

UNIT TRAINING AND EQUIPMENT SITE #2 WASH RACK REPAIRS

FORT NOVOSEL, AL

BID SET

OWNER: ARMORY COMMISSION OF ALABAMA

IFB#: AC-24-B-0006-S



| Rev. | Description | Date |
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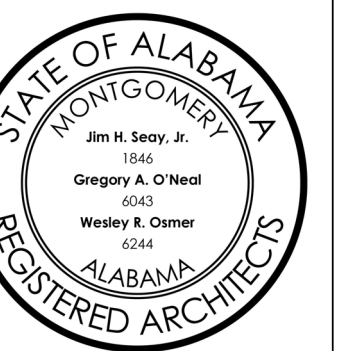
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| Job Number | 23062 |
| Date | 02/02/2024 |
| Drawn By | XX |
| Checked By | XX |

Project Title

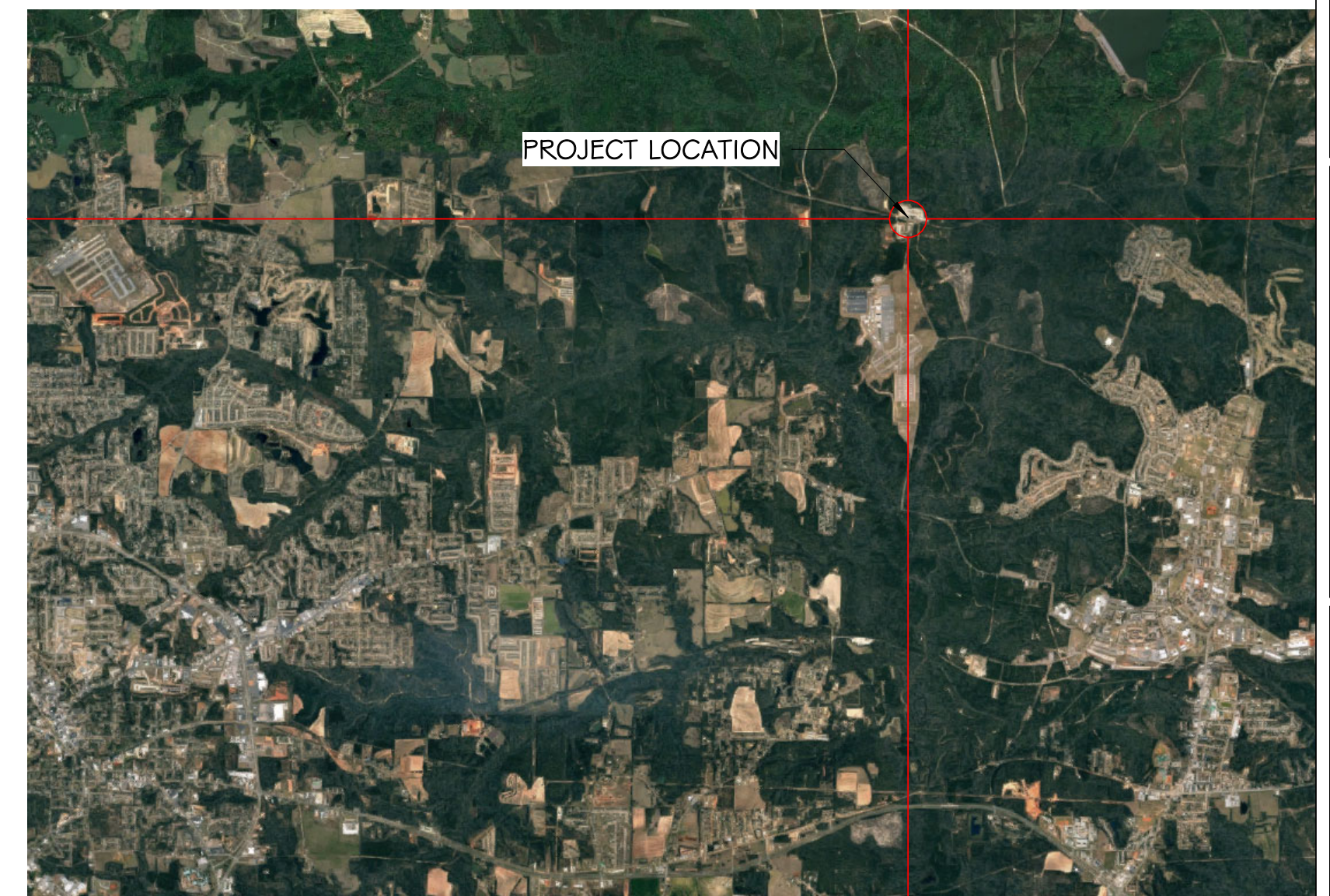
UTES #2 WASH RACK REPAIRS
FORT NOVOSEL, AL

Sheet Title
TITLE SHEET & DRAWING INDEX

Sheet Number
T1.0



VICINITY MAP:



| DRAWING INDEX | |
|---------------|--|
| SHEET NO. | SHEET NAME |
| 00 | TITLE |
| T1.0 | TITLE SHEET & DRAWING INDEX |
| 08 | PLUMBING |
| P1.1 | FLOOR PLAN - WASH RACK REPAIR - PLUMBING |
| 09 | ELECTRICAL |
| E0.1 | LEGEND, RISER, AND SCHEDULES |
| E1.1 | FLOOR PLAN - ELECTRICAL |

| ARCHITECTURAL | ELECTRICAL & PLUMBING |
|--|---|
| SEAY SEAY & LITCHFIELD, P.C. 2431 W MAIN STREET, SUITE #101 DOTHAN, AL 36301 334.791.5248 | CONWAY & OWEN 1100 SOUTH COLLEGE STREET, SUITE 203 AUBURN, AL 36832 334.826.8859 |

PUMP SEQUENCE OF OPERATION:

PUMP(S) START
THE PUMP WILL RUN WHEN THE SYSTEM PRESSURE IS LESS THAN THE START PRESSURE SET POINT (ADJUSTABLE % OF SET POINT) AND NO STANDBY CONDITIONS E-1ST. AFTER THE PUMP STARTS IT WILL RUN UNTIL A NO FLOW STANDBY, (NF6B) CONDITION IS RECOGNIZED.

