

ADVERTISEMENT FOR BIDS

Sealed proposals will be received in the Office of the Procurement Manager, Greenville Utilities Commission, 401 S. Greene Street, Greenville, North Carolina 27834 until 2:00 PM (EST) on November 13, 2025 and immediately thereafter publicly opened and read for the furnishing of Boviet Substation Structures, Equipment and Foundation Design.

Instructions for submitting bids and complete specifications will be available in the Office of the Procurement Manager, Greenville Utilities Commission, 401 S. Greene Street, Greenville, North Carolina during regular office hours, which are 8:30AM – 5:00PM Monday through Friday.

Greenville Utilities Commission reserves the right to reject any or all bids. **Late bids will not be considered.**

SECTION I
GENERAL INSTRUCTIONS FOR FORMAL BIDS
RELATED TO THE PURCHASE OF APPARATUS, SUPPLIES,
MATERIALS, AND EQUIPMENT

1.0 NOTICE TO BIDDERS

Sealed bids, subject to the conditions made a part hereof, will be received in the Office of the Procurement Manager, Greenville Utilities Commission, 401 S. Greene Street, Greenville, North Carolina 27834 until 2:00 PM (EST) on November 13, 2025, the day of opening. **Bids submitted in a fax or e-mail in response to this Invitation for Bids will not be acceptable. Late Bids will not be considered.**

2.0 STANDARD FORMS REQUIRED

Each bidder must submit a proposal on the enclosed bid forms. **The bid must be signed by an authorized official of the firm. Return only the attached Proposal Form. Do not return the Advertisement for Bids, Instructions to Bidders or Specifications.**

3.0 PREPARATION OF BID

Bids must be in sealed envelopes clearly marked on the outside with the name of the bid and the bid opening date and time. Bid shall be addressed to the Procurement Manager, GREENVILLE UTILITIES COMMISSION, P. O. BOX 1847, 401 S. GREENE STREET, GREENVILLE, NORTH CAROLINA 27835-1847.

4.0 TIME FOR OPENING BIDS

Bids will be opened promptly and read at the hour and on the date set forth in the advertisement in the Office of the Procurement Manager, Greenville Utilities Main Office, 401 S. Greene Street, Greenville, North Carolina. Bidders or their authorized agents are invited to be present.

5.0 DEPOSIT

A deposit is **NOT** required for this bid.

6.0 NC SALES TAX

Do **not** include NC sales taxes in bid figure; however, Greenville Utilities Commission (GUC) does pay sales tax. Sales tax should be added to the invoice as a separate item.

7.0 FEDERAL EXCISE TAX

GUC is exempt from Federal Excise Tax and will issue a Federal Exemption Certificate upon request to the successful bidder.

8.0 EXCEPTIONS TO BE CLEARLY STATED

If bid is not in strict accordance with Section II, "Specifications," bidder must list or note all exceptions **on the Request for Proposal Form**, otherwise, it is fully understood that the successful bidder will furnish equipment and/or materials exactly as specified. GUC reserves the right to accept or reject bids with noted minor deviations from specifications and to determine the lowest responsible, responsive bid from the standpoint of quality, performance, and price.

9.0 EVALUATION AND AWARD OF BIDS

GUC reserves the right to reject any and all bids, to waive any and all informalities, and to disregard all nonconforming or conditional bids or counter proposals. In evaluating bids, GUC shall consider whether the bids comply with the prescribed requirements, plus all alternates or options requested. GUC reserves the right to include or exclude any option or alternative in GUC's opinion is in GUC's best interests. If a bid is to be awarded, it will be awarded to the lowest responsible, responsive bidder whose evaluation by GUC indicates that the award will be in GUC's best interests. Only firm prices will be considered for award of this bid.

10.0 PROMPT PAYMENT DISCOUNTS

Bidders are urged to compute all discounts into the price offered. If a prompt payment discount is offered, it may be considered in the award of the contract.

11.0 NUMERICAL ERRORS

In the case of a discrepancy between a unit price and the extension (the unit price multiplied by the number of units), the unit price governs. In the case where numerical bids are stated both in numbers and in words, the words govern.

12.0 BID WITHDRAWAL

A bidder must notify GUC in writing of its request to withdraw a bid within seventy-two (72) hours after the bid opening, not including Saturdays, Sundays, or holidays. In order to justify withdrawal, the bidder must demonstrate that a substantial error exists and that the bid was submitted in good faith.

13.0 MINORITY BUSINESS PARTICIPATION PROGRAM

GUC has adopted an Affirmative Action and Minority and Women Business Enterprise Plan (M/WBE) Program. Firms submitting a proposal are attesting that they also have taken affirmative action to ensure equality of opportunity in all aspects of employment, and to utilize M/WBE suppliers of materials and/or labor.

14.0 QUANTITIES

Quantities specified are only estimates of GUC's requirements. GUC reserves the right to purchase more or less than the stated quantities at prices indicated in the submitted Proposal Form based on our actual needs.

15.0 DELIVERY

Shipments will be made to GUC only upon releases from a purchase order issued by GUC in accordance with its current needs.

Time is of the essence with respect to all deliveries under this Agreement.

The equipment shall be delivered FOB to Boviet Substation, 35°39'28.9"N 77°20'59.8"W, Greenville, NC by truck shipment and unloaded by Greenville Utilities. Greenville Utilities shall receive shipping notice at least 48 hours before delivery.

The Contractor shall submit to Greenville Utilities duplicate copies of shipping notices describing each shipment of material or equipment.

The Contractor shall contact Nicholas Peaden, Substation Engineer at least 72 hours prior to arrival of equipment at the delivery site, to notify Greenville Utilities of the method of shipment and date of arrival. Telephone notification shall be made between 8:00 a.m. and 5:00 p.m., Monday through Friday, telephone 252-551-1580.

The Contractor shall pay all demurrage costs resulting from delays in unloading, if those delays are caused by failure of the Contractor to notify Greenville Utilities of shipment or to schedule shipment as specified above.

16.0 DELIVERY TIME

Delivery time is to be stated and will be considered in the evaluation of bids. Failure by the successful bidder to meet quoted delivery shall be interpreted as non-compliance with these specifications and may be deemed sufficient cause for removal of the manufacturer and/or distributor from our lists as acceptable manufacturers or bidders.

17.0 CONTRACT PERIOD

TBD.

18.0 MANUFACTURER

Bidder is to specify the manufacturer of items being quoted.

19.0 CONTACT INFORMATION

Questions regarding this bid request should be directed to Cleve Haddock, Procurement Manager, Finance Department at (252) 551-1533, haddocgc@guc.com. **All questions must be received via e-mail by or before 5:00pm (EST) October 28, 2025.**

20.0 TERMS AND CONDITIONS

The attached Terms and Conditions apply to all purchases made by Greenville Utilities Commission (GUC) and must be considered as part of the bid proposal.

SECTION II

GREENVILLE UTILITIES COMMISSION

SPECIFICATIONS FOR BOVIET SUBSTATION

STRUCTURES, EQUIPMENT, AND FOUNDATION DESIGN

1.0 GENERAL

1.1 Scope

These specifications are for furnishing FOB job site structures, equipment, and foundation design for Boviet Substation project.

Boviet Substation – 35°39'28.9"N 77°20'59.8"W, Greenville, NC.

The structures and equipment shall be furnished complete and ready for installation, connection, and immediate service and shall include:

- Tubular aluminum bus conductor, cable connectors and accessories
- Bus support insulators
- Two (2) 115 kV H-frame dead-end structure with 115 kV switch & group operator
- Nine (9) 15 kV equipment bays with two (2) drive through bays
- 15 kV group operated switches and hook stick switches
- Two (2) 115 kV switch & group operator on 115 kV bus

Foundation design for the circuit switcher and for all vendor supplied structures will be provided by the vendor.

1.2 Delivery

The equipment shall be delivered FOB to Boviet Substation, 35°39'28.9"N 77°20'59.8"W, Greenville, NC by truck shipment and unloaded by Greenville Utilities. Greenville Utilities shall receive shipping notice at least 48 hours before delivery.

The Contractor shall submit to Greenville Utilities duplicate copies of shipping notices describing each shipment of material or equipment.

The Contractor shall contact Nicholas Peaden, Substation Engineer at least 72 hours prior to arrival of equipment at the delivery site, to notify Greenville Utilities of the method of shipment and date of arrival. Telephone notification shall be made between 8:00 a.m. and 5:00 p.m., Monday through Friday, telephone 252-551-1580.

The Contractor shall pay all demurrage costs resulting from delays in unloading, if those delays are caused by failure of the Contractor to notify Greenville Utilities of shipment or to schedule shipment as specified above.

1.3 Shipping Requirements

All materials shall be suitably protected to prevent damage and loss during shipment. Special care shall be exercised in loading the members for shipment to assure that members will not be deformed by overburdened loads and that wearing of the galvanized surfaces will not occur during shipment.

The steel structures shall be shipped assembled where shipping conditions permit.

Each bidder shall furnish with his proposals, under the Section PROPOSAL DATA, a list of the structure items that will require field assembly and describe the shipping sections. All small items shall be bagged, identified and shipping in boxes or crates. The contents of all boxes and crates shall be identified with a packing slip.

1.4 Codes and Standards

Except where specifically stated otherwise, all equipment furnished under these specifications shall conform to the latest applicable standards of ASTM, NEMA, NESC, ANSI, IEEE, NEC, and EEI and shall be in accordance with the applicable requirements of the Federal "Occupational Safety and Health Standards."

The requirements of the drawings and the written text of these specifications shall govern in case of conflict between them and any of the referenced codes and standards except the mandatory standards which shall govern in all cases. Any conflict between standards shall be referred to Greenville Utilities to determine which standard shall govern.

1.5 Correction of Manufacturing Errors

Equipment and materials shall be complete in all respects within the limits herein outlined. All manufacturing errors or omissions required to be corrected in the field shall be done by the manufacturer or his duly authorized representative and at the Supplier's expense.

1.6 Arrangement and Ratings

This project is for the construction of a 115 to 13.2 kV substation. The substation will include two new transformers rated 20/26.7/33.3 MVA OA/FA/FA @ 55°C rise (22.4/29.8/37.3 MVA OA/FA/FA @ 65°C rise) with load tap changer (LTC). The 115 kV system will include a 115 kV feed through with five group operated air break switches. The 115 kV bus will be designed for three transformer taps. The 13.2 kV substation section will include a main and transfer 13.2 kV bus and an eleven bay distribution structure. Initially six 1200 ampere circuit breakers and two 2000 ampere main bus breakers will be installed. The distribution feeders will exit the substation underground.

The arrangement of the structures is depicted in Appendix B. Section 4.1 lists the equipment details.

1.7 Material to be Furnished

Material and equipment shall be furnished in accordance with the drawings and bill of material as listed in Appendix A, Appendix B and these specifications. The bill of material included in this specification represents GUC's standard substation package. The quantities are not exact. The vendor is responsible to furnish all structures and equipment to ensure a complete substation.

2.0 ENGINEERING DATA

2.1 General

This section covers the requirements for moment and loading data, manufacturer's drawings, instruction manuals, and other engineering data that the Contractor shall submit to Greenville Utilities for design information and review.

2.2 Correspondence

Correspondence forwarding drawings, instruction manuals, and other engineering data shall be addressed as follows:

Electronic	Correspondence	Delivery
Nick Peaden	Greenville Utilities	Greenville Utilities
peadennl@guc.com	PO Box 1847	3355 NC Highway 43
Ralph Cullom	Greenville, NC 27835-1847	Greenville, NC 27834
cullomrm@guc.com	Attention: Mr. Nick Peaden	Attention: Mr. Nick Peaden

Always include the Manufacturer's order number.

2.3 Drawings, Bills of Material, and Loading Data

- 2.3.1** Shop drawings, bills of material, and loading reaction data covering all fabricated materials furnished under this Specification shall be submitted to Greenville Utilities for approval within **35** days after award of contract. Drawings shall be a maximum of 24 by 36 inches. No work shall be performed in connection with fabrication or manufacture of materials until the drawings and data have been approved.
- 2.3.2** Loading data shall show the worst-case loads at the foundations in the "X", "Y", and "Z" directions, and resulting moments at the foundation surfaces.
- 2.3.3** Drawings and necessary data which show the kind, size, arrangement, weights of each component, and operation of component materials and devices; the external connections, anchorage, and supports required; and the dimensions needed for installation and correlation with other materials and equipment shall be submitted to the Greenville Utilities for review.
- 2.3.4** Approval drawings and reaction data, either preliminary or certified, shall be submitted to Greenville Utilities electronically. Each drawing submitted shall be clearly marked with the name of the project, the order number, the Contractor's name, and references to applicable specification paragraphs. When catalog pages are submitted, the applicable items shall be indicated, and the pages shall be included in the Substation Equipment Manual.
- 2.3.5** Drawings, data, and equipment manuals will be reviewed by Greenville Utilities and returned to the Contractor marked APPROVED, APPROVED AS NOTED, or RETURN FOR CORRECTIONS.
- 2.3.6** When the drawings, data, and equipment manuals are returned marked APPROVED AS NOTED or RETURNED FOR CORRECTIONS, the changes and/or corrections shall be made as noted thereon and corrected copies shall be submitted electronically to Greenville Utilities for final approval and distribution.

- 2.3.7** When the drawings are returned marked RETURNED FOR CORRECTIONS, the corrections shall be made as noted thereon and as instructed by Greenville Utilities, and shall be submitted electronically.
- 2.3.8** Greenville Utilities' review of drawings and data will cover only general conformity to the Specifications and the external connections and dimensions. Greenville Utilities' review of drawings returned marked APPROVED will not constitute a blanket approval of all dimensions, quantities, and details of the material, equipment, device, or item shown and does not relieve the Contractor from any responsibility for errors or deviations from the contract requirements. All drawings and data, after final approval by the Greenville Utilities, shall become a part of the contract documents and the work shown or described thereby shall be performed in conformity therewith unless otherwise required by Greenville Utilities. After all drawings have been approved, the Contractor will submit the drawings to Greenville Utilities in AutoCAD format, 2013 version. The Substation Equipment Manual shall be bound in one binder with four copies delivered to Greenville Utilities and one copy sent electronically in Adobe (pdf) format.

[Balance of page left blank intentionally]

3.0 SUBSTATION STEEL STRUCTURES

3.1 **General**

This section cover materials and fabrication for substation wide flange steel structures to be incorporated in the **Boviet Substation** in Greenville, North Carolina.

The structures furnished under these specifications shall include all new structures indicated on the drawings listed in Appendix B..

The structures shall be complete with all field connection bolts required for erecting the structures and all bolts required for mounting the equipment furnished under other sections of these specifications. In addition, mounting bolts shall be furnished for mounting other equipment as indicated on the drawings.

All testing and welding specifications required by these specifications shall be performed by an independent testing laboratory retained by the Fabricator and accepted by Greenville Utilities. All testing qualification expenses shall be paid by the Fabricator.

Certain dimensions indicated on Greenville Utilities' drawings shall be adjusted as required to suit the equipment furnished by the Contractor under other sections of these specifications. The dimensions required for the equipment furnished shall be shown on the Contractor's detail shop drawings and the materials and fabrication required shall be provided as part of the contract work. There will be no adjustment in price because of these requirements.

The following minimum clearances shall be maintained:

Clearance	115 kV	13.2 kV
Metal-to metal phase spacing (inches)	53"	12"
Vertical break disconnect switch center-to center phase spacing (inches)	84"	24"
Horn gap switch (if used to interrupt transmission line charging currents, loop currents, or transformer magnetizing currents) and expulsion type fuses center-to-center phase spacing (inches)	120"	36"
Phase-to-ground (inches)	47"	10"
Vertical clearance from energized parts or jumpers to grade (feet-inches)	12'-0"	9'-0"
Clearance from unguarded live parts to working platform (feet-inches)		
Vertical	11'-7"	9'-0"
Horizontal	6'-1"	3'-6"
Low bus height above top of foundation (feet)	12'-0"	14'-0"
High bus height above top of foundation (feet)	20'-0"	23'-8"

Detail sealed engineering calculations, shop drawings, foundation drawings and erection drawings shall be prepared, checked, and submitted, to Greenville Utilities in accordance with the requirements of Section 2. Engineers seal on calculations shall be for the State of North Carolina or the state of the Engineers' primary residence.

3.2 Codes and Standards

All material furnished under this section shall conform to the applicable codes or standards of the technical societies or organizations listed in these specifications, to the specific standards mentioned in this section, and the latest edition of North Carolina Building Code.

Reference to technical societies or organizations may be made by abbreviation in accordance with the following list.

AHDGA	-	American Hot-Dip Galvanizers Association
AISC	-	American Institute of Steel Construction
AISI	-	American Iron and Steel Institute
ANSI	-	American National Standards Institute
ASCE	-	American Society of Civil Engineers
ASTM	-	American Society of Testing and Materials
AWS	-	American Welding Society
IEEE	-	Institute of Electrical and Electronic Engineers
NEMA	-	National Electrical Manufacturers Association

Except as otherwise specified or specifically indicated on the drawings, all materials furnished and work performed in connection with substation structure work under this section shall be in conformity with the AISC Manual of Steel Construction, Ninth Edition.

3.3 Structure Loads

The following structure loads shall be considered.

3.3.1 Apparatus Loads

Apparatus loads include the following:

- Weight of equipment
- Conductor and bus weight
- Friction forces, moments, and torque due to mechanical operation of apparatus such as air break switches

3.3.2 Climatological Loading

- Ice Loading: The Ice Loading Condition is 0.5 inch radial ice thickness, at 0 degrees F, with a wind pressure of 2.3 pounds per square foot (psf).
- Extreme Wind: The extreme wind condition shall be a 31 psf horizontal wind pressure, with no ice, at a temperature of 60 degrees F.

3.3.3 Application of Wind Loads and Ice Loads on Structures

The wind pressures for Section 3.3.2 will be applied to the vertical projection of the structural members for the first bent. A bent consists of one or more columns effectively all in on plane, including bracing between the members. For successive bents, the wind pressure will be reduced in proportion to the shade factor K, where K is defined as follows:

$$K = L / 4W$$

L = Distance from front of the first bent to front of the following bent.

W = The least dimension perpendicular to the wind direction.

If L is greater than 4W, then shading is ineffective and full wind pressure is applied to the next bent (K=1).

Shape factors for applying wind force will be applied as follows:

Round shapes	1.0
Octagonal shapes	1.4
Flat shapes	1.6

For lattice towers, lattice box columns and trusses, the exposed area is assumed to be 1.5 times the total exposed area of the component members.

3.4 Allowable Stresses and Deflections

Allowable stresses shall be calculated according to the methods outlined in the latest edition of the AISC Manual of Steel Construction. The following deflection limits shall apply when the structure is under a set of compatible loads without short circuit forces.

3.4.1 Class "A" Structures

Intended for the support of high voltage equipment, i.e., air break switches and other circuit interrupting devices

- Horizontal deflection of vertical members: 1.0% of the vertical height
- Vertical deflection of horizontal members: 0.5% of the span
- Horizontal deflection of horizontal members: 0.5% of the span

3.4.2 Class "B" Structures

Where deflections within the limits do not affect the performance of support equipment, i.e., dead-end structures without switches, bus supports, and miscellaneous equipment supports

- Horizontal deflection of vertical members: 2.0% of the vertical height
- Vertical deflection of horizontal members: 0.5% of the span
- Horizontal deflection of horizontal members: 1.0% of the span

3.5 Materials

All materials shall be new and undamaged and shall conform to pertinent AISC and ASTM standard specifications and the following requirements.

