



Alabama Port Authority
Addendum to R&P or Specification Booklet

Project Name McDuffie New East Electrical Building

Project No. 11734 **Task No.** 02 **Addendum No.** 1

To: Prospective Bidders

Date: 10/27/2026

These items are hereby included in the bid documents by this addendum.

Item	Description
1.	Work Sequence: Access ramp on the east side of the road must be finished before other work starts that will cut off existing equipment access area on the west side of the road.
2.	Power to New Building: Contractor is responsible for providing power to new building from existing East Electrical Building.
3.	Work Crossing Roads: Road closures are not permitted for any amount of time. Contractor must sequence work to allow for vehicle traffic safely around construction at all times. This includes the main roadway and access bridge to Dock 2. Contractor must submit a Traffic Plan before starting any work interfering with roadways.
4.	Pre-Bid Meeting Attendance Sheet is attached for reference.
5.	<p>Roofing system/assembly: Please resolve Bond-Cote on 4643E-S4, Section H, versus TPO on Section K, bid item 3.5 and Scope §2.2.5. Please issue the complete selected roofing specification, including approved manufacturers, membrane thickness/color/attachment, insulation type and R-value, taper layout, ¼-inch slip-sheet product, and vapor-retarder/cover-board requirements. Also confirm whether Division 7's lead and copper flashing requirements apply or are to be replaced by the selected manufacturer's warranted details.</p> <p>Roof Membrane shall be a TPO 40 mil membrane in accordance with attached specification. Provide flashing selected to meet manufacturer's warranted details. See attached Sure-Weld specifications.</p>
6.	<p>Edges/drainage: Please supplement the S4/S5 roof-edge details with membrane termination and fastening requirements. Confirm sizes/materials and discharge locations for the gutter and three downspouts shown on S3, including whether they discharge at grade or connect to underground drainage. Provide any required overflow provisions and drainage/taper details around the RTUs.</p> <p>Gutter and four (4) downspouts shall be sized to accommodate a 100-year rain event, i.e. 15"/hour. Downspouts shall be discharged onto oversized splash blocks. Provide RTU curb tapered insulation to prevent any ponding on high side of RTU curb.</p>
7.	<p>Performance/warranty: Please confirm the selected assembly and perimeter attachments must satisfy G2's wind criteria and identify required fire classification and tested approvals. Confirm S4 Note 4's 20-year full-system warranty with 72-mph wind coverage, including issuer, coverage and exclusions, in addition to the contract's two-year material/workmanship guarantee.</p> <p>See attached Sure-Weld specifications.</p>



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8.	<p>RTU curbs: Please confirm required curb type and height above the finished roof, coordinated with the M1/M2 isolation/hurricane restraints and S4 opening/anchorage details. Clarify whether “roof curb by others” on the M2 isolator detail means another contractor trade or a separate contract. Final curb dimensions and openings will need coordination with the approved equipment.</p> <p>See drawing M2 for RTU curb details. Verify with HVAC contractor certified drawings.</p>																
9.	<p>Maintenance access: Are walk pads/service paths or permanent fall-protection anchors required for the two RTUs? If so, please provide locations, extent and details.</p> <p>No walk pads or fall protection required.</p>																
10.	<p>Please provide Section 16001 or a complete Owner-furnished equipment list and confirm whether the E7–E9 exclusions include both furnishing and installation. Identify who carries unloading/storage, rigging/setting, anchorage, terminations, testing and startup.</p> <p>The owner will not be providing any electrical equipment. The only electrical items for the contractor to install currently are: lighting fixtures, RTU’s 1 and 2, 480/277V panelboard “DP,” 150kVA transformer, and 120/208V panelboard “LP.” See revised drawing attached.</p>																
11.	<p>Please confirm the contractor’s remaining scope for this equipment, including pads, conduit/duct banks, grounding and interface work, and reconcile these requirements with E10.</p> <p>The manhole, underground duct bank and conduit stub-ups will be installed as shown on the plans. Equipment pads will not be installed under this contract. See revised drawings attached.</p>																
12.	<p>E4 and E10 identify cable tray/fittings as NIC, but E4 assigns penetration sealing, divider barriers and a future-opening cover to the contractor. Please confirm who furnishes/installs the trays and supports, and which associated items remain in our scope.</p> <p>Cable tray will be installed later under a different contract and is not included in this project. See below revised drawings, attached:</p> <table><thead><tr><th><u>Drawing No.</u></th><th><u>Rev</u></th></tr></thead><tbody><tr><td>4643E-E1</td><td>B</td></tr><tr><td>4643E-E3</td><td>B</td></tr><tr><td>4643E-E4</td><td>B</td></tr><tr><td>4643E-E7</td><td>B</td></tr><tr><td>4643E-E8</td><td>B</td></tr><tr><td>4643E-E9</td><td>B</td></tr><tr><td>4643E-E10</td><td>B</td></tr></tbody></table>	<u>Drawing No.</u>	<u>Rev</u>	4643E-E1	B	4643E-E3	B	4643E-E4	B	4643E-E7	B	4643E-E8	B	4643E-E9	B	4643E-E10	B
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4643E-E10	B																



Alabama Port Authority
Pre-Bid Meeting Attendance Sheet

Project Name McDuffie New East Electrical Building
Date: 10.20.2026

Project # 11734 **Task** 02

Contractor (Business) Name	Address 1	Address 2	City, State Zip
GAF Companies	21036		FAIRHOPE AL
Contact Name	e-mail address	Telephone	Telephone
Todd MARCELL	Todd@GAFCOMPANIES.COM	251-377-9896	
Signature	Signature	Signature	Signature
Todd Marcell			

Contractor (Business) Name	Address 1	Address 2	City, State Zip
RJ Baggett			
Contact Name	e-mail address	Telephone	Telephone
Bryant Baggett	bryant@rjbaggett.com	251-404-8330	
Signature	Signature	Signature	Signature
Bryant Baggett			

Contractor (Business) Name	Address 1	Address 2	City, State Zip
ROGERS & WILLARD	550 ST. MICHAEL STREET		MOBILE, AL 36602
Contact Name	e-mail address	Telephone	Telephone
DANIEL HAAS	Dhaas@rogerswillard.com	251-709-3790	
Signature	Signature	Signature	Signature
Daniel Haas			

Contractor (Business) Name	Address 1	Address 2	City, State Zip
Moody Electric	40150 State Hwy 59		Bay Minette, AL
Contact Name	e-mail address	Telephone	Telephone
Brian Bryars	bbryars@moodyelectric.net	251-379-7405	
Signature	Signature	Signature	Signature
Brian Bryars			

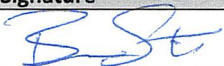


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Contractor (Business) Name	Address 1	Address 2	City, State Zip
CRUCIBLE CONSTRUCTION	29891 Woodlawn Ln		
Contact Name	e-mail address	Telephone	Telephone
ROQUAN WIGGINS	roquanecrucibleconstruction.com	850-549-6822	
Signature	Signature	Signature	Signature
			

Contractor (Business) Name	Address 1	Address 2	City, State Zip
CMB Engineers	457 St. Michael St.		Mobile, AL 36602
Contact Name	e-mail address	Telephone	Telephone
Gary Cowles, Bruce Smith		251-433-1611	
Signature	Signature	Signature	Signature
			

Contractor (Business) Name	Address 1	Address 2	City, State Zip
Contact Name	e-mail address	Telephone	Telephone
Signature	Signature	Signature	Signature

Contractor (Business) Name	Address 1	Address 2	City, State Zip
Contact Name	e-mail address	Telephone	Telephone
Signature	Signature	Signature	Signature



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Contractor (Business) Name		Address 1	Address 2	City, State Zip
WEAVER ELECTRIC		8289 CANAL RD - 39503	P.O. Box 7176 - 39506	Gulfport MS
Contact Name		e-mail address		Telephone
SCOTT SMITH		SCOTT SMITH @ WEAVER ELECTRIC . US		228 265 7740
Signature		Signature	Signature	Signature

Contractor (Business) Name		Address 1	Address 2	City, State Zip
Gaillard Builders		612 Dauphin Street		36602
Contact Name		e-mail address		Telephone
Casey Bratkiewicz		Kcb@gbibuilt.com		251-423-4131
Signature		Signature	Signature	Signature
Casey Bratkiewicz				

Contractor (Business) Name		Address 1	Address 2	City, State Zip
Contact Name		e-mail address		Telephone
Signature		Signature	Signature	Signature

Contractor (Business) Name		Address 1	Address 2	City, State Zip
Contact Name		e-mail address		Telephone
Signature		Signature	Signature	Signature



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Contractor (Business) Name	Address 1	Address 2	City, State Zip
All Star Electric	5550 Todd Acres Dr.		Mobile AL 36619
Contact Name	e-mail address	Telephone	Telephone
Billy Walters	bwalters@allstar-electric.com	251-406-1844	
Signature	Signature	Signature	Signature

Contractor (Business) Name	Address 1	Address 2	City, State Zip
Harris Contracting	5413 Lott Rd	Eight Mile	AL 36613
Contact Name	e-mail address	Telephone	Telephone
Jimmy Stewart	Brian@HarrisContractingServices.com	251-225-1020	
Signature	Signature	Signature	Signature

Contractor (Business) Name	Address 1	Address 2	City, State Zip
Contact Name	e-mail address	Telephone	Telephone
Signature	Signature	Signature	Signature

Contractor (Business) Name	Address 1	Address 2	City, State Zip
Contact Name	e-mail address	Telephone	Telephone
Signature	Signature	Signature	Signature

Sure-Weld®

Mechanically Fastened – Induction Welding

Form-Spec

January 2025

PART 1 GENERAL

1.01 DESCRIPTION

- A. The project consists of installing Carlisle SynTec's Sure-Weld TPO Mechanically-Fastened Roofing System. Apply the Sure-Weld Mechanically Fastened Roofing System with the RhinoBond_TPO Welding Plate in conjunction with 2 layers 2.2 Carlisle Insulbase Polyisocyanurate over the new 20 gauge Steel roof deck.

1.02 EXTENT OF WORK

- A. Provide all labor, material, tools, equipment, and supervision necessary to complete the installation of the Sure-Weld reinforced TPO (Thermoplastic Polyolefin) membrane Mechanically Fastened-Induction Welded Roofing System including flashings and insulation as specified herein and as indicated on the drawings in accordance with the manufacturer's most current specifications and details.
- B. The roofing contractor shall be fully knowledgeable of all requirements of the contract documents and shall make themselves aware of all job site conditions that will affect their work.
- C. The roofing contractor shall confirm all given information and advise the building owner, prior to bid, of any conflicts that will affect their cost proposal.
- D. Any contractor who intends to submit a bid using a roofing system other than the approved manufacturer must submit for pre-qualification in writing fourteen (5) days prior to the bid date. Any contractor who fails to submit all information as requested will be subject to rejection. Bids stating "as per plans and specs" will be unacceptable.

1.03 SUBMITTALS

- A. Prior to starting work, the roofing contractor must submit the following:
 - 1. Shop drawings showing layout, details of construction and identification of materials.
 - 2. Sample of the manufacturer's Membrane System Warranty.
 - 3. Submit a letter of certification from the manufacturer which certifies the roofing contractor is authorized to install the manufacturer's roofing system and lists foremen who have received training from the manufacturer along with the dates training was received.
 - 4. Certification from the membrane manufacturer indicating the fasteners are capable of providing a static backout resistance of 10 inch pounds minimum is required.
 - 5. Certification from the membrane manufacturer indicating the membrane thickness over the reinforcing scrim (top ply membrane thickness) is nominal .15-mil or thicker.
 - 6. Certification of the manufacturer's warranty reserve.

- B. Upon completion of the installed work, submit copies of the manufacturer's final inspection to the specifier prior to the issuance of the manufacturer's warranty.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site in the manufacturer's original, unopened containers or wrappings with the manufacturer's name, brand name and installation instructions intact and legible. Deliver in sufficient quantity to permit work to continue without interruption.

