INVITATION FOR BID

PWC2627016

STEEL POLES FOR DUKE ENERGY TAP LINE FOR POD V

Date of Issue: September 16, 2026
Bid Opening Date: October 6, 2026
2:00 P.M.

Direct all inquiries concerning this IFB to:

Nikole Bohannon
Procurement Manager
procurement@faypwc.com

Contents

ADVERTISEMENT FOR BID
FAYETTEVILLE PUBLIC WORKS COMMISSION
STEEL POLES FOR DUKE ENERGY TAP LINE FOR POD V

Cumberland County
North Carolina

Pursuant to N.C.G.S 143-129 sealed Bids are solicited and will be received at Fayetteville Public Works Commission, Administration Building, Conference Room 107, 955 Old Wilmington Road, Fayetteville, NC 28301, until **2:00 p.m., EST Tuesday, October 6, 2026**, for the **STEEL POLES FOR DUKE ENERGY TAP LINE FOR POD V.**

PWC is issuing this Invitation for Bid (IFB) for the procurement of nine (9) Steel Poles which are required to connect to the Duke Energy 230 KV Transmission Line to serve the new PWC Point of Delivery call "POD V" located between Arbor Road and McArthur Road off Ramsey Street.

Enclosed are the Instructions to Bidders, Material/Technical Specifications, and Bid Pricing Form. Bidders must submit the completed Attachment A, Attachment B, Attachment C (if applicable), and Attachment H Economic Impact Discloser Form, and any required addendum acknowledgments. Submissions must be made using the provided forms or exact copies thereof, as specified in the IFB documents. Unsolicited bid samples or descriptive literature may not be examined or tested, will not be used to determine responsiveness, and will not be deemed to vary any of the provisions of the IFB. Failure to comply with these requirements shall constitute sufficient cause to reject a bid without further consideration.

Questions regarding this bid must be submitted in writing to the attention of Nikole Bohannon, at procurement@faypwc.com no later than **4:00 p.m., EST Wednesday, September 23, 2026**, in order to be considered for a response.

Mailed bids must be addressed to Nikole Bohannon, Procurement Manager, Fayetteville Public Works Commission, 955 Old Wilmington Road, Fayetteville, North Carolina 28301. The outside of the envelope must be marked **IFB: PWC2627016 - STEEL POLES FOR DUKE ENERGY TAP LINE FOR POD V** and shall indicate the name and address of the bidder. Late bids will not be considered.

Fayetteville Public Works Commission reserves the right to accept or reject any or all bids, to waive minor informalities or technicalities as permitted by law, to disregard nonconforming or nonresponsive bids, and to re-advertise for bids if deemed in the best interest of PWC. The bid tabulation and announcement of the apparent low bidder at the bid opening do not constitute a binding contract with PWC. No contract will be considered awarded until a formal written Agreement is executed by both PWC and the successful bidder. The award of a contract, if made, will be to the lowest responsive, responsible bidder whose qualifications indicate the award will be in the best interest of PWC.

FAYETTEVILLE PUBLIC WORKS COMMISSION
Nikole Bohannon
Procurement Manager

INSTRUCTIONS TO BIDDERS
FAYETTEVILLE PUBLIC WORKS COMMISSION
STEEL POLES FOR DUKE ENERGY TAP LINE FOR POD V

PURPOSE AND BACKGROUND

PWC is issuing this Invitation for Bid (IFB) for the procurement of nine (9) Steel Poles, which are required to connect to the Duke Energy 230 KV Transmission Line to serve the new PWC Point of Delivery call "POD V" located between Arbor Road and McArthur Road off Ramsey Street.

OBJECTIVE OF THE REQUEST

It is the intent of this bid invitation to obtain pricing for **STEEL POLES FOR DUKE ENERGY TAP LINE FOR POD V** within the material/technical specifications section of this Invitation for Bid (IFB). You are requested to submit your bid on the enclosed **Attachment B: Bid Pricing Form**.

IFB SCHEDULE

The following table shows the schedule of events to prepare your organization's response. The key deadlines and targeted dates for this process are as follows:

Action	Responsibility	Date/Time
Advertisement Date	Bidders	September 16, 2026
Question Deadline	Bidders	September 23, 2026, at 4:00 p.m.
Addendum Deadline	PWC	September 29, 2026, at 5:00 p.m.
Bid Opening	Bidders	October 6, 2026, at 2:00 p.m.
Target Commission Date	PWC	Wednesday, October 28, 2026
Target Council Date	PWC	Monday, November 9, 2026
Award /Sale of Goods Agreement	PWC	November 2026
Preferred Delivery	Awarded Bidder	February 2027

QUESTIONS

Written questions shall be e-mailed to procurement@faypwc.com by the date and time specified in the IFB schedule. Bidders will enter "**IFB PWC2627016– Questions**" as the subject of the email.

Questions received prior to the submission deadline date, the Procurement Advisor's response, and any additional information deemed necessary by PWC will be posted in the form of an addendum to the PWC website and shall become an Addendum to this IFB. No information, instruction, or advice provided orally or informally by any PWC personnel, whether made in response to a question or otherwise concerning this IFB, shall be considered authoritative or binding. Bidders shall rely only on the written material contained in an Addendum to this IFB.

Inquiries should be submitted no later than the date and time noted in the IFB schedule. Questions answered verbally will be followed up by written addenda as deemed necessary; oral interpretations shall have no effect.

Bidders are expressly prohibited from contacting any PWC official or employee associated

with this IFB or project, except through the Procurement Advisor identified on the IFB cover page and only in the manner described above.

ECONOMIC IMPACT (EI) PROGRAM PARTICIPATION

Fayetteville PWC supports fair and open competition in all procurement activities and encourages participation from qualified businesses of all sizes. For the purposes of PWC procurements, a qualified business is one that demonstrates the capacity, capability, and resources to perform in accordance with the specifications, terms, and conditions of the solicitation. PWC also recognizes the value that small and locally based suppliers bring to the community and to the efficiency of its operations.

While no specific business certification is required for award, bidders that are certified as a Disadvantaged Business Enterprise (DBE), Small Business Administration (SBA)-certified firm, or PWC Small Local Supplier (SLS) are encouraged to participate and, when applicable, to indicate that status on the Economic Impact Disclosure Form included in this solicitation.

GREATER FAYETTEVILLE CHAMBER OF COMMERCE

Members of the Greater Fayetteville Chamber of Commerce preferred, but not required.

REFERENCES

Bidders are encouraged to provide up to three (3) references where the company has supplied equipment or services within the energy and power generation industry, when the model or equipment differs from that noted in **Attachment A: Material/Technical Specifications** or **Attachment B: Bid Pricing Form**. PWC may contact these references to assess whether the bidder's performance was satisfactory and aligned with industry standards. The information obtained may be considered in the evaluation of the bid. If PWC is listed as a reference, it may be included as one of the three (3) optional references.

COMPANY NAME	CONTACT NAME	TELEPHONE NUMBER	EMAIL
Fayetteville Public Works Commission, if applicable			

VENDOR REGISTRATION VIA ISUPPLIER

1) All vendors interested in doing business with PWC must register as a vendor through the iSupplier Portal using the link below. The iSupplier self-service portal enables vendors to have real-time access to information regarding purchase orders, invoices, and payments through a secure environment. Attach a copy of your W9 to your online registration.

https://www.faypwc.com/isupplier-doing-business-with-pwc/

SUBMISSION INSTRUCTIONS

1) Bids should be complete and carefully worded and should convey all the information requested in the IFB. Bids should be prepared simply and economically, providing a straightforward, concise description of the bidder's capabilities to satisfy the requirements of the IFB. Emphasis should be on completeness and clarity of content. Any proposed deviation, exception, clarification, or variation to the Material/Technical Specifications or the Sale of Goods Agreement must be clearly identified and submitted only on the applicable Form of Exceptions (**Attachment F** and/or **Attachment G**). Deviations, conditions, or bidder standard terms included elsewhere in the bid, including in cover letters, pricing notes, appendices, or other materials, shall not modify the requirements of this IFB and may render the bid nonresponsive. Proposed exceptions to the Sale of Goods Agreement that materially alter or are inconsistent with the rights, obligations, risk allocation, remedies, indemnification, warranty, insurance, governing law, limitation of liability, delivery, payment, or other material terms of the Agreement may affect responsiveness, award eligibility, or contract execution. PWC reserves the right to request clarification of such exceptions and, if deemed in the best interest of PWC, negotiate their resolution. If the parties are unable to reach agreement on mutually acceptable terms, PWC may reject the bid, rescind an award, or proceed to the next lowest responsive, responsible bidder.

2) Unsolicited bid samples or descriptive literature may not be examined or tested, will not be used to determine responsiveness, and will not vary any of the provisions of the IFB. PWC reserves the right to accept or reject any or all bids, to waive minor informalities or technicalities as permitted by law, to disregard nonconforming or nonresponsive bids, and to re-advertise for bids if deemed in the best interest of PWC. The bid tabulation and announcement of the apparent low bidder at the bid opening do not constitute a binding contract with PWC. No contract will be considered awarded until a formal written Agreement is executed by both PWC and the successful bidder. The award of a contract, if made, will be to the lowest responsible, responsive bidder whose qualifications indicate the award will be in the best interest of PWC.

3) Bids may be withdrawn by the bidder only in writing and if receipt of such withdrawal is acknowledged by PWC prior to the time for the bid submittal deadline identified in the Advertisement for Bidders (or such later date included in an Addendum). Written withdrawal requests shall be submitted on the bidder's letterhead and signed by an official of the bidder duly authorized to make such request. Any withdrawal request made after the bid submittal deadline shall be allowed only if the price bid was based upon a mistake that constituted a substantial error, provided the bid was submitted in good faith, and then only pursuant to the terms of N.C.G.S. § 143-129.1.

4) Bids must be submitted in an envelope clearly marked with "**IFB: PWC2627016 STEEL POLES FOR DUKE ENERGY TAP LINE FOR POD V "** along with the bidder's name and address. **Even if this envelope is placed inside a courier's envelope, the courier envelope itself must also be properly marked to ensure the bid can be identified without opening it.** This is critical for proper sorting and handling, as multiple bids are received daily for different Procurement Advisors. Any bid received without proper labeling on the courier envelope will be returned to the sender and will not be considered for award. All bids must be delivered to the Fayetteville Public Works Commission, Administration Building, Procurement Department, at 955 Old Wilmington Road, Fayetteville, NC 28301, by the specified deadline. Late bids will not be considered.

5) Bids will be examined promptly after the due date, and an award will be made at the earliest possible date. Bids must be held firm for PWC for a period of sixty (60)/ninety (90) days after the bid due date. A purchase order will be issued to the awarded bidder.

6) Bidders shall submit bids only on the Bid Pricing Forms provided herein, or exact copies thereof **(See Attachment B: Bid Pricing Form)**. Failure to provide full and complete Bid Pricing Forms using the form provided herein will result in a bid being deemed non-responsive.

7) All bids must be signed by an authorized official of the bidder. Bids may be rejected for any omission, alteration of form, additions not called for, conditional bid, or any irregularities of any kind.

8) Do not submit alternate bids unless specifically called for.

QUANTITIES AND PRICING

1) All bidders are advised to include all costs incurred by the bidder in delivering the **STEEL POLES FOR DUKE ENERGY TAP LINE FOR POD V** to the PWC **Warehouse 1097 Public Works Dr. Fayetteville, NC 28301** in their bid submittal, including but not limited to materials, labor, overhead, profit, freight, handling, duties, tariffs, and other import-related charges, unless expressly authorized otherwise in this IFB.

2) Known tariffs, duties, and import-related charges effective as of the bid due date shall be included in the bid price. Pricing that excludes such costs or conditions included upon shipment date, import date, or future determination may be deemed nonresponsive.

3) The invoice submitted for payment shall not reflect any additional or separate charges (including fuel surcharges, tolls, or tariffs). PWC is not tax-exempt.

4) Post-award price increases related to fuel surcharges, tolls, or tariffs are not permitted.

5) If price adjustments are permitted for non-tariff cost changes during the Agreement term, such adjustments shall be expressly identified in this IFB, limited to the specific indices listed, and applied only at the intervals stated. Any permitted price adjustment shall be based solely on the identified index or indices**.**

BID PRICE EVALUATION

1) If required by the Bid Pricing Form, bidders shall provide a unit price and an extended price for each line item. The extended price shall be calculated by multiplying the bidder's unit price by the quantity identified in the IFB.

2) As part of the evaluation process, PWC will prepare a bid tabulation using the quantities identified in the IFB and the unit prices submitted by each bidder. PWC will verify the bidder's extended price for each line item by multiplying the bidder's submitted unit price by the applicable IFB quantity. PWC will not modify or adjust a bidder's submitted unit price.

3) For IFBs containing multiple line items, the total tabulated bid price shall be determined by summing the tabulated extended prices for all line items.

4) The tabulated bid price is intended to ensure a consistent and equitable comparison of bids using the same quantities and pricing methodology for all bidders. The bidder's submitted unit price shall govern for each line item. In the event of a discrepancy between a bidder's submitted extended price, total bid price, bid opening announcement, or other bidder-calculated totals and the tabulated bid price calculated using the bidder's submitted unit prices and the IFB quantities, the tabulated bid price shall control for evaluation and award recommendation purposes.

5) PWC reserves the right to use the tabulated bid price for bid tabulation, evaluation, responsiveness determinations, and award recommendation purposes. Separate freight, handling, delivery, tariff, surcharge, fuel, or similar charges not incorporated into the bidder's submitted unit prices shall not be included in the tabulated bid price unless expressly permitted elsewhere in the IFB.

EVALUATION AND AWARD

1) An award of a contract is subject to the approval by the Board of Commissioners of PWC and the Fayetteville, North Carolina City Council.

2) Following award approval, PWC will provide the Sale of Goods Agreement to the successful bidder for signature. The successful bidder shall execute and return the Agreement within thirty (30) calendar days of receipt. If the Agreement is not fully executed within thirty (30) calendar days, including situations involving proposed revisions, exceptions, or conditions that materially alter the terms of the IFB or Sale of Goods Agreement, PWC reserves the right, at its sole discretion, to rescind the award and proceed to the next lowest responsive, responsible bidder without further obligation to the initially selected bidder.

3) PWC reserves the right to inspect, at a reasonable time, the equipment, item, plant, or other facilities of a prospective Bidder prior to award, and during the Sale of Goods Agreement term, as PWC deems necessary to determine that such equipment, item, plant, or other facilities conform with the specifications/requirements and are adequate and suitable for the proper and effective performance of the Sale of Goods Agreement.

4) PWC reserves the right to request additional information from bidders to aid in the evaluation process. This information may include but is not limited to, financial statements, a reference list of contracts of similar size, etc.

5) PWC reserves the right to make a single award for all items or may award separate contracts to multiple bidders for various items to the lowest responsive, responsible bidder or bidders, taking into consideration product quality, performance to PWC, and conformity with the specifications in these bid documents. PWC may also consider, among other things, the Bidder’s past performance conduct on other contracts, and other information as PWC deems necessary to assist in the evaluation of any bid.

6) A Sale of Goods Agreement will be executed in connection with this award. For one-time purchases, the Sale of Goods Agreement will cover the anticipated delivery timeframe required to fulfill the purchase. For purchases utilizing releases, the Sale of Goods Agreement will be awarded for an initial period of one (1) year, to begin on contract execution date, and may be extended for an additional one-year period, if the placement or delivery of the final

releases extends beyond the initial term, upon mutual written agreement of both parties. The Sale of Goods Agreement will govern applicable pricing, delivery, and contractual terms for the applicable purchase type.

7) The successful bidder shall not assign, transfer, or convey any part of the agreement, including rights or obligations, to a third party without obtaining prior written approval from PWC. This includes the assignment of payments that may become due under the agreement. Any unauthorized assignment may result in disqualification or termination of the agreement. Approved assignments do not relieve the successful bidder of their responsibilities under the terms of the agreement unless explicitly stated in writing by PWC.

8) The successful bidder must promptly notify PWC in writing of any legal actions, investigations, or issues arising during the agreement period that may impact their ability to perform their obligations under the agreement. Failure to provide timely notification may result in termination of the agreement. As outlined in **Attachment C: Certification of Primary Participant Regarding Debarment, Suspension, and Other Responsibility Matters**, the successful bidder must also certify that no such legal impediments exist at the time of bid submission. If circumstances change after submission or during the agreement period, the bidder is required to immediately inform PWC, providing full details of the situation.

DELIVERY AND PAYMENT

1) Delivery to be made F.O.B. Public Works Commission **1097 Public Works Dr. Fayetteville, NC 28301.**

2) Deliveries shall be made between the hours of **9:00 a.m. and 3:00 p.m., Monday through Friday**, within the time frame specified on the Bid Pricing Form.

3) Payment for equipment, material, supplies, etc. purchased pursuant to this bid shall be made by Public Works Commission approximately thirty days after the same has been delivered, inspected, approved and the invoice received in the PWC Accounts Payable Office, P.O. Box 1089, Fayetteville, North Carolina 28302.

ATTACHMENT A: TECHNICAL SPECIFICATIONS

FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, NORTH CAROLINA

TECHNICAL SPECIFICATIONS

TUBULAR STEEL STRUCTURES
FOR THE
POD 5 SUBSTATION
230 kV TRANSMISSION LINE

FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, NORTH CAROLINA

TECHNICAL SPECIFICATIONS

TUBULAR STEEL STRUCTURES
FOR THE
POD 5 SUBSTATION
230 kV TRANSMISSION LINE

Booth & Associates, LLC
Consulting Engineers
2300 Rexwoods Drive, Suite 300
Raleigh, North Carolina 27607
Firm COA No.: F-0221

FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, NORTH CAROLINA

TECHNICAL SPECIFICATIONS

TUBULAR STEEL STRUCTURES
FOR THE
POD 5 SUBSTATION
230 kV TRANSMISSION LINE

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FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, NORTH CAROLINA

TECHNICAL SPECIFICATIONS

TUBULAR STEEL STRUCTURES
FOR THE
POD 5 SUBSTATION
230 kV TRANSMISSION LINE

SCHEDULE 1

STEEL TRANSMISSION STRUCTURES
GALVANIZED STEEL A572, GRADE 65 WITH
GROUND SLEEVE AND CORROCOTE BELOW GRADE PROTECTION

Structure Number	Pole Ht./Class [1]	Min. Moment Capacity 5′ From Top (ft-kips)	Direct Embedment Depth (ft)	Quantity	Unit Weight (lbs)
Transmission Poles – Direct Embedment					
1	90/S-08.0	64	14’-0”	1	
2	100/S-09.0	72	17’-0”	1	
3	90/S-04.9	38	14’-0”	1	
4	95/S-04.2	32	16’-0”	1	
5	95/S-04.9	38	16’-0”	1	
6	95/S-07.4	57	14’-0”	1	
7L	60/ENG[2,3]	see Attach. B	--	1	
7C	43/ENG[2,3]	see Attach. B	--	1	
7R	60/ENG[2,3]	see Attach. B	--	1	

Notes:

1) Pole class designation will be defined by either the current RUS Standard Steel Pole Class or as an “ENG” Engineered Designation.
2) Refer to Load Trees in Attachment B and/or PLS-Pole .bak & .lca files.
3) Anchor bolts and all required connection hardware shall be included. Refer to section 5.1.6 for details.

FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, NORTH CAROLINA

TECHNICAL SPECIFICATIONS

TUBULAR STEEL STRUCTURES
FOR THE
POD 5 SUBSTATION
230 kV TRANSMISSION LINE

TECHNICAL SPECIFICATIONS

1.0 SCOPE

This specification covers the design, materials, welding, inspection, protective coatings, drawings, and delivery of steel transmission structures including pipe piles, drop-in plates, thru-vangs, leveling bolts, crossarms, ladders and anchor bolt cages used for constructing overhead transmission lines. The proposal submitted by the manufacturer shall include field bolts, locknuts, vangs, attachment provisions for arms and/or insulators, anchor bolts, base plates, and other necessary items to make a complete structure per the following specifications:

1.1 Quotations

Quotations will be received by FPWC as directed in the IFB posting.

1.2 The Manufacturer shall provide quotations for the following schedules:

Schedule 1: Steel Transmission Structures – Galvanized Steel A572, Grade 65

1.3 Drawings

All poles shall conform to the Drawings included herewith, all of which form a part of these Specifications.

2.0 DEFINITIONS

a. Cambering – the fabricating of a slight convex curve in a pole or crossarm

b. D/t – the ratio of the diameter of a tubular pole to the steel plate thickness

c. Engineer – a registered or licensed person, who may be a staff employee or an outside consultant, and who provides engineering services. Engineer also includes duly authorized assistants and representatives of the licensed person.

d. Ground line – a designated location on the pole where the surface of the ground will be after installation of a direct embedded pole

e. Overload factors (OLF) – a multiplier which is applied to each of the vertical, transverse and longitudinal structure loads to obtain an ultimate load

f. P-delta moment – secondary moment created by the vertical loads acting on the structure when the structure deflects from its unloaded position

g. Point-of-fixity – location on the pole at ground line or below ground line where the maximum moment occurs

h. Raking – the practice of installing a straight pole out of plumb, or at an inclined angle

i. W/t – ratio of the width of the pole (flat-to-flat) to the plate thickness

j. Ultimate load – the maximum design load which includes the appropriate overload factor specified

3.0 CODES AND STANDARDS

Codes, standards, or other documents referred to in this specification shall be considered as part of this specification. The following codes and standards are referenced:

a. American Institute of Steel Construction (AISC), *Specification for the Design, Fabrication and Erection of Structural Steel for Buildings*, latest edition.

b. American Society of Civil Engineers (ASCE) Standard, *Design of Steel Transmission Pole Structures*, Manual 48, latest edition.

c. American Society for Testing and Materials (ASTM), various standards, latest version.

d. American Concrete Institute (ACI), *Building Code Requirements for Reinforced Concrete*, ACI 318, latest edition.

e. American Welding Society (AWS), *Structural Welding Code*, AWS D1.1, latest edition.

f. American National Standards Institute (ANSI), *National Electrical Safety Code*, ANSI C2, latest edition.

g. Steel Structure Painting Council (SSPC), *Surface Preparation Specification*, SSPC-SP6, latest edition.

4.0 CONFLICT BETWEEN THIS SPECIFICATION, DRAWINGS, AND REFERENCED DOCUMENTS

In the event of conflict between this specification and the above referenced documents, the requirements of this specification shall take precedence. In the case of conflict between several referenced documents, the more stringent requirement shall be followed. If a conflict exists between this specification or the referenced documents and the attached drawings, the attached drawings shall be followed. If clarification is necessary, contact the Owner or Owner's representative.

5.0 GENERAL REQUIREMENTS

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, Manual 48,* latest edition, with the following additions and/or exceptions:

5.1 Pole Structure Design

5.1.1 Pole designs shall be prepared from the attached specification, configuration drawings and design loads. PLS-CADD files may be provided as part of these specifications with minimum design loads shown in the 'Structure Loads' column. The structure shall be capable of withstanding all specified loading cases including secondary stresses from foundation movements when specified in Attachment C, but not considering the possible restraining effect of conductors or shield wires. The structure shall withstand the loads without failure, permanent distortion, or exceeding any specified deflection limitations. Loads are in pounds (lbs.) and include all appropriate overload factors. PLS-CADD "LCA" files may be supplied in lieu of or in addition to Attachment B charts.

5.1.2 Vibratory Pole Bases (VPB) diameter for the non-tapered section shall be as indicated on Drawing No. TMF-VPB in Attachment D. A circumferential weld shall connect the tapered section to the non-tapered section. See Drawing No. TMF-VPB in Attachment D. Tapered section of Vibratory Pole Bases shall match up with pole taper. Permanent identifiable marks are required on the Vibratory Pole Bases including nameplate, angle bisect and/or transverse axis orientation for proper alignment prior to implanting into ground.

a. Vibratory Pole Base design shall meet ASCE Manual 48 for local buckling.

b. Vibratory Pole Base shall have a minimum wall thickness of three-eighths inches (3/8″).

c. The Vibratory Pole Base shall be capable of withstanding all specified load cases including secondary stresses.

d. Vibratory Pole Bases of angled structures shall have a permanent identifiable mark indicating the bisect of the associated structure. Vibratory Pole Bases of tangent structures shall have a permanent identifiable mark indicating the transverse axis of the associated structure. This will help facilitate proper orientation.

e. Frequency and stroke amplitude ranges for the vibratory hammer shall be provided by the manufacturer.

5.1.3 Wind pressures shown in the loading criteria shall be multiplied by the appropriate shape factor applied to the poles. Pressures in psf shall be computed as follows:

$$p = W \times C_d$$

Where p = pressure on projected area of the pole normal to wind, W = wind pressure, and C_d = shape (or drag) factor.
Shape factors for computing the wind on poles are:

Round	1.0
Hexagon	1.4
Octagon	1.4
Dodecagon	1.0
Square	1.6

5.1.4 The maximum design unit stress under full design load shall be the minimum yield strength as stated in applicable ASTM specifications for the particular application and types of loads, including load factors.

5.1.5 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 or bolted flange joints. Slip joint length shall be at least one and one-half (1-1/2) times the largest inside diameter of the female section. Bolted flange joints may be used for medium angle and heavy angle guyed structures and X-braced H-frame structures. If approved by the Owner or Owner's representative, a strap across the pole splice to prevent separation of the male and female sections of the pole may be used for X-braced H-frame structures. Approval must be obtained prior to bid.

a. Manufacturer shall verify slip joint fit before shipment. Joints should not interfere with vangs, through holes, ladder clips, or jacking nuts.

b. Sufficient jacking lugs and permanent orientation marks shall be

provided at all slip joints to ensure proper alignment and complete overlap of the joint.

5.1.6 Design of anchor bolts shall be in accordance with the latest edition of ACI-318, *Building Code Requirements for Reinforced Concrete*, assuming a concrete strength as specified ~~by the Owner~~ in Attachment C "Application Requirements".

5.1.6.1 When anchor bolts are specified, they shall have the top two feet (2′-0″) galvanized. Anchor bolts shall be threaded at the top end a distance equal to the base plate thickness, plus the thickness of two (2) anchor bolt nuts, plus two and one-half inches (2-1/2″). Each anchor bolt shall include two (2) heavy hex nuts.

5.1.6.2 Welding on anchor bolts will only be allowed in the bottom twelve inches (12″). Only one length of anchor bolt shall be used on each pole. Anchor bolts/clusters shall have a permanent mark indicating the structure type, structure number, orientation, and top of concrete.

5.1.6.3 Anchor bolts shall be designed to be shipped as a rigid cage with top and bottom plates holding the anchor bolts in place. The anchor bolt thread shall be protected during shipping. The anchor bolts shall be welded to the holding plate in the bottom of the cage. The top template shall be designed to be removable and to support the assembled cage during lifting and setting operations without detrimental deformations. Bolt clusters shall be designed to be rigid enough to withstand the normal jolts of shipping, handling and installation with no displacement of bolts from the proper positions within the cluster.

