied equipment shall be compact enough to handle limited access and tight working conditions encountered in subdivision improvements and road crossings. Equipment (and drill steel) must be capable of achieving at least 1,600-foot distances at one time, in favorable conditions.

Boring equipment provided by the Contractor shall be readily available, mechanically sound and in good working order, and adequate for job requirements. Bore equipment must exhibit thrust and pullback minimum capability of 22,500 pounds or higher; minimum torque ratings of 1,900 pounds or higher. Equipment must be available for inspection prior to the award of the SOW.

B.19 BORE INSPECTION

Successful bores shall meet the following criteria:

B. At no time shall the depth of the bore be less than as defined on the applicable permits and no more than two vertical feet deeper than the staked depth requirement or shall the bore stray outside of the defined ROW or easement.

C. The bore shall be tested and cleaned. All foreign material, earth, sands, and gravel shall be removed from the bore. At the same time, the Contractor shall measure the wall-to-wall distance with a commercial tape or pre-measured jet line and record that distance. Any bore that will not be immediately used by Alaska Communications crews shall be capped with jack moon plugs.

D. Contractor shall supply and utilize a Central Electro fusion Processor (or Administrator approved equivalent) for all splices involving polyethylene ducting. Contractor shall splice ducting to the manufacturer's recommendations and when directed by the Alaska Communications Administrator. Splicing of ducting is incidental to the work and incorporated within the proposal. As an alternative the Contractor may provide thermal welding of 4-inch HDPE pipe with proper equipment as determined by the Alaska Communications Administrator. Alaska Communications utilizes 4-inch SDR-11 HDPE in 40-foot lengths.

E. Contractor shall secure all rights and permits for water usage as required for the Contractor's operation. Water sources used by the Contractor shall be reviewed and approved by the Alaska Communications Administrator and shall be in accordance with the governing water control agency. All costs associated with water use shall be paid by the Contractor and incorporated within the proposal. When boring requires the use of drilling mud, such as bentonite, no discharge of excess material or site runoff will be allowed, a capture pit at the point of entry is required this will include a vacuum truck to suck the mud out of the capture pit. All drill mud shall be removed and disposed of by the Contractor. The Contractor will maintain continuous visual inspection of bore alignment when the bore operations proceed, watching route alignment, depth, and seepage of drill mud to the top of the ground. Should the drill mud frack out of the ground, or the Contractor lose containment of the mud pit, the Contractor shall treat the site as a spill and immediately notify the Alaska Communications Inspector and remove, dispose, and clean the site of the material to Alaska Communications satisfaction. A log shall be kept of all incidences listed above with date, personnel, and description of what happened and turned in with final close-out package. These shall also be recorded on Foreman's Field Notes

F. The contractor shall install Electronic Marking System ("EMS"). The contractor is responsible for tracking each bore on an approved bore log. The Contractor shall submit, as part of its close out package along with its invoice, a bore profile detailing the bore alignment. Bore profiles shall include depth in 10-foot increments, tie downs in depth and alignment to existing conflicting utilities and known landmarks i.e., street signs, luminary poles, storm drains, sewer, and key boxes. Contractor provided bore logs shall contain the following information:

- Date
- Crew number and names of crew members
- Work Order Number
- Total Length
- Track and record each including rod number, depth, and percent (%) increase or decrease
- Map overview that reflects running line

G. Bored installations that have been abandoned or have created voids under the roadway shall be filled by pressure grouting or by other support methods approved by the Alaska Communications Administrator. The contractor shall incur the cost for failed bore attempts, and those bores that failed the above specifications.

H. In a multi configured pullback the Contractor shall only be compensated for those conduits that are completed as to the above-mentioned criteria for a successful bore.

B.20 CLEARING

Contractor shall follow all requirements of the AHJ.

B.21 PLOWING AND PRERIP INNERDUCT INSTALLATION

The equipment and construction methods used by Contractor shall cause minimum soil displacement. The slot made in the soil by the conduit plow shall be closed immediately by driving a track or wheel over the slot or by other suitable means approved in writing by the Alaska Communications Inspector. This will be followed up by the final clean up. Damage to banks, ditches and roads caused by the equipment shall be immediately repaired to the satisfaction of the Alaska Communications Inspector and the right of way owner/manager. At no time shall the Contractor leave the inner duct exposed above ground without barrier fence protection.

B.22 CONDUIT FEED CHUTE

Conduit feed chutes shall be as manufactured by American Tractor Equipment Corporation or an acceptable equal.

The conduit path inside of the feed chute shall be free of burrs, sharp edges, or surface roughness. Welds shall be smooth. Gussets or stiffeners on the divider gate in multiple chute designs shall not interfere with the smooth passage of the duct. Clearances in the multiple chute configurations shall be maintained under operating conditions. Divider gates shall not shift or deflect under load. The feed chute shall have a removable gate to allow the conduit to be removed from or inserted into the feed chute at any intermediate point between splice locations.

