

PUBLIC UTILITY DISTRICT NO. 1 OF LEWIS COUNTY



Purchase of Conductor Bid No. 17-02

Formal Bid Package Outline / Requirements

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Purchase of Conductor
Bid No. 17-02

SECTION A: ADVERTISEMENT FOR BIDS

Sealed bids will be received by Public Utility District No. 1 of Lewis County at the office of the District at 321 N.W. Pacific Avenue, Chehalis, Washington 98532, on January 19, 2017 until 1:00 p.m., at which time they will be opened and read aloud for the furnishing of the following:

Conductor

Bid and contract documents, including drawings, are available on the District's website <http://www.lcpud.org/pud/rfp-list>. Project specifications are included on the drawings. Bids are to be made on all items covered in the proposal, for the complete work.

Each bid shall be accompanied by a certified check or bid bond, payable to the order of Public Utility District No. 1 of Lewis County in the sum of 5% of the total amount of the bid, to be forfeited to the District by the successful bidder in case the bidder fails to enter into a contract and files an acceptable surety bond in the sum of the contract price to fulfill the conditions of the contract within ten (10) days from the date on which the bidder is notified. No bidder may withdraw its bid after the hour set for the opening thereof or before contract award unless the award is delayed for a period exceeding thirty (30) days.

All proposals must be made on the District's Proposal form and in accordance with the Instructions to Bidders. Bids shall be identified on the outside of the envelope as "**BID NO. 17-02 OPENING DATE JANUARY 19, 2017, 1:00 P.M.**".

Public Utility District No. 1 of Lewis County reserves the right to reject any or all bids, to waive all informalities in the bidding and to accept and split the award on an item basis unless the bidder so states in the bid that the bid is for all items or none. Public Utility District No. 1 of Lewis County also reserves the right to accept the bid which the Commission feels will be in the best interest of the District regardless of bid price, and bidders by submitting bids agree to this condition.

Dated this 27th day of December 2016.

PUBLIC UTILITY DISTRICT NO.1
OF LEWIS COUNTY

Daniel E. Kay, Its Manager

(Publish 12/29/2016 and 01/05/2017)

Purchase of Conductor
Bid No. 17-02

SECTION B: INSTRUCTIONS TO BIDDERS

1. Instructions and Bid Requirements. Bidders will observe the following instructions. These instructions are supplemental and in addition to those contained in the "Advertisement for Bids" and must be observed in preparing bids.
2. Bid Documents. Complete contract documents, including all drawings and specifications, are the District's website <http://www.lcpud.org/pud/rfp-list>.
3. Bids. Bids must be for the items and/or alternates as specified by the Contract Documents. No bid for less than one complete job item will be considered. Alternate bids not called for in the specifications will be considered at the discretion of the District.
4. Bid Forms. Bids shall be made upon the Proposal forms herein furnished with all details completely and properly filled out. The Contract will be drawn on the Contract form bound herewith. *Bid Proposal Form* must be filled in with ink or typewritten, with signatures in longhand. No alterations or interlineations will be permitted, unless made before submission and initialed and dated. Any alternate proposals shall be submitted as separate items but may be enclosed with the "Proposal" bid.
5. Submission of Bids. All bids must be sealed, addressed to and deposited with the Executive Assistant of the District at 321 N.W. Pacific Avenue, Chehalis, Washington 98532 on or before the day and hour set for opening of bids in the "Advertisement for Bids." Said bids shall each be marked ""**BID NO. 17-02 OPENING DATE JANUARY 19, 2017, 1:00 P.M.**"" and identified on the envelope as such.
6. Bid Bonds. Each bid shall be accompanied by a cashier's check or proposal bond payable to the order of Public Utility District No. 1 of Lewis County for a sum of five percent (05%) of the total amount of the bid. The Bid bond shall be a guarantee that, if awarded the Contract, the bidder will execute the Contract. The successful bidder's check or bond will be retained until he has entered into a satisfactory contract. Checks or bonds of all other bidders will be returned within thirty (30) days after opening of bids, excepting the Public Utility District No. 1 of Lewis County, hereinafter called the District, reserves the right to hold the certified checks or bid bonds of the three lowest bidders until the successful bidder has entered into Contract.

