

**Eastern Shore of Virginia Broadband Authority
4174 Lankford Highway
Exmore, VA 23350**

**INVITATION FOR BID No. 2019-001
Project: ESVBA FOC Network Expansion**

Opening Date: **April 16, 2019**
Time: **2:00 PM EST**

Bid Bond: **\$50,000.00**

Location: **4174 Lankford Highway, Exmore, VA 23350**

----- Bidder's Signature -----

The Bidder shall sign and date the section below to attest that the bidder has read, understands, and agrees to all terms, conditions, drawings and specifications set forth in this Invitation For Bid, unless otherwise stated in writing and submitted with the bid package.

Bidder's Name: _____

By: _____

Signature: _____

Title: _____

Date: _____

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Eastern Shore of Virginia Broadband Authority
4174 Lankford Highway
Exmore, VA 23350
INVITATION FOR BID No. 2019-001
Project: ESVBA FOC Network Expansion

PUBLIC NOTICE

The Eastern Shore of Virginia Broadband Authority is accepting sealed bids until: **2:00 PM EST, April 16, 2019**, for the expansion of the ESVBA’s fiber optic network in Accomack and Northampton Counties in the Commonwealth of Virginia. The ESVBA’s Board of Directors has approved the budgeting for fiber expansion of approximately two hundred (200) plus miles in addition to the ESVBA’s normal network expansion. The type of work, may include, but is not limited to aerial and underground plant construction, fiber optic splicing, additional labor/equipment and any additional support required for aerial or underground/buried operations. This IFB is an “as-needed” contract. No minimum amounts of work or purchases of service are guaranteed.

A pre-bid meeting will be held at 4174 Lankford Highway, Exmore, Virginia 23350. Bids shall be mailed or hand delivered to: Eastern Shore of Virginia Broadband Authority (ESVBA), 4174 Lankford Highway, Exmore, Virginia 23350; (757) 414-0304, before **2:00 PM EST on April 16, 2019** at which time they will be publicly opened and read.

Consistent with § 54.1-1112, Code of Virginia, bidders shall provide evidence of proper licensure to undertake the Project before their bid may be received and considered. No bid may be withdrawn for a period of 60 days after the date of bid opening except in accordance with Section 2.2-4330 of the Code of Virginia, as amended. ESVBA has selected the first procedure for the withdrawal of bids as set forth in the sections of the Code as noted above.

NOTE: The ESVBA does not discriminate against faith-based organizations in accordance with the *Code of Virginia*, §2.2-4343.1 or against a Supplier because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment. The ESVBA is committed to increasing procurement opportunities for small and micro businesses, including small or micro businesses that are owned by minorities, women, or disabled veterans, strengthening the Commonwealth’s overall economic growth through the development of its suppliers.

INVITATION FOR BID

Project Owner: **Eastern Shore of Virginia Broadband Authority (ESVBA)
4174 Lankford Highway
Exmore, VA 23350
(757) 414-0304
info@esvba.com**

Project Description: **ESVBA FOC Network Expansion**

Project Location: **Accomack & Northampton County**

Pre-Bid Conference: **April 3, 2019 1:00 PM EST
4174 Lankford Highway
Exmore, VA 23350**

Questions after Pre-Bid:
Bid Submission Deadline: **No later than April 8, 2019, 1:00 PM EST
April 16, 2019, 2:00 PM
Eastern Shore of Virginia Broadband Authority
4174 Lankford Highway
Exmore, VA 23350
(757) 414-0304**

Performance Bond: **\$50,000**

INSTRUCTIONS TO BIDDERS

1. ENVELOPE IDENTIFICATION

All submission requirements **must** be returned in a **sealed** envelope. The bidder shall clearly mark on the outside of the envelope, “**INVITATION FOR BID NO. 2019-001, ESVBA FOC Network Expansion**” ; bid opening date and time; and the bidder’s complete mailing address.

The ESVBA will not be responsible for premature opening or late arrival of bids improperly addressed or identified. If a bid is mailed in an envelope, not as specified, the bidder takes the risk that the envelope may be inadvertently opened and the information compromised which may cause the bid to be disqualified. The ESVBA reserves the right to disqualify such a bid as non-responsive. Sealed bids may be hand delivered to the designated location.

2. BID SUBMITTAL

The original bid packet documents along with six (6) copies should be submitted in a sealed envelope or container and hand-delivered or mailed to: Executive Director, Eastern Shore of Virginia Broadband Authority, 4174 Lankford Highway, Virginia 23350, no later than 2:00 PM EST, **April 16, 2019**, after which time they will be publicly opened and read. Any bid received after 2:00 PM EST, **April 16, 2019**, whether hand-delivered, submitted via U.S. Postal Service, or submitted via any other delivery service, will not be accepted. **THERE IS NO GUARANTEE OF OVERNIGHT DELIVERY. BIDDERS ARE ENCOURAGED TO USE 2-DAY DELIVERY.**

The ESVBA reserves the right to amend or cancel this IFB at any time, in the best interests of the ESVBA. The ESVBA reserves the right to reject any or all bids, in whole or any part thereof; to waive informalities and technicalities; and to accept any such bids which the ESVBA deems to be in the best interest of the ESVBA.

3. SUBMISSION REQUIREMENTS

To be considered responsive, a bid must contain the following, referenced by number and in the order below:

- 1. A detailed cost bid on the provided Bid Form, Attachment B. Since the ESVBA intends to award a contract to the lowest responsive and responsible offeror, a bidder should make its initial offer on the most favorable terms.**
- 2. Completed Bidder Questionnaire, Attachment D.**
- 3. A brief description of the history and organization of the bidder’s firm, and of any proposed subcontractor.**
- 4. Copies of business licenses, professional certifications or other credentials, together with evidence that the bidder, is in good standing and is qualified to conduct business in Virginia.**
- 5. A description of similar projects completed by the bidder within the past three (3) years.**
- 6. Qualifications, background and experience of the key personnel proposed to work on the project.**

7. **A list of the major equipment the company owns or leases.**
8. **Bidder Compliance Statement Certification Regarding Equal Opportunity, Attachment H.**
9. **Certification of Bidder Regarding Debarment by Agency of the Commonwealth of Virginia, Attachment I.**
10. **A written acknowledgment of the acceptance of the contracting requirements set forth on Page 1 of this IFB.**
11. **A written acknowledgement of receipt of any and all addenda as set forth on the provided Bid Form, Attachment B. Please list each addenda received and their dates.**

Bids failing to address each of the submission requirements above may be deemed non-responsive and may not be further considered.

4. BID AND CONTRACT SECURITY

Except for the three lowest acceptable bids, the bid bond will be returned after examination of the bids. Upon selection of a bidder, the bid bond will be returned to the other two bidders and the successful bidder bond retained until receipt of the performance and payment bond.

Failure of the successful bidder to provide appropriate contract security and insurance coverage by the time of contract execution or ten (10) days after Notice of Award, whichever is first, may result in the Notice of Award being annulled and the bid security forfeited.

5. PRE-BID MEETING AND QUESTIONS REGARDING THE IFB

Questions regarding the IFB, specifications or other solicitation documents may be addressed in person at the pre-bid meeting (see page 5 of 14). Questions after the pre-bid meeting may be submitted by email at rbridgham@esvba.com, by phone at (757) 414-0304 or by mail at the address listed above. All questions must be submitted no later than the date and time listed on Page 5 of 14. Questions and answers regarding this IFB may be shared with all bidders known to be interested in submitting a bid. If the question requires clarification, an addendum will be supplied to all bidders.

A bidder, who believes that one or more of the IFB's requirements is onerous, unfair, or unnecessarily precludes less costly or alternative solutions, may submit a written request that the IFB be changed. The request must set forth the recommended change and reason for proposing the change. The Eastern Shore of Virginia Broadband Authority must receive any such requests no later than five (5) days prior to the date for submission of bids.

6. BID OPENING

Bids shall be publicly opened and read aloud in the presence of one or more witnesses at 4174 Lankford Highway at the Exmore, Virginia 23350. The amount of each bid, together with the name of each bidder, shall be recorded. The record on each bid shall be open to public inspection.

No statement or notation whatsoever, written, printed, typed or otherwise set out on any bid envelope, including any addition or deduction in contract price, shall be recognized in the review and tabulation of any bid or offer or for any other purpose.

7. MISTAKES IN BIDS

Correction: Except as herein provided, no plea or claim of mistake shall be available to a bidder for recovery of any deposit or security required to be paid or posted or as a defense in any legal proceeding for the failure, neglect or refusal of the bidder to (1) execute a contract that has been awarded by the ESVBA, (2) accept a job number issued by the ESVBA to a bidder in response to a bid submitted by such bidder, or (3) perform in accordance with the terms, specifications and conditions of a contract.

- A. Mistakes Discovered Before Opening.** A bidder may correct mistakes discovered before the time and date set for receipt of bids by withdrawing and replacing or by correcting the bid.
- B. Mistakes Discovered After Opening But Before Award – Informality.** An informality is a minor defect or variation of a bid or proposal from the exact requirements of the Invitation for Bids which does not affect the price, quality, quantity, or delivery schedule for the goods, services, or construction being procured. The ESVBA may, in its sole discretion, waive such informalities or permit the bidder to correct them, whichever procedure is in the best interest of the ESVBA.
- C. Judgment Errors.** Bids may not be withdrawn if the mistakes are attributable to errors in judgment, nor may such mistakes be waived or corrected.
- D. Nonjudgmental Mistakes – Mistakes Where the Intended Correct Bid is Evident.** If the mistake and the intended correct bid are clearly evident in the bid document, the bid shall be corrected to the intended correct bid and may not be withdrawn. Examples of mistakes that may be clearly evident in the bid document are typographical errors, errors in extending unit prices, transposition errors and arithmetical errors.
- E. Mistakes Where the Intended Correct Bid is Not Evident.** A bidder may be permitted to withdraw a low bid if a mistake is clearly evident from the bid documents submitted by the bidder and/or a comparison with other bids.
- F. Mistakes Discovered After Award.** Bids containing mistakes shall not be corrected or withdrawn after award of a contract or issuance of a job number. No plea or claim of mistake in a bid or resulting contract shall be available as a defense in any legal proceeding brought upon a contract or purchase order awarded to a bidder as a result of the breach or nonperformance of such contract or job number.

Withdrawal of Bid: The Bidder must submit to the ESVBA or designated official his original work papers, documents, and materials used in the preparation of the bid within two days after the conclusion of the bid opening procedure. Such work papers must be in an envelope or package separate and apart from the envelopes containing the bid and marked clearly as to the contents and shall be delivered by the bidder in person or by registered mail. Such mistake must be clerical as opposed to judgmental and actually due to an unintentional arithmetic error or an unintentional omission that can be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used for the preparation of the bid sought to be withdrawn.

Failure of a bidder to submit his original work papers, documents and materials used in the preparations of his bid at the time, date and place required shall constitute a waiver by the bidder of his right to claim any mistake in his bid.

No bid may be withdrawn due to error when the result would be the awarding of the contract on another bid of the same bidder or of another bidder in which the ownership of the withdrawing bidder is more than five percent (5%).

If a bid is withdrawn due to error, the lowest remaining bid shall be deemed to be the low bid. No bidder who is permitted to withdraw a bid shall, for compensation, supply any material or labor to or perform any subcontract or other work agreement for the person or firm to whom the contract is awarded or otherwise benefit, directly or indirectly, from the performance of the project for which the withdrawn bid was submitted.

If the ESVBA denies the withdrawal of a bid under the provisions of section 2.2-4330 of the Code of Virginia, it shall notify the bidder in writing stating the reasons for its decision and award the contract to such bidder at the bid price, provided such bidder is a responsible bidder.

8. PRICING ERRORS

In case of an error in price extension, the firm fixed unit price shall govern.

9. CONTRACTOR LICENSE/REGISTRATION

Bidders must be licensed as a Class A contractor or registered as a Class B contractor in the Commonwealth of Virginia. The bidder's attention is directed to the Code of Virginia Chapter 11, Title 54.1 (Chapter 11) "Contractors".

10. STATE CORPORATION COMMISSION

Bidders submitting as corporations must be licensed through the Virginia State Corporation Commission as corporations authorized to do business in Virginia.

11. AWARD CRITERIA

The ESVBA reserves the right to accept or reject all or any part of the bids, waive minor technicalities or informalities and award the Contract to the lowest responsive, responsible bidder to best serve the interest of the ESVBA.

The successful bid for each category of installation or service shall be determined by the firm fixed unit prices as listed in the Pricing Schedule (Bid Form) that completely satisfies the specifications and time schedules.

In determining the lowest responsible, responsive bidder, in addition to the price, the ESVBA shall consider:

- The financial stability and long-term viability of the bidder.
- The industry reputation of the bidder to perform the Services required.
- The ability of the bidder to provide support and future maintenance and service.
- The ability, capacity and skill of the bidder to perform the contract or provide the service required.

- Whether the bidder can perform the contract or provide the service promptly or within any time specified, without delay or interference.
- The demonstrated history of satisfactory performance of the bidder in projects of similar nature and/or scope.

12. ANNOUNCEMENT OF AWARD

Upon the award or the announcement of the decision to award, the ESVBA will issue a Notice of Award to the successful bidder(s) and notice to the other bidders of the Notice of Award.

13. ADDENDA

All addenda will be provided to all bidders either by email or direct mail. All such addenda shall become a part of the solicitation documents, must be addressed in the bid and shall become a Contract Document. **Bidders must acknowledge receipt of all addenda on the Bid Form, Attachment B.** The ESVBA accepts no liability for late receipt or non-receipt of addenda.

14. ACCEPTANCE OF BIDS

Bids submitted shall be binding for sixty (60) calendar days following the bid opening date, unless extended by mutual consent of all parties.

15. CHANGES, ADDITIONS, DELETIONS

No changes, additions, deletions or substitutions of specifications, terms and conditions, quantity, unit of issue, delivery date, delivery charges, or price will be permitted without the prior written approval from the ESVBA.

16. PROPRIETARY INFORMATION OR TRADE SECRETS

Bidders are advised that Section 2.2-4342 of the Code of Virginia, i.e., the Virginia Public Procurement Act, shall govern public inspection of all records submitted by the Bidder. Specifically, if the bidder seeks to protect any proprietary data or materials, pursuant to Section 2.2-4342, **Bidder shall (i) invoke the protection of this section prior to or upon submission of the data or other materials, (ii) identify the data or other materials to be protected, and (iii) state the reasons why protection is needed.** The bidder shall submit proprietary information under separate cover. The ESVBA reserves the right to submit such information to the ESVBA Attorney to confirm the bidder's claim that the information for which protection is claimed is in fact proprietary. References may be made within the body of the proposal to proprietary information; however, all information contained within the body of the proposal not labeled proprietary or otherwise not meeting all three requirements of Section 2.2-4342 shall be public information in accordance with applicable law.

17. DELIVERY

Consistent failure to meet delivery promised without valid reason shall constitute a default, in which case the ESVBA may seek any and all remedies provided in the procurement or contract documents, or at law or in equity, including but not limited to termination of any resulting contract.

18. DEFECTIVE ITEMS

Services delivered which are defective or determined by the ESVBA not to be of industry standards will be promptly corrected or replaced by bidder to the satisfaction of the ESVBA. The ESVBA

reserves the right to correct any unaccepted Services either itself or by others if bidder does not promptly correct any defects at the bidder's expense.

19. USE OF BRAND NAMES

Unless otherwise provided in this solicitation, the name of a certain brand, make or manufacturer does not restrict bidders to the specific brand, make or manufacturer named, but conveys the general style, type, character, and quality of the article desired. Any article which the public body, in its sole discretion, determines to be the equal of that specified, considering quality, workmanship, economy of operation, and suitability for the purpose intended, shall be accepted. The bidder is responsible to clearly and specifically identify the product being offered and to provide sufficient descriptive literature, catalog cuts and technical detail to enable the ESVBA to determine if the product offered meets the requirements of this solicitation. This is required even if offering the exact brand, make or manufacturer specified. Normally in competitive sealed bidding only the information furnished with the bid will be considered in the evaluation. Failure to furnish adequate data for evaluation purposes may result in disqualification of the bid as nonresponsive. Unless the bidder clearly indicates in its bid that the product offered is an equal product, such bid will be considered to offer the brand name product referenced in the solicitation.

20. INSPECTION OF SITE AND CONDITIONS OF WORK

Bidders should visit the site of the proposed project and become fully acquainted with the pertinent local conditions such as location, accessibility and general character of the site or building, and the character and extent of existing work within or adjacent to the site. Bidders should thoroughly examine the drawings, specifications, and all other contract documents. Claims, as a result of failure to do so, will not be considered by the ESVBA.

GENERAL TERMS AND CONDITIONS

The following General Terms and Conditions will be incorporated into the Form of Agreement executed between ESVBA and the successful bidder, unless bidder specifically notes an exception thereto with proposed alternative terms.

1. TAX EXEMPT

The ESVBA is exempt from State Sales Tax and Federal Excise Tax. Tax Exemption Certificate shall be furnished upon request.

2. PAYMENT

Invoices for items ordered or services delivered and accepted shall be submitted by the Contractor directly to ESVBA. All invoices shall show the applicable job number and line item.

The ESVBA shall pay the invoices within sixty (60) days from receipt date of a correct invoice or acceptance of the Services (whichever occurs second). If the ESVBA disputes all or any portion of an invoice, it shall be required to pay only the amount not in dispute. If bidder's invoice contains terms more favorable to the ESVBA, the ESVBSA may elect to pay on those terms.

The Contractor shall promptly pay all subcontractors such amounts due to them upon receipt of payments from ESVBA. Pursuant to Section 2.2-4354 of the Code of Virginia, the Contractor covenants and agrees to:

- A. within seven (7) days after receipt of any amounts paid to the Contractor under the Contract, (i) pay any subcontractor for its proportionate share of the total payment received from the ESVBA attributable to the work under the Contract performed by such subcontractor, or (ii) notify the Authority and the subcontractor, in writing, of its intention to withhold all or a part of the subcontractor's payment and the reason therefor;
- B. provide its federal employer identification number or social security number, as applicable, before any payment is made to the Contractor under the Contract; and
- C. pay interest at the legal rate or such other rate as may be agreed to in writing by the subcontractor and the Contractor on all amounts owed by the Contractor that remain unpaid after seven (7) days following receipt by the Contractor of payment from the ESVBA for work performed by the subcontractor under the Contract, except for amounts withheld pursuant to subparagraph 12a. above.
- D. include in its contracts with any and all subcontractors the requirements of a, b, and, c above.

