



Invitation for Bid No. 2025-006

Union County Sheriff's Office Fuel Station

ADDENDUM No. 2

ISSUE DATE: November 12, 2024

Responding Bidders on this project are hereby notified that this Addendum shall be made a part of the above named IFB document.

The following items add to, modify, and/or clarify the IFB documents and shall have the full force and effect of the original Documents. This Addendum shall be acknowledged by the Offeror in the IFB document.

SHERIFF'S OFFICE FUEL STATION
MONROE, NC
Consultant Project No: 2241794

GENERAL:

Planholders are requested to insert this Addendum in the front of their Project Manual. Inform all concerned that the Bidding Documents are modified by this Addendum.

The following modifications and clarifications are hereby made a part of the Bidding Documents and supersede or otherwise modify the provisions of the published Project Manual and Drawings, dated 10-02-2024.

Refer to the Drawings, Specification Sections, or other Documents, if any, attached to this Addendum, which are hereby made a part of this Addendum.

PRE-BID ATTENDEE LIST

The list of pre-bid meeting attendees is attached.

BIDDER REQUESTS FOR INFORMATION:

Refer to the attached Request for Information document for responses to the questions submitted prior to the posted deadline for questions.

MODIFICATIONS TO THE PROJECT MANUAL AND DRAWINGS:

DELETE the previously issued Documents indicated below in their entirety and SUBSTITUTE the revised Documents in their entirety, noted as Addendum 01, dated 11-07-2024.

- Sheet M101
- Sheet E101
- Sheet E201
- Sheet A101

REFER TO DRAWINGS ATTACHED TO THE END OF THIS ADDENDUM.

END OF ADDENDUM NO 02



IFB 2025-006 Union County Sheriff's Office Fuel Station

Sign-In for Pre Bid and Site Visit

Date: October 15, 2024

Location: Union County Sheriff's Office

Name	Company	Phone	Email Address
RANDY NAYNE	PCS	(336) 613-4855	emayne@ocsdavis.com
Kenny Dinger	JF Petro	770 548 5718	ddinger@jfpetro.com
Seth Rushing	Rushings Contracting Group, Inc	704-219-8904	Seth.rushing@gmail.com
Guzon Senio	GFI	704-779-2674	senio@guardianfueltech.com

REQUEST FOR INFORMATION

DATE:
11/7/2024

PROJECT #: 2241794		
1	Bid	1
<i>RFI #</i>	<i>Contract #</i>	<i>Rev.#</i>

Project Information:

OWNER: Union County 500 N Main St Monroe, NC 28112	ARCHITECT: LaBella Associates, D.P.C. 400 S Tryon St, Suite 1300 Charlotte, NC 28285	CONTRACTOR:
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RFI Information:

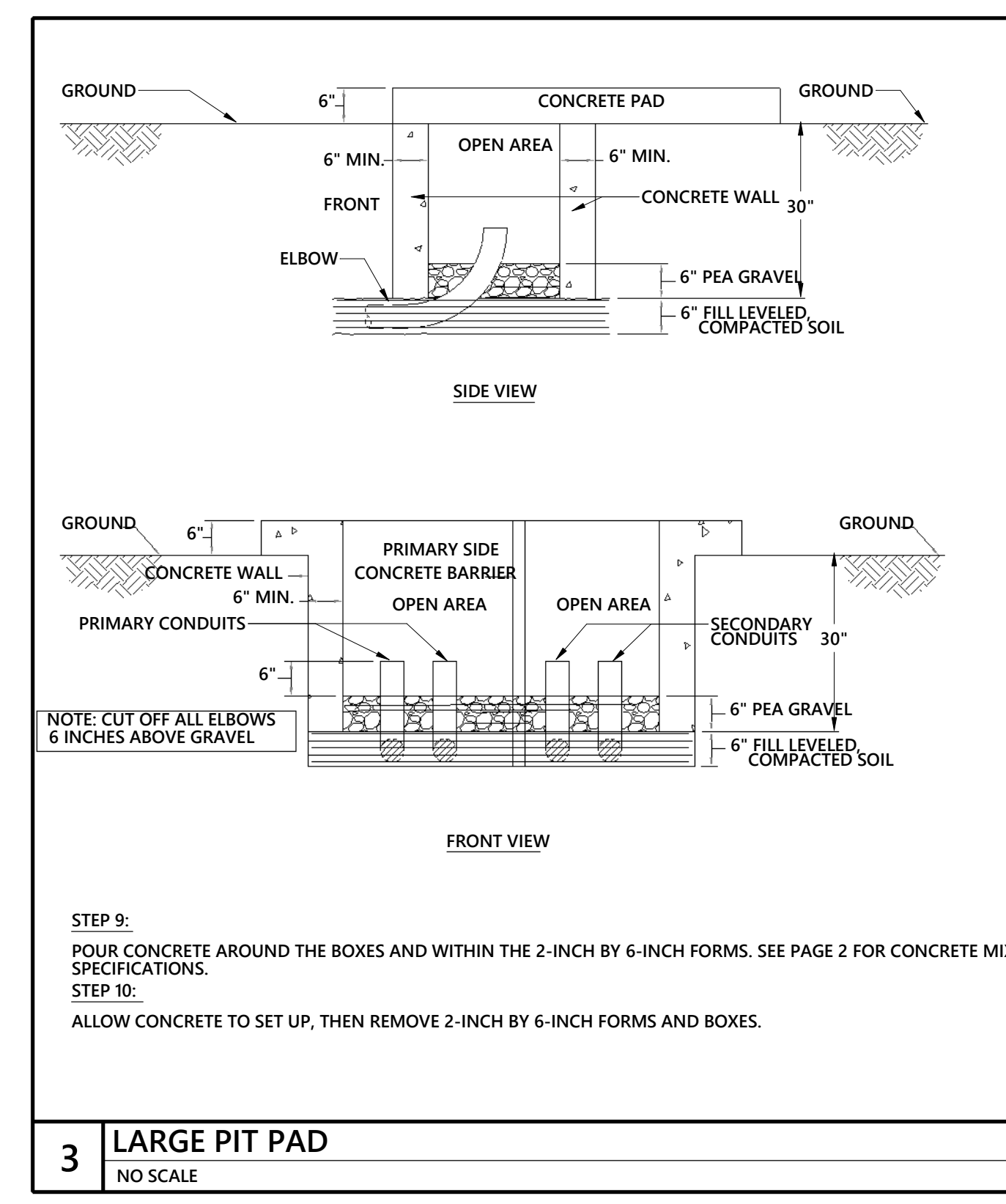
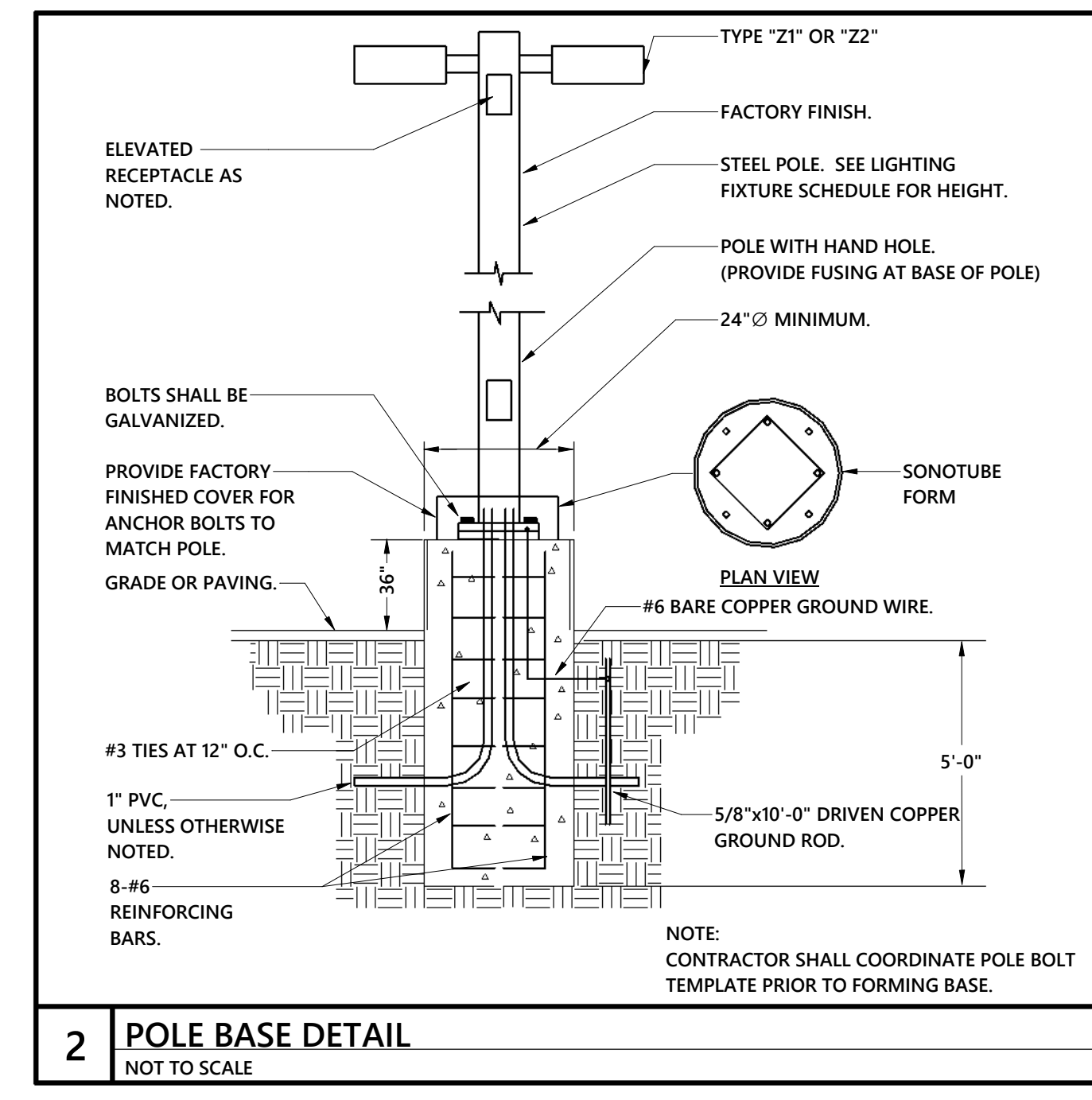
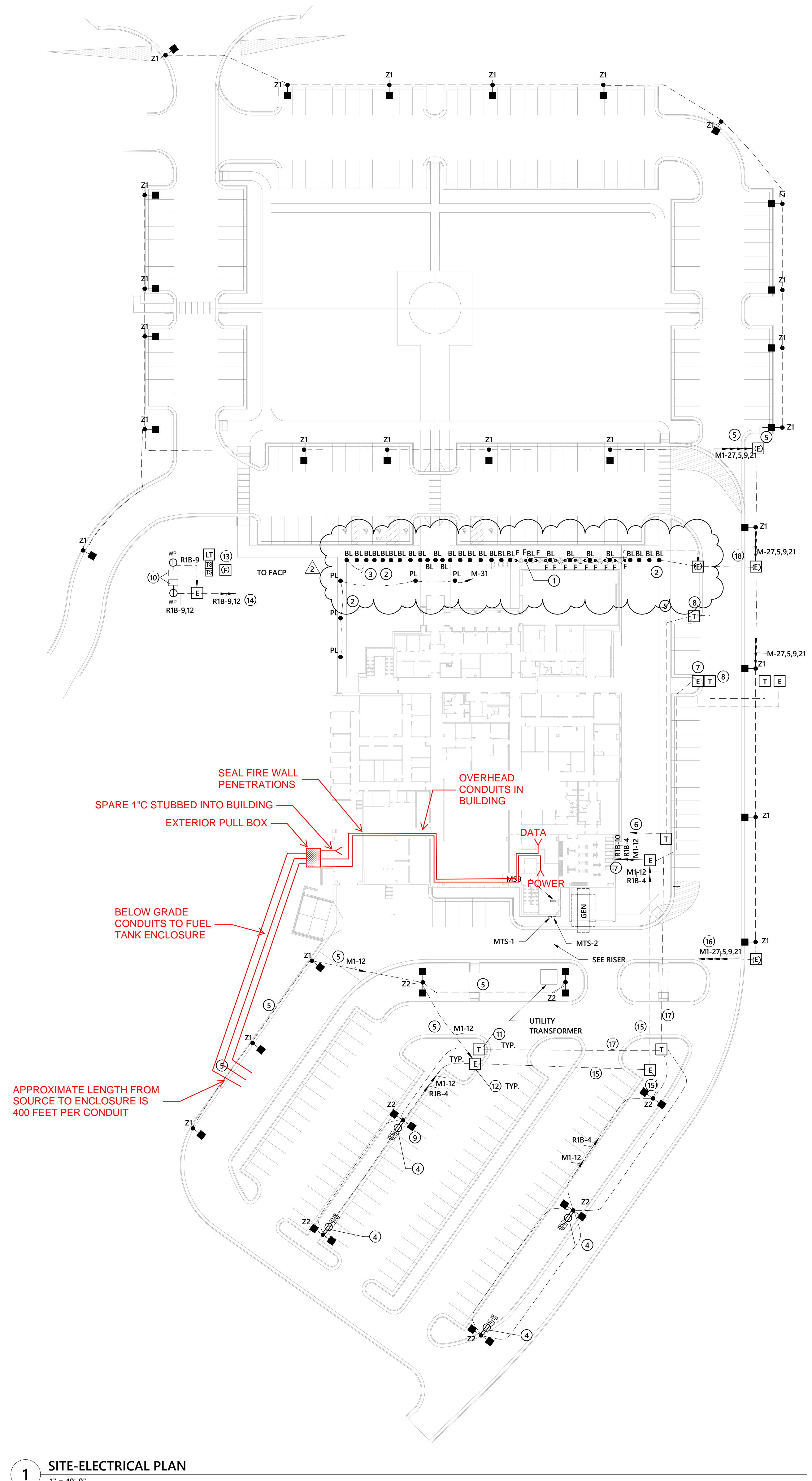
RFI TITLE: Compiled Bid phase RFIs	CONTRACTOR RFI #:	DISCIPLINE:
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QUESTION / REQUEST:

1. Please confirm product in fuel tank will be unleaded gasoline.
2. How many hoses are required for the dispenser? 1 or 2?
3. FuelMaster Fuel Management System
 - a. Is the owner already using FuelMaster?
 - b. Does the owner want hosted or cloud software?
 - c. If cloud software does the unit need to be hardwired or utilize cellular comm?
 - d. What authorization method does the owner want to use?
 - i. Keypad?
 - ii. Prokee?
 - iii. Prox Card?
 - iv. Magstripe?
4. Is there anywhere on the property to dispose of spoils from excavation or do they need to be hauled offsite?
5. Who provides the security camera?
 - a. If contractor provided, please provide spec or basis of design.
6. Please confirm if distances around tank for bollards and privacy wall are within code.
 - a. If not, please provide updated drawing for concrete and privacy wall for estimating
7. Please send drawing of anticipated interior conduit path with anticipated linear footage as discussed at prebid.
8. Depending on the timing of the updated concrete/wall dimensions and conduit routing, would you consider a one week bid extension to complete pricing and make another site visit with subcontractors?
9. Per review of onsite conditions during pre-bid meeting. Please confirm small electric operated lifts will be allowed inside the existing Sheriff's Office so new overhead conduits can be installed above existing ACT ceilings/open structural ceilings.
10. Per review of the above plan sheet. No Fuel resistant caulking as been shown to be installed around top of expansion joint materials around the bottom of the new concrete slab where it butts up to new CMU walls. Review this issue and confirm if this will be required.
11. Per review of the above plan sheet. "8" Reinforced CMU Grout Solid-Painted" No paint specifications have been provided on plans or specifications for these CMU walls. Provide paint specifications for the paint for these CMU walls so it can be priced correctly.
12. Per review of the above plan sheet (G001). Per note Project Scope shown on the plan sheet noted above. Last item on scope list states to provide security camera for area surveillance. No specifications have been provided for this security camera. Will this be provided direct by Owner? Will we only need to provide conduit with pull string for final installation to be complete by Owner? Provide security plan sheet showing where conduits from new camera will need to be installed from starting point to final connection point.
13. Per review of the above plan sheet (A101). Please provide specifications on the existing brick that was used for the new Sheriff's office so correct masonry materials can be priced to match existing brick materials.

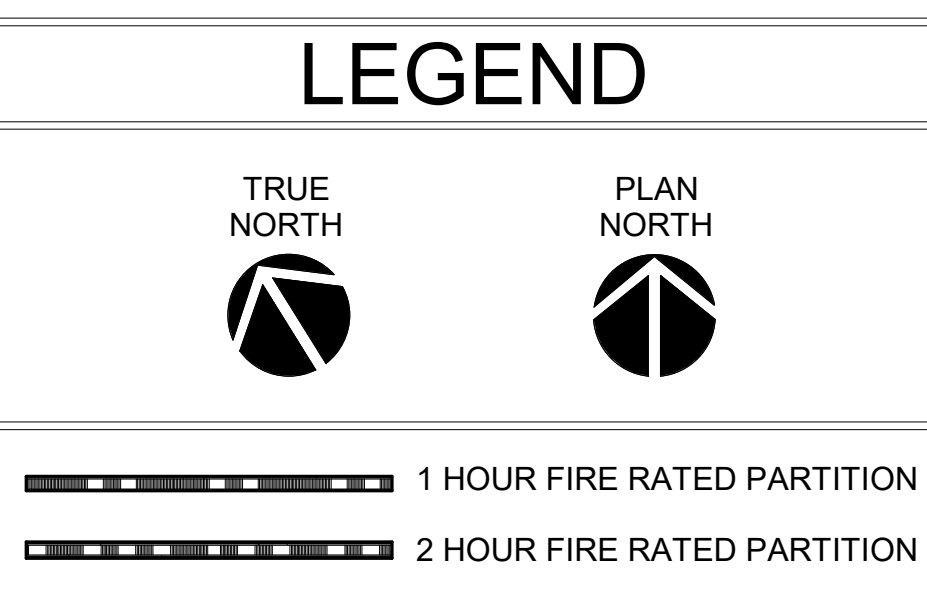
ARCHITECT / ENGINEER RESPONSE:

1. Yes, premium fuel to be stored.
2. 1 hose required for dispenser.
3. The owner is not currently using FuelMaster. It will be cloud based and hosted on FM live. Union County IT wants the connection to be hardwired. Union County wants to use their existing RFID cards for the fuel management system. FuelMaster can set up the RFID interface for a fee.
4. Hauled offsite.
5. Owner will provide security cameras.
6. Our understanding is that current layout meets the requirements of the North Carolina Fire Prevention Code, NFPA 30, and NFPA 30A. Modifications may be required as a result of jurisdictional review.
7. Interior conduit routing plan attached for reference.
8. Extension of the bid date issued as Addendum 1,
9. Yes, lifts are acceptable to use.
10. Fuel resistant caulking added to detail on sheet A101.
11. Provide 1 coat of primer, Sherwin Williams Pro Industrial Block Filler (Sales # 650515430), and two coats of Sherwin Williams, Loxon Self Cleaning Satin – Network Grey paint
12. Cameras provided by owner. Conduit and cabling provided by contractor from main electrical room to fiber cable box on fuel station enclosure. Contractor to provide conduit with pull string from cable box to fuel dispenser and camera locations. Interior conduit routing plan attached for reference.
13. Brick: Palmetto Brick - Chocolate Wirecut; Mortar: Holcim Type N

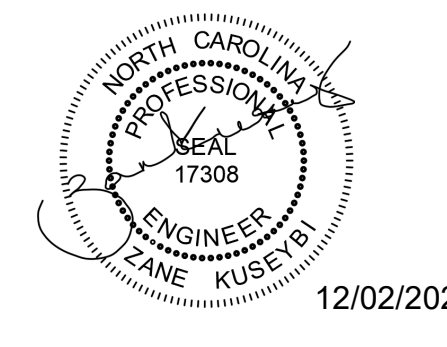


- GENERAL NOTES**
- PROVIDE (2)-4" CONDUIT FROM PAD MOUNTED TRANSFORMER TO DESIGNATED POINT AT EDGE OF PROPERTY FOR LOCAL POWER UTILITY USE. CONDUIT LOCATION, SIZE, AND BENDING RADIUS SHALL BE COORDINATED WITH UTILITY BEFORE INSTALLATION. PULLBOXES AS REQUIRED BY CODE/LOCAL UTILITY. E.C. TO PROVIDE UP TO 150' OF (2)-4" CONDUIT BASED ON UTILITY COORDINATION.
 - PROVIDE (2)-4" CONDUIT FROM MAIN HEAD END ROOM TO PROPERTY LINE FOR TELEPHONE SERVICE. CONDUIT LOCATION, SIZE, AND BENDING RADIUS SHALL BE COORDINATED WITH UTILITY BEFORE INSTALLATION. E.C. TO PROVIDE UP TO 150' OF (2)-4" CONDUIT.
 - PROVIDE (1)-4" CONDUIT FROM MAIN HEAD END ROOM TO PROPERTY LINE FOR CATV SERVICE. CONDUIT LOCATION, SIZE, AND BENDING RADIUS SHALL BE COORDINATED WITH UTILITY BEFORE INSTALLATION.
 - ALL LOW VOLTAGE CONDUIT RUNS SHALL HAVE HAND HOLES/PULL BOXES SUPPLIED AT 150' INTERVALS UNLESS OTHERWISE INDICATED BY LOCAL UTILITY. MINIMUM SIZE SHALL BE 36" X 36".
 - FIRE SERVICE BACKFLOW, PROVIDE 1" CONDUIT TO FAC FOR TAMPER SWITCHES. COORDINATE EXACT QUANTITY AND LOCATION WITH CIVIL PLANS.
 - DOMESTIC SERVICE BACKFLOW, COORDINATE EXACT LOCATION WITH CIVIL PLANS.

