



Request for Quotation

Date: 10/10/2024

Quotation Number: 8406

Specification/Quotation Documents For: STEEL POLES

RFQ Due Date: 10/24/2024 @ 02:00 pm

To avoid any delay, we encourage you to send responses ahead of the deadline. Responses will not be opened until the stated date and time.

Section 1 – Invitation to Bidders

Sealed bids will be received by BrightRidge until due date and time, then bids will be opened and publicly read. Bidders may participate in the public bid reading by contacting BrightRidge Purchasing at least two hours prior to the bid opening time stated on the specific bid. Bidders making this request will receive a conference call number and a participant code. BrightRidge Purchasing contact information: purchasing@brightridge.com or call 423-952-5161.

All bids must be delivered at the vendor's sole risk as shown in this request for quotation as per Section 2 Instructions to Bidders. BrightRidge is not obligated to accept quotations received after the date and time stated.

Exceptions, if any, will be considered in the quotation evaluation in determining the successful vendor. Vendor must provide supporting documentation with its quotation for any exceptions.

BrightRidge reserves the right to reject any or all quotations, to reject any bid that contains prices for individual items or services that are inconsistent or unrealistic when compared to other prices in the same or other bids, to waive any and all informalities and/or irregularities in the quotation, to negotiate and/or renegotiate with any vendor the terms of its quotation, and to accept any quotation which in its opinion may be in the best interest of BrightRidge. This Request does not commit BrightRidge to pay any costs incurred in the preparation of a proposal or to procure or to contract for service. BrightRidge reserves the sole discretion to withdraw this Request in its entirety at any time without prior notice.

Information provided in this Request is intended solely to assist the respondent in preparing a Quotation. To the best of BrightRidge's knowledge, the information provided is accurate, however, there is no warranty expressed or implied.

Quotations may be held by BrightRidge for a period not to exceed sixty (60) days from the due date of the quotations for the purpose of evaluating the quotations or investigating the qualifications of the vendors, prior to awarding of the order. All quotations shall remain effective for at least sixty (60) days after the due date.

Each vendor's quotation shall constitute an offer to sell the goods or services sought by this Request for Quotation. The award shall be made by execution of a contract mutually agreed upon by both parties.

BrightRidge is a trade name of the Johnson City Energy Authority.

***Questions about the integrity or fairness of the sealed bid process contact:
Purchasing at 423-952-5161 or email purchasing@brightridge.com***

***Specification questions contact:
Wes Cole (423)952-5069 or email wcole@brightridge.com***



Section 2 – Instructions to Bidders

Each Bidder shall carefully examine all specifications, drawings, and other contract documents to familiarize themselves with all the requirements, terms and conditions thereof. Any information relating to the work furnished by the Owner or others, or failure to make these examinations shall in no way relieve any Bidder from the responsibility of fulfilling all the terms of the contract, if awarded a contract.

No payment will be made for items not set up in the quotation, unless otherwise provided by contract amendment. All Bidders are cautioned that they should include in the prices quoted for the various bid items all necessary allowances for the performance of all work required for the satisfactory completion of the project.

REQUIREMENTS FOR A DIGITAL PROPOSAL/BID SUBMISSION

- **Bids should be clearly identified as:**
Bid Enclosed and Your Company Name
BrightRidge Quotation Number: 8406
Name of the Request: Steel Poles
Due: 10/24/2024 at 2PM EST
- Send an email with an attached PDF of the digital bid including all required documents listed below to: SEALEDBIDS@BRIGHTRIDGE.COM. BrightRidge quotation number should be listed in the email subject line. Documents may be combined and sent as one PDF and cannot exceed 50MB in size. An automatic delivery receipt is sent indicating that the bid email has been delivered to sealedbids@brightridge.com
- Digital Proposal/Bids (hereafter called bids) received after the stated due date and time will be disqualified. BrightRidge will not open the bid submission email or any attachment until the due date and time stated for this sealed bid, this is to maintain the integrity of the sealed bid process
- Send a **SEPARATE EMAIL**, indicating that you have submitted a digital bid also include quotation number in the subject to: PURCHASING@BRIGHTRIDGE.COM. **DO NOT ATTACH A COPY OF YOUR BID TO THIS EMAIL!**
- No fax or physically delivered sealed bids will be accepted. **Bids must be digital.** Bidders from small & minority owned businesses needing to make alternative arrangements for physical delivery may call purchasing at 423-952-5161 or 423-952-5000.

Note:

Any bidder that submits a bid to BrightRidge of at least \$250,000 or more that provides services, supplies, information technology or construction must certify that it is not currently engaged in, and will not for the duration of this Agreement engage in, a boycott of Israel as defined by Tenn. Code Ann. §12-4-119.