5.1.6.4 The removable template at the top shall have a set of marks to show the centerline for tangent structures and the angle bisector for angle structures. If the angle bisector is unclear due to multiple line angles on the structure, the anchor bolt drawings must clearly denote the anchor bolt orientation in relationship to the line angles. The set of marks shall be (2) marks along the same line 180º to each other. Matching marks are to be on the base plate of the structure so proper alignment can be made.

5.1.7 Minimum plate thickness for all pole components shall be three-sixteenths inch (3/16″). Minimum tip diameter for all poles shall be nine and a half inches (9.5″).

5.1.8 Structures which are to be direct embedded shall have bearing plates. Bearing plates shall have a diameter not more than two inches (2″) greater than the maximum pole diameter.

5.1.8.1 Galvanized poles shall have a drain hole at the bottom. The drain hole shall not be more than 20% of the bottom plate surface area.

5.1.8.2 Direct embedded steel poles shall have ground sleeves. Ground sleeves shall have a minimum length of four feet (4′-0″) centered at groundline.

5.1.8.3 The Ground sleeve shall have a minimum thickness of three-sixteenths inch (3/16″) 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.

5.1.9 Poles shall have nearly a uniform taper throughout their entire length. The maximum difference in tapers between two (2) pole sections measured by the diameters shall be .20 inch/ft. for poles with variable taper.

5.1.10 Poles with elliptical cross sections shall have a minor axis dimension equal to at least seventy-five percent (75%) of the major axis dimension.

5.1.11 Engineered/Unguyed Structures

Structure deflections at pole top shall be calculated under camber loading. Structure height shall be the height of the pole from the top of the base plate, or designated ground line, to the top. See load diagrams or PLS-CADD files, 'Structure Loads' column for camber loading.

5.1.11.1 Structures may be pre-cambered if the pole deflection exceeds twelve (12") inches. Deflections less than twelve (12") inches shall be raked as necessary in the field. The Materialman shall provide a pre-cambered summary and clearly denote the pre-camber/rake orientation on the structure drawings.

5.1.11.2 The Materialman shall use the Loading Diagrams provided in Attachment B or PLS-CADD files to design the designated unguyed structures. The Materialman is responsible for determining the "worst-case" orientation of the wind load in combination with the tension and apply it in the design calculations.

5.1.11.3 The Materialman shall calculate the deflections for the sixty degrees Fahrenheit (60ºF) initial tension and sixty degrees Fahrenheit (60ºF) final tension load cases. The Materialman shall limit the difference in deflection produced by these two (2) load cases to six inches (6″) or less.

5.1.11.4 Deflections of single-shaft structures under camber loading shall not exceed one (1.0%) percent of the structure height.

5.1.11.5 Deflections of H-Frame structures due to the wire tension change across the structure and any angle resultant tension, under camber loading, shall be no more than one half (1/2) the top diameter of the designed tubular steel pole.

5.1.11.6 Deflections of switch structures under factored loading shall not exceed two (2%) percent of the structure height under all loading conditions.

Switch support beams shall be checked for deflection. Engineer's drawings will show deflection limitations and/or minimum switch support beam diameter.

5.1.11.7 The manufacturer is responsible for repairing or replacing any structures which are delivered to the site with manufacturing errors. Repair and/or replacement costs shall include the structure itself, as well as any associated construction costs.

5.1.11.8 If pole raking is necessary due to deflection, the raking dimension and orientation shall be clearly marked on the Materialman's Detail Drawings.

5.1.11.9 Switch structure equipment loadings and attachment details shall be obtained by the Pole Manufacturer through coordination with the specified Switch Manufacturer.

5.1.12 Standard Class Designations

5.1.12.1 Tangent and guyed angle structures have been specified using RUS Standard Steel Pole Class Designations shown in Table 1 unless noted otherwise.

5.1.12.2 Pole designs shall be prepared for the attached Standard Class design loads. The poles shall be designed to meet ASCE Manual No. 48, "Design of Steel Transmission Pole Structures," design methods. The point-of-fixity shall be considered to be located at a distance from the pole bottom that is equal to seven percent (7%) 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.

5.1.12.3 Using the corresponding values in Table 1, the poles shall be designed for the following requirements.

a. The pole shall develop the minimum ultimate moment capacity required in Table 1 at a distance of five feet (5′-0″) from the pole top.

b. The pole shall develop the minimum ultimate moment capacity above the point-of-fixity that is calculated by multiplying the tip load in Table 1 by the distance to the tip load.

c. The geometry and taper of the pole shall be uniform throughout their entire length (top to butt).

5.1.12.4 The poles shall be designed to withstand the specified tip loading in Table 1 without exceeding a pole deflection of ten percent (10%) of the pole length above the point-of-fixity when tested in accordance with ASCE Manual No. 48.

5.1.12.5 Overall length of poles shall be designed and manufactured in incremental lengths of five feet (5′-0″).

TABLE 1
Strength Requirements

Standard Class Designations for Steel Poles	Minimum Ultimate Moment Capacity at 5 ft from Pole Top (ft. Kips)	Horizontal Tip Load Applied 2 ft from Pole Top (lbs.)
S-20.0	160	20000
S-19.0	152	19000
S-18.0	144	18000
S-17.0	136	17000
S-16.0	128	16000
S-15.0	120	15000
S-14.0	112	14000
S-13.0	104	13000
S-12.0	96	12000
S-11.0	88	11000
S-10.0	80	10000
S-09.0	72	9000
S-08.0	64	8000
S-07.4	57	7410
S-06.5	50	6500
S-05.7	44	5655
S-04.9	38	4875
S-04.2	32	4160
S-03.5	27	3510
S-02.9	23	2925
S-02.4	19	2405
S-02.0	15	1950

5.1.12.6 Poles shall be designed for the loads generated from handling and erecting without causing permanent deformation or damage to the pole when handled according to the manufacturer's instructions. Handling and erecting loads shall include but not be limited to, a one (1) point (tilting) pickup and a two (2) point (horizontal) pickup.

5.1.12.7 The maximum design unit stress shall be the minimum yield strength as stated in applicable ASTM specifications for the particular application and types of loads, including overload factors.

5.1.12.8 The top of the pole shall be permanently covered with a structural steel plate that is welded to the top of the pole. The pole shall be delivered with the pole cover attached in place.

5.1.12.9 Pole design and design calculations shall be the responsibility of the manufacturer.

5.1.13 Arms shall be designed so the end of the arm is at the specified height under a loading of initial conductor tension, sixty degrees Fahrenheit (60ºF), no wind, and no overload factors. Arms shall not deflect vertically more than two inches (2″) at the end of the arm under heavy ice conditions (without any overload factors applied). See Attachment B for Design Loads and Guide Drawings.

5.1.13.1 Arms shall be upswept or straight, tapered, steel tubular members, of any cross-sectional type, which meet the dimensions shown on the attached drawings.

5.1.13.2 Arm end plate connection details for hardware attachment shall be typical of those shown on the attached drawings. The arms shall be hermetically sealed when a painted finish is specified. Galvanized arms shall have drain holes where appropriate

5.1.14 Lifting lugs are optional. The manufacturer shall supply all instructions for handling and erection of poles and arms.

5.1.15 Deadend plates or vangs shall be designed/checked for the maximum resultant loading from the appropriate Vertical, Transverse, and Longitudinal components in the load trees and/or columns labeled "Loads From Back Span" or "Loads From Ahead Span" in Attachment B or the PLS-CADD files. All load cases shall be considered. Do not use the loads from the column labeled "Structure Loads" for designing/checking vang designs.

5.1.16 In the design of connections for vangs, brackets, or stiffeners attached to the pole shaft, care shall be taken to distribute the loads sufficiently to protect the wall of the pole from local buckling.

5.1.17 Thru-vang shall penetrate both sides of the pole with attachment holes on both sides.

5.1.18 Each pole shall be permanently marked on the pole shaft seventy-two inches (72″) above ground line and on the bottom of base plate or bearing plate with the following identifying information:

- Manufacturer's Identification
- Structure Type
- Height and Class
- Structure Number
- Ultimate Ground Line Moment
- Owner's Name
- Date Manufactured

The method of identification shall be approved by the Owner. In addition, there shall be clear indication or marks for handling or sling points, storage rack points, and lifting joints for standing the pole and vibratory pole base.

5.1.19 Grounding Attachments

5.1.19.1 One (1), two (2)-hole NEMA grounding pad shall be provided on the side of each pole as specified in the Structure Dimensions (Framing Drawings) located in Attachment A.

5.1.19.2 See Attachments for NEMA Grounding Pad Detail.

5.1.19.3 Grounding pads and threads shall not be painted or covered with other coatings.

5.1.19.4 Poles shall be pre-drilled with a nine-sixteenth inch (9/16″) hole behind each threaded hole of a two (2)-hole NEMA pad to permit the use of various bolt lengths in completing a grounding connection.

5.1.19.5 One (1) heavy hex, stainless steel grounding nut shall be provided where indicated on Structure Dimensions (Framing Drawings). The grounding nut shall have standard one-half inch (1/2″), thirteen (13) UNC threads. Threads shall not be painted or covered with other coatings.

5.1.20 Clips for removable ladders shall be located as shown on the enclosed Framing Drawings or as indicated in the specification. Each ladder clip shall

be designed to support a minimum 1,200 lb. shear working load. The clips shall be welded to the pole surface. Ladder clips shall be located to avoid interference between ladders, other attachments, material and equipment to be mounted on the pole (See Attachments for Ladder Clip Drawings).

5.1.21 Removable step bolts shall be provided with spacing as indicated beginning eight feet (8′-0″) above ground line and extending to the structure top. Each step lug and step bolts shall be capable of withstanding a minimum of 600 lb. working load. Step bolts mounting nuts shall be spaced at one foot-three inches (1′-3″) and oriented to provide maximum ease of climbing.

5.1.22 Removable pole steps with permanent clips shall be provided as indicated (Drawing No. PS-1) beginning at ground line and extending to eight feet (8′-0″) above ground line. Pole steps and clips shall be spaced at one foot-three inches (1′-3″) and oriented to provide maximum ease of climbing.

5.1.23 Weathering steel structures shall be designed to eliminate water and refuse traps.

5.1.23.1 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 poles 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.

5.1.23.2 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.

5.1.23.3 Plastic plugs shall be installed in all nuts welded to the structure and all tapped holes.

5.1.24 Application requirements: (See Attachment C)

5.2 Pipe Pile Design

The design, fabrication, allowable stresses, processes, tolerances, and inspection shall conform to the latest edition ASTM 252, “Welded and Seamless Steel Pipe Piles” for the steel pipe pile and the latest edition ASTM A36 for the other associated steel material. Grade 2 shall be used for the pipe piles.

5.2.1 The pipe pile diameter shall be as indicated on Drawing No. TMF-SPPF in Attachment A. Piles shall be fabricated as round or 12-sided. The 12-sided pipe pile diameter shall be measured flat-to-flat.

5.2.2 All welding to be in accordance with the latest edition of AWS D1.1. Use appropriate electrode for steel grade types (E70 Min.). Circumferential and

longitudinal welds are to be complete-penetration.

5.2.3 After fabrication, hot dip galvanize the pile as specified per ASTM A123. Provide additional holes if needed for handling during galvanizing.

5.2.4 Corrocote shall be applied to pipe pile from top of pile to ten (10') feet below top of pile. See paragraph 5.5.1.d Coatings for the Embedded Portion of the Pole for details.

5.2.5 Pipe piles shall be stamped with one-inch (1") lettering indicating the structure number. Stamping shall be done at both ends of the pipe pile.

5.2.6 Pipe pile vendor shall provide the six (6) one-inch (1") diameter heavy hex galvanized nuts and six (6) one-inch (1") diameter by twelve inch (12") long galvanized leveling bolts and ensure these nuts and bolts are compatible with each other. This hardware shall be hot dip galvanized per ASTM A307.

5.2.7 Two (2) hole NEMA grounding pads shall be provided on opposite sides at two levels of the pipe piles as shown on Drawing TMF-SPPF located in Attachment A (Total of 4 grounding pads).

5.2.8 Reference Drawing TMF-SPPF for steel pipe pile fabrication details and all associated materials and hardware.

5.3 Materials

5.3.1 All materials shall comply with the applicable requirements of ASTM specifications. Any modifications to ASTM specifications must be approved by the Owner's representative prior to bidding.

5.3.2 Poles, arms, and conductor brackets shall conform with ASTM A36, ASTM A572, ASTM 581, ASTM A588, ASTM A871, or ASTM A595.

5.3.3 Base plate shall conform with ASTM A572, ASTM A588, ASTM A633, or ASTM A595.

5.3.4 Anchor bolts shall conform to ASTM A615, Grade 60 or 75.

5.3.5 Other bolts and nuts shall conform, as applicable, to ASTM A307, ASTM A325, ASTM A354, ASTM A394, or ASTM A687. Locknuts shall be provided for each structure bolt, or American Nut Company (ANCO) type self-locking nuts may be used. Locknuts shall be the galvanized MF or ANCO type.

5.3.6 Anchor bolts, structural plate, and weld material, shall meet ASCE requirements for Charpy tests.

5.3.7 For galvanized structures, steel used for the pole shaft and arms shall have a silicon content less than .06 percent.

5.3.8 Steel pipe piles shall conform, as applicable, to ASTM A252. All other steel material associated with the pipe pile shall conform to ASTM A36.

5.4 Fabrication

5.4.1 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 .1 welding procedures.

5.4.2 One hundred percent (100%) penetration welds shall be required in, but not limited to, the following areas:

- circumferential welds (C-welds) joining structural members,
- longitudinal welds in the female portion of the joint within the slip joint area,
- welds at the butt joints of back-up strips,
- base plate to shaft weld,
- longitudinal welds for a minimum length of three inches (3″) where there are adjacent C-welds, flange welds, base welds and ends of tubes.

5.4.3 Full penetration or equivalent ninety percent (90%) partial penetration with fillet overlap shall be used for vang-to-plate shaft, and arm box joints.

5.4.4 Quality and acceptability of every inch of the full penetration welds shall be determined by visual and ultrasonic inspection.

5.4.5 All other penetration welds shall have sixty percent (60%) 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.

5.4.6 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.

5.4.7 Field welding shall not be permitted except with the Engineer's and Owner's approval and with the manufacturer's direction in repairing a pole.

5.4.8 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.

5.4.9 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.

5.4.10 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.

5.4.11 All forming or bending during fabrication shall be done by methods that will prevent embrittlement or loss of strength in the material being worked.

5.4.12 Holes for connection bolts shall be one-sixteenth inch (1/16″) larger than the nominal diameter of the bolts. Holes in the flange plates for bolted splices shall be one-eighth inch (1/8″) larger than the bolt diameter. Holes in the base plates for anchor bolts shall be three-eighths inch (3/8″) larger than the nominal diameter of the anchor bolts. The details of all connections and splices shall be subject to the approval of the Owner or his representatives.

5.4.13 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.

5.4.14 Holes of any diameter may be drilled in plate of any thickness. Care shall be taken to maintain accuracy when drilling stacks of plates.

5.4.15 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.

5.4.16 The overall length of the assembled structure should not be less than six inches (6″) of the specified length and not more than twelve inches (12″).

5.4.17 <u>Tolerances</u>

Fabrication tolerances shall be as follows:

a. Length of single piece or flanged poles ± 3″

b. Cross section of poles: Diameter of 36″ or less +1/4″, -1/8″. Diameter greater than 36″ +1/2″, -1/4″, circumference of all poles -0″

c. Spacing between “arm to pole” connections vertically ± 3/4″

d. Location of hardware with respect to top of pole ± 2″

e. Pole Butt plate perpendicular to pole 1/16″ for 12″ as measured on a perpendicular axis

f. Straightness of pole ± 1/2″ from center line

g. Location of a drilled hole in a piece ± 1/8″

h. Spacing between holes: Base plates ± 1/8″, same connection ± 1/16″ (non-accumulative)

i. Anchor bolts: Length +3″, -0″; thread length +2″, -0″

j. Length of coated portion on anchor bolts +12″, -0″

k. Distance between anchor bolt in cluster ± 1/8″ (non-accumulative)

l. Arms: Length ± 1″, Rise ("W" dimension ± 1″ per 10′ of arm length)

m. Angles shown ± 2°

n. Length of overlap of slip joint, +5″, - 10% of slip joint length

o. Thru Vang Vertical Spacing ± 1/4″

p. Thru Vang Angle and Orientation ± 2°.

5.5 Finishes

5.5.1 The following finishes are acceptable: galvanizing, zinc primer and painting, Weathering steel, and below grade coating.

a. Galvanizing – All structures and structural components which are hot-dip galvanized shall meet all the 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 (1) gallon of zinc enriched paint shall be provided with each five (5) poles. Provide detailed instructions of proper application and use of zinc enriched paint.

b. Zinc Primer and Painting – Poles which are to be painted shall be hermetically sealed to prevent corrosion of interior surfaces. After shot or sand blasting and cleaning in accordance with the *Steel Structure Painting Council's Surface Preparation Specification*, SSPC-SP6, a zinc primer of three (3) mils dry film thickness (DFT) and two (2) coats of finish paint, each three (3) mils DFT shall be applied to all exterior surfaces in accordance with the paint supplier's recommendations. One (1) gallon each of primer and finish paint shall be supplied with each five (5) poles. A guarantee against flaking or fading of the paint for a minimum of five (5) years shall be

provided.

c. 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-SP6, to ensure uniform and rapid formation of the protective oxide layer.

d. Coatings for the Embedded Portion of the Pole – When poles are to be directly embedded, or use a vibratory pole base, a sixteen (16) mil (minimum dry film thickness), two (2) 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 five feet (5′-0″) above ground line or to the top jacking nut on the vibratory pole base, whichever is lower. Other coatings shall be approved by the Owner prior to their use.

5.5.2 Bolts and nuts with yield strengths under 100,000 psi shall be hot-dip 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 shall not be hot-dip galvanized. Instead, they shall be painted with zinc enriched paint or mechanically coated with zinc per ASTM B454, Class 50.

5.5.3 Compliance with coating thickness requirements shall be checked with a magnetic thickness gauge.

5.6 Inspection and Testing

5.6.1 The Owner and the Owner's designated agents shall have free entry at all times while work is being carried on, to all parts of the manufacturer's plant to inspect any part of the production of the poles covered by this specification.

5.6.2 Steel members which are bent or warped or otherwise improperly fabricated shall be properly repaired or replaced at the manufacturer's expense.

5.6.3 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.

5.6.4 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.

5.6.5 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 five (5) years and shall be traceable to the structure.

5.6.6 All plates over one and one-half inch (1-1/2″) thick shall be ultrasonically tested to assure against defects which could lead to lamellar tearing.

5.6.7 Welders or welding operators shall be qualified in accordance with the provisions of AWS D1.1.

5.6.8 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. Records of welding procedure and welding operator test results shall be kept for six (6) years by the Materialman and shall be available for review by the Engineer or Owner.

5.7 Structure Testing

5.7.1 The structures which are to have full-scale load tests performed on them are listed in Attachment C.

5.7.2 Details of the test procedures and methods of measuring and recording test loads and deflections shall be specified by the manufacturer prior to testing and shall be subject to the review and approval of the Owner or his representative.

5.7.3 Deflections shall be recorded in the transverse and longitudinal directions when applicable. Deflection measurements shall be taken under the no load condition both before and after testing.

5.7.4 Material procurement for test poles shall be identical to material procurement procedures for regular production run poles.

5.7.5 A full report listing the results shall be submitted after completion of all testing. Copies of mill test reports shall be included in the load test report. The report shall also include a complete description of the load tests with diagrams and photographs.

5.7.6 The Owner or his representative reserves the right to be present during testing and shall be notified two (2) weeks prior to the start of structure fabrication.

5.8 Shipping

5.8.1 Each shipment shall be accompanied by a checklist of all parts, identifiable by structure type and number. Bolts and miscellaneous hardware will be identified by the list for match up with the respective pole shaft and shall be

boxed or bundled. All parts required for any one structure shall be in one (1) shipment, if possible.

5.8.2 The Owner and Owner's representative 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. The notification shall give quantities, weight, name of common carrier used, and expected time of arrival with at least two (2) working days' notice of delivery. Delivery of all items of material shall be made at such time as to permit unloading between the hours of 9:00 a.m. and 3:00 p.m., Monday through Thursday, holidays excluded.

5.8.3 The anchor bolts shall be welded to the holding plate in the bottom of the cage. A removable template shall be used at the top of the cage and shall be marked to show the centerline for tangent structures and the angle bisector for angle structures. Matching marks are to be on the base plate so proper alignment can be made. Bolt clusters shall be rigid enough to withstand the normal jolts of shipping and handling with no displacement of bolts from the proper positions within the cluster.

5.8.4 Unless otherwise agreed to by the Owner, the anchor bolt cage shall be shipped at least thirty (30) days prior to pole shipment.

5.8.5 Salt-treated wood blocking and urethane foams shall not be used when shipping or storing weathering steel poles.

5.8.6 Delivery shall be made either to a single designated location or to the individual structure locations.

6.0 INFORMATION TO BE SUPPLIED BY THE MANUFACTURER

6.1 Information to be Supplied with the Proposal

a. Calculated shipping weight of each structure and pipe pile excluding anchor bolts. Separate weights shall be given for crossarms and poles.

b. Calculated shipping weight of anchor bolts,

c. Ultimate ground line reactions (including overload factors) in poles and guy wires,

d. Anchor bolt size, length, and locations (bolt circle diameters)

e. Type of material of major components (ASTM number),

f. Description of pole and pipe pile shaft, including thickness, length, diameter, cross-sectional geometry, and method of fastening each shaft component,

g. Data showing the design of the arm, arm connections, arm attachment plates, and brackets,

h. Design exceptions,

i. Manufacturer's standards, physical and mechanical dimensions for all steel pole height and class combinations used in the project being bid on.

6.2 Documentation to be Supplied for the Owner's Approval Prior to Fabrication

Documentation includes final design calculations for pole shaft, base plate, anchor bolts, crossarms, and other appurtenances, including their connections for all structures. The following information shall be supplied:

a. For the loading cases with overload factors, the total shear, axial forces, moments, stresses or stress ratios, moments of inertia furnished, section moduli, cross-sectional areas, deflections w/t's for polygonal and d/t's for round cross sections at all splices, at arm attachment points (top and bottom), and at least every ten feet (10′-0″) along the pole.

b. For the critical loading case, shear and axial forces, moments, stresses, section moduli, cross-sectional areas at the arm connections, bolt stresses in the arm connection, and deflection at the end of the arm.

c. Anticipated deflections at the top of the pole and at the ends of the arms shall be indicated for each pole for the normal, everyday loading condition of sixty degrees Fahrenheit (60ºF), no wind, no overload factors.

d. For all specified loading cases, reactions and ground line moments shall be supplied.

e. Detail drawings for each structure type giving weights of structure components, dimensions, and bill of materials.

f. Assembly instructions and erection drawings. Slip joint lengths and allowable tolerances. Special handling instructions.

6.3 Final Documents shall be supplied to the Owner for the items in paragraph 6.2.e. after erection of all structures and prior to final payment

6.4 Test Reports (as requested)

a. Certified mill test reports for all structural material,

b. Certified welding reports for each structure,

c. Impact property test reports showing that the material used in the structures meets the impact properties,

d. Test reports on coating thickness,

e. Report of structure testing, when required, including photographs, diagrams, load trees, etc.,

f. Material, workmanship, inspection travelers, and material certified mill test reports shall be maintained on file for a minimum of six (6) years by the Materialman, and shall be made available to Owner or the Engineer upon request at no charge.

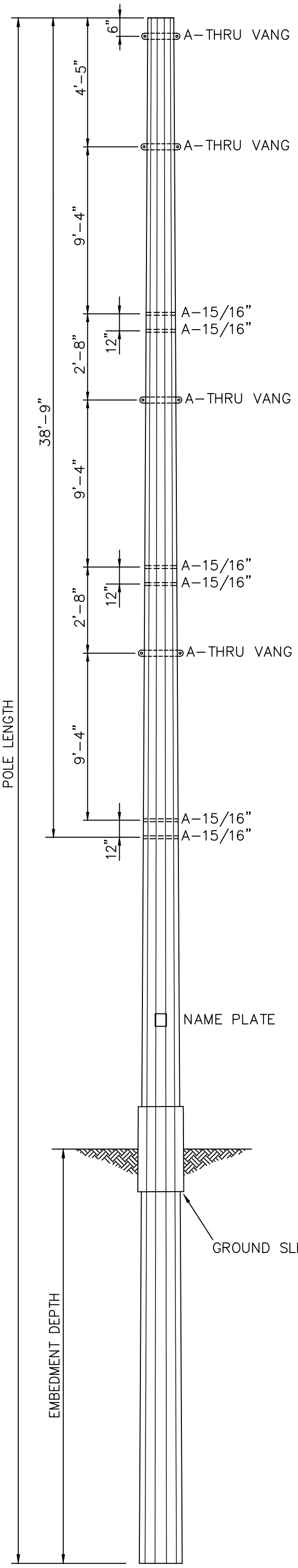
7.0 APPROVAL, ACCEPTANCE, AND OWNERSHIP

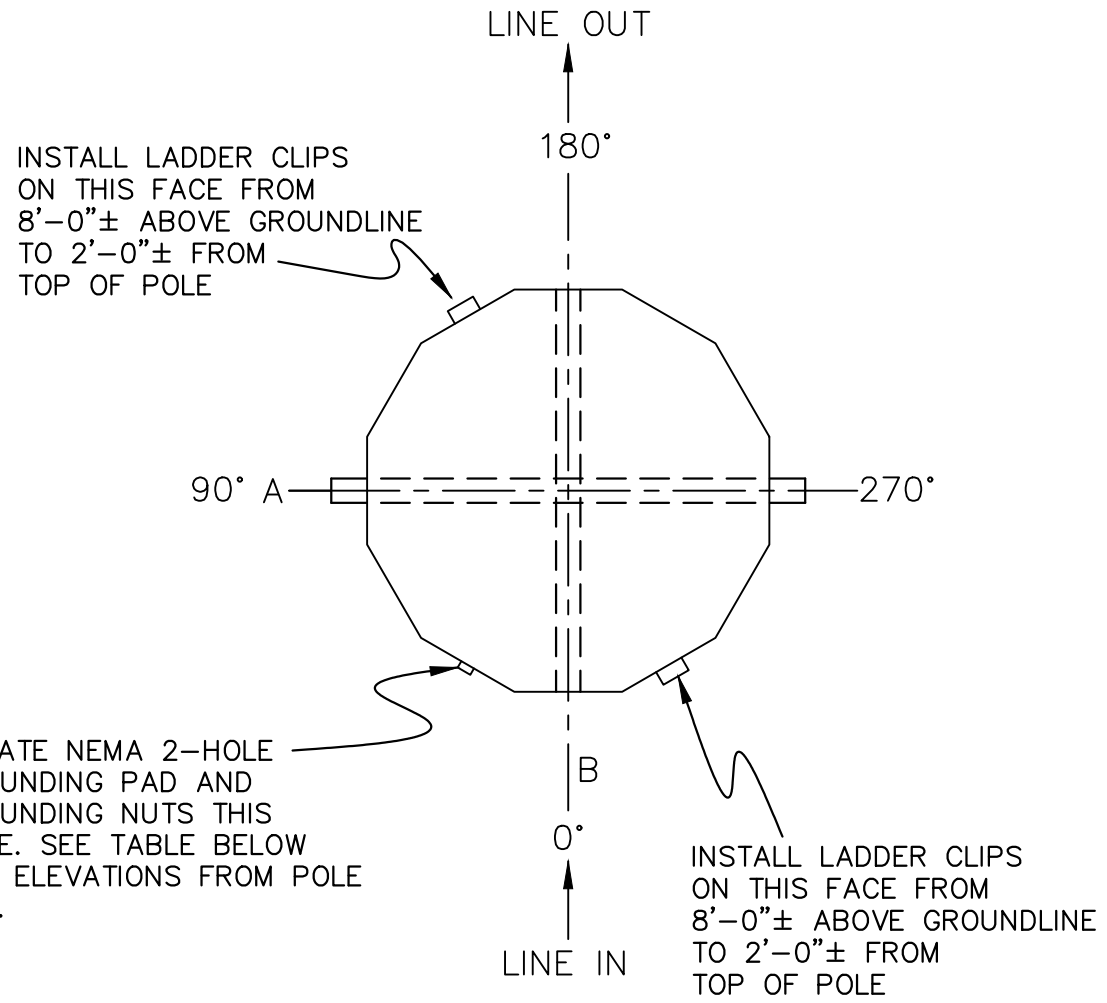
7.1 Final designs must be approved by the Engineer before material ordering and fabrication. Material ordering and fabrication prior to approval will be at supplier's risk. It is understood that award of this contract does not constitute acceptance of design calculations submitted with the bid, if corrections are required in the final structure designs due to manufacturer's errors, omissions, or misinterpretations of the specifications, the quoted price shall not change. Approval of the drawings and calculations by the Engineer does not relieve the supplier of responsibility for the adequacy of the design, correctness of dimensions, details on the drawings, and the proper fit of parts.