- KEYED NOTES**
- FIXTURE "F" TO BE MOUNTED ON TOP OF COLUMN APPROXIMATELY 19'-0" ABOVE WALK. CONNECT TO FIXTURE "SC2" AND REFER TO SHEET E101A FOR CONTINUATION.
 - SEE ARCHITECTURAL SITE PLAN A51.01 FOR EXACT LIGHT FIXTURE LOCATIONS.
 - CONNECT TO NORMAL CIRCUIT OF EXTERIOR LIGHTING FIXTURES ON UPPER OF TOWER. REFER TO E102A FOR CONTINUATION.
 - POWER FOR WIFI TO BE POLE MOUNTED 30' ABOVE GRADE
 - WITH 2#8, 1# 8 G 1" C & VIA PHOTOCELL & TIME CLOCK.
 - TWO (2) - 1" C WITH PULL STRING TO DATA CLOSET ROOM 1121 FOR WIFI SIGNAL AND GATE CONTROL.
 - 1" C - 2 #10, 1#10 G FOR GATE POWER.
 - FOR CARD READER.
 - 1" C - 2 #10, 1#10 G FOR WIFI OUTLET ON POLE. TYPICAL.
 - FOR BACK FLOW PREVENTER HEATER.
 - TELECOMMUNICATION HANDHOLE. 12"X12" OPEN BOTTOM. "T" LOGO. QUAZITE PC 1212 TYPICAL.
 - ELECTRICAL HANDHOLE. 12"X12" OPEN BOTTOM. "E" LOGO. QUAZITE PC 1212 TYPICAL.
 - FIRE ALARM HANDHOLE. 12"X12" OPEN BOTTOM. "F" LOGO. QUAZITE PC 1212 TYPICAL.
 - 4#12, 1#12 G 1" C.
 - 1" C - 2#8, 2 #10, 1#8 G & VIA PHOTOCELL & TIME CLOCK. M1-12 UNSWITCHED.
 - 1" C - 4#8, 4#10, 1#8 G & VIA PHOTOCELL & TIME CLOCK.
 - 1" C - WITH PULL STRING.
 - 1" C - 4#10 & 1#10 E.G.



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Union County Sheriff's Office

No.	Description	Date
1	ADDENDUM 2	11/24/2020
2	ADDENDUM 3	12/02/2020

Project Number: 2019-026
Date: 12/02/2020

ELECTRICAL SITE PLAN

E0.10



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UNION COUNTY
500 N MAIN ST, MONROE, NC 28112



Union County Fuel Station
3370 PRESSON RD
MONROE, NC 28112

NO.	DATE	DESCRIPTION
1	11/7/2024	Addendum 2

Revisions

PROJECT NUMBER: 2241794

DRAWN BY: MG

REVIEWED BY: MG

ISSUED FOR: BID SET

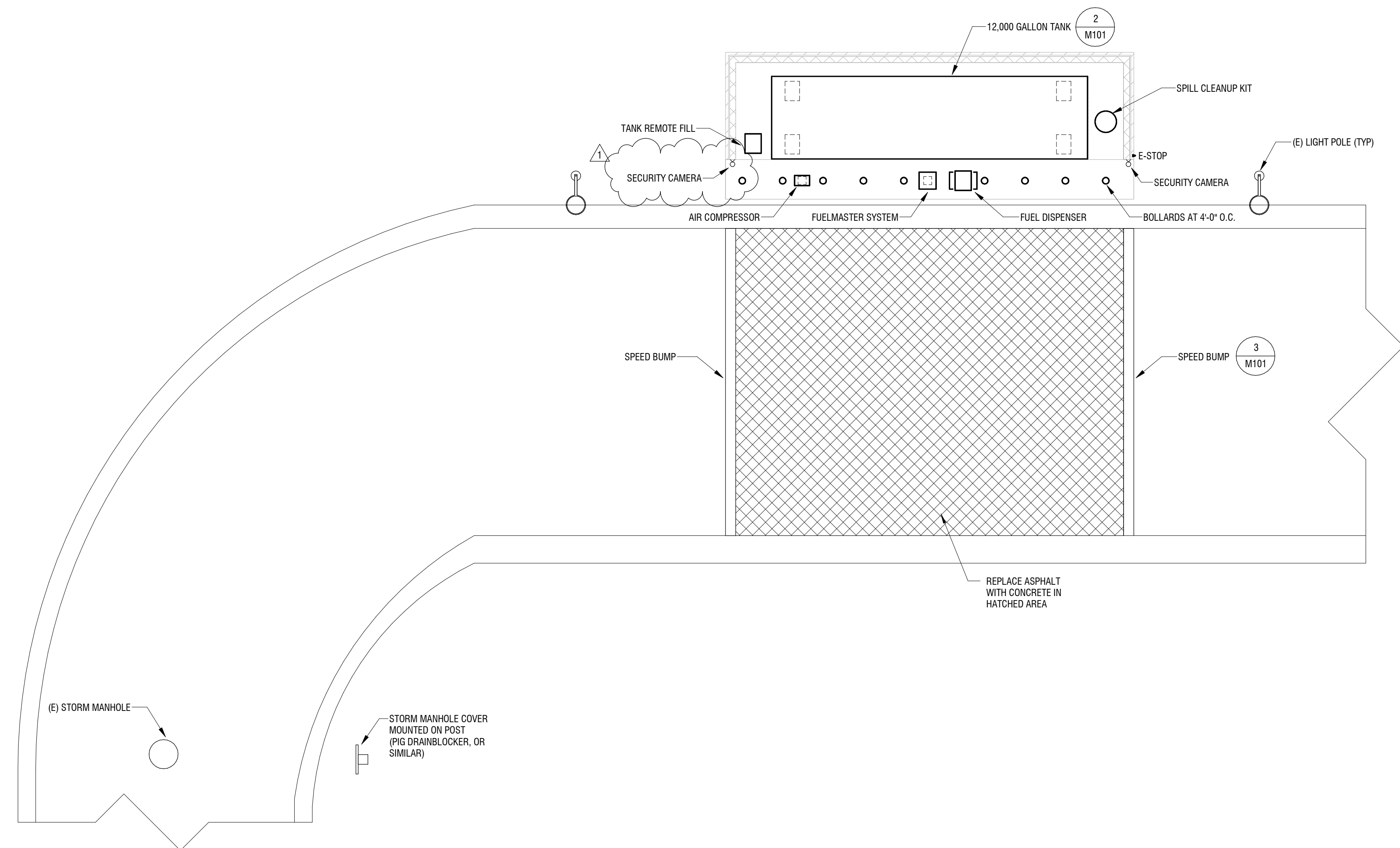
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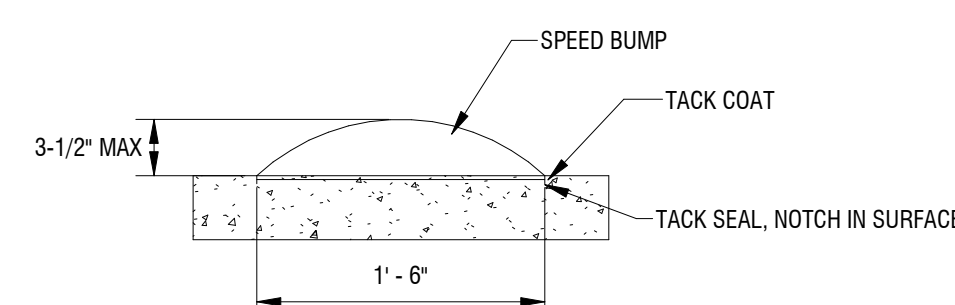
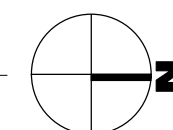
FUEL STATION SITE PLAN

DRAWING NUMBER:

M101

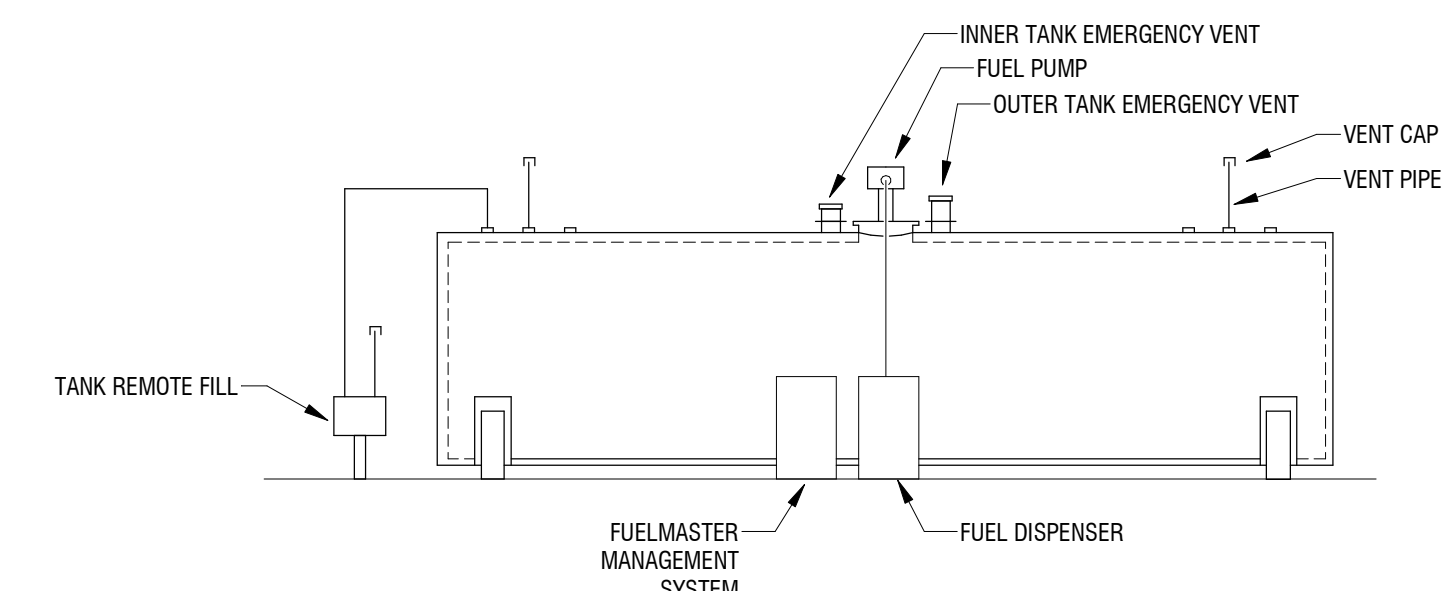


1 FUEL STATION SITE PLAN
M101 1/8" = 1'-0"



3 SPEED BUMP DETAIL
M101 NOT TO SCALE

- NOTES:**
- LAYOUT AND MARK AREA FOR PLACEMENT OF SPEED BUMPS
 - CLEAN AREA OF ALL DIRT AND DEBRIS
 - NOTCH EXISTING ASPHALT SURFACE TO ALLEVIATE SPEED BUMP DISPLACEMENT
 - TACK COAT AREA OF INSTALLATION USING LIQUID ASPHALT
 - INSTALL HOT MIX SURFACE ASPHALT TO A MAXIMUM HEIGHT OF 3-1/2" AT THE APEX AND A WIDTH OF 18"
 - APPLY A SEAL OF LIQUID ASPHALT TO THE ADJOINING EDGE OF THE INSTALLATION TO HELP PREVENT MOISTURE PREVENTION
 - APPLY HEAVY-DUTY REFLECTIVE TRAFFIC PAINT SUFFICIENT TO IDENTIFY THE SPEED BUMP