STAGING CONTROL
THE LEAD PUMP SPEED SHALL VARY TO MAINTAIN THE SYSTEM PRESSURE SET POINT VIA PID CONTROL OF DRIVE SPEED. IF PRESSURE CANNOT BE MAINTAINED BY THE LEAD PUMP, THE LAG PUMP WILL BE STARTED.

DE-STAGING CONTROL
WHEN SYSTEM DEMAND CAN BE MET BY A SINGLE PUMP AND THE LAG PUMP MINIMUM RUN TIMER IS SATISFIED, THE LAG PUMP WILL BE STOPPED.

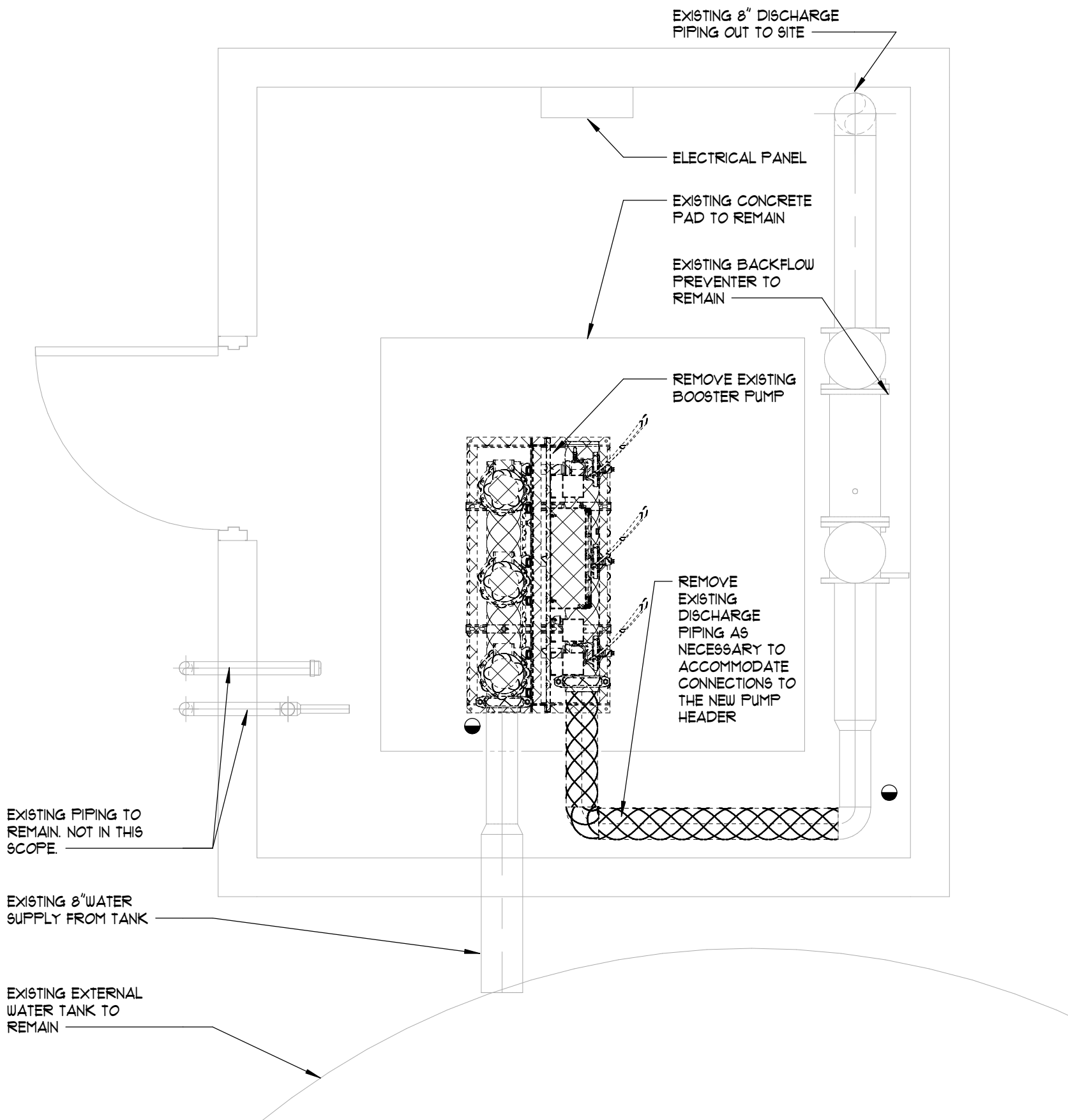
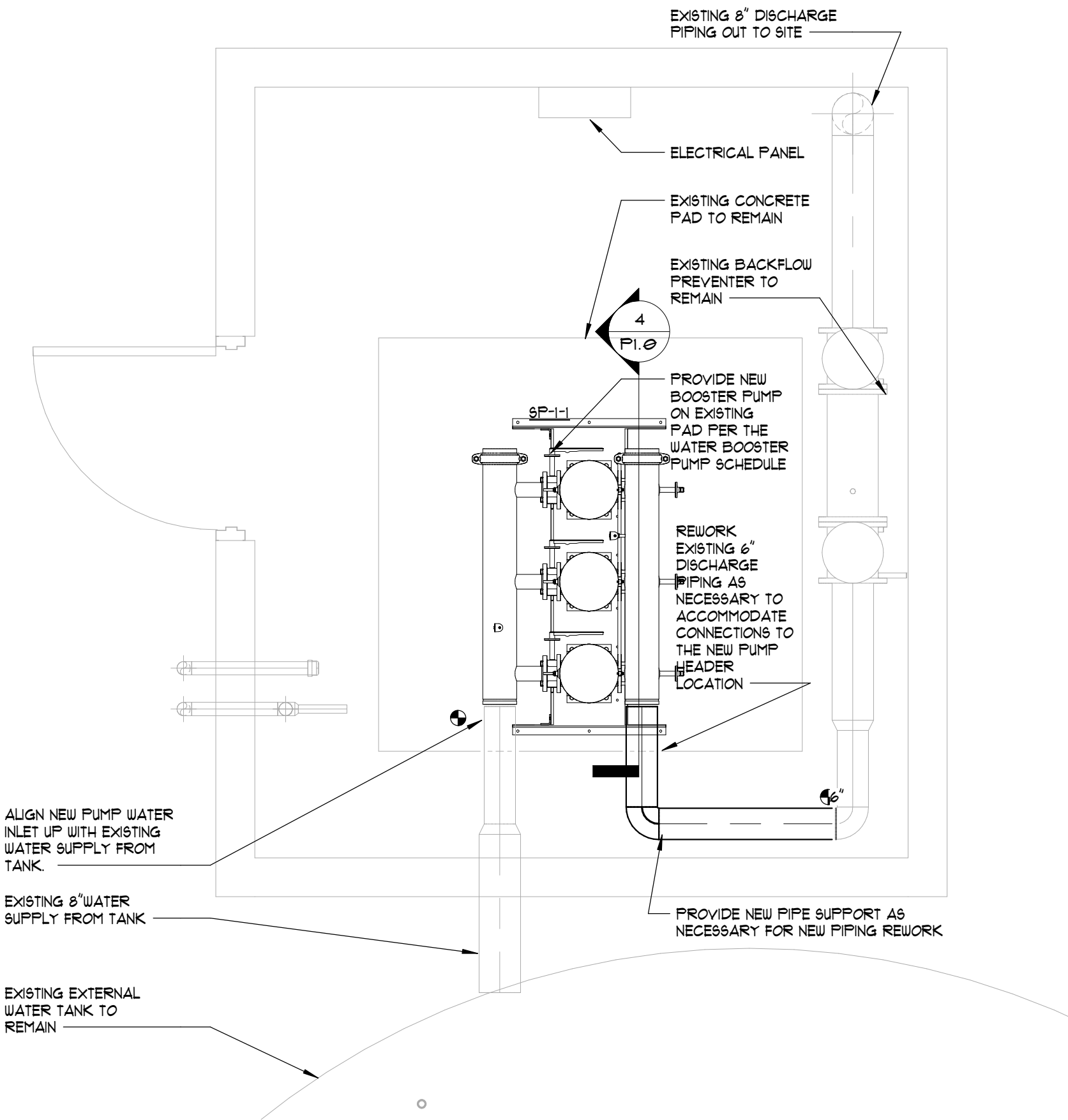
FLOW STANDBY (NF6B)
WHEN THE PUMP LOGIC CONTROLLER SENSES A NO-FLOW CONDITION FOR 15 SECONDS (ADJUSTABLE) IT WILL INITIATE A FLO-CHECK TEST. IF THE TEST CONFIRMS A NO FLOW CONDITION THE LEAD PUMP WILL SHUT DOWN AND REMAIN OFF UNTIL A START CONDITION E-1ST.