Should the successful bidder fail to enter into Contract within ten (10) days after proposal is accepted, the security shall be forfeited as liquidated damages.

7. Addendums. Any changes, additions or deletions to the contract documents shall be made by written addendum only. Should a bidder find discrepancies in or omissions from the Contract Documents, or should he be in doubt as to their meaning, he shall at once notify the Manager of Public Utility District No. 1 of Lewis County, and if the point in question is not clearly and fully set forth, a written addendum will be mailed or delivered to each person who has been issued a set of Contract Documents and posted on the District's website. Each person requesting an

interpretation will be responsible for the delivery of his request to the Manager of the District. The District will not be bound by nor be responsible for any other explanation or interpretations of the proposed documents than those given in writing as set forth in this paragraph. Oral instructions, interpretations or representations shall not be binding upon the District. Any addenda issued prior to the final time of receiving bids shall be properly acknowledged on the bid forms when the bid is submitted and shall become a part of the Contract Documents.

8. Responsible Bidder. The Contract will be awarded to the lowest responsible bidder complying with the provisions of the Contract Documents and RCW 39.04 provided his bid is reasonable and it is to the interest of the District to accept. The District, however, reserves the right to reject any and all bids and to waive any informalities in bids received. The District reserves the right to bid any item or items separately to the lowest and best qualified bidder. A responsible bidder shall meet the following criteria at the time of bid submittal:
- a) be prequalified (if applicable) with the District in accordance with RCW 54.04.085, application available on the District's website <http://lcpud.delaris.com/vendors-contractors/small-works-roster> ;
 - b) have a certificate of registration in compliance with RCW 18.27;
 - c) have a current state unified business identifier number;
 - d) have applicable industrial insurance coverage for the bidders employees working in Washington as required by RCW 51(if applicable);
 - e) have applicable employment security department number as required by RCW 50;
 - f) have a state excise tax registration number as required by RCW 82
 - g) not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3)

If a bidder uses a subcontractor(s) on the project, the bidder must also verify at the time of subcontract execution that each subcontractor meets the responsibility criteria of this Section 8.

9. Lowest Responsible Bidder. In determining the "lowest responsible bidder" in addition to price, the criteria of Section 8 above, and the requirements of these bid documents, the District will give consideration to the following elements or supplemental criteria:
- a) the ability, capacity, and skill of the bidder to perform the contract or provide the service required;
 - b) the character, integrity, reputation, judgment, experience, and efficiency of the bidder;
 - c) whether the bidder can perform the contract within the time specified;
 - d) the quality of performance of pervious contracts or service;
 - e) the pervious and existing compliance by the bidder with laws relating to the contract and services;

In this regard, the bidder shall furnish with its proposal the information necessary for the District to evaluate these elements and supplemental criteria. Such information shall include but not be limited to; i) organization chart and background of company, ii) location of headquarters and/or manufacturing and service facilities, iii) financial capability and resources such as annual report, assets and liabilities, iv) history of claims and lawsuits for both current and previously owned companies over the last six years, and vi) such other information as may be secured having a bearing on the decision to award the contract.

If a bidder fails to supply information requested concerning responsibility with its bid the District may base its determination of responsibility upon any available information related to the supplemental criteria or may find the bidder not responsible.

10. Non-Responsive Bidder. Every invitation to bid on a prime contract that is for the construction, alteration, or repair of any public building or public work of the state or a state agency or municipality as defined under RCW [39.04.010](#) shall require each prime contract bidder to submit as part of the bid, or within one hour after the published bid submittal time, the names of the subcontractors with whom the bidder, if awarded the contract, will subcontract for performance of the work of: HVAC (heating, ventilation, and air conditioning); plumbing as described in chapter [18.106](#) RCW; and electrical as described in chapter [19.28](#) RCW, or to name itself for the work.

The prime contract bidder shall not list more than one subcontractor for each category of work identified, unless subcontractors vary with bid alternates, in which case the prime contract bidder must indicate which subcontractor will be used for which alternate. Failure of the prime contract bidder to submit as part of the bid the names of such subcontractors or to name itself to perform such work or the naming of two or more subcontractors to perform the same work shall render the prime contract bidder's bid nonresponsive and, therefore, void.