3. DEFAULT

In the case of default or breach by the Contractor or the failure of the Contractor to deliver the services in conformance with the specifications in the contract the ESVBA shall give written notice to the Contractor specifying the manner in which the contract has been breached. If the ESVBA gives

such notice of breach and the Contractor has not corrected the breach within fifteen (15) days of receipt of the written notice, the ESVBA shall have the right to immediately rescind, revoke or terminate the contract and in addition to any other remedies available at law to procure such services from other sources and hold the Contractor responsible for any and all excess cost occasioned thereby, including reasonable professional fees incurred by ESVBA, including but not limited to such architect, engineer, attorney or other consultant fees. In the event of default by ESVBA, Contractor shall proceed in accordance with Paragraph 14 (Contractual Claims Procedure).

In case of failure to deliver goods or services in accordance with the contract terms and conditions, the ESVBA, after due written notice, may procure them from other sources and hold the bidder responsible for any resulting additional purchase and administrative costs. This remedy shall be in addition to any other remedies which the ESVBA may have.

4. APPLICABLE LAWS AND COURTS

Any ESVBA contract shall be governed in all respects by the laws of the Commonwealth of Virginia, without regard to its principles of conflicts of laws and any litigation with respect thereto shall be brought in the court of appropriate jurisdiction. The Contractor shall be responsible for compliance with all the laws of the Commonwealth of Virginia, all ordinances and regulations of the ESVBA and such other standards, codes and regulations having application to the goods or services provided. Without limitation, Contractor shall comply with all nondiscrimination laws and regulations of the Commonwealth, as well as all laws and regulations concerning the maintenance of a drug-free workplace.

5. AWARD

The contract shall be awarded to the lowest responsible and responsive bidder(s). Unless canceled or rejected, a responsive bid from the selected bidder(s) shall be accepted as submitted, except that if the bid from the lowest responsible bidder(s) exceeds available funds, and if, time or economic considerations preclude resolicitation of work of reduced scope, the ESVBA Executive Director, or his/her designee, may negotiate with the apparent low bidder(s) to obtain a contract price within available funds. If both conditions set forth in the preceding sentence are not met, the ESVBA shall not have the power to so negotiate.

6. ANTI-TRUST

By entering into a contract the bidder conveys, sells, assigns and transfers to the ESVBA all rights, title and interest in and to all causes of the action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by or on behalf of the ESVBA under the contract.

7. ETHICS IN PUBLIC CONTRACTING - §2.2-4367

By submitting their proposals, Suppliers certify that their proposals are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other bidder, supplier, manufacturer or subcontractor in connection with their proposal, and that they have not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.

8. DEBARMENT STATUS

The ESVBA may decline to award a contract to contractors or subcontractors for any contract/subcontract in excess of \$10,000 who are debarred by the United States Department of Labor, or any other agency of the federal government, or by a political subdivision of the Commonwealth of Virginia or any agency or subdivision of any such entity.

Approval of a proposed contract/subcontract award shall not be given by the ESVBA unless and until the proposed contractor/subcontractor has submitted a Bidder Compliance Statement Certification Regarding Equal Employment Opportunity, and a Certification of Bidder Regarding Debarment by Agency of the Commonwealth of Virginia, subject to the above paragraph. Although the bidder is not required to attach such Certifications by proposed subcontractors to his bid, the bidder is herein advised of these requirements so that appropriate action can be taken to prevent subsequent delay in subcontract awards.

9. ANTI-DISCRIMINATION

By submitting their bid, bidders certify that they will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians with Disabilities Act, the Americans with Disabilities Act and Sec. 2.2-4311 of the Virginia Public Procurement Act (VPPA).

10. INSURANCE

Bidder shall secure and maintain at its expense:

- a. Commercial General Liability insurance, including but not limited to, products liability and completed operations, contractual liability, independent contractor, for a combined single limit of at least \$1,000,000 per occurrence for bodily injury and property damage with a minimum policy aggregate of \$2,000,000; and
- b. Comprehensive Automobile Liability insurance (including Owned, Hired and Non-owned vehicles) for a minimum combined single limit of \$1,000,000 per occurrence; and
- c. "Umbrella" coverage providing liability insurance in excess of the coverage required by these Paragraphs (a) & (b), with a limit of not less than \$5,000,000. The insurer must be licensed to do business in the state in which the work is performed and must have Bests Rating "A-" or better; and
- d. Worker's compensation, disability benefit and other similar employee benefits coverage in compliance with statutory requirements; and
- e. Employer's Liability insurance of at least \$1,000,000 per occurrence /accident/disease; and
- f. Public Liability of at least \$1,000,000 per occurrence; and

Bidder shall deliver a certificate of insurance on which the ESVBA is included as additional insured. Furthermore, the ESVBA must receive at least thirty (30) days' notice of cancellation or modification of the above insurance. Certificates of insurance must be provided prior to any work being performed and must be kept in force while Services are being provided to the ESVBA. It is also agreed that bidder's policy is primary coverage for any and all losses covered by said policies and bidder's insurance shall have no right of recovery or subrogation against the ESVBA.

Bidder is responsible for determining whether the above minimum insurance coverage is adequate to protect its interests. The above minimum coverage does not constitute limitations upon bidder's liability.

11. TERMINATION

The ESVBA may terminate the resulting contract for its convenience upon thirty (30) days written notice to the Contractor. The Contractor shall not be paid for any service rendered or expense incurred after receipt of such notice except such fees and expenses incurred prior to the effective date of termination that are necessary for curtailment of the Contractor's work under this contract.

12. HOLD HARMLESS

The Contractor agrees to indemnify, defend and hold harmless the ESVBA and its officers, agents, and employees from any claims, damages and actions of any kind or nature, whether at law or in equity, arising from the Contractor's performance of this Agreement, or caused by the use of any materials, goods, or equipment of any kind or nature furnished by the Contractor, provided that such liability is not attributable to the sole negligence on the part of the ESVBA or to failure of the ESVBA to use the materials, goods, or equipment in the manner outlined by the Contractor and descriptive literature or specifications submitted with the Contractor's bid.

13. CHANGES TO THE WORK

ESVBA may, in writing, direct Contractor to undertake a change in the Work, including but not limited to deletions, additions or modifications to the Project. Such writing shall detail the change in Contract Price, if any, or in Contractor's time to reach completion of the Project, and contractor shall undertake the work as directed. In the event Contractor disagrees with the ESVBA's determination as to adjustment in price or time for completion, Contractor shall proceed with the Work and may make a claim in accordance with Paragraph 14 (Contractual Claims Procedure).

14. CONTRACTUAL CLAIMS PROCEDURE

- A. Contractual claims by Contractor, whether for money or other relief, except for disputes exempted by law from the procedure set forth herein, shall be submitted in writing no later than sixty (60) days after final payment. Any written notice of Contractor's intention to file such a claim need not detail the amount of the claim, but shall state the facts and/or issues relating to the claim in sufficient detail to identify the claim, together with its character and scope. Whether or not Contractor files such written notice, Contractor shall proceed with the work as directed.
- B. The Board of the ESVBA, upon receipt of a detailed claim, may at any time render its decision and shall render such decision within ninety (90) days of final payment. Each such decision rendered shall be forwarded to the Contractor by written notice. In the event such claim is not acted upon within said ninety (90) day period, such claim shall be deemed denied and Contractor may proceed in accordance with paragraphs C and D.

- C. If the Contractor disagrees with the decision of the Board of the ESVBA concerning any pending claim, the Contractor shall promptly notify the ESVBA by written notice that the Contractor is proceeding with the work under protest. Any claim not resolved, whether by failure of the Contractor to accept the decision of the Board of the ESVBA or under a written notice of Contractor's intention to file a claim or a detailed claim not acted upon by the governing body of the ESVBA, such claim shall be specifically exempt by the Contractor from payment request, whether progress or final. Pendency of claims shall not delay payment of amounts agreed due in the final payment.
- D. The decision on contractual claims by the Board of the ESVBA shall be final and conclusive unless the Contractor appeals within six months of the date of the final decision on the claim by instituting legal action in the appropriate circuit court, however, no legal action may be commenced by Contractor concerning any such contractual claim prior to rendering of a decision by the governing body of the ESVBA, unless no decision has been rendered within ninety (90) days of final payment or submission of the claim, in which case Contractor's claim shall be deemed denied.

15. LOSS OR DAMAGE IN TRANSIT

Delivery by the Contractor to a common carrier does not constitute delivery to ESVBA. Any claim for loss or damage incurred during delivery shall be resolved between the Contractor and the carrier. The Authority accepts title only when goods are received and incorporated into the work, tested and accepted in accordance with the Specifications.

16. NO WAIVER

Any failure of the ESVBA to demand rigid adherence to one or more of this Agreement's provisions in the Contract, on one or more occasions, shall not be construed as a waiver nor deprive the ESVBA of the right to insist upon strict compliance with the terms of this Contract. Any waiver of a term of this Contract, in whole or in part, must be in writing and signed by the part granting the waiver to be effective.

17. ENGINEER

ESVBA may elect to retain the services of an engineer or design consultant for the project. In the event such engineer or design consultant is designated by ESVBA, Contractor shall take directions from and report to such engineer or consultant in the manner specified by ESVBA.

18. OWNERSHIP OF DOCUMENTS

Any reports, studies, photographs, negatives, or other documents prepared by Contractor in the performance of its obligations under any resulting contract shall be remitted to the Authority by the Contractor upon completion, termination or cancellation of this Contract. Contractor shall not use, willingly allow or cause to have such materials used for any purpose other than performance of

Contractor's obligations under this contract without the prior written consent of ESVBA. ESVBA shall own the intellectual property rights to all materials produced under this contract.

ATTACHMENT ‘A’ - SPECIFICATIONS

SUMMARY OF WORK

1. GENERAL

1.1. Statement of Work

ESVBA (Owner) is anticipating the installation of approximately 200 linear miles of fiber optic cable in Accomack and Northampton Counties in the Commonwealth of Virginia, contingent upon availability of funds and approval of funding sources. The installation is expected to consist of both aerial and underground installation. Bidders are welcomed to bid for any combination of splicing services, aerial and/or underground installation, however, bidders need not submit bids for each and every category of services in order to be considered for those categories for which a bid is submitted, provided that only a successful bidder in the categories of either splicing, aerial, underground, or premise installations will be considered to provide additional labor or support services. All bidders must bid for additional labor/support services, in addition to at least one other component. ESVBA reserves the right to award separate contracts for splicing, aerial, underground/buried, and premise installation, however, nothing shall prevent an award of all sections to a single bidder, if such bidder is judged the lowest responsive and responsible bidder for such work.

This Invitation for Bid (IFB) sets forth the terms and conditions that will govern any contract to be awarded concerning the installation work described herein.

- This is an “as-ordered” agreement, which means that it covers Services as they are ordered by ESVBA.
- ESVBA does not guarantee purchase of any minimum quantity of Services from any bidder(s). Any and all contracts issued hereunder shall be explicitly subject to approval and appropriation by the board of ESVBA, and may be contingent upon available funding from external sources. The ESVBA does not guarantee any minimum quantity or value (dollar amount) of Services to be procured hereunder.
- ESVBA reserves the right to separately award contracts for splicing, underground/buried installation, aerial installation, and premise installation.
- Any estimates regarding the quantity, time frames or any other information regarding the IFB are not firm or binding unless otherwise specifically stated in this IFB.
- The majority of Services required for the anticipated fiber optic network build is currently anticipated to be aerial construction.
- The bidder must be able to deploy and begin Services within fifteen (15) business days of notification by the ESVBA.
- In the event of a network outage or emergency, Bidder must be able to respond and begin restoration work within two (2) hours upon notification by ESVBA.
- Pole attachment, conduit permits and rights-of-way shall be secured by the ESVBA.
- Bidder is responsible for implementation of any requirements by roadway or railway entities such as work area safety including, but not limited to, crash trucks, flaggers, etc., MissUtility (Call Before You Dig), etc. Additionally, all underground locates and the protection of fiber/equipment is the sole responsibility of the bidder until final acceptance by ESVBA.
- This is not an exclusive dealings arrangement.

- ESVBA reserves the right at any time to terminate any contract resulting from this procurement for any reason, including convenience, and reserves the right to re-issue a Request for Proposals for similar services at any time.

The selected bidder(s) will be chosen based upon price, financial stability, availability, and industry reputation. The IFB bid form is divided into four (4) parts:

- Line item pricing for aerial plant construction
- Line item pricing and underground/buried plant construction
- Line item pricing for fiber optic splicing (single mode, loose tube)
- Line item pricing for premise installation
- Line item pricing for additional labor/equipment any additional support required for aerial or underground/buried operations. Such additional charges must be approved by the County.

Bidders are not required to bid all parts. The additional labor/support section must be completed if bidder elects to bid on any aerial, underground premise installation, or splicing services.

2. CONTRACTOR DUTIES

2.1. General

- 2.1.1. Contractor shall supply all supervision, labor, construction equipment, transportation, licenses, taxes, safety and consumable supplies and all other incidental cost required for the completion of work as specified in the Contract Documents.
- 2.1.2. No work shall commence until Owner has issued Contractor a written Notice to Proceed.
- 2.1.3. No work shall commence until Contractor has provided Owner with certification of insurance compliance with the project insurance requirements as per Attachment M, Article 10, and such certificates are reviewed and approved by ESVBA legal counsel. Contractor shall be held responsible that their subcontractors provide certification of compliance per the project insurance requirements and submit such certification to Owner prior to the Contractor beginning work.
- 2.1.4. No work shall commence until Contractor has provided Owner with 100% performance and payment bond in the amount of the total contract price on the Contract Documents prescribed forms.
- 2.1.5. Contractor shall not begin any extra work without the written authorization of the Owner representative.

2.2. Engineering

- 2.2.1. Supplied design/engineering plans are for informational purposes only. The Contractor must verify actual field conditions.
- 2.2.2. Contractor has full responsibility for the alignment and any required stake out of the conduit system running line in accordance with and as shown in the construction drawings.
- 2.2.3. Contractor may make field adjustments in the running line with prior written approval from Owner, with any such adjustments being shown on the red line drawings. Contractor is encouraged to suggest alternate installation methods in an effort to avoid excessive traffic control, increase productivity, and/or provide additional protection of all associated patrons and construction personnel.
- 2.2.4. Contractor shall have the responsibility to make their own investigation as to the availability of public or private roads and of clearances, restrictions, bridge load limits,

bond requirements, permits and other limitations that may affect Contractor's transportation for equipment, materials and manpower ingress and egress to the job site.

2.3. Construction

- 2.3.1. Contractor shall install conduit and cable in any method deemed most suitable, economical and/or efficient by Contractor, except where a specific construction method is specified by the Contract drawings, by a permit, or by an authority having jurisdiction.
- 2.3.2. Contractor shall direct plow, trench, excavate, erect, bore, rock saw, attach, or utilize other methods approved by Owner to install conduit, manholes, hand holes, fiber warning tape, route markers and other appurtenances as indicated on the construction drawings and as specified in the Contract Documents. Contractor shall install fiber optic cable as specified in the construction drawings.
- 2.3.3. During the course of installation, Contractor shall protect the right-of-way to minimize damage from construction activities including but not limited to utilizing good soil erosion control practices and taking special precautions in environmentally sensitive and cultural resource sites.
- 2.3.4. Contractor shall provide all maintenance and traffic control to the satisfaction of Owner and agencies having jurisdictional authority of the area of work.
- 2.3.5. The Contractor shall backfill, replace, resurface and restore all affected areas of construction including but not limited to, sidewalks, asphalt, grass, pavement, highway and railway right-of-way and wetland areas to original or better condition in accordance with the Contract Documents, and to the satisfaction of Owner, and any agencies having jurisdictional authority of the area of work.
- 2.3.6. Contractor shall ensure that the work sites are accessible for work including but not limited to preventing vehicles from parking on site, removing snow, pumping manholes, and scheduling work to avoid delays by road construction, repair, or other outside party projects.

2.4. Utility Locations and Subsurface Obstructions

- 2.4.1. Contractor shall recognize that utilities shown on Contract drawings are for informational purposes only. Owner assumes no responsibility for the accuracy of the utilities shown.
- 2.4.2. Contractor shall contact the appropriate state's One Call agency at least seventy-two (72) hours in advance of construction for location of buried utilities. Contractor is responsible to locate and avoid all subsurface obstructions. It is the Contractor's responsibility to verify the locations of subsurface obstructions shown on the drawings as well as any additional obstructions not identified on the drawings. Contractor is responsible for contacting and confirming the location of utilities or other entities not taking part in the Delmarva Miss Utility.
- 2.4.3. Contractor shall be responsible to verify the exact location of every pipeline, utility, drainage facility, or other buried facility by hand digging (pot holing) prior to working in the area. Contractor is responsible for receiving jurisdictional authority approval prior to excavation where applicable. Contractor shall then make any adjustments, in the field or otherwise, to install the conduit or duct where it shall not interfere with other conduits or utility systems. Owner must approve any adjustments to the running line prior to implementation by Contractor.

- 2.4.4. Contractor shall be solely responsible for any and all direct and indirect costs and consequences arising from damage to utilities.
- 2.4.5. During performance of the Work, if Contractor or any of its Contractors hits a gas line or has reason to believe it has hit a gas line, Contractor shall immediately call 9-1-1 and make the appropriate notification.
- 2.4.6. Contractor shall keep a Utility Location Log of all telephone contacts to notify existing utilities of pending excavation. Such log shall include date, time of day, name of individual contacted, name of agency or company contacted, telephone number, and confirmation number. The Utility Location Log shall be made available to Owner for review prior to construction and submitted on a weekly basis.
- 2.4.7. When crossing buried pipes, cables, and other utility lines, the ducts placed shall maintain a minimum separation of twelve inches (12”) or as specified by utility while maintaining a thirty-six inch (36”) cover. Should Contractor not be capable of achieving a separation of twelve inches (12”) with an existing utility, Contractor shall be required to encase the conduit in concrete or split steel GRS five feet (5’) on both sides of the crossing.
- 2.4.8. Contractor shall install route markers (metal sign post) at roadway bore locations and at approximately 2,500 LF intervals along the entire route.

3. Ordinances & Codes

- 3.1. All work described herein shall be performed in strict accordance with the construction drawings, construction typicals, specifications and all applicable Federal, State, County, City, Local laws, ordinances, rules and regulations of all authorities having jurisdiction over construction related to the project. The aforementioned laws, ordinances, rules and regulations are hereby incorporated and become a part of the Contract Documents as though they were written herein.
- 3.2. All work shall meet or exceed appropriate Owner, Utility, Railroad, OSHA, VDOT, ANSI, AASHTO, Federal, State and Local standards. Contractor is required to excavate test pits (potholes) to verify locations of existing utilities prior to conduit placement. All areas affected by the Work shall be restored to original or better condition.