HIGH TEMPERATURE SHUTDOWN (HTSD)
THE PUMP(S) WILL SHUT DOWN IF THE DISCHARGE TEMPERATURE EXCEEDS 125°F (ADJUSTABLE) FOR 60 SECONDS (ADJUSTABLE). RESET WILL OCCUR WHEN THE TEMPERATURE HAS FALLEN 10°F (ADJUSTABLE) BELOW THE SHUTDOWN SET POINT FOR THE TIMER DURATION ABOVE. HIGH TEMPERATURE SHUTDOWN SHALL OCCUR REGARDLESS OF THE MINIMUM RUN TIMER CONDITION. A HTSD WILL ACTIVATE THE REMOTE ALARM RELAY. SETTING THE HTSD DELAY TIME TO 0 SHALL DISABLE THIS FUNCTION.

LOW SUCTION PRESSURE SHUTDOWN (LSSD)
WHEN PRESSURE FALLS BELOW THE LOW SUCTION PRESSURE SET POINT FOR 15 SECONDS (ADJUSTABLE) THE PUMP(S) WILL STOP. RESET WILL OCCUR WHEN THE PRESSURE EXCEEDS THE LSSD SET POINT BY 5 PSI (ADJUSTABLE). THIS FUNCTION IS INDEPENDENT OF THE MINIMUM RUN TIMER CONDITION. SETTING THE SUCTION PRESSURE TRANSMITTER SPAN TO ZERO SHALL DISABLE THIS FUNCTION. A LSSD WILL ACTIVATE THE REMOTE ALARM RELAY. THIS ALARM WILL RESET AUTOMATICALLY WHEN SUCTION PRESSURE RISES ABOVE THE LOW SUCTION SET POINT FOR THE TIMER DURATION ABOVE.

LOW SYSTEM PRESSURE ALARM
WHEN SYSTEM PRESSURE IS BELOW THE START PRESSURE SET POINT FOR 30 SECONDS (ADJUSTABLE) AN ALARM WILL BE SET. A LOW SYSTEM PRESSURE ALARM WILL ACTIVATE THE REMOTE ALARM RELAY. THIS ALARM NORMALLY DOES NOT SHUT PUMPS DOWN. IF PUMP PROTECT IS ENABLED IN THE CONFIGURATION SCREENS, THIS ALARM WILL CAUSE PUMPS TO SHUT DOWN.

PUMP FAILURE ALARM
IF A PUMP FAILS TO START AS SENSED BY ITS VFD RUN CONTACT AN ALARM WILL BE SET. IF THE LEAD PUMP FAILS TO START, THE LAG PUMP WILL START. A PUMP FAILURE ALARM WILL ACTIVATE THE ALARM AT THE PUMP CONTROLLER PANEL.