Bids which are incomplete, or which are conditioned in any way, or which contain erasures, alterations, or items not called for in the Bid Form, or which are not in conformity with the law or with these instructions, shall be rejected as nonresponsive if the irregularity is material and may be rejected as nonresponsive if the irregularity is not material.

11. Modified Supplemental Criteria. In a timely manner before the bid submittal deadline, a potential bidder may request that the District modify the supplemental criteria. The District will evaluate the information submitted by the potential bidder and respond before the bid submittal deadline. If the evaluation results in a change of the criteria, the District will issue an addendum to the bidding documents identifying the new criteria.
12. Not Responsible Bidder. If the District determines a bidder to be not responsible in accordance with the criteria of this bid package and contract documents, the District will provide written notice to the bidder of the determination and the reasons for the determination within seven (7) calendar days of the bid opening. The bidder may appeal the determination within seven (7) calendar days of the written notice by presenting additional information to the District. The District will consider the additional information before issuing a final determination. The District will provide the bidder written notice of its final determination within seven (7) calendar days of the final determination.
13. Prevailing Wages. The successful bidder shall comply with the laws of the State of Washington, including but not limited to Chapter 39.16, Resident Employees on Public Works, and Chapter 39.12, Prevailing Wages on Public Works. The bidder is cautioned that the laws of the State of Washington are amended from time to time by the legislature and are also interpreted by the courts. Determination of and compliance with current law is the responsibility of the bidder.

14. Informed Bidder. Prior to submission of this bid, the bidder shall make and shall be deemed to have made an examination of the Contract Documents as contained herein, and shall become informed as to the location and nature of the work, the facilities, the kind and character of the current conditions, general local conditions and all other matters that may affect the cost and the time of completion of the work.
15. Contractors Bond. The successful bidder will be required to furnish a Contractor's Bond on the form contained herein and with surety satisfactory to the District, in a penal sum of not less than the contract price.
16. District Representation. The District represents that:

The District will have available all funds necessary for payment for the project, to be made in accordance with the terms of the Contract Documents pertaining to payment.
17. Extension of Time. If the District shall fail to comply with any of the undertakings contained in the foregoing representations, or if any such representations shall be incorrect, the Contractor shall be entitled to extension of time of completion for a period equal to the delay, if any, caused by failure of the District to comply with such undertaking, or by any such incorrect representations; providing the Contractor shall have promptly notified the District in writing of his claim for extension of time of completion in accordance with the foregoing, and provided further than such extension, if any, of time of completion shall be the sole remedy of the Contractor for the District's failure to comply with any of the foregoing representations.

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SECTION C: PROPOSAL FORM

SUBSECTION 1: Bid Prices and Delivery*

Overhead Service Conductor**

Item No.	Description	Price Per Mft.	Total Price	Delivery***
1	2,500 ft. of #4 Al. Duplex, TERRIER (5 Coils @ 500' ea.)	_____	_____	_____
2	4,300 ft. of #2 Al. Triplex, CONCH (1 Reel @ 1,800' ea. & 5 Coils @ 500' ea.)	_____	_____	_____
3	2,400 ft. of #1/0 Al. Triplex, JANTHINA (2 Reels @ 1,200' ea.)	_____	_____	_____
4	1,200 ft. of #1/0 Al. Quadruplex, STANDARD BRED (1 Reel)	_____	_____	_____

Total for Overhead Service Conductor _____

Overhead Primary Conductor

Item No.	Description	Price Per Cwt.	Total Price	Delivery*
5	2,400 lbs. #2 ACSR, SPARATE 7/1 Stranding (2 Reels @ 1,200 lbs. ea.)	_____	_____	_____
6	3,540 lbs. #1/0 ACSR, RAVEN 6/1 Stranding (2 Reels @ 1,770 lbs. ea.)	_____	_____	_____