1.05 WORKMANSHIP

- A. Applicators installing new roof, flashing and related work shall be factory trained and approved by the manufacturer they are representing.
- B. All work shall be of highest quality and in strict accordance with the manufacturer's published specifications and to the building owner's satisfaction.
- C. There shall be a supervisor on the job site at all times while work is in progress.

1.06 QUALITY ASSURANCE

- A. The Sure-Weld Roofing System must achieve a UL Class A.

The specified roofing assembly must have been successfully tested by a qualified testing agency to resist the design uplift pressures as indicated within the structural drawings

ANSI/SPRI WD-1 "Wind Design Standard Practice for Roofing Assemblies"
American Society of Civil Engineers (ASCE 7)
International Building Code (IBC)
DORA (Directory of Roof Assemblies)
- B. The membrane must be manufactured by the material supplier. Manufacturer's supplying membrane made by others are not acceptable.
- C. Unless otherwise noted in this specification, the roofing contractor must strictly comply with the manufacturer's current specifications and details.
- D. The roofing system must be installed by an applicator authorized and trained by the manufacturer in compliance with shop drawings as approved by the manufacturer. The roofing applicator shall be thoroughly experienced and upon request be able to provide evidence of having at least ten (10) years successful experience installing single-ply TPO roofing systems and having installed at least ten (10) roofing application or several similar systems of equal or greater size within one year.
- E. Provide adequate number of experienced workmen regularly engaged in this type of work who are skilled in the application techniques of the materials specified. Provide at least one thoroughly trained and experienced superintendent on the job at all times roofing work is in progress.
- F. There shall be no deviations made from this specification or the approved shop drawings without the prior written approval of the specifier. Any deviation from the manufacturer's installation procedures must be supported by a written certification on the manufacturer's letterhead and presented for the specifier's consideration.
- G. The Sure-Weld TPO White membrane meets CRRC (Cool Roof Rating Council) for reflectance and emittance. When tested in accordance with ASTM C1549, the Sure-Weld White material has an initial solar reflectance of 0.79 and a 3-year aged reflectance of 0.70. The material has also been tested for emittance in accordance with ASTM C1371; an initial emittance of 0.90 and a 3-year aged emittance of 0.86 were

achieved.

- H. Upon completion of the installation, the applicator shall arrange for an inspection to be made by a non-sales technical representative of the membrane manufacturer in order to determine whether or not corrective work will be required before the warranty will be issued. Notify the building owner seventy-two (72) hours prior to the manufacturer's final inspection.

1.07 JOB CONDITIONS, CAUTIONS AND WARNINGS

Refer to Carlisle's Sure-Weld Roofing System specification for General Job Site Considerations.

- A. Safety Data Sheets (SDS) must be on location at all times during the transportation, storage and application of materials.
- B. When positioning membrane sheets, exercise care to locate all field splices away from low spots and out of drain sumps. All field splices should be shingled to prevent bucking of water.
- C. When loading materials onto the roof, the Carlisle Authorized Roofing Applicator must comply with the requirements of the building owner to prevent overloading and possible disturbance to the building structure.
- D. Proceed with roofing work only when weather conditions are in compliance with the manufacturer's recommended limitations, and when conditions will permit the work to proceed in accordance with the manufacturer's requirements and recommendations.
- E. Proceed with work so new roofing materials are not subject to construction traffic. When necessary, new roof sections shall be protected and inspected upon completion for possible damage.
- F. Provide protection, such as 3/4 inch thick plywood, for all roof areas exposed to traffic during construction. Plywood must be smooth and free of fasteners and splinters.
- G. The surface on which the insulation or roofing membrane is to be applied shall be clean, smooth, dry, and free of projections or contaminants that would prevent proper application of or be incompatible with the new installation, such as fins, sharp edges, foreign materials, oil and grease.
- H. New roofing shall be complete and weathertight at the end of the work day.
- I. Contaminants such as grease, fats and oils shall not be allowed to come in direct contact with the roofing membrane.

1.10 WARRANTY

- A. Provide manufacturer's 20 year Total System Warranty covering both labor and material with no dollar limitation. The maximum wind speed coverage shall be peak gusts of 72 mph measured at 10 meters above ground level. Certification is required with bid submittal indicating the manufacturer has reviewed and agreed to such wind coverage.
- B. Pro-rated System Warranties shall not be accepted.
- C. Evidence of the manufacturer's warranty reserve shall be included as part of the project submittals for the specifier's approval.

PART 2 PRODUCTS

2.01 GENERAL

- A. All components of the specified roofing system shall be products of Carlisle SynTec or accepted by Carlisle SynTec as compatible.

- B. All products (including insulation, fasteners, fastening plates, prefabricated accessories and edgings) must be **manufactured and/or supplied** by the roofing system manufacturer and covered by the warranty.

2.02 MEMBRANE

Furnish Sure-Weld 40-mil thick white reinforced TPO (Thermoplastic Polyolefin) membrane as needed to complete the roofing system. Membrane thickness over the reinforcing scrim (top-ply thickness) shall be nominal 15-mil or thicker.

2.03 INSULATION/UNDERLAYMENT

- A. When applicable, insulation shall be installed in multiple layers. The first and second layer of insulation shall be mechanically fastened to the substrate in accordance with the manufacturer's published specifications.
- B. Insulation shall be Carlisle Insulbase Polyisocyanurate (2 layers 2.2") as supplied by Carlisle SynTec. Minimum R-value required is R Value 25.
 - 1. **Carlisle Insulbase Polyisocyanurate** – A foam core insulation board covered on both sides with a medium weight fiber-reinforced felt facer meeting ASTM C 1289-06, Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi). The product is available in 4' x 8' standard size with a thickness from 1 to 4 inches. 4' x 4' tapered panels are also available.

2.04 ADHESIVES AND CLEANERS

All products shall be furnished by Carlisle and specifically formulated for the intended purpose.

- A. **Sure-Weld Bonding Adhesive:** A high-strength, synthetic rubber adhesive used for bonding Sure-Weld membrane to various surfaces. The adhesive is applied to both the membrane and the substrate at a coverage rate of approximately 60 square feet per gallon per finished surface (includes coverage on both surfaces).
- B. **Cut-Edge Sealant:** A white or clear colored sealant used to seal cut edges of reinforced Sure-Weld membrane. A coverage rate of approximately 225 - 275 linear feet per squeeze bottle can be achieved when a 1/8" diameter bead is applied.
- C. **Water Cut-Off Mastic:** Used as a mastic to prevent moisture migration at drains, compression terminations and beneath conventional metal edging (at a coverage rate of approximately 10' per tube or 100' per gallon).
- D. **Universal Single-Ply Sealant:** A 100% solids, solvent free, voc free, one part polyether sealant that provides a weather tight seal to a variety of building materials. It is white in color and is used for general caulking such as above termination bars and metal counter flashings and at scuppers.
- E. **Thermoplastic One-Part Pourable Sealer:** A one-part, moisture curing, elastomeric polyether sealant used to fill TPO Molded Pourable Sealant Pockets. Packaged in 4, 2-liter foil pouches inside a reusable plastic bucket. 1 pouch will fill 2 TPO Molded Pourable Sealant Pockets.
- F. **Weathered Membrane Cleaner:** Used to prepare membrane for heat welding that has been exposed to the elements or to remove general construction dirt at an approximate coverage rate of 400 square feet per gallon (one surface).
- G. **TPO Primer:** A solvent-based primer used to prepare the surface of Sure-Weld Membrane prior to application of Pressure-Sensitive Coverstrip and TPO Pressure-Sensitive RUSS.
- H. **TPO Low VOC Primer::** A solvent-based, low solids primer used to prepare the surface of Sure-Weld Membrane prior to application of Pressure-Sensitive Coverstrip and TPO Pressure-Sensitive RUSS. This

low VOC product is ideal for use in states where environmental issues are a concern.

- I. **Carlisle CAV-GRIP III Low-VOC Aerosol Contact Adhesive/Primer:** a low-VOC, methylene chloride-free adhesive that can be used for a variety of applications including: bonding Sure-Weld membrane to various surfaces, enhancing the bond between Carlisle's VapAir Seal 725TR and various substrates, priming unexposed asphalt prior to applying Flexible FAST Adhesive and for adhering Sure-Weld/Sure-Flex FleeceBACK and Sure-Weld TPO membrane to vertical walls. Coverage rate is approximately 2,000-2,500 sq. ft. per #40 cylinder and 4,000-5,000 sq. ft. per #85 cylinder as a primer, in a single-sided application and 750 sq. ft. per #40 cylinder and 1,500 sq. ft. per #85 cylinder as an adhesive for vertical walls, in a double-sided application.

2.05 FASTENERS AND PLATES

To be used for mechanical attachment of insulation and to provide additional membrane securement:

- A. **HP-X Fasteners:** A heavy duty #15 threaded fastener with a #3 phillips drive used for membranre or insulation securement into steel, wood plank or minimum 15/32 inch thick plywood.
- B. **HP Term Bar Nail-Ins:** A 1-1/4" long expansion anchor with a zinc plated steel drive pin used for fastening the Carlisle Termination Bar or Seam Fastening Plates to concrete, brick, or block walls.
- C. **RhinoBond TPO Welding Plate:** A 3" diameter, 0.028" thick, corrosion-resistant steel plate with high solids coating on the top surface. The plate is secured with Carlisle's HP-X Fastener or Purlin Fastener and the membrane is welded to the top surface using the RhinoBond Welding Tool.

2.06 METAL EDGING AND MEMBRANE TERMINATIONS

- A. **General:** All metal edging s shall be tested and meet ANSI/SPRI ES-1 standards and comply with International Building Code.

2.07 WALKWAYS

Protective surfacing for roof traffic shall be Sure-Weld TPO Walkway Rolls installed per manufacturer's requirements or concrete pavers loose laid over an approved slip sheet (pavers not recommended for slopes greater than 2" in 12").

2.08 OTHER PRODUCTS / TOOLS

- A. **RhinoBond Portable Induction Welding Tool:** An induction heating tool is used to emit the magnetic field that activates the high solid coating on the top surface of the RhinoBond Welding Plate to fuse with the roofing membrane.
- B. **Magnet:** A stand-up device that allows the weld to cool as it holds the membrane to the heated plate.
- C. Metal Flashing, if required, and miscellaneous items needed to fulfill the project requirements

PART 3 EXECUTION

3.01 GENERAL

- A. Comply with the manufacturer's published instructions for the installation of the membrane roofing system including proper substrate preparation, jobsite considerations and weather restrictions.
- B. Position sheets to accommodate contours of the roof deck and shingle splices to avoid bucking water.

3.02 INSULATION PLACEMENT AND ATTACHMENT

- A. Install insulation or membrane underlayment over the substrate with boards butted tightly together with no joints or gaps greater than 1/4 inch. Stagger joints both horizontally and vertically if multiple layers are provided.
- B. Secure insulation to the substrate with the required Carlisle fasteners and RhinoBond TPO Welding Plate in accordance with manufacturers specifications.

3.03 RHINOBOND INDUCTION TOOL CALIBRATION

Prior to proceeding with membrane attachment to the plate, the RhinoBond Induction Tool must be calibrated. Follow calibration process as published by manufacture with the specified insulation thickness and type and specified membrane thickness.

3.04 MEMBRANE PLACEMENT AND INDUCTION WELDING

- A. After placement of insulation on substrate, secure the insulation at a rate of six HP-X Fasteners and RhinoBond Plates per 4' x 8' board in the designated field and eight HP-X Fasteners and RhinoBond Plates around the perimeter. Refer to appropriate Carlisle detail for patterns and depth of perimeter area.

Note: Avoiding fastener overdrive to prevent plate from deforming.

- B. Place Sure-Weld membrane over the appropriate RhinoBond Plates and allow membrane to relax.
- C. Place RhinoBond Induction Tool over the RhinoBond TPO Welding Plate, under the roofing membrane.
- D. Activate induction welding tool and leave in place until heating cycle is complete.
- E. Immediately place Magnet on the membrane over the plate and leave in place for at least 60 seconds.
- F. Resume process ensuring membrane is attached to all plates.