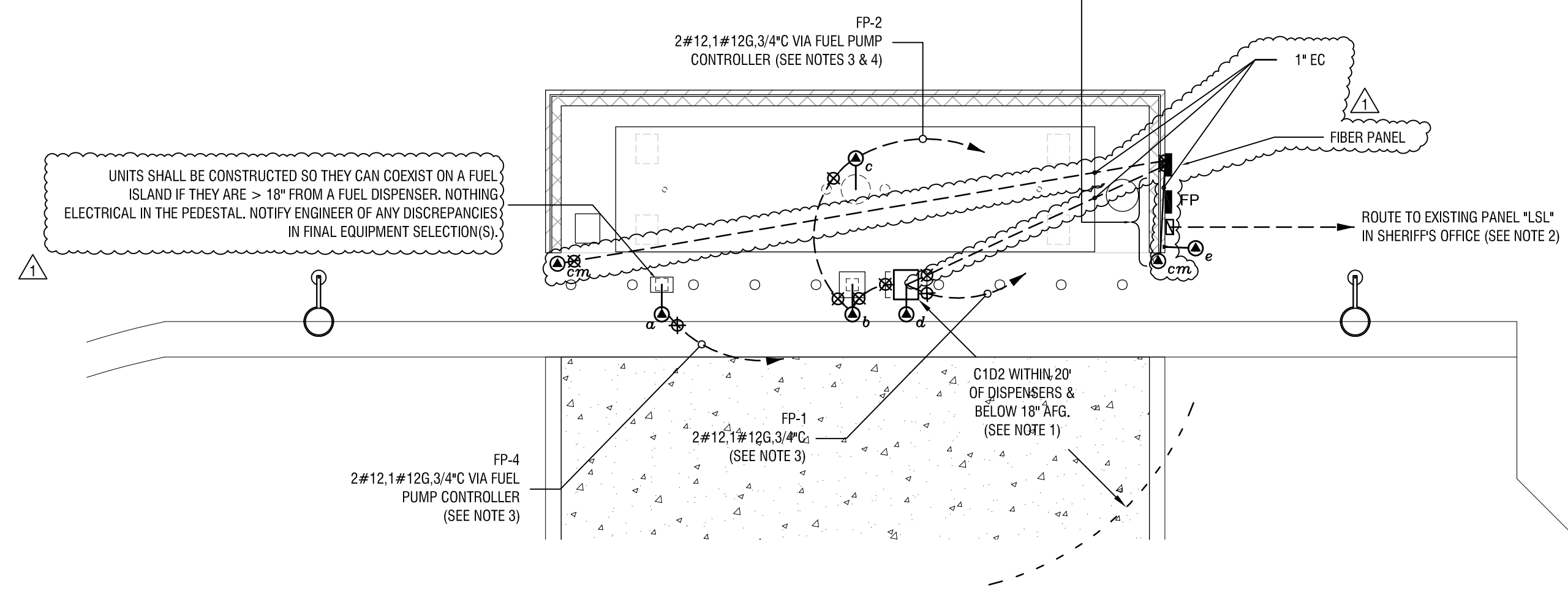
2 FUEL TANK PIPING DETAIL
M101 NOT TO SCALE

ELECTRICAL SYMBOLS

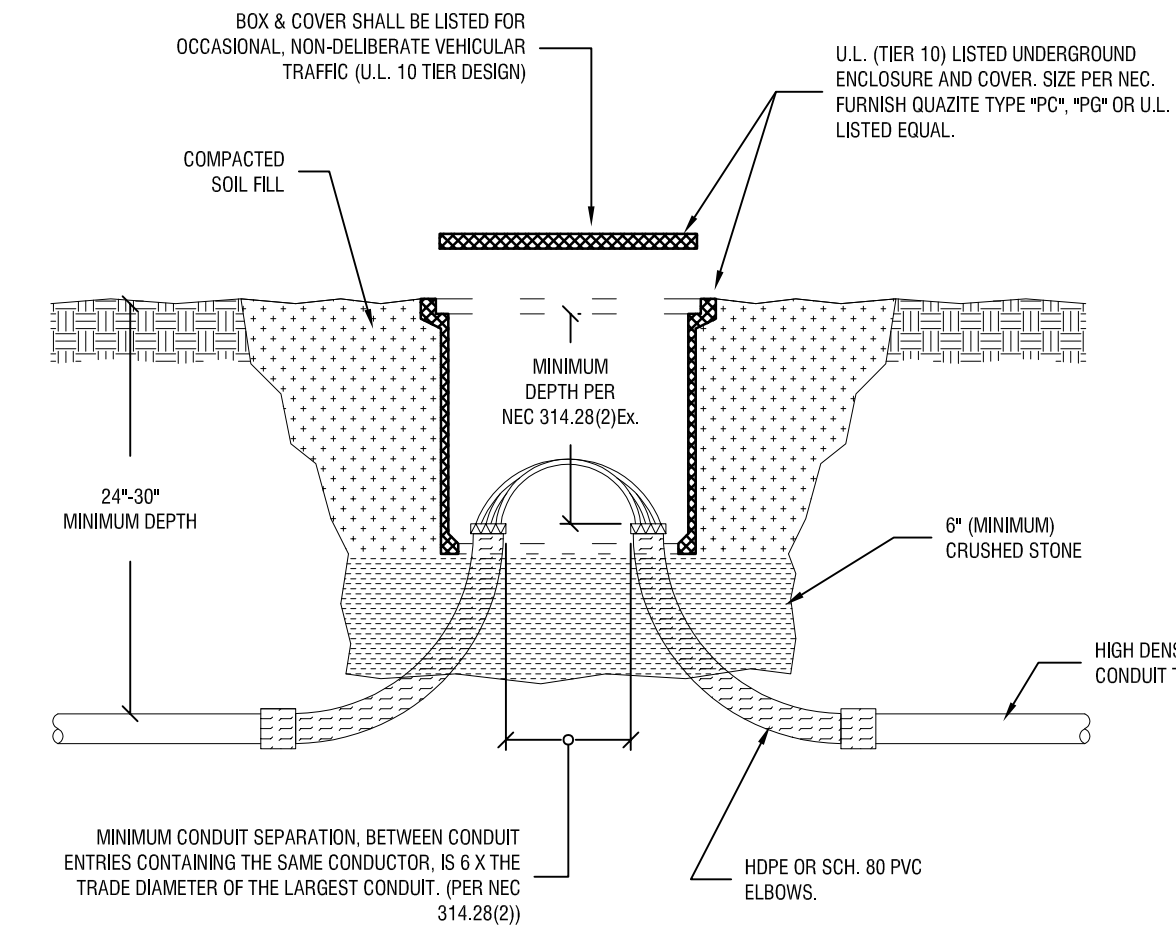
THE ELECTRICAL SYMBOLS HEREINAFTER LISTED ARE A BASIC STANDARD FOR ALL PROJECTS AS APPLICABLE. EACH AND EVERY SYMBOL MAY NOT NECESSARILY APPEAR ON THE SPECIFIC PROJECT DRAWINGS. ALL DIMENSIONS ARE TO TOP OF THE OUTLET BOX UNLESS OTHERWISE NOTED. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE EXACT OUTLET HEIGHT WITH COUNTERS, BACKSPLASHES, WAINSCOT, AND EQUIPMENT TO ASSURE PROPER MOUNTING HEIGHTS.