4. Definitions:

- 4.1. Owner shall mean:
Eastern Shore of Virginia Broadband Authority (ESVBA)
4174 Lankford Highway
Exmore, Virginia 23350
- 4.2. VDOT shall mean the Virginia Department of Transportation.
- 4.3. OSHA shall mean the Occupational Safety and Health Administration.
- 4.4. ANSI shall mean the American National Standards Institute.
- 4.5. AASHTO shall mean the American Association of State Highway and Transportation Officials.
- 4.6. NEC shall mean the National Electric Code. Substantial Completion shall mean that Contractor has completed all work contained in and in accordance with the Contract Documents and when Contractor has corrected all deficiencies to the satisfaction of the Owner and the jurisdictional authorities.
- 4.7. Right-of-way (ROW) shall mean the surface, the areas below the surface and the air space above the surface of the entire roadway/ railway.

- 4.8. EDGE OF PAVEMENT (EOP) shall mean the outside edge of the pavement. When the edge of pavement is not defined by a curb or driveway, the Owner's field representative shall determine the EOP.

5. Submittals

5.1. PART 1- GENERAL

5.1.1. Red-Line Drawings (As-Built Drawings)

On a daily basis, Contractor shall red-line drawings during the course of construction to show the actual alignment or other variances of all installations required by the construction drawings. The drawings shall be available for review by the Owner's Representative when requested on the job site. Additionally, Contractor shall submit all redline drawings to the Owner's Project Office on a weekly basis. Under no circumstances shall Contractor proceed with work until acceptable redline drawings are received by Owner for the previous week's work. Work shutdowns incurred by Contractor due to the failure to provide acceptable redline drawings per this section shall not become the basis for an extension of time or additional compensation to complete the Contract. Contractor shall not submit any application for payment prior to submitting the associated redline "as-built" drawings. Owner shall not make payment for work prior to receiving the associated redline "as-built" drawings. Such drawings shall indicate the location of the installed conduit referenced from permanent landmarks such as mileposts, edge of pavement, bridges, underpasses, handholes, manholes or other permanent markers. At distances from these permanent landmarks, Contractor shall measure offsets to the conduit trench at intervals no less than one hundred feet (100') or where the running line experiences significant degrees of bends. All utilities crossed shall be identified including type, diameter, and depth of utility. Redline "as-built" drawings shall indicate the depth of the installation, at or below finished grade, changes, and notes referencing any special construction such as irregular depth, steel plating, insulation barriers, concrete encasement, ETC.

5.1.2. Daily Progress Report:

Contractor's progress shall be tracked by utilizing Daily Progress Reports. Daily Progress Reports shall be completed by a Contractor's Field Representative and signed by the Contractor's Supervisor with a copy available for the Owner. The Contractor shall note on these forms any discrepancies in progress.

5.1.3. Contractor's Construction Schedule:

If required by the ESVBA, Contractor shall submit a revised detailed Microsoft project resource-loaded construction schedule within five (5) business days of Contract execution for Owner's approval on an 'as-needed' basis determined solely by the Owner. For small jobs Microsoft project resource-loaded construction schedules will not be required. The resource-loaded construction schedule shall include the method(s) by location with the associated quantities, manpower, equipment and production to complete the work. Contractor shall provide Owner this schedule in soft and hard copy form. The schedule shall contain sufficient detail to ensure that Owner can measure Contractor's progress on a weekly basis throughout the project duration. Owner shall utilize the Daily Progress Report to measure Contractor's progress. Owner must be notified of any unscheduled delays or recovery plans as necessary.

5.1.4. Weekly Logs

Contractor shall also keep a weekly log of the following documents:
SIGNING, BARRICADING AND LIGHTING LOG
UTILITY LOCATION LOG

6. Temporary Facilities

6.1. Materials and Services

Contractor shall be responsible for the provision and upkeep of temporary services, utilities and facilities necessary for the completion of the works.

7. Products and Materials

- 7.1. Contractor shall furnish their own storage facilities, loading personnel and equipment, and off loading personnel and equipment.
- 7.2. Contractor shall be solely responsible for all materials during storage and after installation until acceptance of the work by Owner.
- 7.3. Contractor shall dispose of all empty reels in an approved and timely manner.
- 7.4. The Contractor shall provide all other items including but not limited to restoration materials, select fill, concrete, asphalt, consumables, equipment, tools, grass seed, vegetation, straw, gravel, aggregates, rip rap, erosion control materials, foam, duct sealant, and all other materials and incidentals necessary for a complete installation. Materials provided by Contractor shall comply with specifications and requirements provided by Owner or other agencies having jurisdiction of the area. Owner will not reimburse Contractor for such materials used. Any restoration as a result of Contractor's activities is considered part of the work operation.
- 7.5. Contractor shall supply only materials specifically approved for this Contract, or that have been listed as an "approved" item. Contractor may elect to submit to Owner for approval of materials supplied by other vendors. Contractor will not be allowed any extensions of time for delays necessary for approval of materials.

8. TRAFFIC CONTROL

- 8.1. Contractor shall at all times exercise reasonable and due care under the circumstances in managing and controlling the flow of traffic through work zones. Contractor shall indemnify parties in accordance with Paragraph 12 of the General Conditions for any failures by Contractor to exercise such care.
- 8.2. Contractor shall be in compliance of the Virginia Work Area Protection Manual, Standard and Guidelines for Traffic Control. This is the Virginia version of Part 6 of the Manual on Uniform Traffic Control Devices (MUTCD).
- 8.3. Contractor shall conform to all traffic controls as required by the jurisdictional authority, the permits, and Owner. Contractor shall coordinate with the appropriate jurisdictional authority and incur all cost of law enforcement or other jurisdictional personnel.
- 8.4. Contractor shall coordinate and pay for all necessary police protection for traffic control according to and as requested by the jurisdictional authority or as instructed by the Owner's field representative.
- 8.5. Contractor shall be responsible for the safety of the general public and shall always give right of way to all other vehicular traffic on the Roadway. Contractor shall not detour traffic, close a lane, or impede traffic flow without approval from the jurisdictional authority or local police.

- 8.6. Contractor shall furnish all signs, barricades, barriers, cones, drums, warning lights, flag persons or other devices that are required and obtain all necessary approvals from the appropriate jurisdictional authorities. Contractor shall maintain a log and provide Owner with a copy of the log containing such approvals obtained on a weekly basis. Contractor will not be reimbursed for obtaining any necessary traffic control devices or personnel required for traffic control and/or safety requirements. Proper traffic control and safety are considered part of the work operation.
- 8.7. Owner or a member of the jurisdiction authority shall inspect all traffic control devices prior to use at Contractor's marshaling area.
- 8.8. Contractor shall be solely responsible to conform to all traffic control requirements contained in the Contract Documents, and in accordance with all federal, state and local requirements, as applicable. Owner may declare Contractor to be in default if Contractor commits an act of gross traffic control negligence, or fails to comply with the traffic control requirements, or does not immediately correct traffic control deficiencies as directed by Owner.
- 8.9. In the event of ongoing failure of the Contractor to conform to all applicable traffic control requirements, Owner may issue a stop work notice. This stop work notice will continue until such requirements have been achieved. Contractor shall not be entitled to compensation in time or money for time lost during this stop work order. If Contractor further continues to violate traffic control requirements, Owner reserves the right to terminate this Contract.
- 8.10. All work operations including paving, rolling, grading, supplying of material and the travel of supervisory personnel shall always be in the direction of normal traffic.
- 8.11. Vehicle and equipment lights, light lenses, and reflectors shall be operational and cleaned as often as necessary. All vehicles and equipment shall require flashing amber lights including material delivery vehicles.
- 8.12. Fire extinguishers provided on vehicles shall be in good working order at all times, and operators shall be familiar with their use.
- 8.13. Equipment shall be under the full control of the operator when equipment is in use, and operators shall be familiar with their use.
- 8.14. Any slow-moving Contractor vehicle and/or equipment that are to be moved between separated work sites shall be hauled on a trailer.
- 8.15. Contractor shall avoid having slow-moving equipment traveling on the roadway after dark or during twilight hours.
- 8.16. Contractor shall never pull up beside another vehicle on the roadway as to obstruct the flow of traffic. Contractor shall pull onto the shoulder away from the pavement either in front of or behind other vehicles or off the roadway.
- 8.17. During the workday, equipment necessary for construction may only be parked in a closed lane or closed shoulder as far as practical from traffic. Parked vehicles shall display simultaneous flashing directional signals ("4-way flashers") and flashing amber light. Parked vehicles shall not display single directional flashing lights.
- 8.18. When a vehicle is parked on the shoulder, the door adjacent to the roadway pavement shall not be left open. An open vehicle door shall never be allowed to project over the roadway pavement.
- 8.19. No vehicle or equipment shall be stopped or parked where it shall interfere with the visibility of any sign.
- 8.20. Vehicles or equipment shall not be backed onto the roadway pavement.

- 8.21. At the end of each workday, all Contractor's equipment and any extraneous traffic protection devices shall be removed from closed traffic lanes, shoulders, other sites, and placed in protected locations.
- 8.22. A closed lane is a refuge for disabled vehicles or emergencies. Hazards, such as patches or excavated shoulders etc., shall be highlighted in lanes left closed overnight by the Contractor.
- 8.23. A stopped or slow-moving truck on the pavement shall never be used as the first warning a motorist receives of a work area restriction ahead.
- 8.24. During the progress of the work under this Contract, operations of loading and unloading of materials, equipment and personnel shall of necessity be conducted in the various closed lanes and shoulders or off the roadway. To minimize the hazard to the traveling public, the Contractor's operations shall be governed by the following requirements:
 - 8.24.1. Contractor, when approaching a work area, shall reduce speed of the vehicle and indicate by directional signals intent to drive out of the traffic stream and into the work area. Flashing signals shall be kept on while parked within the work zone.
 - 8.24.2. All vehicles re-entering the traffic stream from the work areas, except when exiting the downstream end of a closed lane, shall have the assistance of traffic observer.
 - 8.24.3. All vehicles re-entering the pavement shall attain a reasonable speed before pulling onto the pavement after making sure that no vehicle is approaching in the lane. Approaching vehicles shall be allowed pass.
- 8.25. Equipment that Contractor feels could damage any roadway facilities shall not be allowed to operate until adequate protective measures are provided such as wooden mats, bridging devices or rubber pads. Owner's approval of such protective devices shall not relieve the Contractor from responsibility for damage.

9. PROTECTION OF RIGHT OF WAY

- 9.1. Right-of-way lines provided on the construction drawings are for informational purposes only. Contractor shall be responsible for the repair of any damage to the right-of-way, sidewalks, roadways, utilities, or any other public or private property damaged by Contractor's forces.
- 9.2. Contractor shall be responsible for the safety and protection of the public and of public and private property on and around the construction sites during the Contract operational period. Contractor shall notify Owner representative immediately of any damage to any public or private properties on or around construction sites. All protection measures are considered part of the work operation.
- 9.3. Contractor shall protect all Contractor installed materials until Owner's acceptance.
- 9.4. Contractor shall repair all damage to the work caused as a result of Contractor's negligence. In the event damage is irreparable, Contractor shall remove and replace such items at no additional cost to Owner.

10. DAILY PROJECT CLEAN UP REQUIREMENTS

- 10.1. Contractor shall maintain a clean and hazard free work area including, but not limited to, daily removal of all spoils and sweeping of all affected roadway and sidewalk areas. All such operations are considered part of the work operation.
- 10.2. Contractor shall remove from the site and dispose of all spoil, waste, and other unused excavated materials in accordance with all Federal, State, Local, OSHA, EPA and VDOT standards and regulations.
- 10.3. Where excavation is required in asphalt areas, restoration shall be completed immediately and prior to removal of traffic control. Contractor shall not leave any sections of the trench open

during non-work hours. Contractor shall backfill all segments of the trench in adherence with the trench typical.

- 10.4. As necessary, Contractor shall cover the excavation with steel plating. Steel plates shall be a minimum one-inch (1") thick, spiked down in the corners, shimmed to prevent rocking, and cold patched around the edges. Plate installation shall be subject to final approval by OSHA, VDOT, Owner, and the jurisdictional authority.
- 10.5. Contractor shall store all equipment, tools, material in a manner so as not to inhibit traffic flow or parking during working or non-working hours. All staging areas must receive final approval from Owner and other jurisdictional authorities. Owner shall assume no responsibility for Contractor's equipment or materials. Security for the job areas is the responsibility of the Contractor. Contractor shall comply with the security requirements of the right-of-way owners or other jurisdictional authorities.
- 10.6. No material, equipment, or refuse shall be stored in any recovery zones of all roadways. A recovery zone shall be defined as an area where vehicular traffic may leave the roadway without protection. Contractor shall verify the location of recovery zones with Owner and the jurisdictional authority. All restoration in recovery zones shall be performed immediately following installation. All unused materials and empty reels shall be removed from jurisdictional right-of-way on a daily basis.

11. PERMITS

- 11.1. ESVBA's Engineering firm shall secure the required road opening including permits for VDOT. Delays in the progression of work caused by Owner's acquisition of permits shall be excusable but not compensable. Owner will obtain necessary permits for placing its facilities in any wetlands or VDOT right-of-ways.
- 11.2. Prior to the start of work, Contractor shall obtain and pay for all permits required for Contractor's construction operations including but not limited to contractor's licenses, construction bonds, transportation, traffic control, equipment, labor and or other general permits.
- 11.3. Contractor's employees shall limit their activities to the construction site and governing rights-of-way. Trespassing in other areas shall not be permitted.

12. PROJECT MEETING REQUIREMENTS

Contractor shall be required to attend weekly progress meetings as requested by Contractor and/or other Contractor scheduled coordination meetings with Owners, Contractor, and other Contractors during the prosecution of the work.

13. INSPECTION AND ACCEPTANCE

- 13.1. All work shall be subject to the inspection and approval of the Owner, and other governing agencies having jurisdiction. Contractor shall schedule the work and provide adequate notifications to comply with any and all requirements for inspection.
- 13.2. Owner's representatives shall inspect workmanship and progress of work being performed. Where workmanship or installation deficiencies are observed, Owner's representative shall prepare a written list of these deficiencies and discuss them immediately with the Contractor's Supervisors. Contractor shall then take measures to immediately and expeditiously correct any written deficiencies to the satisfaction of Owner's representative without impacting the installation schedule at no additional cost to Owner.
- 13.3. The integrity of the conduit and duct system shall be tested for continuity by use of a slug. Slug shall be six inches (6") long by one-inch (1") diameter aluminum with one and one quarter inch (1-1/4") rubber washers at each end. Contractor shall install jet-line or a Contractor approved

equivalent in conduits or ducts. Contractor shall notify Owner's representative forty-eight (48) hours prior to all conduit/duct testing in writing. Emails and faxes are acceptable. All testing shall be performed after trench has been backfilled and compacted. Such testing of the installed conduits are considered part of the work operation. Any testing performed in the absence of an Owner representative will be at Contractor's risk. Any deficiencies found in the duct tested without Owner's inspection shall be repaired at Contractor's cost.

- 13.4. Upon notification to Owner by Contractor of completion of the work, an Owner representative, the Contractor's representative and a representative of the jurisdictional authorities shall jointly perform a "walk through" inspection of the work. The Owner Representative shall, during this inspection, prepare a punch list of observed deficiencies. Contractor shall then correct all deficiencies in a timely manner. Acceptance shall be granted when all deficiencies have been corrected to the satisfaction of Owner and all jurisdictional authorities.

14. SUPERVISION AND SUPERINTENDENTS

- 14.1. Contractor shall provide a Supervisor that is English-speaking and has the proper skill, training, background knowledge, experience, rights, authorizations, character, and licenses as necessary to perform the Work in a competent, ethical, and professional manner. Contractor shall designate this Supervisor to be on site at all times and act as the official Contractor on-site representative in connection with the work with this Contract.
- 14.2. Contractor shall provide to Owner along with the executed contract, the names and numbers of the members of his/her organization and subcontractors' organization who can be contacted in the event of out-of-hours emergency at the construction route.

15. ENVIRONMENTAL CONDITIONS

- 15.1. When work is to be performed within fifteen feet (15') of a storm drain inlet or when directed by Contractor or the jurisdictional authority, Contractor shall install erosion controls. Silt fencing is to be rolled out with the stakes facing the area to be protected. Before stakes are driven, a six- (6) inch silt trench is to be dug for the fencing. The fencing is to be placed with the bottom six (6) inches in the trench. Contractor must then drive the stakes eighteen (18) inches into the ground, and firmly fill the trench against the fencing. The fence is to be tautened by stapling filter fabric to the stakes.
- 15.2. Contractor shall install erosion control prior to construction activities. Contractor shall be responsible for all erosion and sediment controls.
- 15.3. All erosion control features shall be inspected after precipitation events and repaired or replaced accordingly. Accumulated sediment shall be removed as required to maintain functionality of the fencing.
- 15.4. Contractor shall adhere to Soil Conservation District Permits requirements for all seeding and restoration requirements.

16. PROJECT GENERAL CONDITIONS

- 16.1. Contractor shall be responsible for and shall pay all applicable taxes relating to unemployment, social security and worker's compensation, franchise taxes (including taxes assessed on Contractor's net income), levies, duties, work-in-progress and assessments of every nature due in connection with any Work under this Contract and shall make any and all payroll deductions required by law. Contractor shall indemnify and hold harmless Owner from any liability on account of any and all such taxes, levies, duties, assessments and deductions.
- 16.2. Contractor shall be responsible for any fines, tolls, tickets or additional costs associated with the work either directly or indirectly. The Contractor is aware of all existing and potential

restrictions to construction that have been or may be placed by the jurisdiction authorities, including, but not limited to, traffic control, fuel and/or oil leakage and noise pollution.

17. WARRANTY

- 17.1. Contractor shall provide a warranty on all Contractor supplied materials conforming to warranty requirements of Contract. Any warranties that extend for greater periods than contractually obligated shall be passed along to Owner.
- 17.2. The Contractor warrants the materials delivered and work completed under the Contract to be free from defects in design, material or workmanship, and against damage caused prior to final inspection. Unless otherwise specified, this warranty extends for a period of one (1) year from the date of Substantial Completion.
- 17.3. The Contractor shall promptly repair or replace all defective or damaged items delivered under the Contract. The contractor may elect to have any replaced item returned to his plant at his expense.

18. RECORD DOCUMENTS

- 18.1. The Contractor shall maintain an accurate set of Record Drawings and Specifications. Any parts of the Work that varies substantially from that indicated in the Contract Documents shall be neatly and clearly marked on a set of Drawings and Specifications designated for such purposes.
- 18.2. The representation of such variations shall conform to standard drafting practices and shall include such supplementary notes, legends, and details as may be necessary for legibility and clear portrayal of the as-built construction. Particular attention shall be paid to the accurate indication of location of concealed utility lines.
- 18.3. These drawings shall be transmitted to the Owner at completion of the Work.