**CHECKLIST FOR REQUIRED PAGES TO INCLUDE
FROM BRIGHTRIDGE BID PACKAGE**

**NOTE: FAILURE TO SUBMIT THESE PAGES WILL RESULT
IN DISQUALIFICATION OF BID**

- **BrightRidge Request for Quotation Form**

- **Quote must be in same order and unit of measurement requested or bid may be disqualified**

- **Section 3-Quotation Information Form**

- **Specification Exception Form**

- **No Bid Questionnaire – If applicable**

- **Business and Taxpayer Identification or W9 form – for NEW vendors**



Contract

BrightRidge reserves the right to accept or reject any or all bids or portions thereof. Vendors may bid multiple options, unless otherwise stated.

Vendors must complete the BrightRidge Request for Quotation Form, if applicable and included in the request for quotation. As a backup, a vendor may include their company quote form, however, items must be quoted in the same order and in the unit of measure requested on the BrightRidge Request for Quotation form, a no-bid line needs to be included also in the order of our request if not bidding on an item.

Delivery

The price bid will be FOB Johnson City, Tennessee, at the location specified below. The bid price shown will be the full charge, including all applicable taxes, surcharges and other incidental fees, shipping charges included.

Delivery Site:

BrightRidge
Shipping/Receiving Entrance
2610 Boones Creek Rd
Johnson City, TN 37615

Invoicing

Unless otherwise stated, submit invoices upon delivery or pickup to ap@brightridge.com. The invoice must include an itemization of all items, supplies, repairs, or labor furnished, including unit list price, net price, extensions, and total amount due.

Payment

Unless otherwise stated, payment will be made within thirty (30) days of the completion of delivery of all items or services in acceptable condition to BrightRidge and receipt of invoice, whichever is later.

Taxes and Fees

BrightRidge is exempt from all Sales and Federal Excise Taxes please quote less these taxes.

BrightRidge is not responsible for financial or legal obligations of the bidders that may include bond premiums, fees, insurance, licenses, permits, taxes, tariffs, or other costs of compliance, unless agreed to in writing by BrightRidge. Taxes may include federal, state, or local taxes or levies. Particular attention should be given to bids that provide construction, installation, and maintenance services that utilize the materials and supplies purchased by BrightRidge. BrightRidge does not pay Tennessee sales and use tax when materials, supplies, and equipment are purchased. If the Bidder wants information about the value of the items that will be used, contact BrightRidge Purchasing. Make a note of Tennessee Code Annotated 67-6-209 section (b) and (e).

If the Bidder wishes to recoup obligations they owe as a result of work performed for BrightRidge, the Bidder must include them in the quotation price. Otherwise, the Bidder should not expect additional payment from BrightRidge for these obligations.

Equal Employment Opportunity Clause

To the extent not exempt therefrom, the vendor/subcontractor designated herein agrees to in all respects comply with and abide by the provisions of Executive Order 11246, Section 503 of the Rehabilitation Act of 1973, and the Vietnam Era Veterans' Readjustment Assistance Act of 1974, each as amended, and applicable implementing Regulations, including the Equal Employment Opportunity Clause referred to at 41 C.F.R. § 60-1.4, 41 C.F.R. § 60-741.5, and 41 C.F.R. § 60-250.5, as well as those otherwise appearing at 41 C.F.R. § 60-1, et seq., 41 C.F.R. § 60-741.1, et seq., and 41 C.F.R. § 60-250.1, et seq., each as amended.



Section 3 – Quotation Information

The successful contractor agrees to indemnify, investigate, protect, defend, and save harmless BrightRidge, its officials, officers, agents, and employees from any and all third-party claims and losses accruing or resulting from bodily injury or damage to property caused by the successful contractor in performance of this contract.

The successful contractor also agrees to indemnify, investigate, protect, defend, and save harmless BrightRidge, its officials, officers, agents, and employees from any and all third-party claims and losses accruing or resulting from bodily injury or damage to property caused by the successful contractor's sub-contractors, suppliers, laborers, and any other person, firm, or corporation furnishing or supplying work, services, materials, or supplies to the successful contractor in connection with the performance of this contract.

If the successful contractor supplies products it manufactures (in whole or in part), the successful contractor agrees to indemnify BrightRidge, its officials, officers, agents, and employees from any and all third-party claims and losses accruing or resulting from bodily injury or damage to property caused by the failure of such products.

If the successful contractor only supplies products manufactured by others, the successful contractor is not obligated to indemnify BrightRidge for a failure of any such products manufactured by others. If the successful contractor only supplies products manufactured by others, the successful contractor agrees to cooperate with BrightRidge and take all reasonable steps to assist BrightRidge in making claims against any such product's manufacturer for any such product's failure.