Total for Overhead Primary Conductor _____

Underground Service Conductor

Item No.	Description	Price Per Mft.	Total Price	Delivery*
7	4,000 ft. of 2/0-1-2/0 Stranded Al. Triplex, CONVERSE (4 Reels)	_____	_____	_____
8	15,000 ft. of 4/0-2/0-4/0 Stranded Al. Triplex, SWEET BRIAR (15 Reels)	_____	_____	_____
9	7,000 ft. of 350-4/0-350 MCM Stranded Al Triplex, WESLEYAN (7 Reels)	_____	_____	_____

Total for Underground Service Conductor _____

PROPOSAL FORM
(Continued)

Underground Distribution Primary Conductor

Item No.	Description	Price Per Mft.	Total Price	Delivery*
10	50,000 ft. of #2 stranded Al. 15 KV URD, 220 mil tree retardant crosslinked polyethylene insulation, full concentric neutral, with an insulating polyethylene jacket	_____	_____	_____
11	12,000 ft. of #1/0 stranded Al. 15 kv URD, 220 mil tree retardant crosslinked polyethylene insulation, full concentric neutral, with an insulating polyethylene jacket	_____	_____	_____

**Total for Underground Distribution
Primary Conductor**

Total for All Items (Excluding Sales Tax)

SUBSECTION 1: Delivery*** (in weeks)

SUBSECTION 2: Sales Tax

Applicable sales tax in percent 8.0 (the sales tax will be added at the time the order is written).

SUBSECTION 3: Shipping

*Bid prices shall include freight costs and delivery to the Chehalis Warehouse.

SUBSECTION 4: Submittal of Bidder Information

The bidder agrees to submit with this proposal all information required by the bid documents including but not limited to the criteria defined in the Instruction to Bidders, subsections 8 and 9, and material specifications outlined below.

SUBSECTION 5: Overhead Service Conductor

**The first four items, overhead service conductor, will be awarded to one bidder because of the quantity and value of the items. All other items will be awarded individually.

PROPOSAL FORM
(Continued)

INFORMATION SUBMITTAL FORM

Item No.	Manufacturer	Weight/1000 Ft.	Nominal O.D.
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			

Dated this _____ day of _____, 20__.

Bidder / Company

Manufacturer

Address

Authorized Signature and Title

Phone # _____

Typed Name and Title

Fax # _____

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SECTION D: CONDUCTOR TECHNICAL SPECIFICATIONS

A. General Conductor Specifications

1. *All wire shall meet all the latest and applicable requirements of the ICEA, ASTM, AEIC and IPCEA standards.*
2. *Tests and Inspection*
 - a. The District at its option may perform tests and inspection upon arrival of the order for acceptance. The District reserves the right to reject conductor which does not conform to the standards noted in paragraph 1 above. The District also reserves the right to reject conductor damaged in shipment.
 - b. Conductor reels rejected by the District based on noncompliance with these specifications or due to damage during shipment shall be returned to the supplier at the supplier's expense. The District reserves the right to determine whether replacement reels will be accepted or a cash refund is required.
 - c. District acceptance or rejection will be made within thirty (30) days of delivery.
3. *Guarantee*

The conductor shall be guaranteed against all defects in workmanship, materials and design for a minimum period of one (1) year from the date of acceptance or, in case of a replacement or repair of conductor, upon acceptance of replaced or repaired cable.
4. *Delivery and Shipping*
 - a. Delivery shall be F.O.B. 124 Habein Road, Chehalis, WA 98532.
 - b. Supplier/shipper shall notify Lewis County PUD's Purchasing Agent, Brian Kohler, at 360-748-9261 or 360-740-2436, or the District's Storekeeper, Tommy Thompson, at 360-740-2442 at least 24 hours prior to arrival. **No deliveries are allowed before 10:00 a.m.**
 - c. Each reel shall be tagged with two shipping tags. One tag shall be weather protected and securely attached to the outside of the reel flange. The second tag shall be stapled on the inside of the flange. Each tag shall contain the following information:
 - 1) Product Identification
 - 2) Item Description
 - 3) Cable Length
 - 4) Gross, Tare and Net Weights
 - 5) PUD Purchase Order Number
 - d. Reel size:
 - 1) Reel size shall be listed to each conductor below.