Steel shapes and plates for structures	ASTM A36 steel. Minimum yield point of 36,000 psi including appurtenant materials. Galvanized after fabrication.
Structural tubing members	ASTM 500, Grade B. Minimum yield point of 46,000 psi. ¼ inch minimum wall thickness, galvanized after fabrication.
Welding electrodes	AWS D1.1-80 (as specified in Table 4.1.1 "Matching Filler Metal Requirements"). Low hydrogen types, tensile strength range of 70,000 psi minimum.
Structural members bolted connections	ASTM A325, heavy hex bolts and install high strength threaded fasteners in accordance with AISC "specifications for structural joints using ASTM A325 or A490 bolts."
Connection bolts and bolts for equipment mounting	ASTM A394; hexagon bolts and nuts, flat or beveled washers, and MacLean-Fogg "M-F Lock Nut #1" locking devices. All bolting materials shall be galvanized.
Galvanizing	ASTM A384, ASTM A385, and ASTM A386
Shapes and plates	ASTM A123
Bolts, nuts, and washers	Galvanized as specified in ASTM A394 and ASTM A153.
Anchor bolts	ASTM A153

3.6 Anchor Bolts

The contractor shall provide detailed design of the anchor bolts. Detailed design calculations and design drawings to verify the anchor bolt design shall be provided to Greenville Utilities for review. Design shall be based on equipment weights and loads, line tensions and climatological design criteria as listed in these specifications.

Anchor bolts shall be fabricated from ASTM A36 steel rods and shall have heavy hexagon nuts conforming to ASTM A307, Grade B. Anchor bolts, nuts and washers shall be hot-dip galvanized after fabrication, threads being undercut to provide a tolerance equal to ANSI Class 2A. Each bolt shall be furnished with two nuts and sufficient threads to permit a nut to be installed on each side of the foot plate.

The Contractor shall provide anchor bolts for columns and stands. Greenville Utilities will provide anchor bolts for the circuit breakers.

3.7 Field Connection Bolts

Field connection bolts, nuts, and washers shall be furnished for all structure field connections and equipment mounting with the overage of five percent plus five bolts of each type, size, and length. The length of bolts shall be determined with sufficient projection for washer, nut, and locknut.

With locknuts in place, bolt projection beyond the locknut shall be from ¼ inch to ½ inch inclusive.

Smooth beveled washers shall be furnished for use when the bearing faces of the bolted parts will have a slope of 1:20 or greater with respect to a plane normal to the bolt axis.

Bolting materials shall be shipped in sturdy kegs or pails which shall be marked with the size, length, count, and other descriptive data as required to fully describe the contents.

3.8 Fabrication

The structures shall be fabricated in conformity with the dimensions, arrangements, sizes, and weights or thicknesses indicated on the drawings or stipulated in the specifications. All members shall be detailed and fabricated in accordance with AISC standards, specifications, and details unless otherwise indicated on the drawings or specified herein and shall have been pre-assembled at the factory prior to shipping to ensure proper fit.

The structures shall be shipped assembled where shipping conditions permit. Each bidder shall furnish with his proposal, under the heading PROPOSAL DATA, a list of the structure items that will require field assembly and describe the shipping sections. When proposals are submitted without statements describing sectional shipments, it will be understood that no field assembly of the structures will be required.

When delivered, members shall be straight, free from warp, unauthorized splices and bends, or local deformations. Holes and other provisions for field connections shall be accurate and shop checked so that when the structure is field assembled, proper fit will be provided. All punching, drilling, and reaming of the holes shall be done in the shop before galvanizing.

All fabricated materials shall conform to the tolerances specified in the AISC Manual and ASTM A6. In additions, the allowable tolerance for sweep shall be no more than 1/8 inch in 10 feet of length regardless of the type of steel section. If necessary, the Contractor shall cull out or straighten materials that do not comply with the specified tolerances. Materials that do not comply with the specified sweep and camber requirements may be rejected.

Baseplates shall also be checked after fabrication and will be rejected if anchor bolt holes are not within 1/32 inch of their specified location with respect to the center of the anchor bolt group or cluster.

Contact surfaces at all column splices and at all other compression joints depending upon contact bearing shall have the bearing surfaces prepared to a common plane by milling, sawing, or other acceptable means. Only milling will be acceptable where milling is specifically indicated on the drawings.

Shearing, flame cutting, and chipping shall be done carefully and accurately. Baseplates, fillers, stiffeners, and connection plates shall be neatly fitted and shall not have ragged edges. Holes shall be cut, drilled, or punched at right angles to the surface and shall not be made or enlarged by burning. Holes shall be clean-cut without torn or

ragged edges, and burrs resulting from drilled or reaming operations shall be removed with the proper tool.

Bolt holes shall be provided for mounting equipment, conduit, and grounding attachments as indicated on the drawings.

Except as otherwise indicated on the drawings or specified herein, shop connections shall be all welded and field connections shall be all bolted. Bolted connections shall be bearing type with all threads excluded from the shear planes of the connected parts.

3.9 Nondestructive Testing

Nondestructive testing shall be provided in accordance with the requirements of Article 6.7 of the referenced AWS code as follows.

Magnetic particle inspection or ultrasonic inspection shall be provided at all circumferential welds and all other critical welds.

Inspection and evaluation of the test data shall be performed by persons fully qualified by training and experience to inspect, evaluate, and accept or reject these welds. Copies of the test reports covering this inspection shall be furnished to Greenville Utilities. Any defective weld shall be removed, rewelded, and re-inspected at the Contractor's expense.

3.10 Identification

All separate structural members and parts shall be plainly marked, as an aid in assembly, with the identifying mark on the member corresponding to the identical mark on the erection drawings. Marks shall be metal stamped into each member in characters not less than ½ inch high. Stamping shall be done before galvanizing, but marks shall be clearly legible after galvanizing. Marks shall also be painted on the galvanized members with nonpermanent paint in characters not less than one inch high. Connection materials shall be packaged in separate containers with durable fade proof and weatherproof markings.

3.11 Galvanizing

All steel materials furnished under this section shall be hot-dip galvanized after fabrication. Materials shall be prepared for galvanizing by being properly cleaned, pickled, rinsed, and dried.

A durable, high quality, relatively smooth coating is required. The Contractor's attention is directed to the requirements of ASTM A384, ASTM A385, and ASTM A386 in this regard. Greenville Utilities may at its option inspect the galvanizing in process. Grounds for rejection of members because of galvanizing defects shall be as listed in Table II of the "Inspection Manual for Hot-dip Galvanized Products" published by the American Zinc Institute except that excessive general roughness, pimples, lumpiness, and runs shall be cause for rejection. Greenville Utilities will determine whether defects are excessive or not.

After all cutting, punching, reaming, welding, drilling, capping, and cleaning have been completed, all steel members shall be degreased, pickled, rinsed, pre-fluxed, and galvanized in accordance with the latest recommendations of AHDGA for compliance with the ASTM specifications.

The galvanizing coating shall cover all interior surfaces of hollow members as well as exterior surfaces, channels, angles, and all other unsymmetrical sections shall be straightened after galvanizing as required to meet the specified tolerance requirements.

Anchor bolts shall be galvanized over their entire length.

4.0 DESCRIPTION OF SUBSTATION EQUIPMENT

4.1 General

This section covers materials and equipment to be supplied by the Contractor and incorporated into the **Boviet Substation**. All material and equipment furnished under this section shall conform to the applicable codes or standards of the technical societies or organizations mentioned in this section.

4.2 Bus Materials

Bus materials furnished shall conform to the following:

The rigid substation bus shall be aluminum alloy 6063-T6 seamless pipe manufactured in accordance with ASTM Specification B-241. Schedule 40 pipe size (IPS) pipe shall be used. Jumper cables shall be provided and sized as shown on the drawings unless otherwise noted.

All shop welding shall be by the inert-gas electric-arc welding method.

End enclosure plugs shall be furnished for all bus pipe.

All aluminum bus sections shall be individually packaged in fiber boxes for shipment.

Current carrying connections to bus tube shall be radial swage compression type manufactured by **Deutsch Metal Components**. Qualified personnel, using manufactures' recommended methods, shall install swage radial compression connections. Welded and bolted connections shall not be used for electrical bus tube connections.

Current carrying connections to AAC and ACSR cable shall be compression terminal type with factory installed corrosion inhibitor. Current carrying connections to copper cable shall be bolted type.

Where aluminum to copper connections are to be made, the contact surfaces will be tinned, or copper lined as appropriate for the metal-to-metal contact. Terminal pad connection bolts, Belleville lock washers, and nuts will be stainless steel or bronze as appropriate and of appropriate length for the connection. A sufficient number including a 5% overage amount shall be provided to make all electrical connections. An ample quantity of recommended electrical joint compound shall be furnished that will be used to prevent oxidation between the dissimilar metals and to prevent possible entrance of contaminants between the contact surfaces.

The Contractor shall provide complete information for tightening of all electrical connections secured with bolts or studs. The information furnished shall include torque wrench settings or complete details of other tightening procedures recommended for bus joints and connector attachments.

Bus received at the job site with scratches, burrs, or abrasions will be returned to the Contractor for repair or replacement. All other blemishes including black marks, scuff marks, etc., shall be repaired in the field under the direction of a manufacturer's

representative. The costs of field repairing the bus, repackaging, and shipping the bus back to the manufacturer shall be borne by the Contractor.

Bus fittings and jumpers shall be individually wrapped and packed in wooden crates. Sawdust or other similar non-deleterious shock absorbing material shall be used as a filler material to further protect the fittings and jumpers during shipping and handling. The sizes of the crates used shall be as large as practical to permit ease of handling by normal handling equipment.

4.3 Insulators

All 115 kV insulators shall be porcelain station post type, NEMA Technical Reference 286, ANSI 70 sky gray color. All 13.2 kV insulators shall be porcelain station post type, NEMA Technical Reference 205, ANSI 70 sky gray color.

4.4 Arrestors

All 115kV arrestors shall be Eaton Cooper Cat. No. UHAA096076A5249A11.

All 15kV arrestors shall be Eaton Cooper Cat. No. UHAA010008A1411A11.

4.5 Disconnect Switches

Switches shall be in accordance with applicable paragraphs of the NEMA, IEEE, and ANSI specifications and shall conform to the following additional conditions.

Insulators shall be as specified in Section 4.3.

Switch bases, operating mechanisms, and operating rods shall be hot-dip galvanized after all machining and threading operations. Operating rods and levers shall be cut to length and all machining operations and threading shall be completed at the factory. The operating mechanisms shall have provisions for grounding and for padlocking in the open and closed positions. All operating mechanisms shall be mounted on the structures. Each switch operator for group operator switches shall be furnished complete with all operating pipes, interphase spaces, pipe couplings, guide bearings, ground braids and offsets required to operate the switch from the ground.

All 15 kV switches shall be furnished with copper live parts.

All group-operated switches shall be furnished with a galvanized steel operator grounding platform with dimensions of 3 feet by 6 feet. Two compression terminals per grounding platform, one on each end of the platform, shall be provided by the Contractor.

Contractor shall provide Burndy Type GG, Anderson Type GC-109, or equivalent ground clamp for attaching ground braids to the operating pipe.

Switch bearings shall be of the sealed greaseless type.

All switches shall be manufactured by Cleveland Price.

4.6 Voltage Transformers

Voltage transformers shall be rated in accordance with the ratings shown on the drawings, applicable paragraphs of the NEMA, IEEE, and ANSI specifications.

4.7 Power Fuses

Power fuses shall be rated in accordance with the ratings shown on the drawings, applicable paragraphs of the NEMA, IEEE, and ANSI specification. Insulators shall be as specified under Section 4.3.

4.8 Ground Conductor and Connectors

No. 2/0 AWG copper ground stingers will be furnished by others for connection of each steel structure column to the below grade ground grid. The Owner shall furnish above grade No. 2/0 AWG copper ground conductor to connect the ground stingers to switch operating handles, switch operating platforms, voltage transformers, and surge arresters.

The Contractor shall provide all above grade ground connectors required for connecting ground stingers and above grade ground conductor to the steel structures. Above grade ground conductors shall be supported by bronze ground clamps at interval not to exceed four feet. Connectors shall be bronze ground clamps, cable-to-flat, type GC as manufactured by Anderson, or equal. Connectors on material listing have been specified for 1/2" thick steel structure. If thickness is other than 1/2", fabricator shall coordinate appropriate change order to specify connectors for correct steel thickness.

All equipment and switch operating platforms shall be bonded at two diagonally separating locations. All equipment shall be grounded with single 2/0 AWG copper except the power transformer shall be grounded with dual 4/0 AWG copper.

The switch platform shall have a continuous ground stinger from the below grade ground grid, to each diagonal corner pad, to the steel column and to the operating mechanism. The operating control pipe shall be bonded with a flexible braid strap. A separate ground stinger shall be bonded to both switch platform pads with the first ground stinger with a parallel groove grounding connector.

The static mast shall be a 2" x 10' galvanized pipe. There shall be a continuous 2/0 AWG copper ground from the static mast to the below grade ground grid. The copper conductor shall be bonded to the steel column every 4 to 6 feet.

4.9 Stranded Conductor Current Carrying Connections

Current carrying connections to AAC and ACSR cable shall be compression terminal type with factory installed corrosion inhibitor. Current carrying connections to copper cable shall be bolted type.

Where aluminum to copper connections are to be made, the contact surfaces will be tinned, or copper lined as appropriate for the metal-to-metal contact. Terminal pad connection bolts, Belleville lock washers, and nuts will be stainless steel or bronze as appropriate and of appropriate length for the connection. A sufficient number including a 5% overage amount shall be provided to make all electrical connections. An ample quantity of recommended electrical joint compound shall be furnished that will be used to prevent oxidation between the dissimilar metals and to prevent possible entrance of contaminants between the contact surfaces.

The Contractor shall provide complete information for tightening of all electrical connections secured with bolts or studs. The information furnished shall include torque wrench settings or complete details of other tightening procedures recommended for bus joints and connector attachments.

4.10 Equipment Details

BUS Dimensions

115 kV main bus
115 kV tap bus
15 kV main bus
15 kV main bus tap
15 kV transfer bus

Bus Size

3" Schedule 40
3" Schedule 40
3" Schedule 40
2" Schedule 40
2" Schedule 40

CONDUCTOR Sizes

Transmission incoming line – 115 kV
Power Transformer High Side – 115 kV
Power Transformer Low Side – 15 kV
Bus Breaker – 15 kV
Feeder Breaker – 15 kV
Distribution outgoing line – 15 kV

Size

1272 AAC
336 ACSR
2-795 AAC
2-795 AAC
1272 AAC
1000 MCM UG

Device Quantities

Power Transformers
115 kV Circuit Switchers
15 kV Source Breakers (2000A)
15 kV Feeder Breakers (1200A)
Potential Transformer Sources
Station Service Transformers

Quantity

3
3
3
9
2
1

Preferred Equipment Manufacturers

Switches

Bus Connectors
Cable Connectors

Manufacturers
Cleaveland-Price
Deutsch Power
Products
Hubbell CCLS

4.11 Other Equipment

The Bill of Material Appendix A provides the recommended manufacturer and catalog number. The items provided by Greenville Utilities are identified by "Owner" as the manufacturer. The Contractor shall use the same item number in the developed Bill of Material and drawings. The Bill of Material and drawings can be provided electronically upon request.

5.0 Foundation Design

5.1 General

Vendor shall design foundations for all structures provided by the Vendor.

Vendor shall design foundation for three Owner provided S&C Series 2000 Circuit Switcher Model 2010 Catalog No. 197838AE12H2KMTT2VW1Y. Manufacturer approval

drawings included in Appendix C. Foundation loading per pedestal is included in the manufacturer approval drawings.

5.2 Codes and Standards

All designs furnished under this section shall conform to the applicable codes or standards of the technical societies or organizations listed in these specifications, to the specific standards mentioned in this section, and the latest edition of North Carolina Building Code.

Reference to technical societies or organizations may be made by abbreviation in accordance with the following list.

ACI	-	American Concrete Institute
ANSI	-	American National Standards Institute
ASCE	-	American Society of Civil Engineers
ASTM	-	American Society of Testing and Materials
RUS	-	Rural Utilities Service

5.3 Foundation Design Criteria and Types

All drilled shaft (augered pier) and spread footing foundations shall conform to the standards listed in RUS 1724E-300 Chapter 8 Foundations.

The vendor shall utilize the geotechnical subsurface engineering report is included in this document, Appendix D, in the design of foundations. **Borings B-101 through B-106** included in the report yield the soil conditions at Boviet Substation.

The vendor shall design the foundations to address the allowable load-bearing capacity of the subsurface materials and the allowable deformations permitted upon the structure/foundation under loading.

Drilled shaft foundations are the preferred foundation type. Spread footing foundations will be allowed in lieu of drilled shaft foundations where soil conditions dictate the necessity for spread footings.

Vendor Name:

GREENVILLE UTILITIES COMMISSION
PROPOSAL FORM
BOVIET SUBSTATION
STRUCTURES, EQUIPMENT, AND FOUNDATION DESIGN

The undersigned bidder hereby declares that it has carefully examined the enclosed detailed specifications for furnishing GUC with the below listed item(s). The undersigned bidder further agrees, if this proposal is accepted within thirty (30) days from the date of the opening, to furnish any or all of the item(s) upon the quoted price.

ITEM NO.	DESCRIPTION	TOTAL PRICE
I	Steel Structures Weight of Steel _____lbs.	\$ _____
II	Equipment and Components	\$ _____
III	Foundation Design	\$ _____
	TOTAL	\$ _____
	Delivery Time _____ weeks	

Method of Award: GUC will award this bid as a total bid.

Complete and Check All Math: It is the responsibility of the Bidder to extend bid prices and supply a total for all item(s).

[Balance of page left blank intentionally]

It is certified that this proposal is made in good faith and without collusion or connection with any other person bidding on the same above listed items. It is also certified that this proposal is made in good faith and without collusion or connection with any GUC employee(s).

Certified check or cash for \$_____na_____or bid bond for \$_____na_____attached.

Firm Name _____ Phone (_____)_____

Address _____

City _____ State _____ Zip Code _____

Fax (____) _____ E-Mail _____

Authorized Official _____ Title _____
Typed Name

_____ Date _____
Signature

**Two (2) copies of your proposal should be received no later than
November 13, 2025 at 2:00 PM (EST).**

NO BIDS CONSIDERED UNLESS SUBMITTED ON THIS FORM(S)

(RETURN ONLY THIS FORM(S) AND EXCEPTION, E-VERIFY)

Vendor Name: _____

GREENVILLE UTILITIES COMMISSION

Exception/Variation Form

Specifications for: Boviet Substation Structures, Equipment, and Foundation Design

Provider's Certification: This is to certify that it is our intent to furnish equipment, material, services, etc. in absolute compliance with the bid specification except where expressly noted below.

Instructions: List all exceptions or variations to these bid specifications. Providers shall identify each exception or variation by specification page. The omission of exception or variation information shall be deemed by the Commission as the Provider's intent to absolutely comply with the bid specification. If additional space is required, Provider may reproduce this form as necessary.