7.2 After delivery, the poles will be inspected and shall be free of dirt, oil 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 fabricator at no additional cost to the Owner.

ATTACHMENT A

STRUCTURE DETAILS & DRAWINGS





STR. NUMBER	HEIGHT/ CLASS*	EMBEDMENT DEPTH	LINE ANGLE θ	NEMA 2-HOLE PADS	
				OHGW	POLE
4	95/S-04.2	16'-0"	--	2'-0"	76'-6"
5	95/S-04.9	16'-0"	--	2'-0"	76'-6"

* POLE CLASS DEFINED BY RUS STANDARD STEEL POLE DESIGNATION

NOTES:

1) LETTERS (i.e. "A" & "B") INDICATE THRU–VANG AND/OR THROUGH HOLE LOCATIONS AND ORIENTATION.

2) LETTERS WITH DIMENSIONS (i.e. "A–13/16") INDICATE THROUGH HOLES WITH DIAMETER FOR DRILLING.

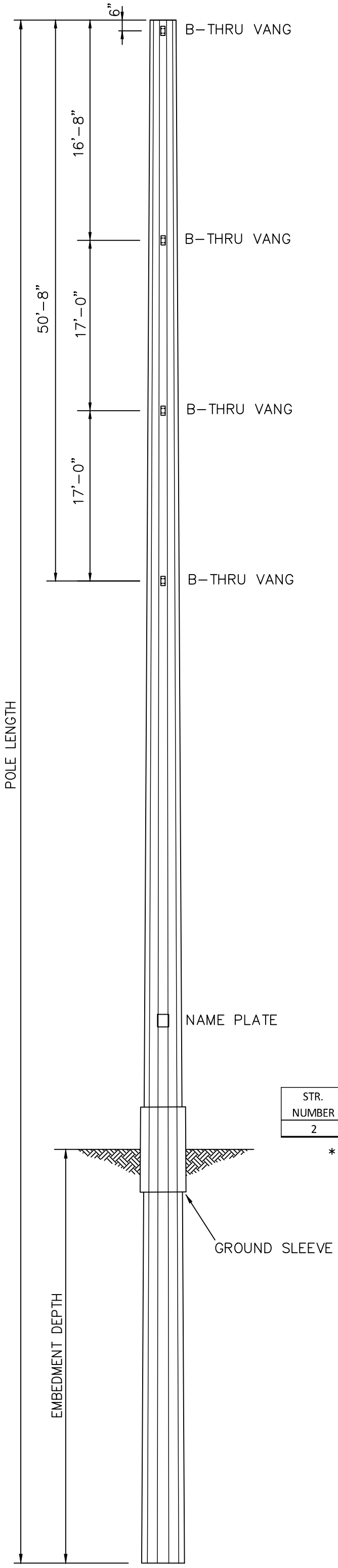
3) REFERENCE "DETAILS" SHEET FOR STANDARD DETAIL DRAWINGS.

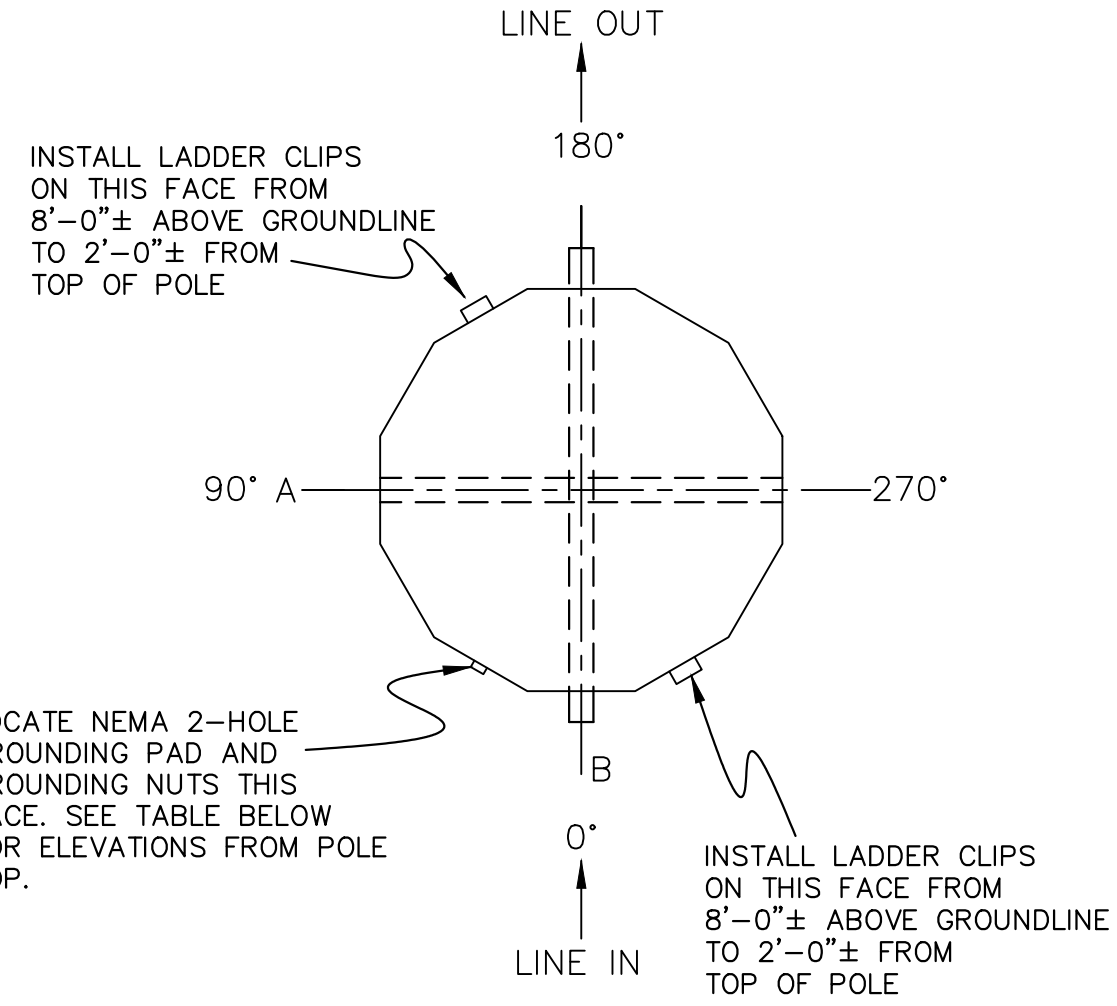
STEEL POLE FRAMING DRAWING
230 kV TRANSMISSION LINE
TBP–230(S)

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-0221

DWN.	AMS	DATE:	05/01/2026	DWG. NO. SPFD–1
CKD.	JRN	APPD.	GSB	
SCALE:	NTS			
DATE	REVISION			SHEET NO. 1 OF 1

9831_SPFD–T





STR. NUMBER	HEIGHT/ CLASS*	EMBEDMENT DEPTH	LINE ANGLE θ	GROUNDING NUTS				NEMA 2-HOLE PADS	
				SWITCH	SWITCH	SWITCH	SWITCH	OHGW	POLE
2	100/S-09.0	17'-0"	--	26'-0"	43'-0"	60'-0"	79'-0"	2'-0"	80'-6"

* POLE CLASS DEFINED BY RUS STANDARD STEEL POLE DESIGNATION

NOTES:

1) LETTERS (i.e. "A" & "B") INDICATE THRU–VANG AND/OR THROUGH HOLE LOCATIONS AND ORIENTATION.

2) LETTERS WITH DIMENSIONS (i.e. "A–13/16") INDICATE THROUGH HOLES WITH DIAMETER FOR DRILLING.

3) REFERENCE "DETAILS" SHEET FOR STANDARD DETAIL DRAWINGS.

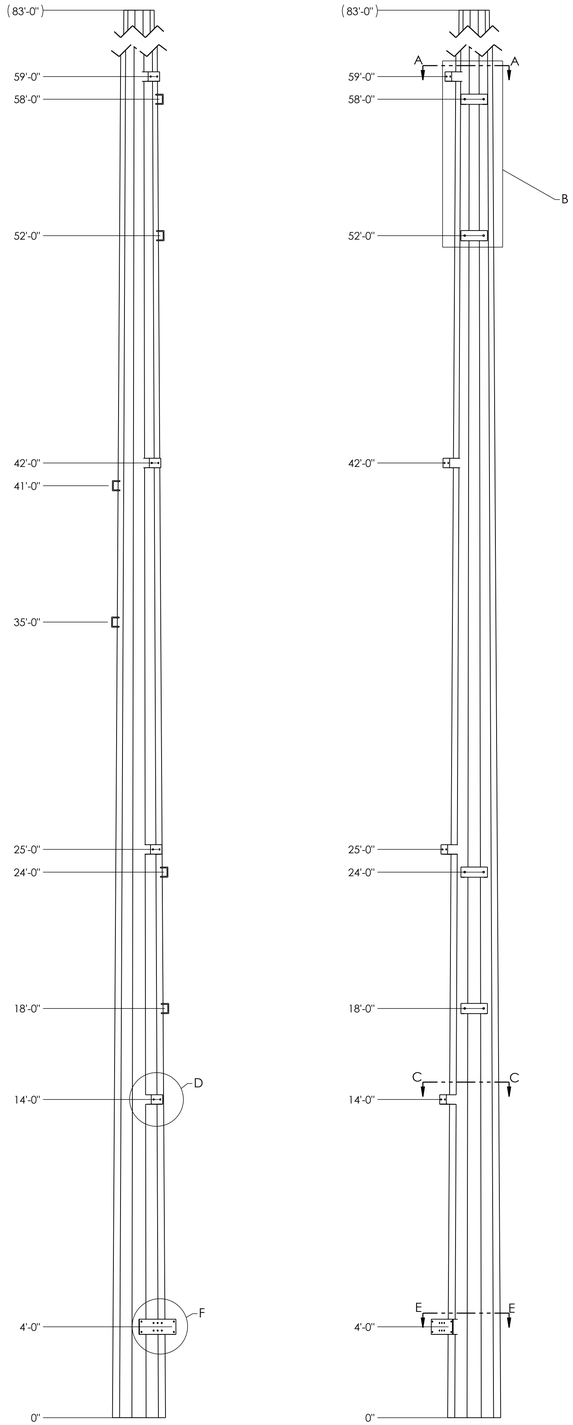
4) MANUFACTURER TO PROVIDE BRACKETS AS SHOWN ON SOUTHERN STATES DRAWING NO. 27820470, INCLUDED FOLLOWING THIS PAGE.

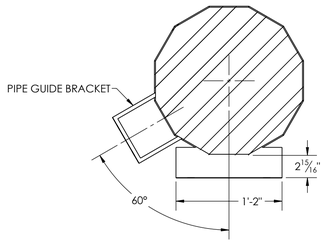
STEEL POLE FRAMING DRAWING
230 kV TRANSMISSION LINE
T–GOAB(S)

Booth & Associates
2500 Berkwoods Drive Suite 300, Raleigh NC 27607
NC F-0221

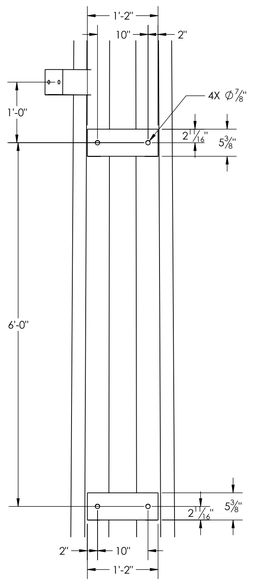
DWN.	AMS	DATE: 05/01/2026	DWG. NO. SPFD–2
CKD.	JRN	APPD. GSB	
SCALE:	NTS		
DATE	REVISION		SHEET NO. 1 OF 1

9831_SPFD–T





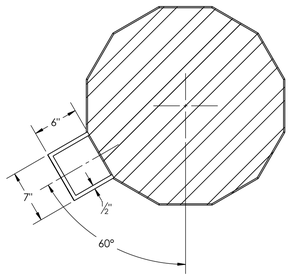
SECTION A-A
SWITCH MTG. BRACKET
SCALE 1 : 10



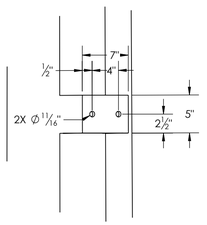
DETAIL B
SWITCH MTG. BRACKET
SCALE 1 : 15

POLE MANUFACTURER TO PROVIDE ALL BRACKETS AND MATERIALS SHOWN.

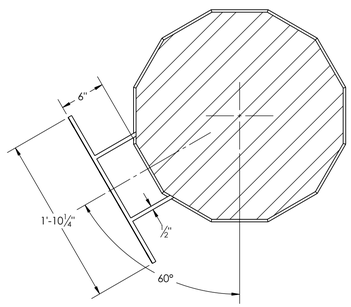
DRAWING ONLY SHOWS SWITCH AND OPERATING MECHANISM BRACKETS. THIS PRINT DOES NOT INCLUDE MOUNTING REQUIREMENTS FOR LINE CONNECTIONS, ARRESTORS, LINE TRAPS, ETC.



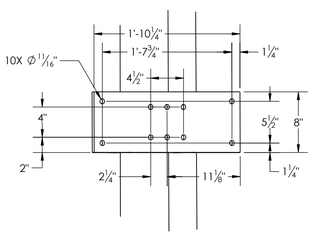
SECTION C-C
PIPE GUIDE BRACKET
SCALE 1 : 10



DETAIL D
PIPE GUIDE BRACKET
SCALE 1 : 10



SECTION E-E
OPERATOR BRACKET
SCALE 1 : 10



DETAIL F
OPERATOR BRACKET
SCALE 1 : 10

REV.	DESCRIPTION	DATE	BY
3	POLE HEIGHT WAS 90'	3/30/26	DBG
2	POLE HEIGHT WAS 115'	3/23/26	DBG
1	INITIAL RELEASE	2/23/26	DBG

	NAME	DATE
DRAWN	dbell graves	02-23-2026
CHECKED		

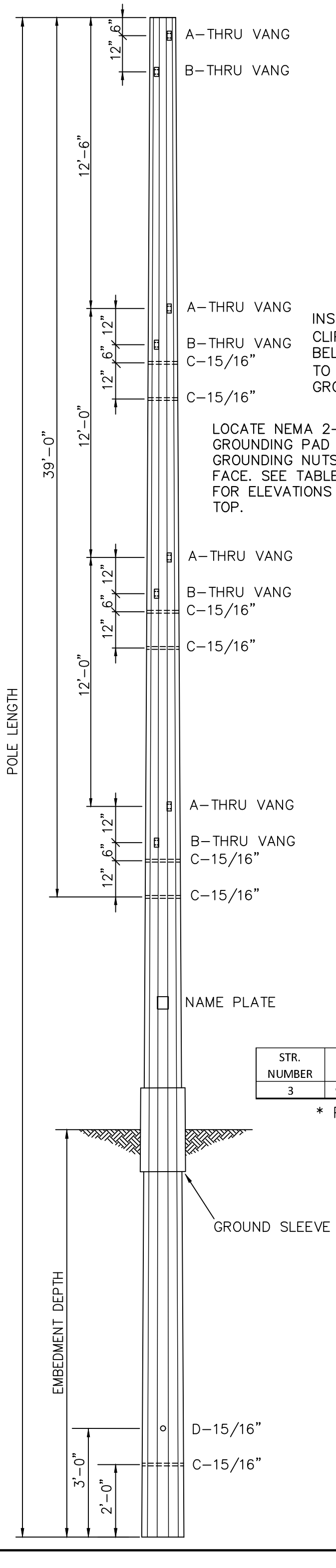
J.O. 611082
P.O. PON000525

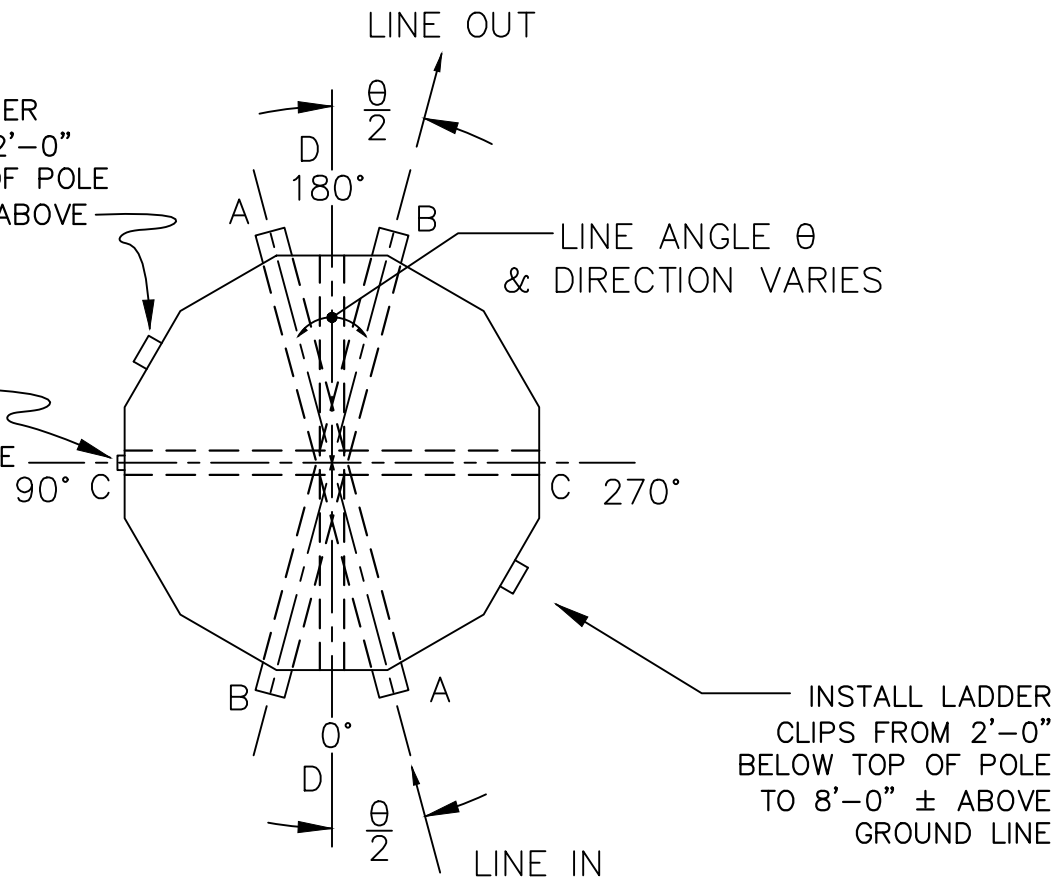
SOUTHERN STATES
30 GEORGIA AVENUE
HAMPTON, GA 30228-2199
TELE: (770) 946-4502
FAX: (770) 946-8106

83' STEEL POLE

SIZE D | DWG. NO. 27820470 | REV 3

SCALE: 1:128 | WEIGHT: XXX | SHEET 1 OF 1





STR. NUMBER	HEIGHT/ CLASS*	EMBEDMENT DEPTH	LINE ANGLE θ	GROUNDING NUTS				NEMA 2-HOLE PADS	
				GUY	GUY	GUY	GUY	OHGW	POLE
3	90/S-04.9	14'-0"	73°16'18" RT	2'-6"	16'-0"	28'-6"	40'-6"	2'-0"	73'-6"

* POLE CLASS DEFINED BY RUS STANDARD STEEL POLE DESIGNATION

NOTES:

1) LETTERS (i.e. "A" & "B") INDICATE THRU–VANG AND/OR THROUGH HOLE LOCATIONS AND ORIENTATION.

2) LETTERS WITH DIMENSIONS (i.e. "A–13/16") INDICATE THROUGH HOLES WITH DIAMETER FOR DRILLING.

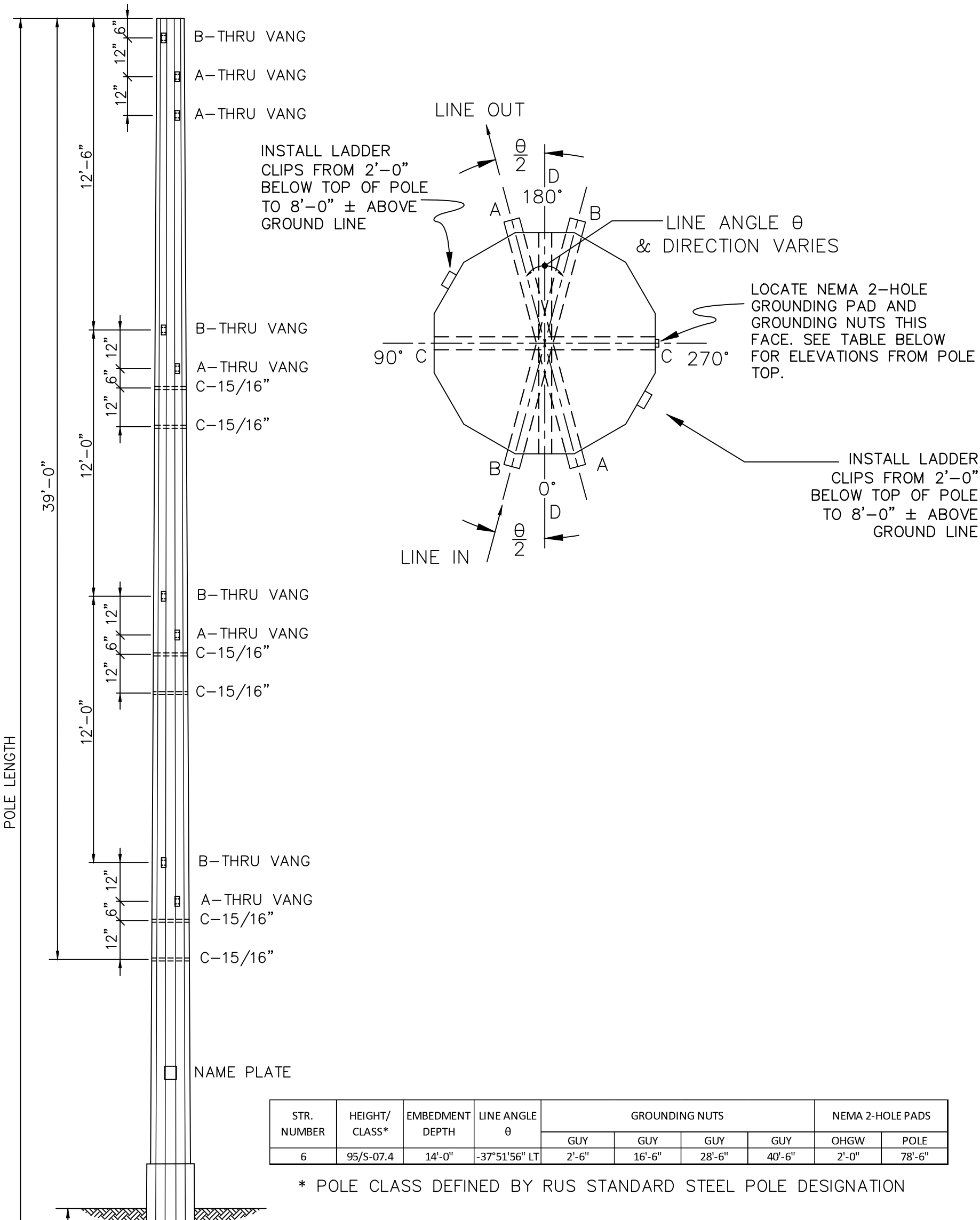
3) REFERENCE "DETAILS" SHEET FOR STANDARD DETAIL DRAWINGS.

STEEL POLE FRAMING DRAWING
230 kV TRANSMISSION LINE
TS–5AA(S) – RIGHT TURN

Booth & Associates
2300 Renwoods Drive Suite 300, Raleigh NC 27607
NC F-0221

DWN.	AMS	DATE: 05/01/2026	DWG. NO. SPFD–3A
CKD.	JRN	APPD. GSB	
SCALE:	NTS		
DATE	REVISION		SHEET NO. 1 OF 1

9831_SPFD–T



STR. NUMBER	HEIGHT/ CLASS*	EMBEDMENT DEPTH	LINE ANGLE θ	GROUNDING NUTS				NEMA 2-HOLE PADS	
				GUY	GUY	GUY	GUY	OHGW	POLE
6	95/S-07.4	14'-0"	-37°51'56" LT	2'-6"	16'-6"	28'-6"	40'-6"	2'-0"	78'-6"

* POLE CLASS DEFINED BY RUS STANDARD STEEL POLE DESIGNATION

NOTES:

1) LETTERS (i.e. "A" & "B") INDICATE THRU–VANG AND/OR THROUGH HOLE LOCATIONS AND ORIENTATION.