5. *Information Submittals*

- a. Unless previously submitted, each bidder shall provide the following information for each item:
 - 1) Manufacturer
 - 2) Weight per 1000 feet
 - 3) Nominal Outside Diameter
- b. Each bidder shall provide such other information as is required on the bid form and describing literature normally furnished the prospective customer.

6. *General Bid Requirements*

- a. Bids shall be made on the form provided and for the quantities and sizes shown. Bidder may make alternate bids, but the alternate bid shall be made on a separate sheet. Bids submitted shall be sealed and prominently marked on the outside of the envelope, "**BID NO. 17-02 OPENING DATE JANUARY 19, 2017, 1:00 P.M.**".
- b. The District will assume the awards may be made on all items or any portion of the items at the option of the District, and at the prices bid unless the bidder indicates by statement to the effect that its bid is for all items or none. Each bidder, by submitting a bid, understands and agrees that the District may award the contract for the items which, in the sole opinion of the District, is to the best interest of the District. The District also assumes it may add to the quantities shown on the bid form unless bidder states otherwise on the bid form.
- c. **Bidder shall state price as of date of bid opening and if an escalation in price is a part of the bid, the bidder shall use \$2.49 per pound for copper and \$0.87 per pound for aluminum as the base price as of date of bid opening for materials and labor included in the escalation provision. Preference will be given to firm bids.**

B. Overhead Service Conductor

1. *General*

All overhead service conductor shall be of the multiplex design consisting of a bare ACSR neutral messenger and insulated aluminum phase conductors. The multiplex conductor shall be designed for secondary service drops suitable for outdoor use and shall have a weather resistant insulation.

2. *Conductor and Insulation*

- a. The neutral shall be a bare stranded aluminum steel reinforced (ACSR) conductor, and shall be designed as the multiplex cable support messenger.
- b. The phase conductors shall be stranded aluminum covered with cross-linked polyethylene (XLP) insulation. The insulation shall be resistant to weathering, abrasion, tearing, cutting and chemical attack.

3. *Cabling*

One, two or three insulated conductors shall be twisted together with a bare neutral with no fillers or additional covering.

4. *Cable Identification*

- a. The outer surface of the insulated conductors shall be marked throughout their length with the manufacturer's identification, type of insulation (XLP), size of phase conductor and rated voltage (600 volt). The identification shall be repeated along the cable at regular intervals with unmarked surfaces not exceeding two (2) feet). The identification shall be durable surface printing.
- b. The phase conductors of quadraplex drop cable shall also be phase identified by ribbing or surface printing.

5. *Specific Conductor Sizes*

- a. Duplex cable shall have full size neutral and be packaged in (5) 500 ft. coils.
- b. #2 triplex cable shall have a full size neutral and be packaged in (1) non-returnable NR 36.24 reel and (5) 500 foot coils. Minimum diameter on coil shall be 19 inches. Maximum diameter is 38 inches.
- c. All other triplex cables shall have reduced size neutrals and nonreturnable reels for packaging.
- d. All quadraplex cables shall have full size neutrals and nonreturnable reels for packaging.

C. Underground Service Conductors

1. *General*

All underground service cable shall be type USE insulated aluminum conductors suitable for use in wet or dry locations and suitable for direct burial or installation in underground duct.

2. *Conductor and Insulation*

- a. Triplexed cables shall have a reduced size neutral consisting of stranded aluminum, insulated with yellow or yellow striped-black cross-linked polyethylene.
- b. The phase conductors shall be stranded aluminum, insulated with black cross-linked polyethylene.
- c. Triplexed configuration shall be accomplished by cabling two phase conductors with one neutral conductor.
- d. The cable shall have a voltage rating of 600 volts phase to phase and conductor operating temperature of 90° C.

3. *Cable Identification*

The outer surface of each conductor shall be marked throughout its length with the manufacturer's identification, type of insulation (XLP), size of conductor, rated voltage (600 volts) and type cable (USE). The identification shall be repeated along the cable at regular intervals with unmarked surfaces not exceeding 12 inches. The identification shall be durable surface printing.

4. *Packaging*

Cables shall be supplied on non-returnable reels (1,000' per reel). The cable shall be level wound on reels leaving a minimum of approximately 1-1/2 inches rim clearance. The cable shall be protected by heavy fiberboard wrapping secured with banding. Reels can be shipped flat without pallets.