<u>Page #</u>	<u>Exception/Variation</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Authorized Signature of Certification: _____

Print Name: _____

Firm Represented: _____

Address: _____

Letter of Compliance to E-Verify for Greenville Utilities Commission

1. I have submitted a bid for contract or desire to enter into a contract with the Greenville Utilities Commission;
2. As part of my duties and responsibilities pursuant to said bid and/or contract, I affirm that I am aware of and in compliance with the requirements of E-Verify, Article 2 of Chapter 64 of the North Carolina General Statutes, to include (mark which applies):
3. ____ After hiring an employee to work in the United States I verify the work authorization of said employee through E-Verify and retain the record of the verification of work authorization while the employee is employed and for one year thereafter; or
4. ____ I employ less than twenty-five (25) employees in the State of North Carolina.
5. As part of my duties and responsibilities pursuant to said bid and/or contract, I affirm that to the best of my knowledge and subcontractors employed as a part of this bid and/or contract, are in compliance with the requirements of E-Verify, Article 2 of Chapter 64 of the North Carolina General Statutes, to include (mark which applies):
6. ____ After hiring an employee to work in the United States the subcontractor verifies the work authorization of said employee through E-Verify and retains the record of the verification of work authorization while the employee is employed and for one year thereafter; or
7. ____ Employ less than twenty-five (25) employees in the State of North Carolina.
Specify subcontractor: _____

_____ (Company Name)

By: _____ (Typed Name)

_____ (Authorized Signatory)

_____ (Title)

_____ (Date)

SECTION III

TERMS AND CONDITIONS FOR THE PURCHASE OF

APPARATUS, SUPPLIES, MATERIALS, LABOR AND EQUIPMENT

These Terms and Conditions, made and entered into on this the ____ day of _____, by and between GREENVILLE UTILITIES COMMISSION OF THE CITY OF GREENVILLE, PITT COUNTY, NORTH CAROLINA, with one of its principal offices and places of business at 401 S. Greene Street, Post Office Box 1847, Greenville, Pitt County, North Carolina 27835-1847, hereinafter referred to as "GUC" and _____, a _____ organized and existing under and by virtue of the laws of the State of _____, with one of its principal offices and places of business at _____, hereinafter referred to as "PROVIDER";

1.0 TAXES

No taxes shall be included in any bid prices. GUC is exempt from Federal Excise Tax. GUC is not exempt from North Carolina state sales and use tax or, if applicable, Pitt County sales and use tax. Such taxes shall be shown as a separate item on the invoice.

2.0 INVOICES

It is understood and agreed that orders will be shipped at the established contract prices and quantities in effect on dates orders are placed. Invoicing at variance with this provision may subject the contract to cancellation. Applicable North Carolina sales tax shall be invoiced as a separate line item. All invoices must bear the GUC purchase order number. Mail all invoices to Greenville Utilities Commission, Finance Department, P. O. Box 1847, Greenville, NC 27835-1847.

3.0 PAYMENT TERMS

Payments for equipment, materials, or supplies will be made after the receipt and acceptance of the equipment, materials, supplies or services and after submission of a proper invoice. GUC's normal payment policy is thirty (30) days. GUC will not be responsible for any goods delivered without a purchase order having been issued. Payment will be made in U. S. currency only.

4.0 QUANTITIES

Quantities specified are only estimates of GUC's requirements. GUC reserves the right to purchase more or less than the stated quantities at prices indicated in the submitted Proposal Form based on our actual needs.

5.0 AFFIRMATIVE ACTION

The Provider will take affirmative action in complying with all Federal and State requirements concerning fair employment and employment of the handicapped, and concerning the treatment of all employees, without discrimination by reason of race, color, religion, sex, national origin, or physical handicap.

6.0 CONDITION AND PACKAGING

Unless otherwise indicated in the bid, it is understood and agreed that any item offered or shipped shall be new and in first class condition, that all containers shall be new and suitable for storage or shipment, and that prices include standard commercial packaging.

7.0 SAMPLES

Samples of items, if required, must be furnished free of expense to GUC, and if not destroyed, will, upon request, be returned at the Provider's expense. Request for the return of samples must be made at the bid opening, otherwise, the samples will become GUC's property. Each individual sample must be labeled with Provider's name.

8.0 SPECIFICATIONS

Any deviation from specifications must be clearly pointed out, otherwise, it will be considered that items offered are in strict compliance with specifications, and the Provider will be held responsible. Deviations must be explained in detail. **The Provider shall not construe this paragraph as inviting deviation or implying that any deviation will be acceptable.**

9.0 INFORMATION AND DESCRIPTIVE LITERATURE

Providers are to furnish all information requested. Further, as may be specified elsewhere, each Provider must submit with its proposal: cuts, sketches, descriptive literature, and/or complete specifications covering the products offered. Reference to literature submitted with a previous bid does not satisfy this provision. Bids which do not comply with these requirements will be subject to rejection.

10.0 AWARD OF CONTRACT

As directed by statute, qualified bids will be evaluated and acceptance made of the lowest responsible, responsive bid most advantageous to GUC as determined upon consideration of such factors as prices offered, the quality of the article(s) offered, the general reputation and performance capabilities of the Provider, substantial conformity with the specifications and other conditions set forth in the bid, the suitability of the article(s) for the intended use, the related services needed, the date(s) of delivery and performance, and such other factors deemed by GUC to be pertinent or peculiar to the purchase in question.

Acceptance of the order includes acceptance of all terms, conditions, prices, delivery instructions, and specifications as shown on this set of Terms and Conditions and in this order or attached to and made a part of this order.

The conditions of this order cannot be modified except by written amendment in the form of "Amended Purchase Order," which has been approved by GUC's Procurement Manager.

In the event of a Provider's failure to deliver or perform as specified, GUC reserves the right to cancel the order or any part thereof, without prejudice to GUC's other rights. The Provider agrees that GUC may return part of or all of any shipment at Provider's expense. GUC may charge the Provider with all reasonable expenses resulting from such failure to deliver or perform.

11.0 MEDIATION/BINDING ARBITRATION

In the event of any dispute between the Parties, the Parties agree to submit any dispute to non-binding mediation before a mutually agreeable Mediator prior to initiating litigation. If the Parties are unable to agree upon a Mediator within thirty (30) days after demand therefore, either Party may petition a Court of competent jurisdiction for the designation of a qualified Mediator for these purposes. Each Party shall bear its own costs and expenses of participating in the mediation (including, without limitation, reasonable attorneys' fees), and each Party shall bear one-half (1/2) of the costs and expenses of the Mediator. Unless otherwise agreed, the Parties will hold the mediation in Greenville, North Carolina. The matters discussed or revealed in the mediation session shall not be disclosed in any subsequent litigation.

In the event the matter is not resolved in mediation, either Party may request arbitration. The parties shall jointly select an Arbitrator, and shall be bound by the decision of the Arbitrator with respect to any dispute between the parties with respect to this Agreement. If the parties are unable to mutually agree upon an Arbitrator, the Parties shall each select an Arbitrator, and the two Arbitrators so selected shall select a third Arbitrator, and the decision of the majority of the Arbitrators shall be conclusive and binding upon the Parties. The Parties at all times agree to equally split the costs of any Arbitrator(s) selected in an effort to resolve the dispute between the Parties. Any party desiring to resolve a dispute under the terms of this Agreement shall notify the other Party in writing, and the Parties shall seek to agree upon a mutually agreed-upon Arbitrator within a period of ten (10) days from the date of such written demand. If the Parties are unable to agree within such ten (10) day period, the Parties shall each select an Arbitrator, and the two (2) Arbitrators so selected shall select a third Arbitrator within fifteen (15) days from the date of the written demand for arbitration, and a decision shall be rendered by the Arbitrator(s) so selected within five (5) days after such Arbitrator(s) is selected.

12.0 GOVERNMENT RESTRICTIONS

In the event any Governmental restrictions may be imposed which would necessitate alteration of the material, quality, workmanship, or performance of the items offered on this bid prior to their delivery, it shall be the responsibility of the successful Provider to notify the GUC Procurement Manager, at once, indicating in its letter the specific regulation which required such alterations. GUC reserves the right to accept any such alterations, including any price adjustments occasioned thereby, or, in the sole discretion of GUC, to cancel the contract.

13.0 INSURANCE

13.1 Coverage – During the term of the contract, the Provider at its sole cost and expense shall provide commercial insurance of such type and with the following coverage and limits:

13.1.1 Workers' Compensation – The Provider shall provide and maintain Workers' Compensation Insurance, as required by the laws of North Carolina, as well as employer's liability coverage with minimum limits of \$1,000,000 each accident, covering all Provider's employees who are engaged in any work under the contract. If any work is sublet, the Provider shall require the subcontractor to provide the same coverage for any of its employees engaged in any work under the contract.

13.1.2 General Liability – Commercial Liability Coverage written on an “occurrence” basis in the minimum amount of \$1,000,000 per occurrence.

13.1.3 Automobile – Automobile Liability Insurance, to include coverage for all owned, hired, and non-owned vehicles used in connection with the contract with a minimum combined single limit of \$1,000,000 per accident.

13.1.4 Cyber –The Vendor shall maintain Cyber Liability Insurance with limits of \$3,000,000 per occurrence, providing protection against liability for: (1) privacy breaches (including liability arising from the loss or disclosure of confidential information no matter how it occurs); (2) system breach; (3) denial or loss of service; (4) introduction, implantation, or spread of malicious software code; and (5) unauthorized access to or use of computer systems. Cyber Liability Insurance shall not include any exclusion or restriction for unencrypted portable devices or other media. Vendor shall provide evidence of continuation or renewal for a period of two (2) years following termination of the Agreement.

13.2 Requirements - Providing and maintaining adequate insurance coverage is a material obligation of the Provider. All such insurance shall meet all laws of the State of North Carolina. Such insurance coverage shall be obtained from companies that are authorized to provide such coverage and that are authorized to do business in North Carolina by the Commissioner of Insurance. The Provider shall at all times comply with the terms of such insurance policies and all requirements of the insurer under any of such insurance policies, except as they may conflict with existing North Carolina laws or this contract. The limits of coverage under each insurance policy maintained by the Provider shall not be interpreted as limiting the Provider’s liability and obligations under the contract. It is agreed that the coverage as stated shall not be canceled or changed until thirty (30) days after written notice of such termination or alteration has been sent by registered mail to GUC’s Procurement Manager.

14.0 PATENTS AND COPYRIGHTS

The Provider shall hold and save GUC, its officers, agents, and employees, harmless from liability of any kind, including costs and expenses, including reasonable attorney fees, on account of any copyrighted articles or any patented or unpatented invention, device or appliance manufactured or used in the performance of this contract.

15.0 PATENT AND COPYRIGHT INDEMNITY

The Provider will defend or settle, at its own expense, any action brought against GUC to the extent that it is based on a claim that the product(s) provided pursuant to this agreement infringe any U.S. copyright or patent; and will pay those costs, damages, and attorney fees finally awarded against GUC in any such action attributable to any such claim, but such defense, settlements, and payments are conditioned on the following: (1) that Provider shall be notified promptly in writing by GUC of any such claim; (2) that Provider shall have sole control of the defense of any action on such claim and of all negotiations for its settlement or compromise; (3) that GUC shall cooperate with Provider in a reasonable way to facilitate the settlement of defense of such claim; (4) that such claim does not arise from GUC modifications not authorized

by the Provider or from the use of combination of products provided by the Provider with products provided by GUC or by others; and (5) should such product(s) become, or in the Provider's opinion likely to become, the subject of such claim of infringement, then GUC shall permit Provider, at Provider's option and expense, either to procure for GUC the right to continue using the product(s), or replace or modify the same so that it becomes non-infringing and performs in a substantially similar manner to the original product.

16.0 EXCEPTIONS

All proposals are subject to the terms and conditions outlined herein. All responses will be controlled by such terms and conditions and the submission of other terms and conditions, price catalogs, and other documents as part of a Provider's response will be waived and have no effect on this Request for Proposal or any other contract that may be awarded resulting from this solicitation. The submission of any other terms and conditions by a Provider may be grounds for rejection of the Provider's proposal. The Provider specifically agrees to the terms and conditions set forth in this set of Terms and Conditions by affixing its name on the signatory page contained herein.

17.0 CONFIDENTIAL INFORMATION

Except as provided by statute and rule of law, GUC will keep trade secrets which the Provider does not wish disclosed confidential. Each page shall be identified in boldface at the top and bottom as "CONFIDENTIAL" by the Provider. Cost information shall not be deemed confidential. The determination of whether a matter is confidential will be determined by North Carolina law.

18.0 ASSIGNMENT

No assignment of the Provider's obligations or the Provider's right to receive payment hereunder shall be permitted without the express written consent of GUC, provided however, upon written request approved by the GUC Procurement Manager, solely as a convenience to the Provider, GUC may:

- Forward the Provider's payment check directly to any person or entity designated by the Provider, and
- Include any person or entity designated by Provider as a joint payee on the Provider's payment check.
- In no event shall such approval and action obligate GUC to anyone other than the Provider, and the Provider shall remain responsible for fulfillment of all contract obligations.

19.0 ACCESS TO PERSON AND RECORDS

GUC shall have reasonable access to persons and records of Provider as a result of all contracts entered into by GUC.

20.0 INSPECTION AT BIDDER'S SITE

GUC reserves the right to inspect, at a reasonable time, the item, plant, or other facilities of a prospective Provider prior to contract award and during the contract term as necessary for GUC's determination that such item, plant, or other facilities conform with the specifications/requirements and are adequate and suitable for the proper and effective performance of the contract. Provider may limit GUC's access to restricted areas.

21.0 AVAILABILITY OF FUNDS

Any and all payments of compensation of this specific transaction and any continuation or any renewal or extension are dependent upon and subject to the allocation of GUC funds for the purpose set forth in this Agreement.

22.0 GOVERNING LAWS

All contracts, transactions, agreements, etc., are made under and shall be governed by and construed in accordance with the laws of the State of North Carolina.

23.0 ADMINISTRATIVE CODE

Bids, proposals, and awards are subject to applicable provisions of the North Carolina Administrative Code and General Statutes and Laws of the State of North Carolina.

24.0 EXECUTION

In the discretion of GUC, failure of a duly authorized official of Provider to sign the Signatory Page may render the bid invalid.

25.0 CLARIFICATIONS/INTERPRETATIONS

Any and all questions regarding these Terms and Conditions must be addressed to the GUC Procurement Manager. Do not contact the user directly. **These Terms and Conditions are a complete statement of the parties' agreement and may only be modified in writing signed by Provider and the GUC Procurement Manager.**

26.0 SITUS

The place of all contracts, transactions, agreements, their situs and forum, shall be North Carolina, where all matters, whether in contract or tort, relating to the validity, construction, interpretation, and enforcement shall be determined.

27.0 TERMINATION OF AGREEMENT

GUC or Provider may terminate this Agreement for just cause at any time. Provider will be paid for all time and expenses incurred as of the termination date. Termination for just cause by either party shall be by certified letter and shall be effective thirty (30) days after signed and acknowledged receipt of said letter. Just cause shall be based on reasonable grounds, and there must be a fair and honest cause or reason for such action. The causes for termination, include, but are not limited to: (1) Provider's persistent failure to perform in accordance with the Terms and Conditions, (2) Provider's disregard of laws and regulations related to this

transaction, and/or (3) Provider's substantial violation of the provisions of the Terms and Conditions.

28.0 DELIVERY

Shipments will be made to GUC only upon releases from a purchase order issued by GUC in accordance with its current needs.

Time is of the essence with respect to all deliveries under this Agreement.

The equipment shall be delivered FOB to Boviet Substation, 35°39'28.9"N 77°20'59.8"W, Greenville, NC by truck shipment and unloaded by Greenville Utilities. Greenville Utilities shall receive shipping notice at least 48 hours before delivery.

The Contractor shall submit to Greenville Utilities duplicate copies of shipping notices describing each shipment of material or equipment.

The Contractor shall contact Nicholas Peaden, Substation Engineer at least 72 hours prior to arrival of equipment at the delivery site, to notify Greenville Utilities of the method of shipment and date of arrival. Telephone notification shall be made between 8:00 a.m. and 5:00 p.m., Monday through Friday, telephone 252-551-1580.

The Contractor shall pay all demurrage costs resulting from delays in unloading, if those delays are caused by failure of the Contractor to notify Greenville Utilities of shipment or to schedule shipment as specified above.

29.0 INDEMNITY PROVISION

Provider agrees to indemnify and save GREENVILLE UTILITIES COMMISSION of the City of Greenville, Pitt County, North Carolina, and the City of Greenville, North Carolina, its co-owners, joint venturers, agents, employees, and insurance carriers harmless from any and all losses, claims, actions, costs, expenses including reasonable attorney fees, judgments, subrogations, or other damages resulting from injury to any person (including injury resulting in death), or damage (including loss or destruction) to property of whatsoever nature of any person arising out of or incident to the performance of the terms of this Contract by Provider, including, but not limited to, Provider's employees, agents, subcontractors, and others designated by Provider to perform work or services in, about, or attendant to, the work and services under the terms of this Contract. Provider shall not be held responsible for any losses, expenses, claims, subrogations, actions, costs, judgments, or other damages, directly, solely, and proximately caused by the negligence of Greenville Utilities Commission of the City of Greenville, Pitt County, North Carolina. Insurance covering this indemnity agreement by the Provider in favor of Greenville Utilities Commission of the City of Greenville, Pitt County, North Carolina, and the City of Greenville, North Carolina, shall be provided by Provider.

30.0 FORCE MAJEURE

Neither party shall be considered in default in the performance of its obligations hereunder to the extent that the performance of any such obligation is prevented or delayed by any cause, existing or future, which is beyond the reasonable control of such party. In any such event of force majeure, the parties shall advise each other of such event, and the parties shall negotiate an equitable adjustment to their respective obligations under this Agreement.

31.0 WARRANTY(IES)

The Provider hereby includes all warranties, whether expressed or implied, including, but not limited to, the Implied Warranty of Merchantability and the Implied Warranty of Fitness for a Particular Purpose.

32.0 INTEGRATED CONTRACT

These Terms and Conditions, Instructions to Bidders, Specifications, and the selected Provider's bid represents the entire contract between the Parties. No verbal or other written agreement(s) shall be held to vary the provisions of this Agreement.

33.0 CONTRACT PROVISIONS

Each of the provisions of these Terms and Conditions shall apply to the full extent permitted by law, and the invalidity in whole or in part of any provision shall not affect the remainder of such provision or any other provisions.

34.0 E-VERIFY

E-Verify - I understand that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25 et seq. I am aware of and in compliance with the requirements of E-Verify and Article 2 of Chapter 64 of the North Carolina General Statutes. To the best of my knowledge, any subcontractors employed by me as a part of this contract are in compliance with the requirements of E-Verify and Article 2 of Chapter 64 of the North Carolina General Statutes.

35.0 IRAN DIVESTMENT ACT CERTIFICATION

By acceptance of this purchase order, Vendor/Contractor certifies that, as of the date of the purchase order or contract, it is not on the Final Divestment List as created by the State Treasurer pursuant to N.C.G.S. § 143-6A-4. In compliance with the requirements of the Iran Divestment Act and N.C.G.S. § 143C-6A-5(b), Vendor/Contractor shall not utilize in the performance of the contract any subcontractor that is identified on the Final Divestment List.

36.0 UNIFORM GUIDANCE

Contracts funded with federal grant or loan funds must be procured in a manner that conforms with all applicable federal laws, policies, and standards, including those under the Uniform Guidance (2 C.F.R. Part 200).

37.0 SAFETY STATEMENTS

Safety Culture Commitment Statement:

At Greenville Utilities, we are committed to a culture of safety that prioritizes the well-being of our employees, contractors, and the communities we serve.

We believe that everyone deserves to work in a safe environment, and we are dedicated to fostering a culture where **safety is a core value, not just a priority.**

Here's what that means to us:

- **Employee and Contractor Safety:** We are committed to providing a safe work environment for all employees and contractors. We will invest in safety training, resources, and equipment to prevent accidents and injuries.
- **Open Communication:** We encourage open and honest communication about safety concerns. We believe everyone has a right and responsibility to speak up about unsafe work practices and potential hazards.
- **Continuous Improvement:** We are committed to continuous improvement in safety performance. We will learn from incidents and near misses, and we will actively seek ways to improve our safety processes and procedures.
- **Accountability:** We hold ourselves and our contractors accountable for safe work practices. This includes providing clear safety expectations, enforcing safety rules, and recognizing safe behavior.
- **Collaboration:** We believe in working collaboratively with employees, contractors, and regulatory agencies to achieve the highest level of safety.

Our commitment to safety extends beyond our employees. We work closely with our contractors to ensure they share our safety values. We expect them to implement robust safety programs, train their workers thoroughly, and adhere to all safety regulations.