19. PROJECT CLOSEOUT

- 19.1. As construction of the project(s) enters the final stages of completion, the Contractor shall, in concert with accomplishing the requirements set forth in the Contract Documents, attend to or have already completed the following items as they apply to his contract:
 - 19.1.1. Required testing of project components.
 - 19.1.2. Correcting or replacing defective work, including completion of items previously overlooked or work that remains incomplete, all as evidenced by the Owner's "Punch" Lists.
 - 19.1.3. Attend to any other items listed herein or brought to the Contractor's attention by the Owner.
 - 19.1.4. The Contractor shall provide a healthy stand of grass on all reseeded areas prior to completion. In the event this is not accomplished, a proper stand of grass shall be noted on the punch list and the contractor's bond shall remain in effect until the grass stand meets the owner's satisfaction.
- 19.2. In addition, and before completion of a project(s), the Contractor shall submit to the Owner certain records, certifications, etc., which are specified elsewhere in the Contract Documents. Missing, incomplete or unacceptable items, as determined by the Owner, shall constitute grounds for withholding Final Payment to the Contractor. A partial list of such items appears below, but it shall be the Contractor's responsibility to submit any other items which are required in the Contract Document:
 - 19.2.1. Test results of project components.
 - 19.2.2. All outstanding submittal logs.
 - 19.2.3. Certification of materials in compliance with Contract Documents.

- 19.2.4. One set of neatly marked-up record drawings showing as-built changes and additions to the work under this contract.
- 19.2.5. Any special guarantees or bonds
- 19.2.6. Manufacturer's Warranties.

20. PAYMENT

- 20.1. Payment for project(s) may be requested when the Owner is satisfied the following conditions have been fulfilled:
 - 20.1.1. Transfer operational access and similar provisions to Owner and remove temporary facilities, tools, and similar items.
 - 20.1.2. Complete closeout requirements specified in Project Closeout.

21. CONSTRUCTION SPECIFICATIONS

All materials and equipment shall be applied, installed, connected, erected, utilized, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processor, except as otherwise provided in the Contract Documents. All conduits and cable shall be plugged or capped during the construction process and upon completion to prevent any intrusion of silt, water, or foreign substances into the Network. Contractor shall abide by the following acceptable practices to complete the installation:

21.1. CLEAR RIGHT-OF-WAY (ROW)

- 21.1.1. This work includes coordination and written approval with Owner prior to the start of work. All trees and/or brush shall be cut so that stumps protrude from the ground at a height no greater than two inches (2"). Clearing by Contractor shall be complete with the removal or chipping of the cleared material and is considered part of the work operation.
- 21.1.2. All trimming and pruning shall be done by cutting only. No stripping, peeling, or breaking of limbs shall be allowed. When trimming shrubs and trees, Contractor shall use sharp, disease-free tools. All cuts shall be clean, and no stubs greater than one-quarter inch (1/4") shall be allowed. Exposed bark or limbs shall not be painted or treated in any way. Clearing and trimming shall be complete with the removal or chipping of cleared material and is considered part of the work operation.
- 21.1.3. Contractor shall remove existing fences on the right-of-way only upon written approval. Contractor shall remove temporary fencing erected by Contractor as soon as practicable.
- 21.1.4. Contractor shall abide by any and all applicable rules and regulations concerning clearing the right-of-way. Any penalties and/or fines for violations incurred during the clearing of the right-of-way shall be the sole responsibility of Contractor.
- 21.1.5. Contractor shall verify all restoration or replacement requirements in connection with clearing activities with the ROW owner. Contractor shall solely be responsible for abiding by the requirements set forth by ROW owner.

21.2. GENERAL INSTALLATION SPECIFICATIONS

- 21.2.1. Warning tape shall be installed twelve inches (12") below existing grade and is considered part of the work operation.
- 21.2.2. If a dielectric cable is used, Contractor shall install a 14 gauge insulated locate wire within all trench line excavations leading into access points, and is considered part of the work operation. Locate wire shall be installed using industry standards, or, as described and as shown on the typical details. Where a metallic sheath is present in the cable no locate wire is necessary.

- 21.2.3. In applications where HDPE ducts are installed, Contractor shall install the ducts so as to prevent excessive waving of the ducts within the trench. Contractor shall tension the ducts to prevent waving in the trench prior to backfilling. Conduits shall be installed in such a manner as to keep conduit configuration consistent. Conduits shall be bound along the trench line every ten feet (10') to maintain this configuration and minimize spiraling.
- 21.2.4. Trenches shall be kept as straight as practical. The bottom of the trench shall be smooth and free from any sharp edges. The trench shall be kept clear of debris and loose rock. All changes in trench grade shall be less than one foot (1') per ten feet (10').
- 21.2.5. The Contractor's Project Manager or his/her designee shall carefully inspect cable during and prior to installation to be certain that it is free from defects or damage.

21.3. DIRECT BURIED FIBER OPTIC CABLE

- 21.3.1. The Contractor's Project Manager or his/her designee shall carefully inspect cable during and prior to installation to be certain that it is free from defects or damage.
- 21.3.2. Bends of small radii and twists that might damage cable shall be avoided. During the installation, cable shall not be bent in a radius less than twenty (20) times the outside diameter of the cable or as specified by the cable manufacturer.
- 21.3.3. Care is to be exercised during the plowing operation, to ensure that the cable is fed either manually or by capstan into the ground through the plow loose and without tension.
- 21.3.4. All open cable ends, either placed or remaining on a cable reel, shall have a cable cap placed on them.

21.4. PLOWING

- 21.4.1. Plowing innerduct includes the hauling of inner duct from storage area to work location and any handling required to properly install (via direct burying) the innerduct in the ground to a minimum 36" cover, or in accordance with jurisdictional authorities. This includes coordination with utility owners in locating their facilities prior to the installation of the innerduct.
- 21.4.2. The plowing equipment shall be subject to the approval of the jurisdictional authorities having jurisdiction over roadway and railroad ROW.
- 21.4.3. The equipment and construction methods used by the Contractor shall be such as to cause minimum displacement of the soil. The slot made in the soil by the cable plows shall be closed immediately by driving a vehicle track or wheel over the slot or by other suitable means.
- 21.4.4. Damage to banks, ditches, and roads caused by the equipment shall be immediately repaired and restored to original condition to the satisfaction of the jurisdictional authorities.
- 21.4.5. The Contractor shall promptly repair any damage to fences, lawns, shrubbery, drives and any other property damaged during construction to original condition.
- 21.4.6. After installation, the fiber optic cable shall be tested for sheath faults to ground by the Contractor.
- 21.4.7. The start pits, finish pits, and pits at points of intersections will be excavated in advance of plowing. Utility crossings will be exposed prior to start of plowing operations. The Contractor will exercise care in the use of trenching equipment and

shovels in joining slots and/or trenches to other slots/trenches to be certain that the cable is not damaged.

21.5. GRASS/SOD TRENCH INSTALLATION

- 21.5.1. Contractor shall excavate as required (i.e. machine trench, backhoe, hand dig, etc.) to install ducts as indicated in the Contract Drawings and typicals to allow a minimum of thirty six inches (36") of cover to top of conduit below finished grade, or as specified on the Contract Drawings and/or permits. The installation shall be complete with removal and disposal of excavated materials or materials not suitable for backfill and the installation of the conduit.
- 21.5.2. Restoration shall include the placement of select fill or clean backfill properly compacted. Clean backfill is defined as existing native soil containing material that is free of debris. Restoration may also include shoring, bracing, road bore connections, and all other operations necessary to complete the installation.
- 21.5.3. Contractor shall be responsible to ensure tie-ins and duct couplings are made to ensure elevations remain as straight as possible and that the duct and conduit joints provide an airtight seal. Contractor shall furnish duct couplers to achieve this requirement.
- 21.5.4. All trench sections must be closed at the end of each working day. Contractor shall restore the surface conditions to original or better conditions or as required by the jurisdictional authorities.
- 21.5.5. Contractor shall notify Owner of areas where minimum cover requirements cannot be met. Contractor shall ensure that locations with minimum cover are protected by such means as to cover conduit with ¼" steel plates, concrete slurry, or both. This material and installation cost shall be borne by Contractor.

21.6. PAVEMENT TRENCH INSTALLATION

- 21.6.1. Contractor shall excavate as necessary to install ducts as specified on the construction typicals or as specified on the Contract Drawings and typicals. The installation shall be completed by saw cutting the roadway surfaces, removing and disposing of excavated pavement and excess excavated material and installing the conduit.
- 21.6.2. Restoration shall include the placement of select fill or clean backfill compacted in eight-inch (8") lifts. Clean backfill is defined as existing native soil containing material that is free of debris and contains no cobbles. Restoration may also include shoring, bracing, road bore connections, and all other operations necessary to complete the installation.
- 21.6.3. Temporary pavement restoration shall be required when vehicular traffic will be present prior to final pavement restoration. The jurisdictional authorities shall govern final pavement restoration. Final asphalt restoration shall typically include roto-milling to remove existing asphalt six inches (6") on each side of the trench. Final concrete restoration shall typically include replacing the concrete to match the existing roadway cross-section.
- 21.6.4. Contractor shall be responsible to ensure tie-ins and duct couplings are made to ensure elevations remain as straight as possible and that the duct and conduit joints provide an airtight seal. Contractor shall furnish duct couplers to achieve this requirement.
- 21.6.5. Driveways, lanes, or roadways when required to be open cut, shall be opened just prior to the conduit placing. In no case shall the driveway, lane, or roadway be left impassable at the end of each workday. The general public safety is paramount and appropriate steps shall be taken to ensure safety at all times. Where a drive or roadway

must be left open for traffic, Contractor must provide the material and method required to allow for movement of traffic.

- 21.6.6. Trenches shall be promptly backfilled with select material and placed so that final grade is restored to original grade to ensure no hazard to vehicular, animal or pedestrian traffic. No trenches shall be left open overnight without prior approval of ESVBA. Upon approval all open trenches shall be properly guarded or barricaded to prevent damage or injury.
- 21.6.7. In areas inaccessible to tamping type rollers where compaction is required, a mechanical tamper of a size suitable for the work involved shall be used. Pneumatic tampers shall be operated at pressures no less than those recommended by the manufacturer.
- 21.6.8. Contractor shall notify Owner of areas where minimum cover requirements cannot be met. Contractor shall ensure that locations with minimum cover are protected by such means as to cover conduit with ¼" steel plates, concrete slurry, or both. This material and installation cost shall be borne by Contractor.

21.7. BORE INSTALLATION

- 21.7.1. Boring shall be completed with the excavation of bore launching and receiving pits, any required shoring, any required rock removal, and the installation of the conduit at a depth no less than thirty six inches (36") of cover. Maximum depth of bore installation shall not exceed eight feet (8'). Bore installation shall include pushing, boring, or simultaneously boring and pushing casing pipes and duct under roads, exit ramps, railroad tracks, driveways, sidewalks, trees, environmentally sensitive areas and other features indicated on the Contract Drawings or as directed by jurisdictional authorities. Acceptable methods of boring include jack boring, dry auger boring, and directional boring.
- 21.7.2. Duct shall be installed in locations as shown on the Contract Drawings. Contractor shall plan all bores as to not exceed fifteen degrees (15°) of bends in the duct. Bore pits shall be placed to conform to regulations mandated by the jurisdictional authorities as necessary.
- 21.7.3. Before boring, Contractor shall check all obstructions and clearances. All existing utilities and facilities shall be located and remain open until the bore has been completed.
- 21.7.4. No bore pits or potholes shall be left open overnight without prior ESVBA approval. Upon approval, all open bore pits or potholes shall be properly guarded or barricaded to prevent damage or injury.
- 21.7.5. Contractors' bore operator and navigator shall maintain communication at all times. When visual obstruction or distance precludes un-aided verbal communication, the operator and navigator shall utilize radio communication devices. An additional third person that has a clear view of the entire operation shall be used, wherever practical without creating an additional safety hazard.
- 21.7.6. The boring operator shall have full control of the direction of the boring tool at all times. Shallow, misdirected, unsuccessful bores and voids shall be abandoned and restored to like or better condition completely at Contractor's expense. Under no circumstances shall the Contractor be allowed to cut or disturb pavement or asphalt, or excavate within the relative limits of any roadway surface to retrieve any lost boring apparatus.

- 21.7.7. All ends of bore casing shall be sealed using non-shrink grout. All conduits shall be capped, sealed watertight and shall be well marked to accommodate locating. All bore pits shall be dewatered.
- 21.7.8. Restoration shall include the placement of select fill or clean backfill compacted in eight-inch (8”) lifts. Clean backfill is defined as existing native soil containing material that is free of debris and contains no cobbles. Restoration may also include shoring, bracing, road bore connections, and all other operations necessary to complete the installation. Surfaces shall be restored to original or better condition or as mandated by the jurisdictional authorities.
- 21.7.9. Contractor is to use proper dewatering and containment methods for removal and disposal of bore water and any and all additives for wall stabilization.
- 21.7.10. Setup of directional boring equipment must be made in a manner to minimize damage to the surrounding area. Emphasis shall be placed on setup locations to ensure that the equipment, debris, and/or bore water overflow do not encroach onto private property or public drainage systems. Contractor shall be responsible for disposing of all waste.
- 21.7.11. All directional boring equipment shall have electrical protective devices to protect the operators from electrical shock. ESVBA strictly requires that these devices not be circumvented in any way and that all protective safety equipment is worn or used by all required individuals. Anyone not wearing or using protective equipment shall not approach or touch the directional drilling equipment.
- 21.7.12. No items attached to the backside of the reamer shall be allowed without the use of a free-moving swivel to eliminate the rotation of trailing stem. When adding additional stem or attachments where the addition/attachment is not within sight of the bore machine operator, all power providing any movement to stems shall be disengaged and the stems at the boring rig shall be locked down. Power shall only be reinstated after the item being attached to the stem is securely connected and all personnel are clear of moving components.
- 21.7.13. Contractor shall be responsible to ensure tie-ins and duct couplings are made to ensure elevations remain straight as possible and that the duct and conduit couplers provide an airtight seal.
- 21.7.14. Contractor shall in his pre-bid survey determine soil conditions. Rock conditions shall be determined by Contractor prior to project commencement, and will not be considered for a request for change order. It is the responsibility of the Contractor to familiarize themselves with the ground conditions. Geo-Tech or similar reports will not be provided for the area.
- 21.7.15. Contractor shall notify Contractor of areas where minimum cover requirements cannot be met. Contractor shall ensure that locations with minimum cover are protected by such means as to cover conduit with ¼” steel plates, concrete slurry, or both. This material and installation cost shall be borne by Contractor.

21.8. RODDING, ROPING AND INNERDUCT INSTALLATION

- 21.8.1. Contractor shall determine the integrity of existing sections of conduit prior to installation of any pull line.
- 21.8.2. Contractor shall use a variable length rodder to physically “rod” the existing innerduct. This activity will determine whether or not the conduit run is continuous or whether collapsed or damaged conduits exist. Should damaged conduit be found, Contractor shall notify the Owner.

- 21.8.3. Once a determination has been made that the conduit run is successful, Contractor shall “rope” the existing conduit run with a pull line or mule tape.
- 21.8.4. Proofed and/or verified conduits shall have innerducts placed within them as directed by Owner. Contractor shall use swivels any time innerduct is being installed to prevent twisting of the duct.
- 21.8.5. Contractor shall apply lubricant, at Contractor’s expense, as required during the innerduct installation process.
- 21.8.6. Contractor shall provide enough manpower to sufficiently manage and supervise all installations.
- 21.8.7. Contractor shall ensure breakaway tension of the winch is within the specifications of the innerduct manufacturer.
- 21.8.8. Each innerduct shall have a pull line or other pull rope installed.
- 21.8.9. Contractor shall furnish and install a blank duct plug to each innerduct, making sure to tie-off all pull lines.
- 21.8.10. Contractor shall use caution through the entire rodding, roping and innerduct installation process to avoid damaging any existing conduits, innerducts, cables, or other previously existing plant.
- 21.8.11. Contractor shall prepare, and furnish to Owner, butterfly drawings of manhole system showing Owner duct and overall layout of ducts in the manhole.

21.9. MANHOLE INSTALLATION

- 21.9.1. The Contractor shall install manholes at locations as shown on the Contract Drawings and as approved by ESVBA The Contractor shall install manholes to the specifications as depicted on the typical drawings and any applicable jurisdictional authorities’ specifications.
- 21.9.2. Contractor shall place the manholes on a minimum eight-inch (8”) thick bed. Bed material shall consist of clean three quarter inch (3/4”) crushed stone placed on filter fabric. For open bottom manholes, Contractor shall place a rodent-proof mesh on top of the gravel bedding. The ducts shall enter and leave manholes exactly opposite each other. Frames and covers shall be installed to match existing grade unless otherwise noted and shall be shimmed with either steel or concrete spacers.
- 21.9.3. Contractor shall not use material less than five thousand pounds per square inch (5,000 psi) in density to shim frames and covers or as necessary to maintain the load rating on the manholes.
- 21.9.4. The manholes shall not be installed on steep banks or slopes where the cover cannot be leveled within a tolerance of one-inch (1”) of drop to twelve inches (12”) of grade.
- 21.9.5. All manhole penetrations shall be sealed with a non-shrink grout. All conduit and duct ends shall be sealed with Contractor supplied duct plugs/caps. Large diameter ducts shall be trimmed neatly inside the manhole. For PVC conduit installation’, conduits shall be flush to the interior manhole wall. During installation of HDPE conduits, conduits shall extend 12” into the manhole.
- 21.9.6. Contractor shall install racks, hooks, and appurtenances on manholes as per the manufacturer’s recommendations.

21.10. HANDHOLE INSTALLATION

- 21.10.1. Contractor shall install handholes at locations as shown on the drawings and as approved by Owner. The Contractor shall install handholes to the specifications as

depicted on the typical drawings and any applicable jurisdictional authorities' specifications.

- 21.10.2. Contractor shall place the handholes as per the typical drawings. Contractor shall place a rodent-proof mesh on top of the gravel bedding. The ducts shall enter and leave handholes exactly opposite each other.
- 21.10.3. Handholes shall be placed so that the top sits flush with the existing grade unless otherwise noted.
- 21.10.4. The handholes shall not be installed on steep banks or slopes where the cover cannot be leveled within a tolerance of one-inch (1") of drop to twelve inches (12") of grade.
- 21.10.5. All conduit and duct ends shall be sealed with Contractor supplied duct plugs/caps. Large diameter ducts shall be trimmed neatly inside the manhole. For PVC conduit installation, conduits shall be flush to the interior manhole wall. During installation of HDPE conduits, conduits shall extend 12" into the manhole.