2) LETTERS WITH DIMENSIONS (i.e. "A–13/16") INDICATE THROUGH HOLES WITH DIAMETER FOR DRILLING.

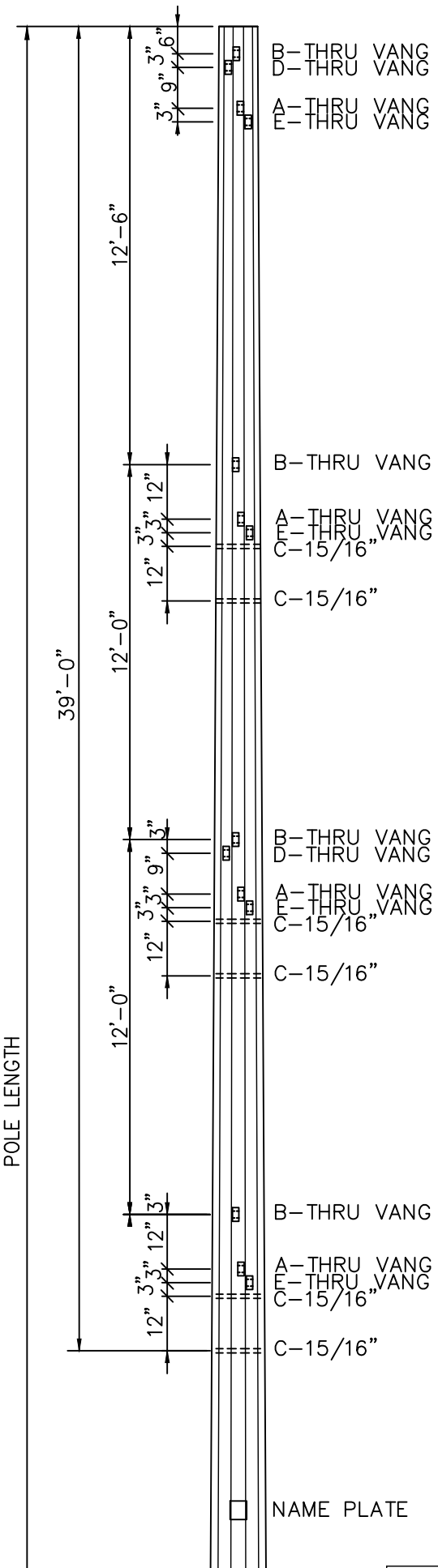
3) REFERENCE "DETAILS" SHEET FOR STANDARD DETAIL DRAWINGS.

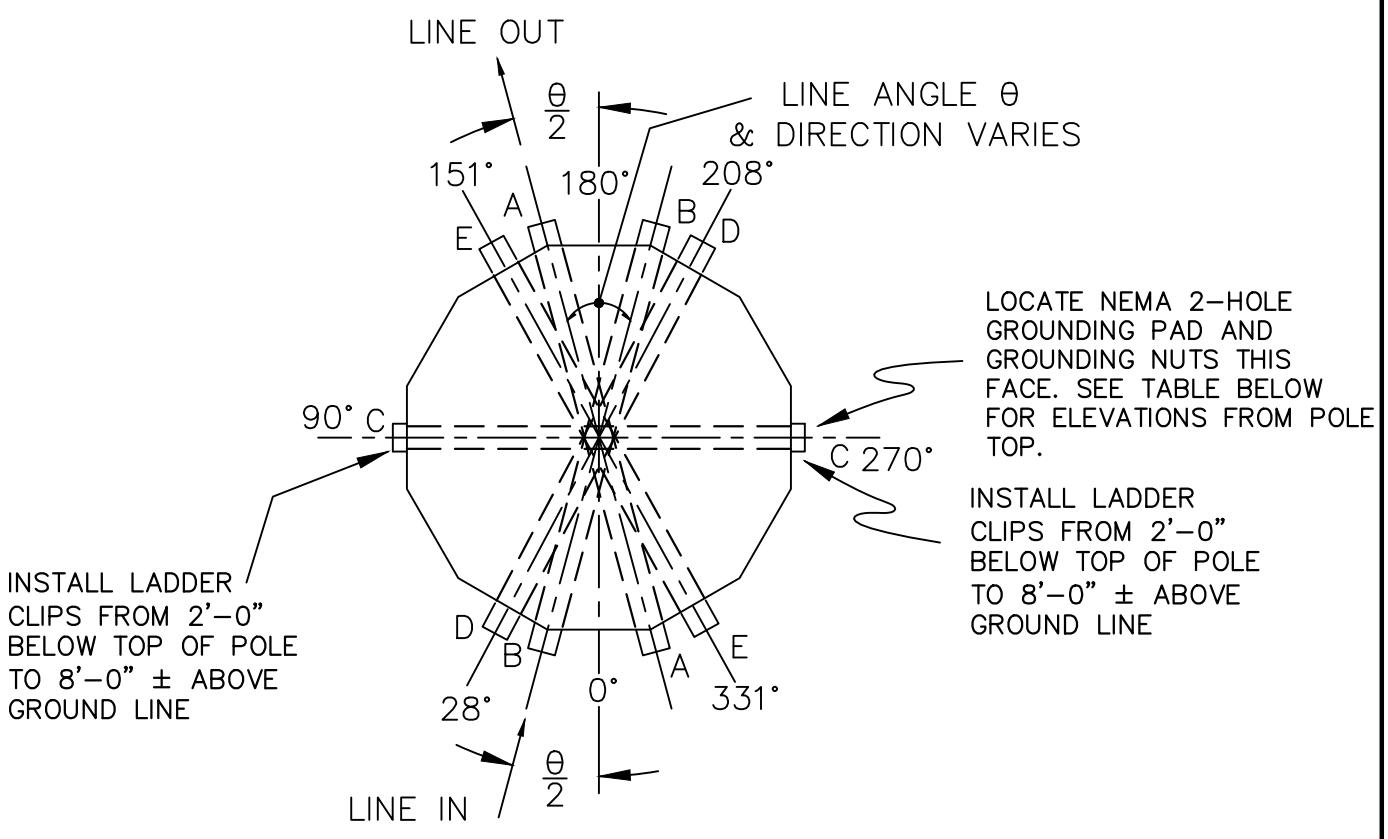
STEEL POLE FRAMING DRAWING
230 kV TRANSMISSION LINE
TS–5AA(S) – LEFT TURN

Booth & Associates
2300 Renwoods Drive Suite 300, Raleigh NC 27607
NC F-0221

DWN.	AMS	DATE: 05/01/2026	DWG. NO. SPFD–3B
CKD.	JRN	APPD. GSB	
SCALE:	NTS		
DATE	REVISION		SHEET NO. 1 OF 1

9831_SPFD–T





STR. NUMBER	HEIGHT/ CLASS*	EMBEDMENT DEPTH	LINE ANGLE θ	GROUNDING NUTS				NEMA 2-HOLE PADS	
				GUY	GUY	GUY	GUY	OHGW	POLE
1	90/S-8.0	14'-0"	-11°50'58" LT	2'-6"	16'-0"	28'-6"	40'-6"	2'-0"	73'-6"

* POLE CLASS DEFINED BY RUS STANDARD STEEL POLE DESIGNATION

NOTES:

1) LETTERS (i.e. "A" & "B") INDICATE THRU–VANG AND/OR THROUGH HOLE LOCATIONS AND ORIENTATION.

2) LETTERS WITH DIMENSIONS (i.e. "A–13/16") INDICATE THROUGH HOLES WITH DIAMETER FOR DRILLING.

3) REFERENCE "DETAILS" SHEET FOR STANDARD DETAIL DRAWINGS.

STEEL POLE FRAMING DRAWING
230 kV TRANSMISSION LINE
TS–5AA(S) – LEFT TURN

Booth & Associates
2300 Renwoods Drive Suite 300, Raleigh NC 27607
NC F-0221

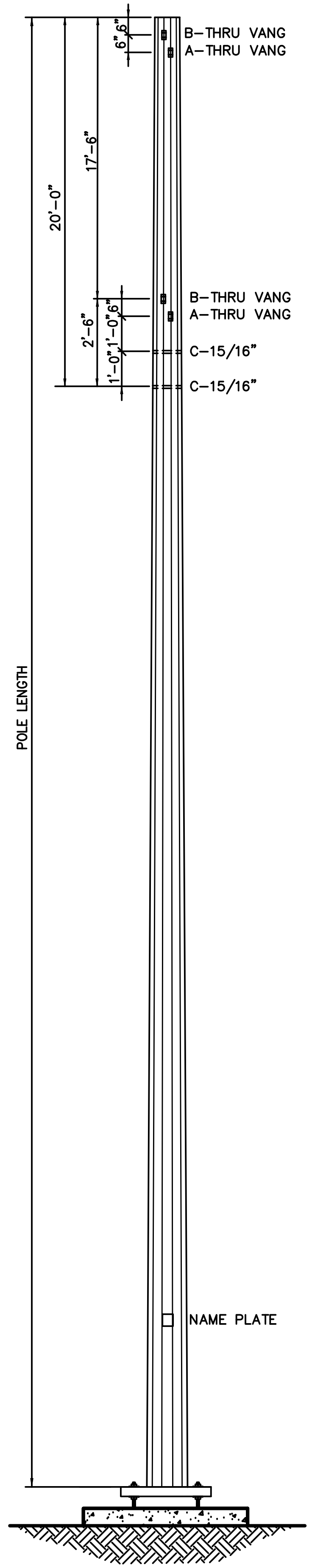
DWN.	AMS	DATE:	05/01/2026
CKD.	JRN	APPD.	GSB
SCALE:	NTS		

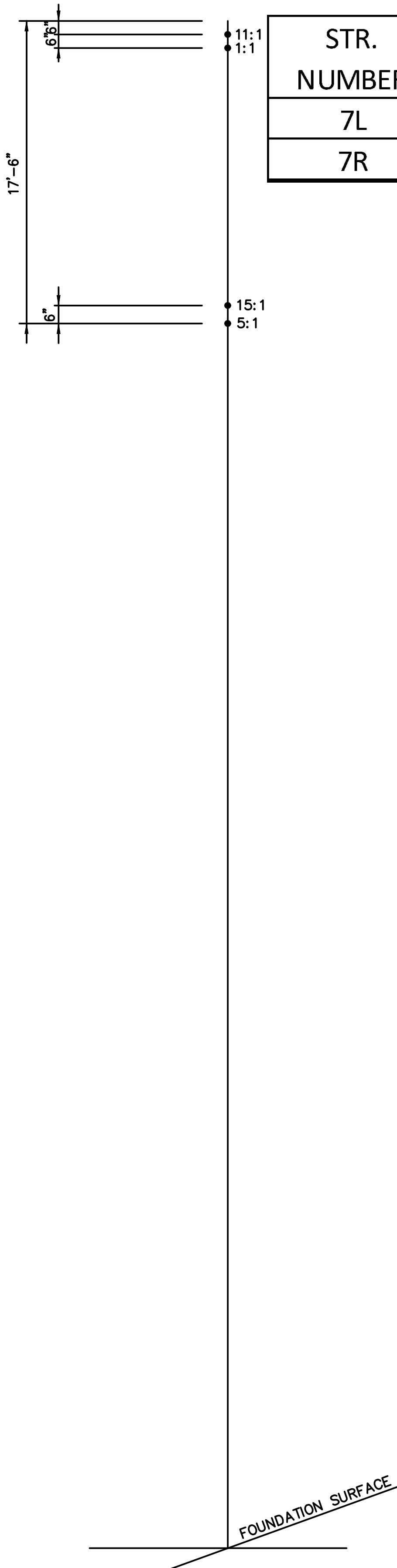
DWG. NO. SPFD–3C

DATE	REVISION

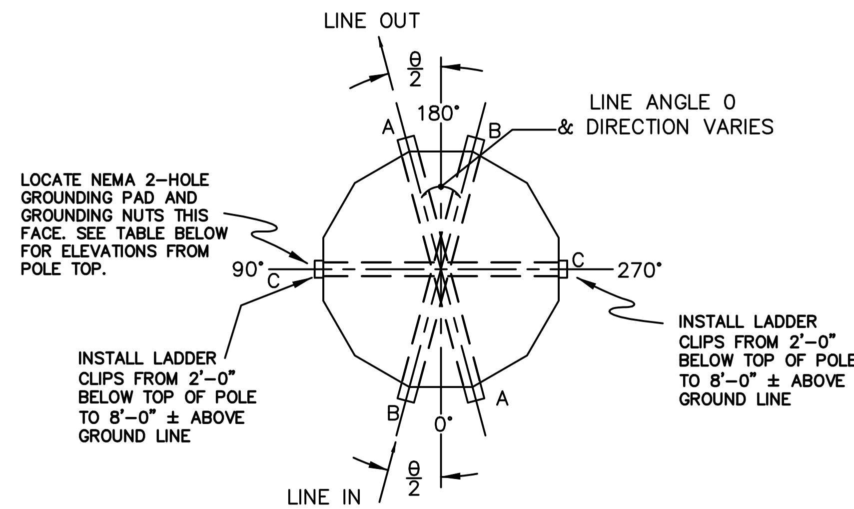
SHEET NO. 1 OF 1

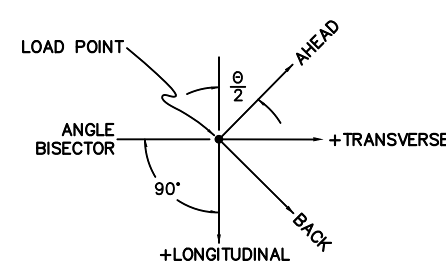
9831_SPFD–T



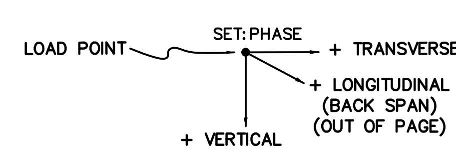


STR. NUMBER	LENGTH/ CLASS	FOUNDATION	LINE ANGLE θ	NEMA 2-HOLE PADS	
				OHGW	POLE
7L	60/ENG	CONCRETE PIER	-52°11'35" LT	2'-0"	58'-6"
7R	60/ENG	CONCRETE PIER	-52°11'35" LT	2'-0"	58'-6"





SET & PHASE DIAGRAM PLAN VIEW



SET & PHASE DIAGRAM PROFILE VIEW

FRAMING NOTES:

1) DETAILS (i.e. "A3" & "G") INDICATE POLE HARDWARE LOCATIONS AND ORIENTATION
2) LETTERS WITH DIMENSIONS (i.e. C–15/16") INDICATE THROUGH HOLES WITH DIAMETER FOR DRILLING. ALL HOLES ARE TO BE CENTERED ON A FLAT.
3) DIMENSIONS SHOWN ON STEEL POLE DETAILS ARE REQUIRED TO ENSURE HARDWARE COMPATIBILITY. POLE MANUFACTURER IS RESPONSIBLE FOR VERIFYING THAT THE THRU–VANG STRENGTH EXCEEDS ULTIMATE STRENGTH REQUIREMENTS.
4) REFER TO TABLE FOR A LIST OF STRUCTURES DESIGNED WITH THIS FRAMING AND FOR INDIVIDUAL STRUCTURE SPECIFIC HEIGHT, LINE ANGLE, AND EMBEDMENT.
5) REFER TO TABLE FOR GROUNDING NUT AND/OR NEMA PAD ELEVATIONS. DISTANCES ARE FROM TOP OF POLE.
6) INSTALL LADDER CLIPS ON THE SPECIFIED FLATS FROM 8'–0"ABOVE GROUNDLINE TO 2'–0" FROM TOP OF POLE.

LOADING NOTES:

1) THE TRANSVERSE, VERTICAL, AND LONGITUDINAL LOADS FOR THE TRANSMISSION STRUCTURES FOR EACH LOAD CASE ARE LISTED IN TABLE 'LT' AND CAN BE DISTINGUISHED BY THEIR RESPECTIVE SET AND PHASE NUMBER.
2) THE LOCATION OF THESE LOADS ON THE STRUCTURE IS DEFINED BY THEIR RESPECTIVE SET:PHASE PLACEMENT ON THE LOAD TREE.
3) FOR WIND DIRECTION AND LOCATION, REFER TO "LOAD TREE WIND LOADS AND DIRECTION".
4) LONGITUDINAL AND TRANSVERSE LOADS ARE SPECIFIED IN THE STRUCTURE COORDINATE SYSTEM. REFERENCE THE SET AND PHASE DIAGRAM FOR APPLICATION OF VECTOR LOADS.
5) WIND LOADS ON THE STRUCTURE SHALL BE APPLIED IN THE DIRECTION THAT PRODUCES THE MOST SEVERE EFFECT.

CONDUCTOR DESCRIPTION

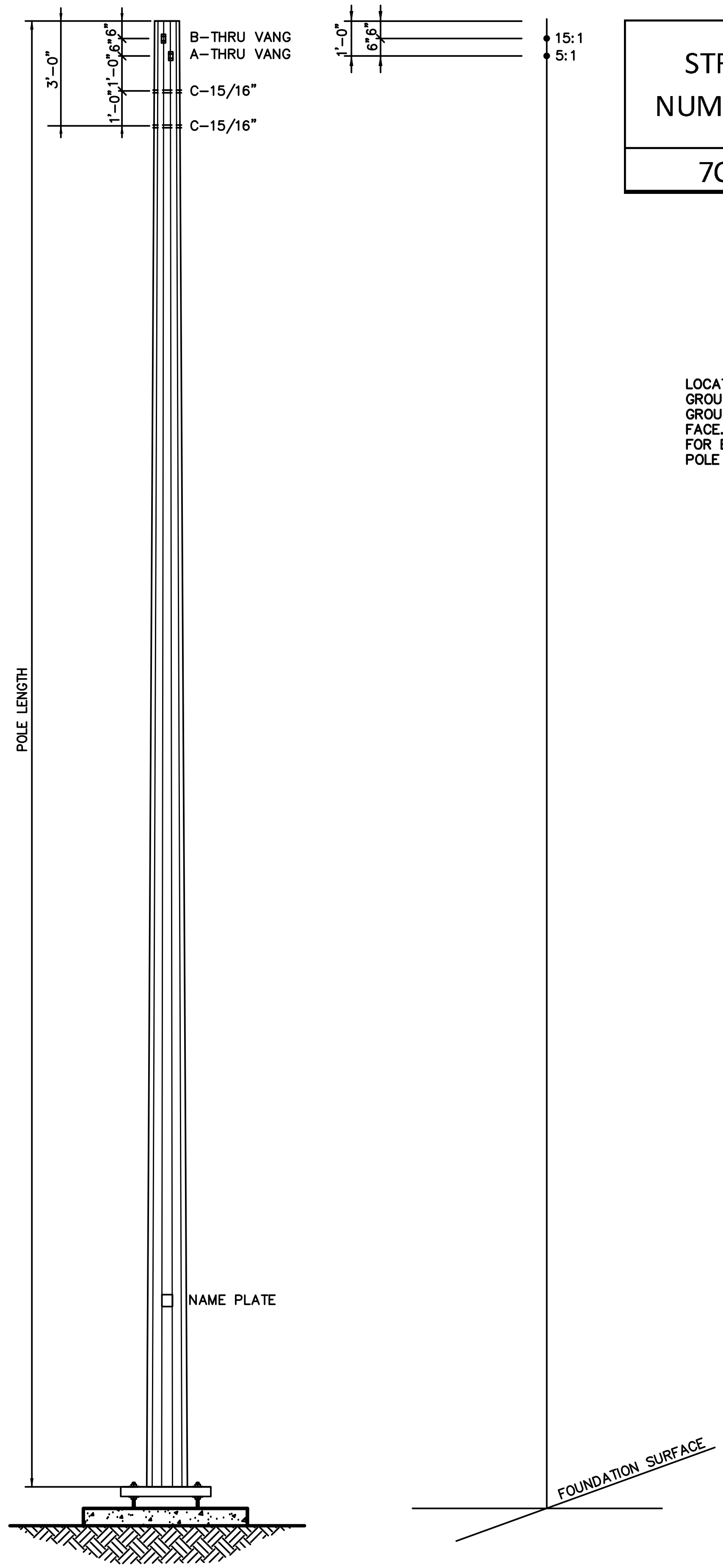
SET	WIRE TYPE
5,15	CONDUCTOR: 954 kcmil 37/0 STRAND "Magnolia" AAC
1,2,11,12	OHGW: 7 No. 6 Alumoweld

STEEL POLE DRILLING PATTERN
230 kV TRANSMISSION LINE
TH–235M(S)

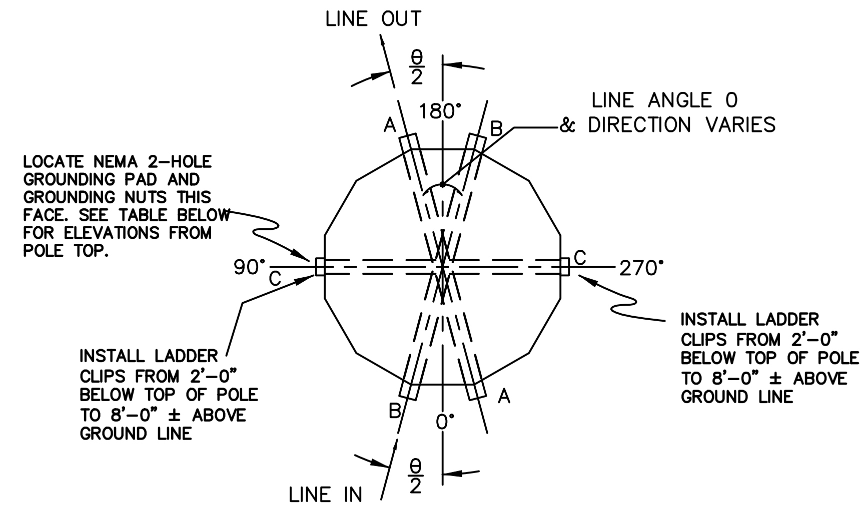
Booth & Associates

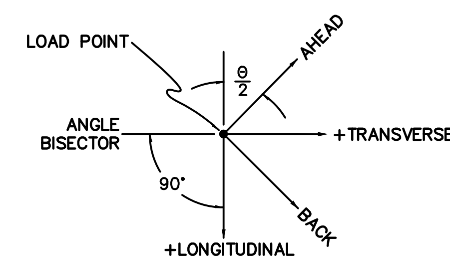
DWN.	AMS	DATE:	05/01/2026	DWG. NO. SPFD–4A
CKD.	JRN	APPD.	GSB	
SCALE:	NTS			
DATE	REVISION			SHEET NO. 1 OF 1

9831_SPFD–T

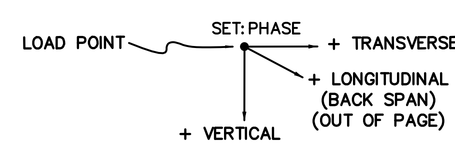


STR. NUMBER	LENGTH/ CLASS	FOUNDATION	LINE ANGLE θ	NEMA 2-HOLE PADS
				POLE
7C	43/ENG	CONCRETE PIER	-52°11'35" LT	41'-6"





SET & PHASE DIAGRAM PLAN VIEW



SET & PHASE DIAGRAM PROFILE VIEW

FRAMING NOTES:

1) DETAILS (i.e. "A3" & "G") INDICATE POLE HARDWARE LOCATIONS AND ORIENTATION
2) LETTERS WITH DIMENSIONS (i.e. C-15/16") INDICATE THROUGH HOLES WITH DIAMETER FOR DRILLING. ALL HOLES ARE TO BE CENTERED ON A FLAT.
3) DIMENSIONS SHOWN ON STEEL POLE DETAILS ARE REQUIRED TO ENSURE HARDWARE COMPATIBILITY. POLE MANUFACTURER IS RESPONSIBLE FOR VERIFYING THAT THE THRU-VANG STRENGTH EXCEEDS ULTIMATE STRENGTH REQUIREMENTS.
4) REFER TO TABLE FOR A LIST OF STRUCTURES DESIGNED WITH THIS FRAMING AND FOR INDIVIDUAL STRUCTURE SPECIFIC HEIGHT, LINE ANGLE, AND EMBEDMENT.
5) REFER TO TABLE FOR GROUNDING NUT AND/OR NEMA PAD ELEVATIONS. DISTANCES ARE FROM TOP OF POLE.
6) INSTALL LADDER CLIPS ON THE SPECIFIED FLATS FROM 8'-0"ABOVE GROUNDLINE TO 2'-0" FROM TOP OF POLE.

LOADING NOTES:

1) THE TRANSVERSE, VERTICAL, AND LONGITUDINAL LOADS FOR THE TRANSMISSION STRUCTURES FOR EACH LOAD CASE ARE LISTED IN TABLE 'LT' AND CAN BE DISTINGUISHED BY THEIR RESPECTIVE SET AND PHASE NUMBER.
2) THE LOCATION OF THESE LOADS ON THE STRUCTURE IS DEFINED BY THEIR RESPECTIVE SET:PHASE PLACEMENT ON THE LOAD TREE.
3) FOR WIND DIRECTION AND LOCATION, REFER TO "LOAD TREE WIND LOADS AND DIRECTION".
4) LONGITUDINAL AND TRANSVERSE LOADS ARE SPECIFIED IN THE STRUCTURE COORDINATE SYSTEM. REFERENCE THE SET AND PHASE DIAGRAM FOR APPLICATION OF VECTOR LOADS.
5) WIND LOADS ON THE STRUCTURE SHALL BE APPLIED IN THE DIRECTION THAT PRODUCES THE MOST SEVERE EFFECT.