We are confident that by working together, we can create a culture of safety where everyone goes home safe and healthy every day.

This commitment statement is a public declaration of our unwavering dedication to safety. We will continue to strive for zero incidents while promoting a positive safety culture that prioritizes the well-being of everyone involved in our utility operations.

Safety Management System Commitment Statement:

At Greenville Utilities, we are unwavering in our commitment to delivering safe and reliable utility service through a robust Safety Management System (SMS). This system forms the foundation of our safety culture, ensuring the well-being of our employees, contractors, and the communities we serve.

Our SMS commitment emphasizes:

- **Zero Incidents:** We believe all incidents are preventable. We strive for zero incidents by proactively managing risks and continuously improving our safety practices.
- **Empowered Workforce:** We foster a culture where safety is everyone's responsibility. This includes providing comprehensive safety training for both employees and contractors, empowering them to identify and report hazards.
- **Data-Driven Decisions:** We utilize data from inspections, incident investigations, and performance metrics to make informed decisions for risk mitigation and continuous improvement of our SMS.
- **Leadership Engagement:** Our leadership team actively demonstrates a commitment to safety by participating in safety reviews, audits, and promoting safety as a core value.
- **Contractor Collaboration:** We extend our safety commitment to our contractors. We require contractors working on our system to adhere to SMS principles, participate in safety briefings, and maintain strong safety programs within their own organizations.
- **Transparent Communication:** We believe in open communication about safety. We encourage employees and contractors to report concerns without fear of reprisal. We also maintain transparent communication with stakeholders about SMS performance.

This SMS commitment is a continuous journey, not a destination. We are dedicated to regularly reviewing and updating our system to reflect best practices and emerging technologies. Through continuous improvement and a commitment to a positive safety culture, we aim to remain an industry leader in safe and reliable utility service.

38.0 INFORMATION TECHNOLOGY

All Contracts are subject to Greenville Utilities Commission Information Technology Contract Provisions. These may be viewed at www.guc.com/doing-business-us.

39.0 NOTICES

Notices to the Parties should be sent to the names and addresses specified below:

Cleve Haddock, Lifetime CLGPO
Procurement Manager
Greenville Utilities Commission
P.O. Box 1847
Greenville, NC 27835-1847

Vendor Specified on Page 1 of Section III when awarded.

GREENVILLE UTILITIES COMMISSION

By: _____
Anthony C. Cannon

Title: General Manager/CEO
(Authorized Signatory)

Date: _____

Attest: _____

Name (Print): Amy Wade

Title: Executive Secretary

Date: _____

(OFFICIAL SEAL)

COMPANY NAME:

By: _____

Name (Print): _____

Title: _____
(Authorized Signatory)

Date: _____

Attest: _____

Name (Print): _____

Title: Corporate Secretary

Date: _____

(CORP. SEAL)

APPROVED AS TO FORM AND LEGAL CONTENT:

By: _____
Phillip R. Dixon

Title: General Counsel

Date: _____

APPENDIX A

BILL OF MATERIAL				
GREENVILLE UTILITIES COMMISSION				
		PROJECT NO:		
ITEM	QTY	MFG	CAT. NO.	DESCRIPTION
1	54896	MID		STEEL STRUCTURES, HOT-DIPPED GALVANIZED AFTER FABRICATION AND ASSEMBLED WITHIN LIMITATIONS OF TRUCKING
1A	4	VAL		H-FRAME POLES, 75' DIRECT EMBEDDED WITH 5' SHIELD SPIKE
2A	144	UNIQUE		ANCHOR BOLT: 1" WITH 2HHN,2FW
2B	32	UNIQUE		ANCHOR BOLT: 3/4" X 12" WITH 2HHN,2FW
2C	56	UNIQUE		ANCHOR BOLT: 3/4" WITH 2HHN,2FW
8	14	AMICO		SWITCH OPERATOR GROUND PLATFORM, 3 X 4'
SA	28	AE	TLS-42-L	GROUND CONN
10	2	CLEV-PRICE	CB-A	SWITCH: 115 KV 1200AMP GROUP OPERATED CENTER BREAK, ALUMINUM LIVE PARTS, MOTOR OPERATED, STANDARD ARCING HORNS,
10	12	SEVES		INSULATOR: 115 KV STATION POST TR-286
11	1	CLEV-PRICE	V2-C	SWITCH: 115 KV 1200 AMP GROUP OPERATED VERTICAL BREAK, COPPER LIVE PARTS, MOTOR OPERATED, STANDARD ARCING HORNS,
11	9	SEVES		INSULATOR: 115 KV STATION POST TR-286
12	9	CLEV-PRICE	CB-CV	SWITCH: 15 KV 2000 AMP GROUP OPERATED CENTER BREAK VEE, COPPER LIVE PARTS, STANDARD ARCING HORNS, SWING HANDLE CONTROL, AND TR-205 INSULATORS
14	2	CLEV-PRICE	CB-CV	SWITCH: 15 KV 1200 AMP GROUP OPERATED CENTER BREAK VEE, COPPER LIVE PARTS, STANDARD ARCING HORNS, SWING HANDLE CONTROL, AND TR-205 INSULATORS
15	12	CLEV-PRICE	LCO-C	SWITCH: 15 KV 2000 AMP HOOKSTICK DISCONNECT, WITH TINED TERM PADS, AND TR-205 INSULATORS
15	48	SEIB	GMB40058	BOLTS: 5/8" X 4" GMB W/HN,LW,WW
16	30	CLEV-PRICE	LCO-C	SWITCH: 15 KV 1200 AMP HOOKSTICK DISCONNECT, WITH TINED TERM PADS, AND TR-205 INSULATORS
16	120	SEIB	GMB40058	BOLTS: 5/8" X 4" GMB W/HN,LW,WW

ITEM	QTY	MFG	CAT. NO.	DESCRIPTION
17	30	CLEV-PRICE	LCO-CT	SWITCH: 15 KV 1200 AMP HOOKSTICK TANDEM DISCONNECT, WITH TINED TERM PADS, AND TR-205 INSULATORS
17	120	SEIB	GMB22558	BOLTS: 5/8" X 2-1/4" GMB W/HN,LW,WW
20	14	S&C	192222R2-E-Z5	FUSED DISCONNECT 15 KV 200 AMP, SMD-20
20	56	SEIB	GMB200	BOLTS: 1/2" X 2" GMB W/HN,LW,FW
20A	8	S&C	702003	FUSE UNIT, 3K
20B	8	GE	9F59UBD251	CURRENT LIMITING COMPANION FUSE
30	22	SEVES		INSULATOR: 115 KV STATION POST TR-286
30	88	SEIB	GCS10058	BOLTS: 5/8" X 1" GCS W/LW,FW
31	81	SEVES		INSULATOR: 15 KV STATION POST TR-205
31	102	SEIB	GCS100	BOLTS: 1/2" X 1" GCS W/LW,FW
31	60	SEIB	GCS200	BOLTS: 1/2" X 2" GCS W/LW,FW
40	6	COOPER	UHAA096076A5249A11	LIGHTNING ARRESTER, 76 KV MCOV STATION CLASS POLYMER
40	18	SEIB	GMB250	BOLTS: 1/2" X 2-1/2" GMB W/HN,LW
41	30	COOPER	UHAA010008A1411A11	LIGHTNING ARRESTER, 8.4 KV MCOV STATION CLASS POLYMER
41	90	SEIB	GMB275	BOLTS: 1/2" X 2-3/4" GMB W/HN,LW
50		BY	OWNER	STATION SERVICE TRANSFORMER
51	6	ABB	7525A91G05	POTENTIAL TRANSFORMER, 7200:120VOLT, VOZ-11M
51	24	SEIB	GMB15038	BOLTS: 3/8" X 1-1/2" GMB W/HN,LW
60		BY	OWNER	CABLE: 1272 AAC
61		BY	OWNER	CABLE: 795 AAC
62		BY	OWNER	CABLE: 336 ACSR 18/1
63	960	TW		BUS: 3" IPS AL 6063-T6 SEAMLESS (24 PIECES AT 40')
64	1440			BUS: 2" IPS AL 6063-T6 SEAMLESS (36 PIECES AT 40')
65		BY	OWNER	CABLE; 2/0 BARE COPPER
66		BY	OWNER	CABLE: #2 BARE COPPER SOLID TINNED
67		BY	OWNER	CABLE: 1/0 ACSR
68		BY	OWNER	CABLE: 7#9 ALUMOWELD STATIC WIRE
70	12	SMI	STCF-1299-D	TEE CONN COMP 1272 AAC TO 4-HOLE PAD

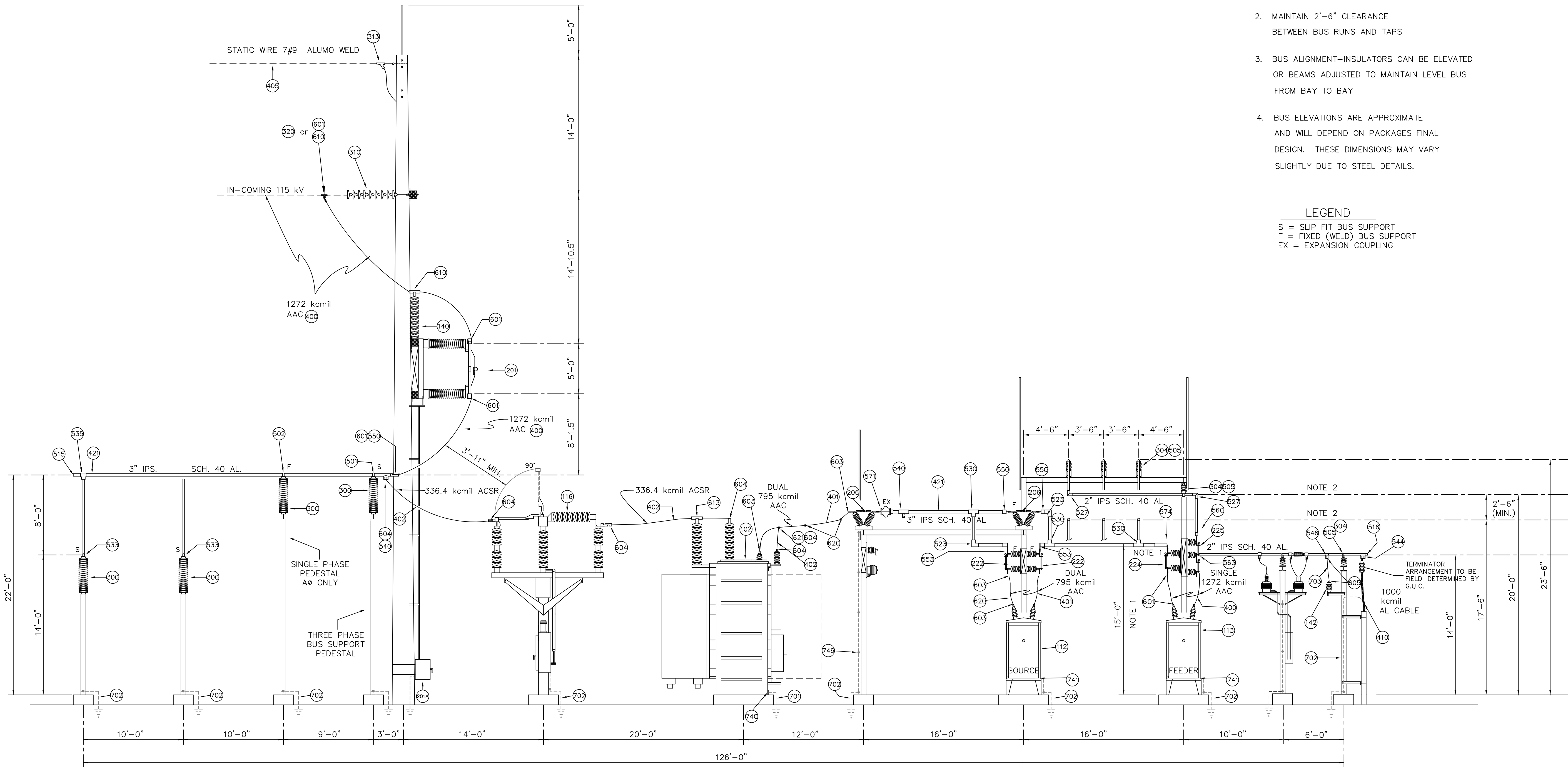
ITEM	QTY	MFG	CAT. NO.	DESCRIPTION
70A	6	DMC	PLK11OOD48E5	TEE CONN COMP 3" ALTO 4-HOLE PAD
70C	24	DMC	PLK1500D4848E1	TEE CONN COMP 3" AL MAIN & TAP
700	42	DMC	PLK1500D3232E1	TEE CONN COMP 2" AL MAIN & TAP
70E	30	DMC	PLK1200D32E1	TEE CONN COMP 2" ALTO 2-HOLE PAD
70F	30	DMC	PLK11OOD32E5	TEE CONN COMP 2" ALTO 4-HOLE PAD
70G	12	DMC	PLK1500D3248E1	TEE CONN COMP 3" ALTO 2" AL TAP
70H	14	DMC	PLK1200D48E1	TEE CONN COMP 3" ALTO 2-HOLE PAD
70J	3	SMI	STCF-684-C	TEE CONN COMP 336 18/1 ACSR TO 4-HOLE PAD
70J	12	SEIB	SSB225	BOLTS: 1/2" X 2-1/4" SSB W/HN,BW,2FW
70K	6	DMC	PLK1600D3248	TEE CONN COMP 3" ALTO (2) 2" AL TAPS AT 15 DEGREES
70L	12	DMC	PLK1500D3248E2	TEE CONN COMP 3" ALTO 2" AL TAPS AT 15 DEGREES
71	12	DMC	PLK1400D48E4	COUPLER 90 DEG COMP 3" AL
71A	36	DMC	PLK1400D32E4	COUPLER 90 DEG COMP 2" AL
71B	2	DMC	PLK1000D48	COUPLER STRAIGHT COMP 3" AL
72	12	Anderson	CCLS-684-C	TERM CONN COMP 336 18/1 ACSR TO 4-HOLE PAD, SHORT BARRELL
72	48	SEIB	SSB225	BOLTS: 1/2" X 2-1/4" SSB W/HN,BW,2FW
72A	108	Anderson	CCLS-1300-D	TERM CONN COMP 1272 AAC TO 4-HOLE PAD, SHORT BARREL
72A	432	SEIB	SSB225	BOLTS: 1/2" X 2-1/4" SSB W/HN,BW,2FW
72C	24	DMC	PLK1850D48A	TERM CONN COMP 3" ALTO 4-HOLE PAD, CENTERFORMED
72C	96	SEIB	SSB225	BOLTS: 1/2" X 2-1/4" SSB W/HN,BW,2FW
72D	18	DMC	CPLK9642D07950 s	TERM CONN COMP (2) 795 AAC TO 4-HOLE PAD
72D	72	SEIB	SSB225	BOLTS: 1/2" X 2-1/4" SSB W/HN,BW,2FW
72E	18	DMC	PLK2600D48E1-90	TERM CONN COMP EXPANSION 3" ALTO 4-HOLE PAD
72E	72	SEIB	SSB225	BOLTS: 1/2" X 2-1/4" SSB W/HN,BW,2FW
72F	18	DMC	PLK1850D48B	TERM CONN COMP 3" ALTO 4-HOLE PAD, CENTERFORMED
72F	72	SEIB	SSB225	BOLTS: 1/2" X 2-1/4" SSB W/HN,BW,2FW

ITEM	QTY	MFG	CAT. NO.	DESCRIPTION
72G	12	DMC	PLK1870D48B	TERM CONN COMP 3" ALTO 4-HOLE PAD 90 DEG
72G	48	SEIB	SSB225	BOLTS: 1/2" X 2-1/4" SSB W/HN,BW,2FW
72H	6	DMC	PLK2601D48E1	TERM CONN COMP EXPANSION 3" ALTO 4-HOLE PAD, 90 DEG
72H	24	SEIB	SSB225	BOLTS: 1/2" X 2-1/4" SSB W/HN,BW,2FW
72J	42	DMC	PLK1870D32A	TERM CONN COMP 2" ALTO 4-HOLE PAD 90 DEG
72J	168	SEIB	SSB225	BOLTS: 1/2" X 2-1/4" SSB W/HN,BW,2FW
72K	30	DMC	PLK1880D32A	TERM CONN COMP 2" ALTO 4-HOLE PAD
72K	120	SEIB	SSB175	BOLTS: 1/2" X 1-3/4" SSB W/HN,BW,2FW
72L	66	DOSS	DPL13-2N-AA	TERM CONN COMP #2 CU TO 2-HOLE PAD
72L	132	SEIB	SSB200	BOLTS: 1/2" X 2" SSB W/HN,BW,2FW
72M	9	DMC	PLK1850D32A	TERM CONN COMP 2" ALTO 4-HOLE PAD, CENTERFORMED
72M	36	SEIB	SSB200	BOLTS: 1/2" X 2" SSB W/HN,BW,2FW
72N	3	DMC	PLK2600D32E1-90	TERM CONN COMP EXPANSION 2" ALTO 4-HOLE PAD
72N	12	SEIB	SSB200	BOLTS: 1/2" X 2" SSB W/HN,BW,2FW
72O	12	DMC	PLK2601D32E2	TERM CONN COMP EXPANSION 2" ALTO 4-HOLE PAD, 90 DEG
72O	48	SEIB	SSB200	BOLTS: 1/2" X 2" SSB W/HN,BW,2FW
73	22	DOSS	HPS300-5-CH-AA	BUS SUPPORT 3" ALTO 5" B.C., SLIPPED
73A	6	DOSS	HPS300-3-CH-AA	BUS SUPPORT 3" ALTO 3" B.C., SLIPPED
73B	75	DOSS	HPS200-3-CH-AA	BUS SUPPORT 2" ALTO 3" B.C., SLIPPED
76	12	AE	ADS-130-S	STRAIN CLAMP 1272 AAC
76	12	O.B.	511008-1400	SUSPENSION INSULATORS, POLYMER
76	12	AE	HYCE-15-12	Y-CLEVIS EYE EXTENSION
76	12	AE	YBC-30	Y-BALL CLEVIS
76A	B	AE	MDE-46-N	STRAIN CLAMP 7#9 ALUMOWELD
76A	B	SEI		EYE BOLT, 5/B X B"
77	1B	DOSS	CI300-AA	CORONA END CAP 3" AL
77A	36	DOSS	CI200-AA	CORONA END CAP 2" AL
78	24	DMC	PLK1160D4B	GROUND STUD FOR 3" AL
78A	14	SMI	TP-B2	TRANSITION PLATES

ITEM	QTY	MFG	CAT. NO.	DESCRIPTION
79	3	DMC	CL732D07950	CABLE SPACER 795 AAC TO 4-HOLE PAD
79	3	SMI	1AC1	ANGLE CLIP, 3-1/4" UABC
79	24	SEIB	SSB200	BOLTS: 1/2" X 2" SSB W/HN,BW,2FW
79A	9	DMC	CL702D07950	CABLE SPACER 795 AAC
80	75	AE	GC-143A-G2-1/2	GROUND CONN TWO PIECE DOUBLE GROOVE 1/0--4/0 CU TO FLAT
80A	150	AE	GC-141A-G2-1/2	GROUND CONN TWO PIECE SINGLE GROOVE 1/0-4/0 CU TO FLAT
80B	26	DOSS	QLB25S-2N	GROUND CONN TERMINAL 2/0--4/0 CU TO 2-HOLE PAD
80B	52	SEIB	SSB175	BOLTS: 1/2" X 1-3/4" SSB W/HN,BW,2FW
80C	4	DOSS	T2CVH50-4N	GROUND CONN TERMINAL (2) 2/0--500 CU TO 4-HOLE PAD
80E	22	AE	GC-111-6C	GROUND CONN 1-1/2" IPS PIPE TO 2/0 CU
81D	14	DOSS	CF200-5A	BRAIDED SHUNT
82		BY	OWNER	GROUND RODS
83		BY	OWNER	BELOW GRADE CADWELD MOLDS AND WELD METALS
		BF&MAR		BOLTS
		MAR		BOLTS
	1448	SOL	8M89301	1/2" SS BELLEVILLE WASHERS
	36	SOL	8M89301	1/2" SS BELLEVILLE WASHERS

Appendix B

Substation Section Views 1-6



NOTES:

1. EXPANSION FITTING AND BUS FITTING HAVE DIFFERENT DIMENSIONS FROM BOLT HOLES TO BUS CENTERLINE. PACKAGER TO ADJUST SWITCH MOUNTING TO ACHIEVE LEVEL BUS.
2. MAINTAIN 2'-6" CLEARANCE BETWEEN BUS RUNS AND TAPS
3. BUS ALIGNMENT-INSULATORS CAN BE ELEVATED OR BEAMS ADJUSTED TO MAINTAIN LEVEL BUS FROM BAY TO BAY
4. BUS ELEVATIONS ARE APPROXIMATE AND WILL DEPEND ON PACKAGES FINAL DESIGN. THESE DIMENSIONS MAY VARY SLIGHTLY DUE TO STEEL DETAILS.