- CONDUIT CONCEALED IN OR ABOVE CEILING, IN OVERHEAD SLAB OR IN WALL, AS APPLICABLE.
- - - CONDUIT CONCEALED IN OR BELOW FLOOR, BELOW GRADE OR IN WALL, AS APPLICABLE.
- - - CONDUIT EXPOSED ON SURFACE OF CEILING, OVERHEAD STRUCTURE OR WALL AS APPLICABLE.
- /— NUMBER OF CURRENT CARRYING CONDUCTORS PLUS NEUTRAL IF REQUIRED. EQUIPMENT GROUNDING CONDUCTORS SIZED PER N.E.C. ARE NOT INCLUDED IN QUANTITY INDICATED, BUT SHALL BE INCLUDED IN ALL RACEWAYS.
- /— CONDUIT TURNING UP/CONDUIT TURNING DOWN.
- CONDUIT STUB UP 6" AFF WITH CONNECTION TO EQUIPMENT.
- HOMERUN TO PANELBOARD, MOTOR CONTROL CENTER, OR SWITCHBOARD AS APPLICABLE.
- CONDUIT SEAL FITTING INSTALLED ONTO RIGID METAL (RMC) OR INTERMEDIATE METAL (IMC) CONDUIT. INSTALLED FITTINGS SHALL BE LISTED & LABELED FOR 40% FILL PER NEC 501. INSTALL PER NEC 501.
- JUNCTION BOX SIZED PER N.E.C. UNLESS OTHERWISE INDICATED.
- JUNCTION BOX WITH FLEX CONNECTION TO EQUIPMENT.
- ELECTRICAL SWITCHING DEVICE, IN WEATHERPROOF BOX WITH TOGGLE TYPE WEATHERPROOF COVER. PROVIDE 1-POLE, 20-AMP DEVICE UNLESS NOTED OTHERWISE.
- NEMA 5-20R, WET RATED (WR) DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER (GFCI) MOUNTED 24" ABOVE PAVEMENT, UNLESS NOTED OTHERWISE. FURNISH DEVICE WITH WEATHERPROOF BOX AND COVER. COVER SHALL WEATHERPROOF WHILE IN USE.
- NEMA 5-20R, WET RATED (WR) DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER (GFCI) MOUNTED 48" ABOVE PAVEMENT, UNLESS NOTED OTHERWISE. FURNISH DEVICE WITH WEATHERPROOF BOX AND COVER. COVER SHALL WEATHERPROOF WHILE IN USE.
- TELEPHONE/DATA OUTLET, 20" TO TOP OF BOX UNLESS OTHERWISE NOTED. PROVIDE 3/4" EC TO ABOVE ACCESSIBLE CEILING.
- NEW BRANCH PANELBOARD AS INDICATED AND SCHEDULED.
- EQUIPMENT CONTROL PANEL, CABINET, OR MODULE AS APPLICABLE.
- FUSIBLE OR NON-FUSIBLE DISCONNECT FURNISHED WITH EQUIPMENT UNDER OTHER DIVISIONS OF THESE SPECIFICATIONS. TERMINATE WIRING ON LINE SIDE OF DISCONNECT.
- NON-FUSIBLE DISCONNECT. NUMERALS INDICATE SIZE AND POLES. WP INDICATES NEMA 3R ENCLOSURE OR WITH OTHER ENCLOSURE AS INDICATED.
- FUSIBLE DISCONNECT. NUMERALS INDICATE SIZE, POLES, AND FUSETRON SIZE. WP INDICATES NEMA 3R ENCLOSURE OR WITH OTHER ENCLOSURE AS INDICATED.
- CIRCUIT BREAKER NUMERALS INDICATE AMPERE RATING, POLES, AND FRAME. WP INDICATES 3R ENCLOSURE OR WITH OTHER ENCLOSURE AS INDICATED.
- MOTOR RATED TOGGLE TYPE DISCONNECT SUITABLY RATED FOR OUTDOOR LOCATIONS.
- 120 OR 240-VOLT, SINGLE PHASE MOTOR, HORSEPOWER AS INDICATED.
- 208 OR 240-VOLT, THREE PHASE MOTOR, HORSEPOWER AS INDICATED.
- 480 OR 575-VOLT, 3-PHASE MOTOR, HORSEPOWER AS INDICATED.
- DRY TYPE TRANSFORMER, 3-PHASE, 4-WIRE, KVA AS INDICATED.
- DRY TYPE TRANSFORMER, SINGLE PHASE, KVA AS INDICATED.
- STREET LIGHT LUMINAIRE, BRACKET ARM, AND POLE AS SPECIFIED.
- FLOODLIGHT LUMINAIRE, MOUNTING BRACKET, AND POLE AS SPECIFIED.
- POST TOP LUMINAIRE AND POLE, OR BOLLARD AS SPECIFIED.
- EXISTING OUTLET BOX TO BE USED AS INDICATED.
- EXISTING LIGHTING FIXTURES.
- EXISTING PANELBOARDS.
- EXISTING WIRE AND CONDUIT TO BE REUSED TO EXTENT FEASIBLE.
- X — EXISTING WIRE AND CONDUIT TO BE REMOVED.
- RM — EXISTING ELECTRICAL EQUIPMENT TO REMAIN IN PLACE.
- RL — EXISTING ELECTRICAL EQUIPMENT TO BE RELOCATED AS INDICATED.
- RP — EXISTING ELECTRICAL EQUIPMENT TO BE REPLACED.
- RV — EXISTING ELECTRICAL EQUIPMENT TO BE REMOVED.
- a — AIR STATION COMPRESSOR CONTROLLER. COORDINATE EXACT STUB-UP LOCATION AND TERMINATE 120-VOLT, 20-AMP POWER CONNECTION ONTO THE UNIT DISCONNECT.
- b — FUEL MASTER UNIT (FMU). COORDINATE EXACT STUB-UP LOCATIONS FOR 120-VOLT, POWER CONNECTION, MONITOR/CONTROL TO EACH DISPENSER, TO TANK MONITOR CONSOLE AND THE TRANSACTION PRINTER. COORDINATE LOW-VOLTAGE WIRING REQUIREMENTS WITH SYSTEM PROVIDER AND CONNECT 120-VOLT POWER TO FMU'S UNIT DISCONNECT AS INDICATED ON PLANS. PROVIDE CONDUIT SEALS IN ACCORDANCE WITH NEC 514.9.
- c — FUEL PUMP
- d — FUEL DISPENSER
- e — EMERGENCY SHUT-OFF SWITCH WITH RED MUSHROOM AND HEAD AND BUTTON LEGEND PLATE THAT READS "EMERGENCY SHUT-OFF FOR FUEL SYSTEM". PROVIDE SQUARE D # 9001 WITH KR25RH13 OPERATOR & KY-1 BOX. COORDINATE EXACT LOCATION AND MOUNTING WITH OWNER & AHJ IN A LOCATION THAT IS 20' (MIN) TO 100' (MAX) FROM NEAREST FUEL DISPENSER AND OUTSIDE ANY CLASSIFIED AREA ASSOCIATED WITH THE TANK VENT OPENINGS. E.C. SHALL CONNECT THIS SWITCH SO THAT IT POWERS THE 120V SHUNT TRIP COIL OF THE FUEL POWER PANEL(S) (FP) AND REMOVES POWER FROM ALL EQUIPMENT ASSOCIATED WITH THE FUELING OPERATION.
- cm — LV CAMERA. PROVIDE 1" CONDUIT WITH PULL STRING TO FIBER BOX TO LOCATION INDICATED. COORDINATE MOUNTING HEIGHT AND BOX REQUIREMENTS WITH EQUIPMENT.

ELECTRICAL BRANCH PANEL, SHUNT-TRIP BREAKER AND FUEL SYSTEM EMERGENCY DISCONNECT INSTALLED ON OPPOSITE SIDE OF WALL ALLOWED PER NEC 514 AFTER EXACT POSITION OF DISPENSER AND TANK VENTS OF THE INSTALLED SYSTEM ARE DETERMINED. IF WALL LOCATION IS TOO CLOSE (I.E., < 10' FROM DISPENSER WITHIN A 10' SPHERICAL DISTANCE FROM A TANK VENT OPENING) EQUIPMENT CANNOT BE INSTALLED ON WALL. IN SUCH CASES, EQUIPMENT SHALL BE INSTALLED JUST BEYOND THE CLASSIFIED ZONES ON A METAL RACK. (SEE NOTE 1)