CONDUCTOR DESCRIPTION

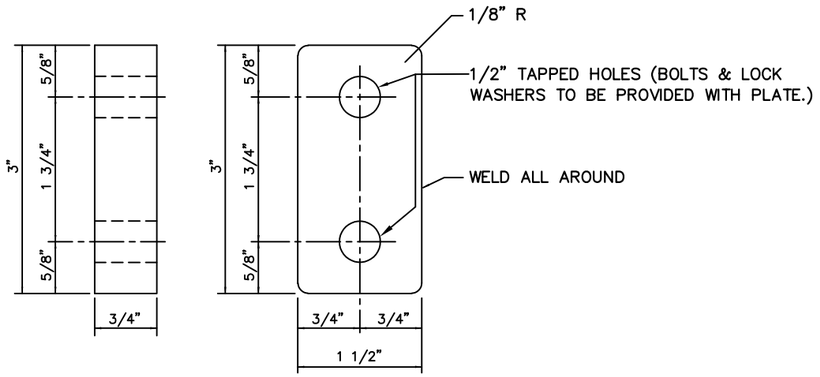
SET	WIRE TYPE
5,15	CONDUCTOR: 954 kcmil 37/0 STRAND "Magnolia" AAC

STEEL POLE DRILLING PATTERN
230 kV TRANSMISSION LINE
TH-235M(S)

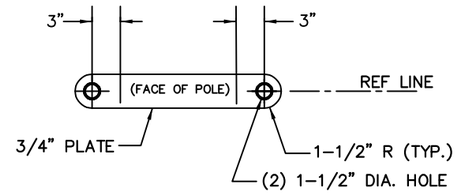
Booth & Associates

DWN.	AMS	DATE:	05/01/2026	DWG. NO. SPFD-4B
CKD.	JRN	APPD.	GSB	
SCALE:	NTS			
DATE	REVISION			SHEET NO. 1 OF 1

9831_SPFD-T



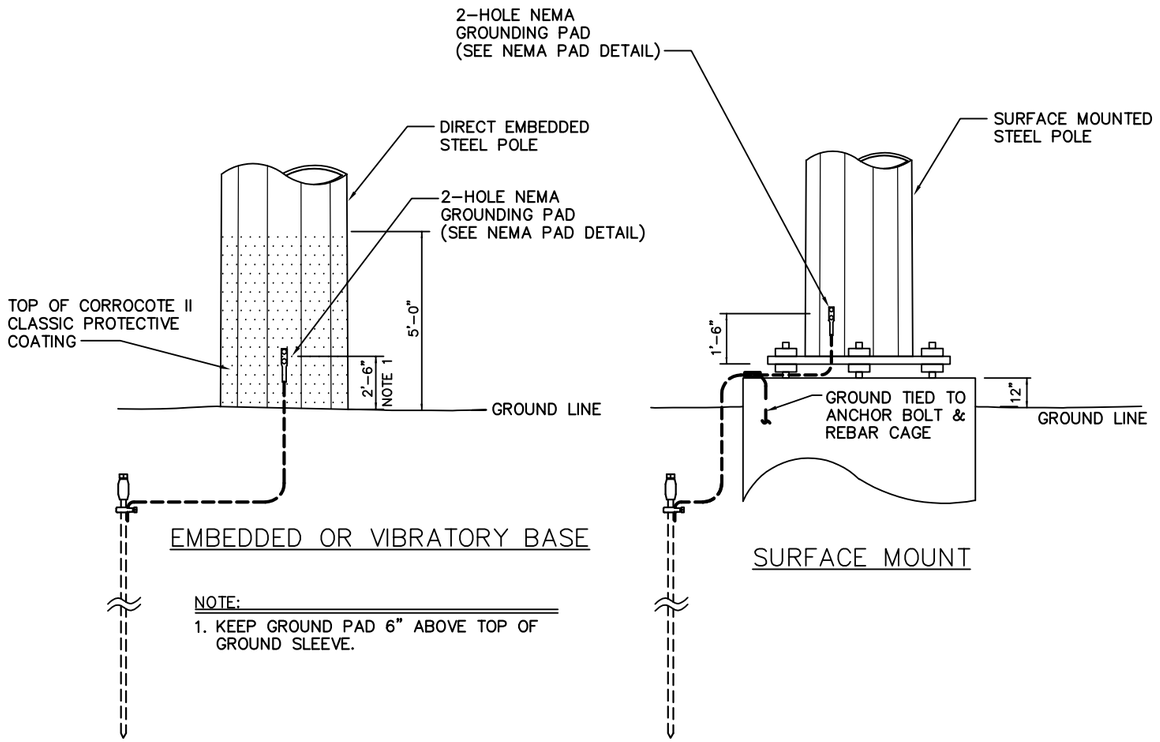
NEMA PAD DETAIL



VANG DETAIL – ENGINEERED POLES

NTS

MINIMUM 60,000 LBS.
ULTIMATE STRENGTH VANG
REQUIRED 90° OR 45° LOAD



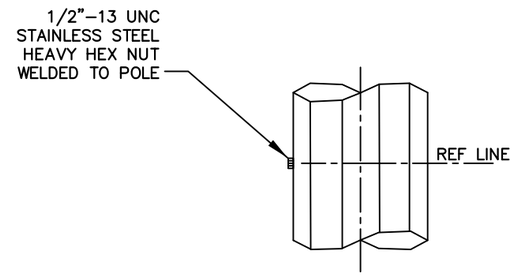
EMBEDDED OR VIBRATORY BASE

SURFACE MOUNT

NOTE:

1. KEEP GROUND PAD 6" ABOVE TOP OF GROUND SLEEVE.

STEEL POLE GROUNDING DETAILS



POLE GROUND NUT DETAIL

STEEL POLE DETAILS

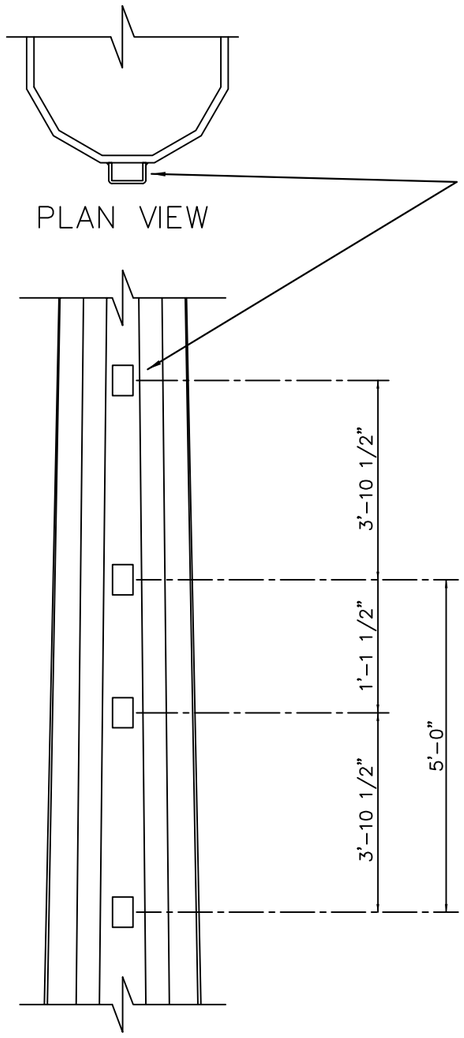
Booth & Associates
2500 Rowwoods Drive Suite 300, Raleigh NC 27607
NC F-0221

DWN.	BLP	DATE:	10/13/20
CKD.	CGO	APPD.	GSB
SCALE:	NTS		
DATE	REVISION		

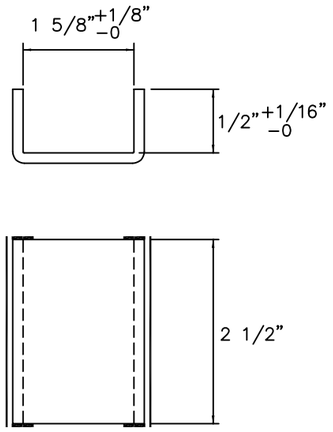
DWG. NO.
DETAILS

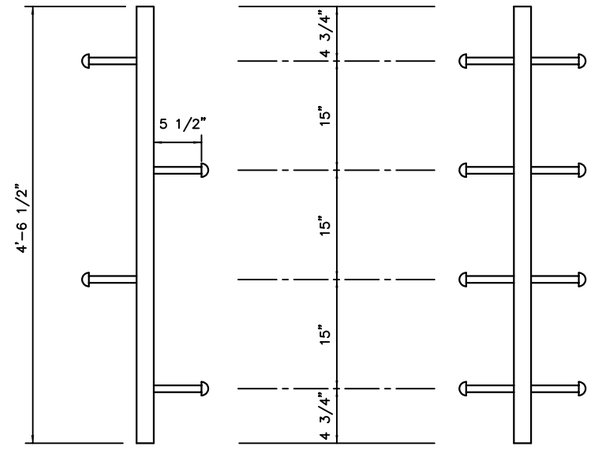
SHEET NO.
1 OF 2

9831_SPFD-T



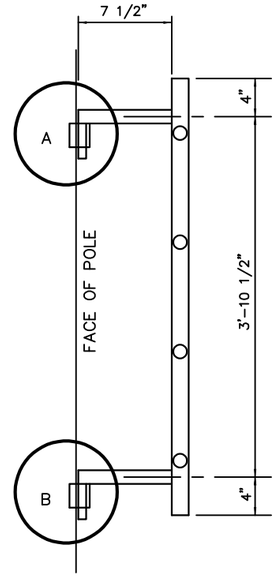
TMS-3
LADDER CLIP DETAIL

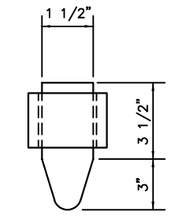




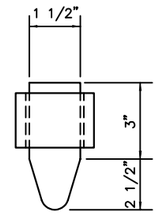
TMS-1
CLIMBING LADDER

TMS-1
WORKING LADDER





CLIP DETAIL
"A"



CLIP DETAIL
"B"

POLE LADDER ASSEMBLY DETAIL

STEEL POLE DETAILS

Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-1221

DWN.	BLP	DATE:	10/13/20	DWG. NO. DETAILS
CKD.	CGO	APPD.	GSB	
SCALE:	NTS			
DATE	REVISION			SHEET NO. 2 OF 2

9831_SPFD-T

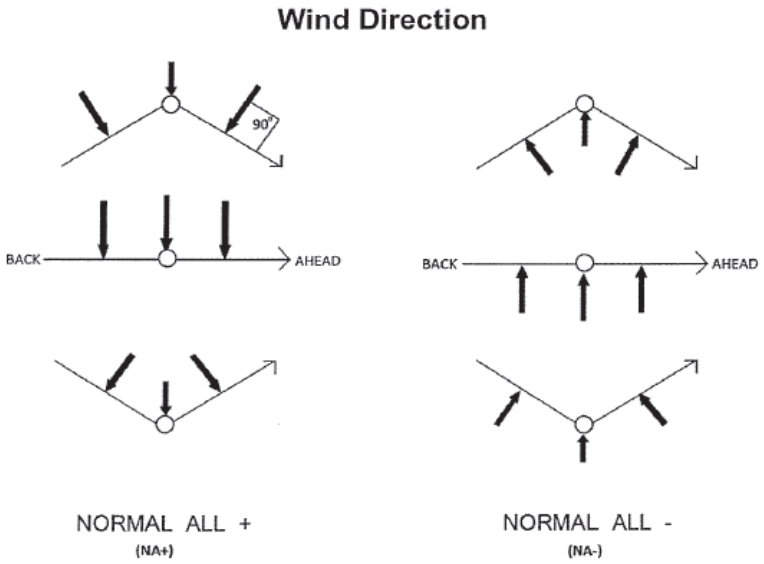
ATTACHMENT B

DESIGN LOADS

(See also PLS-CADD .lca and .bak files)

Structure Wind Loading (Factored)

LOAD CASE	WIND PRESSURE
NESC RULE 250B	10 PSF
NESC RULE 250C	28.2 PSF
NESC RULE 250D	2.5 PSF
DEFL - MOD WIND	6 PSF
STRINGING LOAD	4.4 PSF



There are two (2) wind situations applicaple to the load cases shown in the table above, NA+ and NA-. The arrows in the diagram above represent the wind direction, and the loads in the table above represent the psf load applied to the structure and spans. The wind blows perpendicular to each span individually, and on the structure at the angle bisector.

LC #	WC #	Load Case Description	Set No.	Phase No.	Attach. Joint Labels	Structure Loads			Loads from back span			Loads from ahead span		
						Vert. (lbs)	Trans. (lbs)	Long. (lbs)	Vert. (lbs)	Trans. (lbs)	Long. (lbs)	Vert. (lbs)	Trans. (lbs)	Long. (lbs)
1	1	RULE 250B NA+ Medium	1	1	SW1_A	30	-59	-384	0	0	0	30	-59	-384
1	1	RULE 250B NA+ Medium	1	1	SW1_A	30	-59	-384	0	0	0	30	-59	-384
1	1	RULE 250B NA+ Medium	2	1	SW2_A	41	-397	-588	0	0	0	41	-397	-588
1	1	RULE 250B NA+ Medium	5	1	T1_A	-78	-424	-934	0	0	0	-78	-424	-934
1	1	RULE 250B NA+ Medium	5	2	T2_A	-31	-359	-803	0	0	0	-31	-359	-803
1	1	RULE 250B NA+ Medium	5	3	T3_A	-7	-359	-812	0	0	0	-7	-359	-812
1	1	RULE 250B NA+ Medium	11	1	SW1_B	60	-259	937	60	-259	937	0	0	0
1	1	RULE 250B NA+ Medium	12	1	SW2_B	52	-725	1389	52	-725	1389	0	0	0
1	1	RULE 250B NA+ Medium	15	1	T1_B	149	-730	2343	149	-730	2343	0	0	0
1	1	RULE 250B NA+ Medium	15	2	T2_B	267	-939	2257	267	-939	2257	0	0	0
1	1	RULE 250B NA+ Medium	15	3	T3_B	76	-1117	2157	76	-1117	2157	0	0	0
2	1	RULE 250B NA- Medium	1	1	SW1_A	30	-93	-378	0	0	0	30	-93	-378
2	1	RULE 250B NA- Medium	2	1	SW2_A	41	-438	-560	0	0	0	41	-438	-560
2	1	RULE 250B NA- Medium	5	1	T1_A	-78	-472	-922	0	0	0	-78	-472	-922
2	1	RULE 250B NA- Medium	5	2	T2_A	-31	-419	-784	0	0	0	-31	-419	-784
2	1	RULE 250B NA- Medium	5	3	T3_A	-7	-431	-787	0	0	0	-7	-431	-787
2	1	RULE 250B NA- Medium	11	1	SW1_B	60	-425	876	60	-425	876	0	0	0
2	1	RULE 250B NA- Medium	12	1	SW2_B	52	-891	1292	52	-891	1292	0	0	0
2	1	RULE 250B NA- Medium	15	1	T1_B	149	-1001	2248	149	-1001	2248	0	0	0
2	1	RULE 250B NA- Medium	15	2	T2_B	267	-1211	2133	267	-1211	2133	0	0	0
2	1	RULE 250B NA- Medium	15	3	T3_B	76	-1390	2005	76	-1390	2005	0	0	0
3	1	RULE 250B Uplift NA+	1	1	SW1_A	23	-59	-384	0	0	0	23	-59	-384
3	1	RULE 250B Uplift NA+	2	1	SW2_A	30	-397	-588	0	0	0	30	-397	-588
3	1	RULE 250B Uplift NA+	5	1	T1_A	-43	-424	-934	0	0	0	-43	-424	-934
3	1	RULE 250B Uplift NA+	5	2	T2_A	-12	-359	-803	0	0	0	-12	-359	-803
3	1	RULE 250B Uplift NA+	5	3	T3_A	4	-359	-812	0	0	0	4	-359	-812
3	1	RULE 250B Uplift NA+	11	1	SW1_B	43	-259	937	43	-259	937	0	0	0
3	1	RULE 250B Uplift NA+	12	1	SW2_B	37	-725	1389	37	-725	1389	0	0	0
3	1	RULE 250B Uplift NA+	15	1	T1_B	108	-730	2343	108	-730	2343	0	0	0
3	1	RULE 250B Uplift NA+	15	2	T2_B	186	-939	2257	186	-939	2257	0	0	0
3	1	RULE 250B Uplift NA+	15	3	T3_B	59	-1117	2157	59	-1117	2157	0	0	0
4	1	RULE 250B Uplift NA-	1	1	SW1_A	23	-93	-378	0	0	0	23	-93	-378
4	1	RULE 250B Uplift NA-	2	1	SW2_A	30	-438	-560	0	0	0	30	-438	-560
4	1	RULE 250B Uplift NA-	5	1	T1_A	-43	-472	-922	0	0	0	-43	-472	-922
4	1	RULE 250B Uplift NA-	5	2	T2_A	-12	-419	-784	0	0	0	-12	-419	-784
4	1	RULE 250B Uplift NA-	5	3	T3_A	4	-431	-787	0	0	0	4	-431	-787
4	1	RULE 250B Uplift NA-	11	1	SW1_B	43	-425	876	43	-425	876	0	0	0
4	1	RULE 250B Uplift NA-	12	1	SW2_B	37	-891	1292	37	-891	1292	0	0	0
4	1	RULE 250B Uplift NA-	15	1	T1_B	108	-1001	2248	108	-1001	2248	0	0	0
4	1	RULE 250B Uplift NA-	15	2	T2_B	186	-1211	2133	186	-1211	2133	0	0	0
4	1	RULE 250B Uplift NA-	15	3	T3_B	59	-1390	2005	59	-1390	2005	0	0	0
5	2	RULE 250C NA+	1	1	SW1_A	19	-26	-266	0	0	0	19	-26	-266
5	2	RULE 250C NA+	2	1	SW2_A	24	-237	-386	0	0	0	24	-237	-386
5	2	RULE 250C NA+	5	1	T1_A	-81	-259	-661	0	0	0	-81	-259	-661
5	2	RULE 250C NA+	5	2	T2_A	-53	-242	-640	0	0	0	-53	-242	-640
5	2	RULE 250C NA+	5	3	T3_A	-37	-248	-674	0	0	0	-37	-248	-674
5	2	RULE 250C NA+	11	1	SW1_B	5	-138	694	5	-138	694	0	0	0
5	2	RULE 250C NA+	12	1	SW2_B	-6	-450	988	-6	-450	988	0	0	0
5	2	RULE 250C NA+	15	1	T1_B	43	-466	1938	43	-466	1938	0	0	0
5	2	RULE 250C NA+	15	2	T2_B	157	-625	1842	157	-625	1842	0	0	0
5	2	RULE 250C NA+	15	3	T3_B	-47	-808	1870	-47	-808	1870	0	0	0
6	2	RULE 250C NA-	1	1	SW1_A	19	-78	-259	0	0	0	19	-78	-259
6	2	RULE 250C NA-	2	1	SW2_A	24	-299	-351	0	0	0	24	-299	-351
6	2	RULE 250C NA-	5	1	T1_A	-81	-368	-638	0	0	0	-81	-368	-638
6	2	RULE 250C NA-	5	2	T2_A	-53	-369	-605	0	0	0	-53	-369	-605
6	2	RULE 250C NA-	5	3	T3_A	-37	-396	-628	0	0	0	-37	-396	-628
6	2	RULE 250C NA-	11	1	SW1_B	5	-356	616	5	-356	616	0	0	0
6	2	RULE 250C NA-	12	1	SW2_B	-6	-666	865	-6	-666	865	0	0	0
6	2	RULE 250C NA-	15	1	T1_B	43	-936	1780	43	-936	1780	0	0	0
6	2	RULE 250C NA-	15	2	T2_B	157	-1083	1644	157	-1083	1644	0	0	0

LC #	WC #	Load Case Description	Set No.	Phase No.	Attach. Joint Labels	Structure Loads			Loads from back span			Loads from ahead span		
						Vert. (lbs)	Trans. (lbs)	Long. (lbs)	Vert. (lbs)	Trans. (lbs)	Long. (lbs)	Vert. (lbs)	Trans. (lbs)	Long. (lbs)
6	2	RULE 250C NA-	15	3	T3_B	-47	-1291	1614	-47	-1291	1614	0	0	0
7	3	RULE 250D NA+	1	1	SW1_A	45	-77	-427	0	0	0	45	-77	-427
7	3	RULE 250D NA+	2	1	SW2_A	63	-441	-628	0	0	0	63	-441	-628
7	3	RULE 250D NA+	5	1	T1_A	-97	-412	-871	0	0	0	-97	-412	-871
7	3	RULE 250D NA+	5	2	T2_A	-46	-379	-799	0	0	0	-46	-379	-799
7	3	RULE 250D NA+	5	3	T3_A	-16	-392	-825	0	0	0	-16	-392	-825
7	3	RULE 250D NA+	11	1	SW1_B	108	-347	1046	108	-347	1046	0	0	0
7	3	RULE 250D NA+	12	1	SW2_B	99	-848	1502	99	-848	1502	0	0	0
7	3	RULE 250D NA+	15	1	T1_B	208	-858	2438	208	-858	2438	0	0	0
7	3	RULE 250D NA+	15	2	T2_B	365	-1082	2344	365	-1082	2344	0	0	0
7	3	RULE 250D NA+	15	3	T3_B	113	-1274	2236	113	-1274	2236	0	0	0
8	3	RULE 250D NA-	1	1	SW1_A	45	-93	-424	0	0	0	45	-93	-424
8	3	RULE 250D NA-	2	1	SW2_A	63	-461	-614	0	0	0	63	-461	-614
8	3	RULE 250D NA-	5	1	T1_A	-97	-428	-866	0	0	0	-97	-428	-866
8	3	RULE 250D NA-	5	2	T2_A	-46	-400	-792	0	0	0	-46	-400	-792
8	3	RULE 250D NA-	5	3	T3_A	-16	-419	-815	0	0	0	-16	-419	-815
8	3	RULE 250D NA-	11	1	SW1_B	108	-431	1015	108	-431	1015	0	0	0
8	3	RULE 250D NA-	12	1	SW2_B	99	-932	1453	99	-932	1453	0	0	0
8	3	RULE 250D NA-	15	1	T1_B	208	-966	2399	208	-966	2399	0	0	0
8	3	RULE 250D NA-	15	2	T2_B	365	-1190	2293	365	-1190	2293	0	0	0
8	3	RULE 250D NA-	15	3	T3_B	113	-1382	2173	113	-1382	2173	0	0	0
9	1	RULE 277 Insulators NA+ 250B	1	1	SW1_A	20	-39	-232	0	0	0	20	-39	-232
9	1	RULE 277 Insulators NA+ 250B	2	1	SW2_A	27	-245	-353	0	0	0	27	-245	-353
9	1	RULE 277 Insulators NA+ 250B	5	1	T1_A	-52	-262	-564	0	0	0	-52	-262	-564
9	1	RULE 277 Insulators NA+ 250B	5	2	T2_A	-21	-224	-485	0	0	0	-21	-224	-485
9	1	RULE 277 Insulators NA+ 250B	5	3	T3_A	-5	-225	-490	0	0	0	-5	-225	-490
9	1	RULE 277 Insulators NA+ 250B	11	1	SW1_B	40	-174	562	40	-174	562	0	0	0
9	1	RULE 277 Insulators NA+ 250B	12	1	SW2_B	34	-456	832	34	-456	832	0	0	0
9	1	RULE 277 Insulators NA+ 250B	15	1	T1_B	99	-471	1411	99	-471	1411	0	0	0
9	1	RULE 277 Insulators NA+ 250B	15	2	T2_B	178	-597	1355	178	-597	1355	0	0	0
9	1	RULE 277 Insulators NA+ 250B	15	3	T3_B	51	-705	1292	51	-705	1292	0	0	0
10	1	RULE 277 Insulators NA- 250B	1	1	SW1_A	20	-53	-230	0	0	0	20	-53	-230
10	1	RULE 277 Insulators NA- 250B	2	1	SW2_A	27	-261	-343	0	0	0	27	-261	-343
10	1	RULE 277 Insulators NA- 250B	5	1	T1_A	-52	-281	-560	0	0	0	-52	-281	-560
10	1	RULE 277 Insulators NA- 250B	5	2	T2_A	-21	-248	-477	0	0	0	-21	-248	-477
10	1	RULE 277 Insulators NA- 250B	5	3	T3_A	-5	-254	-480	0	0	0	-5	-254	-480
10	1	RULE 277 Insulators NA- 250B	11	1	SW1_B	40	-241	537	40	-241	537	0	0	0
10	1	RULE 277 Insulators NA- 250B	12	1	SW2_B	34	-523	793	34	-523	793	0	0	0
10	1	RULE 277 Insulators NA- 250B	15	1	T1_B	99	-579	1372	99	-579	1372	0	0	0
10	1	RULE 277 Insulators NA- 250B	15	2	T2_B	178	-706	1305	178	-706	1305	0	0	0
10	1	RULE 277 Insulators NA- 250B	15	3	T3_B	51	-815	1231	51	-815	1231	0	0	0
11	2	RULE 277 Insulators NA+ 250C	1	1	SW1_A	17	-24	-242	0	0	0	17	-24	-242
11	2	RULE 277 Insulators NA+ 250C	2	1	SW2_A	22	-216	-351	0	0	0	22	-216	-351
11	2	RULE 277 Insulators NA+ 250C	5	1	T1_A	-74	-236	-600	0	0	0	-74	-236	-600
11	2	RULE 277 Insulators NA+ 250C	5	2	T2_A	-48	-220	-582	0	0	0	-48	-220	-582
11	2	RULE 277 Insulators NA+ 250C	5	3	T3_A	-34	-225	-613	0	0	0	-34	-225	-613
11	2	RULE 277 Insulators NA+ 250C	11	1	SW1_B	4	-126	631	4	-126	631	0	0	0
11	2	RULE 277 Insulators NA+ 250C	12	1	SW2_B	-6	-409	898	-6	-409	898	0	0	0
11	2	RULE 277 Insulators NA+ 250C	15	1	T1_B	39	-423	1762	39	-423	1762	0	0	0
11	2	RULE 277 Insulators NA+ 250C	15	2	T2_B	143	-568	1675	143	-568	1675	0	0	0
11	2	RULE 277 Insulators NA+ 250C	15	3	T3_B	-43	-735	1700	-43	-735	1700	0	0	0
12	2	RULE 277 Insulators NA- 250C	1	1	SW1_A	17	-71	-235	0	0	0	17	-71	-235
12	2	RULE 277 Insulators NA- 250C	2	1	SW2_A	22	-271	-319	0	0	0	22	-271	-319
12	2	RULE 277 Insulators NA- 250C	5	1	T1_A	-74	-335	-580	0	0	0	-74	-335	-580
12	2	RULE 277 Insulators NA- 250C	5	2	T2_A	-48	-335	-550	0	0	0	-48	-335	-550
12	2	RULE 277 Insulators NA- 250C	5	3	T3_A	-34	-360	-571	0	0	0	-34	-360	-571
12	2	RULE 277 Insulators NA- 250C	11	1	SW1_B	4	-324	560	4	-324	560	0	0	0
12	2	RULE 277 Insulators NA- 250C	12	1	SW2_B	-6	-605	786	-6	-605	786	0	0	0
12	2	RULE 277 Insulators NA- 250C	15	1	T1_B	39	-851	1619	39	-851	1619	0	0	0
12	2	RULE 277 Insulators NA- 250C	15	2	T2_B	143	-984	1495	143	-984	1495	0	0	0