LEGEND

S = SLIP FIT BUS SUPPORT
F = FIXED (WELD) BUS SUPPORT
EX = EXPANSION COUPLING

PRELIMINARY

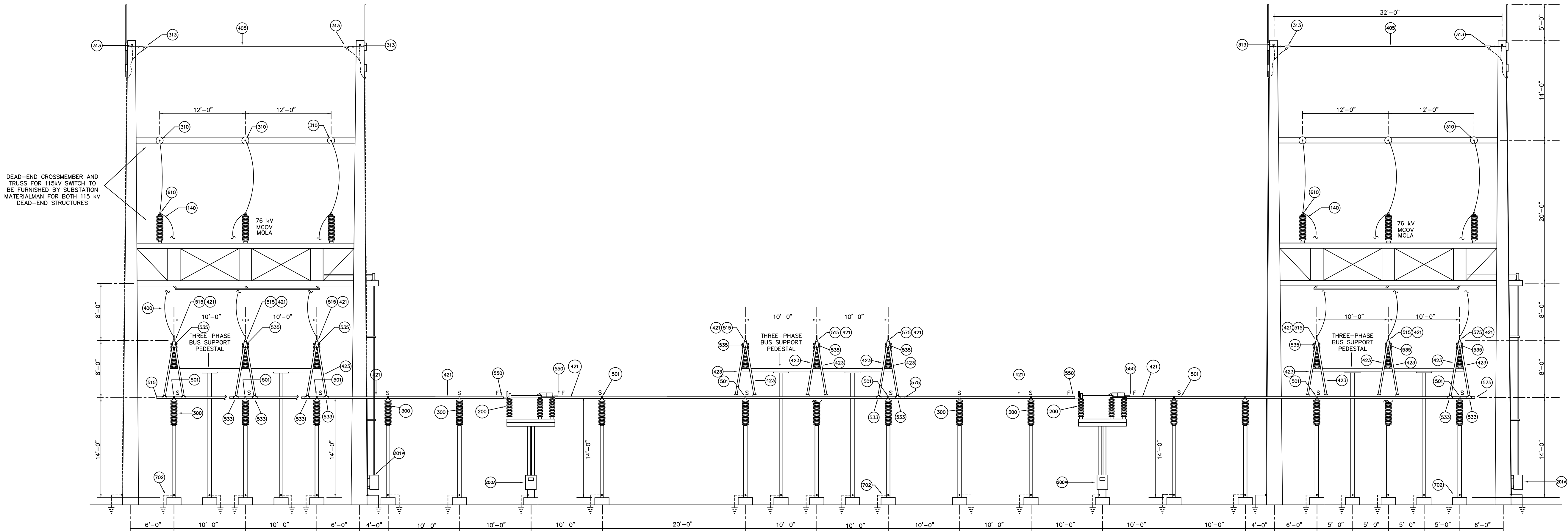


GREENVILLE UTILITIES
Greenville, North Carolina

BOVIET SUBSTATION
115kV TO 15kV SUBSTATION
STEEL SECTION A-A

DWN.	DATE	DWG. NO.
CKD.	APPD.	
SCALE: 3/16" = 1'-0"		

BOVT_SITE_SSO



LEGEND

----- SHADED LINES INDICATE FUTURE INSTALLATION

----- DASHED BLACK LINES INDICATE STEEL POLES

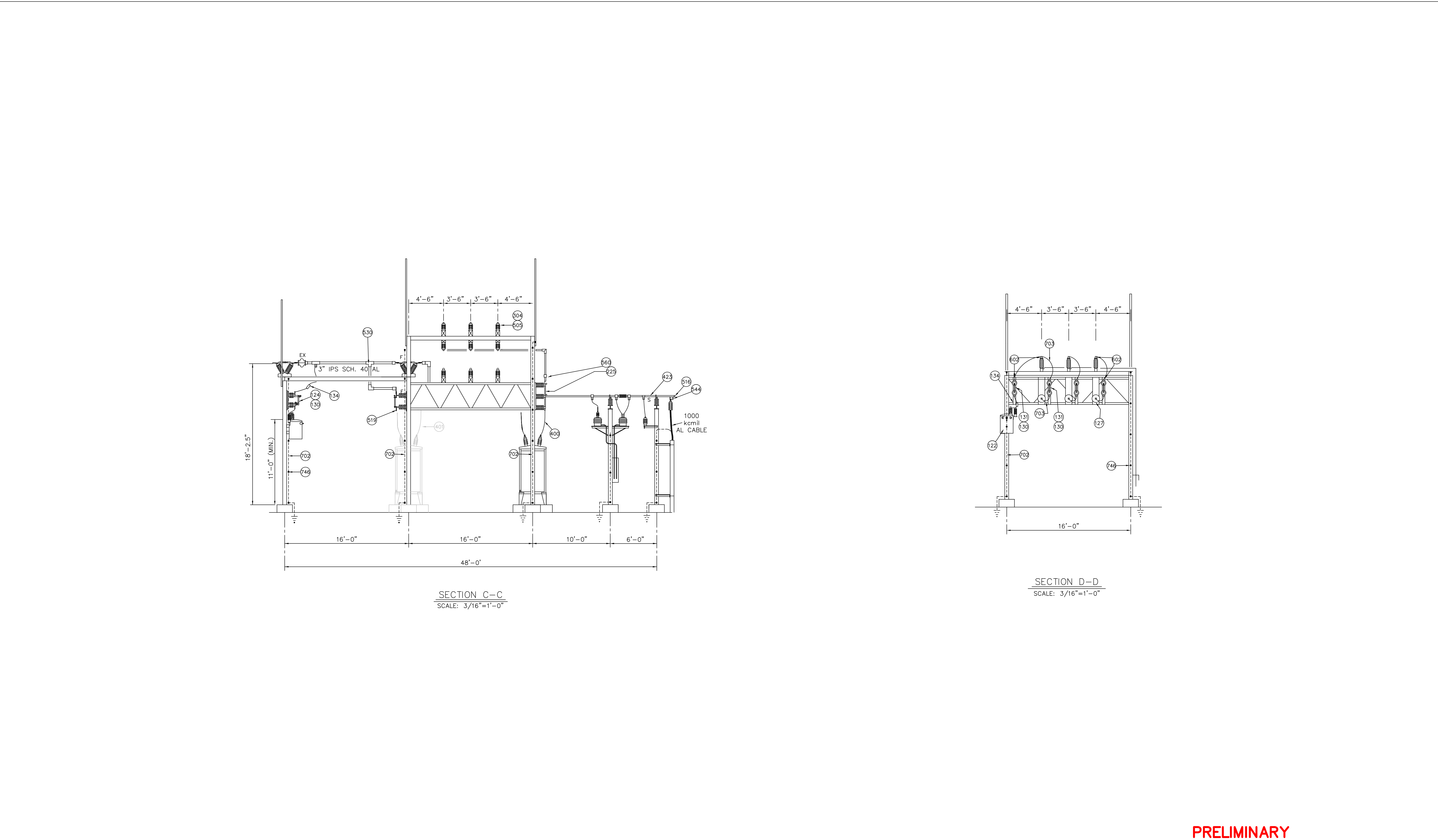
S = SLIP FIT BUS SUPPORT

F = FIXED (WELD) BUS SUPPORT

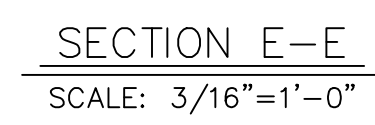
EX = EXPANSION COUPLING

PRELIMINARY

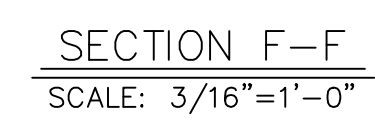
#	1A		 Greenville Utilities	GREENVILLE UTILITIES Greenville, North Carolina		
REVISIONS	PRELIMINARY DESIGN FROM HUDS BID PACKAGE RMC 10/7/2025			BOVIET SUBSTATION 115kV TO 15kV SUBSTATION STEEL SECTIONS B-B		
				DWN.	DATE	DWG. NO.
				CKD.	APPD.	
SCALE: 1/8" = 1'-0"						



#	1A		Greenville Utilities	GREENVILLE UTILITIES Greenville, North Carolina					
				BOVIET SUBSTATION 115kV TO 15kV SUBSTATION STEEL SECTIONS C—C, D—D					
				<table><tr><td>DWN.</td><td>DATE</td><td rowspan="3">DWG. NO.</td></tr><tr><td>CKD.</td><td>APPD.</td></tr><tr><td colspan="2">SCALE: 3/16" = 1'-0"</td></tr></table>	DWN.	DATE	DWG. NO.	CKD.	APPD.
DWN.	DATE	DWG. NO.							
CKD.	APPD.								
SCALE: 3/16" = 1'-0"									



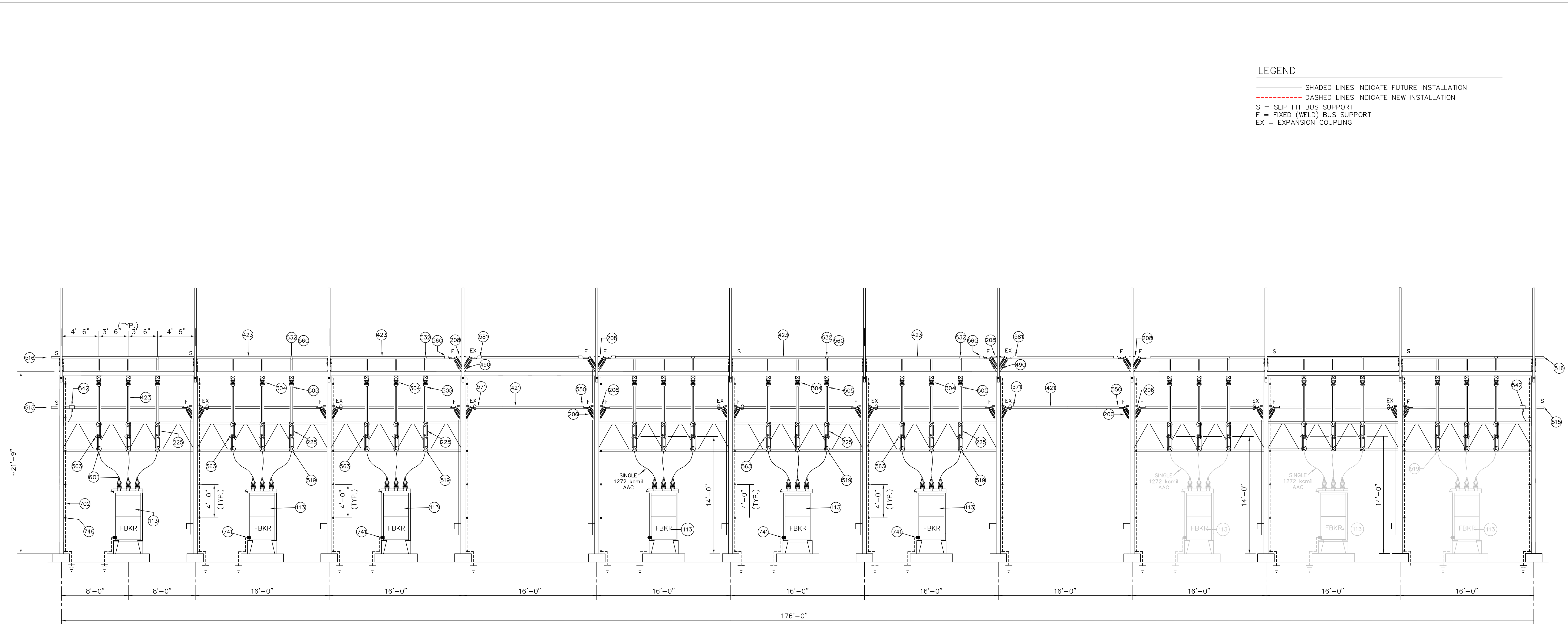
S = SLIP FIT BUS SUPPORT
F = FIXED (WELD) BUS SUPPORT
EX = EXPANSION COUPLING



**Greenville
Utilities**

BOVIET SUBSTATION
115KV TO 15KV SUBSTATION
STEEL SECTIONS
E-E, F-F

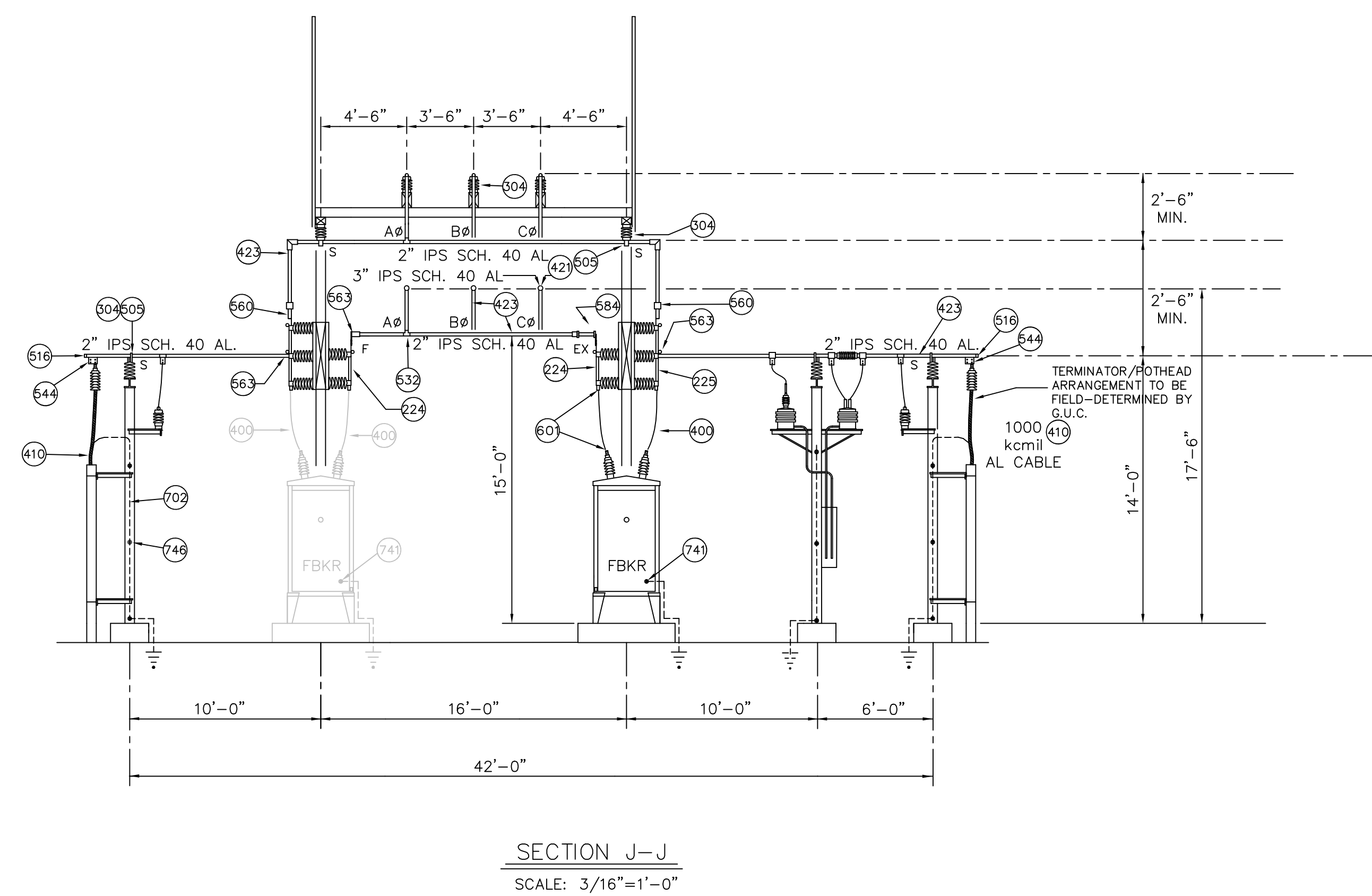
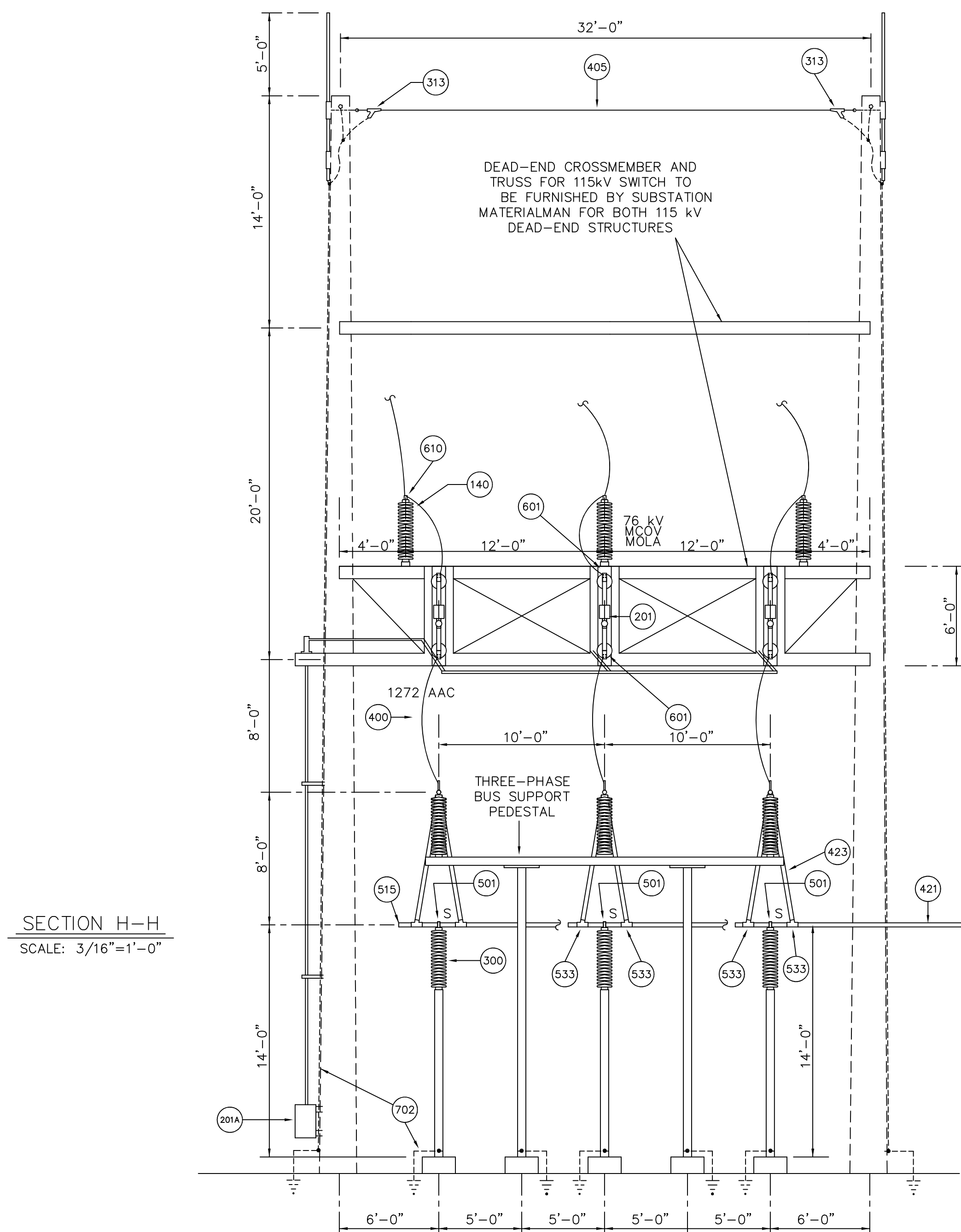
DWN.	DATE	DWG. NO.
CKD.	APPD.	
SCALE: 3/16" = 1'-0"		



SECTION G-G
SCALE: 3/16"=1'-0"

PRELIMINARY

#	1A			
REVISIONS	PRELIMINARY DESIGN FROM HUDS BID PACKAGE RMC 10/7/2025			
		 GREENVILLE UTILITIES Greenville, North Carolina BOVIET SUBSTATION 115kV TO 15kV SUBSTATION STEEL SECTIONS G-G		
		DWN. CKD. SCALE: 3/16" = 1'-0"	DATE APPD.	DWG. NO.