Note: Additional securement must be provided at the perimeter of each roof level, roof section, expansion joint, curb flashing, skylight, interior wall, penthouse, etc., at any inside angle change where slope exceeds 2" in one horizontal foot, and at other penetrations in accordance with membrane manufacture's published details.

3.05 MEMBRANE HOT AIR WELDING PROCEDURES

- A. Hot air weld the Sure-Weld membrane using an Automatic Hot Air Welding Machine or Hot Air Hand Welder in accordance with the manufacturer's specifications. At all splice intersections, roll the seam with a silicone roller immediately after welder crossed the membrane step-off to ensure a continuous hot air welded seam.

Note: When using 40-mil thick or thicker membrane, all splice intersections shall be overlaid with Sure-Weld non-reinforced flashing or TPO T-Joint covers.

- B. Probe all seams once the hot air welds have thoroughly cooled (approximately 30 minutes).
- C. Repair all seam deficiencies the same day they are discovered.
- D. Apply Cut Edge Sealant on all cut edges of reinforced membrane (where the scrim reinforcement is exposed) after seam probing is complete. Cut edge sealant is not required on vertical splices.

3.06 FLASHING

- A. Flashing of parapets, curbs, expansion joints and other parts of the roof must be performed using Sure-Weld reinforced membrane. Sure-Weld non-reinforced membrane can be used for flashing pipe penetrations,

Sealant Pockets, scuppers, as well as inside and outside corners when the use of pre-fabricated accessories is not feasible.

- B. Follow manufacturer's typical flashing procedures for all wall, curb, and penetration flashing including metal edging/coping and roof drain applications.

3.07 WALKWAYS

- A. Install walkways at all traffic concentration points (such as roof hatches, access doors, rooftop ladders, etc.) and all locations as identified on the specifier's drawing.
- B. Hot air weld walkway material to the membrane in accordance with the manufacturer's specifications.

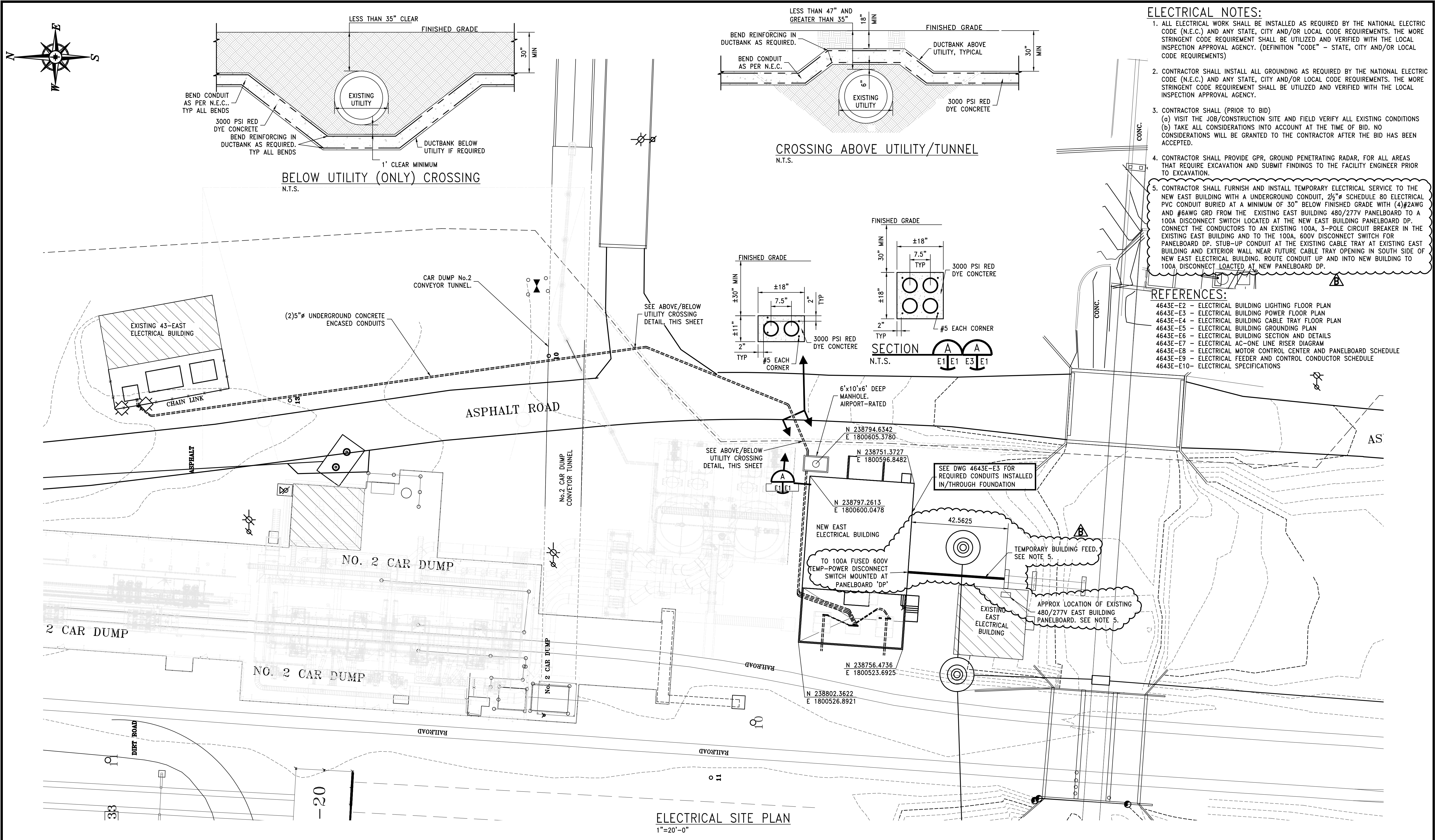
3.08 DAILY SEAL

- A. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the work day, a daily seal must be performed to temporarily close the membrane to prevent water infiltration.
- B. Complete an acceptable membrane seal in accordance with the manufacturer's requirements.

3.09 CLEAN UP

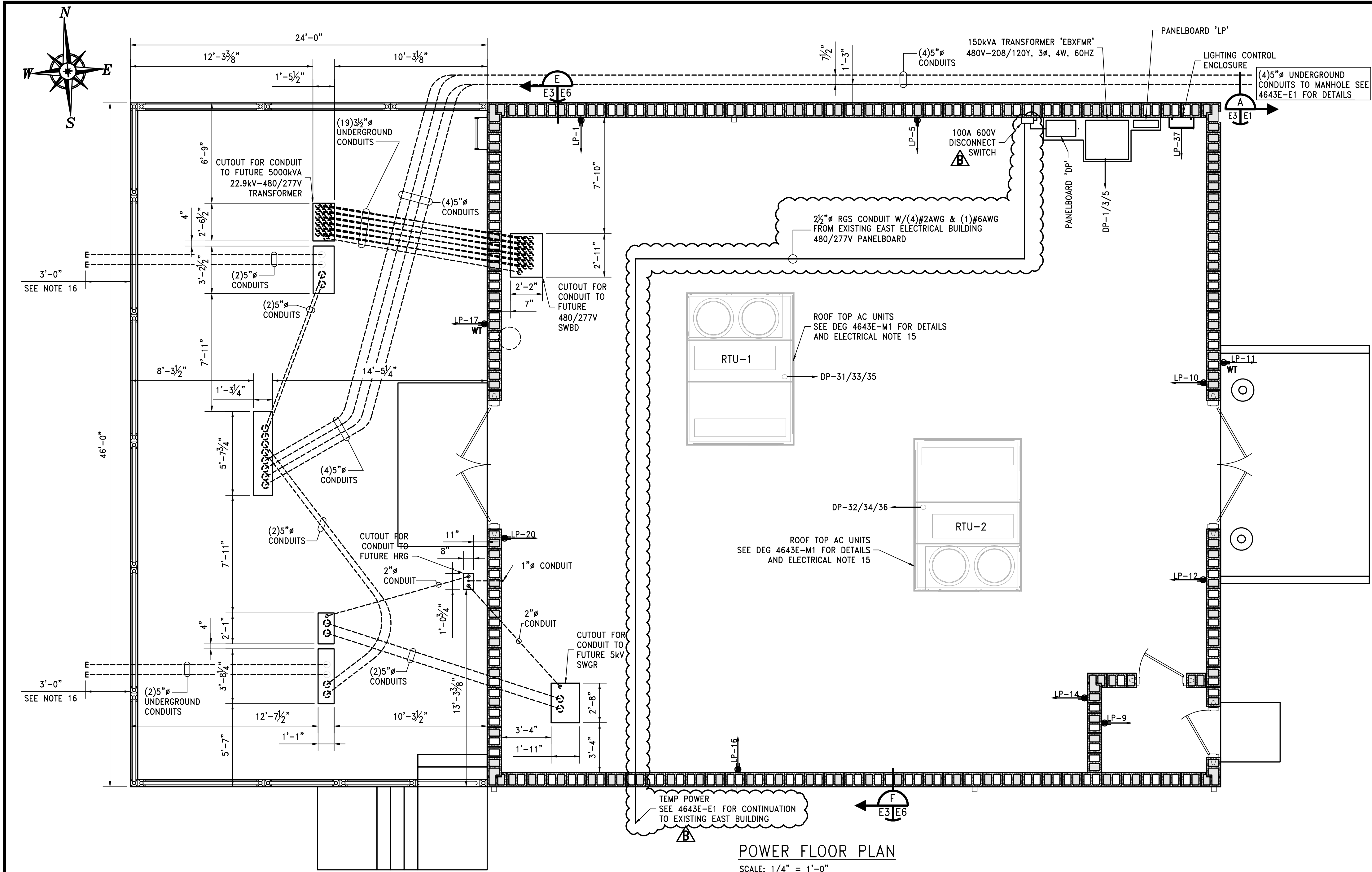
- A. Perform daily clean-up to collect all wrappings, empty containers, paper, and other debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.
- B. Prior to the manufacturer's inspection for warranty, the applicator must perform a pre-inspection to review all work and to verify all flashing has been completed as well as the application of all caulking.

END OF SPECIFICATION



- ELECTRICAL NOTES:**
1. ALL ELECTRICAL WORK SHALL BE INSTALLED AS REQUIRED BY THE NATIONAL ELECTRIC CODE (N.E.C.) AND ANY STATE, CITY AND/OR LOCAL CODE REQUIREMENTS. THE MORE STRINGENT CODE REQUIREMENT SHALL BE UTILIZED AND VERIFIED WITH THE LOCAL INSPECTION APPROVAL AGENCY. (DEFINITION "CODE" - STATE, CITY AND/OR LOCAL CODE REQUIREMENTS)
 2. CONTRACTOR SHALL INSTALL ALL GROUNDING AS REQUIRED BY THE NATIONAL ELECTRIC CODE (N.E.C.) AND ANY STATE, CITY AND/OR LOCAL CODE REQUIREMENTS. THE MORE STRINGENT CODE REQUIREMENT SHALL BE UTILIZED AND VERIFIED WITH THE LOCAL INSPECTION APPROVAL AGENCY.
 3. CONTRACTOR SHALL (PRIOR TO BID)
(a) VISIT THE JOB/CONSTRUCTION SITE AND FIELD VERIFY ALL EXISTING CONDITIONS
(b) TAKE ALL CONSIDERATIONS INTO ACCOUNT AT THE TIME OF BID. NO CONSIDERATIONS WILL BE GRANTED TO THE CONTRACTOR AFTER THE BID HAS BEEN ACCEPTED.
 4. CONTRACTOR SHALL PROVIDE GPR, GROUND PENETRATING RADAR, FOR ALL AREAS THAT REQUIRE EXCAVATION AND SUBMIT FINDINGS TO THE FACILITY ENGINEER PRIOR TO EXCAVATION.
 5. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY ELECTRICAL SERVICE TO THE NEW EAST BUILDING WITH A UNDERGROUND CONDUIT, 2½" SCHEDULE 80 ELECTRICAL PVC CONDUIT BURIED AT A MINIMUM OF 30" BELOW FINISHED GRADE WITH (4) #2AWG AND #6AWG GRD FROM THE EXISTING EAST BUILDING 480/277V PANELBOARD DP. CONNECT THE CONDUCTORS TO AN EXISTING 100A, 3-POLE CIRCUIT BREAKER IN THE EXISTING EAST BUILDING AND TO THE 100A, 600V DISCONNECT SWITCH FOR PANELBOARD DP. STUB-UP CONDUIT AT THE EXISTING CABLE TRAY AT EXISTING EAST BUILDING AND EXTERIOR WALL NEAR FUTURE CABLE TRAY OPENING IN SOUTH SIDE OF NEW EAST ELECTRICAL BUILDING. ROUTE CONDUIT UP AND INTO NEW BUILDING TO 100A DISCONNECT LOACTED AT NEW PANELBOARD DP.
- REFERENCES:**
- 4643E-E2 - ELECTRICAL BUILDING LIGHTING FLOOR PLAN
 - 4643E-E3 - ELECTRICAL BUILDING POWER FLOOR PLAN
 - 4643E-E4 - ELECTRICAL BUILDING CABLE TRAY FLOOR PLAN
 - 4643E-E5 - ELECTRICAL BUILDING GROUNDING PLAN
 - 4643E-E6 - ELECTRICAL BUILDING SECTION AND DETAILS
 - 4643E-E7 - ELECTRICAL AC-ONE LINE RISER DIAGRAM
 - 4643E-E8 - ELECTRICAL MOTOR CONTROL CENTER AND PANELBOARD SCHEDULE
 - 4643E-E9 - ELECTRICAL FEEDER AND CONTROL CONDUCTOR SCHEDULE
 - 4643E-E10- ELECTRICAL SPECIFICATIONS