LC #	WC #	Load Case Description	Set No.	Phase No.	Attach. Joint Labels	Structure Loads			Loads from back span			Loads from ahead span		
						Vert. (lbs)	Trans. (lbs)	Long. (lbs)	Vert. (lbs)	Trans. (lbs)	Long. (lbs)	Vert. (lbs)	Trans. (lbs)	Long. (lbs)
12	2	RULE 277 Insulators NA- 250C	15	3	T3_B	-42	-1173	1467	-42	-1173	1467	0	0	0
13	3	RULE 277 Insulators NA+ 250D	1	1	SW1_A	41	-70	-389	0	0	0	41	-70	-389
13	3	RULE 277 Insulators NA+ 250D	2	1	SW2_A	58	-401	-571	0	0	0	58	-401	-571
13	3	RULE 277 Insulators NA+ 250D	5	1	T1_A	-88	-374	-792	0	0	0	-88	-374	-792
13	3	RULE 277 Insulators NA+ 250D	5	2	T2_A	-42	-344	-727	0	0	0	-42	-344	-727
13	3	RULE 277 Insulators NA+ 250D	5	3	T3_A	-15	-357	-750	0	0	0	-15	-357	-750
13	3	RULE 277 Insulators NA+ 250D	11	1	SW1_B	98	-315	951	98	-315	951	0	0	0
13	3	RULE 277 Insulators NA+ 250D	12	1	SW2_B	90	-771	1366	90	-771	1366	0	0	0
13	3	RULE 277 Insulators NA+ 250D	15	1	T1_B	189	-780	2216	189	-780	2216	0	0	0
13	3	RULE 277 Insulators NA+ 250D	15	2	T2_B	332	-983	2131	332	-983	2131	0	0	0
13	3	RULE 277 Insulators NA+ 250D	15	3	T3_B	103	-1158	2032	103	-1158	2032	0	0	0
14	3	RULE 277 Insulators NA- 250D	1	1	SW1_A	41	-84	-386	0	0	0	41	-84	-386
14	3	RULE 277 Insulators NA- 250D	2	1	SW2_A	58	-419	-558	0	0	0	58	-419	-558
14	3	RULE 277 Insulators NA- 250D	5	1	T1_A	-88	-389	-787	0	0	0	-88	-389	-787
14	3	RULE 277 Insulators NA- 250D	5	2	T2_A	-42	-364	-720	0	0	0	-42	-364	-720
14	3	RULE 277 Insulators NA- 250D	5	3	T3_A	-15	-380	-741	0	0	0	-15	-380	-741
14	3	RULE 277 Insulators NA- 250D	11	1	SW1_B	98	-392	923	98	-392	923	0	0	0
14	3	RULE 277 Insulators NA- 250D	12	1	SW2_B	90	-847	1321	90	-847	1321	0	0	0
14	3	RULE 277 Insulators NA- 250D	15	1	T1_B	189	-878	2181	189	-878	2181	0	0	0
14	3	RULE 277 Insulators NA- 250D	15	2	T2_B	332	-1082	2085	332	-1082	2085	0	0	0
14	3	RULE 277 Insulators NA- 250D	15	3	T3_B	103	-1257	1975	103	-1257	1975	0	0	0
15	4	Extreme Ice	1	1	SW1_A	56	-101	-505	0	0	0	56	-101	-505
15	4	Extreme Ice	2	1	SW2_A	79	-516	-709	0	0	0	79	-516	-709
15	4	Extreme Ice	5	1	T1_A	-96	-430	-890	0	0	0	-96	-430	-890
15	4	Extreme Ice	5	2	T2_A	-46	-419	-855	0	0	0	-46	-419	-855
15	4	Extreme Ice	5	3	T3_A	-15	-446	-901	0	0	0	-15	-446	-901
15	4	Extreme Ice	11	1	SW1_B	145	-482	1278	145	-482	1278	0	0	0
15	4	Extreme Ice	12	1	SW2_B	138	-1068	1773	138	-1068	1773	0	0	0
15	4	Extreme Ice	15	1	T1_B	256	-1023	2712	256	-1023	2712	0	0	0
15	4	Extreme Ice	15	2	T2_B	433	-1279	2612	433	-1279	2612	0	0	0
15	4	Extreme Ice	15	3	T3_B	150	-1503	2494	150	-1503	2494	0	0	0
16	5	Uplift	1	1	SW1_A	15	-22	-112	0	0	0	15	-22	-112
16	5	Uplift	2	1	SW2_A	19	-131	-180	0	0	0	19	-131	-180
16	5	Uplift	5	1	T1_A	-46	-210	-434	0	0	0	-46	-210	-434
16	5	Uplift	5	2	T2_A	-14	-160	-327	0	0	0	-14	-160	-327
16	5	Uplift	5	3	T3_A	0	-154	-312	0	0	0	0	-154	-312
16	5	Uplift	11	1	SW1_B	30	-96	254	30	-96	254	0	0	0
16	5	Uplift	12	1	SW2_B	26	-235	391	26	-235	391	0	0	0
16	5	Uplift	15	1	T1_B	74	-308	818	74	-308	818	0	0	0
16	5	Uplift	15	2	T2_B	126	-381	778	126	-381	778	0	0	0
16	5	Uplift	15	3	T3_B	42	-442	733	42	-442	733	0	0	0
17	22	Camber	1	1	SW1_A	14	-19	-94	0	0	0	14	-19	-94
17	22	Camber	2	1	SW2_A	19	-99	-137	0	0	0	19	-99	-137
17	22	Camber	5	1	T1_A	-29	-162	-335	0	0	0	-29	-162	-335
17	22	Camber	5	2	T2_A	-5	-128	-261	0	0	0	-5	-128	-261
17	22	Camber	5	3	T3_A	6	-129	-260	0	0	0	6	-129	-260
17	22	Camber	11	1	SW1_B	31	-92	243	31	-92	243	0	0	0
17	22	Camber	12	1	SW2_B	28	-215	356	28	-215	356	0	0	0
17	22	Camber	15	1	T1_B	78	-268	712	78	-268	712	0	0	0
17	22	Camber	15	2	T2_B	124	-335	684	124	-335	684	0	0	0
17	22	Camber	15	3	T3_B	50	-393	652	50	-393	652	0	0	0
18	8	DEFL - Mod Wind NA+	1	1	SW1_A	15	-16	-110	0	0	0	15	-16	-110
18	8	DEFL - Mod Wind NA+	2	1	SW2_A	19	-108	-162	0	0	0	19	-108	-162
18	8	DEFL - Mod Wind NA+	5	1	T1_A	-33	-162	-361	0	0	0	-33	-162	-361
18	8	DEFL - Mod Wind NA+	5	2	T2_A	-9	-129	-296	0	0	0	-9	-129	-296
18	8	DEFL - Mod Wind NA+	5	3	T3_A	1	-130	-302	0	0	0	1	-130	-302
18	8	DEFL - Mod Wind NA+	11	1	SW1_B	28	-81	291	28	-81	291	0	0	0
18	8	DEFL - Mod Wind NA+	12	1	SW2_B	24	-222	425	24	-222	425	0	0	0
18	8	DEFL - Mod Wind NA+	15	1	T1_B	73	-257	856	73	-257	856	0	0	0
18	8	DEFL - Mod Wind NA+	15	2	T2_B	127	-336	830	127	-336	830	0	0	0

LC #	WC #	Load Case Description	Set No.	Phase No.	Attach. Joint Labels	Structure Loads			Loads from back span			Loads from ahead span		
						Vert. (lbs)	Trans. (lbs)	Long. (lbs)	Vert. (lbs)	Trans. (lbs)	Long. (lbs)	Vert. (lbs)	Trans. (lbs)	Long. (lbs)
18	8	DEFL - Mod Wind NA+	15	3	T3_B	39	-404	799	39	-404	799	0	0	0
19	8	DEFL - Mod Wind NA-	1	1	SW1_A	15	-27	-108	0	0	0	15	-27	-108
19	8	DEFL - Mod Wind NA-	2	1	SW2_A	19	-122	-154	0	0	0	19	-122	-154
19	8	DEFL - Mod Wind NA-	5	1	T1_A	-33	-185	-357	0	0	0	-33	-185	-357
19	8	DEFL - Mod Wind NA-	5	2	T2_A	-9	-157	-289	0	0	0	-9	-157	-289
19	8	DEFL - Mod Wind NA-	5	3	T3_A	1	-163	-291	0	0	0	1	-163	-291
19	8	DEFL - Mod Wind NA-	11	1	SW1_B	28	-131	272	28	-131	272	0	0	0
19	8	DEFL - Mod Wind NA-	12	1	SW2_B	24	-273	397	24	-273	397	0	0	0
19	8	DEFL - Mod Wind NA-	15	1	T1_B	73	-373	816	73	-373	816	0	0	0

ATTACHMENT C

APPLICATION REQUIREMENTS

Attachment B. Application Requirements

PRE-ENGINEERED STEEL POLE REQUIREMENTS

1. Type of finish of the pole (indicate by checking one)
   - Weathering _____
   - Galvanized **Steel Pole**
   - Zinc primer and paint _____

2. Special Charpy requirements **15ft-lbs @ -20°F**

3. Surface protection desired for embedded portion of the pole (indicate by checking one or both)
   - Polyurethane Coating **Ref. Details Drawings and Specification**
   - Anodes _____

4. Climbing device type (indicate by checking one)
   - Step Bolts _____
   - Ladder **Clips Only**
   - Removable Steps _____

5. Location of climbing device **Ref. Details Drawings**

6. Length of ground collar **3/16" Sleeve, 4'-0" Length**

7. Grounding plate or nut **Ref. SPFD and Details Drawings**

8. Delivery schedule **Owner to Provide**

9. Free on board destination **See Vicinity Map**

10. Pole test (if required) **N/A**

11. Additional Requirements (below) **N/A**

Attachment C. Application Requirements

ENGINEERED STEEL POLE REQUIREMENTS

1. Pole deflection limitations
   a. Means of achieving..... **Raking**
   b. Amount of..... **1% of Pole Height**
   c. Loading conditions for..... **60°F, Initial Sag**

2. Foundation type..... **Concrete Pier**

   a. Design concrete compressive strength (psi).. **3,000 psi**
   b. Maximum anticipated foundation rotation measured from the vertical axis(degrees) and maximum anticipated deflection at the groundline (inches)..... **2.0° Rotation/ 3" Deflection**

3. Special Charpy requirements..... **15ft-lbs @ -20°F**

4. Maximum diameter (flat-to-flat) at groundline (inches).....a. Tangent: **N/A**

   b. Angle: **N/A**

   c. Deadend: **78"**

5. Maximum taper (inches/foot) based on total difference between top and bottom diameters. **0.45 in/ft**

6. Guy wire modulus of elasticity..... **N/A**

7. a. Surface protection desired..... **Pole: Galvanized Steel**
   b. If painted, color desire.....

8. a. Climbing device desired..... **Ladder Clips**
   b. Quantity of removable ladders or step bolts. **None**

9. Unguyed angle poles to be raked or precambered..... **Raked**

10. Unguyed tangent deadends to be raked or precambered..... **Raked**

11. Grounding plate or nut..... **1/2"-13 UNC SS Ground Pad**

Attachment C. Application Requirements (Cont'd)

12. Component weight restrictions..... **N/A**
13. Pole length restrictions..... **N/A**
14. Delivery schedule..... **Owner to Provide**
15. Free on board destination..... **See Vicinity Map**

16. Structures to be tested:

Structure Type	Load Cases to be Tested
a.	
b.	
c.	

17. Miscellaneous

1. Vendor shall rake poles a maximum of 6" to achieve required deflection performance and provide raking details including pole top rake magnitude and direction such that the pole will remain plumb under the following conditions:
- Loading at 60°F, Initial Sag

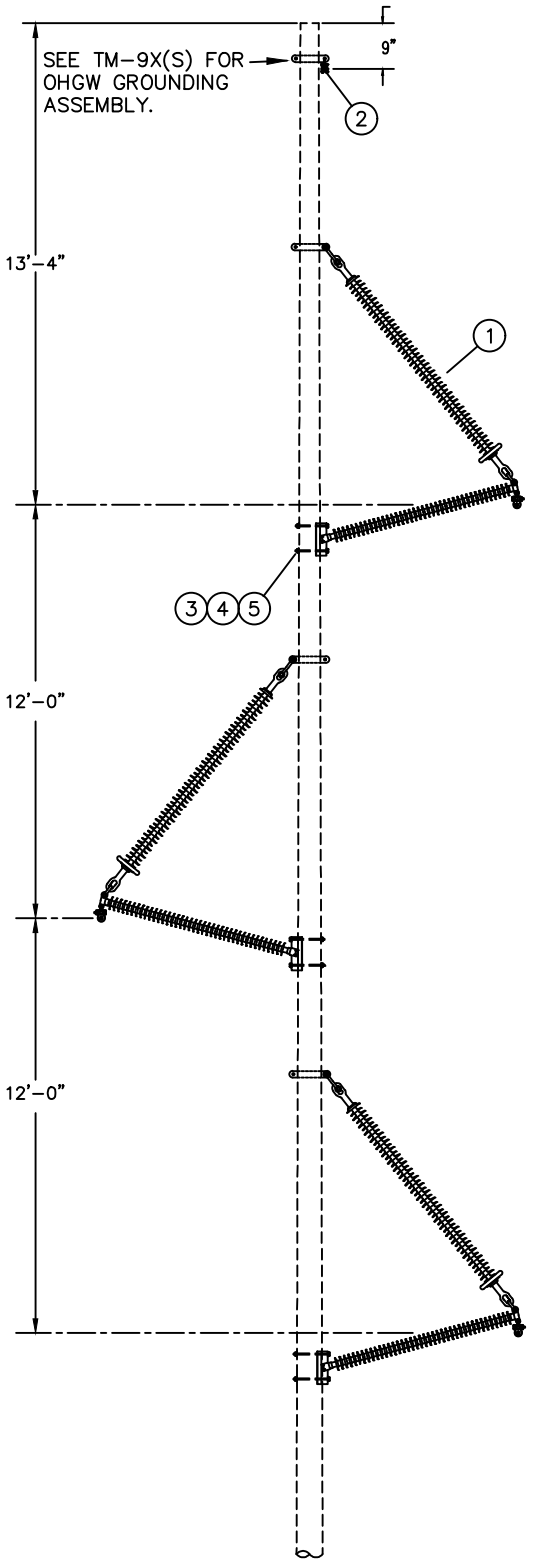
2. Poles shall be designed to withstand all specified load cases assuming a 1.0° foundation rotation under ultimate loading.

3. Pole base diameter, anchor bolt arrangement, and pole base plate dimensions shall be designed to avoid drilling ear removal in the field if possible. Driving ears shall be located directly over caisson shaft wall.

4. Maximum self-supporting engineered tangent pole top diameter is 2.0% of structure height.

ATTACHMENT D

MISCELLANEOUS DRAWINGS



NOTES

1. SEE GUY AND STRUCTURE OFFSET INFORMATION ON PLAN AND PROFILE SHEETS.
2. THE FOLLOWING MATERIALS ARE TO BE SPECIFIED ON PLAN AND PROFILE DRAWINGS AND STAKING SHEETS: POLES, POLE GROUNDING ASSEMBLY, GUYING ASSEMBLIES, ANCHORS AND ANY ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.

LIST OF MATERIALS

ITEM	QTY.	DESCRIPTION	DRAWING No.
1	3	BRACED LINE POST ASSEMBLY	TM-3BPM
2	1	OHGW SUSPENSION ASSEMBLY	TM-4A
3	6	BOLT, MACHINE, 7/8" X REQUIRED LENGTH	–
4	6	WASHER, FLAT, 4"x4"x1/4" W/ 15/16" HOLE	–
5	6	LOCKNUT, 7/8", MF TYPE	–

230kV TRANSMISSION LINE VERTICAL STRUCTURE
SINGLE POLE BRACED DELTA TANGENT
STEEL POLE

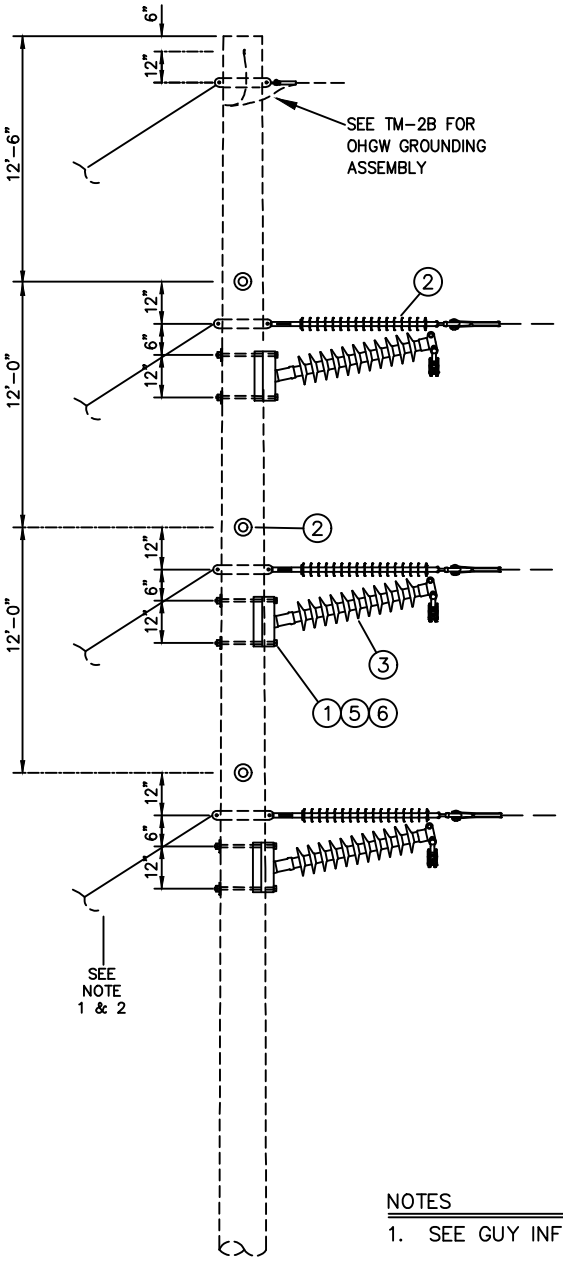
Booth & Associates
2500 Rewoodle Drive Suite 200, Raleigh NC 27607
NC F-0201

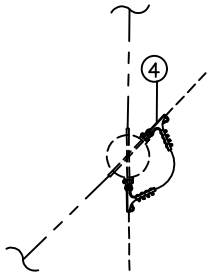
DWN.	BLP	DATE:	02/26/2026
CKD.	AMS	APPD.	GSB
SCALE:	NTS		

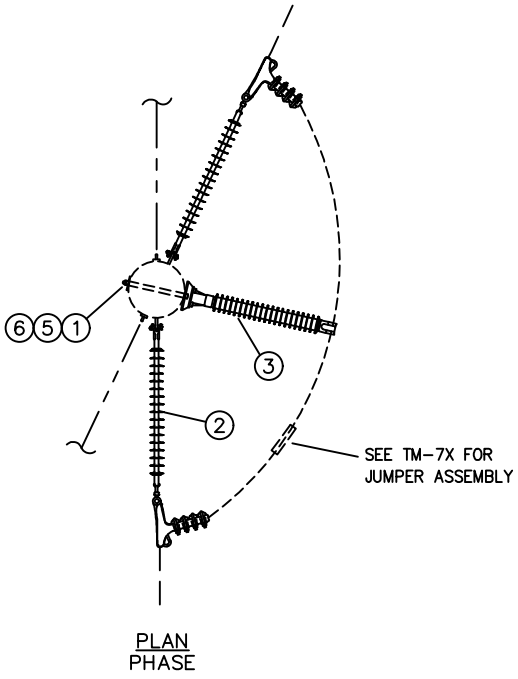
DATE	REVISION

DWG. NO.
TBP-230(S)

P0725858_PT-T(S) (ID 154247).DWG







NOTES

1. SEE GUY INFORMATION ON PLAN AND PROFILE SHEETS.
2. THE FOLLOWING MATERIALS ARE TO BE SPECIFIED ON PLAN AND PROFILE DRAWINGS AND STAKING SHEETS: POLES, POLE GROUNDING ASSEMBLY, GUYING ASSEMBLIES, ANCHORS AND ANY ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.

LIST OF MATERIALS

ITEM	QTY.	DESCRIPTION	DET.
1	6	Bolt, Machine, 7/8" x Required Length	
2	6	Insulator Assembly, Deadend	TM-1EM
3	3	Insulator, Horizontal Post, Assy w/ Suspension Clamp	TM-3BM
4	2	OHGW Assembly, Deadend	TM-4GM
5	6	Washer, Flat, 4"x4"x 1/4" w/15/16" Hole	
6	6	Lock Nut, 7/8", MF Type	

230kV TRANSMISSION LINE VERTICAL STRUCTURE
SINGLE POLE DOUBLE DEADEND (LIGHT TO MEDIUM ANGLE)
STEEL POLE

Booth & Associates

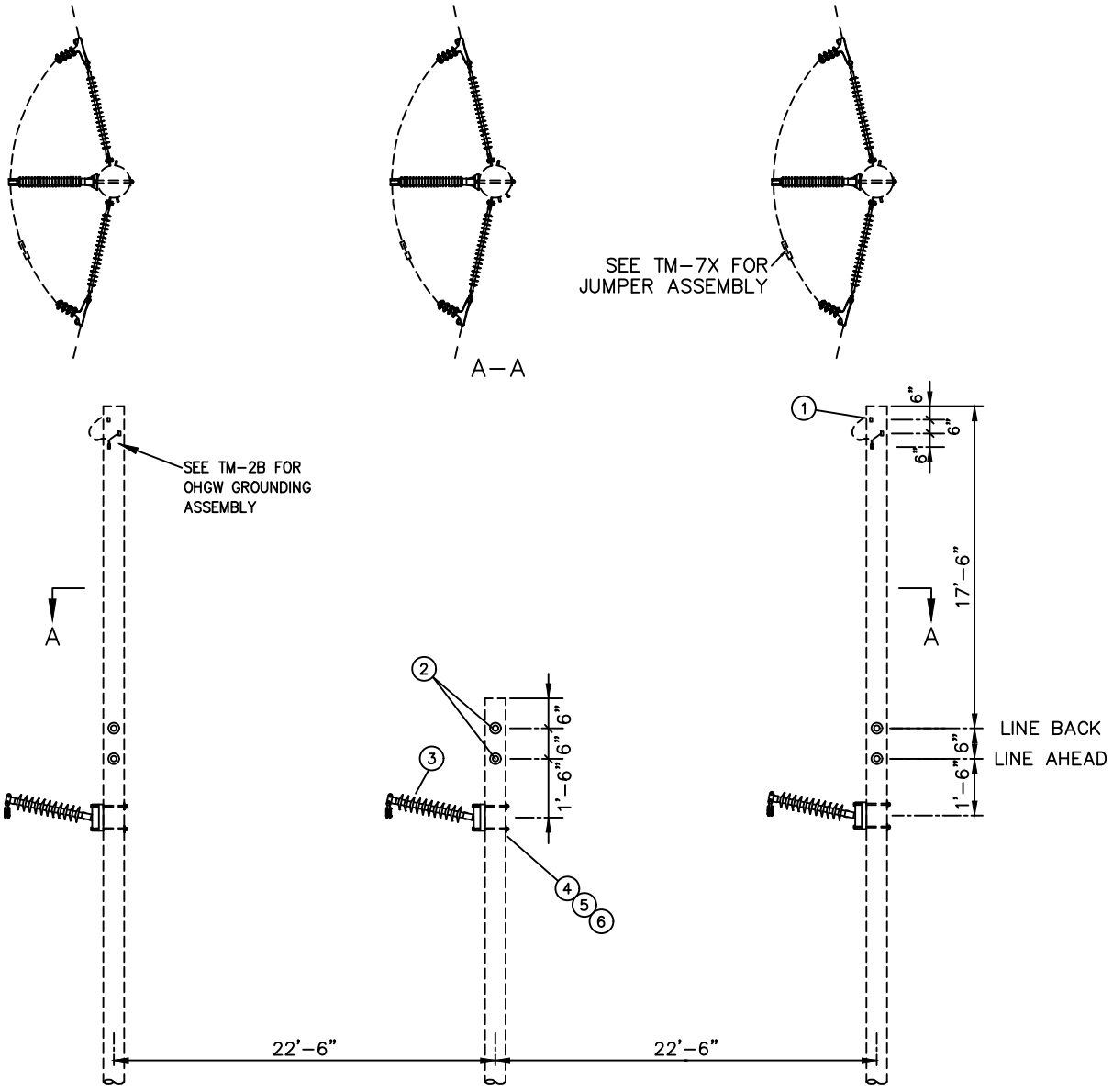
DWN.	AVS	DATE:	02/26/2026
CKD.	AMS	APPD.	GSB
SCALE:	NTS		

DATE	REVISION

DWG. NO.

TS-5AA(S)

P0725858_PT-T(S) (ID 154247)



NOTES

1. See structure offset tables and guy tables on plan and profile sheets.
2. The following materials are to be specified separately on plan and profile drawings and staking sheets: POLES, POLE GROUNDING ASSEMBLY, GUYING ASSEMBLIES, ANCHORS AND ANY ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.