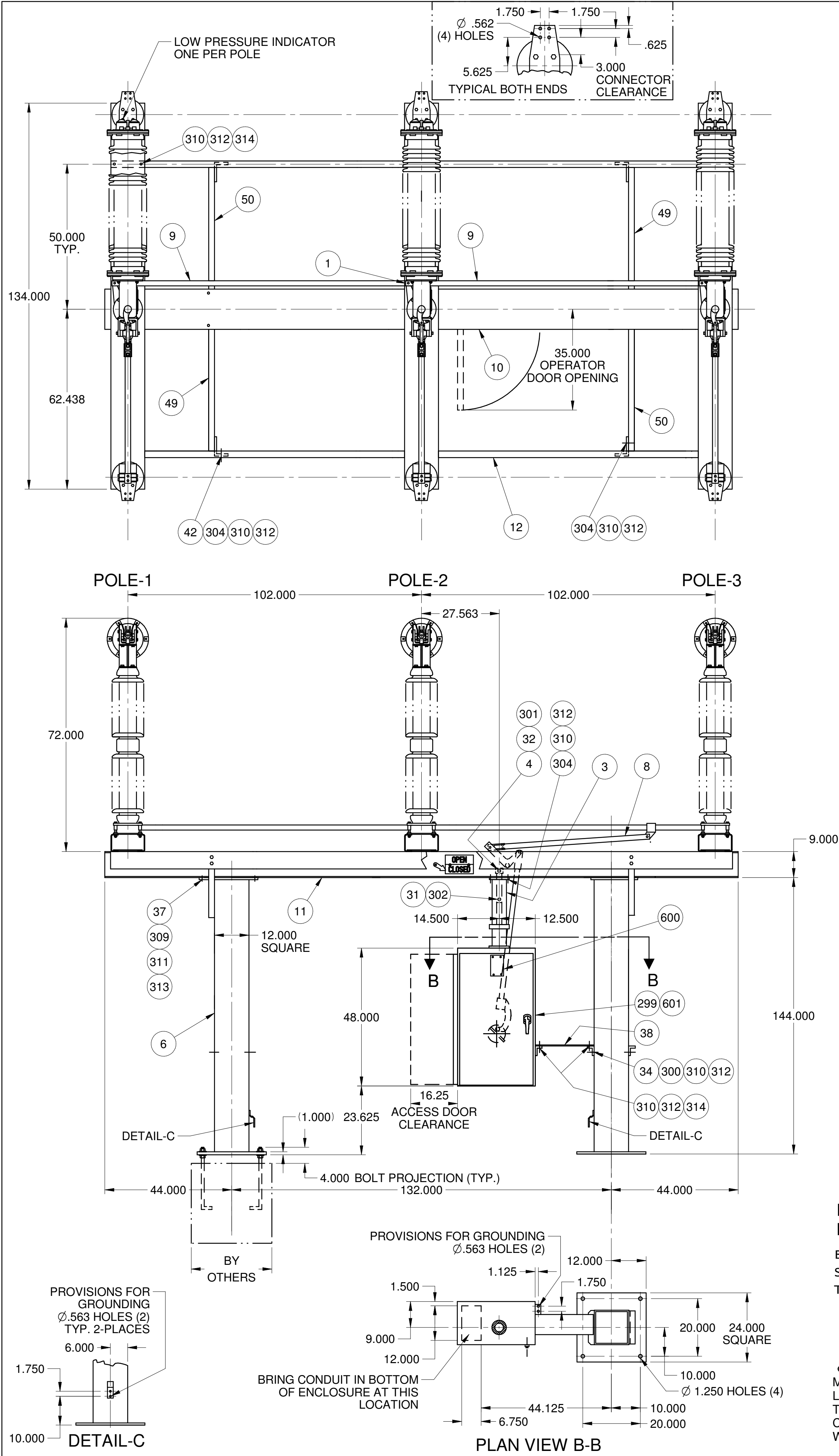
LEGEND

_____ SHADED LINES INDICATE FUTURE INSTALLATION
 - - - - - DASHED LINES INDICATE NEW INSTALLATION
 S = SLIP FIT BUS SUPPORT
 F = FIXED (WELD) BUS SUPPORT
 EX = EXPANSION COUPLING

#	1A			GREENVILLE UTILITIES Greenville, North Carolina		
REVISIONS	PRELIMINARY DESIGN FROM HUDS BID PACKAGE RMC 10/7/2025			BOVIET SUBSTATION 115kV TO 15kV SUBSTATION STEEL SECTIONS H-H, J-J		
				DWN.	DATE	DWG. NO.
				CKD.	APPD.	
SCALE: 3/16" = 1'-0"						

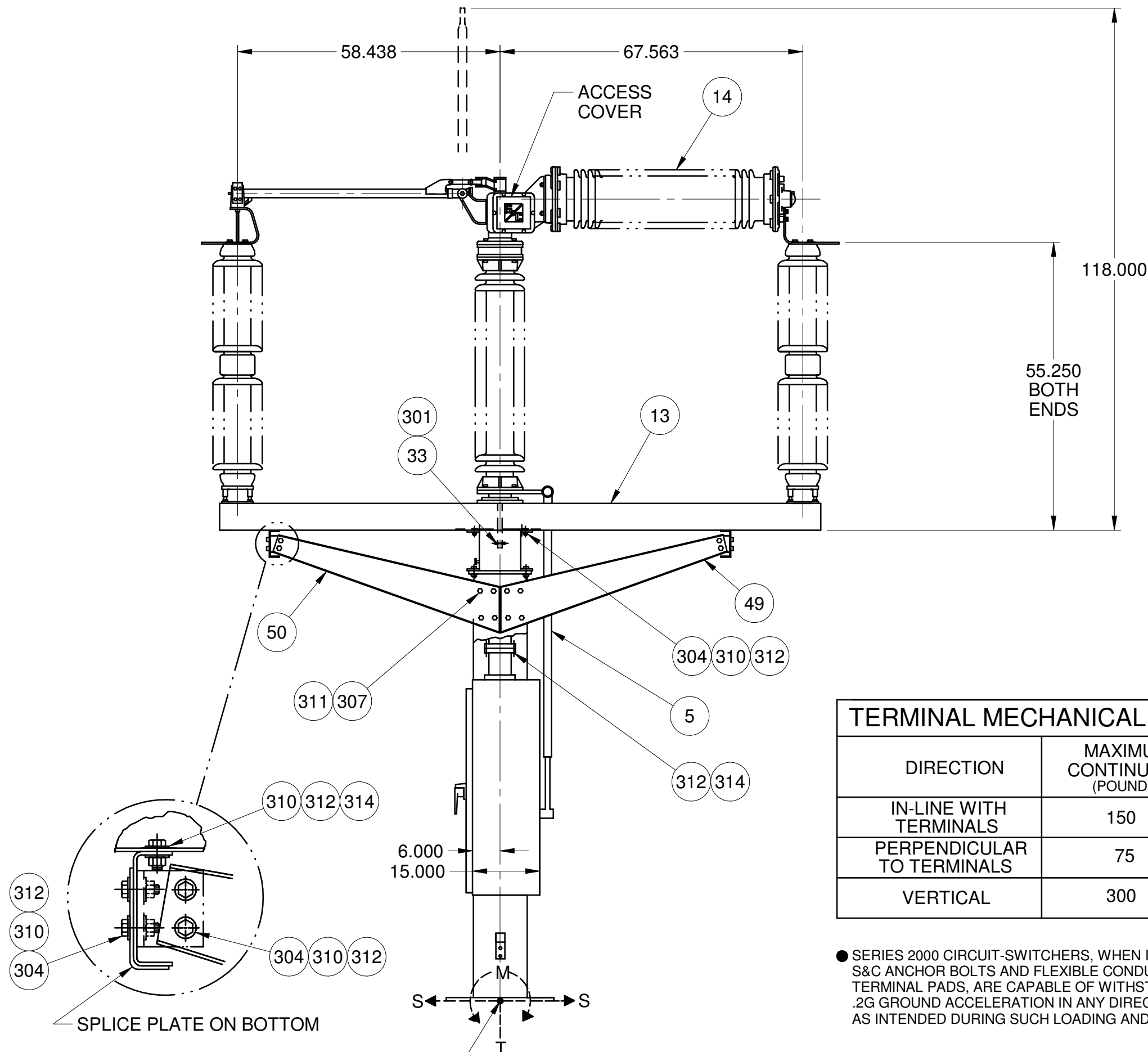
Appendix C

S&C Circuit Switcher



NOTES:

1. TOTAL WEIGHT 7,200 LBS.
2. A TYPICAL BOLT CONNECTION FOR FIELD ASSEMBLY WILL REQUIRE ONE FLATWASHER UNDER THE BOLT AND ONE UNDER THE NUT.
3. MOUNTING ANGLE (ITEM 034) TO BE SHIPPED ATTACHED TO PEDESTAL (ITEM 006).
4. STANDARD FEATURES:
 - A 48-VOLT DC OPERATOR CONTROL VOLTAGE
 - E12 144 INCH PEDESTALS
 - H2 240-VOLT 60 HZ HEATER SUPPLY
5. SWITCH-RELATED OPTIONAL FEATURES:



FOUNDATION LOADINGS PER PEDESTAL

BENDING MOMENT (M) -- 30,000 FT-LBS.
SHEAR LOAD (S) ----- 2,200 LBS.
THRUST (T)
STATIC ----- 4,600 LBS.
DYNAMIC ----- 1,500 LBS.
TOTAL ----- 6,100 LBS.

● BASED ON MOST-ADVERSE COMBINATION OF MAXIMUM-CONTINUOUS TERMINAL-PAD LOADING LIMITS LISTED ABOVE AND TAKING INTO ACCOUNT THE DEAD-WEIGHT CONTRIBUTION OF THE CIRCUIT-SWITCHER TO THE BENDING MOMENT, AS WELL AS A WIND LOADING OF 90 MILES PER HOUR.

REVISIONS				PRINT IDENTIFICATION	
NO.	DATE	BY	DESCRIPTION	CUSTOMER: Wesco - Raleigh	CUSTOMER ORDER NUMBER: 7884-194225
				S&C S.O. NUMBER: 922428	S&C LINE NUMBER: 1.1
				☐ THIS PRINT IS FOR YOUR APPROVAL. SHIP SCHEDULE IS VOID IF APPROVAL IS RECEIVED AFTER:	
				☐ THIS PRINT IS FOR YOUR RECORDS. MANUFACTURING IS PROCEEDING AND ANY CHANGES WILL RESULT IN A SHIPMENT DELAY.	
				☐ THIS IS A REVISED PRINT FOR YOUR RECORDS.	
				REMARKS: Greenville Utilities	
922428 1.1 S&C DRAWING NO. 000 REVISION CAUTION ANY INSTALLATION, OPERATION, INSPECTION OR MAINTENANCE OF THE EQUIPMENT COVERED BY THIS DOCUMENT MUST BE PERFORMED BY QUALIFIED PERSONS WHO ARE THOROUGHLY TRAINED AND WHO UNDERSTAND ANY HAZARDS THAT MAY BE INVOLVED. THIS DOCUMENT HAS BEEN PREPARED ONLY FOR SUCH QUALIFIED PERSONS AND IS NOT INTENDED TO BE A SUBSTITUTE FOR ADEQUATE TRAINING AND EXPERIENCE IN SAFETY PROCEDURES FOR THIS TYPE OF EQUIPMENT. BEFORE PERFORMING THE OPERATIONS DESCRIBED IN THIS DOCUMENT THE NECESSARY PROCEDURES RELATIVE TO THIS TYPE OF EQUIPMENT MUST BE CARRIED OUT. PROPRIETARY STATEMENT: THIS DOCUMENT AND ALL PREVIOUS ISSUES ARE THE SECRET AND CONFIDENTIAL PROPERTY OF S&C ELECTRIC COMPANY (S&C), 6001 NORTH RIDGE BOULEVARD, CHICAGO, ILLINOIS, AND NEITHER RECEIPT NOR POSSESSION THEREOF INFERS OR TRANSFERS ANY RIGHT IN OR LICENSE TO USE THIS DOCUMENT, THE SUBJECT MATTER THEREOF, OR ANY DESIGN OR TECHNICAL INFORMATION SHOWN THEREON, OR ANY RIGHT TO REPRODUCE THIS DOCUMENT OR ANY PART THEREOF. NEITHER THIS DOCUMENT NOR ANY INFORMATION CONTAINED THEREIN MAY BE COPIED, REPRODUCED, OR OTHERWISE USED OR DISCLOSED TO ANY OTHER PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION OF S&C. THIS DOCUMENT IS PROVIDED UNDER THE EXPRESS CONDITION THAT IT WILL BE HELD IN CONFIDENCE BY THE RECIPIENT, THAT IT IS SUBJECT TO RETURN UPON DEMAND, AND THAT IT WILL NOT BE USED IN ANY WAY DETRIMENTAL TO S&C. DRAWING SIZE: D SCALE: 1/8" = 1'-0" DRAWN BY: BREVIINGC ORIGINATOR DATE: 5/29/2025 PRODUCTION UNITS: INCHES CHECKED BY:  APPROVED BY:  5 S&C S&C ELECTRIC COMPANY Excellence Through Innovation DESCRIPTION 115 KV 1200 AMPERE CIRCUIT-SWITCHER, SERIES 2000 MODEL 2010 WITH HORIZONTAL INTERRUPTERS AND VERTICAL-BREAK POWER OPERATED DISCONNECT, 102 INCH PHASE SPACING SHEET 1 OF 3 CATALOG NO.: 197838 -AE12H2KMTT2VW1Y					

Appendix D

Geotechnical Report

100-000000-000000



SOLID GROUND

NC

**REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL SERVICES
BOVIET SOLAR SUBSTATION
MARTIN LUTHER KING JR HIGHWAY
GREENVILLE, PITT COUNTY, NORTH CAROLINA**



**PREPARED FOR:
BOVIET SOLAR
1125 SUGG PARKWAY
GREENVILLE NORTH CAROLINA 27834**

**SOLID GROUND NC PROJECT NO. NC25-0130
MAY 29, 2025**



SOLID GROUND NC

May 29, 2025

Eunice Weng
Program Office, Manager
Boviet Solar
1125 Sugg Parkway
Greenville North Carolina 27834

RE: Report of Subsurface Exploration and Geotechnical Services
Boviet Solar Substation
Martin Luther King Jr Highway
Greenville, Pitt County, North Carolina
Solid Ground Project: NC24-0130

Dear Ms. Weng:

As authorized, Solid Ground Engineering NC, PLLC (Solid Ground NC) has completed the subsurface exploration and geotechnical analysis for the above referenced project.

This report presents the findings of our subsurface exploration and our evaluations, as well as recommendations regarding geotechnical-related design and construction considerations for the site.

Thank you for the opportunity to work with you on this project. Should you have any questions or if we could be of further assistance, please do not hesitate to contact us at 919-800-9093 or aric@solidgroundnc.com.

Sincerely,
Solid Ground Engineering NC, PLLC
NC Firm License No. P3004

Aric V. Geda, P.E.
Principal Engineer

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
EXECUTIVE SUMMARY	1
1.0 PROJECT OVERVIEW	2
1.1 PROJECT DESCRIPTION AND SCOPE OF WORK	2
1.2 PROPOSED CONSTRUCTION	2
2.0 FIELD EXPLORATION	3
2.1 EXPLORATION PROCEDURES	3
3.0 EXPLORATION RESULTS	4
3.1 SITE CONDITIONS	4
3.2 SITE GEOLOGY AND SUBSURFACE CONDITIONS	4
3.3 SUBSURFACE CONDITIONS	4
3.4 GROUNDWATER.....	4
3.5 SEASONAL HIGH-WATER TABLE	4
4.0 ANALYSIS AND RECOMMENDATIONS	5
4.1 FOUNDATIONS.....	5
4.2 SETTLEMENT	5
4.3 FLOOR SLABS.....	5
4.4 SEISMIC CONDITIONS.....	6
4.5 SITE DRAINAGE	6
4.6 GROUNDWATER CONTROL.....	6
4.7 EXCAVATION CONSIDERATIONS	6
4.8 PAVEMENTS	6
5.0 CONSTRUCTION CONSIDERATIONS.....	8
5.1 SITE PREPARATION AND CLEARING	8
5.2 FILL PLACEMENT AND SOIL COMPACTION.....	8
6.0 GENERAL COMMENTS	10
Appendix A Figures	
Appendix B Boring Logs	
Appendix C General Conditions	
Appendix D Procedures Regarding Field Logs and Samples	

EXECUTIVE SUMMARY

Solid Ground NC, PLLC (Solid Ground NC) has completed the report of subsurface exploration and geotechnical engineering services for the Boviet Solar Substation to be located along the north side of MLK Jr. Boulevard, west of the existing Boviet Solar facility located at 1125 Sugg Parkway, Greenville, Pitt County, North Carolina. This summary should not be considered apart from the entire text of the report with all the qualifications and conditions mentioned herein.

We understand that the development consists of an electrical substation structure approximately 112,500 SF in size, 115,000 SF storage area, and drive lanes. We have not been provided loading information; however, we anticipate maximum column and wall loads will be on the order of 200 kips and 5 kips per linear foot, respectively. While a grading plan has not been provided for the site, we anticipate fill placement across the site.

Topsoil containing silty organic soil was encountered in each of the borings. Topsoil ranged from approximately 3 to 8 inches in thickness. Root mat in wooded and brush areas likely extend to a significantly deeper depth. Below the topsoil is the natural residual soil which contains an upper layer of medium stiff to stiff sandy clay extending to a depth of three to eight feet below ground surface. The upper clays transition into medium dense clayey sands, followed by clean fine sands which extend to the terminal depths of the borings.

Groundwater was encountered in several borings at varying depths between 2 and 4 feet below ground surface. It is anticipated that dewatering measures such as trenching, ditching, sumping, and pumping may be used to control surface water, however some dewatering may be required for deeper utilities.