D. Overhead Primary Conductor (ACSR)

1. *General*

Overhead primary conductors shall be bare aluminum conductor steel reinforced (ACSR) concentric-lay-stranded cable.

2. *Construction*

The ACSR conductor shall be a composite concentric-lay-stranded cable comprised of light weight aluminum and high strength steel. The central portion, or core, shall be either a single strand steel wire or a stranded steel cable which is protected from corrosion by galvanizing.

3. *Packaging*

#2 ACSR

Cable shall be supplied on (2) non-returnable NR 38.22 reels – 2,400 pounds.

#1/0 ACSR

Cables shall be supplied on (2) non-returnable NR 42.28 reels – 3,540 pounds.

E. Underground Distribution Cable, 15 KV and 25 KV Concentric Neutral

1. *Scope*

This specification covers the minimum requirements for acceptable two-conductor, cross-linked polyethylene insulated, concentric neutral power cables for use in a solidly grounded neutral 15 KV or 25 KV systems and suitable for direct burial in the earth. The cable may be used in one, two or three phase systems. Conductor sizes of No. 2 AWG through 500MCM are included.

2. *Standards*

These specifications are intended to be complete, and any points not expressly covered must conform to the applicable requirements of the latest adopted ICEA Standards Publication No. S-94-649 and AEIC CS8-00.

3. *Manufacturing Method*

- a. Conductor shield, insulation and insulation shield shall be extruded on the central conductor with single-pass triple-extrusion process in a highly controlled environment. The dry curing process shall be used. Steam cured cable will not be considered. Compounds must be free of moisture before entering the extruder.
- b. The bidder shall provide a description of the manufacturing process as a part of the bid.

4. *Tests by the Manufacturer*

- a. Each length of cable shall be tested in accordance with the applicable requirements of the ICEA Standard No. S-94-649 and AEIC CS8-00, or latest version of these standards.
- b. The bidder shall furnish a certified copy of the qualification tests, and especially ICEA Standard No. S-94-649, Accelerated Water/Electrochemical Treeing Test, that represents the cable being bid, and also certified copies of actual production test values of the cable delivered.

5. *Tests by the District*

- a. The District, at its option, may perform the following tests and inspections upon arrival of the order for cable acceptance; each end of cable of each shipping reel may be tested.
 - 1) Void, contaminant and conductor shield projection
 - 2) Dimensional stability
 - 3) Insulation shield stripping tension
 - 4) Shield volume resistivity
 - 5) Solvent extraction for conductor shield and insulation
 - 6) DC proof test
 - 7) Other tests per ICEA S-94-649 or AEIC CS8-00 as deemed necessary by the District
- b. District reserves the right to reject cable based on failure of test in accordance with ICEA Standard No. S-94-649 and AEIC CS8-00 as performed by the District.
- c. Reels must have 36 inches of cable on each end of the cable length accessible for removal for testing.

6. *Central Conductor*

Central conductors shall be aluminum 1350 Class B compressed stranding.

7. *Conductor Shield*

- a. The conductor shield shall be extruded crosslinked polyethylene semi-conducting material compatible with the insulation and the conductor, and shall have allowable operating temperatures equal to or higher than those of the insulation. The extruded shield shall be firmly bonded to the overlying insulation and shall be easily removable from the conductor.
- b. The conductor shield thickness shall be defined in Part 3 of ICEA Standard No. S-94-649.
- c. The volume resistivity of the conductor shield shall not exceed 1,000 meter-ohms.

8. *Insulation*

- a. The insulation shall be unfilled cross-linked thermosetting polyethylene. The insulation of the completed cable shall be free from:
 - 1) Any void larger than 3 mils. The number of voids larger than 2 mils shall not exceed 30 per cubic inch of insulation.
 - 2) Any contaminants (opaque material or material that is not homogeneous cross-linked polyethylene) larger than 7 mils in its largest dimension. The number of contaminants of sizes between 2 and 7 mils shall not exceed 15 per cubic inch of insulation.
 - 3) Any translucent material that is larger than 50 mils in its radial vector projection.
- b. The method of examination and frequency of sampling shall be in accordance with AEIC CS8-00.
- c. The minimum insulation thickness at any one point shall not be less than those values found in Section Four of ICEA Standard No. S-94-649.