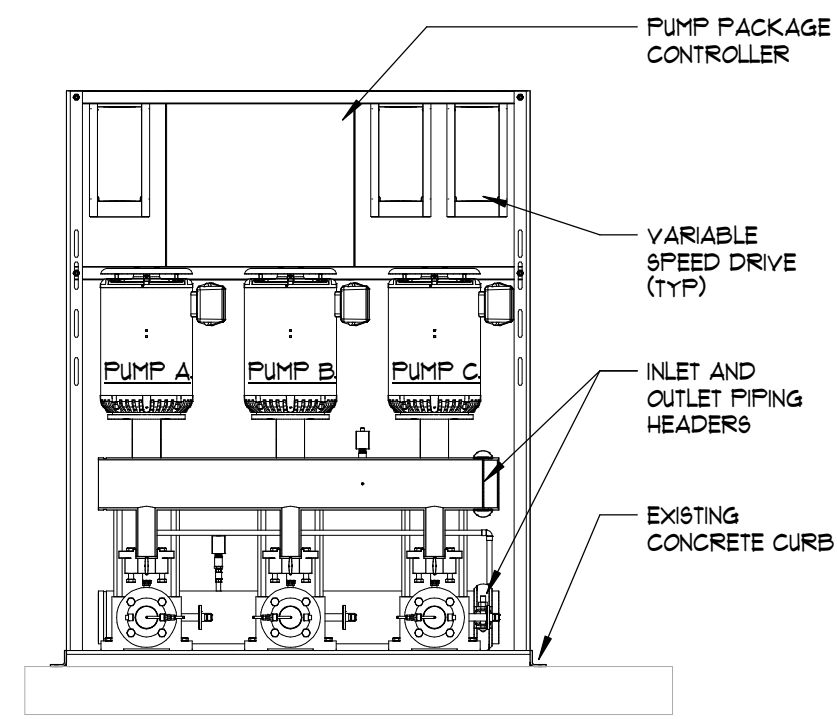


2 1/2" = 1'-0" NORTH

1 1/2" = 1'-0" NORTH

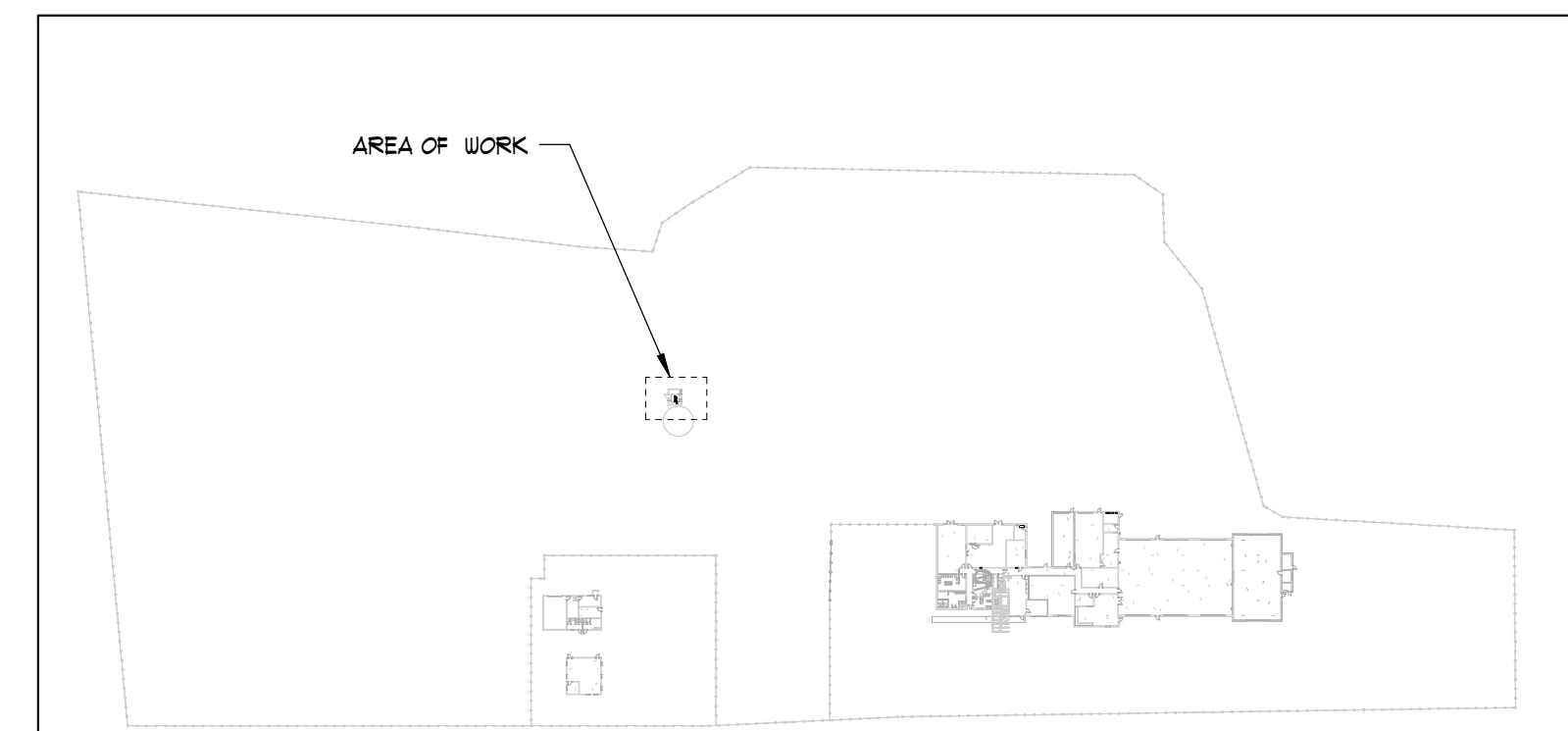
GENERAL NOTES:

- PIPING AT LIMITS OF DEMOLITION SHALL BE CAPPED, SEALED AND INSULATED WITH MATERIALS OF LIKE KIND AND THICKNESS.
- ☒ ITEMS UNDERNEATH HATCHING TO BE DEMOLISHED.



| TRIPLEX WATER BOOSTER PUMP SCHEDULE | | | | | | | | | | | |
|-------------------------------------|-----------------|--------------------------|----------------|------|---|--------|------|-------|-------|-----------------------|-----------|
| TAG | NUMBER OF PUMPS | FLOW RATE (GPM PER PUMP) | HP (EACH PUMP) | RPM | PSI (TOTAL DEVELOPED PRESSURE PER PUMP) | VOLT/Ø | FLA | MCA | MOCP | BASIS OF DESIGN | NOTES |
| WBP-1 | 3 | 200 | 10 | 3500 | 50 | 240/3 | 92.4 | 100.1 | 130.9 | HYFAB MODEL EMVP-T33J | 1 2 3 4 5 |

NOTES:
1. PROVIDE PACKAGED TRIPLEX VARIABLE SPEED PRESSURE BOOSTER SYSTEM.
2. PROVIDE PUMP ISOLATION VALVES & EPOXY COATED CHECK VALVES.
3. PROVIDE WITH UNIT MOUNTED VARIABLE FREQUENCY DRIVES.
4. PROVIDE WITH STAND-ALONE INTEGRAL CONTROL PANEL.
5. PROVIDE WITH SINGLE-POINT ELECTRICAL CONNECTION WITH INTEGRAL DISCONNECT.