In any case, the foregoing provisions concerning indemnification shall not be construed to indemnify BrightRidge from damage arising out of bodily injury to persons or damage to property caused by or resulting from the sole negligence of BrightRidge or its employees. This indemnification shall survive the expiration or early termination of this contract.

The undersigned acknowledges: That he/she is an authorized agent of the vendor submitting this quotation. The receipt of the following addenda (if any). The provision of the indemnification agreement.

Company Name: _____

Company Address: _____

Taxpayer ID: _____

Telephone Number: _____ **Mobile Number:** _____

E-mail: _____ **Fax Number:** _____

Primary Point of Contact: _____

Authorized Signature: _____

Date of Signature: _____ **Title:** _____

Printed or Typed Name: _____

***FAILURE TO SUBMIT THIS COMPLETED FORM WITH YOUR BID SUBMISSION
MAY RESULT IN YOUR BID BEING REJECTED AS UNRESPONSIVE.***



BrightRidge Specifications Exception Form

In the interest of fairness and sound business practice, it is mandatory that you state any exceptions taken by you to our specifications.

It should not be the responsibility of BrightRidge to ferret out information concerning the materials which you intend to furnish.

If your bid/quotation does not meet all of our specifications, you must so state in the space provided below.

Bids on equipment, vehicles, supplies, services, and materials not meeting specifications may be considered by BrightRidge, however, all deviations must be listed below.

I do meet specifications.

Signature: _____

I do not meet specifications. *Exceptions are in the space provided.*

Signature: _____

**FAILURE TO SUBMIT THIS COMPLETED FORM WITH YOUR BID SUBMISSION
MAY RESULT IN YOUR BID BEING REJECTED AS UNRESPONSIVE.**

Exceptions (please list below and specify exceptions)



No Bid Questionnaire

BrightRidge
Attn: Purchasing
2600 Boones Creek Rd
Johnson City, TN 37615

Quotation Number: 8406

If you choose not to bid, please complete the questionnaire below and return it with your response by the bid opening date. Your assistance in helping us to analyze no bid rationale is very much appreciated.

For the following reason(s) we are submitting a no bid:

 Item not supplied by our company.

 Bid specifications (e.g. too restricted, not clear, etc.) Please explain.

 Profit margin on municipal bids is too low.

 Past experience with BrightRidge (e.g. payment delay, bid process, administrative problems, etc.) Please explain. _____

 Insufficient time allowed to prepare and respond to bid request.

 Bid requirement Too Large or Too Small for our company.

 Priority of other business opportunities limit time/other resources available to deliver or perform according to bid specifications.

 Other reason(s). Please explain. _____

Company Name: _____

Address: _____

Telephone: _____ E-mail: _____

(Signature)

(Printed/Typed Name)

Title: _____ Date: _____



BrightRidge

Business and Taxpayer Identification Information

This Business is operating as a:

Individual/Sole Proprietor or Single Member LLC Partnership Trust/Estate

C Corporation S Corporation

Limited Liability Company

(Enter the tax classification (C=Corporation, S=S Corporation, P=Partnership) _____)

Other (please describe) _____

Licensed or otherwise authorize to business by the state of: _____

Taxpayer Identification Number: ____ - ____ - ____ - ____ - ____

Or

Social Security Number: ____ - ____ - ____ - ____ - ____

Legal Name: (as shown on your income tax return)

Doing Business as Name: (DBA)

Address: _____

City, State, Zip: _____

Note:

If applicable, your bid may be rejected if you do not complete and submit this page and/or a W-9 with your bid. Checks in payment of obligations by BrightRidge will be made payable to your legally issued name unless you state a DBA. Federal Tax reporting, if required, will also be in your legal name.



REQUEST FOR QUOTATION



BrightRidge
2600 Boones Creek Rd.
Johnson City, TN 37615

Vendor	Quotation
50000	8406
Print Date	Page
10/10/2024	1

TO BRIGHTRIDGE *** SEALED BID ***
PLEASE WRITE COMPANY NAME IN THIS AREA
2600 BOONES CREEK RD
JOHNSON CITY, TN 37615

SHIP TO JOHNSON CITY ENERGY AUTHORITY
2610 BOONES CREEK ROAD
JOHNSON CITY, TN 37615
Phone: (423)952-5161
Fax: (423)952-5092

Response Due Date: 2:00 pm 10/24/2024

Phone:
Fax:

Requested Terms

Shipment Method	Shipment Terms	FOB	Payment Terms
Best Way	Pre-Paid and Included	DESTINATION	NET -30 DAYS