Provided the recommendations presented in this report are followed, the proposed structures may be supported on conventional shallow footing foundations and ground-supported floor slab. Based on maximum anticipated column loads of 200 kips and wall loads of 5 kips per lineal foot, a design soil bearing pressure of 2000 PSF can generally be achieved immediately below surfacing materials and any softened clays across the site. This design pressure can also be used for any footings placed on newly placed engineered fill.

Based on results of soil test borings, past experience, and information provided in Section 1615 of the building code, it is our opinion it is our opinion that the subsurface characteristics reflect those of Seismic Site Classification D.

The recommended pavement sections are presented as follows:

Material Designation	Medium Duty Asphalt Pavement	Heavy Duty Asphalt Pavement	Rigid Concrete Pavement
Asphalt Surface Course (SF9.5A)	3.0 inches	1.5 inches	-
Asphalt Intermediate Course (I19.0B)	-	2.5 inches	-
Portland Cement Concrete	-	-	7.0 inches
Aggregate Base Course (NCDOT)	6.0 inches	10.0 inches	6.0 inches

1.0 PROJECT OVERVIEW

1.1 Project Description and Scope of Work

This report presents the results of the subsurface exploration and geotechnical engineering services for the Boviet Solar Substation to be located along the north side of MLK Jr. Boulevard, west of the existing facility located at 1125 Sugg Parkway, Greenville, Pitt County, North Carolina. A site location map is shown as Figure 1 in Appendix A. The explored area is a portion of the approximately 44-acre Blount Parcel and generally appears as undeveloped woodland.

The site was explored by eight (8) soil test borings (Borings B-101 through B-108) and sampling the soils to depths of up to 20 feet below existing site grades. The boring locations were located in the field by Solid Ground NC personnel using GPS and from known site features. The locations shown should be considered approximate given the methods used. A boring location plan is provided as Figure 2 in Appendix A of this report.

This report was prepared based upon the results of the boring and laboratory data. The purpose of this exploration is to describe the soil and groundwater conditions that were encountered in the test borings, to analyze and evaluate the test data obtained, and to submit preliminary recommendations regarding foundations, slabs, pavements, earthwork, construction, and other geotechnical-related considerations of design and construction.

1.2 Proposed Construction

We understand that the development consists of an electrical substation structure approximately 112,500 SF in size, 115,000 SF storage area, and drive lanes. We have not been provided loading information; however, we anticipate maximum column and wall loads will be on the order of 200 kips and 5 kips per linear foot, respectively. While a grading plan has not been provided for the site, we anticipate fill placement across the site.

2.0 FIELD EXPLORATION

2.1 Exploration Procedures

The soil borings were performed with a CME 550 ATV auger drilling rig, which utilized hollow stem augers to advance the boreholes. Drilling fluid was not used to advance the borings.

Representative soil samples were obtained by means of the split-barrel sampling procedure in general accordance with ASTM Specification D-1586. In this procedure, a 2-inch O. D. split-barrel sampler is driven into the soil a distance of 18 inches by a 140-pound hammer with a free fall of 30 inches. The number of blows required to drive the sampler through the final 12-inch interval is termed the Standard Penetration Test (SPT) N-value and is indicated for each sample on the boring logs.

The SPT N-value can be used to provide a qualitative indication of the in-place relative density of cohesionless soils. In a less reliable way, SPT N-values provide an indication of consistency for cohesive soils. These indications of relative density and consistency are qualitative, since many factors can significantly affect the SPT N-value and prevent a direct correlation between drill crews, drill rigs, drilling procedures, and hammer-rod-sampler assemblies.

Field logs of the soils encountered in the borings were maintained by a Solid Ground NC engineer. The soil samples obtained from the drilling operations were sealed and were brought to our laboratory for further examination.

3.0 EXPLORATION RESULTS

3.1 Site Conditions

The parcel is currently primarily woodland. The property is surrounded by undeveloped woodland to the north, with Catalent Pharma Solutions and Boviet Solar facilities to the east. Martin Luther King Jr Highway appears south of the subject property, beyond which is Gregory Pool Lift Systems, Coca-Cola Bottling Co Cons Manufacturer, and undeveloped woodland. The subject property is bound to the west by a power easement, beyond which is Avient Protective Materials LLC manufacturing complex. The site is accessed from Martin Luther King Jr Highway through the power easement west of the site.

3.2 Site Geology

The subject site is located in the Coastal Plain Physiographic Province. The Coastal Plain soils consist mainly of marine sediments that were deposited during successive periods of fluctuating sea level and moving shoreline. The soils include sands, silts, and clays with irregular deposits of shells, which are typical of those lain down in a shallow sloping sea bottom. Recent alluvial sands, silts, and clays are typically present near rivers and creeks. According to the 1985 Geologic Map of North Carolina, the site is mapped within the Yorktown and Duplin Formation, Undivided.

3.3 Subsurface Conditions

The specific soil conditions at each boring location are noted on the individual boring logs. A general description is also provided below. Subsurface conditions may vary between boring locations.

Surface Materials (Topsoil): Topsoil containing clayey organic soil was encountered in each of the borings. Topsoil ranged from approximately 3 to 8 inches in thickness. Root mat in the wooded areas likely extend to a significantly deeper depth.

Fill Soils: No fill soils were encountered at the site.

Natural Soil: Below the topsoil is the natural residual soil which contains an upper layer of medium stiff to stiff sandy clay extending to a depth of three to eight feet below ground surface. The upper clays transition into medium dense clayey sands, followed by clean fine sands which extend to the terminal depths of the borings.

3.4 Groundwater

Groundwater was encountered in each of the borings at varying depths between 2 and 4 feet below ground surface. It is anticipated that dewatering measures such as trenching, ditching, sumping, and pumping may be used to control surface water if construction is performed in the rainy portion of the year.

4.0 ANALYSIS AND RECOMMENDATIONS

The following preliminary design and construction recommendations are based on our above-stated understanding of the proposed construction and on the data obtained from the field exploration and visual soil classification. The following recommendations are for design purposes and may require modification if loads or building locations change.

4.1 Foundations

Provided the recommendations presented in this report are followed, the proposed structures may be supported on conventional shallow footing foundations and ground-supported floor slab.

Based on maximum anticipated column loads of 200 kips and wall loads of 5 kips per lineal foot, a design soil bearing pressure of 2000 PSF can generally be achieved immediately below surfacing materials and any softened clays across the site. This design pressure can also be used for any footings placed on newly placed engineered fill.

In order to provide adequate frost cover protection and embedment for bearing capacity, we recommend that footings be located at minimum depths of 18 inches below finished exterior grades. In order to prevent disproportionately small footing sizes, we recommend that strip footings have a minimum width of 18 inches and that isolated column footings have a minimum lateral dimension of 24 inches. The minimum dimension sizes, as recommended above, are utilized to reduce foundation difficulties as a result of local shear or "punching" action.

A representative of the geotechnical engineer should observe the foundation subgrade to verify that conditions exposed at the subgrade are suitable for the design bearing pressures. If unsuitable materials are encountered, it may be necessary to lower the base of the footing through the unsuitable materials or to undercut the unsuitable soils and to restore original bearing levels by placing engineered fill materials, NCDOT No. 57 or No. 67 stone or lean concrete.

4.2 Settlement

We anticipate that foundations designed according to the above recommendations should experience total settlements of less than 1 inch for footings designed and constructed as previously recommended. In our opinion, this should limit differential settlements between similarly loaded adjacent columns to magnitudes of ½ inch. Sufficient time should be allowed for any newly-placed fill settlements to stabilize prior to beginning foundation construction.

4.3 Floor Slabs

The floor slab subgrade should consist of new engineered fill or approved existing soils and should include a minimum 4-inch-thick layer of washed stone (NCDOT #57). For point loading conditions, the slab may be designed based on a 100 psi/in value for the modulus of subgrade reaction.

We recommend that a capillary cutoff layer be provided under the floor slabs to prevent the rise of water through the slab. The capillary layer should consist, at a minimum, of a 4-inch thick clean, crushed stone or washed gravel layer, having a maximum size of 1.5 inches with a maximum of 2 percent passing the No. 200 sieve. A vapor retarder should be considered beneath concrete slabs on grade that will be covered with wood, tile, carpet or other moisture sensitive or impervious coverings. The slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

4.4 Seismic Conditions

Per Section 1615 of the North Carolina Building Code, the design of a structure must consider dynamic forces resulting from seismic events, regardless of their likelihood of occurrence. As part of a generalized procedure to estimate seismic forces, the code assigns a Seismic Site Classification (letter designation of Class A through F) based on the subgrade soil/rock conditions within the upper 100 feet of the ground surface at the subject site. Based on results of soil test borings, past experience, and information provided in Section 1615, it is our opinion it is our opinion that the subsurface characteristics reflect those of Site Class D.

If the design and construction cost savings associated with an improved Site Class are favorable, it may be prudent to perform Shear Wave Velocity measurements at the site to determine if the more favorable Site Class is available. We would be pleased to further discuss these options with the client and design team, if warranted.

Liquefaction is not expected based on its fines content and the relatively low level of ground motions projected for a seismic event.

4.5 Site Drainage

We recommend the ground surface be sloped away from the foundations and building pad for a minimum distance of at least 10 feet, and that all downspouts be connected to tightline drains that discharge to a suitable location downslope of the foundations. Paved areas should also have positive drainage.

4.6 Groundwater Control

Based on the results of the borings, we anticipate that some dewatering may be necessary during construction of deeper utility lines. For most shallow excavations, we expect groundwater can be controlled through the use of ditches, sumps, and pumps.

If water collects in foundation excavations, it will be necessary to remove the water from the excavation, remove the saturated soils, and re-test the adequacy of the bearing surface to support the design bearing pressure prior to concrete placement. Establishing a system of drainage ditches to carry surface and shallow groundwater away from building sites and roadways should reduce grading costs.

4.7 Excavation Considerations

Most of the upper 15 to 20 feet of on-site soils are OSHA Type C soils for the purpose of temporary excavation support. Excavations should be constructed in compliance with current OSHA standards for excavation and trenching safety. Excavations should be observed by a "competent person", as defined by OSHA, who should evaluate the specific soil type and other conditions, which may control the excavation side slopes or the need for shoring or bracing.

4.8 Pavement

Pavement subgrades should be prepared as outlined in Sections 5.1 and 5.2 of this report. We were not provided with details regarding traffic conditions at the site. Pavement section alternatives have been provided below. Medium duty pavement sections are recommended for areas that will be subjected to passenger cars and pickup truck traffic. Heavy duty areas are recommended for areas that will experience truck traffic. For our heavy-duty design, we have assumed 500,000 equivalent single axle loads (ESALs) over a 20-year design life.

The recommended pavement sections are presented below:

Material Designation	Medium Duty Asphalt Pavement	Heavy Duty Asphalt Pavement	Rigid Concrete Pavement
Asphalt Surface Course (SF9.5A)	3.0 inches	1.5 inches	-
Asphalt Intermediate Course (I19.0B)	-	2.5 inches	-
Portland Cement Concrete	-	-	7.0 inches
Aggregate Base Course (NCDOT)	6.0 inches	10.0 inches	6.0 inches

The base course materials beneath pavements should be compacted to at least 100 percent of their modified Proctor maximum dry density (ASTM D 1557). The asphalt concrete and the crushed stone materials should conform to the current North Carolina Department of Transportation Standard Specifications. If concrete pavement sections are incorporated into the site design, Rigid sections should consist of 4,000 psi compressive strength concrete or greater.

Regardless of the section and type of construction utilized, saturation of the subgrade materials will result in a softening of the subgrade materials and shortened life span for the pavement. Risk of subgrade softening can be reduced by means of quickly removing surface and subsurface water, resulting in an increased likelihood of improved pavement performance. Therefore, we recommend that both the surface and subsurface materials for the pavement be properly graded to enhance surface and subgrade drainage. In addition, placement of ½-inch diameter holes drilled through catch basins at or slightly above the subgrade elevation will facilitate base course drainage into the catch basin.

Gravel Yards / Fire Lanes

A stable subgrade is a priority to gravel pavement performance. Immediately prior to paving, the subgrade should be proof rolled and any unstable areas that are not firm and unyielding be repaired. A 6" ABC gravel course should be compacted to at least 100% of the maximum dry density, as determined by the Modified Proctor Compaction Test (ASTM D1557). To document that the base course has been uniformly compacted, in-place field density tests should be performed by Solid Ground and the area should be methodically proof rolled under the engineer's observation.

The performance of gravel pavements will be dependent upon a number of factors, including subgrade conditions at the time of paving, rainwater runoff, and traffic. With the near surface soils onsite consisting of silts, they are susceptible to softening when exposed to moisture and excessive construction traffic. Rainwater runoff should not be allowed to seep below pavements from adjacent areas. Therefore, drainage swales should be designed around the paved area. We recommend that the parking lot be shaped with a minimum of 3% slope to the swales to allow for proper drainage.

5.0 CONSTRUCTION CONSIDERATIONS

5.1 Site Preparation and Clearing

The site should be cleared of topsoil, vegetation, root mat, and other deleterious materials. We recommend that any soft or unsuitable material be removed from the proposed construction area. Areas that are being rough graded and used as staging areas or left for more than a few weeks should be crowned and left 12 inches above the final subgrade elevation to help protect the finished subgrade from disturbance. Leaving the subgrade high may reduce the disturbance and saturation of the subgrade that would normally require undercutting.

Once the site is stripped, cleared and prepared as outlined above, and prior to placing any new fill to raise the grade, the site should be proofrolled using a loaded dump truck, having an axle weight of at least 10 tons, and observed by an experienced geotechnical engineer, or his representative, at the time of construction to aid in identifying any areas with soft or unsuitable materials. Probing may be used at this time to aid in identifying areas of soft or unsuitable material. Any soft or unsuitable materials encountered during this proofrolling should be removed and replaced with an approved backfill compacted to the criteria given in Section 5.2 *Fill Placement and Soil Compaction*.

Grading operations at this site will be more economical if performed during the drier periods of the year (typically April to November). However, during the wetter periods of the year, wet soils probably can be dried by using discing or other drying procedures, such as lime or cement stabilization, to achieve moisture contents necessary to achieve adequate degrees of compaction. The site should be graded to enhance surface water runoff to reduce the ponding of water. Ponding of water often results in softening of the near-surface soils. When rainfall is anticipated during grading operations, we recommend areas of disturbed soil be rolled with a smooth drum roller and that the grading activities cease until the site has had a chance to dry.

5.2 Fill Placement and Soil Compaction

Soils used as fill should be approved materials, free of organics, debris, frozen and foreign material, and generally having a maximum Liquid Limit of 50 and a maximum Plasticity Index of 20. Most of the on-site low plasticity soils (SP and SM) can be used as backfill material for this project provided their moisture contents are within acceptable range outlined in this report. The maximum particle size in the fill should be less than $\frac{1}{2}$ the thickness of the compacted lift.

Any fill or backfill placed in footing, slab, and pavement areas should be compacted to a minimum of 95 percent of the maximum dry density obtained in accordance with ASTM Specification D-698, Standard Proctor Method. However, the upper 18 inches of fill below any structural or pavement areas should be compacted to 98 percent of the maximum dry density. Any fill or backfill placed in utility trench and sidewalk areas should be compacted to a minimum of 95 percent of the maximum dry density obtained in accordance with ASTM Specification D-698, Standard Proctor Method. Fill should be placed in lifts of approximately 8 to 10 inches in loose thickness with fill operations continuing until the subgrade elevations are achieved. To aid in achieving compaction, we recommend that the moisture content of the fill materials at the time of placement be within +/- 3 percentage points of the optimum moisture content established by the above referenced laboratory compaction tests.

Any fill or backfill placed in landscaped areas should be compacted to a minimum of 90 percent of the maximum dry density obtained in accordance with ASTM Specification D-698, Standard Proctor Method.

We recommend that the placement of compacted structural fill and recompaction of the subgrade soils in the construction area be observed by a representative of the geotechnical engineer to determine if proper compaction is being achieved. In-place density tests made in accordance with ASTM Designation D-1556, D-6938, or equivalent should be used to verify compaction. We recommend a minimum of one test per lift for every 5,000 square foot area, or fraction thereof, for the building pad area and every 10,000 square foot area, or fraction thereof, elsewhere. We also recommend at least one test per lift for every 100 linear feet of utility trench backfill, or fraction thereof.

6.0 GENERAL COMMENTS

This report has been prepared in order to aid in the evaluation of this property and to assist the architect and/or engineers in the preliminary design of this project. The scope is limited to the specific project and locations described herein and our description of the project represents our understanding of the significant aspects relative to soil and foundation characteristics. In the event that any changes in the nature or location of the proposed construction outlined in this report are planned, we should be informed so that the changes can be reviewed and the conclusions of this report modified or approved in writing by the geotechnical engineer. It is recommended that all construction operations dealing with earthwork and foundations are reviewed by an experienced geotechnical engineer to provide information as to whether the design requirements are fulfilled in the actual construction. We would welcome the opportunity to provide field construction services for you during construction.

The analysis and recommendations submitted in this report are based upon the data obtained from the soil borings and tests performed at the locations as indicated on the Boring Location Diagram and other information referenced in this report. This report does not reflect any variations which may occur between the borings. In the performance of the subsurface exploration, specific information is obtained at specific locations at specific times. However, it is a well-known fact that variations in soil conditions exist on most sites between boring locations and also such situations as groundwater levels vary from time to time. The nature and extent of variations may not become evident until during the course of construction. If site conditions vary from those identified during the subsurface exploration, the recommendations contained in this report may require revision. Once final layouts are established, additional subsurface explorations need to be performed.