21.11. ROUTE MARKERS

Contractor shall install cable route warning signs along the route to allow for route protection and maintenance. Contractor shall exercise special caution to locate the cable route markers and cable location signs to avoid interference with the warning tape, conduit, and any other existing facilities. Placement of route markers is considered part of the cable placement work operation.

21.12. CORING

- 21.12.1. Contractor shall perform all cores into abutments, tunnel walls, manholes, handholes, and vaults by utilizing a core drill with a core type bit. Contractor shall drill a pilot hole prior to performing the core to verify the core's location. Contractor shall core a hole that is not more than one half inch (1/2") greater than the outside diameter of the conduit that is being placed through the core. Contractor shall seal the core utilizing a non-shrink grout.
- 21.12.2. Contractor shall adhere to the specifications imposed by the owner of the facility being cored into.
- 21.12.3. Contractor shall perform all cores into buildings by utilizing a core drill with a core type bit. Contractor shall drill a pilot hole prior to performing the core to verify the core's location. Contractor shall core a hole that is not more than two inches (2") greater than the outside diameter of the conduit that is being placed through the core. Contractor shall furnish and install a link seal on both ends of the core and tighten in a criss-cross fashion. In addition, Contractor shall adhere to the specifications imposed by the owner of the facility being cored into.
- 21.12.4. Contractor shall stub out conduit according to NEC code.
- 21.12.5. All clean up is the responsibility of the Contractor.

21.13. CABLE INSTALLATION, SPLICING and TESTING SPECIFICATIONS

21.13.1. UNDERGROUND FIBER OPTIC CABLE INSTALLATION

- 21.13.1.1. Contractor shall install fiber optic cable in the conduit system as specified in the Contract Drawings, and in accordance with the manufacturer's recommendations. Contractor shall use appropriate pulling devices, jetting, or blowing machines used in strict accordance with the manufacturer's instructions. Vehicles or other devices, not approved by the cable manufacturer or Owner, shall not be used to pull cable.

- 21.13.1.2. Each reel of fiber optic cable will be tested at the factory. The Contractor may at its discretion, reel test the fiber cable prior to installation. Contractor assumes responsibility of the fiber cable until Acceptance by Owner.
- 21.13.1.3. Contractor shall maintain comprehensible two-way radio communication among crewmembers at all times during fiber optic cable installation.
- 21.13.1.4. Owner is providing Contractor the option to blow, jet, or pull the fiber optic cable for installation. Should Contractor choose to install the cable by pulling, Contractor shall be responsible for furnishing and installing pull rope.
- 21.13.1.5. Contractor shall, to the best of its ability, install the fiber optic cable in the most consistent manner throughout the duct system. This shall include, but is not limited to, installation within the same color or location of duct.
- 21.13.1.6. Contractor is responsible for the protection of fiber optic cable until acceptance by Owner of the installed, spliced and tested cable from Contractor. This includes, but is not limited to, storage of the cable prior to installation, overnight protection because the entire cable was not installed prior to stopping work for the day, and during transportation to the jobsite.
- 21.13.1.7. Contractor shall leave slack coils as shown on the Contract Drawings. Cable slack coils shall have a radius no smaller than ten (10) times the outside diameter of the cable unless the manufacturer recommends more stringent guidelines. Contractor shall leave one hundred feet (100') of cable slack coiled in handholes and manholes that will be utilized for splicing. In all other handholes and manholes, Contractor shall leave slack as noted on Contract Drawings and as needed for on-going operations and maintenance of the Network, but in no case less than one hundred feet (100') feet. All cable slack shall be neatly coiled and secured with black electrical tape.
- 21.13.1.8. Contractor shall rack all slack coils to the existing handhole or manhole racking. Cable shall be identified in each manhole/handhole utilizing cable tags. Contractor shall label all cable tags with a permanent marker. Labels shall include the count of fiber and any requested Owner information.
- 21.13.1.9. Contractor shall avoid bends of small radii and twists that may damage the fiber optic cable. During installation, Contractor shall not bend cable in a radius less than twenty (20) times the outside diameter of the cable. Contractor shall utilize pulleys, sheaves, radius wheels, or other devices to meet this requirement.
- 21.13.1.10. Contractor shall not pull the cable with more than six hundred (600) pounds of dynamic tension and shall use a breakaway swivel. Contractor shall use safeguards such as adjustable slip clutch capstan winches or pulling dynamometers. Contractor shall be responsible for proving that all safeguards have been calibrated and demonstrate their functionality.
- 21.13.1.11. Contractor shall install the cable into the conduit system without splices in the fiber optic cable except where noted on the Contract Drawings.
- 21.13.1.12. Contractor shall dispose of all reels in an appropriate manner. Contractor shall properly dispose of any cable determined to be "unusable".
- 21.13.1.13. No figure eight (8) machines shall be used to place fiber optic cable.
- 21.13.1.14. Contractor shall redline drawings to produce and submit to Owner as-built drawings of the installed fiber optic cable.
 - 21.13.1.14.1. Contractor shall complete red line drawings. Red line drawings shall include:

- 21.13.1.14.2. At EVERY manhole and handhole, verification of the occupied duct (e.g. Orange duct entering, Blue duct leaving).
- 21.13.1.14.3. At EVERY manhole and handhole, Contractor must write down sequential footage markings at the manhole or handhole entry point for each cable. There should be two separate footages at each location with the footage recorded being correctly labeled as to its direction and location (i.e. 5005' – North cable at Manhole POE; 3001' – South cable at Manhole POE).
- 21.13.1.14.4. At EACH splice manhole and handhole, Contractor must write down sequential footage markings at the manhole or handhole entry point and at the butt of the splice enclosure for each cable. There should be four separate footages at each butt splice location with each footage recorded being correctly labeled as to its direction and location (i.e. 5005' – North cable at Manhole POE; 5055' – North cable at entrance of splice enclosure; 3001' – South cable at Manhole POE; 2051 – South cable at entrance of splice enclosure)

21.14. AERIAL FIBER OPTIC CABLE INSTALLATION

- 21.14.1. Contractor shall ensure that fiber optic cable is installed as specified on the drawings and that Contractor installs fiber optic cable in accordance with the manufacturer's recommendations, and that the Work is performed in accordance with the Telcordia standards
- 21.14.2. Contractor shall ensure that each reel of fiber optic cable will be tested at the factory and prior to installation. Owner assumes no responsibility whatsoever for the fiber cable until acceptance by Owner.
- 21.14.3. Contractor shall ensure that all strand and fiber cable, down guys, pole-to –pole guys, anchors, arms, risers, lateral cables, etc. are installed as per industry standards or as shown on the drawings. Not shown, but included, are bonds to other communication strands (not power communication) and vertical ground at first, last, and every tenth pole, fiber tags at every pole, tree trims, down guy guards, u-guards, and pole stepping as required
- 21.14.4. Contractor shall ensure that there shall be strand continuity throughout the system and that strand to strand bonds shall be accomplished using a separate bond clamp and #6 copper bond, (i.e. double framed poles).
- 21.14.5. Contractor shall ensure that any anchors and guy wires shall always be installed and tensioned prior to sagging.
- 21.14.6. Contractor shall ensure that guys shall be attached to standard pole line hardware and anchor rods using a perform dead end, two-bolt clamp for 6.6M (1/4") strand, three-bolt clamp for 10M (5/16") strand or strand vice.
- 21.14.7. Where authorized by the local utility companies an auxiliary eye attachment may be used to attach a guy to an existing anchor rod.
- 21.14.8. Contractor shall ensure that anchor rods shall not protrude more than twelve (12) inches above ground level and, where required by the governing pole owner(s), strain insulators are installed on all down and pole-to-pole guys.
- 21.14.9. Contractor shall ensure that guy guards (shields) are utilized on all down guys.
- 21.14.10. Contractor shall ensure that at junction poles and dead end poles, all strands are bonded or grounded.
- 21.14.11. Contractor may use metal, wood, or fiberglass standoff to clear obstructions if approved by the local utilities.

- 21.14.12. Contractor shall ensure that fiber optic cable and lashing machines shall NOT be pulled with a vehicle at ANY time.
- 21.14.13. Contractor shall ensure that fiber optic cable shall be smoothly installed using double lashing to strand. Loose lashing or excessive twisting or weaving of cable around messenger shall constitute cause for rejection.
- 21.14.14. Contractor shall ensure that cable is not pulled with more than 600 lbs. of dynamic tension and that safeguards, such as breakaway swivels, adjustable slip-clutch capstan winches, or pulling dynamometers are used.
- 21.14.15. Contractor shall ensure that cable rollers are placed every fifty (50) feet, or closer where required, to protect the cable and property and to assure proper clearance over driveways and streets and that separator blocks are used on multi-cable runs to prevent wrapping.
- 21.14.16. Contractor shall ensure that special corner cable rollers are used for pulling cable around any corner.
- 21.14.17. Contractor shall ensure that cables are double lashed to a supporting strand using a 0.045" stainless steel lashing wire maintaining an average of 2,400 feet of lashing wire per 1,000 feet of strand.
- 21.14.18. Contractor shall ensure that bends of small radii and twists that may damage the fiber optic cable are avoided and that during cable placement, cable is bent in a radius less than twenty (20) times the outside diameter of the cable or as specified by the Manufacturer. Pulleys, sheaves or radius wheels shall be used to meet this requirement.
- 21.14.19. Contractor shall ensure that cable is not pulled at greater than 180 degrees of cable bend per pull.
- 21.14.20. Contractor shall ensure that lashing wire is terminated with a lashing wire clamp on each side of every pole, that the lashing wire is wrapped two times around the strand before terminating in the lashing wire clamp, is placed between the two washers, is wrapped no more than ½ turn, and does not cross itself under the washers. Contractor shall ensure that when the lashing wire is securely fixed, the end of the lashing wire is not exposed and that when double lashing, both lashing wires are not placed under the same washer.
- 21.14.21. Contractor shall ensure that at each pole the cable and strand are separated by cable support and spacers with a minimum of two (2) straps and spacers.
- 21.14.22. Contractor shall ensure that fiber optic cable slack loops are placed in slack shoes as shown on the drawings and are located a minimum of four (4) linear feet from the pole. Slack loops and splice cases may be coiled on the pole (provided that the recommended bend radii is not exceeded), but must be promptly lashed to messenger strand.
- 21.14.23. Contractor shall ensure that fiber warning tags are placed at each pole that Contractor labels all cable tags with a permanent marker and that labels include the count of fiber and any requested Owner information.
- 21.14.24. Contractor shall redline drawings to produce and submit to Owner record drawings of the installed fiber optic cable.
- 21.14.25. Contractor shall perform bonding and grounding of all armored cables, hand holes and metal conduits to meet or exceed industry standards, local, state and federal codes. All

bonding and grounding are performed in accordance with the splice case manufacturer's specifications.

21.14.26. Contractor shall ensure that all bonds are clean and free of debris and sealed within the splice closure.

21.14.27. If ground rods are required, they shall be installed to leave eight inches (8") exposed above ground with a #6 AWG jacketed solid copper wire from the ground rod to the splice closure attached via mechanical clamps.

21.15. FIBER OPTIC SPLICING

21.15.1. This work includes coordination with Owner prior to the start of work. Contractor shall splice all fibers in accordance with and as designated in the splice assignment sheets or locations, approved by Owner. Contractor shall splice the fiber optic cable in accordance with Standard specifications and the manufacturer's recommendations.

21.15.2. Contractor shall inspect all splicing equipment prior to splicing activities to ensure that the equipment is in good, clean working condition. Contractor shall calibrate the splicing equipment as recommended by the manufacturer. Owner reserves the right to inspect the splicing equipment and to request the contractor to calibrate and/or clean the equipment upon inspection.

21.15.3. All fibers are to be loosed tubed, fusion spliced and organized, placed and secured in the splice closure equipment. Mass fusion splicing shall not be permitted without prior written approval of Owner. A heat oven shall be used to heat shrink all sleeves. A heat gun that is hand applied shall not be permitted. Care must be exercised to prevent damage to exposed fibers by overheating. The acrylic coating should not be removed beyond the areas that will be covered by the heat shrink sleeves.

21.15.4. Contractor should test for active/working fibers at all times. Contractor shall exercise special care and precautions. Close supervision and monitoring of this work is necessary and the provisions of this section will be adhered to. Additionally, the Contractor shall have all necessary materials to make temporary and permanent repairs to any active fibers that may be damaged during the course of the work. Contractor is solely responsible for any damages incurred by Owner due to disruptions of active/working fibers due to splicing operations.

21.15.5. Terminations of the cable shall be performed in the Owner or User supplied Fiber Distribution Panels (FDP). All terminations shall be performed in accordance with the specifications and manufacturer's requirements.

21.15.6. All fiber splices shall conform to the loss requirements as stated in Section 3.8 "Fiber Optic Testing."

21.15.7. Splice data shall be recorded for each attempt and shall include time of day, weather conditions including temperature and humidity, equipment used, and all other pertinent splicing information.

21.15.8. Within each splice enclosure, Contractor shall use a label maker to clearly print and identify each tray with the corresponding fibers and/or ribbons contained therein.

21.15.9. All consumables, such as electric tape, miscellaneous tie wraps, markers, etc. shall be supplied by Contractor.

21.16. OTDR & POWER (Insertion) LOSS TESTING

21.16.1. This work includes coordination and written notification to Owner five (5) days prior to the start of work. Contractor shall test the fiber optic cable using an Owner approved Optical Time Domain Reflectometer (OTDR).

- 21.16.2. At the completion of all splice points the Contractor shall record measurements of the splice losses with an Optical Time Domain Reflectometer (OTDR). OTDR readings must be taken after the splice cases are closed and permanently racked in the handhole/manhole in order to check for macro-bending problems. Contractor may be directed by Owner to perform temporary testing of splices. Contractor shall comply with Owner's specifications as well as the specifications of the cable and equipment manufacturers.
- 21.16.3. Loss measurements shall be recorded using a laser source and a power meter. OTDR traces shall be taken and splice loss measurements recorded. The Contractor shall also store OTDR traces on diskette. Contractor shall record OTDR traces on GN Nettest or an Owner approved equivalent.
- 21.16.4. Contractor shall verify that all fibers have one-to-one continuity on the new cable both at the fiber level and the pigtail level. Contractor shall visually inspect fiber color and buffer tube color at each end of a span.
- 21.16.5. Contractor shall make three (3) attempts to achieve the allowable splice loss for each fiber.
- 21.16.6. Contractor shall note the fiber type and calibrate all testing and splicing equipment as applicable. This shall include but is not limited to dispersion, clad, pulse width, scan rate, and refractive index.
- 21.16.7. Contractor shall allow the OTDR trace sufficient time to "normalize" to avoid noisy signals on long spans.
- 21.16.8. All OTDR traces for final end-to-end testing will be saved to diskette and provided to Owner. When saving these OTDR traces, Contractor shall use the Owner approved format. Each diskette shall be labeled with the fiber owner, cable type and make, the date the traces were shot, and the name of the person and company operating the OTDR.
- 21.16.9. When working on terminated fibers or as directed by Owner, Contractor shall test the fiber optic cable using two (2) self contained optical power meters (OPM) which shall be capable of testing fiber optic transmission and cable facilities at 1310 nm and 1550 nm wavelengths simultaneously. Contractor shall record all power meter data and provide to Owner.
- 21.16.10. Contractor shall be responsible for supplying to Owner three (3) copies of OTDR software and manuals for reading OTDR traces for an IBM-compatible PC.

21.17. FIBER ACCEPTANCE TESTING

- 21.17.1. This work includes coordination and written notification to Owner five (5) days prior to the start of work. Contractor shall test the fiber optic cable using a GN Nettest Optical Time Domain Reflectometer (OTDR).
- 21.17.2. As splice points are completed, OTDR measurements of the splice losses will be made and recorded by the Contractor. These measurements must be made after the splice manhole or handhole is closed in order to check for macro-bending problems.
- 21.17.3. After Contractor has provided end-to-end connectivity on the fibers, bi-directional end-to-end testing shall be performed. Contractor shall also perform continuity tests to verify that no fibers have been "frogged" or crossed in any of the splice points. Contractor shall immediately take action to correct any transposed or "frogged" fiber in the system. Contractor shall perform this testing and make any necessary repairs before acceptance testing is done.

- 21.17.4. Contractor shall submit the results from the OTDR and End-to-End Power Meter testing to Owner for review. Contractor shall submit one (1) copy of the test results in an electronic format approved by Owner, who will then review the data and identify any deficiencies. Contractor shall expeditiously repair all the deficiencies.
- 21.17.5. The bi-directional fiber loss calculations recorded on the End-to-End Power Meter Test Results Form (Attachment L) will be the guideline by which Owner will accept or reject the work.
- 21.17.6. If Contractor cannot meet the Owner’s allowable End-to-End Power Meter loss within two (2) additional splice reburn attempts, Contractor shall proceed as follows:
- 21.17.7. Contractor shall notify Owner of the situation and provide documentation of all three (3) splice attempts.
- 21.17.8. Contractor shall attempt a final splice with power optimization to obtain a splice loss not greater than 0.10 db above the allowable.
- 21.17.9. Allowable Values

Splice Method	Glass Type	Uni-Directional Guideline (+/-)@ 1310/1550nm	Bi-Directional Guideline (+/-)@ 1310/1550nm	Power Meter Span Splice Loss Factor @ 1310nm	Power Meter Span Splice Loss Factor @ 1550nm
Single Fusion	Single Mode	0.20 dB	0.15 dB	0.10 dB	0.15 dB
Mass Fusion	Single Mode	0.25 dB	0.20 dB	0.10 dB	0.15 dB
Connector loss	Single Mode	0.50 dB	0.50 dB	0.50 dB	0.50 dB

- 21.17.10. Contractor shall save End-to-End signature test OTDR traces for each attempt on each fiber on the optic scan using the Owner approved format. Each diskette/CD shall be labeled with the cable type and make, the date the traces were made, and the name of the person and company operating the OTDR. Contractor shall use the following labeling system to save traces during OTDR testing:

AAABBBWD.nnn, where:

AAA: Location code for the “from” site, provided by Owner

BBB: Location code for the “to” site, provided by Owner

W: The wavelength of the test (3 for 1310nm and 5 for 1550nm)

D: Direction of the testing of the fiber optic span or loop ID if direction is included in Site Code.

nnn: The fiber number being tested.