LN	ITEM	QUANTITY	UOM	DESCRIPTION	UNIT PRICE	DEL DT/LEAD TM
1	48300905	14.000	EA	POLE, STEEL WEATHERING 70' LD-1 TRANSMISSION, DODECAGON, DIRECT EMBEDDED, BUTT PLATE, SEE BRIGHTRIDGE SPECIFICATIONS <input type="checkbox"/> 70' LD-1 WEATHERING STEEL POLE - CAROLINA HIGH MAST <input type="checkbox"/> 70' LD-1 WEATHERING STEEL POLE - TRINITY MEYER <input type="checkbox"/> 70' LD-1 WEATHERING STEEL POLE - FORT WORTH TOWER (FWT) <input type="checkbox"/> 70' LD-1 WEATHERING STEEL POLE - VALMONT INDUSTRIES <input type="checkbox"/> 70' LD-1 WEATHERING STEEL POLE - SABRE INDUSTRIES		
2	48300906	4.000	EA	POLE, STEEL WEATHERING 55' LD-1 TRANSMISSION, DODECAGON, DIRECT EMBEDDED, BUTT PLATE, SEE BRIGHTRIDGE SPECIFICATIONS <input type="checkbox"/> 55' LD-1 WEATHERING STEEL POLE - TRINITY MEYER <input type="checkbox"/> 55' LD-1 WEATHERING STEEL POLE - VALMONT INDUSTRIES <input type="checkbox"/> 55' LD-1 WEATHERING STEEL POLE - FORT WORTH TOWER (FWT) <input type="checkbox"/> 55' LD-1 WEATHERING STEEL POLE - CAROLINA HIGH MAST <input type="checkbox"/> 55' LD-1 WEATHERING STEEL POLE - SABRE INDUSTRIES		

REQUEST FOR QUOTATION

Vendor	Quotation
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Print Date	Page
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LN	ITEM	QUANTITY	UOM	DESCRIPTION	UNIT PRICE	DEL DT/LEAD TM

Vendor Terms

Shipment Method	Shipment Terms	FOB	Payment Terms

ALL PRICING MUST BE GOOD FOR 7 DAYS AFTER RECEIPT OF PURCHASE ORDER. VALID THRU DATES MUST BE ENTERED IF PRICING WILL ONLY BE HELD FOR A SPECIFIC PERIOD OF TIME.

NOTE TO AVOID DISQUALIFICATION OF YOUR QUOTATION

Vendors must use quotation provided, you may include your own form as back up: quote items in the same order as our form, BrightRidge form will be used for Processing Bid. QUOTES MUST BE IN THE SAME UNIT OF MEASUREMENT AS REQUESTED. Indicate manufacturer quoted. If not a listed manufacturer, pre-approval is required through our Engineering Department. Include estimated delivery date. Please note that your lead times may impact our selection process. Standard packaging needs to be indicated on quote. *Note our requested shipping terms are pre-paid and included, if different terms the estimated amount of shipping charges need to be included with quotation.

Valid Through Date:

Authorizing Signatures

 RACHAEL MILLER
 GENERAL ACCOUNTANT
 (423)952-5161

BrightRidge Transmission Pole & Davit Arm Specs.

1.01 Definitions

- A. D/t – The ratio of the diameter of a tubular pole to the steel plate thickness.
- B. Overload factors (OLF) – a multiplier, which is applied to each of the vertical, transverse and longitudinal structure loads to obtain an ultimate load.
- C. w/t – The ratio of the width of the pole (flat-to-flat) to the plate thickness.
- D. Point of Fixity – The point along the pole length where the maximum moment occurs. For use in this specification, it is defined as a point 7% of the total pole length from the bottom of the pole.
- E. Tip Load – A horizontal load applied to a pole 2 feet from the top of the pole.

1.02 NESC WEATHER LOAD

The following weather case shall be applied to all engineered poles. **These loads do not apply to standard class poles.**

NESC LOADING DISTRICT					
DISTRICT	DESIGN TEMP (F°)	RADIAL ICE THICKNESS (INCHES)	WIND PRESSURE (PSF)	CONSTANTS (LBS/FT)	
HEAVY LOADING	0°	0.5"	4	0.30	

1.03 SUBMITALS

- A. Pole Data Required for analysis to determine pole acceptability for this project.
 - a. Shape (12 flats, dodecagon)
 - b. Tip diameter
 - c. Basic Diameter
 - d. Tube section information
 - 1. Length
 - 2. Steel Thickness
 - 3. Lap Length (if any)
 - 4. Steel Strength
- B. Final Drawings, Manuals, and Test Reports shall be provided prior to shipment.
- C. Information to be supplied with the proposal:
 - a. Sketches or draft drawings of structure and structure attachments and attachments of assemblies (detailing the centerline for tangent structures and the angle bisector for angle structures, with description of matching mark locations for the anchor bolt cage on the top template and the pole).