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Job Number: 23034
Date: 02/02/2024
Drawn By: CO
Checked By: AS

Project Title:

UTES #2 RENOVATIONS
FORT NOVOSEL, AL

Sheet Title:
FLOOR PLAN - WASH RACK REPAIR - PLUMBING

Sheet Number:

P1.0

ALABAMA LICENSED PROFESSIONAL PLUMBER
NO. 28160
JOSEPH T. SHAFER

02/02/2024

| ELECTRICAL LEGEND | | |
|-------------------|---|---|
| SYMBOL | DESCRIPTION | MOUNTING HEIGHT ON CENTER (COORD WITH ARCH) |
| | CONDUIT RUN CONCEALED IN WALL OR CEILING | |
| | CONDUIT RUN CONCEALED IN THE FLOOR, UNDERGROUND, OR UNDER THE ELEVATED SLAB | |
| | CONDUIT RUN EXPOSED. ROUTE PARALLEL/PERPENDICULAR TO WALLS AND STRUCTURE | |
| | CIRCUITS HOMERUN TO THE PANEL | |
| | NUMBER OF CONDUCTORS (GROUND NOT SHOWN) | |
| | FLEXIBLE CONDUIT OR CORD | |
| | DUPLEX AND QUAD RECEPTACLE - WALL MOUNTED | 18" |
| | GFCI DUPLEX AND QUAD RECEPTACLE - WALL MOUNTED | 18" |
| | PANELBOARD OR DISTRIBUTION PANEL | |

| ELECTRICAL ABBREVIATIONS | |
|--------------------------|------------------------|
| SYMBOL | DESCRIPTION |
| AC | ABOVE COUNTER |
| AFF | ABOVE FINISHED FLOOR |
| BFG | BELOW FINISHED GRADE |
| E/R | EXISTING / RELOCATED |
| UNO | UNLESS NOTED OTHERWISE |
| WP | WEATHER PROOF |
| XPFR | TRANSFORMER |

| NEW PANELBOARD "MPH" SCHEDULE | | | | | | | | | | | | |
|-------------------------------|----------------|----------------|-------|---------------|-----------|------|---|---------|-------------|--------|--------------------------------|--------|
| VOLTAGE | 240 ▲ / 120 | 3 PHASE 4 WIRE | MAIN | 600A MCB | MOUNTING: | | | SURFACE | | | | |
| | | | | | A | B | C | | DESCRIPTION | CKT NO | | |
| CKT NO | DESCRIPTION | LOAD | NOTE | BKR | A | B | C | BKR | NOTE | LOAD | DESCRIPTION | CKT NO |
| 1 | EXISTING - REC | 1.0 | | 20/1 | 2.0 | | | 20/1 | | 1.0 | EXISTING - LTG | 2 |
| 3 | SPARE | 0.0 | | 20/1 | | 0.0 | | 20/1 | | 0.0 | SPARE | 4 |
| 5 | | 0.0 | | | | 0.0 | | | | 0.0 | | 6 |
| 7 | SPARE | 0.0 | | 100/3 | 0.0 | | | 100/3 | | 0.0 | SPARE | 8 |
| 9 | | 0.0 | | | | 0.0 | | | | 0.0 | | 10 |
| 11 | | 0.7 | | | | | 21.5 | | | 12.8 | | 12 |
| 13 | EXISTING | 0.7 | 1 | 125/3 | 21.5 | | | 125/3 | | 12.8 | SP-1-1 | 14 |
| 15 | | 0.7 | | | | 21.5 | | | | 12.8 | | 16 |
| 17 | | 0.7 | | | | | 12.8 | | 12.8 | 4.2 | EXISTING - OIL WATER SEPARATOR | 18 |
| 19 | EXISTING | 0.7 | 1 | 125/3 | 12.8 | | | 60/3 | | 4.2 | | 20 |
| 21 | | 0.7 | | | | | 12.8 | | | 4.2 | | 22 |
| 23 | | 24.2 | | | | | | 24.2 | | 0.0 | | 24 |
| 25 | EXISTING | 24.2 | 1 | 350/3 | 24.2 | | | | | 0.0 | SPACE | 26 |
| 27 | | 24.2 | | | | | | | | 0.0 | | 28 |
| 29 | SPACE | 0.0 | | | | | | | | 0.0 | SPACE | 30 |
| | | | | | 60.5 | 50.5 | 50.5 | | | | | |
| LIGHTING: | 1.0 | x 125% = | 1.3 | TOTAL BUS KVA | | | NOTES: 1 CONTRACTOR SHALL COORDINATE EXISTING BREAKER SIZE PRIOR TO BEGINNING WORK. | | | | | |
| RECEPT: | 1.0 | x NEC 220.44 | 1.0 | A | B | C | | | | | | |
| MOTORS: | 50.5 | x 100% | 50.5 | 60.5 | 50.5 | 50.5 | | | | | | |
| A/C: | 0.0 | x 100% | 0.0 | | | | | | | | | |
| HEATING: | 0.0 | x 100% | 0.0 | | | | | | | | | |
| KITCHEN: | 0.0 | x NEC 220.56 | 0.0 | | | | | | | | | |
| CONTINUOUS: | 124.7 | x 100% | 124.7 | | | | | | | | | |
| TOTAL KVA: | 171.6 | CALC KVA | 171.6 | | | | | | | | | |
| TOTAL AMP: | 421.7 | CALC AMP: | 420.3 | | | | | | | | | |

COMcheck Software Version 4.1.5.5 Interior Lighting Compliance Certificate

Project Information
 Energy Code: 2015 IECC
 Project Title:
 Project Type: Alteration

Construction Site: Owner/Agent: Designer/Contractor:

Allowed Interior Lighting Power

| A Area Category | B Floor Area (ft2) | C Allowed Watts / ft2 | D Allowed Watts (B X C) |
|--------------------------|--------------------|-----------------------|-------------------------|
| 1-Warehouse | 135 | 0.66 | 89 |
| Total Allowed Watts = 89 | | | |

Proposed Interior Lighting Power

| A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast | B Lamps/ Fixture | C # of Fixtures | D Fixture Watt. | E (C X D) |
|--|------------------|-----------------|-----------------|-----------|
| Warehouse (135 sq.ft.) | 1 | 2 | 35 | 70 |
| A: Other: | | | | |
| Total Proposed Watts = 70 | | | | |