- 21.17.11. Loss measurements shall be recorded using a laser source and a power meter. OTDR traces shall be taken and splice loss measurements recorded. The Contractor shall also store OTDR traces on diskette. Contractor shall record OTDR traces on GN Nettest.
- 21.17.12. Contractor shall verify that all fibers have one-to-one continuity on the new cable both at the fiber level and the pigtail level. Contractor shall visually inspect fiber color and buffer tube color at each end of a span.
- 21.17.13. Contractor shall make three (3) attempts to achieve the allowable splice loss for each fiber.

- 21.17.14. Contractor shall note the fiber type and calibrate all testing and splicing equipment as applicable. This shall include but is not limited to dispersion, clad, pulse width, scan rate, and refractive index.
- 21.17.15. Contractor shall allow the OTDR trace sufficient time to “normalize” to avoid noisy signals on long spans.
- 21.17.16. All OTDR traces for final end-to-end testing will be saved to diskette and provided to Owner. When saving these OTDR traces, Contractor shall use the Owner approved format. Each diskette shall be labeled with the fiber owner, cable type and make, the date the traces were shot, and the name of the person and company operating the OTDR.
- 21.17.17. When working on terminated fibers or as directed by Owner, Contractor shall test the fiber optic cable using two (2) self contained optical power meters (OPM) which shall be capable of testing fiber optic transmission and cable facilities at 1310 nm and 1550 nm wavelengths simultaneously. Contractor shall record all power meter data and provide to Owner.

21.18. GROUNDING AND BONDING

- 21.18.1. Contractor shall perform bonding and grounding of all armored cables as depicted in the typical and construction drawings. All bonding and grounding shall be performed in accordance with the splice case manufacturer’s Standard Practice and Installation manuals.
- 21.18.2. All bonds shall be clean and free of debris and sealed within the splice closure.
- 21.18.3. Ground rods shall be placed at all splice locations. The ground rod shall be 5/8” diameter and eight feet (8’) long copper clad and installed to leave eight inches (8”) exposed inside the manhole or handhole. Contractor shall install a #6 AWG jacketed solid copper wire from the ground rod to the splice closure attached via mechanical clamps.

21.19. RIGHT-OF-WAY PROTECTION AND RESTORATION

- 21.19.1. Contractor shall protect the right-of-way and minimize damage from the construction operations.
- 21.19.2. Depending on the location of the work, the Federal Environmental Protection Agency, the State Environmental Protection Agency, the DEP or others may stipulate construction practices and crew behavior requirements in or around environmentally sensitive areas and cultural resource sites. Contractor shall adhere to any such stipulated construction practices and crew behavior requirements.
- 21.19.3. Contractor shall keep the premises where work is being performed in a neat, clean, and orderly condition. Contractor shall remove all of its tools and equipment from the premises on a daily basis, and any debris shall be removed and disposed of by Contractor in an appropriate manner. All debris and waste materials removed shall become the property of the Contractor.
- 21.19.4. The right-of-way shall be restored to original or better condition within forty-eight (48) hours following conduit/duct placement operations.
- 21.19.5. All remaining rock and debris brought to the surface during construction operations shall be removed from the right-of-way and disposed of in accordance with all Federal, State and Local Laws.
- 21.19.6. All terraces that were removed or damaged shall be replaced to original or better condition following the placing operations at Contractor’s cost.

- 21.19.7. Removed or damaged landscaping, lawns, shrubs, vegetation, and hedge shall be replaced with improved products and restored to original or better condition at Contractor's expense. Contractor shall repair lawns by resodding with like grasses. Contractor will not be reimbursed for materials, as restoration and removal of any waste is considered part of the work operation.
- 21.19.8. The Contractor shall promptly repair or replace any other property damaged during construction at Contractor's cost.
- 21.19.9. Waste materials including, but not limited to, refuse, garbage, sanitary wastes, oil and other petroleum products shall be removed from the construction areas and be properly disposed of by Contractor. Waste materials removed from the construction areas shall be dumped at an approved dumpsite. It shall be the responsibility of the Contractor to make any necessary arrangements with private parties and with county officials pertinent to locations and regulations of such dumping. Any fees or charges requiring payment for dumping of materials shall be included in Contractor's per unit price.
- 21.19.10. Contractor is not responsible for disposal of hazardous waste materials not generated by the Contractor. If Contractor encounters such hazardous waste materials, Contractor shall stop work immediately and notify Owner.
- 21.19.11. Any hazardous materials introduced to the work locations by Contractor shall be removed and disposed of by Contractor according to Federal Environmental Protection Agency, OSHA, and all other applicable regulatory authorities. Contractor is responsible for notifying Owner of any hazardous material introduced to the work site. Delays resulting from Contractor introducing hazardous material to work sites shall not become the basis for an extension of time or additional compensation to complete the Contract. Contractor's obligation under paragraph 12 of the General Terms and Conditions shall apply to any hazardous condition caused by Contractor's use of hazardous materials.
- 21.19.12. Contractor shall maintain all disposal manifests and shall make available to Owner upon request.

21.20. PREMISES INSTALLATIONS

- 21.20.1. Premises installation will include the fiber from the last feeder cable to the house, the equipment on the outside and inside of the house, the penetration from the outside to the inside, the splicing at the house and the cooperative testing to bring the service live with the Owner's Network Operations
- 21.20.2. Contractor shall install conduit and cable in any method deemed most suitable, economical and/or efficient by Contractor, except where a specific construction method is specified by the Contract drawings, by a permit, or by an authority having jurisdiction.
- 21.20.3. The Contractor shall install all materials plumb, square and in a workman-like manner
- 21.20.4. Contractor shall direct plow, trench, excavate, erect, bore, rock saw, attach, or utilize other methods approved by Owner to install conduit, manholes, hand holes, fiber warning tape, route markers and other appurtenances as indicated on the construction drawings and as specified in the Contract Documents. Contractor shall install fiber optic cable as specified in the construction drawings.
- 21.20.5. During the course of installation, Contractor shall protect the right-of-way to minimize damage from construction activities including but not limited to utilizing good soil

erosion control practices and taking special precautions in environmentally sensitive and cultural resource sites.

- 21.20.6. Contractor shall work with Owner to schedule installations with property owner.
- 21.20.7. This work includes coordination and written approval with Owner prior to the start of work. All trees and/or brush shall be cut so that stumps protrude from the ground at a height no greater than two inches (2"). Clearing by Contractor shall be complete with the removal or chipping of the cleared material and is considered part of the work operation
- 21.20.8. All trimming and pruning shall be done by cutting only. No stripping, peeling, or breaking of limbs shall be allowed. When trimming shrubs and trees, Contractor shall use sharp, disease-free tools. All cuts shall be clean, and no stubs greater than one-quarter inch (1/4") shall be allowed. Exposed bark or limbs shall not be painted or treated in any way. Clearing and trimming shall be complete with the removal or chipping of cleared material and is considered part of the work operation.
- 21.20.9. Contractor shall install handholes or pedestals at locations as shown on the drawings and as approved by Owner. The Contractor shall install handholes or pedestals to the specifications as depicted on the typical drawings and any applicable jurisdictional authorities' specifications.
- 21.20.10. Contractor shall place the handholes or pedestals as per the typical drawings. Contractor shall place a rodent-proof mesh on top of the gravel bedding. The ducts shall enter and leave handholes or pedestals exactly opposite each other.
- 21.20.11. Contractor shall Arrange and mount equipment and materials in a manner acceptable to the Owner and property owner. This will include the install of a Network Interface Device (NID) on the external part of the customer locations. NID shall be placed based upon drawings provided or adjusted with Network Operations approvals.
- 21.20.12. Contractor shall make necessary penetrations to install fiber cable, taking care to maintain proper bend radii, from the external NID to the inside demarcation point. The inside demarcation point shall be a Passive Optical Network (PON) Optical Network Terminal (ONT).
- 21.20.13. Contractor shall comply with all National Electric Codes, National Electric Safety Codes and any local codes with regards to installing and running dielectric cables.
- 21.20.14. The path from the NID to the ONT shall be made in a high-quality manner with respect to minimizing property impact/disruption. The Contractor shall promptly repair or replace any property damaged during construction to original or better condition at Contractor's cost.
- 21.20.15. Contractor shall remove and dispose of any and all trash and waste materials
- 21.20.16. Contractor shall redline drawings to produce and submit to Owner record drawings of the installed fiber optic cable.

21.21. SAFETY SPECIFICATIONS

- 21.21.1. Safety is the foremost concern in any contract operation. Any Contractor performing an unsafe act or operation shall be notified to stop work until the unsafe act or operation is corrected. If unsafe acts or operations continue, it shall result in the termination of the Contract. This project encompasses areas that may include both public and private right-of-way. Therefore, in addition to the workmen, consideration must also be made for the general public and for private property.

- 21.21.2. Guidelines for health, safety and traffic control standards have been established by various agencies. Contractor shall comply with all Health, Safety and Traffic Control standards and procedures as required by the jurisdictional agencies and regulations as applicable.
- 21.21.3. Manhole safety procedures, including testing and monitoring of manhole atmosphere and installing proper manhole barricading, shall be required when accessing utility manholes to perform work under this Contract. This includes purging each manhole a minimum of ten (10) minutes prior to entry unless testing of gaseous content proves entering the manhole to be unsafe.
- 21.21.4. Any personal injury to Contractor's employees or agents engaged in work under this Contract, which requires the services of a physician or hospitalization, shall be reported at once to an Owner field representative. Contractor shall also report immediately to Owner any injury to other person(s) in which circumstances may concern Owner.
- 21.21.5. Weekly Toolbox Safety Meetings shall be conducted by Contractor and attended by all Contractor field personnel and the Owner field representative(s). The past week and anticipated hazards shall be discussed, with preventive measures outlined. For new types of activities, a hazard analysis (as applicable to present work) shall also be reviewed at this time. Owner field representatives shall inspect the work sites on a weekly basis. Any violations observed shall be immediately brought to the attention of the Contractor's Supervisor for correction. Owner shall correct any violations not corrected by the Contractor, and all cost incurred shall be back-charged to the Contractor. Continued violations shall result in termination of the Contract. Owner insists on having a quality, productive, and safe project.
- 21.21.6. All personnel in construction areas shall wear hard hats and reflective vests at all times. NO EXCEPTIONS. Appropriate clothing and footwear shall be worn at all times. Clothing with offensive or objectionable printing shall not be permitted.
- 21.21.7. Traffic cones, barricades, police details, flagmen, warning signs shall be inspected each day at each site. All open excavations in paved areas shall be covered with a suitable steel plate or patched at the end of the working day, subject to approval by Owner and the authorities having jurisdiction over this work. All excavations in other areas shall be fenced with safety fencing or otherwise protected as directed by Owner or governing authority.
- 21.21.8. All excavations five feet (5') or greater in depth shall be protected with either shoring or a trench box, per OSHA regulations. In areas that the Contractor is required to place shoring per OSHA specifications, the Contractor shall incur all cost associated with protection of the site.
- 21.21.9. Under no circumstances shall pedestrian traffic be routed or rerouted onto the Roadway or in an area where vehicular traffic is present.

Contractor acknowledges that they have read, understand, and agree to all terms, conditions, and specifications set forth in this Attachment A.

Signature

Name of Official

Title

Firm or Corporation

Date

ATTACHMENT 'B' - BID FORM**UNIT PRICE**

Based on the information contained within this Invitation for Bid, inclusive of all construction documents attached, (General Contractor) proposes a Unit Price Bid of line items attached herein to perform and furnish all work contained in and in accordance with the Contract Documents.

Contractor's proposal of the stated Unit Price schedule includes but is not limited to cost for all supervision, labor, equipment, tools, overhead and profit, margin, traffic control, and other costs necessary to complete the work.

SCHEDULE OF BID PRICE**A. UNIT PRICE**

The following unit prices shall be utilized to modify the project scope by adding and/or deleting from the scope of work. These unit prices shall include labor only.

Line Item	Aerial Plant Operations	Unit	Unit Price
1001	Install Strand Including Pole Hardware Materials (bolts, clamps, etc)	per foot	\$
1002	Lash Fiber to Existing Strand/Cable	per foot	\$
1003	Install Self-Support (Figure Eight) Fiber	per foot	\$
1004	Install Self-Support (Figure Eight) Innerduct	per foot	\$
1005	Install Slack Shoes	pair	\$
1006	Install Extension Arm	each	\$
1007	Install Down Guy	each	\$
1008	Install Screw Anchor	each	\$
1009	Install Building Attachment	each	\$
1010	Install Pole (25'-35' all classes)	each	\$
1011	Install Pole (40'-45' all classes)	each	\$
1012	Install Vertical Ground & Rod	each	\$
1013	Remove Cable & Strand	each	\$
1014	Remove Down Guy	per foot	\$
1015	Delash/Relash Fiber	each	\$
1016	Remove Pole	per foot	\$
1017	Bond Strand	each	\$
1018	Remove Extension Arm	each	\$
1019	Transfer Fiber to Pole	each	\$
1020	Transfer Aerial Drop to Pole	each	\$
1021	Raise/Lower Existing Cables	each	\$
1022	Run Fiber/Drop Cable	each	\$

Line Item	Underground/Buried Operations	Unit	Unit Price
2001	Direct Bury/Plow One Fiber Cable	per foot	\$
2002	Direct Bury/Plow One (1) 1.25" or .75" HDPE Duct	per foot	\$
2003	Direct Bury/Plow Two (2) 1.25" or .75" HDPE Ducts	per foot	\$
2004	Direct Bury/Plow Three (3) 1.25" or .75" HDPE Ducts	per foot	\$
2005	Directional Bore One (1) 1.25" or .75" HDPE Duct	per foot	\$
2006	Directional Bore Two (2) 1.25" or .75" HDPE Ducts	per foot	\$
2007	Directional Bore Three (3) 1.25" or .75" HDPE Ducts	per foot	\$
2008	Directional Bore One (1) 4" HDPE Duct	per foot	\$
2009	Trench w/backhoe Unimproved Soil & Install Duct(s)	per foot	\$
2010	Grass Trench w/backhoe & Install Duct(s)	per foot	\$
2011	Asphalt Trench w/backhoe & Install Duct(s)	per foot	\$
2012	Install Fiber in Duct	per foot	\$
2013	Install Max-Cell in Duct	per foot	\$
2014	Install One (1) 19.5"x19.5"x13" Closure	each	\$
2015	Install One (1) 18"x24"x12" Hand Hole	each	\$
2016	Install One (1) 24"x36"x24" Hand Hole	each	\$
2017	Install One (1) 30"x48"x36" Hand Hole	each	\$
2018	Rope Duct w/nylon pulling string	per foot	\$
2019	Rope Duct w/Mule Tape	per foot	\$
2020	Rod Duct w/Mule Tape	per foot	\$
2021	Install Metallic Trace Wire	per foot	\$
2022	Proof duct after installation	per foot	\$
2023	Install U-Guard	each	\$

Line Item	Fiber Splicing Operations	Unit	Unit Price
3001	Fusion Splice 1-24 Fibers	each	\$
3002	Fusion Splice 25-95 Fibers	each	\$
3003	Fusion Splice ≥ 96 Fibers	each	\$
3004	Pre-test Fiber on Reel	each	\$
3005	Bi-Directional OTDR Test @ 1310nm & 1550nm	each	\$
3006	Ring Cut Preparation Charge	each	\$
3007	Prep End of Cable in Trays and Splice Case (no splicing)	each	\$
3008	Hourly rate / splicer	per hour	\$

Line Item	Additional Labor/Support Operations	Unit	Unit Price
4001	Laborer	per hour	\$
4002	Flag Person	per hour	\$
4003	Foreman	per hour	\$
4004	Superintendent	per hour	\$
4005	Installer (In-building wiring)	per hour	\$
4006	Clearing & Grubbing Trees/Brush < 2" Diameter	per foot	\$
4007	Clearing & Grubbing Trees/Brush > 2" Diameter	per foot	\$

Line Item	Equipment	Unit	Unit Price
5001	Rock wheel or chain trencher for 36" cover trench	per hour	\$
5002	Directional Drill	per hour	\$
5003	Dump Truck – single axle (mason dump)	per hour	\$
5004	Dump Truck – double axle	per hour	\$
5005	Backhoe	per hour	\$
5006	Tractor and low-boy trailer	per hour	\$
5007	Pickup Truck	per hour	\$
5008	Vacuum Truck	per hour	\$
5009	Utility Truck with tools	per hour	\$
5010	Water Truck	per day	\$
5011	Air Compressor	per hour	\$
5012	Attenuator Truck with Arrow Board	per day	\$
5013	Bucket Truck	per day	\$
5014	Winch Truck	per day	\$
5015	Reel Trailer	per day	\$
5016	Light Tree	per day	\$
5017	Cable Blowing Machine	per day	\$
5018	Cable Pulling Machine	per day	\$
5019	Fusion Splicer	per hour	\$
5020	Splicing Van/Trailer	per day	\$
5021	OTDR	per hour	\$
5022	Power Meter	per hour	\$

Line Item	Customer Prem Operations	Unit	Unit Price
6001	Direct Bury/Plow One Fiber Cable	per foot	\$
6002	Direct Bury/Plow One (1) .75" HDPE Duct	per foot	\$
6003	Install Fiber in Duct	per foot	\$
6004	Install small vault with pedestal	each	\$
6005	Run drop fiber to house	per foot	\$
6006	Install House Attachment	each	\$
6007	Attach NID to house	each	\$
6008	Mount ONT inside house	each	\$
6009	Splice 2 fibers in NID and 1 fiber at pickup splice	each	\$

By submitting this bid, the Bidder certifies that it has read and understands the bid documents, general bid instructions, conditions and scope of work, in strict accordance with the specifications, including all addenda hereto, has familiarized itself with all federal, state and local laws, ordinances, rules and regulations that in any manner may affect the cost, progress or performance of the work; and certifies that it has received Addenda No(s) [], dated [].

Communications concerning this Bid shall be addressed to:

Name: []
Firm: []
Address: []
Telephone/Fax No.: []
Email Address: []

SUBMITTED ON: [] []

AN INDIVIDUAL or PARTNERSHIP

Signature: []
Individual's Name: []
Name of Firm: []
(NOTE: Give exact legal name to be used on the contract, if awarded.)
Business Address: []
[]

A CORPORATION

Signature:

Corporation Name:

(NOTE: Give exact legal name to be used on the contract, if awarded.)

State of Incorporation:

Name of Authorized Person:

Title:

Corporate Seal

Attest (Secretary):

Business Address:

ATTACHMENT 'C' – Samples of Unit Prices

Figure 1. Sample of overlash aerial plant with a drop to a customer attachment.