- D. Documentation to be supplied for BrightRidge's approval prior to fabrication of engineered poles and/or davit arms:
- a. Documentation includes final design calculations for pole shaft, base plate, anchor bolts, arms and other appurtenances, including their connections for all structures. The following information shall be supplied:
 - i. For all indicated loading cases with OLF, provide the total shear, axial forces, moments, stresses or stress ratios, section module, cross-sectional areas, w/t 's for polygonal and D/t 's for round cross sections at all splices, at arm and assembly attachment points (top and bottom), and at least every 10 feet (3.05m) along the pole.
 - ii. For the critical loading case in arms, provide shear and axial forces, moments, stresses, section module, cross-sectional areas at arm connections, bolt stresses in arm connection, and deflection at end of arm.
 - iii. Anticipated deflections at the top of the pole and at ends of any arms shall be indicated for each pole for the normal, standard unfactored loading condition of 60°F (15.56°C), no wind, no OLF.
 - iv. Amount of installation rake necessary for pole to appear plumb through the vertical under normal, standard unfactored loading condition of 60°F (15.56°C), no wind, no OLF.
 - v. For all specified loading cases, reactions and groundline moments shall be supplied.
 - vi. Detail drawings for each structure type giving weights of structure components, dimensions, and bill of materials.
 - vii. Assembly instructions and erection drawings; Slip joint lengths and allowable tolerances; and any special handling instructions.
- E. Final designs must pass an acceptable review by BrightRidge before material ordering and fabrication. Material ordering and fabrication prior to approval will be at Manufacturer's risk. It is understood that award of this contract does not constitute acceptance of design calculations submitted with the bid. If corrections are required in the final structure designs due to manufacturer's errors, omissions, or misinterpretations of the specifications, the quoted price shall not change. Acceptable review of the drawings and calculations by BrightRidge does not relieve the manufacturer of responsibility for the adequacy of the design, correctness of dimensions, details on the drawings, and the proper fit of parts.
- F. All final drawings shall become the property of BrightRidge, who shall have full rights to reproduce drawings and use them as BrightRidge sees fit.

1.04 Quality Assurance

- A. All materials, equipment and appurtenances used in construction of this project shall be new and shall conform to those acceptable by standard publications used in line construction, unless otherwise specified herein.
- B. Supply all equipment and accessories new and free from defects.
- C. Supply all equipment and accessories in compliance with applicable standards and with all applicable national, state, and local codes.
- D. All items of a given type shall be the products of the same Manufacturer.

1.05 Shipping

- A. Each shipment shall be accompanied by a list of all parts, identifiable by structure type and number. Arms, bolts and miscellaneous hardware will be identified by the list for match up with the respective pole shaft. All parts required for any one structure shall be in one shipment, if possible.
- B. BrightRidge shall be notified prior to shipment that such shipment is to take place, and they reserve the right to inspect the components prior to shipment or unloading. The notification shall give quantities; weight, name of common carrier used, and expected time of arrival.
- C. Salt-treated wood blocking and urethane foams shall not be used when shipping or storing weathering steel poles.
- D. BrightRidge will provide all labor, equipment, and materials for the unloading of poles at the project site. A pole is considered delivered when the pole is lifted from the trailer or semi-trailer of the delivery carrier.
- E. After delivery, the poles will be inspected and shall be free of dirt, or blisters, flux, black spots, dross, tear-drop edges, flaking paint or zinc; and in general, shall be smooth, attractive and unscarred. Poles not meeting this requirement shall be repaired or replaced by the Contractor at no additional cost to BrightRidge.

PART 2 PRODUCTS

2.01 Design Requirements

5.1.1 Pole designs shall be prepared for the Standard Class loads as shown in Table 1.

The poles shall be designed to meet ASCE Manual No. 72. "Design of steel Transmission Pole Structure." Design methods. The point-of-fixity shall be considered to be located at a distance from the pole bottom that is equal to 7 percent of the pole length. The pole shall be symmetrically designed such that the strength required in any one direction shall be required in all directions about the longitudinal axis of the pole.

5.1.2 Using corresponding values in Table 1.

- a. The pole shall meet the minimum ultimate moment capacity required in Table 1 at a distance of five feet from the pole top.
- b. The pole shall meet the minimum ultimate capacity about the point-of-fixity that is calculated by multiplying the tip load in Table 1 by distance to the tip load.
- c. The geometry and taper of the pole shall be uniform throughout their entire length (top to butt).
- d. Maximum allowable reactions to loads applied in Table 1 shall be limited to 85% of yield.