9. *Insulation Shield*

- a. The insulation shield shall be crosslinked, thermosetting semi-conducting material extruded tightly over the insulation in one layer. The insulation shield thickness shall conform to the following table:

Calculated Minimum Diameter over Insulation (Inches)	Insulation Shield Thickness (mils)	
	Minimum Point	Maximum Point
0-1.000	30	60
1.001-1.500	40	75
1.501-2.000	55	90
2.000	55	105

- b. The volume resistivity of the insulation shield shall not exceed 500 meter-ohms.
- c. The insulation shield shall strip cleanly from the insulation, leaving no semi-conducting particles which cannot be easily removed. The insulation shield shall strip with a minimum tension of 6 lbs. and a maximum of 24 lbs. tension.

- d. The insulation shielding shall be marked as semi-conducting at regular intervals, with unmarked surfaces not exceeding six (6) inches.

10. *Concentric Neutral Conductor*

- a. The concentric neutral of annealed copper wires in accordance with ASTM B3 shall be spirally wound over the shielding with uniform space between wires. The wires shall be uncoated.
- b. The minimum size of the individual neutral wires shall be #14 AWG. The minimum number of such wires shall be as follows when a full neutral is specified:

<u>Aluminum Central Conductor</u>	<u>Neutral Wires</u>
#2	10 - #14 AWG
#1/0	16 - #14 AWG
#4/0	20 - #12 AWG
350 MCM	20 - #10 AWG

- c. The minimum number of neutral wires shall be as follows when a 1/3 neutral is specified:

<u>Aluminum Central Conductor</u>	<u>Neutral Wires</u>
#1/0	6 - #14 AWG
#4/0	11 - #14 AWG
350 MCM	18 - #14 AWG
500 MCM	16 - #12 AWG
750 MCM	15 - #10 AWG
1000 MCM	20 - #10 AWG

- d. The length of lay of the neutral wires shall not be more than eight times the diameter over the concentric wires.

11. *Overall Outer Jacket*

When an overall outer jacket is specified for a particular underground distribution cable according to the following bid form, the jacket shall meet the following requirements.

- a. The outer jacket shall consist of black, insulating polyethylene. It shall be suitable for exposure to sunlight and other atmospheric environments at temperatures between -67° F and 167° F. It shall be applied directly over the neutral conductors. It shall fill the interstice area leaving no voids and shall be free stripping.
- b. The neutral shall be designed so that equal spacing of the neutral wires is maintained during the application of the jacket, and the neutral wires remain in intimate contact with the underlying extruded insulation shield.

- c. Section 7 of ICEA Standard No. S-94-649 shall define the jacket and associated thickness.

Calculated Minimum Diameter Over Concentric Neutral (Inches)	Jacket Thickness (mils)	
	Minimum Point	Maximum Point
0-1.500	45	80
1.501 and larger	70	120

12. *Cable Identification*

- a. When a bare concentric neutral underground cable is specified, the insulation shield shall be marked throughout its length with the manufacturer's identification, type of insulation (XLP), size and metal of conductor, rated voltage, year of manufacture and insulation thickness. The identification shall be repeated along the cable at regular intervals with unmarked surfaces not exceeding six (6) inches.
- b. When an overall outer jacket is specified, the outer surface of the cable jacket shall be marked throughout its length with the manufacturer's identification, type of insulation (XLP), size and metal of conductor, rated voltage, year of manufacture and insulation thickness. The identification shall be repeated along the cable at regular intervals with unmarked surfaces not exceeding six (6) inches. The outer jacket shall contain continuous red striping for power cable identification and additionally, with the lightning bolt symbol (in accordance with ANSI CZ-1993 Rule 350.G).