Interior Lighting PASSES

Interior Lighting Compliance Statement
 Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Trent Watson Signature Date 11/02/2023

COMcheck Software Version 4.1.5.5 Exterior Lighting Compliance Certificate

Project Information
 Energy Code: 2015 IECC
 Project Title:
 Project Type: Alteration
 Exterior Lighting Zone: 3 (Other (LZ3))

Construction Site: Owner/Agent: Designer/Contractor:

Allowed Exterior Lighting Power

| A Area/Surface Category | B Quantity | C Allowed Watts / Unit | D Tradable Wattage | E Allowed Watts (B X C) |
|-------------------------|--------------|------------------------|--------------------|--|
| Main entry | 3 ft of door | 30 | Yes | 90 |
| | | | | Total Tradable Watts (a) = 90 |
| | | | | Total Allowed Watts = 90 |
| | | | | Total Allowed Supplemental Watts (b) = 750 |

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
 (b) A supplemental allowance equal to 750 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

| A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast | B Lamps/ Fixture | C # of Fixtures | D Fixture Watt. | E (C X D) |
|--|------------------|-----------------|-----------------|-----------|
| Main entry (3 ft of door width): Tradable Wattage | | | | |
| W: Other: | 1 | 1 | 28 | 28 |
| Total Tradable Proposed Watts = 28 | | | | |

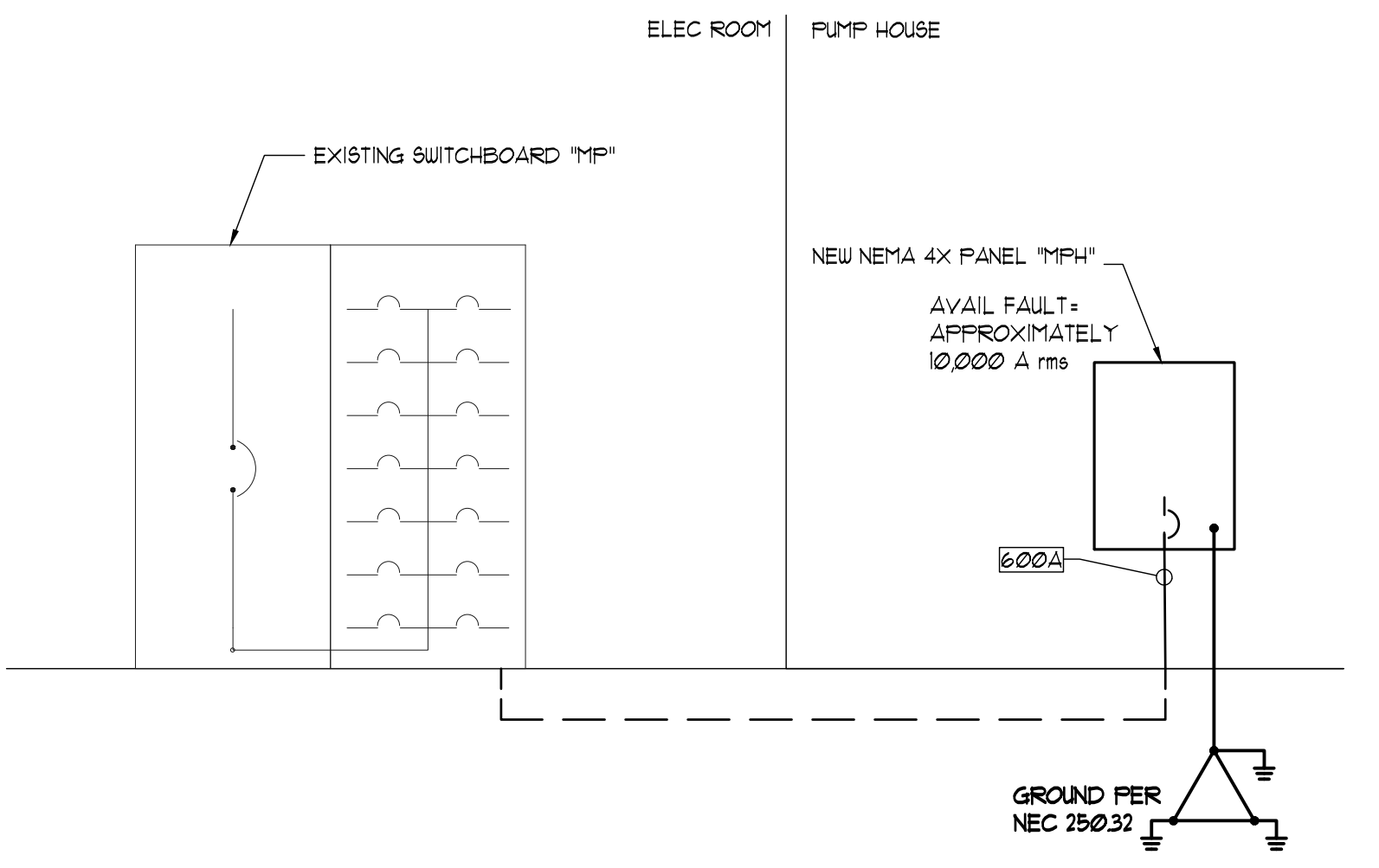
Exterior Lighting PASSES

Exterior Lighting Compliance Statement
 Compliance Statement: The proposed exterior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Trent Watson Signature Date 11/02/2023

| RISER DIAGRAM FEEDER SCHEDULE | | | | | | |
|---|----------------|-----------|----------------------------|-----------------------|----------------------|-------|
| NOTE: ALL CONDUCTORS SIZES IN THIS SCHEDULE ARE SIZED FOR COPPER. | | | | | | |
| TAG | NUMBER OF SETS | CONFIG. | PHASE/NEUTRAL SIZE PER SET | EQUIP. GROUND PER SET | CONDUIT SIZE PER SET | NOTES |
| 600A | 2 | 3-PH, 4WG | 4 * 350 KCML | 1 * 1 | 3" | - |