APPENDIX A

Figures

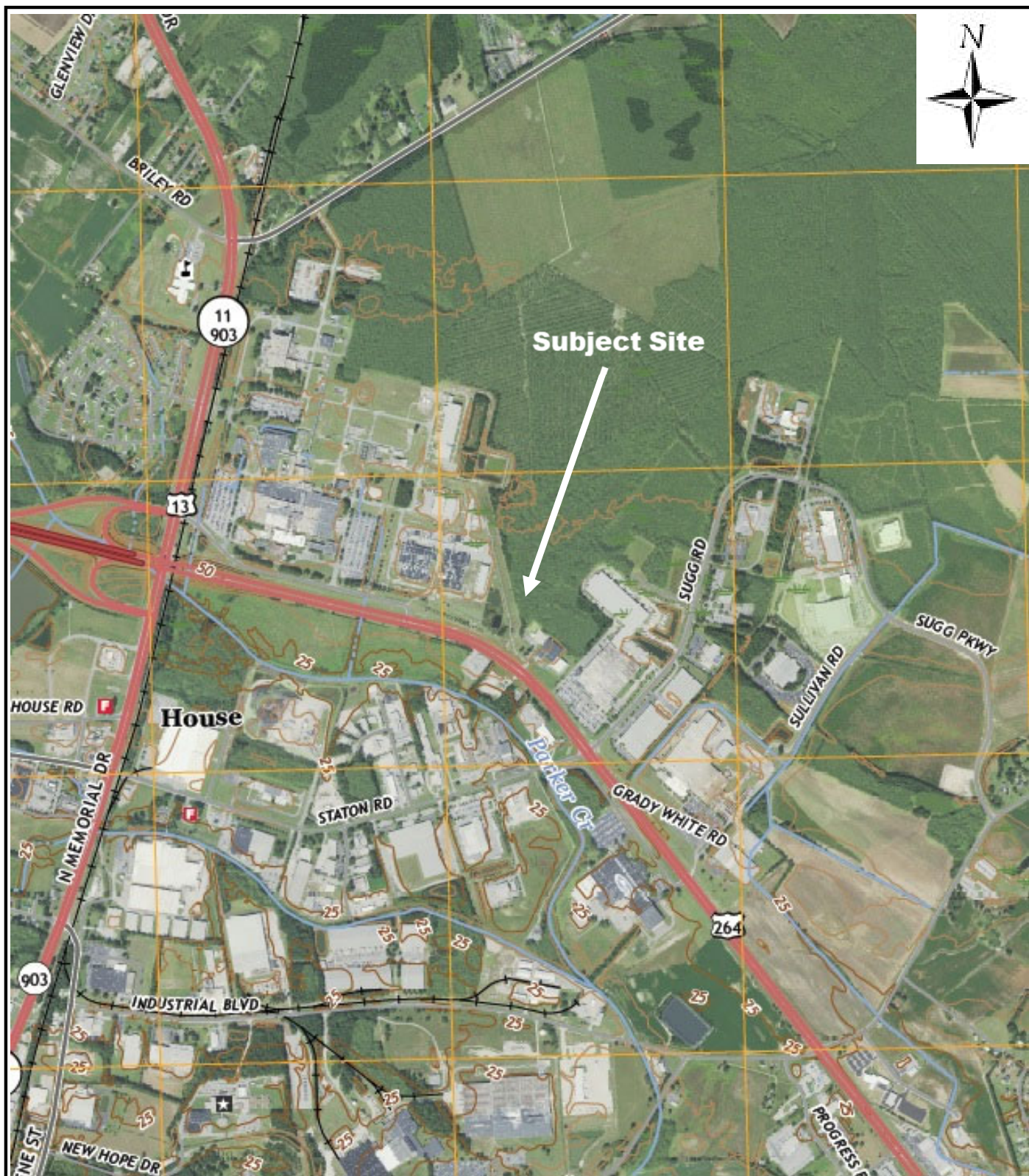


FIGURE 1- SUBJECT PROPERTY LOCATION MAP

Boviet Solar Substation
Martin Luther King Jr Highway
Greenville, North Carolina

SOLID GROUND
NC

3714 Alliance Drive, Suite 400
Greensboro, North Carolina 27407
(919) 800-9093

Project No: NC25-0130

May 2025
Map Source: USGS 2022

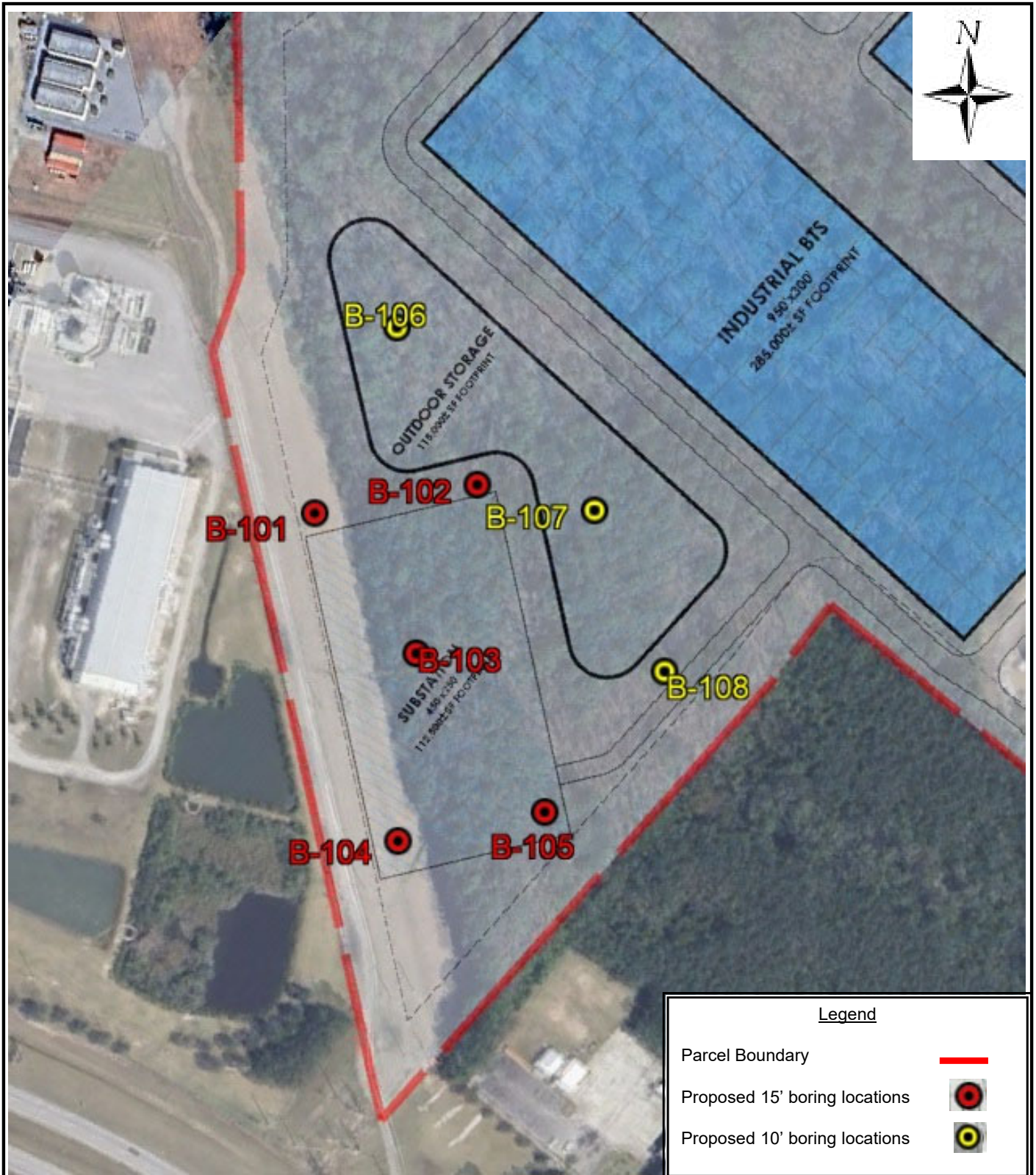


FIGURE 2- BORING LOCATIONS ON CONCEPTUAL PLAN

Boviet Solar Substation
Martin Luther King Jr Highway
Greenville, North Carolina

SOLID GROUND
NC

3714 Alliance Drive, Suite 400
Greensboro, North Carolina 27407
(919) 800-9093

Project No: NC25-0130

May 2025
Map Source: ARCO

APPENDIX B

Boring Logs

Project: Boviet Solar Substation				Project Number: NC25-0130		Client: Boviet Solar		Boring No. B-101				
Address, City, State MLK JR HWY						Drilling Contractor: J&L		Drill Rig Type: CME 550				
Logged By: Geda				Date	Started: 5/23/25		Bit Type: HS		Diameter: 2-1/4"			
Drill Crew: Casey					Completed: 5/23/25		Hammer Type: Safety					
Ticket Number:					Backfilled: Cuttings		Hammer Weight: 140#		Hammer Drop: 30"			
				Surface Elev. 33.0		GW Depth 3.8		GW Elevation 29.2		Total Depth of Boring: 20 feet		
Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology					Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
					<u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors <u>Rock Description:</u> modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.							
2	SS	1	7		3" Clayey Topsoil							
4	SS	2	6		Sandy CLAY, tan-gray, moist, medium stiff (CL)							
6	SS	3	11		Clayey fine SAND, tan-gray, wet, loose (SC)							
8	SS	4	12		Sandy CLAY, gray, moist, stiff (CL)							
10												
12												
14	SS	5	12									
16												
18	SS	6	15		Fine SAND, gray, wet, medium dense (SP)							
20												
22												
24						End of Boring-20'						

Modulus, PLLC

SS- Standard Penetration Slit Spoon Sampler (SPT)



California Sampler



Shelby Tube



CPP Sampler



Bulk/ Bag Sample

Boring Log: Sheet 1 of 1

WR- Weathered Rock



Stabilized Ground water



Groundwater At time of Drilling

Project: Boviet Solar Substation		Project Number: NC25-0130		Client: Boviet Solar		Boring No. B-102			
Address, City, State MLK JR HWY				Drilling Contractor: J&L		Drill Rig Type: CME 550			
Logged By: Geda		Date	Started: 5/23/25		Bit Type: HS		Diameter: 2-1/4"		
Drill Crew: Casey			Completed: 5/23/25		Hammer Type: Safety				
Ticket Number:			Backfilled: Cuttings		Hammer Weight: 140#		Hammer Drop: 30"		
			Surface Elev. 33.0		GW Depth 3.5		GW Elevation 29.5		
							Total Depth of Boring: 20 feet		
Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology		Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
					Lithology <u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors <u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.				
2	SS	1	9		4" Clayey Topsoil				
4	SS	2	10		Sandy CLAY, brown-gray, moist, stiff (CL)				
6	SS	3	13		Clayey fine SAND, brown-gray, wet, medium dense (SC)				
8	SS	4	15						
10	SS	5	8						
12	SS	6	5						
14					Fine SAND, gray, wet, loose (SP)				
16									
18									
20					End of Boring-20'				
22									
24									

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

WR- Weathered Rock

 California Sampler

 Stabilized Ground water

 Shelby Tube

 Groundwater At time of Drilling

 CPP Sampler

 Bulk/ Bag Sample

Project: Boviet Solar Substation				Project Number: NC25-0130		Client: Boviet Solar		Boring No. B-103			
Address, City, State MLK JR HWY						Drilling Contractor: J&L		Drill Rig Type: CME 550			
Logged By: Geda				Date	Started: 5/23/25		Bit Type: HS		Diameter: 2-1/4"		
Drill Crew: Casey					Completed: 5/23/25		Hammer Type: Safety				
Ticket Number:					Backfilled: Cuttings		Hammer Weight: 140#		Hammer Drop: 30"		
				Surface Elev. 32.0	GW Depth 3.2	GW Elevation 28.8		Total Depth of Boring: 20 feet			
Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology				Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors Rock Description: modifierm color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.						
2	SS	1	6		3" Clayey Topsoil						
4	SS	2	6		Sandy CLAY, tan-gray, moist, medium stiff (CL)						
6	SS	3	8								
8	SS	4	5		Clayey fine SAND, tan-gray, wet, loose (SC)						
10	SS	5	5								
12	SS	6	5								
14	SS	5	5		Fine SAND, gray, wet, loose (SP)						
16	SS	6	5								
18	SS										
20	SS			End of Boring-20'							
22											
24											

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

WR- Weathered Rock

 California Sampler

 Stabilized Ground water

 Shelby Tube

 Groundwater At time of Drilling

 CPP Sampler

 Bulk/ Bag Sample

Project: Boviet Solar Substation		Project Number: NC25-0130		Client: Boviet Solar		Boring No. B-104		
Address, City, State MLK JR HWY				Drilling Contractor: J&L		Drill Rig Type: CME 550		
Logged By: Geda		Date	Started: 5/23/25		Bit Type: HS		Diameter: 2-1/4"	
Drill Crew: Casey			Completed: 5/23/25		Hammer Type: Safety			
Ticket Number:			Backfilled: Cuttings		Hammer Weight: 140#		Hammer Drop: 30"	
			Surface Elev. 31.0		GW Depth 2.3		GW Elevation 28.7	
							Total Depth of Boring: 20 feet	
Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology	Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
2	SS	1	6		4" Clayey Topsoil Sandy CLAY, tan-gray, moist, medium stiff (CL)			
4	SS	2	6		Clayey fine SAND, tan-gray, wet, medium dense (SC)			
6	SS	3	14		Sandy CLAY, gray, moist, very stiff (CL)			
8	SS	4	20		Fine SAND, gray, wet, medium dense (SP)			
10	SS	5	25					
12	SS	6	18					
14					End of Boring-20'			
16								
18								
20								
22								
24								

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

WR- Weathered Rock

 California Sampler

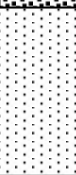
 Stabilized Ground water

 Shelby Tube

 Groundwater At time of Drilling

 CPP Sampler

 Bulk/ Bag Sample

Project: Boviet Solar Substation		Project Number: NC25-0130		Client: Boviet Solar		Boring No. B-105			
Address, City, State MLK JR HWY				Drilling Contractor: J&L		Drill Rig Type: CME 550			
Logged By: Geda		Date	Started: 5/23/25		Bit Type: HS		Diameter: 2-1/4"		
Drill Crew: Casey			Completed: 5/23/25		Hammer Type: Safety				
Ticket Number:			Backfilled: Cuttings		Hammer Weight: 140#		Hammer Drop: 30"		
			Surface Elev. 31.0		GW Depth 2.5		GW Elevation 28.5		
							Total Depth of Boring: 20 feet		
Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology		Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
					<u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors <u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.				
2	SS	1	6		3" Clayey Topsoil				
4	SS	2	7		Sandy CLAY, tan-gray, moist, medium stiff (CL)				
6	SS	3	5						
8					Clayey fine SAND, tan-gray, wet, medium dense (SC)				
10	SS	4	10						
12									
14	SS	5	16		Fine SAND, gray, wet, medium dense (SP)				
16									
18									
20	SS	6	19		End of Boring-20'				
22									
24									

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

WR- Weathered Rock



California Sampler



Stabilized Ground water



Shelby Tube



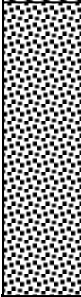
Groundwater At time of Drilling



CPP Sampler



Bulk/ Bag Sample

Project: Boviet Solar Substation		Project Number: NC25-0130		Client: Boviet Solar		Boring No. B-106		
Address, City, State MLK JR HWY				Drilling Contractor: J&L		Drill Rig Type: CME 550		
Logged By: Geda		Date	Started: 5/23/25		Bit Type: HS		Diameter: 2-1/4"	
Drill Crew: Casey			Completed: 5/23/25		Hammer Type: Safety			
Ticket Number:			Backfilled: Cuttings		Hammer Weight: 140#		Hammer Drop: 30"	
			Surface Elev. 34.0		GW Depth 3.9		GW Elevation 30.1	
							Total Depth of Boring: 10 feet	
Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology	Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
					Lithology <u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors <u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.			
2	SS	1	4		8" Clayey Topsoil			
					Sandy CLAY, gray, moist, medium stiff (CL)			
4	SS	2	11		Clayey fine SAND, gray, wet, medium dense (SC)			
6	SS	3	26					
8	SS	4	12					
10					End of Boring-10'			
12								
14								
16								
18								
20								
22								
24								

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

WR- Weathered Rock

 California Sampler

 Stabilized Ground water

 Shelby Tube

 Groundwater At time of Drilling

 CPP Sampler

 Bulk/ Bag Sample

Project: Boviet Solar Substation		Project Number: NC25-0130		Client: Boviet Solar		Boring No. B-107		
Address, City, State MLK JR HWY				Drilling Contractor: J&L		Drill Rig Type: CME 550		
Logged By: Geda		Date	Started: 5/23/25		Bit Type: HS		Diameter: 2-1/4"	
Drill Crew: Casey			Completed: 5/23/25		Hammer Type: Safety			
Ticket Number:			Backfilled: Cuttings		Hammer Weight: 140#		Hammer Drop: 30"	
			Surface Elev. 33.0		GW Depth 3.9		GW Elevation 29.1	
							Total Depth of Boring: 10 feet	
Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology	Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
2	SS	1	8		Lithology			
					<u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors			
					<u>Rock Description:</u> modifier color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.			
4	SS	2	21		4" Clayey Topsoil			
6	SS	3	22		Sandy CLAY, gray, moist, stiff (CL)			
8	SS	4	15		Clayey fine SAND, gray, wet, medium dense (SC)			
10					End of Boring-10'			
12								
14								
16								
18								
20								
22								
24								

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

WR- Weathered Rock

 California Sampler

 Stabilized Ground water

 Shelby Tube

 Groundwater At time of Drilling

 CPP Sampler

 Bulk/ Bag Sample

Project: Boviet Solar Substation		Project Number: NC25-0130		Client: Boviet Solar		Boring No. B-108			
Address, City, State MLK JR HWY				Drilling Contractor: J&L		Drill Rig Type: CME 550			
Logged By: Geda		Date	Started: 5/23/25		Bit Type: HS		Diameter: 2-1/4"		
Drill Crew: Casey			Completed: 5/23/25		Hammer Type: Safety				
Ticket Number:			Backfilled: Cuttings		Hammer Weight: 140#		Hammer Drop: 30"		
			Surface Elev. 32.0		GW Depth 3.2		GW Elevation 28.8		
							Total Depth of Boring: 10 feet		
Depth (feet)	Sample Type	Sample Number	N-value (blows/foot)	Graphic Log	Lithology		Groundwater	Moisture Content (%)	Unconfined Compression (tsf)
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors Rock Description: modifier, color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions.				
2	SS	1	10		7" Clayey Topsoil				
4	SS	2	7		Sandy CLAY, tan-gray, moist, stiff to medium stiff (CL)				
6	SS	3	6						
8	SS	4	6		Clayey fine SAND, tan-gray, wet, loose (SC)				
10					End of Boring-10'				
12									
14									
16									
18									
20									
22									
24									

Modulus, PLLC

Boring Log: Sheet 1 of 1

SS- Standard Penetration Slit Spoon Sampler (SPT)

WR- Weathered Rock



California Sampler



Stabilized Ground water



Shelby Tube



Groundwater At time of Drilling



CPP Sampler



Bulk/ Bag Sample

APPENDIX C

GENERAL CONDITIONS

The analysis, conclusions, and recommendations submitted in this report are based on the exploration previously outlined and the data collected at the points shown on the attached location plan. This report does not reflect specific variations that may occur between test locations. The borings were located where site conditions permitted and where it is believed representative conditions occur, but the full nature and extent of variations between borings and of subsurface conditions not encountered by any boring may not become evident until the course of construction. If variations become evident at any time before or during the course of construction, it will be necessary to make a re-evaluation of the conclusions and recommendations of this report and further exploration, observation, and/or testing may be required.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices and makes no other warranties, either express or implied, as to the professional advice under the terms of our agreement and included in this report. The recommendations contained herein are made with the understanding that the contract documents between the owner and foundation or earthwork contractor or between the owner and the general contractor and the caisson, foundation, excavating and earthwork subcontractors, if any, shall require that the contractor certify that all work in connection with foundations, piles, caissons, compacted fills and other elements of the foundation or other support components are in place at the locations, with proper dimensions and plumb, as shown on the plans and specifications for the project.

Further, it is understood the contract documents will specify that the contractor will, upon becoming aware of apparent or latent subsurface conditions differing from those disclosed by the original soil exploration work, promptly notify the owner, both verbally to permit immediate verification of the change, and in writing, as to the nature and extent of the differing conditions and that no claim by the contractor for any conditions differing from those anticipated in the plans and specifications and disclosed by the soil explorations will be allowed under the contract unless the contractor has so notified the owner both verbally and in writing, as required above, of such changed conditions. The owner will, in turn, promptly notify this firm of the existence of such unanticipated conditions and will authorize such further exploration as may be required to properly evaluate these conditions.

Further, it is understood that any specific recommendations made in this report as to on-site construction review by this firm will be authorized and funds and facilities for such review will be provided at the times recommended if we are to be held responsible for the design recommendations.

APPENDIX D

PROCEDURES REGARDING FIELD LOGS, LABORATORY DATA SHEETS, AND SAMPLES

In the process of obtaining and testing samples and preparing this report, procedures are followed that represent reasonable and accepted practice in the field of soil and foundation engineering.

Specifically, field logs are prepared during performance of the drilling and sampling operations which are intended to portray essentially field occurrences, sampling locations, and other information.

Samples obtained in the field are frequently subjected to additional testing and reclassification in the laboratory by more experienced soil engineers, and differences between the field logs and the final logs exist.

The engineer preparing the report reviews the field and laboratory logs, classifications and test data, and his judgment in interpreting this data, may make further changes.

Samples are taken in the field, some of which are later subjected to laboratory tests, are retained in our laboratory for sixty days and are then discarded unless special disposition is requested by our client. Samples retained over a long period of time, even if sealed in jars, are subject to moisture loss which changes the apparent strength of cohesive soil generally increasing the strength from what was originally encountered in the field. Since they are then no longer representative of the moisture conditions initially encountered, an inspection of these samples should recognize this factor.