					<div>11880 Cranston Drive, Ste. 101 Arlington, Tennessee 38002 (901) 290-5444</div> <div><div>CMG</div><div>ENGINEERS, INC.</div></div> <div>457 St. Michael Street Mobile, Alabama 36602 (251) 433-1611</div>	PROJECT	McDUFFIE COAL TERMINAL NEW EAST ELECTRICAL BUILDING		TITLE	ELECTRICAL SITE PLAN		
B	ADDED TEMP POWER TO NEW EAST BLDG	10/20/26	WES	JJM		© CMG ENGINEERS, INC. 2026 - CONFIDENTIAL, VALUABLE, AND PROPRIETARY INFORMATION	DATE	22x34		REV.		
A	ISSUED FOR BID	09/11/26	WES	JJM			06/09/2026		B			
REV.	DESCRIPTION	DATE	BY	CHK'D			DRAWING NUMBER	4643E-E1				
							McDUFFIE COAL TERMINAL MOBILE, ALABAMA					



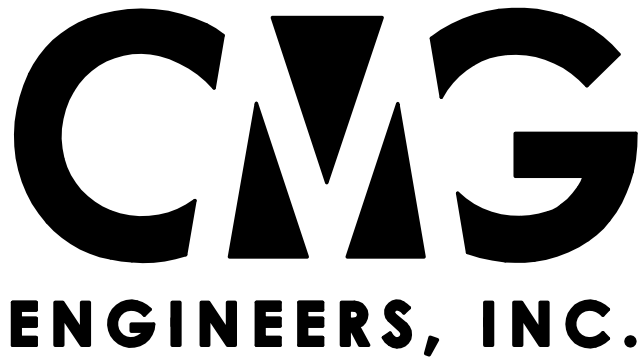
- ELECTRICAL NOTES:**
- ALL ELECTRICAL WORK SHALL BE INSTALLED AS REQUIRED BY THE NATIONAL ELECTRIC CODE (N.E.C.) AND ANY STATE, CITY AND/OR LOCAL CODE REQUIREMENTS. THE MORE STRINGENT CODE REQUIREMENT SHALL BE UTILIZED AND VERIFIED WITH THE LOCAL INSPECTION APPROVAL AGENCY. (DEFINITION "CODE" – STATE, CITY AND/OR LOCAL CODE REQUIREMENTS)
 - CONTRACTOR SHALL INSTALL ALL GROUNDING AS REQUIRED BY THE NATIONAL ELECTRIC CODE (N.E.C.) AND ANY STATE, CITY AND/OR LOCAL CODE REQUIREMENTS. THE MORE STRINGENT CODE REQUIREMENT SHALL BE UTILIZED AND VERIFIED WITH THE LOCAL INSPECTION APPROVAL AGENCY.
 - CONTRACTOR SHALL (PRIOR TO BID)
(a) VISIT THE JOB/CONSTRUCTION SITE AND FIELD VERIFY ALL EXISTING CONDITIONS
(b) TAKE ALL CONSIDERATIONS INTO ACCOUNT AT THE TIME OF BID. NO CONSIDERATIONS WILL BE GRANTED TO THE CONTRACTOR AFTER THE BID HAS BEEN ACCEPTED.
 - ALL LIGHT FIXTURES SHOWN/LISTED IN LIGHTING FIXTURE SCHEDULE SHALL BE 10-DAY PRE-APPROVED BY THE ENGINEER PRIOR TO BID.**
 - ALL ELECTRICAL SWITCHES SHALL BE INSTALLED AS PER N.E.C. ARTICLE 404 AND AS REQUIRED BY CODE. LIGHT SWITCHES SHALL IVORY AND COVERS SHALL BE STAINLESS STEEL.
 - ALL RECEPTACLES AND COVERS SHALL BE INSTALLED AS PER N.E.C. ARTICLE 406 AND AS REQUIRED BY CODE. RECEPTACLE SHALL BE IVORY AND COVERS SHALL BE STAINLESS STEEL.
 - ALL ELECTRICAL METALLIC TUBING (EMT), RIGID NON-METALLIC CONDUIT, FLEXIBLE METALLIC CONDUIT, FLEXIBLE NON-METALLIC CONDUIT, 'SEALTIGHT' TYPE CONDUITS AND ALL OTHER CONDUITS THAT DO NOT CONTAIN A REQUIRED CODE SIZED GROUND WIRE SHALL HAVE A REQUIRED CODE SIZED BOND WIRE INSTALLED WITH THE CIRCUIT CONDUCTORS.
 - CONTRACTOR SHALL FURNISH AND INSTALL WEATHER PROOF G.F.C.I. RECEPTACLE AT AN ACCESSIBLE LOCATION NEAR ALL HVAC EQUIPMENT IN ACCORDANCE WITH N.E.C. ARTICLE 210.63 AND AS REQUIRED BY CODE. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF THESE RECEPTACLES IN THE FIELD REGARDLESS OF THE PLAN LAYOUT.
 - CONTRACTOR SHALL, PRIOR TO BID AND ROUGH-IN, FIELD VERIFY ALL HVAC ELECTRICAL REQUIREMENTS AGAINST THE PLAN REQUIREMENTS. FAILURE TO VERIFY AND NOTIFY ENGINEER/ARCHITECT PRIOR TO ROUGH-IN SHALL INDICATE THAT THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THE DESIGN AND INSTALLATION REQUIREMENTS.
 - CONTRACTOR SHALL FURNISH AND INSTALL ALL AC UNITS SHALL HAVE INTEGRAL CONTROLLERS WITH OVERLOAD PROTECTION AND DISCONNECT FUNCTIONS PER N.E.C. CONTRACTOR SHALL INSTALL GFI DUPLEX SERVICE RECEPTACLES NEAR CONDENSER UNIT. PROVIDE MOTOR STARTERS WITH OVERLOAD PROTECTION AND DISCONNECT FUNCTIONS FOR AIR HANDLERS, IF NOT PROVIDED BY MECHANICAL CONTRACTOR.
 - EXIT, EXTERIOR EGRESS AND EMERGENCY LIGHT FIXTURES SHALL BE CONNECTED TO PANELBOARD LP, CIRCUIT BREAKER 8. CONTRACTOR SHALL ROUTE ½"Ø CONDUIT W/(2)Ø10AWG & (1)Ø12AWG GRD FROM PANELBOARD LP TO EACH FIXTURE. CIRCUIT BREAKER SHALL BE RED IN COLOR AND LABELED "EMERGENCY – DO NOT TURN OFF".
 - ALL 600V CABLES SHALL BE MULTI-CONDUCTOR, CROSS LINKED POLYETHYLENE INSULATION, TYPE TC TRAY CABLES, COPPER CONDUCTOR CABLES OR EQUAL.
 - ALL CONTROL CABLES SHALL BE MULTI-CONDUCTOR, CROSS LINKED POLYETHYLENE INSULATION, 600V RATING, COPPER CONDUCTOR CABLES OR EQUAL. SEE SPECIFICATION.
 - ALL 5KV CABLES SHALL BE MULTI-CONDUCTOR, NLEPR INSULATION 133/100%, IL CPE-TP JACKET, SHIELDED TYPE MV-105, SUNLIGHT RESISTANT, UL TRAY RATED, COPPER CONDUCTOR COMPRESSED 5/8KV CABLES OR EQUAL.
 - 480V SERVICE TO ROOF TOP HVAC UNITS SHALL BE ROUTED UP THROUGH HVAC ACCESS AREA TO THE HVAC UNIT. EACH HVAC ROOF TOP UNIT SHALL BE FURNISHED WITH A DISCONNECT SWITCH AND 120V GFI SERVICE RECEPTACLE WITH STEP-DOWN TRANSFORMER FOR THE 120V REQUIRED.
 - UNDERGROUND CONDUITS SHALL BE CLEANED, CAPPED AND PULL STRING INSTALLED FOR FUTURE USE. CONTRACTOR SHALL MARK CONDUIT ENDS WITH MAGNETIC TAPE INSTALLED 6" ABOVE CONDUIT FOR FUTURE IDENTIFICATION.

- REFERENCES:**
- 4643E-E1 – ELECTRICAL SITE PLAN
 - 4643E-E2 – ELECTRICAL BUILDING LIGHTING FLOOR PLAN
 - 4643E-E4 – ELECTRICAL BUILDING CABLE TRAY FLOOR PLAN
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 - 4643E-E6 – ELECTRICAL BUILDING SECTION AND DETAILS
 - 4643E-E7 – ELECTRICAL AC-ONE LINE RISER DIAGRAM
 - 4643E-E8 – ELECTRICAL MOTOR CONTROL CENTER AND PANELBOARD SCHEDULE
 - 4643E-E9 – ELECTRICAL FEEDER AND CONTROL CONDUCTOR SCHEDULE
 - 4643E-E10 – ELECTRICAL SPECIFICATIONS

ELECTRICAL SYMBOL LEGEND	
SYMBOL	DESCRIPTION
 WT	GROUND FAULT DUPLEX RECEPTACLE. FLUSH WALL MTD. 42" A.F.F. UNLESS NOTED OTHERWISE. WT IS FOR WEATHER TIGHT ENCLOSURE WHERE APPLICABLE

B	ADDED TEMP POWER. ITEMS NOT IN CONTRACT	10/20/26	WES	JJM
A	ISSUED FOR BID	09/11/26	WES	JJM
REV.	DESCRIPTION	DATE	BY	CHK'D