5.1.3 The poles shall be designed to withstand the specified tip loading in Table 1 without a pole deflection of 15% of the length above the point-of-fixity when tested in accordance with ASCE Manual No. 72

5.1.4 Overall length of poles shall be designed and manufactured in incremental lengths of 5 feet.

5.1.5 All poles 60 feet or less shall be designed as a one-piece pole.

TABLE 1 STRENGTH REQUIREMENTS			
POLE CLASS	RUS STEEL POLE CLASS	MINIMUM ULTIMATE CAPACITY AT 5 FT FROM POLE TOP (FT/KIPS)	HORIZONTAL TIP LOAD APPLIED 2 FT FROM POLE TOP (LBS.)
H6	S-07.0	57	7125
H5	S-06.2	50	6250
H4	S-05.4	44	5450
H3	S-04.7	38	4700
H2	S-04.0	32	4000
H1	S-03.4	27	3375
1	S-02.8	44	5450
2	S-02.3	38	4700
3	S01.9	32	4000

2.02 Materials

- A. All materials shall comply with the applicable requirements of ASTM specifications. Any modifications to ASTM specifications must be approved by BrightRidge prior to bidding.
- B. Poles, arms, and conductor brackets shall conform to ASTM A36, ASTM A572, ASTM A581, ASTM A588, ASTM A871, or ASTM A595.
- C. Anchor bolts, structural plate, and weld material shall meet ASCE requirements for Charpy tests.
- D. For galvanized structures, steel used for the pole shaft and arms shall have a silicon content less than .06 percent.
- E. Base plates for self-supported poles shall conform to ASTM A572, ASTM A588, ASTM A633, or ASTM A595.
- F. Anchor bolts for self-supported poles shall conform to ASTM A65, Grade 60 or 75.

2.03 Manufactured Units

- A. The design, fabrication, allowable stresses, processes, tolerances, and inspection shall conform to the American Society of Civil Engineers (ASCE) Standard, Design of Steel Transmission Pole Structures, latest edition, with the following additions and/or exceptions:
 - a. Minimum yield strength of pole shaft shall be 65 ksi.
 - b. Minimum plate thickness for all pole components shall be 3/16 inch (4.76mm).
 - c. Poles shall have a uniform taper throughout their entire length unless specified otherwise. The maximum difference in tapers between two pole sections measured by the diameters shall be 0.20 inch/ft (0.66mm/m) for poles with variable taper.
 - d. Poles shall be designed with a minimum number of joints. Field welding shall not be allowed as part of the design of a new pole. The shaft joints to be made in the field shall be slip joints. Slip joint length shall be at least 1 ½ times the largest inside diameter of the female section. Manufacturer shall provide proper holes and/or slots for bolting the two sections together. Manufacturer shall verify slip joint fit before shipment. Joints should not interfere with other joints, step nuts, ladder clips, or jacking nuts. Sufficient jacking lugs and permanent orientation marks shall be provided at all slip joints to ensure proper alignment and complete overlap of the joint.
 - e. Lifting lugs are optional. The manufacturer shall supply all instructions for handling and erection of poles and arms.
 - f. Plastic plugs shall be installed in all nuts welded to the structure and all tapped holes. All threads shall be clean and free of obstructions and deformations.

- g. Grounding connections shall be welded to the pole shaft. The lower grounding connection shall be installed 18 inches (0.45 m) above the base plate, or in cases of direct embedded poles, 12 inches (0.31 m) above the ground sleeve or design burial depth. The upper grounding connection shall be installed 6 inches below the point of neutral or shield attachment whichever is higher above ground line. The grounding connection will be either the two-hole, National Electric Manufacturers Association, NEMA-drilled pad or a nut. Grounding pad face shall not be painted or covered with other coatings. The ground nut threads, and grounding pad threads shall be protected from coatings.
- h. Structures which are to be direct embedded shall have bearing plates and ground sleeves. Bearing plates shall have a diameter not more than 2 inches (50.8mm) greater than the maximum pole diameter.
- i. Ground sleeves shall have a minimum length of 18 inches above and below ground line. The ground sleeve shall have a minimum thickness of 3/16 inch (4.76mm) and shall be centered at the ground line. A seal weld shall be provided around the ground sleeve. The ground sleeve shall not be considered in strength calculations.
- j. Galvanized poles shall have a drain hole at the bottom and a ventilation hole near the top and on the side of the pole for all direct bury poles. When a painted finish is specified, poles shall be hermetically sealed.
- k. All non-guyed structures, including self-supported structures shall be designed for a calculated deflection at the top of the pole no greater than 1.5 percent of the pole height under a normal, everyday loading condition of 60°F (15.56°C), no wind, based on design tension. For purposes of deflection, pole height shall be the height of the pole from the top of the base plate, or designated ground line, to the top.
- l. When poles are to be directly embedded, a 16 mil (minimum dry film thickness), two component hydrocarbon extended polyurethane coating that is resistant to ultraviolet light shall be applied on the exposed surface of the embedded portion of the pole. The coating shall extend from the butt to a point at least 18 inches (0.45m) above the ground line. Other coatings shall be approved by BrightRidge prior to their use.
- m. In the design of connections for vangs, brackets, or stiffener attached to the pole shaft, care shall be taken to distribute the loads sufficiently to protect the wall of the pole from local buckling.
- n. Arms shall be so the end of the arm is at the specified height under a loading of initial conductor tension, 60°F (15.56°C), no wind. Arms shall not deflect vertically more than 6 inches (0.15m) at the end of the arm under extreme ice