13. *Marking and Packaging*

- a. Cables shall be supplied on nonreturnable reels of approximately 3,000 feet each. The packaging lengths delivered shall not exceed 10% over nor 10% under the specified package lengths unless specified otherwise on the bid form.
- b. The cable shall be level wound on reels leaving approximately 1 1/2 inches rim clearance. The cable shall be protected by heavy fiberboard wrapping secured with steel banding.
- c. Sequential foot markings shall be printed on the cable jacket with beginning and ending footages clearly marked on each reel.
- d. Cables shall have durable weatherproof seals on the ends of each piece, and both ends shall be accessible and long enough for sampling (para. 5.a.).

14. *Warranty*

The bidder shall state its standard warranty for each item and conductor size and type. Warranties will be evaluated on the basis of longevity quoted and estimated replacement costs.

Purchase of Conductor
Bid No. 17-02

SECTION E: CONTRACT

This Agreement made and entered into this ____ day of _____, _____, by and between the Public Utility District No. 1 of Lewis County, Washington, hereinafter called the District, and

hereinafter called the Contractor.

WITNESSETH:

That the District and the Contractor in consideration of the payments hereinafter mentioned agree as follows:

ARTICLE I.

The complete Contract includes the Advertisement for Bids, Bidding Regulations, Proposal, Contract, Specifications, and all modifications incorporated in these documents before their execution. The foregoing documents shall hereinafter be called "Contract Documents." All obligations of the District and the Contractor are fully set forth and described herein.

In the event of a discrepancy between any of the Contract Documents, as above defined, at the request of the Contractor, the District shall give a written interpretation thereof, which interpretation shall govern.

ARTICLE II.

The Contractor agrees to furnish free and clear of all liens and encumbrances all equipment, apparatus, facilities and drawings according to the Specifications contained in the Contract Documents for which he was the successful bidder.

The District hereby promises and agrees with the Contractor to employ and does employ the Contractor to furnish all equipment in strict accordance with the accepted Plans and Specifications and hereby contracts to pay for the same according to the price stated in the Proposal.

PUBLIC UTILITY DISTRICT NO. 1
OF LEWIS COUNTY

CONTRACTOR

By: _____
Its: Manager

By: _____
Its: _____

Attest: _____

Attest: _____

Purchase of Conductor
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SECTION F: PROPOSAL BOND

KNOW ALL MEN BY THESE PRESENTS: That we, _____
_____ as Principal(s) (hereinafter called the Principal), and
_____, of _____, corporation of the
State of _____, as Surety (hereinafter called the Surety), are held and firmly bound
unto _____ (hereinafter called the Obligee) in the sum of
_____ (\$ _____) Dollars, for the payment of which, well
and truly to be made, we bind ourselves, our heirs, administrators, executors, successors and assigns,
jointly and severally, firmly by these presents.

SEALED WITH OUR SEALS THIS _____ day of _____, 20____.

WHEREAS, said Principal is submitting herewith a bid or proposal for _____

_____.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal shall be awarded
the contract which said Principal has proposed to undertake, briefly described above, and shall, within
the time allowed after notice of such award, enter into contract pursuant to such award and give bond
for the faithful performance of the contract, then this obligation shall be null and void; otherwise the
amount hereinabove specified in this Bond shall be paid to the Obligee as liquidated damages, all in
accordance with Revised Code of Washington, Section 54.04.080.

(COMPANY)

By _____ (Seal)

(BONDING COMPANY)

By _____

Purchase of Conductor
Bid No. 17-02

SECTION G: PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we, _____ (Contractor), as Principal, and _____ (Bonding Company), as Surety, are held and firmly bound unto Public Utility District No. 1 of Lewis County, as Obligee, in the sum of _____ dollars (\$ _____) lawful money of the United States of America to be paid to said Obligee, we do bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH that whereas on the _____ day of _____, 20_____, the Principal entered into a certain Contract with the Obligee

_____ and in accordance with the terms and conditions of said Contract, which is hereby referred to and made a part hereof as if fully set forth herein, except that the Surety shall remain in full force and effect for a period of one (1) year after the date of delivery of all materials that are to be furnished by the terms of said Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that, if the Principal shall well and truly perform and carry out the covenants, terms and conditions of said Contract, then this obligation to be void; otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument this _____ day of _____, 20_____.

Witness:

Witness:

Principal
(Surety)

By _____
Attorney-In-Fact