LIST OF MATERIALS

ITEM	QTY.	DESCRIPTION	DET.
1	4	OHGW ASSEMBLY, DEADEND	TM-4GM
2	6	DEADEND ASSEMBLY, PRIMARY	TM-1EM
3	3	INSULATOR ASSEMBLY, HORIZONTAL POST	TM-3BM
4	6	BOLT, 7/8" x XX" LENGTH	
5	6	NUT, LOCK 7/8"	
6	6	WASHER, FLAT, 4"x4"x1/4" w/15/16" HOLE	

230 kV THREE POLE DOUBLE DEADEND WITH OVERHEAD GROUND WIRE (SMALL ANGLE)

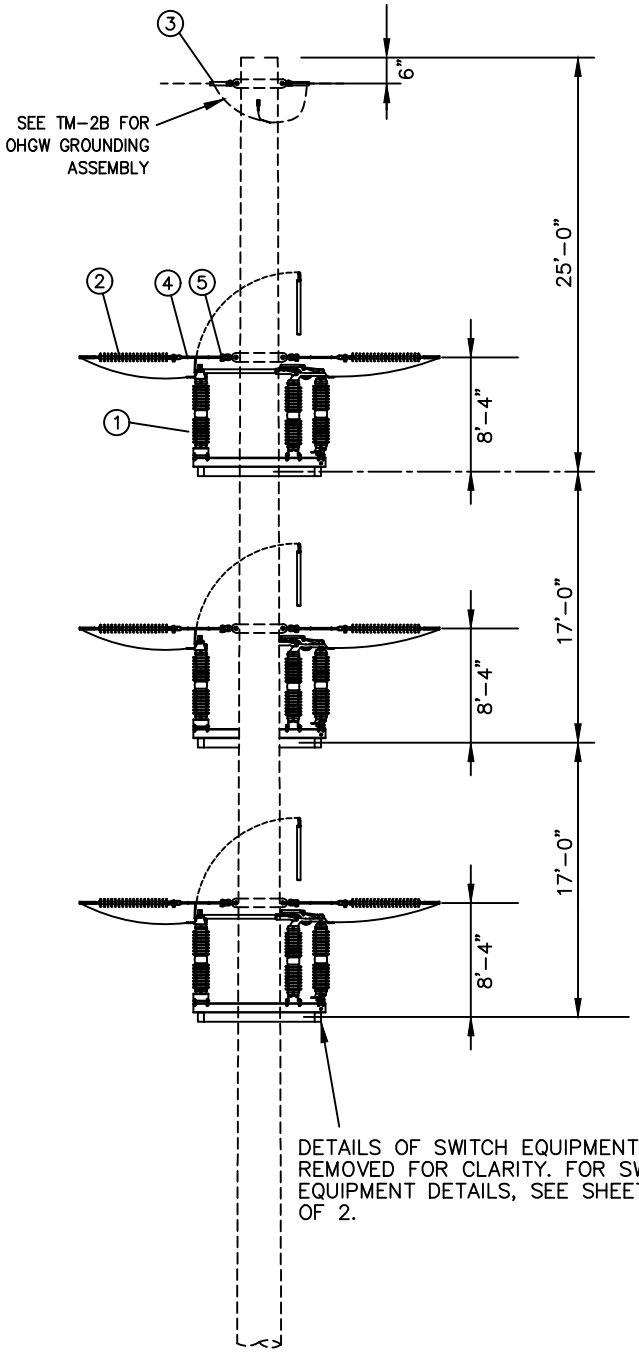
Booth & Associates
2300 Rexwoods Drive Suite 300, Raleigh NC 27607
NC F-0229

DWN.	JRN	DATE:	02/26/2026
CKD.	AMS	APPD.	GSB
SCALE:	NTS		
DATE	REVISION		

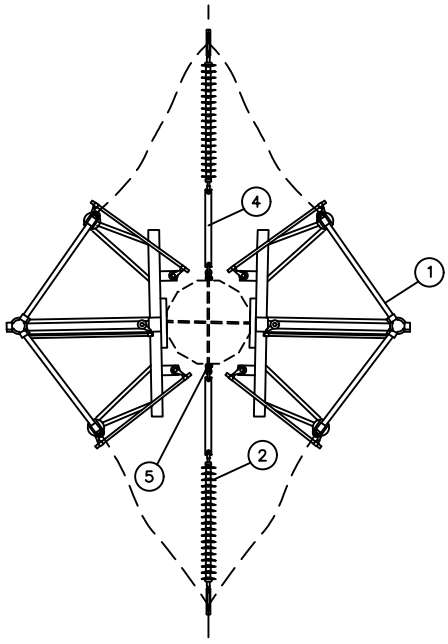
DWG. NO.
TH-235(S)

P0725858_PT-T(S) (ID 154247).DWG

MATERIAL LIST			
ITEM	QTY.	DESCRIPTION	DET.
1	1	GOAB Switch, Three-Phase, One-way Phase-over-	
		Phase 230kV 2000Amp Type EV-2 Switch with	
		Southern States LLS-II single gap, SF6, full load	
		break interrupter set. Complete with Unitized	
		Mounting Frames and all required hardware to attach	
		to an EV-2-245-2000-UNI	
		See Southern States drawing 16T01462 for details	
2	6	Insulator Assembly, Deadend, Primary	TM-1EM
3	2	OHGW Bolted Deadend Assembly	TM-4GM
4	6	Extension Link - 3" x 1/2" x 40" Steel Plate	
5	12	Shackle, Anchor, 5/8", 30,000 Lb Minimum, BNC	



DETAILS OF SWITCH EQUIPMENT REMOVED FOR CLARITY. FOR SWITCH EQUIPMENT DETAILS, SEE SHEET 2 OF 2.



PLAN
PHASE

NOTES

1. THE FOLLOWING MATERIALS ARE TO BE SPECIFIED ON PLAN AND PROFILE DRAWINGS AND STAKING SHEETS: POLES, POLE GROUNDING ASSEMBLY, GUYING ASSEMBLIES, ANCHORS AND ANY ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.

TRANSMISSION LINE VERTICAL STRUCTURE
230 kV ONE-WAY GOAB VERTICAL BREAK SWITCH-TYPE VIP STEEL POLE

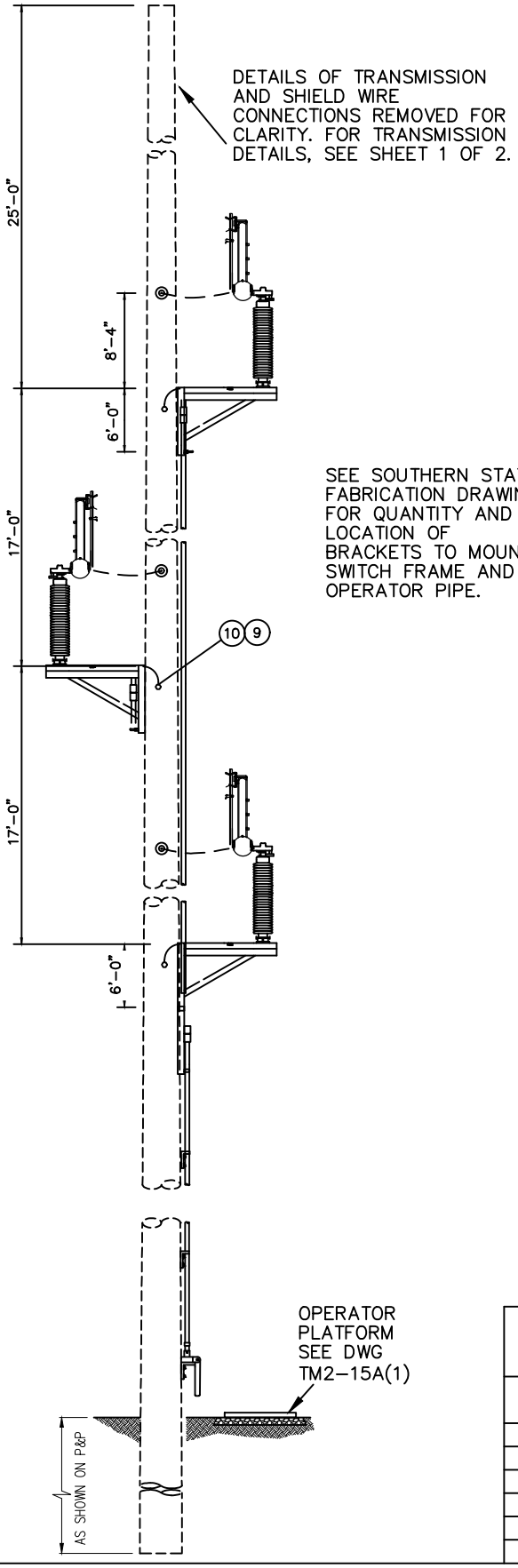
Booth & Associates

DWN.	JRN	DATE:	02/20/2026
CKD.	GSB	APPD.	GSB
SCALE:	NTS		

DATE	REVISION

DWG. NO.
T-GOAB(S)
1 of 2

P0725858_PT-T(S) (ID 154247)

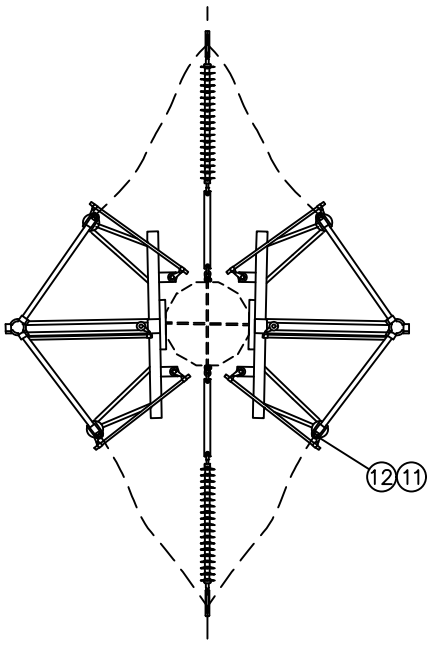


SEE SOUTHERN STATES FABRICATION DRAWINGS FOR QUANTITY AND LOCATION OF BRACKETS TO MOUNT SWITCH FRAME AND OPERATOR PIPE.

MATERIAL LIST

ITEM	QTY.	DESCRIPTION	DET.
1		MOUNTING HARDWARE BY SOUTHERN STATES, LLC	
2			
3			
4			
5			
6			
7			
8			
9	*	Ground – Wire, #2 S.D. Tinned Copper (Ft.)	
10	3	Tank Ground Clamp, Bronze, 1/2" Long Stud, for	
		#2 S.D. Tinned Copper	
11	6	NEMA Four Hole Pad – AAC "954 Magnolia" to Flat	
12	*	Electrical Joint Compound, VERSA-SEAL	

* As Required



PLAN
PHASE

NOTES

1. THE FOLLOWING MATERIALS ARE TO BE SPECIFIED ON PLAN AND PROFILE DRAWINGS AND STAKING SHEETS: POLES, POLE GROUNDING ASSEMBLY, GUYING ASSEMBLIES, ANCHORS AND ANY ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.
2. THE REPRESENTATION OF THE SWITCH EQUIPMENT SHOWN IS GENERIC. BOLT LOCATIONS FOR PIPE GUIDES ARE APPROXIMATE AND MAY VARY IN NUMBER.

TRANSMISSION LINE VERTICAL STRUCTURE
230kV ONE-WAY GOAB SWITCH-TYPE 3G
STEEL POLE

Booth & Associates

DWN.	BLP	DATE:	09/01/2020
CKD.	CGO	APPD.	GSB
SCALE:	NTS		

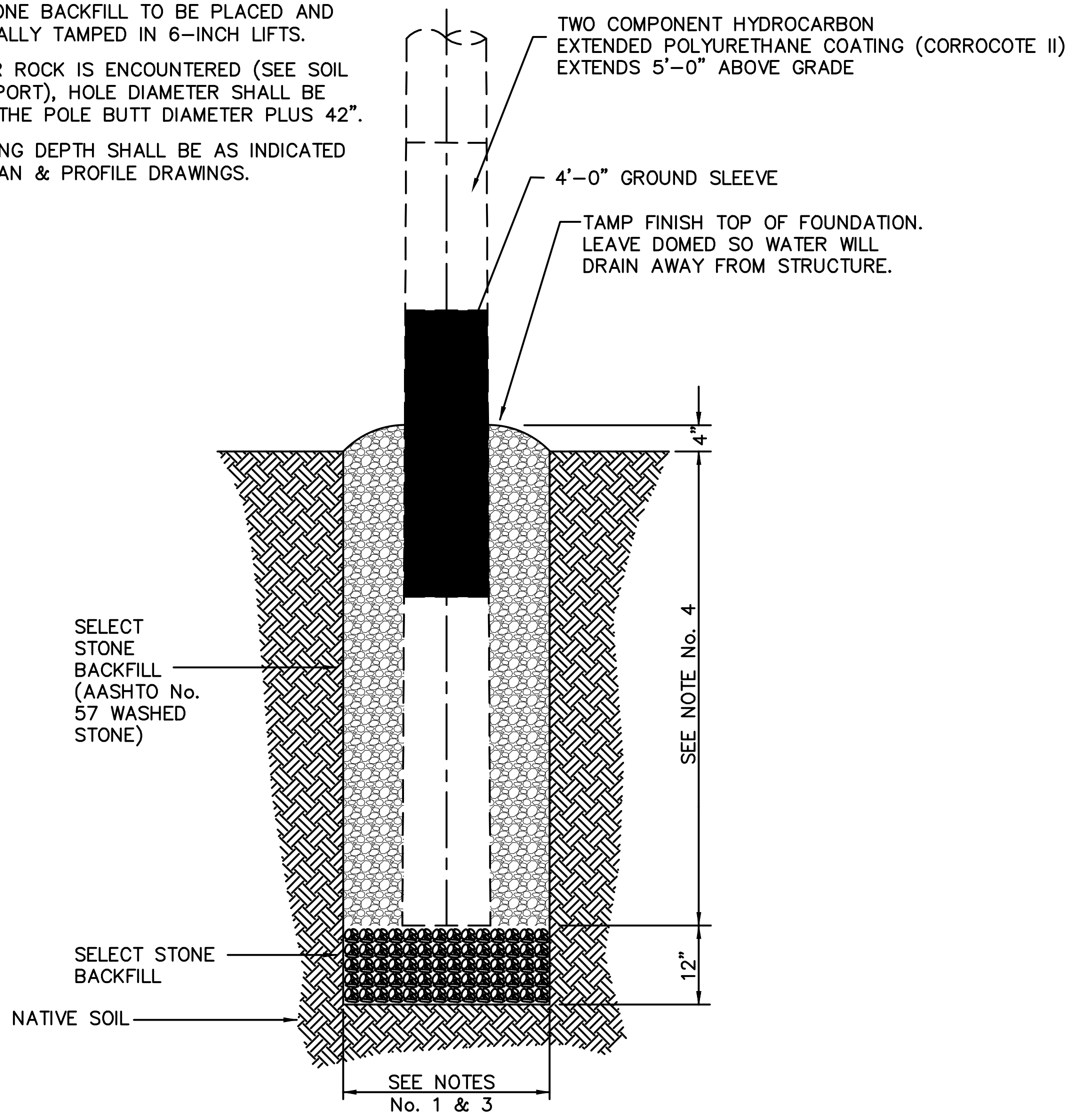
DATE	REVISION

DWG. NO.
T-GOAB(S)
2 of 2

P0725858_PT-T(S) (ID 154247)

NOTES:

1) HOLE DIAMETER SHALL BE EQUAL TO THE POLE BUTT DIAMETER PLUS 18", UNLESS OTHERWISE NOTED.
2) SELECT STONE BACKFILL TO BE PLACED AND PNEUMATICALLY TAMPED IN 6–INCH LIFTS.
3) IF WEATHER ROCK IS ENCOUNTERED (SEE SOIL BORING REPORT), HOLE DIAMETER SHALL BE EQUAL TO THE POLE BUTT DIAMETER PLUS 42".
4) POLE SETTING DEPTH SHALL BE AS INDICATED ON THE PLAN & PROFILE DRAWINGS.



SELECT STONE BACKFILL ENTIRE EMBEDMENT DEPTH

MATERIAL LIST

ITEM	QTY	DESCRIPTION
	*	SELECT STONE BACKFILL
		* AS REQUIRED

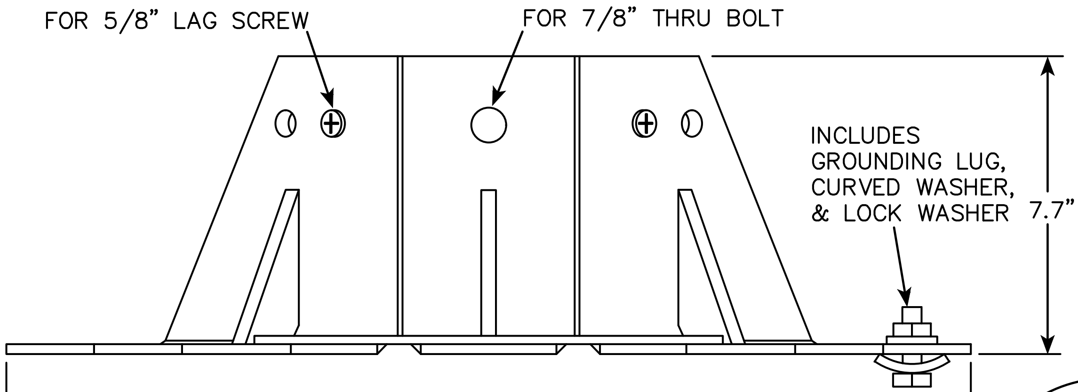
SELECT STONE BACKFILL FOUNDATION

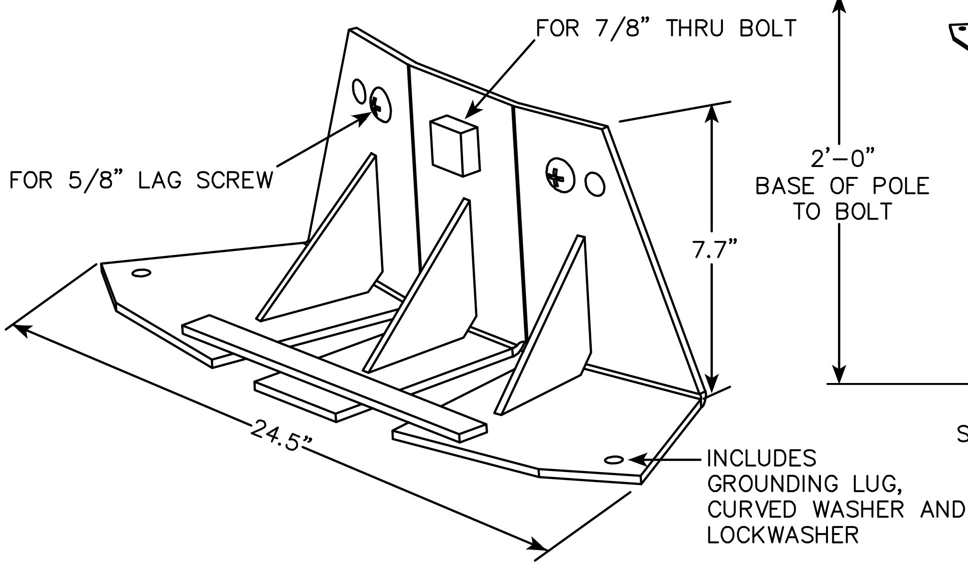
Booth & Associates

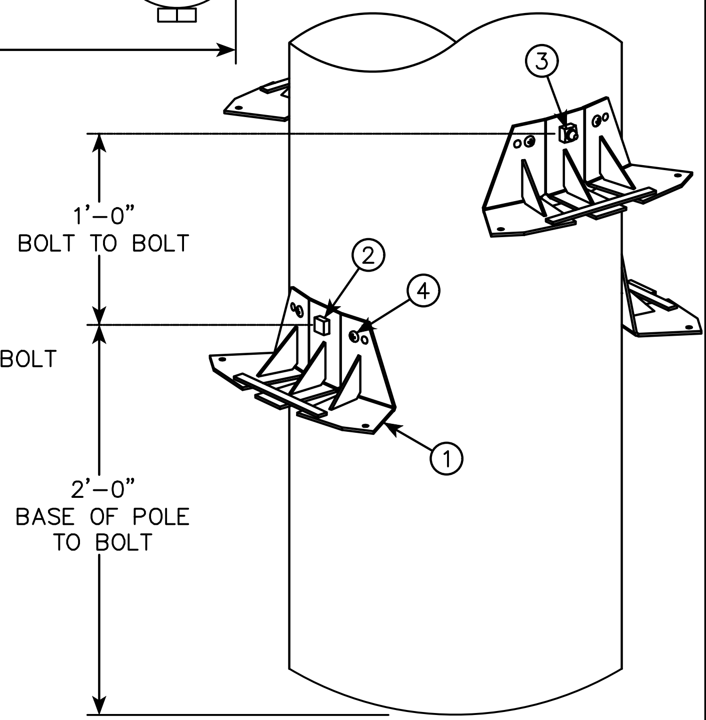
DWN.	AVS	DATE:	03/01/2023
CKD.	AMS	APPD.	GSB
SCALE:	NTS		
DATE	REVISION		

DWG. NO.

TMF–EMB







SMALL DIAMETER POLE INSTALLATION
"DETAIL 1"
(SEE NOTE 1)

NOTES:

1. TO AVOID CONFLICTS BETWEEN PLATES FOR POLES WITH SMALLER DIAMETERS WHEN 4 PLATES ARE TO BE INSTALLED. FIRST PAIR TO BE INSTALLED 2'–0" ABOVE BASE OF POLE TO BOLT HOLES. SECOND PAIR TO BE INSTALLED 1'–0" ABOVE FIRST PAIR BOLT TO BOLT AND 90° TO THE FIRST PAIR. (SEE DETAIL 1)

2. TWO 5/8" X 4 1/2" LAG SCREWS TO BE INSTALLED PER PLATE FOR WOOD POLES.

3. ONE 7/8" X REQUIRED LENGTH MACHINE BOLTS TO BE INSTALLED FOR NON–WOOD POLES PER PAIR OF PLATES, SECURED WITH 7/8" MF TYPE LOCKNUT.

4. EACH BEARING PLATE TO INCLUDE GROUNDING LUG AND HARDWARE, WHICH SHALL BE BONDED TO THE POLE GROUNDWIRE..

LIST OF MATERIALS

ITEM	QTY. (2)	QTY. (4)	DESCRIPTION
1	2	4	Pole Bearing Plates (Two plates = 245 sq. in. Area Min.)
			(Four plates = 540 sq. in. Area Minimum)
2	1	2	Bolt, Machine, 7/8" x Req'd Length (Non–Wood Poles)
3	1	2	Lock Nut, 7/8", MF Type (Non–Wood Poles)
4	4	8	Lag Screw, 5/8" x 4–1/2" (Wood Poles)

POLE BEARING PLATE ASSEMBLY, LARGE
(2 OR 4 PLATES)

Booth & Associates
2500 Rosewoods Drive Suite 300, Raleigh NC 27607
NC F-0221

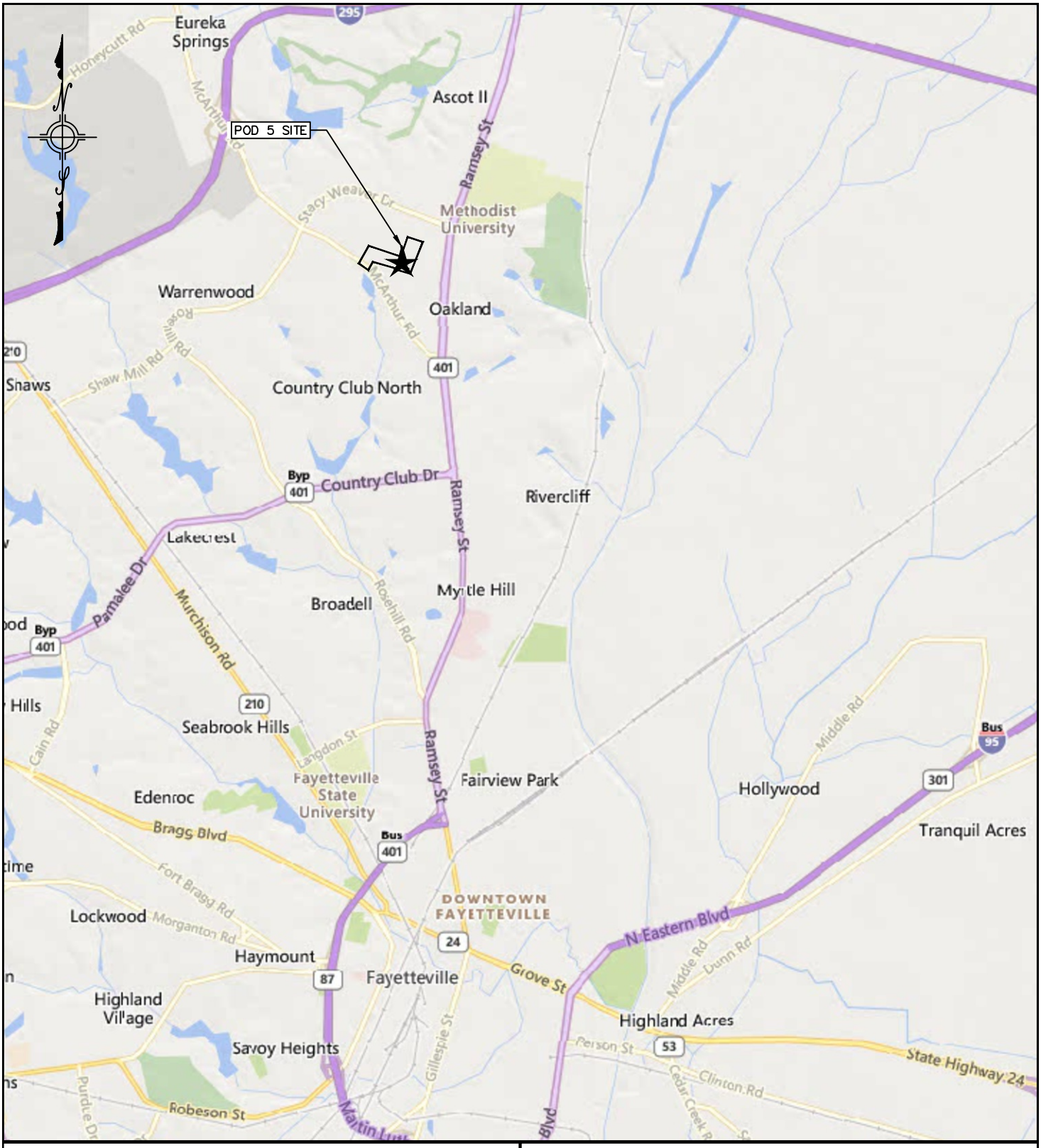
DWN.	BLP	DATE:	05/01/2026
CKD.	TSL	APPD.	GSB
SCALE:	NTS		
DATE	REVISION		

DWG. NO.
TMF–PBP(2)
TMF–PBP(4)
©05/2026

P0725858_PT-T(S) (ID 154247)

APPENDIX

VICINITY MAP



SITE LOCATION:

28311 SOUTHLAND DR
FAYETTEVILLE, NC

COORDINATES:

N 35° 7' 44.61"
W 78° 53' 01.23"

FAYETTEVILLE PUBLIC WORKS
FAYETTEVILLE, NC

POD 5

VICINITY MAP

Booth & Associates

DWN. MEB	DATE: 11/13/24		DWG. NO.
CKD. REA	APPD. REA		
SCALE: 1" = 5000'	FILE: POD5_VM_USGS		VM-1
JOB NO. P0718627	DATE	REVISION	
©11/2024			

ATTACHMENT B: BID PRICING FORM

Bidder Information:

Name of Company	
Company Location	
Phone Number	
Email Address	
Manufacturer	
Manufacturer Location	
Is the company an N.C. Certified DBE	
Printed Name	
Title	
Authorized Signature	
Date	

Bidders shall submit pricing exclusively on the Bid Pricing Form provided in this IFB, fully completed and properly executed. A complete submission includes bidder and manufacturer information, required line-item pricing (including part numbers, lead times, unit and extended prices), required tariff disclosures, acknowledgment of all issued addenda, and the signature of an authorized representative. All pricing must include all known tariffs, duties, and import-related charges effective as of the bid due date, remain firm for a minimum of sixty (60) calendar days from bid opening, be F.O.B. Destination, and shall not be conditioned upon shipment date, import date, regulatory change, exchange rate fluctuation, or any other post-bid variable.