conditions. Arms shall be upswept, tapered, steel tubular members, of any cross-sectional type, which meet the dimensions shown on the attached drawings. The arm shall be designed to avoid trapping or holding moisture.

- o. Arms shall be manufactured to meet or exceed the following limits:
 - i. Vertical 4000 lbs.
 - ii. Tension 4000 lbs.
 - iii. Compression 4000 lbs.
 - iv. Longitudinal 3000 lbs. (4 ft. arms)
2000 lbs. (5 ft. arms)
- p. Each pole shall be permanently marked on the pole shaft 60 inches (1.52m) above ground line and on the bottom of base plate or bearing plate and top of top plate with the following identifying information: structure type, height, structure number, ultimate ground line moment, owner name, and date manufactured. The method of Identification shall be approved by BrightRidge.
- q. Pole length and class shall be labeled on the top of the pole cap and bottom of the pole base plate. This marking must be weather resistant marking (ex: welded numbers or a name plate).
- r. Weathering steel structures shall be designed to eliminate water and water traps. Tubular sections shall be sealed from moisture entering the inside of the pole. Factory drilled pole holes shall be plugged to prevent moisture intrusion during shipping. For field drilled holes and factory drilled poles, manufacturer shall provide silicon sealant to seal all through-bolt holes. Non-drilled poles, when assembled, shall be effectively sealed to prevent moisture intrusion. Connections shall be designed to reduce the effect of pack-out by preventing moisture from entering the joint or by designing the connection to allow moisture to easily drain off.

PART 3 EXECUTION

3.01 Fabrication

- A. Shop Assembly:
 - a. All welding shall be in accordance with the American Welding Society Code AWS D1.1, latest edition. Welders shall be qualified in accordance with AWS D1.1 welding procedures.
 - b. The thickness for any weld shall be defined by the smaller of the two parts being joined and shall not exceed 3/8 inch for any prequalified weld.

- c. One hundred percent penetration welds shall be required in, but not limited to, the following areas:
 - i. Circumferential welds (C-welds) joining structural members.
 - ii. Longitudinal welds in the female portion of the joint within the slip joint area.
 - iii. Welds at the butt joints of back-up strips.
 - iv. Base plate to shaft weld; and
 - v. Longitudinal welds for a minimum length of 3 inches (76.2mm) where there are adjacent C-welds, flange welds, base welds, and ends or tubes.
- d. Full penetration or equivalent 90 percent partial penetration with fillet overlay shall be used for arm-to-arm base, vang-to-plate shaft, and arm box joints.
- e. Quality and acceptability of every inch of the full penetration welds shall be determined by visual and ultrasonic inspection. The frequency of piping porosity in fillet welds shall not exceed one in each 4 inches of weld length and the maximum diameter of porosity shall not exceed 3/32 inch.
- f. All other penetration welds shall have 60 percent minimum penetration. Quality and acceptability of all welds other than full penetration welds shall be determined by visual inspection, supplemented by magnetic particle, ultrasonic or dye penetrant inspection.
- g. Cracks in welds shall be unacceptable, regardless of size or location.
- h. All weld back-up strips shall be continuous the full length of the welds. Care shall be exercised in the design of welded connections to avoid areas of high stress concentration, which could be subject to fatigue or brittle fractures.
- i. Field welding shall not be permitted except with BrightRidge's approval and the manufacturer's direction in repairing a pole.
- j. All parts of the structure shall be neatly finished and free from kinks or twists. All holes, blocks, and clips shall be made with sharp tools and shall be clean-cut without torn or ragged edges.
- k. Before being laid out or worked in any manner, structural material shall be straight and clean. If straightening is necessary, it shall be done by methods that will not injure the metal.
- l. Shearing and cutting shall be performed carefully and all portions of the work shall be finished neatly. Copes and re-entrant cuts shall be filleted before cutting.
- m. All forming or bending during fabrication shall be done by methods that will prevent embrittlement or loss of strength in the material being worked.
- n. No holes shall be drilled by manufacturer unless specified by BrightRidge. Holes for bolts shall be 1/8 inch (3.17mm) larger than the nominal diameter of the