11880 Cranston Drive, Ste. 101
Arlington, Tennessee 38002
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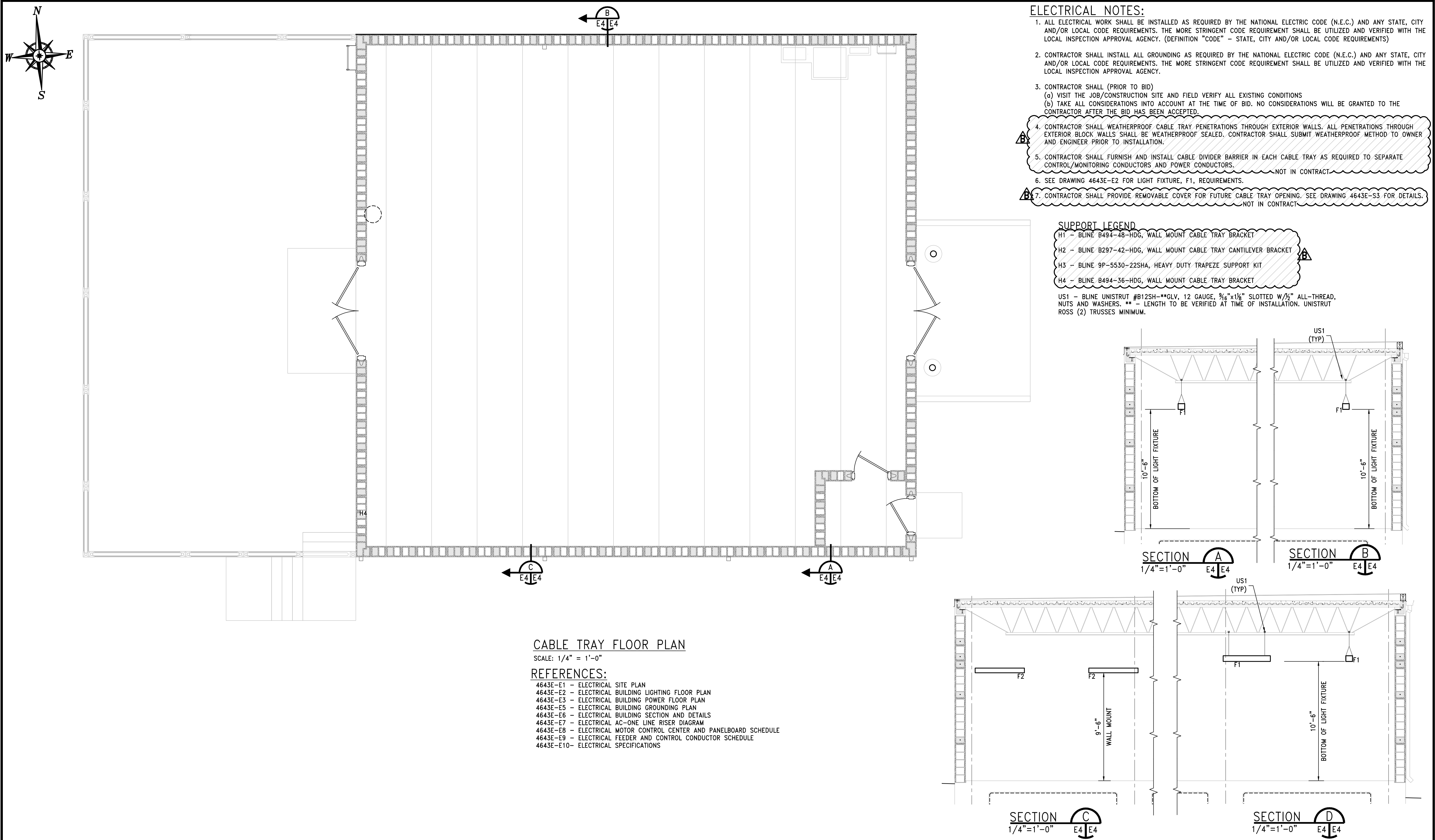


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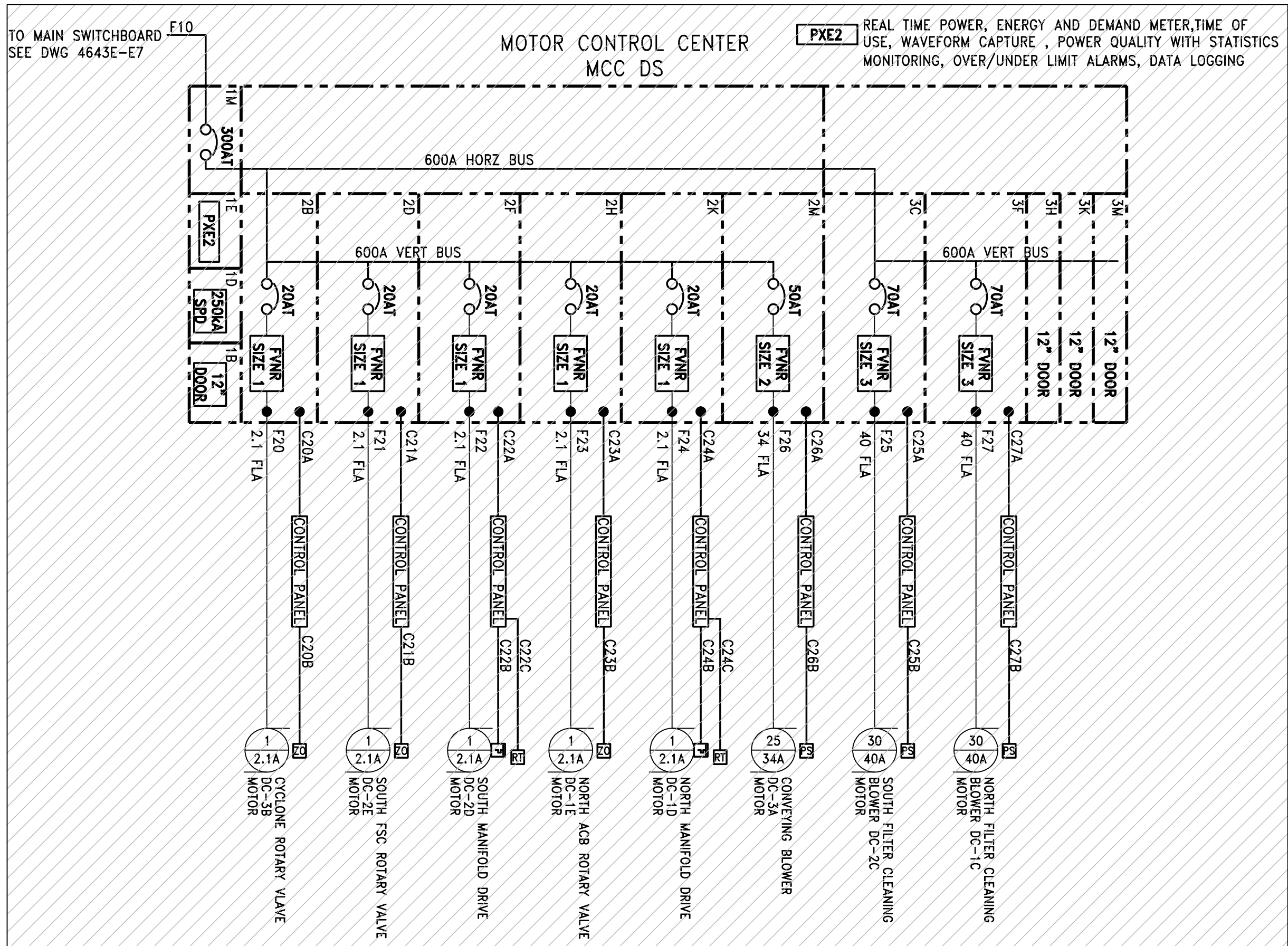
PROJECT
**McDUFFIE COAL TERMINAL
NEW EAST ELECTRICAL BUILDING**

**McDUFFIE COAL TERMINAL
MOBILE, ALABAMA**

TITLE	
ELECTRICAL BUILDING POWER FLOOR PLAN	
© CMG ENGINEERS, INC. 2026 - CONFIDENTIAL, VALUABLE, AND PROPRIETARY INFORMATION	DATE 05/27/26 DRAWING NUMBER 4643E-E3



						<div>11880 Cranston Drive, Ste. 101 Arlington, Tennessee 38002 (901) 290-5444</div> <div><div>457 St. Michael Street Mobile, Alabama 36602 (251) 433-1611</div></div>	PROJECT	McDUFFIE COAL TERMINAL NEW EAST ELECTRICAL BUILDING		TITLE	ELECTRICAL BUILDING CABLE TRAY FLOOR PLAN (NOT IN CONTRACT)							
B	ITEMS NOT IN CONTRACT				10/22/26	WES	JJM											
A	ISSUED FOR BID				09/11/26	WES	JJM											
REV.	DESCRIPTION				DATE	BY	CHK'D		McDUFFIE COAL TERMINAL MOBILE, ALABAMA		© CMG ENGINEERS, INC. 2026 - CONFIDENTIAL, VALUABLE, AND PROPRIETARY INFORMATION		DATE	05/27/26	22x34	REV.	B	



NOT IN CONTRACT

REFERENCES:

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- 4643E-E8 - ELECTRICAL MOTOR CONTROL CENTER AND PANELBOARD SCHEDULE
- 4643E-E9 - ELECTRICAL FEEDER AND CONTROL CONDUCTOR SCHEDULE
- 4643E-E10 - ELECTRICAL SPECIFICATIONS

ELECTRICAL NOTES:

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 - (b) TAKE ALL CONSIDERATIONS INTO ACCOUNT AT THE TIME OF BID. NO CONSIDERATIONS WILL BE GRANTED TO THE CONTRACTOR AFTER THE BID HAS BEEN ACCEPTED.
- CONTRACTOR SHALL VERIFY WITH THE MANUFACTURER THE REQUIREMENTS FOR THE HIGH RESISTANCE GROUND (HRG) SYSTEM PRIOR TO BID AND INSTALLATION. CONTRACTOR SHALL SUBMIT COMPLETE SUBMITTAL WITH CONDUCTOR REQUIREMENTS, WIRING SCHEMATIC AND TERMINATION DIAGRAM PRIOR TO INSTALLATION. CONDUCTORS SHOWN ARE AN APPROXIMATE IN SIZE AND QUANTITY, AND CONTRACTOR SHALL VERIFY PRIOR TO BID AND INSTALLATION.

NOT IN CONTRACT

PANELBOARD SCHEDULE (277/480V 3Ø)																			
MARK: "DP"																			
CKT #	LOAD DESCRIPTION	BREAKER		FEEDER/CONDUIT			PHASE (VA)			PHASE (VA)			FEEDER/CONDUIT			BREAKER	LOAD		CKT #
		P	TRIP	FEED	GRD	SIZE	A	B	C	A	B	C	FEED	GRD	SIZE	P	TRIP	DESCRIPTION	
1							50,000			2,100								NORTH/SOUTH FILTER LTG	2
3	150kVA XFMR	3	250	250	4	2½		50,000					NOT IN CONTRACT					ISOLATION VALVE/STAIRS LTG	4
5									50,000									SPACE	6
7							12,500											SPACE	8
9	37.5kVA XFMR PANEL P3	3	40	6	8	1	12,500	12,500										SPACE	10
11									12,500									SPACE	12
13	SPACE																	SPACE	14
15	SPACE																	SPACE	16
17	SPACE																	SPACE	18
19	SPACE																	SPACE	20
21	SPACE																	SPACE	22
23	SPACE																	SPACE	24
25	SPACE																	SPACE	26
27	SPACE																	SPACE	28
29	SPACE																	SPACE	30
31							11,085			11,085									32
33	RTU-1	3	50	4	8	1		11,085			11,085		4	8	1	3	50	RTU-2	34
35									11,085			11,085							36
37							4,435			8,335									38
39	I/O RACK	3	20	12	12	½	4,435	4,435			8,335		2	6	1	3	60	25kVA 480V-120/208 XFMR SAMPLER TOWER	40
41									4,435			8,335						NOT IN CONTRACT	42
							78,020	78,020	78,020	21,520	20,920	19,420							
							TOTAL (kVA) ØA 99.54 ØB 98.94 ØC 97.44			HIGH PHASE (AMPS) 359.4									
							TOTAL CONNECTED LOAD (kVA) 290.92			TOTAL LOAD (AMPS) 355.9									