- RISER DIAGRAM NOTES:**
- FOR ALL NEW PANELBOARDS SUPPLIED BY A FEEDER, PROVIDE A LABEL INDICATING THE DEVICE OR EQUIPMENT FROM WHICH THE POWER SUPPLY ORIGINATES PER NEC 408.4(B).
 - PROVIDE ARC-FLASH WARNING LABELS PER NEC 110.16 ON ALL NEW ELECTRICAL EQUIPMENT AND ANY EXISTING ELECTRICAL EQUIPMENT THAT IS MODIFIED.
 - FIELD MARK ELECTRICAL SERVICE EQUIPMENT WITH A CONSPICUOUS AND PERMANENT LABEL THAT INDICATES THE AVAILABLE FAULT CURRENT IN ACCORDANCE WITH NEC 110.24.
 - LABEL PANELBOARD SCHEDULES PER NEC 408.4. CONTRACTOR SHALL IDENTIFY ALL SPARE BREAKERS AND MOVE THEM TO THE "OFF" POSITION.
 - PROVIDE GROUNDING ELECTRODE CONDUCTOR AND CONNECTION TO GROUNDING ELECTRODE SYSTEM PER NEC 250.32(A).



| MECHANICAL EQUIPMENT ELECTRICAL CONNECTION SCHEDULE | | | | | | | |
|---|--------|------------|---------------------|---------|-----------------|------------|-------|
| TAG | LOAD | VOLT/PHASE | CIRCUIT DESIGNATION | BREAKER | BRANCH CIRCUIT | DISCONNECT | NOTES |
| SP-1-1 | 92.4 A | 240/3 | MPH-12,14,16 | 125/3 | 3", 1# G, 2" C. | INTEGRAL | - |

| LIGHTING FIXTURE SCHEDULE | | | | | | |
|---------------------------|---|-------------|-------------------------|--------------------------|---|-------|
| FIXTURE TYPE | DESCRIPTION | INPUT WATTS | LAMPS | BALLAST | MANUFACTURER | NOTES |
| A | 4 FOOT LED STRIP FIXTURE, LENSED | UNV / 35 W | LED / 4000K 4100 LUMENS | ELECTRONIC 0-10V DIMMING | METALLIX 4SNLED-LD5-466L-LC-UNV-L840-CDI-U OR APPROVED EQUAL BY LITHONIA OR HUBBELL | - |
| W | EXTERIOR WALL-MOUNTED LED WALL PACK FIXTURE, PROVIDE WITH EMERGENCY BATTERY PACK AND INTEGRAL PHOTOCELL | UNV / 28 W | LED / 4000K | ELECTRONIC | COOPER #ST-PA1A-040-U-T4W-CBP-FRT1 OR APPROVED EQUAL BY LITHONIA OR HUBBELL | - |

- LIGHTING FIXTURE SCHEDULE NOTES**
- CONFIRM VOLTAGE WITH DRAWINGS AND COORDINATE/CONFIRM ALL MOUNTING HEIGHTS AND FINISHES WITH ARCHITECT PRIOR TO ORDERING AND INSTALLATION.
 - PROVIDE MOUNTING OPTION(S) NECESSARY TO ACCOMMODATE CEILING TYPES SPECIFIED BY ARCHITECTURAL DOCUMENTS FOR ALL RECESSED FIXTURES.
 - PROVIDE ALL HARDWARE AND ACCESSORIES TO INSTALL FIXTURES AS INDICATED IN FIXTURE DESCRIPTION.
 - MANUFACTURER PART NUMBERS MAY NOT NECESSARILY MATCH DESCRIPTION. OBTAIN CLARIFICATION IF A CONFLICT EXISTS BETWEEN DESCRIPTION AND MODEL NUMBER.
 - MANUFACTURER LISTED AS AN "OR EQUAL" DOES NOT GUARANTEE APPROVAL. FIXTURE PERFORMANCE MUST MEET OR EXCEED SPECIFIED FIXTURE.



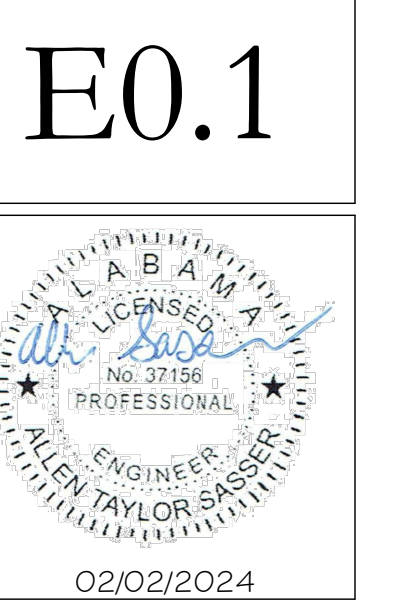
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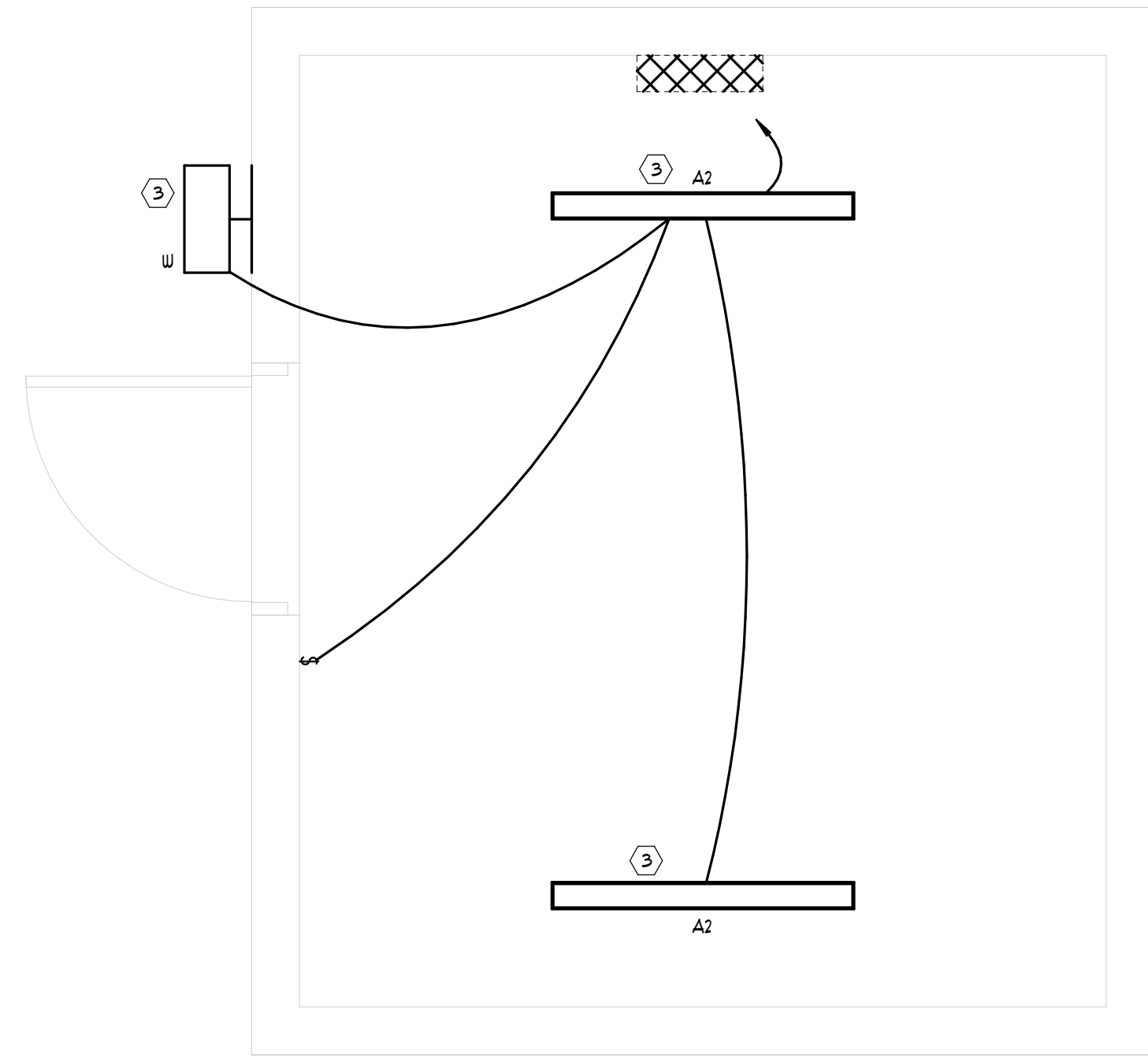
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 Drawn By: TW
 Checked By: AS