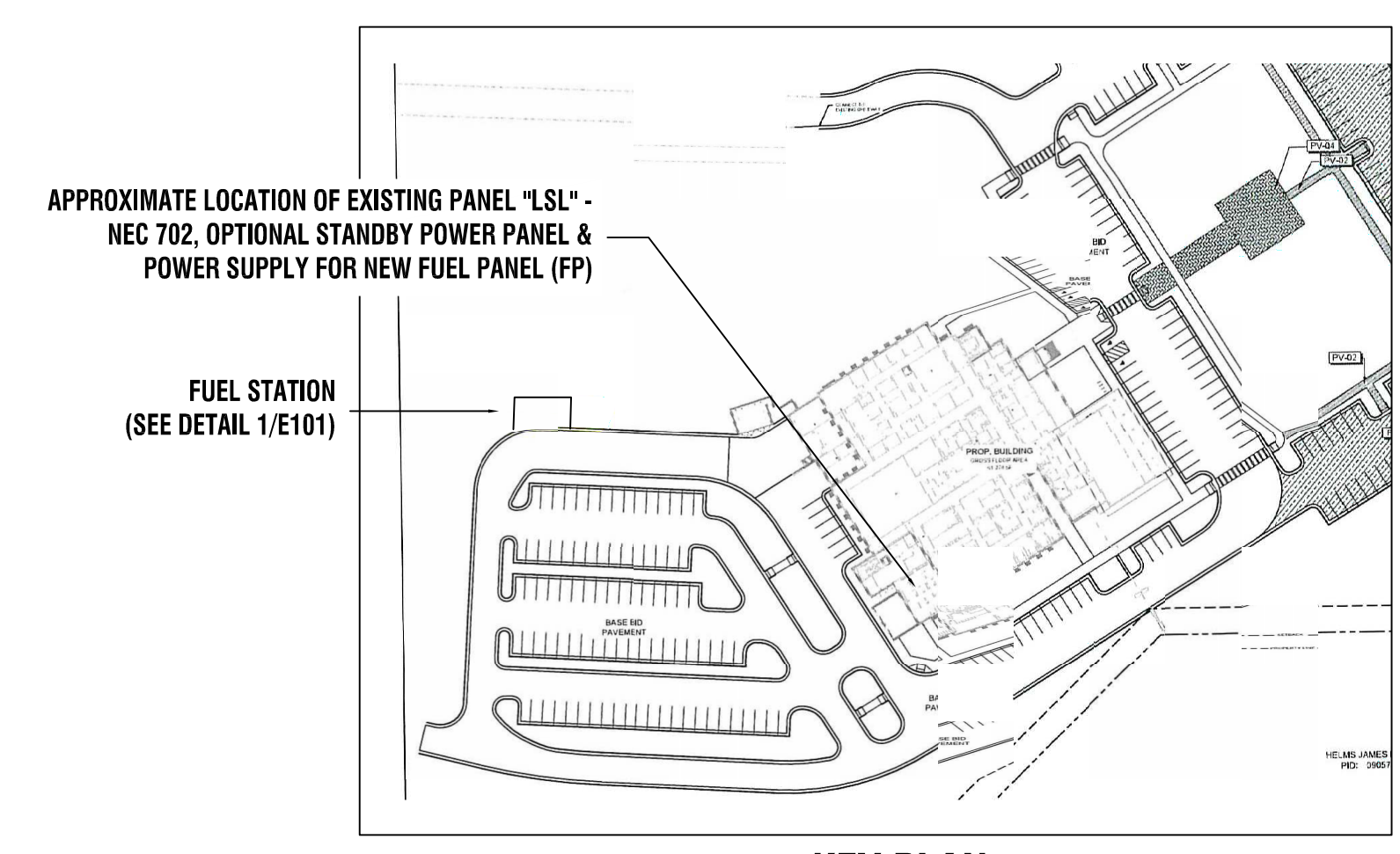


1 ELECTRICAL – FUEL STATION PLAN
E101 NOT TO SCALE

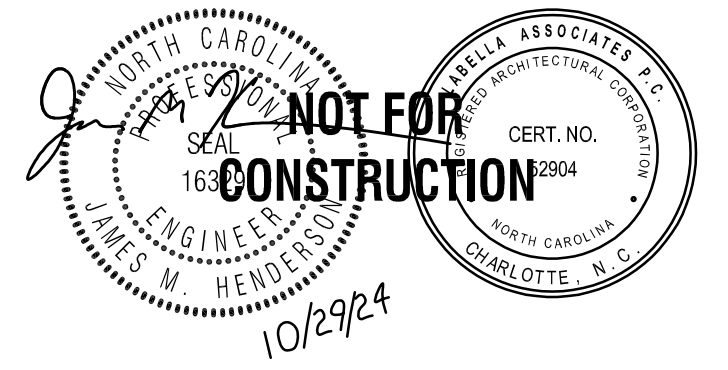


2 DETAIL – PULL BOX
E101 NOT TO SCALE

- NOTES:**
- EMERGENCY SHUTOFF MUST BE AT LEAST 20' AND NO MORE THAN 100' FROM NEAREST DISPENSER. VERIFY THAT EMERGENCY SHUTOFF IS NOT LOCATED ABOVE THE 18" HIGH CLASSIFIED AREA ASSOCIATED WITH THE FUEL DISPENSER AND, SINCE NEITHER THE SHUTOFF OR ELECTRICAL POWER PANELS ARE SUITABLY RATED FOR A CLASS 1 ENVIRONMENT, ALL THE ELECTRICAL EQUIPMENT MUST BE INSTALLED IN AN UNCLASSIFIED AREA. FIELD VERIFY EXACT DISPENSER AND TANK VENT LOCATIONS PRIOR TO ELECTRICAL RIG-IN AND CONDUITS STUB-UPS. VERIFICATION PROVIDED UNSTRUT RACK FOR PANEL MOUNTING RACK IF WALL IS UNSUITABLY CLOSE TO CLASSIFIED AREAS ASSOCIATED WITH FUEL TANK AND DISPENSER.
 - VERIFY POSITION OF EXISTING UNDERGROUND ELECTRICAL AND COORDINATE ROUTING OF PANEL FEEDER. INSTALL IN-GRADE ELECTRICAL PULL BOXES AS NEEDED BASED ON DISTANCE AND ROUTING PATHWAY. SEE DETAIL 2/E101 FOR PULL BOX REQUIREMENTS.
 - COORDINATE INSTALLATION AND ELECTRICAL CONDUIT INSTALLATION IN ACCORDANCE WITH APPROVED SHOP DRAWINGS FOR TANK AND FUEL SYSTEM. PROVIDE CONDUIT AND WIRING BETWEEN FUEL MASTER UNIT, DISPENSER, FUEL PUMP AND TANK MONITORING SENSORS AS DICTATED BY VENDORS INSTALLATION PLANS.
 - ALL CONTROL AND BRANCH CIRCUIT CONDUITS INSTALLED WITHIN 20' OF THE DISPENSERS SHALL BE RIGID STEEL TYPE WITH CONDUIT SEALS AT HAZARD BOUNDARIES AND EQUIPMENT CONTAINING IGNITION SOURCES IN ACCORDANCE WITH NEC 501. DEPENDING CONTRACTOR'S INSTALLATION (I.E., LOCATION OF THE SEAL FITTING & ABSENCE OF JOINTS ON "PASS-THRU" CONDUITS, ETC.) SOME SEAL FITTINGS MAY NOT BE REQUIRED OR SOME NOT INDICATED MAY BE NEEDED.



KEY PLAN NTS



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UNION COUNTY
500 N MAIN ST. MONROE, NC 28112



Union County Fuel Station
3370 PRESSON RD
MONROE, NC 28112

1	11/7/2024	Addendum 2
NO:	DATE:	DESCRIPTION:

REVISIONS:
PROJECT NUMBER: 2241794

DRAWN BY: JMH

REVIEWED BY: BLS

ISSUED FOR: BIDDING

DATE: 10/2/2024

DRAWING NAME:

**ELECTRICAL PLANS,
NOTES & SCHEDULES**

DRAWING NUMBER:

E101

Date & Time: 10/28/2024 9:26 AM By: Raymond, Alexander Path: C:\BDD\Projects\Union County - NC2241794 - Union County Sheriff Fuel Station\05_Drawings\Electrical\241794_Union_Cou... Fuel Station.dwg

DIVISION 16 - ELECTRICAL

SECTION 1601 - GENERAL PROVISIONS

01 SCOPE

THE WORK COVERED BY DIVISION 16 OF THESE SPECIFICATIONS CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, SUPPLIES, AND MATERIALS, AND PERFORMING ALL OPERATIONS, INCLUDING TRENCHING, BACKFILLING, CUTTING, CHANNELING, CHASING, AND PATCHING NECESSARY FOR THE INSTALLATION OF COMPLETE WIRING SYSTEMS IN STRICT ACCORDANCE WITH DIVISION 16 OF THESE SPECIFICATIONS, AND THE APPLICABLE DRAWINGS, INSTRUCTION TO BIDDERS, GENERAL CONDITIONS, AND DIVISION ONE, GENERAL REQUIREMENTS.

02 GENERAL

A. THE INSTALLATION SHALL COMPLY WITH THE APPLICABLE RULES OF THE NATIONAL ELECTRICAL CODE AND RULES AND REGULATIONS OF LOCAL AUTHORITIES HAVING JURISDICTION, IN NO CASE SHALL THE MATERIALS AND WORKMANSHIP FAIL TO MEET THE MINIMUM REQUIREMENTS OF THE 2011 NATIONAL ELECTRICAL CODE.

1. THE REGULATIONS OF THE LOCAL UTILITY SHALL GOVERN SERVICE CONNECTIONS AND METERING PROVISIONS.
2. AN ELECTRICAL INSPECTION CERTIFICATE SHALL BE ISSUED BY THE LOCAL AUTHORITY BEFORE WORK WILL BE APPROVED FOR FINAL PAYMENT.
3. THIS CONTRACTOR SHALL DO ALL CUTTING NECESSARY FOR THE PROPER INSTALLATION OF THIS WORK AND SHALL REPAIR ANY DAMAGE DONE BY HIMSELF OR HIS WORKMEN TO CEILINGS, WALLS, FLOORS, PAVING, AND SEDED AREAS.

B. SITE INSPECTION. EACH ELECTRICAL BIDDER SHALL VISIT THE SITE OF WORK AND FAMILIARIZE HIMSELF WITH THE CHARACTER AND CONDITIONS OF THE SITE AND THE PROPOSED BUILDING.

C. MATERIALS. ALL MATERIALS, DEVICES, APPLIANCES, AND EQUIPMENT USED IN THIS WORK SHALL BE NEW AND APPROVED BY THE UNDERWRITERS' LABORATORIES IN EVERY CASE WHERE THEY HAVE ESTABLISHED A STANDARD FOR THE PARTICULAR TYPE OF MATERIALS TO BE INSTALLED OR SHALL BE LABEL LISTED BY A NORTH CAROLINA APPROVED THIRD PARTY TESTING AGENCY.

1. ALL LIGHTING FIXTURES SHALL BEAR THE LABEL OF UNDERWRITERS' LABORATORIES OR BE LISTED UNDER THE REEXAMINATION SERVICE.
2. CATALOG NUMBERS AND TRADE NAMES IN THESE SPECIFICATIONS AND NOTED ON THE DRAWINGS ARE INTENDED TO DESCRIBE THE MATERIAL, DEVICE, OR APPARATUS WANTED.

D. SUPERVISION. THE CONTRACTOR SHALL BE IN CHARGE OF THE WORK AT ALL TIMES DURING CONSTRUCTION. A THOROUGHLY COMPETENT FOREMAN WITH EXTENSIVE EXPERIENCE IN THE WORK TO BE PERFORMED UNDER THE CONTRACT, ANYONE DEEMED NOT CAPABLE BY THE ENGINEER SHALL BE REPLACED IMMEDIATELY UPON REQUEST AND AFTER A SATISFACTORY FOREMAN HAS BEEN ASSIGNED HE SHALL NOT BE WITHDRAWN WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.

E. TESTS. A FULL SCALE TEST WITH ALL LIGHTS, EQUIPMENT, AND APPLIANCES IN OPERATION SHALL BE CONDUCTED BY THE CONTRACTOR AT HIS EXPENSE. THE ELECTRICAL SYSTEM SHALL BE PROVEN SATISFACTORY FOR OPERATION AND FREE FROM DEFECTS. PARTICULAR ATTENTION SHALL BE PAID TO THE BALANCING OF THE SINGLE PHASE LOADS ON THE THREE PHASE SYSTEM. ANY AND ALL DEFECTS SHALL BE PROMPTLY REMEDIED.

1. THE CONTRACTOR SHALL TEST ALL WIRING AND CONNECTIONS FOR CONTINUITY AND GROUNDS BEFORE FIXTURES ARE CONNECTED AND HE SHALL DEMONSTRATE BY MEGGER TEST THE INSULATION RESISTANCE OF ANY CIRCUIT OR GROUP OF CIRCUITS, WHERE SUCH INSULATION RESISTANCE TEST INDICATES THE POSSIBILITY OF FAULTY INSULATION, THE CONTRACTOR SHALL LOCATE THE POINT OR POINTS OF SUCH FAULTY INSULATION, AND HE SHALL PULL OUT THE CONDUCTOR AT FAULT, REPLACE WITH NEW CONDUCTORS, AND DEMONSTRATE BY FURTHER TEST THE ELIMINATION OF SUCH FAULT AT HIS OWN EXPENSE.
2. READINGS PHASE-TO-PHASE, PHASE-TO-NEUTRAL & PHASE-TO-GROUND SHALL BE 2 MEGOHMS OR GREATER.

03 GROUNDING AND BONDING

ALL CONDUIT, NEUTRAL CONDUCTORS OF THE WIRING SYSTEMS, AND ALL ELECTRICAL EQUIPMENT SHALL BE GROUNDED. THE GROUND CONNECTION OF THE ELECTRICAL SYSTEM NEUTRAL AND CONDUIT SYSTEM SHALL BE MADE AT THE MAIN SERVICE SWITCH OR CIRCUIT BREAKER. ALL FEEDER AND BRANCH CIRCUIT CONDUITS SHALL HAVE A GREEN GROUNDING CONDUCTOR IN ADDITION TO THE PHASE AND NEUTRAL CONDUCTORS.

A. A THW OR THWN COPPER GROUND CONDUCTOR SIZED IN ACCORDANCE WITH THE NEC SHALL BE EXTENDED IN CONDUIT FROM THE MAIN SERVICE EQUIPMENT TO THE POINT OF ENTRANCE OF THE WATER SERVICE. THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR AT EACH END OF THE CONDUIT. CONNECTION TO WATER PIPE SHALL BE BY SUITABLE GROUND CLAMP OR BY LUG CONNECTION TO A PLUGGED TEE. IF FLANGED PIPES ARE ENCOUNTERED, CONNECTION SHALL BE MADE WITH THE LUG BOLTED TO THE SUPPLY SIDE OF THE FLANGED CONNECTION. ELECTRICAL BOND SHALL BE ESTABLISHED AROUND THE WATER METER IF APPLICABLE.

SECTION 1602 - BASIC MATERIALS AND METHODS

01 REQUIREMENTS OF SECTION 1601 SHALL APPLY.

02 WIRING.

ALL WIRING SHOWN ON THE CONTRACT DRAWING SHALL BE IN CONDUIT UNLESS OTHERWISE HEREINAFTER SPECIFIED.

A. BRANCH CIRCUIT CONDUCTORS SHALL BE AS INDICATED ON THE DRAWINGS.

B. CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET, AND NO SPLICES SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES. JUNCTION BOXES MAY BE UTILIZED WHERE REQUIRED.

03 CONDUIT SYSTEMS.

CONDUIT SHALL BE RIGID STEEL CONDUIT, INTERMEDIATE METAL CONDUIT, OR ELECTRICAL METALLIC TUBING (EMT). EMT SHALL NOT BE INSTALLED UNDERGROUND OR IN SLABS ON GRADE.