PANELBOARD SCHEDULE (120/208V 3Ø)																			
MARK: "LP"																			
CKT #	LOAD DESCRIPTION	BREAKER		FEEDER/CONDUIT			PHASE (VA)			PHASE (VA)			FEEDER/CONDUIT			BREAKER	LOAD		CKT #
		P	TRIP	FEED	GRD	SIZE	A	B	C	A	B	C	FEED	GRD	SIZE	P	TRIP	DESCRIPTION	
1	INTERIOR RECEPT	1	20	12	12	½	180			1,785			12	12	½	1	20	INTERIOR LIGHTING	2
3	INTERIOR RECEPT	1	20	12	12	½		180				1,040	12	12	¾	1	20	EXTERIOR LIGHTING	4
5	INTERIOR RECEPT	1	20	12	12	½			180			1,920	10	12	¾	1	20	INTERFACE CONTROL PANEL PWR	6
7	INTERIOR RECEPT	1	20	12	12	½	180			25			12	12	¾	1	20	EXIT/EMERGENCY LTG	8
9	INTERIOR RECEPT	1	20	12	12	½		180			180		12	12	¾	1	20	INTERIOR RECEPT	10
11	EXTERIOR RECEPT	1	20	12	12	½			180			180	12	12	¾	1	20	INTERIOR RECEPT	12
13	EXTERIOR RECEPT	1	20	12	12	½	180			180			12	12	¾	1	20	INTERIOR RECEPT	14
15	EXTERIOR RECEPT	1	20	12	12	½		180			180		12	12	¾	1	20	INTERIOR RECEPT	16
17	EXTERIOR RECEPT	1	20	12	12	½			180			180	12	12	¾	1	20	INTERIOR RECEPT	18
19	SPACE									180			12	12	¾	1	20	INTERIOR RECEPT	20
21	SPACE																	SPACE	22
23	SPACE																	SPACE	24
25	SPACE																	SPACE	26
27	SPACE																	SPACE	28
29	SPACE																	SPACE	30
31	HRG CONTROL	1	20	10	12	¾	500											SPACE	32
33	SYSTEM CONTROL PANEL	1	20	10	12	½		1,920										SPACE	34
35	PASSIVE VALVES CPO5 PANEL	1	20	10	12	¾			1,200									SPACE	36
37	LTG CONTROL	1	20	12	12	½	500											SPACE	38
39	SPARE	1	20															SPACE	40
41	SPARE	1	20															RTU RECEPT	42
							1,540	2,460	1,740	2,170	1,580	2,460							
							TOTAL (kVA) ØA 3.71 ØB 4.04 ØC 4.20			HIGH PHASE (AMPS) 35.0									
							TOTAL CONNECTED LOAD (kVA) 11.92			TOTAL LOAD (AMPS) 33.2									

PANELBOARD COORDINATION SCHEDULE														
MARK	TYPE	MOUNTING	VOLTAGE	Ø	WIRE	MAIN	SERVICE RATED	KAIC RATING	BUS RATING	NEUTRAL RATING	C/B TYPE	FEEDER		
												CONDUCTORS	GROUND	CONDUIT
DP	NEMA-12	SURFACE	277/480	3	4	MLO	NO	65	600	600	BOLT-ON	(4)#4/OAWG	#1AWG	2½
LP	NEMA-12	SURFACE	120/208	3	4	600M.B.	NO	12	600	600	BOLT-ON	(2)350MCM Ø/N	(2)#1AWG	(2)3

PANELBOARD NOTES:

- ALL BUSSING COPPER, INCLUDING NEUTRAL AND GROUND. ALL LUGS 100 AMPS AND GREATER SHALL BE COPPER. ALL LUGS ON CIRCUIT BREAKERS GREATER THAN 400 AMPS SHALL BE COPPER.
- CONTRACTOR SHALL FURNISH AND INSTALL NEW ARC-FLASH WARNING LABEL ON NEW ELECTRICAL EQUIPMENT AND ANY EXISTING ELECTRICAL EQUIPMENT THAT HAS BEEN MODIFIED. ELECTRICAL EQUIPMENT IS LISTED AS SWITCHBOARDS, SWITCHGEAR, PANELBOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES AND MOTOR CONTROL CENTERS AS PER NEC 110.16(6)
- NEW PANELBOARD SUPPLIED BY A FEEDER SHALL BE PERMANENTLY MARKED TO INDICATE EQUIPMENT WHERE THE POWER ORIGINATES AS PER NEC 480.4(B). THE LABEL SHALL BE PERMANENTLY AFFIXED, OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED, AND NOT HANDWRITTEN.

B	ITEMS NOT IN CONTRACT	10/22/26	WES	JJM	
A	ISSUED FOR BID	09/11/26	WES	JJM	
REV.	DESCRIPTION	DATE	BY	CHK'D	

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CMG
ENGINEERS, INC.

457 St. Michael Street
Mobile, Alabama 36602
(251) 433-1611

PROJECT

McDUFFIE COAL TERMINAL
NEW EAST ELECTRICAL BUILDING

McDUFFIE COAL TERMINAL
MOBILE, ALABAMA

TITLE

ELECTRICAL MOTOR CONTROL CENTER
AND PANELBOARD SCHEDULE

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CONFIDENTIAL, VALUABLE, AND
PROPRIETARY INFORMATION

DATE 05/27/26

DRAWING NUMBER

22x34 REV. B

4643E-E8

ELECTRICAL LOAD SCHEDULE												
FEEDER	DESCRIPTION	HP	FULL LOAD AMPS	EQUIPMENT LOCATION	VOLTAGE	PANELBOARD SWITCHBOARD MOTOR CONTROL CENTER	EQUIPMENT ID	BREAKER TRIP	EQUIPMENT FEEDER			REMARKS
									FEEDER	GRD	CONDUIT NOTE 1	
S1	EAST BUILDING 25kV VFI SWITCH	.	.	OUTSIDE	22.9kV	.	EB25KV	500	(3)1000MCM	(1)1/0	5"	22.9kV FEED TO NEW EAST BUILDING VFI SWITCH
S2	EAST BUILDING 5kVA XFMR 4.16kV	.	126	OUTSIDE	22.9kV	.	EB4160XFR	200	(3)#2/OAWG	(1)1	5"	5000KVA 22.9kV-4.16kV TRANSFORMER
S3	EAST BUILDING 5kV XFMR 480/277V	.	126	OUTSIDE	22.9kV	.	EB480XFR	200	(3)#2/OAWG	(1)1	5"	5000KVA 22.9kV-480/277V TRANSFORMER
S4	EAST BUILDING 5kV SWITCHGEAR	.	694	INSIDE	4160	SWITCHGEAR	EB5KVSWGR	900	(2)500MCM Ø	(2)2/0	(2)5"	4160V SWITCHGEAR INCOMING MAIN
S5	EAST BUILDING 480/277V SWITCHBOARD	.	6014	INSIDE	480	SWITCHBOARD	EB480SWBD	(2)3500A	(19)500MCM Ø	(19)4/0	(19)3.5"	480/277V SWITCHBOARD
S4	DOCK LOADER #1	1250	205	INSIDE	4160	SWITCHGEAR	DL1	350	(3)250MCM	2	3.5"	DOCK LOADER #1 ELECTRICAL SERVICE
S5	STACKER/RECLAIM #2	1250	205	INSIDE	4160	SWITCHGEAR	S/R#2	350	(3)250MCM	2	3.5"	STACKER/RECLAIMER #2 ELECTRICAL SERVICE
EBHRG1	5kV TRANSFORMER NEUTRAL	.	10	OUTSIDE	4160	HRG	5kVHRG	.	(1)#6AWG	.	2"	NEUTRAL FROM TRANSFORMER TO HRG
EBHRG2	HRG SWITCHGEAR CONTROL	.	.	OUTSIDE	120	HRG/SWGR	.	.	7C#12AWG	.	2"	CONTROL CONDUCTORS FROM HRG TO SWGR MAIN BRKR
EBHRG3	HRG CONTROL VOLTAGE 120V	.	10	OUTSIDE	120	HRG/PANELBOARD	LP-31	20	(2)#12AWG	#12	1"	CONTROL VOLTAGE FOR HRG
F1/F1A	NORTH #1 EXHAUST FAN	400	477	OUTSIDE	480	SWITCHBOARD	DC-1A	800	(2)350MCM/Ø	(2)3	(2)3"	
F2/F2A	NORTH #2 EXHAUST FAN	400	477	OUTSIDE	480	SWITCHBOARD	DC-1B	800	(2)350MCM/Ø	(2)3	(2)3"	
F3/F3A	SOUTH #1 EXHAUST FAN	400	477	OUTSIDE	480	SWITCHBOARD	DC-2A	800	(2)350MCM/Ø	(2)3	(2)3"	
F4/F4A	SOUTH #2 EXHAUST FAN	400	477	OUTSIDE	480	SWITCHBOARD	DC-2B	800	(2)350MCM/Ø	(2)3	(2)3"	
F5	STORM WATER SYSTEM TRI-PLEX	450	540	OUTSIDE	480	SWITCHBOARD	SFTSRT	800	(2)350MCM/Ø	(2)3	(2)3"	TO TRI-PLEX SOFT START
F5A	STORM WATER PUMP 1	150	180	OUTSIDE	480	SFTSRT	SWP1	300	350 MCM	3	3"	TO STORM PUMP 1
F6A	STORM WATER PUMP 2	150	180	OUTSIDE	480	SFTSRT	SWP2	300	350 MCM	3	3"	TO STORM PUMP 2
F7A	STORM WATER PUMP 2	150	180	OUTSIDE	480	SFTSRT	SWP3	300	350 MCM	3	3"	TO STORM PUMP 3
F8	PANELBOARD DP	NA	91	INSIDE	480	TEMP EAST BLDG	NA	150	1/0 AWG	6	2"	PANELBOARD FEEDER
F9	BUILDING 150kVA 480V-120/208V XFMR	NA	180	INSIDE	480	TRANSFORMER	NA	250	250MCM	4	2.5"	TRANSFORMER PRIMARY
F9A	PANELBOARD LP	NA	416	INSIDE	120/208	PANELBOARD	NA	600	(2)350MCM Ø/N	(2)1	(2)3"	PANELBOARD LP/TRANSFORMER SECONDARY
F10	MCC	NA	124.5	INSIDE	480/277	SWITCHBOARD	MCC	300	350MCM	3	3"	MOTOR CONTROL CENTER PRIMARY
F11	CONVEYOR DC-3A	350	414	OUTSIDE	480	SWITCHBOARD	DC-3A	630	(2)#4/OAWG/Ø	(2)1	(2)2.5"	
F12	CONVEYOR DC-3B	350	414	OUTSIDE	480	SWITCHBOARD	DC-3A	630	(2)#4/OAWG/Ø	(2)1	(2)2.5"	
F13	CONVEYOR DC-9A	350	414	OUTSIDE	480	SWITCHBOARD	DC-3A	630	(2)#4/OAWG/Ø	(2)1	(2)2.5"	
F14	CONVEYOR DC-9B	350	414	OUTSIDE	480	SWITCHBOARD	DC-3A	630	(2)#4/OAWG/Ø	(2)1	(2)2.5"	
F15	CONVEYOR FUTURE	350	414	OUTSIDE	480	SWITCHBOARD		630			(2)2.5"	FUTURE
F16	CONVEYOR FUTURE	350	414	OUTSIDE	480	SWITCHBOARD		630			(2)2.5"	FUTURE
F17	SAMPLER POWER		250	OUTSIDE	480	SWITCHBOARD		250	300 MCM	4	2.5"	
F20	CYCLONE ROTARY VALVE	1	2.1	OUTSIDE	480	MCC	DC-3B	20	10 AWG	10	1"	
F21	SOUTH FSC ROTARY VALVE	1	2.1	OUTSIDE	480	MCC	DC-2E	20	10 AWG	10	1"	
F22	SOUTH FILTER MANIFOLD DRIVE	1	2.1	OUTSIDE	480	MCC	DC-2D	20	10 AWG	10	1"	
F23	NORTH ACB ROTARY VALVE	1	2.1	OUTSIDE	480	MCC	DC-1E	20	10 AWG	10	1"	
F24	NORTH FILTER MANIFOLD DRIVE	1	2.1	OUTSIDE	480	MCC	DC-1D	20	10 AWG	10	1"	
F25	SOUTH CLEANING BLOWER	30	40	OUTSIDE	480	MCC	DC-2C	70	4 AWG	8	1.25"	
F26	CONVEYING BLOWER	25	34	OUTSIDE	480	MCC	DC-3A	60	6 AWG	8	1"	
F27	NORTH CLEANING BLOWER	30	40	OUTSIDE	480	MCC	DC-1C	70	4 AWG	8	1.25"	
NOTES												
1. CONDUIT SIZES SHALL BE VERIFIED AGAINST MULTI-CONDUCTOR CABLE SPECIFICATIONS PRIOR TO INSTALLATION. CONDUIT FILL SHALL BE CALCULATED AS REQUIRED BY CHAPTER 9, TABLE 1, TABLE NOTE 9 PER THE LATEST APPLICABLE EDITION OF N.E.C..												
2. ALL 25kV AND 5kV CONDUCTORS SHALL BE SHIELDED.												