B.23 PVC INSTALLATION

The Contractor shall place PVC conduit as to the requirements of Exhibit B of the MGCA and as depicted on the drawings. The Contractor shall install new telephone duct structure in conformance to duct manufacture's requirements and RUS 515 specifications for line construction. Contractor shall ensure that labor is equipped with all proper equipment for conduit and cable installation, i.e., appropriate duct rodders, brushes, air support equipment, muletape, manhole pumps and ventilators, etc., required for the work. The Alaska Communications Inspector may at any time halt the Contractor's work for improper use of and/or providing inadequate equipment for the job. All ducting shall terminate in handholes/manholes and/or pedestals as directed by the Alaska Communications Inspector and as described within Exhibit B of the MGCA. Once the Contractor has ducting installed from any access point to access point or as directed by the inspector, the Contractor as a clearance test shall immediately pull a mandrill being 0.25 inches less in diameter than the inside diameter of the conduit. The Contractor shall leave in place a Contractor provided muletape in all vacant PVC as defined under the MGCA. All clearance testing of conduit shall be incorporated in the proposal no other payment shall be considered or authorized. All ducting for road crossings shall terminate in a hand hole.

The Contractor shall be responsible for all anchoring of all installed conduit, ensuring flotation of new installed duct systems does not occur. Where trench alignment encounters standing water, the Contractor shall dewater and utilize sandbags to weigh down duct banks as to the direction of the Alaska Communications Inspector.

B.24 EXCAVATION

The Contractor shall perform all excavations of every description in whatever substance encountered per the MGCA, industry standard, and the AHJ. Excavations will be to the extent indicated in the specific project designs and plans. All excavated material for backfill shall be placed in an orderly manner and at a distance from the excavation which conforms to all local, state, federal safety codes, and/or other AHJ.

The Contractor shall install buried marking tape 18 inches above the buried facility. The Contractor shall install the tape in the center of trench face up and hold tape in place with earth as needed to prevent displacement during backfill. Installation of marking tape shall be included in the cost of trenching. The soil compaction of all phases of the construction shall be randomly tested at various depths, at the direction of the Alaska Communications Inspector.

APPENDIX C
SCOPE OF WORK

C.1 AFOP LKRS – TERRESTRIAL AND FTTH

AFOP LKRS will begin at Bethel, where Alaska Communications will interconnect with GCI for capacity backhaul (exact location TBD). A terrestrial fiber will be installed from Bethel to a fiber route intersection approximately 15+ miles west of Bethel where a portion of the terrestrial fiber will continue west to the Alaska Communications POP and equipment in Napakiak. Also from that fiber route intersection, another portion of terrestrial fiber will continue to Oscarville. The Alaska Communications Napakiak POP will house Ciena ROADM (Reconfigurable Add-Drop Multiplexer) equipment for future connectivity, bandwidth, and backhaul requirements to interconnect with Bethel and servicing local internet needs. Oscarville and Napaskiak will only be receiving fiber connectivity to an Alaska Communications POP at this time.

East from Bethel, Alaska Communications will continue the ROADM system to provide the communities of Napakiak, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Upper Kalskag with services, placing an ILA (Intermediate Line Amplifier) for the ROADM system in Akiak and full ROADM degrees in Upper Kalskag for future connectivity/backhaul to support future projects.

C.2 LAST MILE – FTTH

The fiber optic network to be deployed in each of the FTTH communities will be based on 10 Gigabit-capable Symmetric Passive Optical Network (XGS-PON) technology. Each community will have a point of presence for the CO electronics. The electronics will consist of an Adtran chassis that will hold XGS-PON OLT electronic card. Contractor shall install fiber to all the homes, businesses, and government buildings in the identified areas. Method of PON distribution for residential homes can be via a centralized or distributed split, based on the most efficient method. Regardless of the split method, each OLT port shall not serve more than 32 subscribers. Businesses and government buildings shall be homerun fibers back to the CO. Fiber can be routed underground or aerial based on efficiency and resilience. If aerial routes are chosen, all make ready work shall be included in the scope.

C.3 RIVER WORK

The middle-mile in-river portion of this project will be awarded in a future RFP.

APPENDIX D
ATTACHMENTS

ATTACHMENT 1 Master General Construction Agreement

Alaska Communications Master General Construction Agreement is provided in PDF format via a separate link on the RFP Webpage. The standalone electronic copy of the MGCA is hereby incorporated in and by reference made a part of RFP 24-01.

ATTACHMENT 2 AFOP LKRS Route Map

The AFOP LKRS Route Map is provided through a Web Map Application via a separate link on the RFP Webpage. The standalone electronic copy of the AFOP LKRS Route Map is hereby incorporated in and by reference made a part of RFP 24-01.

ATTACHMENT 3 Proposed Project Schedule for AFOP LKRS

The Proposed Project Schedule for AFOP LKRS is attached to this RFP in PDF format and provided via a separate link on the RFP Webpage. The standalone electronic copy of the AFOP LKRS Proposed Project Schedule is hereby incorporated in and by reference made a part of RFP 24-01.

ATTACHMENT 4 Scope of Work Diagram for AFOP LKRS

The Scope of Work Diagram for AFOP LKRS is attached to this RFP in PDF format and provided via a separate link on the RFP Webpage. The standalone electronic copy of the Scope of Work Diagram is hereby incorporated in and by reference made a part of RFP 24-01.

ATTACHMENT 5 Owl Ridge Field Report

Owl Ridge provided a field report which includes a route reconnaissance analysis of the Middle Mile section of the project from the Yukon River to Kalskag conducted by Rowland Engineering Consultants (RECON). A copy of their finding is attached to this RFP in PDF format and provided via a separate link on the RFP Webpage. The standalone electronic copy of the Owl Ridge Field Report is hereby incorporated in and by reference made a part of RFP 24-01.

ATTACHMENT 6 BMH Anchoring Example