Furnish And Deliver:

Item #	QTY.	UOM	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	1	E.A.	Structure #1 90/S-08.08, 64, 14’-0” Part Number: _____ Lead Time: _____	$	$
2	1	E.A.	Structure #2 100/S-09.0, 72, 17’-0” Part Number: _____	$	$

Company Name: _____

			Lead Time: _____		
3	1	E.A.	Structure #3 90/S-04.9, 38, 14'-0" Part Number: _____ Lead Time: _____	$	$
4	1	E.A.	Structure #4 95/S-04.2, 32, 16'-0" Part Number: _____ Lead Time: _____	$	$
5	1	E.A.	Structure #5 95/S-04.9,38, 16'-0" Part Number: _____ Lead Time: _____	$	$
6	1	E.A.	Structure #6 95/S-07.4, 57, 14'-0" Part Number: _____ Lead Time: _____	$	$
7	1	E.A.	Structure #7L 60/ENG (2,3), See Attach. B Part Number: _____ Lead Time: _____	$	$
8	1	E.A.	Structure #7C 43/ENG (2,3) See Attach. B Part Number: _____ Lead Time: _____	$	$
9	1	E.A.	Structure #7R 60/ENG (2,3), See Attach. B Part Number: _____ Lead Time: _____	$	$

TOTAL EXTENDED BID **$_____**

Tariff Disclosure Section:

1. Are any tariffs included in the Bid Price?
   ☐Yes ☐No

2. If yes, complete the table below for each tariff-impacted line item or component included in this bid:

Line Item / Component			
Country of Origin			
Base Cost of Affected Component (Included in Bid)			
Tariff % Applied at Bid			
Tariff Cost Included in Bid			

3. Percentage of total bid price attributable to tariffs: _____%

4. Total tariff cost included in this bid: $_____

5. The Bidder certifies that the tariff values identified above reflect the tariff cost included in the bid price as of the bid due date.

   Signature: _____ Date: _____

Addendum Acknowledgment Section:

The Bidder has received, acknowledged, and used the following addenda in completing the Bid. (Initial and Date as appropriate).

Addendum No. 1 Date _____
Addendum No. 2 Date _____
Addendum No. 3 Date _____
Addendum No. 4 Date _____
Addendum No. 5 Date _____
Addendum No. 6 Date _____
Addendum No. 7 Date _____

ATTACHMENT C: CERTIFICATION OF PRIMARY PARTICIPANT REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

The Primary Participant, _____ (major third party contractor), certifies to the best of its knowledge and belief, that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

2. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction or records, making false statements, or receiving stolen property;

3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and

4. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(If the primary participant is unable to certify to any of the statements in this certification, the participant shall attach an explanation to this certification.)

THE PRIMARY PARTICIPANT _____ CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF THE CONTENTS OF THE STATEMENTS SUBMITTED ON OR WITH THIS CERTIFICATION AND UNDERSTANDS THAT THE PROVISIONS OF 31 U.S.C. SECTIONS 3801 ET. SEQ. ARE APPLICABLE THERETO.

_____	_____
Signature	Title
_____	_____
Printed Name	Date

PWC at a Glance

PWC Fayetteville's HOMETOWN UTILITY

Customers

- In operation since 1905
- Provides Electric, Water & Wastewater Services to more than 250,000 people
- Total Customers: 123,017
- Number of Services: 275,382
  - Electric: 83,918
  - Water: 98,439
  - Wastewater: 93,004
  - Irrigation: 6,426
- Customers with 2+ services: 75%

Customer Service

- Annual Customer Contacts: 443,258
- Average Monthly Calls: 33,657
- Annual Bills Generated: 1.5 Million
- Customer Incentive Programs: 14
- Annual Water Leak Notifications: 20,772 (24 million gal)

Employees

- Number of Employees: 690
- Average Tenure of Employees: 10 years
- Average Age: 45
- Annual Turnover: 6.0%*
- Annual Hours Worked: 1.3 Million

*non retirement

Facilities

- Butler-Warner Generation Plant (268 MW)
  - Electric Service Area: 147 Sq. miles
- P.O. Hoffer Water Treatment Facility (39.5 MGD)
- Glenville Lake Water Treatment Facility (18.0 MGD)
  - Drinking Water Service Area: 116 Sq. miles
- Cross Creek Water Reclamation Facility (25 MGD)
- Rockfish Creek Water Reclamation Facility (21 MGD)
  - Wastewater Service Area: 109 Sq. miles

Electric Operations

- Purchase Wholesale Power from Duke Energy
- Only NC municipal system to own/operate a generation plant (Dispatched for use by Duke Energy)
- Generation Capacity: 265 MW
- Annual MWH Sold: 2 million
- System Peak: 499 MW (Feb. 20, 2015)
- Solar Generation Capacity: 2.9 MW
- Annual Solar Generation: 1,454,371 KWH
- Battery Storage: 2 MW
- Electric Distribution Substations: 32
- Distribution Lines: 1,364 miles
- Transmission Lines: 123 miles
- Streetlights/Area Lights: 38,023

Water/Wastewater Operations

- Population Served: 225,000+
- Drinking Water Treated: 10.645 Billion Gallons/Year
- 100% Compliant for all EPA Drinking Water Standards
- Daily Water Treatment Capacity: 50 MG/Day
- Daily Wastewater Treatment Capacity: 46 MG/Day
- Water/Wastewater Infrastructure: 2,979 miles
- Hydrants: 8,780
- Sanitary Sewer Lift Stations: 79
- Manholes: 34,430

Financial

- FY24 Annual Operating Budget: $450 Million
- Total Assets: $1.89 Billion
- Bond Rating: Aa2(Moody's), AA (Standard & Poor's), AA (Fitch)
- Operations & Maintenance Expense per Customer: $570 ($618 National Median)
- Annual Cash Contributions to the City of Fayetteville in Lieu of Taxes: $12.06 Million
- Annual Streetlight Services: $4.14 Million
- Annual Annexation Construction Costs: $8.49 Million
- Total Value of Annual Contributions to the City of Fayetteville: $30.81 Million

Visit www.FayPWC.com to learn more about PWC

(As of October 2025)

SALE OF GOODS AGREEMENT

This Sale of Goods Agreement ("Agreement") is made by and between the City of Fayetteville (the "City"), by and through the Fayetteville Public Works Commission ("PWC"), a North Carolina public authority, and _____[insert seller's full legal name] ("Seller"), a _____ [identify the legal entity and State in which formation was accomplished] (each of PWC and Seller is a "Party" and both are collectively the "Parties") as of the date of execution last written below (the "Effective Date"). In consideration of the mutual covenants and agreements contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, The Parties agree as follows:

1. Sale of Goods. Seller shall sell to PWC and PWC shall purchase from Seller the following [Identify the goods specifically] (the "Goods"). PWC may issue a purchase order for the Goods that specifies any additional applicable terms and conditions set forth for the purchase (a "Purchase Order"), but such Purchase Order is subject to the terms of this Agreement. In the event of a conflict between the provisions of this Agreement and the provisions of any Contract Documents, attachment, exhibit or Purchase Order made pursuant to this Agreement, the terms of this Agreement shall govern.

2. Contract Documents. "Contract Documents" means, collectively, the following documents that were either made available to Seller by PWC during the bid solicitation process (including Drawings) or executed by the Parties, or both, which are all incorporated by reference herein:

a. This Agreement
b. Notice to Prospective Bidders
c. Definitions
d. Instructions to Bidders
e. General Conditions
f. Materialman's Proposal
g. Bid Bond
h. Technical Specifications
i. Purchase Order(s)
j. Addenda

3. Delivery of Goods. Seller shall deliver the Goods [EITHER: "on or before _____" OR "as specified in the Contract Documents or an applicable Purchase Order issued by PWC" OR "as otherwise agreed in writing by the Parties"] (the "Delivery Date"). Timely delivery of the Goods is of the essence. If Seller fails to deliver the Goods on or before the Delivery Date, PWC may, without any liability to Seller, terminate this Agreement immediately by providing written notice to Seller. Unless otherwise specified in an applicable Purchase Order or the Contract Documents, excluding this Agreement, all Goods shall be delivered to PWC's Warehouse at 955 Old Wilmington Road, Fayetteville, North Carolina 28301 (the "Delivery Point") during PWC's normal business hours. Delivery shall be made FOB Delivery Point.

4. Title and Risk of Loss. Title of the Goods passes to PWC upon delivery of the Goods to the Delivery Point. Seller bears all risk of loss or damage to the Goods until delivery of the Goods to the Delivery Point.

5. Packaging. Seller shall properly pack, mark, and ship the Goods as instructed by PWC and otherwise in accordance with applicable law and industry standards and shall provide PWC with all shipment documentation showing the quantity of pieces in shipment, the number of cartons or containers in shipment, Seller's name, the airway bill or bill of lading number, and the state of origin.

6. Inspection and Rejection of Nonconforming Goods. PWC has the right to inspect the Goods on or after the Delivery Date. PWC, at its sole option, may inspect all or a sample of the Goods, and may reject all or any portion of the Goods if it determines the Goods are nonconforming or defective. If PWC rejects any portion of the Goods, PWC has the right, effective upon written notice to Seller, to: (a) terminate this Agreement in its entirety and require Seller to remove the Goods in a commercially reasonable time period or pay the full cost and expense to have the rejected Goods returned to Seller; or (b) reject the Goods and require replacement of the rejected Goods at Seller's sole expense. If PWC requires replacement of the Goods, Seller shall, at its sole expense and in the lesser of ninety (90) days or the number of days between any applicable Purchase Order of PWC and the Delivery Date, replace the nonconforming Goods and pay for all related expenses, including, but not limited to, transportation charges for the return of the defective goods and the delivery of replacement Goods. Any inspection or other action by PWC under this Section shall not reduce or otherwise affect Seller's obligations under this Agreement, including Seller's warranties, and PWC shall have the right to conduct further inspections after Seller has carried out its remedial actions.

7. Price. PWC shall purchase the Goods from Seller in the total amount of $_____ ("Price"). The Price includes all packaging, transportation costs to the Delivery Location, insurance, fees, and applicable taxes, including, but not limited to, all sales, use, or excise taxes. No increase in the Price is effective, whether due to increased material, labor, transportation costs or otherwise, without the prior written consent of PWC.

8. Billing and Payment. Seller shall invoice PWC within thirty (30) days after the completion of the delivery of the Goods. PWC shall pay the undisputed portion of the invoice within forty-five (45) calendar days after PWC's receipt of the invoice. All payments from PWC to Seller shall be transferred electronically to Seller's designated financial institution, and Seller shall, prior to delivery of its invoice to PWC, supply the name of Seller's financial institution, routing number, and account number on the form available from PWC and provide to PWC a completed and signed IRS Form W-9. Seller has the right to impose a late payment charge of one percent (1%) per month for amounts unpaid by PWC by the date due.

Provider shall comply with all of the following requirements so that PWC may recover the full amount of sales and use tax under North Carolina law permitted under the law:

a. Furnish PWC documentary evidence showing the material used, sales tax paid, and County paid (County of sale). The documentary evidence shall include Provider's certified statement showing total purchases of materials from each separate vendor and total sales taxes charged to PWC and paid by Provider. The documentary evidence shall also include Provider's certified statement as to the amount paid by PWC for sales tax on the Goods. A certified form is required even if no sales tax was paid for the pay request period. Materials used from Provider's warehouse stock shall be shown in a certified statement at warehouse stock prices and amount of County of Use Tax charged to PWC and paid by Provider;

b. Provider shall furnish to PWC invoices or copies of invoices for all materials purchased for said work within pay request period, and such invoices shall state the amount of North Carolina Sales Tax, if any, paid for the Goods. Provider shall also furnish to PWC invoices identifying the amount paid for the sales and use tax on Services that are subject to such taxation under North Carolina law; and

c. Provider shall not include any tax paid on supplies, tools, and equipment that Provider uses to perform its obligations under this Agreement.

9. Warranties. Seller warrants to PWC that for a period of twenty-four (24) months from the Delivery Date, all Goods will: (a) be free from any defects in workmanship, material and design; (b) conform to applicable specifications, drawings, designs, samples and other requirements set forth in the Contract Documents or as specified by PWC and agreed to by Seller; (c) be fit for their intended purpose and operate as intended; (d) be free and clear of all liens, security interests, or other encumbrances; and (e) not infringe or misappropriate any third party's patent or other intellectual property rights. These warranties survive any delivery, inspection, acceptance or payment of or for the Goods by PWC. These warranties are cumulative and in addition to any other warranty provided by law or equity. Any applicable statute of limitations runs from the date of PWC's discovery of the noncompliance of the Goods with the foregoing warranties. If PWC gives Seller notice of noncompliance with this Section 9, Seller shall, at its own cost and expense, within thirty (30) days replace or repair the defective or nonconforming Goods and pay for all related expenses, including, but not limited to, transportation charges for the return of the defective or nonconforming goods to Seller and the delivery of repaired or replacement Goods to PWC.

10. Termination. Notwithstanding any other or additional remedies that may be provided under this Agreement, PWC may terminate this Agreement with immediate effect upon written notice to the Seller, either before or after the acceptance of the Goods, if: (a) Seller repudiates, or threatens to repudiate, any of its obligations under this Agreement; (b) Seller is in breach of, or threatens to breach, any representation, warranty, or covenant of Seller under this Agreement and either the breach cannot be cured or, if the breach can be cured, it is not cured by Seller within a commercially reasonable period of time under the circumstances, in no case exceeding seven (7) days following Seller's receipt of Notice of such breach; (c) Seller fails to, or threatens to fail to, timely deliver Goods conforming to the requirements of, and otherwise in accordance with, the terms and conditions of this Agreement; or (d) Seller becomes insolvent, files a petition for bankruptcy, or commences or has commenced against it proceedings relating to bankruptcy, receivership, reorganization, or assignment for the benefit of creditors. PWC shall be obligated to pay Seller only for work performed and reasonable expenses incurred until delivery of the notice of termination.

11. Insurance. During the term of this Agreement and for a period of three (3) years after the date of this Agreement, Seller shall, at its own expense, maintain and carry insurance in full force and effect that includes, but is not limited to, commercial general liability (including product liability) with limits no less than $1,000,000 for each occurrence and $3,000,000 in the aggregate and umbrella liability in a sum no less than $5,000,000, which insurance shall be placed with insurance companies authorized to do business in the State of North Carolina and rated A minus VII or better by the current edition of Best's Key Rating Guide or otherwise approved in writing by PWC. Prior to delivering any Goods, Seller shall deliver to PWC certificates of insurance confirming each such coverage, and Seller shall direct its insurers to provide annually to PWC certificates confirming each such coverage during the coverage

period. PWC shall be named as an additional insured in the insurance policy. Seller shall not reduce or allow the required insurance coverages to lapse without PWC's prior written approval. All policies for insurance must be endorsed to contain a provision giving PWC a thirty (30) calendar day prior written notice by certified mail of any cancellation of that policy or material reduction in coverage. Should a notice of cancellation be issued for non-payment of premiums or any part thereof, or should Seller fail to provide and maintain certificates as set forth herein, PWC shall have the right, but not the obligation, to pay such premium to the insurance company or to obtain such coverage and to deduct such payment from any sums that may be due or become due to Seller, or to seek reimbursement for said payments from Seller. Any such sums paid by PWC shall be due and payable immediately by Seller upon notice from PWC. The insurance provisions of this Agreement shall not be construed as a limitation on Seller's responsibilities and liabilities pursuant to the terms and conditions of this Agreement.

12. Indemnification. Seller shall indemnify, defend, and hold harmless PWC and its Commissioners, officers, employees, agents, and representatives (collectively, "Indemnitees") from and against all claims, actions, liabilities, damages, losses, costs, and expenses (including, without limitation, injury to or death of any persons and damage to property, economic and consequential damages and attorneys' fees) asserted by one or more third parties against one or more of the Indemnitees arising out of negligent or willful acts, violations of law, infringement of any patent, trademark, trade secret, copyright, or other intellectual property right of a third party, or omissions or breach of the obligations set forth in this Agreement by Seller or any of its employees, agents, representatives, and subcontractors. Seller's obligation to indemnify, defend, and hold harmless the Indemnitees shall survive the termination of this Agreement and shall include the duty to pay for the reasonable attorney's fees and costs associated with defending the Indemnitee(s) by the legal counsel of each Indemnitee's choice.

13. Notices. Any notice which either Party is required or desires to give the other shall be deemed sufficiently given if, in writing, it is delivered personally, or sent by certified U.S. mail, return-receipt requested, postage prepaid, to the addresses listed hereinbelow, or such other address as either Party shall give to the other Party by written notice in accordance herewith. Any notice given herein by personal delivery shall be deemed delivered when received. Any properly addressed notice given herein by certified mail shall be deemed delivered on the third Business Day after the same is deposited in an official United States Post Office, postage prepaid, or if sooner upon the date when the return receipt therefor is signed, or refusal to accept the mailing by the addressee is noted thereon by the postal authorities.

To PWC:
Fayetteville Public Works Commission
Attn: Timothy Bryant, CEO/General Manager
PO Box 1089
Fayetteville, NC 28302

To Seller:
[INSERT MAILING ADDRESS]

14. Compliance. Seller hereby acknowledges that "E-Verify" is the federal E-Verify program operated by the US Department of Homeland Security and other federal agencies which is used to verify the work authorization of newly hired employees pursuant to federal law and in accordance with Article 2, Chapter 64 of the North Carolina General Statutes. Seller further acknowledges that all employers, as defined by Article 2, Chapter 64 of the North

Carolina General Statutes, must use E-Verify and after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS §64-26(a). Seller hereby pledges, attests, and warrants through execution of this Agreement that Seller complies with the requirements of Article 2, Chapter 64 of the North Carolina General Statutes and further pledges, attests, and warrants that all subcontractors currently employed by or subsequently hired by Seller to provide services for PWC shall comply with all E-Verify requirements. Failure to comply with the above requirements shall be considered a breach of this Agreement. Seller hereby further acknowledges that the execution and delivery of this Agreement constitutes Seller's certification to PWC and to the North Carolina State Treasurer that, as of the Effective Date, Seller is not listed on (a) the Final Divestment List created and maintained by the North Carolina Department of State Treasurer pursuant to the Iran Divestment Act of 2015, Chapter 147, Article 6E of the General Statutes of North Carolina (the "Iran Divestment Act"); or (b) the list of companies that the North Carolina State Treasurer determines to be engaged in a boycott of Israel in accordance with Article 6G of Chapter 147 of the *General Statutes* of North Carolina. Seller represents and warrants to Commission that Seller, and all persons and entities owning (directly or indirectly) an ownership interest in it: (i) are not, and will not become, a person or entity with whom a party is restricted from doing business with under regulations of the Office of Foreign Asset Control ("OFAC") of the Department of the Treasury (including, but not limited to, those named on OFAC's Specially Designated and Blocked Persons list) or under any statute, executive order (including, but not limited to, the September 24, 2001, Executive Order 13224 Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), or other governmental action; and (ii) are not knowingly engaged in, and will not knowingly engage in, any dealings or transactions or be otherwise associated with such persons or entities described in clause (i) above. Seller also shall at all times during the term of this Agreement comply with Executive Order 11246, including but not limited to the Equal Opportunity Clause requirements set forth in 41 C.F.R. § 60-1.4. Seller shall abide by the requirements of 41 CFR 60-300.5(a) and 60-741.5(a) prohibiting discrimination against qualified individuals on the basis of protected veteran status or disability and requiring affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified protected veterans and individuals with disabilities.

15. Cumulative Remedies. All rights and remedies provided in this Agreement are cumulative and not exclusive, and the exercise by either Party of any right or remedy does not preclude the exercise of any other rights or remedies that may now or subsequently be available at law or in equity.

16. Miscellaneous Provisions. Seller is and shall remain an independent contractor. Nothing contained in this Agreement shall be deemed or construed to create the relationship of principal and agent or of partnership or of joint venture or of any association whatsoever between the Parties. No breach or non-performance of any term of this Agreement shall be deemed to be waived by either Party unless said breach or non-performance is waived in writing and signed by the Parties. No waiver of any breach or non-performance under this Agreement shall be deemed to constitute a waiver of any subsequent breach or non-performance, and for any such breach or non-performance each Party shall be entitled to such remedies as provided by law. No consent or waiver by a Party shall be effective unless it is in writing and then only to the extent specifically stated. The invalidity, illegality, or un-enforceability of any portion or provision of this Agreement shall in no way affect the validity, legality, and/or enforceability of any other portion or provision of this Agreement. Any invalid, illegal, or unenforceable provision of this Agreement shall be deemed severed from this Agreement, and the balance of the

Agreement shall be construed and enforced the same as if the Agreement had not contained any portion or provision which was invalid, illegal, or unenforceable; provided, however, severability shall not prevent this entire Agreement from being void in the event any portion or provision of this Agreement that is of the essence of this Agreement shall be void. This is the entire agreement of the Parties on the subject matter hereof, and all prior negotiations, representations, proposals, letters, agreements, understandings, or other communications between the Parties, whether written or oral, are hereby merged into the Agreement and superseded by this Agreement. This Agreement shall not be modified unless such modifications are evidenced in writing, signed by both Parties. Nothing herein shall be construed to give any right or benefits hereunder to anyone other than the Parties. This Agreement shall be governed by the laws of the State of North Carolina without the application of the laws of any other state. The exclusive venue for all mediations and litigation and any other legal proceedings regarding this Agreement shall be the State and Federal Courts serving Cumberland County, North Carolina, and Seller consents to personal jurisdiction in such courts. Seller irrevocably waives, to the fullest extent permitted by law, any objection that it may now or hereafter have to the laying of the venue of any such suit, action or proceeding in any such court serving Cumberland County or that any such suit, action or proceeding brought in any such court serving Cumberland County has been brought in an inconvenient forum. This Agreement may be executed in counterparts with the same effect as if the signatures to each counterpart were upon a single instrument, and all such counterparts together shall be deemed an original of this Agreement. For purposes of this Agreement, a facsimile copy or scanned copy or photocopy of a party's signature shall be sufficient to bind such party. This Agreement shall be subject to execution by electronic means in accordance with Article 40 of Chapter 66 of the North Carolina General Statutes. The titles of the paragraphs throughout this Agreement are for convenience only and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this instrument.

17. Assignment. Seller shall not assign, transfer, or convey any part of the Agreement, including rights or obligations, to a third party without obtaining the prior written approval of PWC in its discretion. The prohibition on assignment includes an assignment of payments that may become due under the Agreement. Any unauthorized assignment shall be deemed to be a material breach of this Agreement. An approved assignment shall not relieve Seller of its responsibilities under the terms hereof unless explicitly stated in writing by PWC.

18. Conflicts. Except with PWC's knowledge and prior written consent, Seller shall not engage in any activity or accept any employment, interest or contribution that would reasonably appear to compromise Seller's professional judgment with respect to the Goods. Seller shall disclose to PWC any business or personal relationship with any Commissioner, officer, director, manager, or supervisor of PWC.

IN WITNESS WHEREOF, the Parties have executed this Agreement by their duly authorized representatives as of the Effective Date.

Fayetteville Public Works Commission	[INSERT SELLER'S FULL LEGAL NAME]
By: _____	By: _____
Timothy Bryant, CEO/General Manager	_____, _____
	(Printed Name) (Title)

Date: _____ Date: _____

This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act (N.C. Gen. Stat. § 159-1 et seq.).

By: _____
Rhonda Graham, Chief Financial Officer

Approved as to form:

_____
Legal Dept.

ATTACHMENT F: FORM OF EXCEPTIONS – SPECIFICATIONS

BIDDER: _____

MANUFACTURER: _____

INSTRUCTIONS: The following is a list of exceptions to the Material/Technical Specifications pertaining to the furnishing of the subject materials. Bidders shall identify each exception by page and paragraph number on this form. The omission of exceptions shall be interpreted as the bidder's confirmation of full compliance with the Material/Technical Specifications.

PAGE NO. AND PARAGRAPH	EXCEPTION/VARIATION

If, in submitting this bid, the bidder has made any exceptions to bid documents, the bidder understands that PWC will evaluate the effect of such exceptions or variations in determining responsiveness and award eligibility. Material exceptions or variations will not be considered and may result in the bid being deemed nonresponsive.

ATTACHMENT G: FORM OF EXCEPTIONS – SALE OF GOODS AGREEMENT

BIDDER: _____

MANUFACTURER: _____

INSTRUCTIONS: The following is a list of exceptions to the Sale of Goods Agreement pertaining to the furnishing of the subject materials. Bidders shall identify each exception by page and paragraph number on this form. The omission of exceptions shall be interpreted as the bidder's confirmation of full compliance with the Sale of Goods Agreement.

PAGE NO. AND PARAGRAPH	EXCEPTION/VARIATION

Proposed exceptions to the Sale of Goods Agreement that materially alter or are inconsistent with the rights, obligations, risk allocation, remedies, indemnification, warranty, insurance, governing law, limitation of liability, delivery, payment, or other material terms of the Agreement may affect responsiveness, award eligibility, or contract execution. PWC reserves the right to request clarification of such exceptions and, if deemed in the best interest of PWC, negotiate their resolution. If the parties are unable to reach agreement on mutually acceptable terms, PWC may reject the bid, rescind an award, or proceed to the next lowest responsive, responsible bidder.

ATTACHMENT H: ECONOMIC IMPACT DISCLOSURE FORM

Company Name: _____
Address & Phone: _____
Name: _____
Pay Application # _____

Please provide the names of any local suppliers or subcontractors anticipated to be used on this project. For purposes of this requirement, "local" refers to firms located within the Fayetteville Metropolitan Statistical Area (MSA), which includes Cumberland, Hoke, and Harnett Counties. This form must be fully completed **and** submitted with the bid and with each subsequent pay application.

Firm Name	Local	Construction Trade or Supplies	Payment Amount
Ex. ABC Company	*Local – MSA*	*Hauling*	*$25,000.00*

_____
Signature

_____, _____
Printed Name Title

_____
Date

ATTACHMENT I: BID SUBMITTAL CHECKLIST

To ensure your bid is considered for evaluation and potential award, the following forms and required information must be submitted in full. Each item on this checklist must be completed and provided with your bid response. Failure to submit any required documentation or information may result in disqualification. Please carefully review the checklist to confirm all required materials are included before submitting your bid.

☐ 1. Properly Marked Sealed Mailed Bid (Submission Instructions paragraph 4)

2. Attachment A Drawings, Descriptive Literature, etc. (completed and provided)

☐ REQUIRED: Manufacturer's technical datasheet must be submitted for each item. The datasheet should clearly identify the proposed part number and allow us to verify compliance with PWC's published specifications.

OPTIONAL: Bidders are also encouraged to provide a Specification Crosswalk (Comparison Sheet) comparing their proposed manufacturer's product to PWC's published requirements. This is optional but helps streamline evaluation and reduce follow-up questions.

☐ 3. Attachment B Complete and submit in full, including all pricing, required fields, and addenda acknowledgment. Failure to submit a complete form may result in the bid being deemed nonresponsive.

☐ 4. Attachment C (completed and signed) or Explanation (provided)

☐ 5. Attachment F Form of Exceptions –Specifications (completed and provided, if applicable)

☐ 6. Attachment G Form of Exceptions – Sale of Goods Agreement (completed and provided, if applicable)

☐ 7. Attachment H Economic Impact Disclosure Form (completed)