AC ONE-LINE CONTROL CIRCUIT SCHEDULE													NOT IN CONTRACT
CONTROL REFERENCE	VOLTAGE	CONDUCTOR SIZE & QUANTITY	GROUND SIZE	FROM DVICE	TO DEVICE	CONDUIT NOTE 1							
C1A	120V	2C #14AWG	#14AWG	SOFT START	DC-1A MOTOR HEATER, 240W	3/4"							
C1B	120V	4C #14AWG	#14AWG	CONTROL PANEL	DC-1A SOFT START MOTOR CONTROLLER	3/4"							
C2A	120V	2C #14AWG	#14AWG	SOFT START	DC-1B MOTOR HEATER, 240W	3/4"							
C2B	120V	4C #14AWG	#14AWG	CONTROL PANEL	DC-1B SOFT START MOTOR CONTROLLER	3/4"							
C3A	120V	2C #14AWG	#14AWG	SOFT START	DC-2A MOTOR HEATER, 240W	3/4"							
C3B	120V	4C #14AWG	#14AWG	CONTROL PANEL	DC-2A SOFT START MOTOR CONTROLLER	3/4"							
C4A	120V	2C #14AWG	#14AWG	SOFT START	DC-2B MOTOR HEATER, 240W	3/4"							
C4B	120V	4C #14AWG	#14AWG	CONTROL PANEL	DC-2B SOFT START MOTOR CONTROLLER	3/4"							
C5A	120V	3C #14AWG	#14AWG	VFD	SWP1 MOTOR HEATER, 240W	3/4"							
C5B	120V	5C #14AWG	#14AWG	CONTROL PANEL	SWP1 VFD MOTOR CONTROLLER	3/4"							
CFLT	120V	7C #14AWG	#14AWG	CONTROL PANEL	STORM WATER MULTI-LEVEL FLOAT CONTROL	3/4"							
C6A	120V	3C #14AWG	#14AWG	VFD	SWP2 MOTOR HEATER, 240W	3/4"							
C6B	120V	5C #14AWG	#14AWG	CONTROL PANEL	SWP2 VFD MOTOR CONTROLLER	3/4"							
C7A	120V	3C #14AWG	#14AWG	VFD	SWP3 MOTOR HEATER, 240W	3/4"							
C7B	120V	5C #14AWG	#14AWG	CONTROL PANEL	SWP3 VFD MOTOR CONTROLLER	3/4"							
C10A	120V	4C #14AWG	#14AWG	MCC D1FE, DC-3B	CONTROL PANEL	3/4"							
C10B	120V	3C #14AWG	#14AWG	CONTROL PANEL	DC-3B ZERO-SPEED SENSOR, BOTTOM OF CYCLONE HOPPER	3/4"							
C11A	120V	4C #14AWG	#14AWG	MCC D1FG, DC-2E	CONTROL PANEL	3/4"							
C11B	120V	3C #14AWG	#14AWG	CONTROL PANEL	DC-2E ZERO-SPEED SENSOR, BOTTOM SOUTH DUST COLLECTOR	3/4"							
C12A	120V	4C #14AWG	#14AWG	MCC D1FI, DC-2D	CONTROL PANEL	3/4"							
C12B	120V	2C #14AWG	#14AWG	CONTROL PANEL	DC-2D MOTOR THERMAL SWITCH, TOP SOUTH DUST COLLECTOR	3/4"							
C12C	120V	2C #14AWG	#14AWG	CONTROL PANEL	DC-2D PROXIMITY SENSOR, TOP SOUTH DUST COLLECTOR	3/4"							
C13A	120V	4C #14AWG	#14AWG	MCC D1FK, DC-1E	CONTROL PANEL	3/4"							
C13B	120V	3C #14AWG	#14AWG	CONTROL PANEL	DC-1E ZERO-SPEED SENSOR, BOTTOM DUST COLLECTOR HOPPER	3/4"							
C14A	120V	4C #14AWG	#14AWG	MCC D2FA, DC-1D	CONTROL PANEL	3/4"							
C14B	120V	2C #14AWG	#14AWG	CONTROL PANEL	DC-1D MOTOR THERMAL SWITCH, INSIDE TOP OF DUST COLLECTOR	3/4"							
C14C	120V	2C #14AWG	#14AWG	CONTROL PANEL	DC-1D PROXIMITY SENSOR, TOP OF DUST COLLECTOR	3/4"							
C15A	120V	4C #14AWG	#14AWG	MCC D2FC	CONTROL PANEL	3/4"							
C15B	24V	(1)SHLD TW.PR #16AWG		CONTROL PANEL	SOUTH CLEAN AIR PRESSURE TRANSDUCER, TOP CLEAN AIR TANK	3/4"							
C16A	120V	4C #14AWG	#14AWG	MCC D2FE	CONTROL PANEL	3/4"							
C16B	24V	(1)SHLD TW.PR #16AWG		CONTROL PANEL	DC-3A BLOWER PRESSURE TRANSDUCER AT CONVEYING BLOWER	3/4"							
C17A	120V	4C #14AWG	#14AWG	MCC D2FH, DC-1C	CONTROL PANEL	3/4"							
C17B	24V	(1)SHLD TW.PR #16AWG		CONTROL PANEL	NORTH CLEAN AIR PRESSURE TRANSMITTER AT TOP CLEAN AIR TANK	3/4"							
NOTES													
1. CONDUIT SIZES SHALL BE VERIFIED AGAINST MULTI-CONDUCTOR CABLE SPECIFICATIONS PRIOR TO INSTALLATION. CONDUIT FILL SHALL BE CALCULATED AS REQUIRED BY CHAPTER 9, TABLE 1, TABLE NOTE 9 PER THE LATEST APPLICABLE EDITION OF N.E.C..													

B	HIGHLIGHTED ITEM IN CONTRACT	10/22/26	WES	JJM								
A	ISSUED FOR BID	09/11/26	WES	JJM								
REV.	DESCRIPTION	DATE	BY	CHK'D								

											</	

PART 1 – GENERAL SCOPE

22.9kV-4160V TRANSFORMER/TERMINATION
5kV HIGH RESISTANCE GROUND INSTALLATION/TERMINATION
22.9kV-480/277V TRANSFORMER/TERMINATION
MAIN 4160V SWITCHGEAR INSTALLATION/TERMINATION
MAIN 480/277V SWITCHBOARD INSTALLATION/TERMINATION

22.9kV-4160V TRANSFORMER/TERMINATION
5kV HIGH RESISTANCE GROUND INSTALLATION/TERMINATION
22.9kV-480/277V TRANSFORMER/TERMINATION
MAIN 4160V SWITCHGEAR INSTALLATION/TERMINATION
MAIN 480/277V SWITCHBOARD INSTALLATION/TERMINATION
LIGHTING INSTALLATION/TERMINATION
INTERIOR/EXTERIOR CIRCUIT DISTRIBUTION
PANELBOARD 480/277V INSTALLATION/TERMINATION
480V-120/208V TRANSFORMER INSTALLATION/TERMINATION
PANELBOARD 120/208V INSTALLATION/TERMINATION
EQUIPMENT INSTALLATION/TERMINATION
RECEPTACLE INSTALLATION/TERMINATION
CONDUIT INSTALLATION
CONDUCTOR INSTALLATION/TERMINATION
UNDERGROUND DUCTBANK/EXCAVATION WITH GPR (GROUND PENETRATING RADAR)

EXISTING CONDITIONS: ALL UTILITIES, EXISTING SYSTEMS, AND CONDITIONS SHOWN ON THE PLANS AS EXISTING ARE APPROXIMATE, AND THE CONTRACTOR SHALL VERIFY BEFORE ANY WORK IS STARTED.

THE INSTALLATION SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND ORDINANCES APPLICABLE TO ELECTRICAL INSTALLATION AND WITH THE REGULATIONS OF THE LATEST ACCEPTED PUBLISHED EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C. 2017) WHERE SUCH REGULATIONS DO NOT CONFLICT WITH THOSE LAWS AND ORDINANCES. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTION FEES, AND AFTER COMPLETION OF THE WORK, SHALL FURNISH THE ARCHITECT A CERTIFICATE OF FINAL INSPECTION AND APPROVAL FROM THE APPLICABLE LOCAL INSPECTION AUTHORITIES. ANY CHARGES BY A UTILITY FOR PROVIDING SERVICE AS SHOWN SHALL BE INCLUDED IN THE BID AND PAID BY THE CONTRACTOR.

ALL MATERIALS SHALL BE NEW AND SHALL BE LISTED AND APPROVED BY THE UNDERWRITERS' LABORATORIES, INC., IN EVERY CASE WHERE A STANDARD HAS BEEN ESTABLISHED FOR A PARTICULAR TYPE OF MATERIAL IN QUESTION. ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT APPEARANCE.

THE CONTRACTOR SHALL SUBMIT A LIST OF ITEMS PROPOSED FOR USE. HE SHALL ALSO SUBMIT CATALOG DATA AND SHOP DRAWINGS ON PROPOSED SYSTEMS AND THEIR COMPONENTS, PANELBOARDS, SAFETY SWITCHES, LIGHTING FIXTURES, AND WIRING DEVICES. WHERE SUBSTITUTIONS ALTER THE DESIGN OR SPACE REQUIREMENTS, THE CONTRACTOR SHALL DEFRAY ALL ITEMS OF COST FOR THE REVISED DESIGN AND CONSTRUCTION INCLUDING COSTS TO ALL ALLIED TRADES INVOLVED.

EXISTING FACILITY ELECTRICAL SERVICE 22.9KV, 3 PHASE, 3 WIRE SERVED FROM AN EXISTING NORTH 32 BUILDING DISTRIBUTION SWITCH. CONTRACTOR SHALL VERIFY ALL DETAILS OF ELECTRICAL SERVICE WITH THE OWNER PRIOR TO BID. INTERFACE WITH OTHER CONTRACTS IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COOPERATE WITH ALL OTHER CRAFTS WORKING ON THIS PROJECT. ALL CUTTING, TRENCHING, BACKFILL, AND STRUCTURAL REMOVALS TO PERMIT ENTRY OF THE ELECTRICAL SYSTEM COMPONENTS SHALL BE DONE BY THIS CONTRACTOR. ALL PATCHING AND FINISHING SHALL BE DONE BY THE GENERAL CONTRACTOR.

TEMPORARY ELECTRICAL SERVICE FOR THE NEW EAST ELECTRICAL BUILDING SHALL BE 100A, 480V, 3 PHASE, 4 WIRE SERVED FROM AN EXISTING EAST ELECTRICAL BUILDING 480/277V PANELBOARD. CONTRACTOR SHALL SEE 4643E-E1 FOR REQUIREMENTS. INTERFACE WITH OTHER CONTRACTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COOPERATE WITH ALL OTHER CRAFTS WORKING ON THIS PROJECT. ALL CUTTING, TRENCHING, BACKFILL, AND STRUCTURAL REMOVALS TO PERMIT ENTRY OF THE ELECTRICAL SYSTEM COMPONENTS SHALL BE DONE BY THIS CONTRACTOR. ALL PATCHING AND FINISHING SHALL BE DONE BY THE GENERAL CONTRACTOR.