A. AT THE CONTRACTOR'S OPTION RIGID SCHEDULE 40 NONMETALLIC CONDUIT (PVC) MAY BE USED IN LIEU OF STEEL CONDUIT WHERE INSTALLED UNDER BUILDING SLABS OR UNDERGROUND, AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ARTICLE 352 OF THE NEC. RIGID STEEL CONDUIT SHALL BE USED WHERE BEND GREATER THAN 45 DEGREES ARE REQUIRED. EXPOSED PVC CONDUIT SHALL NOT BE PERMITTED.

04 CONDUIT INSTALLATION.

A. CONDUITS SHALL BE CONCEALED WITHIN WALLS, CEILING, AND FLOOR WHERE POSSIBLE. EXPOSED RUNS OF CONDUIT SHALL BE SUPPORTED EVERY 8' WITH APPROVED TYPE SUPPORTS.

B. GALVANIZED STEEL INSULATION THROAT COMPRESSION RING TYPE FITTINGS SHALL BE USED FOR EMT WORK.

C. PULL CORDS SHALL BE INSTALLED IN ALL EMPTY CONDUITS. NO CONDULET TYPE FITTINGS SHALL BE ALLOWED ON SERVICE CONDUITS OR ANY OTHER CONDUIT 2" OR LARGER.

D. WHERE STEEL AND PVC CONDUIT IS INSTALLED UNDERGROUND OR UNDER BUILDING SLABS JOINTS SHALL BE MADE WATERTIGHT. ALL CONDUIT INSTALLED UNDERGROUND SHALL BE ENCASED IN A MINIMUM OF 3" OF CONCRETE WITH 2" SEPARATION BETWEEN ADJACENT CONDUITS.

E. UNDERGROUND CONDUIT OUTSIDE THE BUILDING SHALL HAVE A MINIMUM COVER OF 2' AND IF POSSIBLE SHALL BE GRADED SO AS TO HAVE A FALL OF AT LEAST 3" PER 100' TOWARD A DRAINAGE POINT.

1. ALL UNDERGROUND STEEL CONDUITS SHALL BE THOROUGHLY COATED WITH TWO COATS OF ASPHALTUM OR BITUMASTIC AND SHALL BE RETOUCHE AS REQUIRED AFTER BEING MADE UP.

05 SECONDARY CONDUCTORS.

A COMPLETE SYSTEM OF CONDUCTORS SHALL BE INSTALLED IN THE RACEWAY SYSTEM, ONLY POWDERED SOAPSTONE OR OTHER NON-DETERIORIOUS LUBRICANT APPROVED BY THE ENGINEER MAY BE USED IN PULLING CONDUCTORS IN CONDUIT.

A. ALL CONDUCTORS SHALL BE COPPER, CONDUCTORS UNLESS OTHERWISE NOTED SHALL BE HEAT AND MOISTURE RESISTANT GRADE, THERMOPLASTIC INSULATED, TYPE THW, THWN, THHN, OR XHHW AS APPLICABLE.

1. CONDUCTORS NO. 8 AWG AND LARGER SHALL BE STRANDED COPPER, NO. 12 AWG AND NO. 10 AWG SHALL BE SOLID COPPER.
2. HOMERUNS MAY BE COMBINED IN ONE CONDUIT, PROVIDED ALL CONNECTIONS ARE IN ACCORDANCE WITH NEC REQUIREMENTS AND THE MAXIMUM UNBALANCED CURRENT IN THE NEUTRAL DOES NOT EXCEED THE CAPACITY OF THE CONDUCTOR.
3. COLOR CODE. ALL CONDUCTORS, FEEDERS, AND BRANCH CIRCUITS SHALL BE COLOR CODED BY PHASE AND SHALL BE PLAINLY MARKED IN ACCORDANCE WITH SECTIONS 210.5(C) AND 200.6 OF THE NEC. COLOR CODES SHALL BE AS FOLLOWS:
 - 1. 120/240 VOLT, SINGLE PHASE, 3-WIRE SYSTEMS: PHASE A, BLACK; PHASE B, RED; GROUNDING NEUTRAL, WHITE.
 - 2. 120/208 VOLT, 3-PHASE, 4-WIRE SYSTEMS: PHASE A, BLACK; PHASE B, RED; PHASE C, BLUE; GROUNDING NEUTRAL, WHITE.
 - 3. 277/480 VOLT, 3-PHASE, 4-WIRE SYSTEMS: PHASE A, BROWN; PHASE B, ORANGE; PHASE C, YELLOW; GROUNDING NEUTRAL, WHITE OR GRAY.
 - 4. GROUNDING CONDUCTORS SHALL BE GREEN FOR EITHER SYSTEM.

06 DEVICE PLATES.

ALL DEVICE PLATES ON FLUSH OUTLETS SHALL BE *302" STAINLESS STEEL AND ON SURFACE BOXES SHALL BE GALVANIZED STEEL.

07 OUTLET AND JUNCTION BOXES.

OUTLET BOXES SHALL BE GALVANIZED SHEET STEEL OF A CLASS TO SATISFY THE CONDITIONS FOR EACH OUTLET. JUNCTION AND PULL BOXES SHALL BE CODE GAUGE. GALVANIZED SHEET METAL BOXES SHALL NOT BE LESS THAN THE MINIMUM SIZE RECOMMENDED BY THE NEC. EACH OUTLET AND JUNCTION BOX SHALL BE FITTED WITH AN APPROPRIATE COVER.

08 PANELBOARD CABINETS.

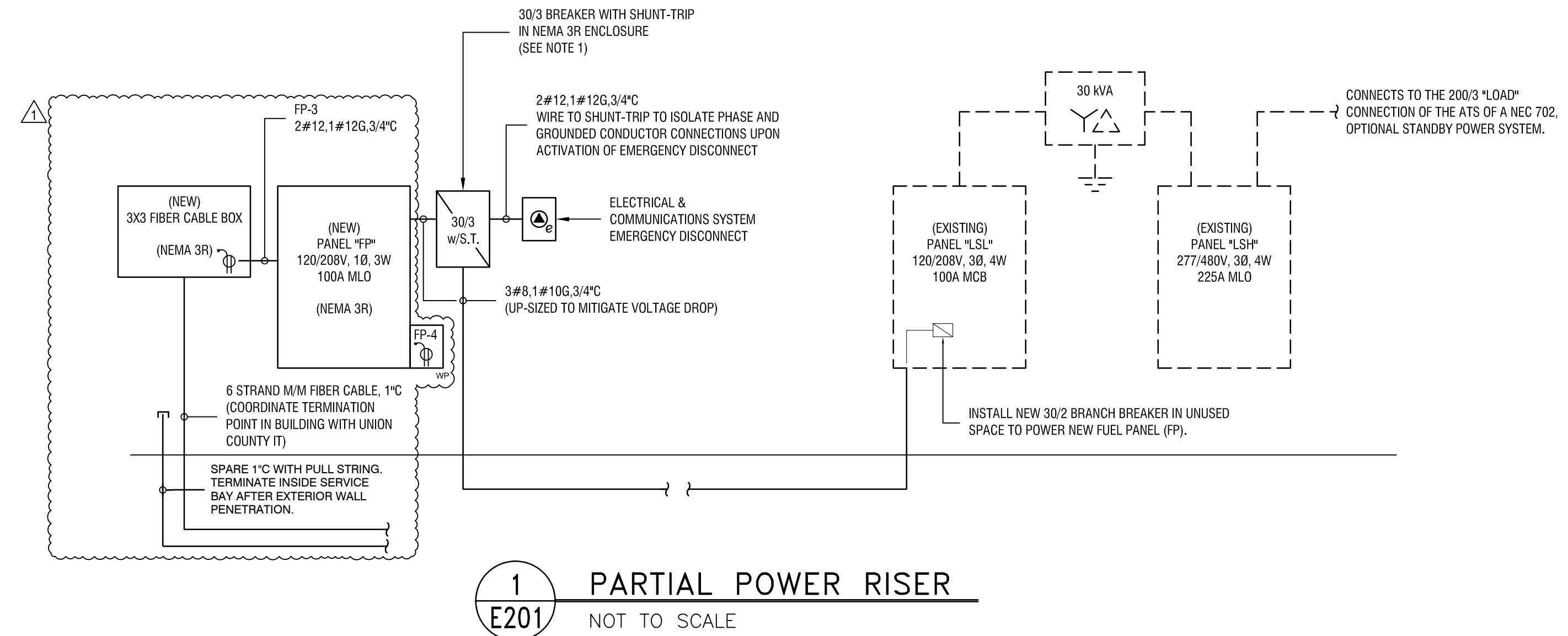
CABINETS FOR PANELBOARDS, UNLESS OTHERWISE NOTED, SHALL HAVE A MINIMUM WIDTH OF 20" AND SHALL BE PROVIDED WITH NO LESS THAN 4" WIRING GUTTERS AT THE SIDES, TOP, AND BOTTOM. CABINETS SHALL BE CONSTRUCTED OF ZINC COATED SHEET STEEL.

A. PANELBOARDS SHALL BE OF THE DEAD FRONT SAFETY TYPE. THE PANELBOARDS SHALL BE PROVIDED WITH THE SIZE AND NUMBER OF SINGLE, DOUBLE, OR TRIPLE POLE BRANCH CIRCUIT BREAKERS. PANELBOARD BUS SHALL BE COPPER.

B. PER NEC ARTICLE 210.4(A) (B)&(C), CIRCUIT BREAKERS FOR ALL TWO (2) AND THREE (3) CIRCUIT HOMERUNS WITH A COMMON NEUTRAL SHALL BE MULTI-POLE TYPES IN ORDER TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS THAT SHARE A COMMON NEUTRAL.

09 DEMOLITION AND ALTERATION.

THIS CONTRACTOR SHALL EITHER REMOVE COMPLETELY, OR MECHANICALLY OR ELECTRICALLY SECURE ALL ELECTRICAL CONDUIT, CONDUCTORS, AND OUTLETS WHICH ARE SHOWN AS BEING ABANDONED. ELECTRICAL MATERIALS AND EQUIPMENT WHICH ARE SHOWN AS BEING REMOVED OR REPLACED SHALL, UNLESS OTHERWISE NOTED TO BE RELOCATED OR REUSED, BE TURNED OVER TO THE OWNER. ALL EXISTING ELECTRICAL OUTLETS NOT SHOWN AS BEING ABANDONED SHALL BE RECONNECTED.



1 PARTIAL POWER RISER
E201 NOT TO SCALE

NOTES:

1. FURNISH 3-POLE SHUNT TRIP CIRCUIT BREAKER IN HEAVY DUTY, NEMA 3R ENCLOSURE. WIRE SHUNT TRIP COIL TO EMERGENCY DISCONNECT SWITCH (E) FOR DISCONNECTION OF ALL ELECTRICAL POWER AND COMMUNICATIONS CONNECTIONS FOR THE FUEL PUMPING, DISPENSING AND ELECTRONIC TRANSACTION SYSTEM. WIRE THE "FP" NEUTRAL VIA 3RD POLE OF THIS BREAKER SO THAT ALL POWER, INCLUDING GROUNDED NEUTRAL, IS DISCONNECTED WHEN SHUNT TRIP IS ACTIVATED IN ACCORDANCE WITH NEC 514.11.