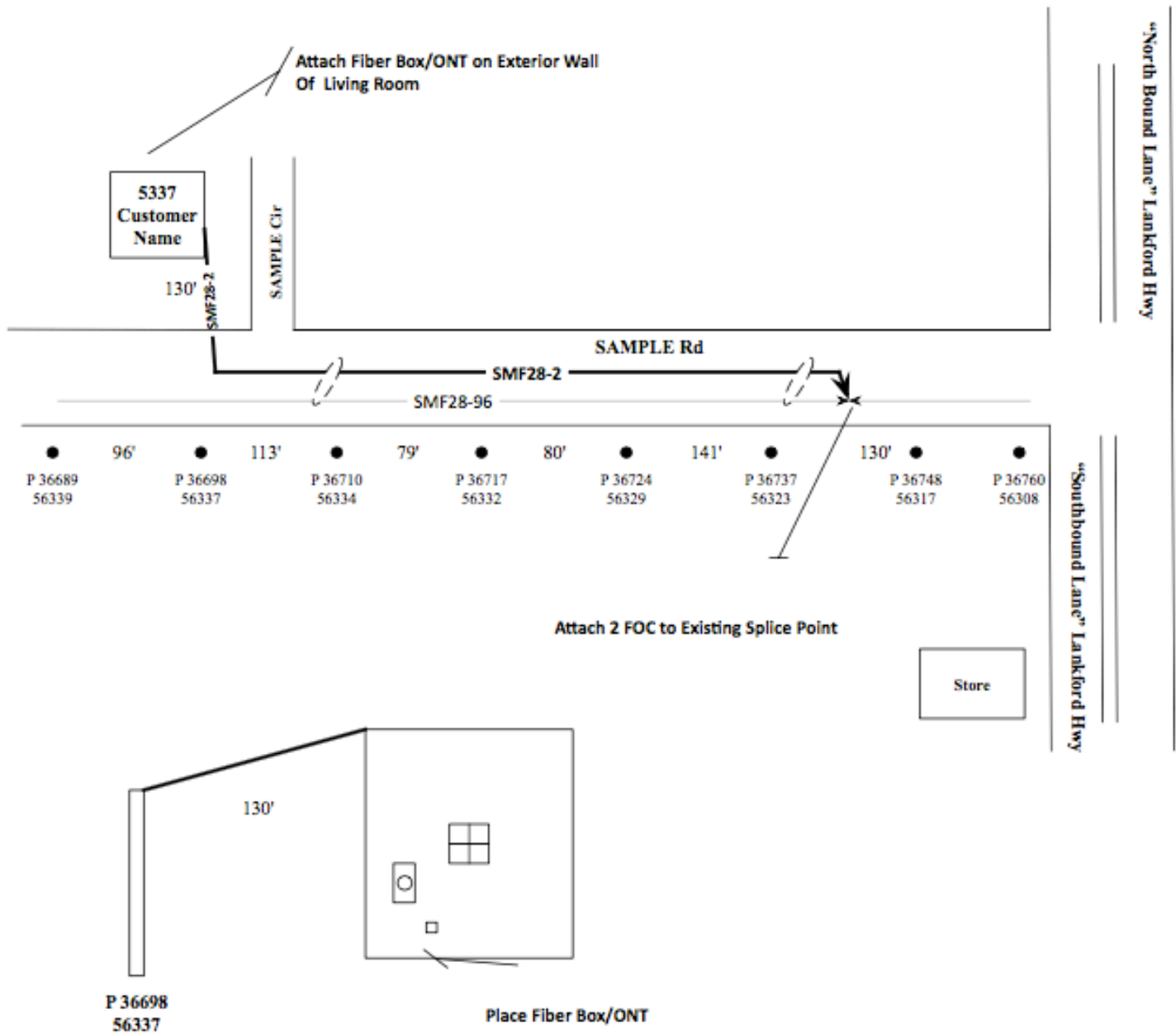


Table 1. Rate elements eligible for use with Figure #1.

Line Item	Description	Quantity
1002	Lash fiber to existing Strand/cable	543'

6005	Run drop fiber to house	130'
6006	Install house attachment	1
6007	Attach NID to house	1
6008	Mount ONT inside house	1

Figure 2. Sample of splicing customer with a single pickup at existing splice.

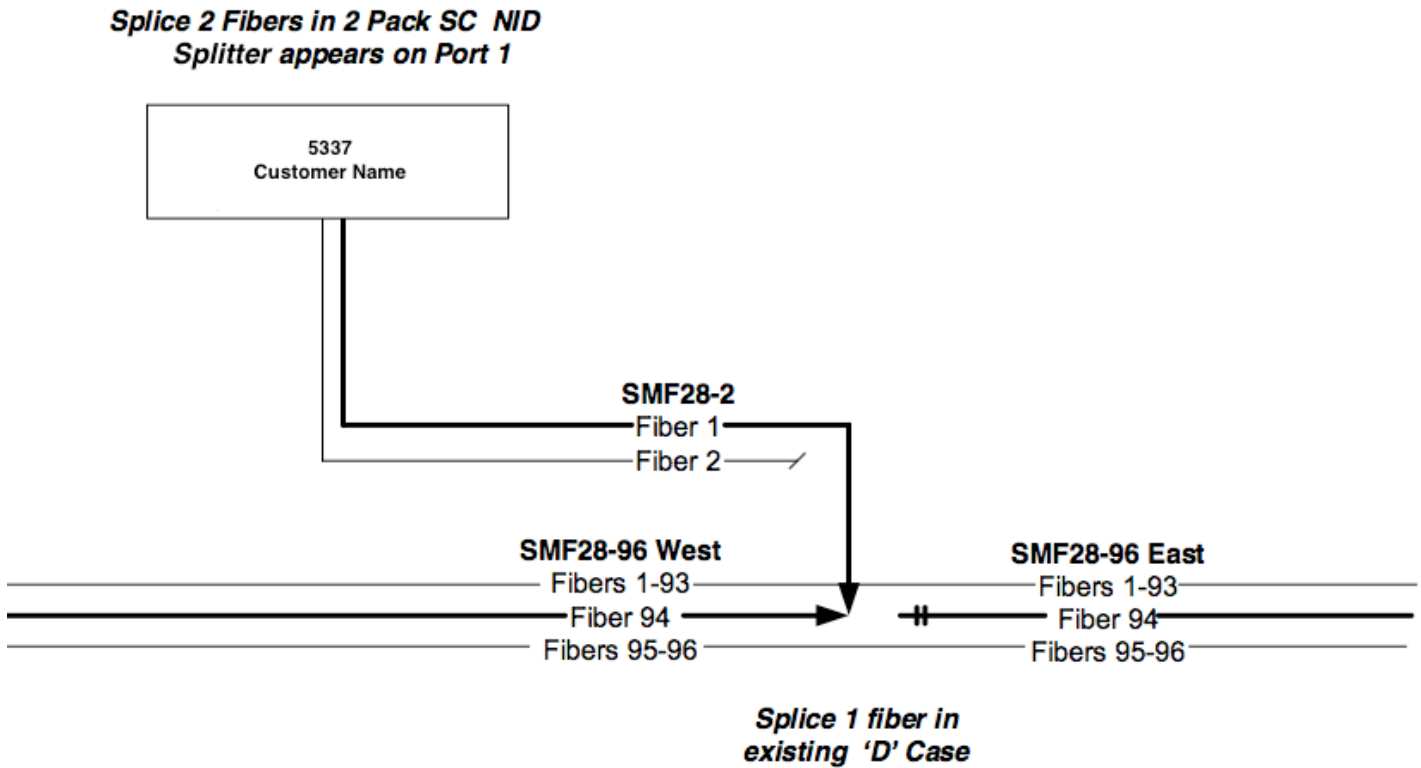


Table 2. Rate elements eligible for use with Figure #2.

Line Item	Description	Quantity
6009	Splice 2 fibers in NID and 1 fiber at pickup splice	1

Figure 3. Sample of overlap & new construction of aerial plant

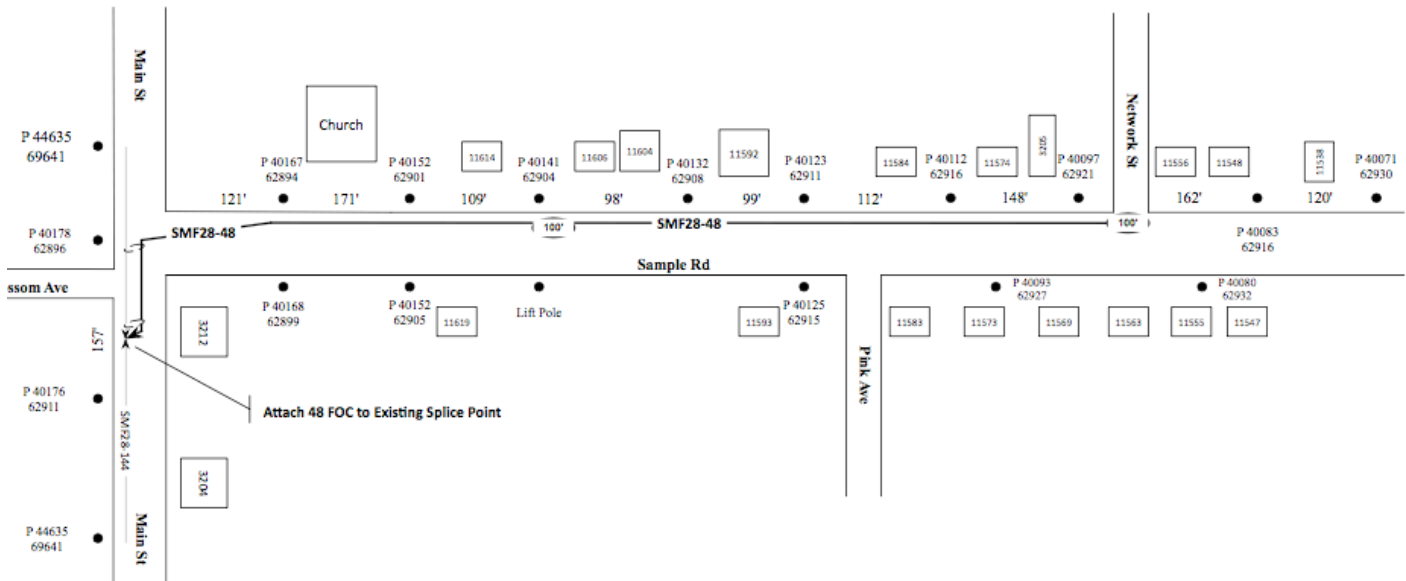


Table 3. Rate elements eligible for use with Figure #3.

Line Item	Description	Quantity
1001	Install Strand Including Pole Hardware Materials (bolts, clamps, etc)	1,020'
1002	Lash fiber to existing Strand/cable	1,215'
1005	Install Slack Shoes	2
1017	Bond Strand	2

Figure 4. Sample of splicing 4-fibers at pickup splice.

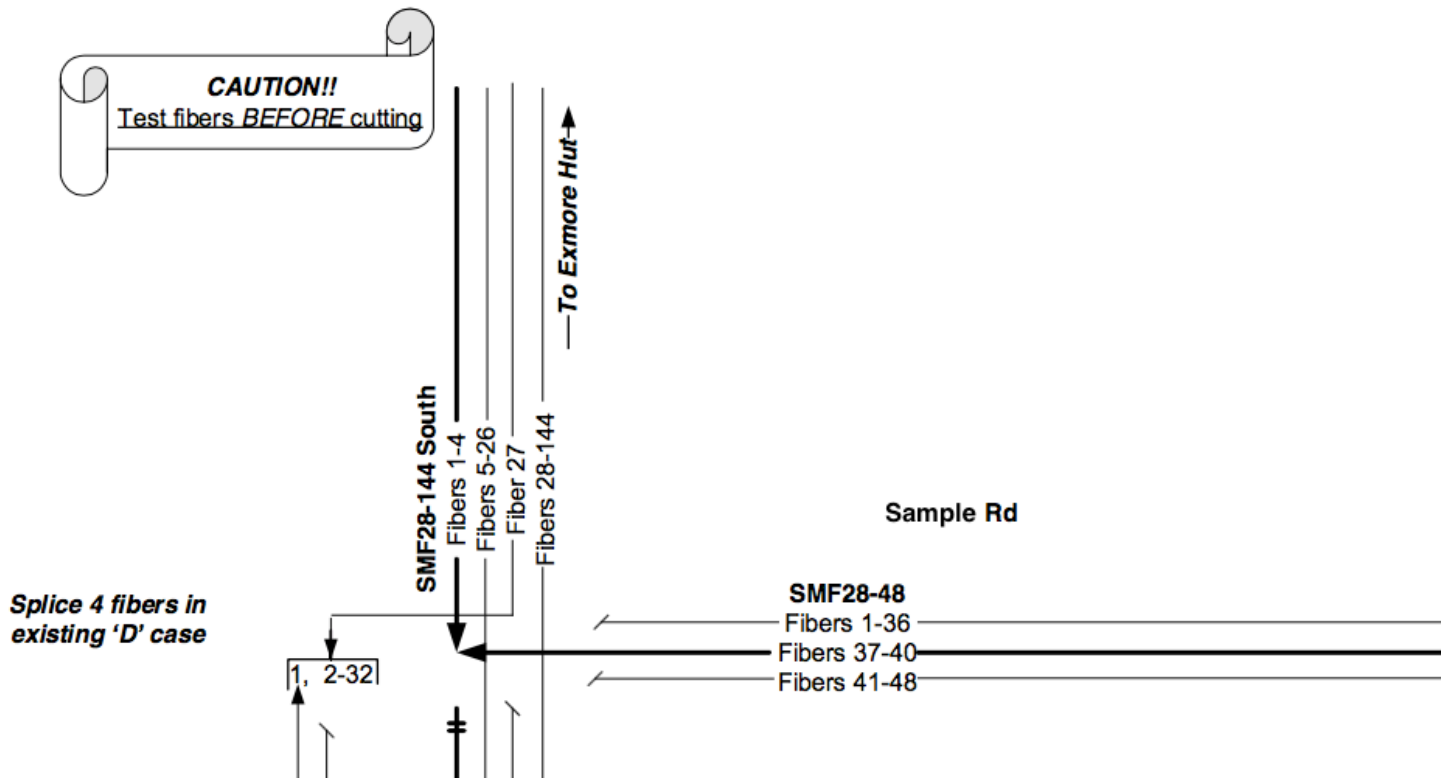


Table 4. Rate elements eligible for use with Figure #4.

Line Item	Description	Quantity
3001	Fusion Splice 1-24 Fibers	4

Figure 5. Sample of overlap, new construction of aerial plant, & underground

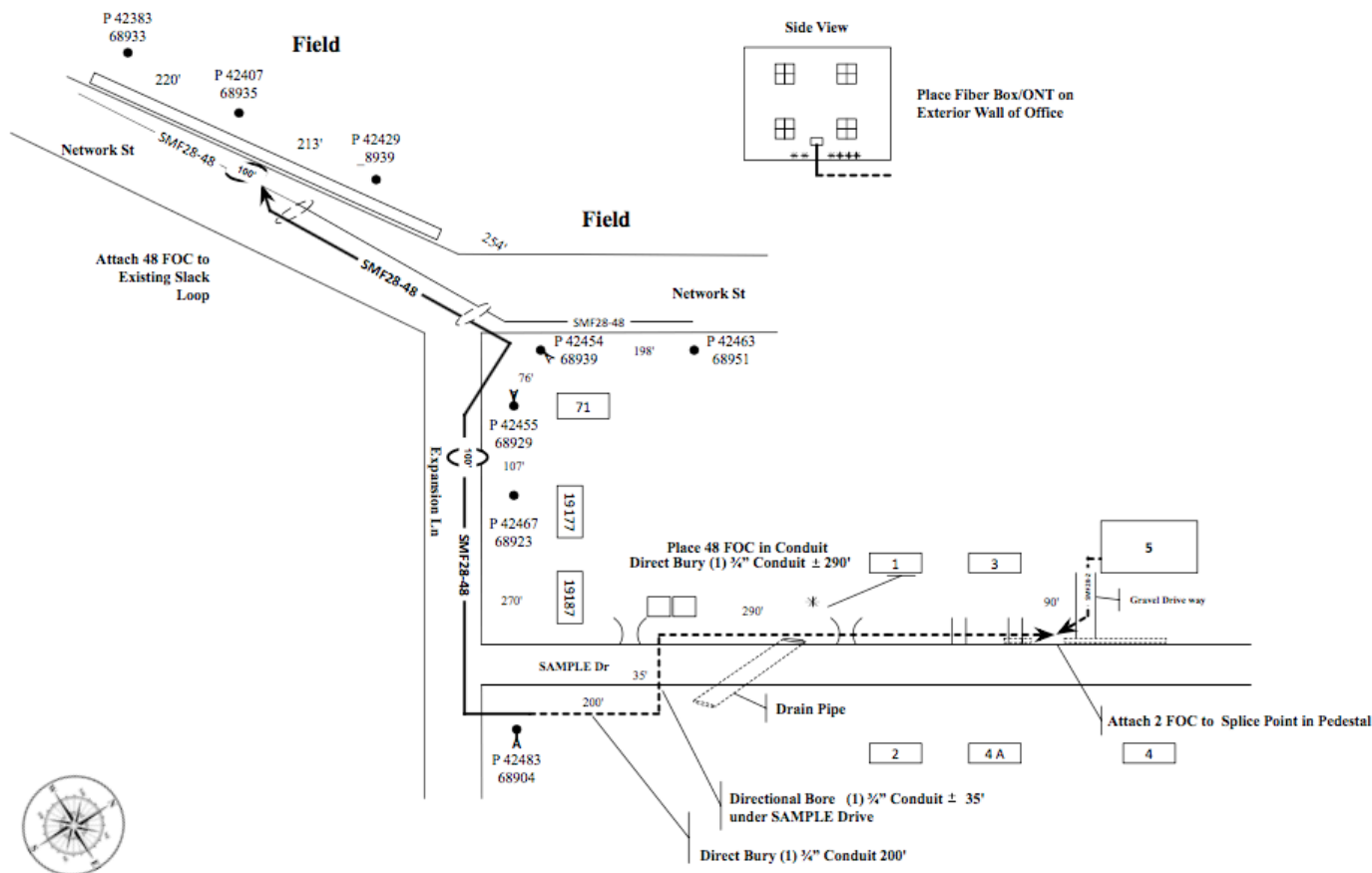


Table 5. Rate elements eligible for use with Figure #5.

Line Item	Description	Quantity
1001	Install Strand Including Pole Hardware Materials (bolts, clamps, etc)	453'
1002	Lash fiber to existing Strand/cable	1,020'
1005	Install Slack Shoes	1
1007	Install Down Guy	2
1008	Install Screw Anchor	2
1017	Bond Strand	2
2002	Direct Bury/Plow One (1) 1.25" or .75" HDPE Duct	580'
2005	Directional Bore One (1) 1.25" or .75" HDPE Duct	35'
2012	Install Fiber in Duct	615'
2014	Install One (1) 19.5"x19.5"x13" Closure	1
2021	Install Metallic Trace Wire	615'
2023	Install U-Guard	1
6006	Install house attachment	1
6007	Attach NID to house	1

6008	Mount ONT inside house	1
------	------------------------	---

Figure 6. Sample of splicing.