THE CONTRACTOR SHALL FURNISH AND INSTALL COMPLETE ELECTRICAL ROUGHING-IN AND CONNECTION TO ALL EQUIPMENT FURNISHED UNDER OTHER SECTIONS AS INDICATED ON DRAWINGS. THE CONTRACTOR SHALL VERIFY AND INSTALL PROPER SIZE SERVICE AS REQUIRED FOR ALL ACTUAL EQUIPMENT PURCHASED. ALL SUCH EQUIPMENT SHALL BE SET IN PLACE AS WORK OF OTHER SECTIONS.

CONTRACTOR SHALL FURNISH AND INSTALL FIRE DETECTION SYSTEM AS REQUIRED BY THE NATIONAL FIRE PROTECTION ASSOCIATION. SYSTEM SHALL HAVE VISUAL AND HORN NOTIFICATION. FIRE DETECTION SYSTEM SHALL HAVE ALARM BELLS/HORNS AS REQUIRED BY LOCAL FIRE MARSHALL OR A.H.J.. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY DRAWINGS TO OBTAIN PERMITS FOR FIRE SYSTEM INSTALLATION. AN ELECTRONIC AUTOCAD FILE OF THE FLOOR PLAN WILL BE PROVIDED TO THE CONTRACTOR FOR LOCATING ALL FIRE DETECTION SYSTEM ALARM BELLS, PULL STATIONS, CONTROL PANELS, ETC. ALL FIRE ALARM CONTRACTORS MUST SUBMIT THROUGH A BIDDING ELECTRICAL CONTRACTOR WHO SHALL INCLUDE ALL BOXES, CONDUIT, WIRE, ETC. TO COMPLETE THE FIRE ALARM PACKAGE. THE ALARM CONTRACTOR IS REQUIRED TO SUBMIT TO THE ARCHITECT AND THE LOCAL CITY FIRE INSPECTOR SHOP DRAWINGS OF THE CODE COMPLIANT SYSTEM STAMPED BY A QUALIFIED FIRE ALARM ENGINEER/DESIGNER ACCEPTABLE TO THE LOCAL FIRE INSPECTOR.

PROVIDE GROUNDING AND BONDING SYSTEMS IN STRICT ACCORDANCE WITH THE LATEST ACCEPTED PUBLISHED EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C. 2017), EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE SPECIFIED HEREIN. INTER-CONNECTION OF NEUTRAL AND GROUND IS NOT PERMITTED EXCEPT AT SERVICE ENTRANCE EQUIPMENT. INSTALL GROUNDING CONDUCTORS TO PERMIT SHORTEST AND MOST DIRECT PATH TO GROUND. CONCEALED JOINTS SHALL BE MADE BY CADWELD METHOD. WHERE GROUNDING CONDUCTORS ARE IN RACEWAY, BOND CONDUCTOR AND RACEWAY AT BOTH ENDS. GROUNDING AND BONDING FITTINGS USED SHALL BE UL LISTED AND BE COMPATIBLE WITH METALS USED IN SYSTEM. SHEET METAL TYPE STRAP ARE NOT ACCEPTABLE.

A GREEN INSULATED GROUND CONDUCTOR SHALL BE RUN IN ALL BRACH CIRCUIT AND FEEDER CONDUIT WITH PHASE AND/OR NEUTRAL CONDUCTORS. GROUND CONDUCTOR SHALL BE SIZED PER NEC OR AS NOTED ON DRAWINGS. MINIMUM SIZE #12 AWG. CONDUIT BOX TO DEVICE TRAP OR YOKE SCREW CONNECTION IS NOT SUFFICIENT. PROVIDE AN INSULATED GROUNDING JUMPER FOR RECEPTACLE CIRCUITS.

UPON COMPLETION OF ALL TESTS AND ACCEPTANCE, THE CONTRACTOR SHALL FURNISH THE OWNER OF A WRITTEN GUARANTEE COVERING THE ELECTRICAL WORK DONE FOR A PERIOD OF TWO (2) YEARS FROM DATE OF ACCEPTANCE. GUARANTEE INCLUDES EQUIPMENT CAPACITY AND PERFORMANCE RATINGS SPECIFIED WITHOUT EXCESSIVE NOISE LEVELS. UPON NOTICE FROM THE ARCHITECT OR THE OWNER, THE CONTRACTOR SHALL, DURING THE GUARANTEE PERIOD, RECTIFY AND REPLACE ANY DEFECTIVE MATERIAL OR WORKMANSHIP AND REPAIR ANY DAMAGE CAUSED THEREBY WITHOUT ADDITIONAL COST.

GENERAL

ALL EQUIPMENT AND MATERIALS SHALL HAVE RATINGS ESTABLISHED BY THE RECOGNIZED INDEPENDENT AGENCY OR LABORATORY. THE CONTRACTOR SHALL APPLY THE ITEMS USED ON THE PROJECT WITHIN THE RATINGS AND SUBJECT TO ANY STIPULATIONS OR EXCEPTIONS ESTABLISHED BY THE INDEPENDENT AGENCY OR LABORATORY. USE OF EQUIPMENT OR MATERIALS IN APPLICATIONS BEYOND THAT CERTIFIED BY THE AGENCY OR BEYOND THAT RECOMMENDED BY THE MANUFACTURER SHALL BE CAUSE FOR REMOVAL AND REPLACEMENT OF SUCH MISAPPLIED ITEMS.

CONDUIT SYSTEMS: ACCEPTABLE TYPES OF CONDUIT:	
HOT DIPPED GALVANIZED RIGID STEEL (GRS)	(1/2" MIN. TRADE SIZE)
ELECTRICAL METALLIC TUBING (EMT)	(1/2" MIN. TRADE SIZE)
POLYVINYL CHLORIDE - SCHEDULE 40 (PVC 40)	(1/2" MIN. TRADE SIZE)
FLEXIBLE METALLIC CONDUIT (FLEX)	(1/2" MIN. TRADE SIZE)
LIQUID TIGHT FLEXIBLE METALLIC CONDUIT (LOFLEX)	(1/2" MIN. TRADE SIZE)
MC METAL CLAD CABLE (MC)	(#12AWG MIN TRADE SIZE)

24" WIDE WITH 6" SIDE RAIL AND 5" LOADING DEPTH AND FITTINGS
36" WIDE WITH 6" SIDE RAIL AND 5" LOADING DEPTH AND FITTINGS

EMT OR GRS SHALL BE THE MAIN HOME RUN RACEWAY FOR ELECTRICAL CIRCUITS FROM PANELBOARDS TO ELECTRICAL DEVICES AND/OR JUNCTION BOX. MC CABLE CAN BE USED AS A SECONDARY INTERIOR CIRCUIT RACEWAY FROM THE MAIN HOME RUN JUNCTION BOX TO RECEPTACLES AND/OR LIGHT FIXTURE. CONDUITS INSTALLED IN EARTH FILL, IN CONCRETE, OR IN SOLID MASONRY STRUCTURES SHALL BE PVC 40. WHERE PVC 40 IS USED, THE 90° ELBOWS RISING ABOVE GRADE OR EXTENDING THROUGH THE CONCRETE ENVELOPE SHALL BE GRS. CONDUITS INSTALLED IN MOIST AND/OR DAMP LOCATIONS SHALL BE PVC 40. CONDUITS SUBJECT TO MECHANICAL INJURY SHALL BE GRS. CONDUITS RUN CONCEALED IN THE HOLLOW SPACE OF NON-MASONRY WALL OR ABOVE SUSPENDED CEILINGS SHALL BE EMT. IN ALL CASES, CONDUITS/MC SHALL BE RUN AT RIGHT ANGLES TO OR PARALLEL WITH BUILDING LINES AND EXPOSED STRUCTURE. IN ALL CASES, CONDUIT/MC RUNS SHALL BE GROUPED TOGETHER WHERE POSSIBLE AND SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE, NOT FOR ANY SUSPENDED CEILING SUPPORT SYSTEM.

SHALL HAVE THHN/THWN, 600 VOLT INSULATION AND SHALL BE SOFT-DRAWN COPPER OF STANDARD AMERICAN WIRE GAUGE (AWG) SIZE. MINIMUM SIZE SHALL BE NO. 12. ALL WIRE NO. 8 AND LARGER SHALL BE STRANDED. ALL BRANCH CIRCUITS NO. 10 AND SMALLER SHALL BE WIRED WITH COLOR-CODED WIRE WITH THE SAME COLOR USED FOR A SYSTEM THROUGHOUT THE BUILDING. POWER FEEDERS AND BRANCH CIRCUITS LARGER THAN NO. 10 SHALL EITHER BE FULLY COLOR CODED OR SHALL HAVE BLACK INSULATION AND BE SIMILARLY COLOR CODED WITH TAPE OR PAINT IN ALL JUNCTION BOXES AND PANELS. TAPE OR PAINT SHALL COMPLETELY COVER THE FULL VISIBLE LENGTH OF CONDUCTOR INSULATION WITHIN THE BOX OR PANEL. COLOR CODING OF ALL CONDUCTORS SHALL BE AS FOLLOWS:

GROUNDING:	BARE, GREEN OR GREEN W/YELLOW STRIP
120/208V 3Ø CONDUCTORS:	ØA-BLACK, ØB-RED, ØC-BLUE
277/480V 3Ø CONDUCTORS:	ØA-BROWN, ØB-ORANGE, ØC-YELLOW
120/208V NEUTRAL:	WHITE
277/480V NEUTRAL:	GRAY

VOLTAGE RATING. PHASE COLOR SHALL BE ADDED BY THE CONTRACTOR AT THE TIME OF INSULATION TO HELP KEEP THE PHASES IN THE CORRECT INSTALLATION ORDER.

Results

CONTRACTOR SHALL TOUCH-UP OR REFINISH ALL ITEMS OF ELECTRICAL EQUIPMENT FURNISHED WITH A FACTORY FINISH COAT OF PAINT AND WHICH MAY HAVE BEEN DAMAGED REGARDLESS OF CAUSE.

BALANCE ALL SINGLE PHASE LOADS CONNECTED TO ALL PANELBOARDS TO ENSURE AN APPROXIMATE EQUAL DIVISION ON THESE LOADS ON MAIN POWER SUPPLY SERVING BUILDING. ALL TESTS SHALL BE MADE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE IEEE AND THE NEC. THE INSTALLATION SHALL BE TESTED FOR PERFORMANCE, GROUNDS AND INSULATION RESISTANCE. "MEGGER" TYPE INSTRUMENTS SHALL BE USED. CONTRACTOR SHALL PERFORM CIRCUIT CONTINUITY AND OPERATIONAL TESTS ON ALL EQUIPMENT FURNISHED OR CONNECTED BY CONTRACTOR. THE TESTS SHALL BE MADE PRIOR TO FINAL INSPECTION. THE CONTRACTOR SHALL PROVIDE ALL TESTING EQUIPMENT AND ALL COSTS SHALL BE BORNE BY HIM. WRITTEN REPORTS SHALL BE MADE OF ALL TESTS. THESE REPORTS SHALL BE TURNED OVER TO THE ARCHITECT AT TIME OF FINAL INSPECTION ALL FAULTS SHALL BE CORRECTED IMMEDIATELY.

THE CONTRACTOR SHALL REMOVE ALL OIL, GREASE, OR OTHER STAINS RESULTING FROM HIS WORK PERFORMED IN THE BUILDING OR THE EXTERIOR THEREOF.

						<div>11880 Cranston Drive, Ste. 101 Arlington, Tennessee 38002 (901) 290-5444</div> <div><div>CMG</div><div>ENGINEERS, INC.</div></div> <div>457 St. Michael Street Mobile, Alabama 36602 (251) 433-1611</div>	PROJECT McDUFFIE COAL TERMINAL NEW EAST ELECTRICAL BUILDING		TITLE ELECTRICAL SPECIFICATION			
B	ITEMS NOT IN CONTRACT. TEMP POWER ADDED	10/22/26	WES	JJM							DATE 05/27/26	22x34 REV. B
A	ISSUED FOR BID	09/11/26	WES	JJM								
REV.	DESCRIPTION	DATE	BY	CHK'D								
							McDUFFIE COAL TERMINAL MOBILE, ALABAMA					