bolts. Holes in the flange plates of bolted splices shall be 1/8 inch (3.17mm) large than the bolt diameter. Holes in the base plates for anchor bolts shall be 3/8 inch (9.52mm) larger than the nominal diameter of the anchor bolts. All hole diameters specified, or shown in the Contract Drawings, shall be minimum sizes **AFTER** galvanizing. The details of all connections and splices shall be subject to the approval of BrightRidge.

- o. Holes in steel plates which are punched must be smooth and cylindrical without excessive tear out or depressions. Any burrs that remain after punching shall be removed by grinding, reaming, etc.
 - p. Holes of any diameter may be drilled in plate of any thickness. Care shall be taken to maintain accuracy when drilling stacks of plates.
 - q. Holes may be made by use of a machine guided oxygen torch. Flame cut edges shall be reasonably smooth and suitable for the stresses transmitted to them.
 - r. The overall length of the assembled structure should not be less than 6 inches (0.15mm) of the specified length and not more than 12 inches (0.31mm).
- B. Finish Coatings:
- a. The following finishes are acceptable: galvanizing, and weathering steel.
 - i. Galvanizing: All structures and structural components which are hot-dipped galvanized shall meet the entire requirements of ASTM A123 or ASTM A153. Measures shall be taken to prevent warping and distortion according to ASTM A384 and to prevent embrittlement according to ASTM A143. Poles made of ASTM A588 steel shall not be galvanized due to the high silicon content of the steel. One gallon of zinc enriched paint shall be provided with each five poles.
 - ii. Weathering Steel: Steel shall conform to ASTM A588 or A871. After fabrication, poles made of weathering steel shall be cleaned of oil, scale, etc., in accordance with the Steel Structure Painting Council's Surface Preparation Specification, SSPC-SPC6, to ensure uniform and rapid formation of the protective oxide layer.
- C. Bolts and nuts with yield strengths less than 100,000 psi (7032.3kg/cm) shall be hot-dipped galvanized per ASTM A153 and ASTM A143, or mechanically coated with zinc in accordance with ASTM B454, Class 50. Bolting materials with yield strengths in excess of 100,000 psi (7032.3kg/cm) shall not be hot-dipped galvanized. Instead, they shall be painted with zinc enriched paint or mechanically coated with zinc per ASTM B454, Class 50.
- D. Compliance with Coating thickness requirements shall be checked with a magnetic thickness gauge.

3.02 Quality Control

- A. Steel members which are bent or warped or otherwise improperly fabricated shall be properly repaired or replaced.
- B. The cost of tests made by the manufacturer (except full scale load tests on poles), including cost of the certified test reports shall be considered included in the price.
- C. The manufacturer shall make tests in accordance with ASTM A370 and ASTM A673 to verify that the material used in the structures meets the impact properties.
- D. Mill test reports showing chemical and physical properties of all material furnished under this specification shall be maintained by the manufacturer for a period of 5 years and shall be traceable to the structure.
- E. All plates over 1 ½ inches (38.1mm) thick shall be ultrasonically tested to assure against defects which could lead to lamellar tearing.
- F. Welders or welding operations shall be qualified in accordance with the provisions of AWS D1.1
- G. The manufacturer shall make certified welding reports for each structure. The reports covering welding shall include all welds of a structure. Each weld shall be clearly identified; and the report shall consist of the method of testing, whether the weld is acceptable, the identification of the structure, the date, and the name and signature of the inspector.

STANDARD CLASS STEEL POLE BID SUMMARY
(Information to be supplied with pole bid or submittal)

Pole Class							
Pole Length							
POLE DESCRIPTION							
Top Diameter							
Bottom Diameter							
Taper (in/ft)							
GENERAL							
Pole Wt./Each							
Tip Load (Table 1)							
Point of Fixity Loc. (from bottom)							
Steel (ASTM/yield)							
Cross Section Shape							
Splice Joint Type							
CALCULATIONS 5 FT. FROM TOP OF POLE							
Moment							
CALCULATIONS AT GROUNDLINE							
Moment							
Shear							
Axial							
Cross Sectional Area							
CALCULATIONS AT THE POINT OF FIXITY							
Moment							
WALL THICKNESS							
Top							
Groundline							
Bottom							
DEFLECTION							
Top (ft.)							
Top (percent of pole length)							

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