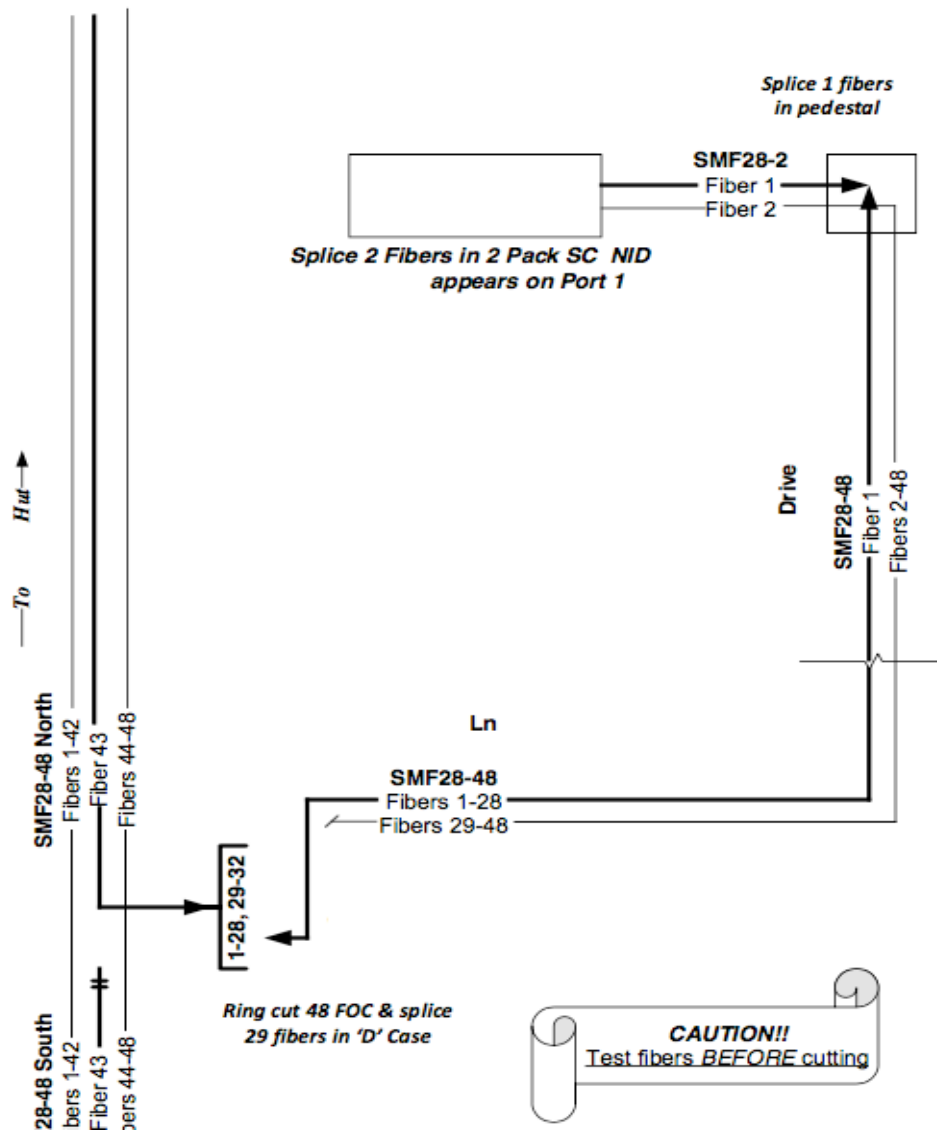


Table 6. Rate elements eligible for use with Figure #6.

Line Item	Description	Quantity
3002	Fusion Splice 25-95 Fibers	29
3006	Ring Cut Preparation Charge	1
6009	Splice 2 fibers in NID and 1 fiber at pickup splice	1

ATTACHMENT 'D' - BIDDER QUESTIONNAIRE

GENERAL INFORMATION

1. Bidder Information:

Provide the following information regarding the Bidder.

Bidder Name:

(NOTE: Give exact legal name to be used on the contract, if awarded.)

Principal Address:

City: State: Zip Code:

Telephone No. **Fax No:**

Federal Employer Identification Number:

Payment Remit to Address: (If Different)

City: State: Zip Code:

Telephone No. **Fax No:**

Business Structure:

Check the statement that indicates the business structure of the Bidder.

Individual or Sole Proprietorship

If checked, list Assumed Name, if any:

Partnership

Corporation

If checked, check one: For-Profit Nonprofit

Printed Name and Title of Contract Signatory:

2. Contact Information:

List the one person who the ESVBA may contact concerning your proposal or setting dates for meetings.

Name:

City: State: Zip Code:

Telephone No. **Fax No:**

E-mail:

3. **Is Bidder authorized and/or licensed to do business in Virginia?**

Yes ; No If "Yes", list authorizations/licenses.

4. **Bidder corporate headquarters address: (If different)**

City: State: Zip Code:

Telephone No.

Fax No:

5. **Local Operation:**

Does the Bidder have an office located in Virginia?

Yes ; No If "Yes", respond to a and b below:

a. How long has the Respondent conducted business from its Virginia office?

Years: Months:

b. State the number of full-time employees at the Virginia office:

6. **Operations:**

a. How long has the Bidder conducted business? Years: Months:

b. State the number of full-time employees:

Failure To Complete Job:

Has the bidder or any of its principals failed to complete a job? Yes ; No

If yes, state where and why.

Surety Information:

Has the Bidder ever had a bond or surety canceled or forfeited? Yes ; No

If "Yes", state the name of the bonding company, date, amount of bond and reason for such cancellation or forfeiture.

7. **Bank Reference:**

Bank Name:

Contact Name:

Contact Title:

Contact Telephone:

8. **Other Names:**

Provide any other names under which Bidder has operated within the last 10 years.

Dated this day of , 2014.

Signed: _____

Name:

Title:

Attest:

Notary

ATTACHMENT 'E' – Omitted

ATTACHMENT 'F' – Omitted

ATTACHMENT 'G' – Omitted

ATTACHMENT 'H' - Bidder Compliance Statement

Certification Regarding Equal Employment Opportunity

Applicability: Bid exceeding ten thousand dollars (\$10,000) for contract/subcontract of unlimited amount.

The Firm providing goods or services to the AUTHORITY under this contract assures the AUTHORITY that it is:

- 1) Conforming to the provisions of the Civil Rights Act of 1964, as amended, the Virginia Fair Employment Contracting Act of 1975, as amended, and the Virginia Human Rights Act, as amended, where applicable.
 YES NO
- 2) Not employing illegal alien workers or otherwise violating the provisions of the Immigration Reform and Control Act of 1986
 YES NO
- 3) Complying with federal, state and local laws and regulations applicable to the performance of the services procured; and
 YES NO
- 4) Submitting the bid or proposal in full compliance with the Virginia Conflict of Interest Act.
 YES NO

I understand that violations of the foregoing certifications may constitute grounds for rejection of my bid, and termination of my contract, if awarded.

Signature: _____

Type Name: _____

Title: _____

Address, including zip code: _____

IRS # (or owner's social security #): _____

**ATTACHMENT 'I' - Certification of Bidder Regarding Debarment
by Agency of the Commonwealth of Virginia**

This is to certify that this person/firm/corporation has not been barred from bidding on contracts by any agency of The Commonwealth of Virginia, nor is this person/firm/corporation a part of any firm/corporation that has been barred from bidding on contracts by any agency of The Commonwealth of Virginia.

Name of Official

Title

Firm or Corporation

Date

ATTACHMENT 'J' – Omitted

ATTACHMENT 'K' - Omitted

ATTACHMENT 'L' - Omitted

ATTACHMENT ‘M’ - FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT

THIS AGREEMENT is by and between ESVBA (“Owner”) and _____ (“Contractor”). Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

This Contract is for the construction of telecommunications infrastructure in the Counties of Accomack and Northampton in the Commonwealth of Virginia. The type of work, may include, but is not limited to aerial and underground plant construction, fiber optic splicing, additional labor/equipment and any additional support required for aerial or underground/buried operations. This IFB is an “as-needed” contract. No minimum amounts of work or purchases of service are guaranteed.

ARTICLE 2 – THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

IFB No. 2018-001, ESVBA FOC Network Expansion

ARTICLE 3 – OMITTED

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract. Generally, time limits and milestones will be stated in each individual Work Order.

4.02 *Days to Achieve Substantial Completion and Final Payment*

A. The Work Orders will be substantially complete when all cable placement, splicing, and testing are completed and accepted by the Owner. When a Work Order is completed, it is ready for final payment in accordance with the conditions as set forth in the General Conditions. The Contractor shall be timely in the execution of all Work Orders as not to cause Owner any delay in revenues, loss of business, or other losses.

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified, plus any extensions thereof allowed in accordance with the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner Two Hundred Fifty dollars (\$250.00) for each day that expires after the time

specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner Two Hundred Fifty dollars (\$250.00) for each day that expires after the time specified for completion and readiness for final payment until the Work is completed and ready for final payment.

B. Emergency Restoration: Contractor and ESVBA recognize that time is of the essence when ESVBA's network is out of service due to fiber optic cuts and other similar situations. Contractor agrees to have personnel on site to begin such emergency restoration work with two (2) hours of notification by ESVBA. Contractor acknowledges that ESVBA will suffer financial loss if the emergency restoration work is not completed within the times specified, plus any extensions thereof allowed by ESVBA. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by ESVBA if the Work is not completed on time. Accordingly, instead of requiring any such proof, ESVBA and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay ESVBA Two Hundred Fifty dollars (\$250.00) for each hour that expires after the two (2) hours which Contractor's restoration personnel have not been on site. ESVBA shall, at sole discretion, grant an extension to Contractor. Force Majeure events, which are beyond the reasonable control of the Contractor, may not be subject to these charges.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work Order in accordance with the Contract Documents an amount in current funds of the total line item pricing and any other costs, which the Owner has previously agreed to.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

A. Contractor shall submit Applications for Payment in accordance with the General Conditions. Applications for Payment will be processed by Owner as provided in the General Conditions.

6.02 Progress Payments; Retainage

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 25th day of each month during performance of the Work. All such payments will be measured by the schedule of values established as provided in Paragraph 2 of the General Terms and Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less 20 percent of estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to a Certificate of Substantial Completion.

6.03 Final Payment

A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price as recommended by Engineer.

ARTICLE 7 – INTEREST

7.01 All moneys not paid when due as provided in the General Conditions shall bear interest at the rate of 4 percent per annum.

ARTICLE 8 – CONTRACTOR’S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
- B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities), if any, that have been and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified.
- E. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor’s safety precautions and programs.
- F. Based on the information and observations referred to in Paragraph 8.01.E above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to 6, inclusive).
 - 2. Performance Bond (Attachment N, pages 1 to 4, inclusive).
 - 3. Payment bond (Attachment O, pages 1 to 4, inclusive).

4. Specifications as listed in the Document Index of the Project Manual.
5. General Conditions.
6. All other Attachments as listed in the Document Index.
7. Addenda(s)
8. Contractor's acknowledgment of understanding of the IFB Documents.
9. Documentation submitted by Contractor prior to Notice of Award.
10. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.

B. There are no Contract Documents other than those listed above in this Article 9.

C. Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 Terms

A. Terms used in this Agreement will have the meanings stated in the General Conditions and Specifications.

10.02 Assignment of Contract

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 Contractor's Certifications

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05: "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution; "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process

or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

“collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.06 *Insurance Requirements*

Bidder shall provide Owner a Certificate of Insurance of and maintain for the duration of the project the following insurance coverage:

COVERAGE	LIMITS
(a) Comprehensive General Liability including, but not limited to: Products Liability and Completed Operations, Premises Operations, deleting, where applicable, exclusions for underground, explosion and collapse. CGL shall include coverage for Contractual Liability, Broad Form Property Damage and Independent Contractors.	*\$1,000,000 Per Occurrence Combined Single Limit of Liability for Bodily Injury or Property Damage, with a minimum policy aggregate of \$2,000,000
(b) Comprehensive Automobile Liability (including Owned, Hired and Non- owned Vehicles)	*\$1,000,000 Per Occurrence Combined Single Limit of Liability for Bodily Injury or Property Damage
(c) Workers Compensation, Disability Benefit and other similar Employee Benefits Coverage in state(s) of operation	Statutory requirements.
(d) Employers' Liability	1,000,000 Each Accident / Occurrence / Disease.
(e) Public Liability	1,000,000 Per Occurrence
(f) Railroad Protective Liability	1,000,000 Per Occurrence

* “Umbrella” coverage providing liability insurance in excess of the coverage required by these Paragraphs (a) & (b), with a limit of not less than \$5,000,000. Insurance companies admitted in Virginia, and having a current Best’s rating of A- or better shall underwrite all coverage for this project.

Contractor shall provide a certificate of insurance stating the following:

Eastern Shore of Virginia Broadband Authority, their respective members, commissioners, officers, employees, and agents, are named as Additional Insured on General, Automobile and Excess Liability policies. Contractor’s insurance is understood to be primary with respect to the interests of the Additional Insured, and any other insurance maintained by these Additional Insured is excess and not contributory with Contractor’s insurance.

It is also agreed that the Contractor’s insurance shall have no right of recovery or subrogation against Eastern Shore of Virginia Broadband Authority and that waiver of subrogation is in favor of Additional Insured’s on all policies.

The Commercial General Liability policy shall be endorsed to have the General Aggregate for a “Per Project Basis” for the Eastern Shore of Virginia Broadband Authority.

Before beginning work, bidder shall provide Eastern Shore of Virginia Broadband Authority with a certificate of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth above.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on [] (which is the Effective Date of the Agreement).

OWNER: _____

CONTRACTOR: _____

By: _____

By: _____

Name: []

Name: []

Title: []

Title: []

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: []

Attest: []

Title: []

Title: []

Address for giving notices:

Address for giving notices:

[]
[]
[]
[]
[]

[]
[]
[]
[]
License No.: []

(Where applicable)

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

NOTE TO USER: Use in those states or other jurisdictions where applicable or required.

Agent for service of process:

[]

ATTACHMENT 'N' - PERFORMANCE BOND

CONTRACTOR

Name

Address

SURETY

Name

Address

OWNER

CONTRACT

Effective Date of Agreement:

Amount:

Description (*Name and Location*):

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

SURETY

(Seal)
Contractor's Name and Corporate Seal

(Seal)
Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature (*Attach Power of Attorney*)

Print Name

Print Name

Title

Title

Attest:

Signature

Title

Attest:

Signature

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.

1. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 2.1.
2. If there is no Owner Default, Surety's obligation under this Bond shall arise after:
 - 2.1 Owner has notified Contractor and Surety, at the addresses described in Paragraph 9 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor, and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and
 - 2.2 Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 2.1; and
 - 2.3 Owner has agreed to pay the Balance of the Contract Price to:
 - 2.3.1 Surety in accordance with the terms of the Contract; or
 - 2.3.2 Another contractor selected pursuant to Paragraph 3.3 to perform the Contract.
3. When Owner has satisfied the conditions of Paragraph 2, Surety shall promptly, and at Surety's expense, take one of the following actions:
 - 3.1 Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or

- 3.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
- 3.3 Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 5 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or
- 3.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
 - 3.4.1 After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefore to Owner; or
 - 3.4.2 Deny liability in whole or in part and notify Owner citing reasons therefore.
4. If Surety does not proceed as provided in Paragraph 3 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 3.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.
5. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 3.1, 3.2 or 3.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To the limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:
 - 5.1 The responsibilities of Contractor for correction of defective Work and completion of the Contract;
 - 5.2 Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions of or failure to act of Surety under Paragraph 3; and
 - 5.3 Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.
6. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.
7. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontractors, purchase orders, and other obligations.
8. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located, and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after Surety refuses or fails to

perform its obligation under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

9. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.
10. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
11. Definitions.
 - 11.1 Balance of the Contract Price: The total amount payable to Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.
 - 11.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
 - 11.3 Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
 - 11.4 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or otherwise comply with the other terms thereof.

ATTACHMENT 'O' - PAYMENT BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR

Name

Address

SURETY

Name

Address

OWNER

CONTRACT

Effective Date of Agreement:

Amount:

Description (*Name and Location*):

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

SURETY

(Seal)
Contractor's Name and Corporate Seal

(Seal)
Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature (*Attach Power of Attorney*)

Print Name

Print Name

Title

Title

Attest:

Signature

Title

Attest:

Signature

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

12. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.

13. With respect to Owner, this obligation shall be null and void if Contractor:
13.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and
13.2 Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.

14. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.

15. Surety shall have no obligation to Claimants under this Bond until:
15.1 Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
15.2 Claimants who do not have a direct contract with Contractor:
15.2.1 Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim

- stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed;
- 15.2.2 Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
- 15.2.3 Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
16. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
17. Reserved.
18. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited or any payments made in good faith by Surety.
19. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.
20. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
21. Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders, and other obligations.
22. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.
15. Definitions.
 - 15.1 Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment or use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms “labor, materials or equipment” that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor’s subcontractors, and all other items or which a mechanic’s lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
 - 15.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
 - 15.3 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or otherwise comply with the other terms thereof.

ATTACHMENT ‘P’ - Notice of Award

Date:

Project:	
Owner: Eastern Shore of Virginia Broadband Authority	Owner's Contract No.:
Contract:	
Bidder:	
Bidder's Address:	

You are notified that your Bid dated _____ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for “as-needed” aerial plant construction, underground/buried plant construction, fiber optic splicing and additional labor/equipment and any additional support required for aerial or underground/buried operations, not to exceed \$500,000.00.

Six (6) copies of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

You must comply with the following conditions precedent within [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner six (6) fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security Performance and Payment Bonds as specified in the Instructions to Bidders (Article 4).
3. Deliver with the executed Contract Documents the insurance in compliance with the requirements as specified in the General Terms and Conditions (Section 10).

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

Owner

By: _____

Authorized Signature

Title

ATTACHMENT 'Q' - Notice to Proceed

Date:

Project:	
Owner:	Owner's Contract No.:
Contract:	Engineer's Project No.:
Contractor:	
Contractor's Address: <i>[send Certified Mail, Return Receipt Requested]</i>	

You are notified that the Contract Times under the above Contract will commence to run on . On or before that date, you are to start performing your obligations under the Contract Documents.

Owner

Authorized Signature

Title

Date