PANEL: FP										TYPE: NQ			SURFACE			120/208 VOLT			1 Ø			3 W			100 AMP MLO			
CCT	FR	P	TRIP	WIRE	COND	SERVING	VA	ØA	ØB	VA	SERVING	COND	WIRE	TRIP	P	FR	CCT											
1	Ø	1	20	12	3/4	FUEL DISPENSER	800	1600		800	FUEL PUMP	3/4	12	20	1	Ø	2											
3	Ø	1	20	12	3/4	FIBER BOX	500		1000	500	AIR STATION	3/4	12	20	1	Ø	4											
5	:	:	:	:	:	:	0	180		180	PANEL RECPT	3/4	12	20	1	Ø	6											
7	:	:	:	:	:	:	0	0	0	0	:	:	:	:	:	:	8											
9	:	:	:	:	:	:	0	0	0	0	:	:	:	:	:	:	10											
11	:	:	:	:	:	:	0	0	0	0	:	:	:	:	:	:	12											
13	:	:	:	:	:	:	0	0	0	0	:	:	:	:	:	:	14											
15	:	:	:	:	:	:	0	0	0	0	:	:	:	:	:	:	16											
17	:	:	:	:	:	:	0	0	0	0	:	:	:	:	:	:	18											
19	:	:	:	:	:	:	0	0	0	0	:	:	:	:	:	:	20											
21	:	:	:	:	:	:	0	0	0	0	:	:	:	:	:	:	22											
23	:	:	:	:	:	:	0	0	0	0	:	:	:	:	:	:	24											
25	:	:	:	:	:	:	0	0	0	0	:	:	:	:	:	:	26											
27	:	:	:	:	:	:	0	0	0	0	:	:	:	:	:	:	28											
29	:	:	:	:	:	:	0	0	0	0	:	:	:	:	:	:	30											
ALL TERMINATIONS SHALL BE SUITABLE FOR 75°C COPPER OR ALUMINUM							CONN. VA PER PHASE		1780	1000	TOTAL VOLT AMPS:			2780														
							AMPS PER PHASE		15	8	AVERAGE AMPS:			12														
							AIC RATING: 10,000 AMPS																					
LOADS				LIGHTING	RECEPTS	ELEC. HEAT	HVAC	OTHER			SPARE																	
CONN KVA	0	180	0	0	2800	0	TOTAL DEMAND KVA:			2980																		
DEMAND FACTOR	x1.25	NEC 220.44	x1.25	x1.0	x1.0	x0.0	DEMAND AMPS:			12																		
TOTAL	0	180	0	0	2800	0																						



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UNION COUNTY
500 N MAIN ST. MONROE, NC 28112



Union County Fuel Station
3370 PRESSON RD
MONROE, NC 28112

1	11/7/2024	Addendum 2
NO.	DATE:	DESCRIPTION:

REVISIONS:

PROJECT NUMBER: 2241794

DRAWN BY: JMH

REVIEWED BY: BLS

ISSUED FOR: BIDDING

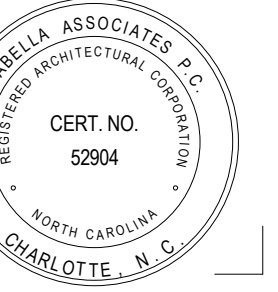
DATE: 10/2/2024

DRAWING NAME:

**ELECTRICAL POWER
RISER &
SPECIFICATIONS**

DRAWING NUMBER:

E201



UNION COUNTY

500 N. MAIN ST.
MONROE, NC 28112

SHERIFF FUEL STATION

Enter address here

1	11/7/2024	Addendum 2
NO:	DATE:	DESCRIPTION:
Revisions		

PROJECT NUMBER: 2241794

DRAWN BY: JW

REVIEWED BY: BW

ISSUED FOR: BID SET

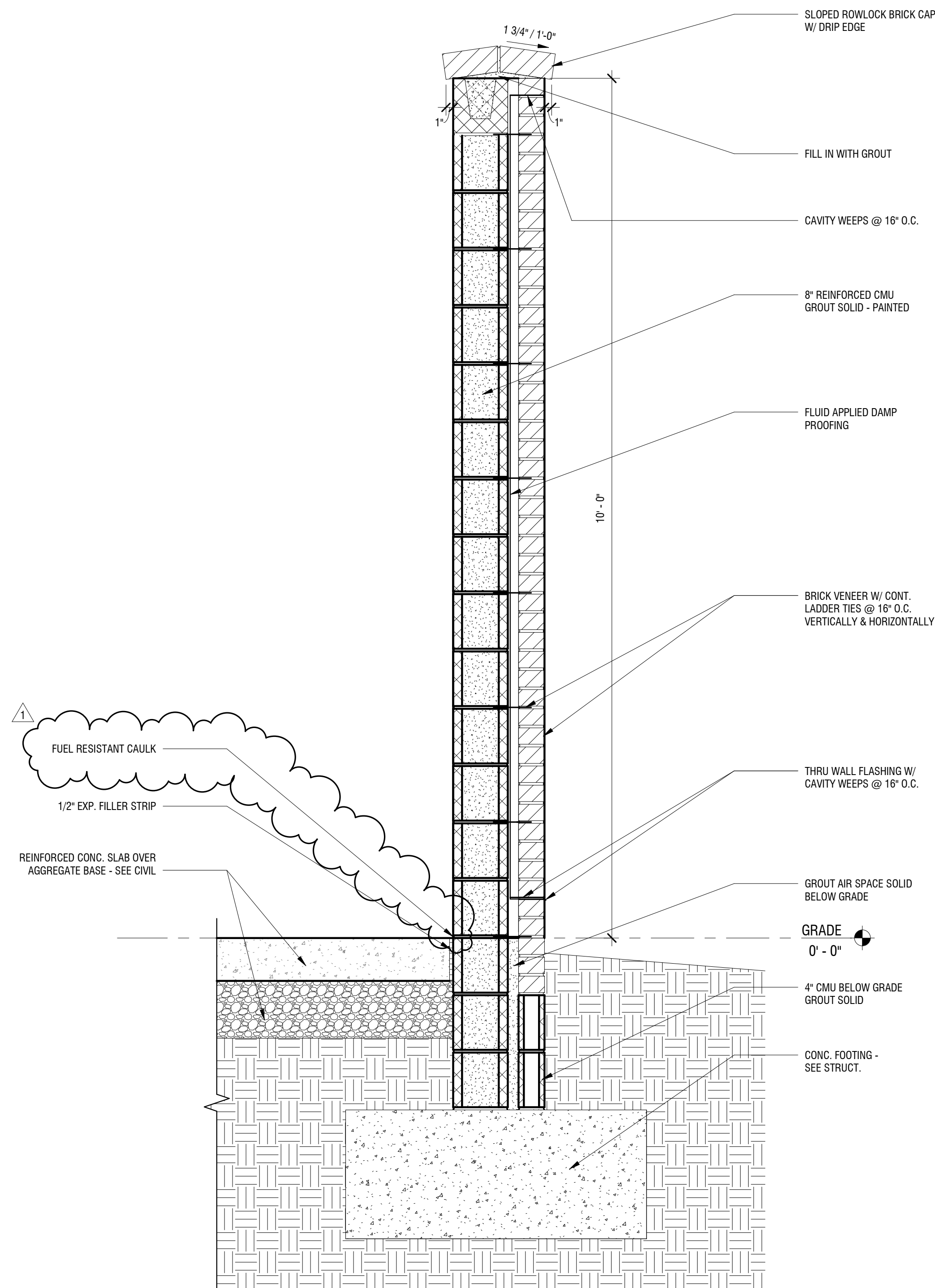
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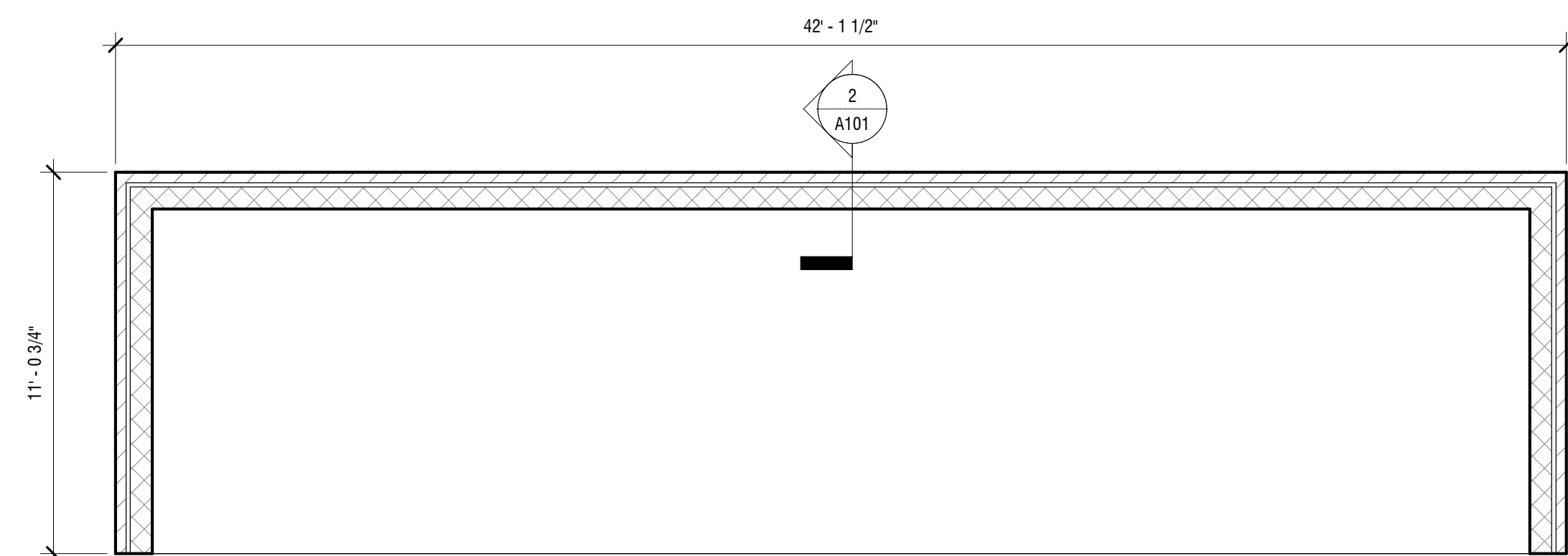
ENCLOSURE PLAN

DRAWING NUMBER:

A101



2
A101 TYPICAL WALL SECTION
SCALE: 1" = 1'-0"



1
A101 ENCLOSURE PLAN
SCALE: 1/4" = 1'-0"