Project Title:
UTES #2 WASH RACK REPAIRS
FORT NOVOSHEL, AL

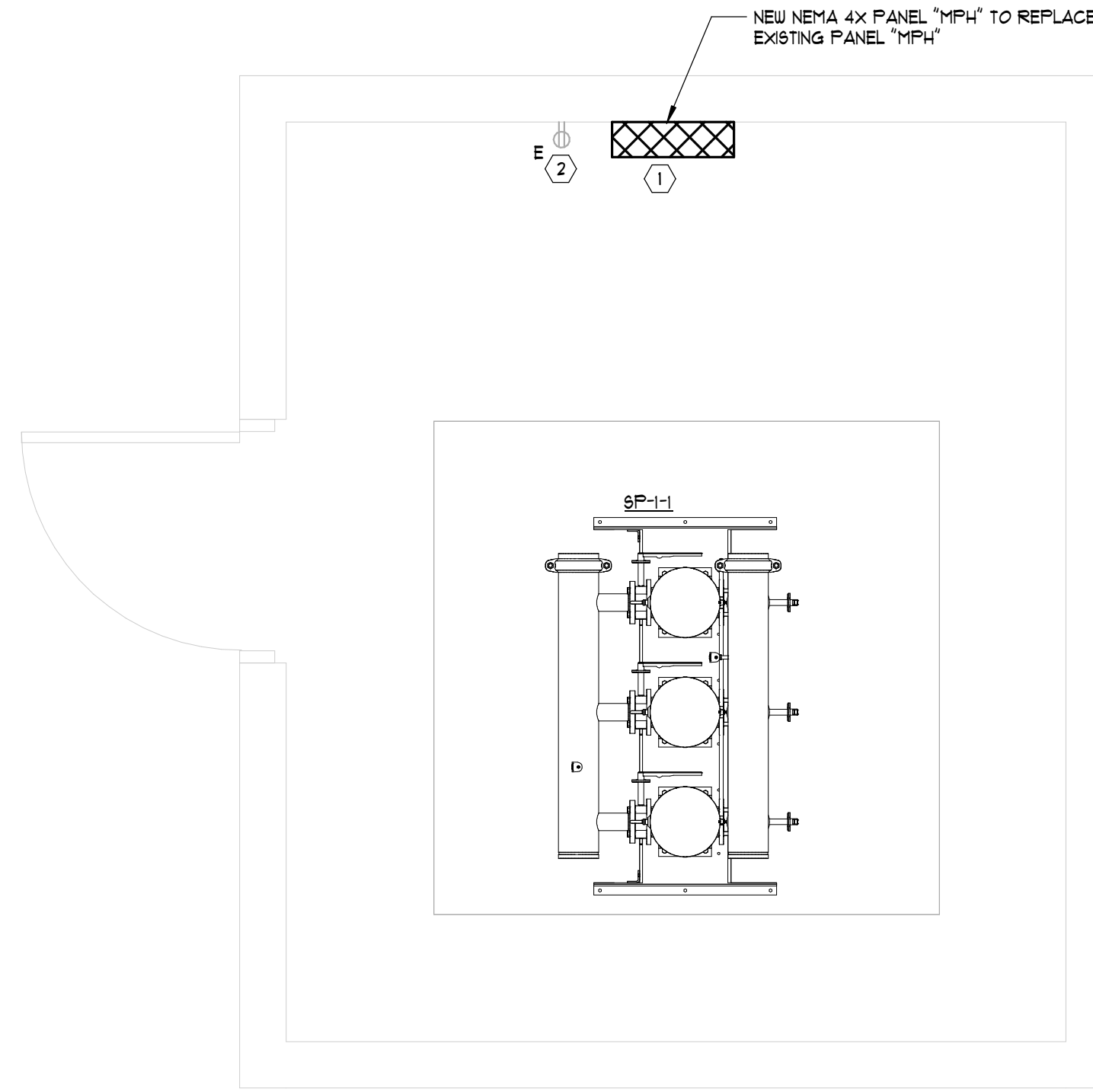
Sheet Title:
LEGEND, RISER, AND SCHEDULES

Sheet Number:
E0.1





3 PUMP HOUSE FLOOR PLAN - LIGHTING
1/2" = 1'-0"
NORTH



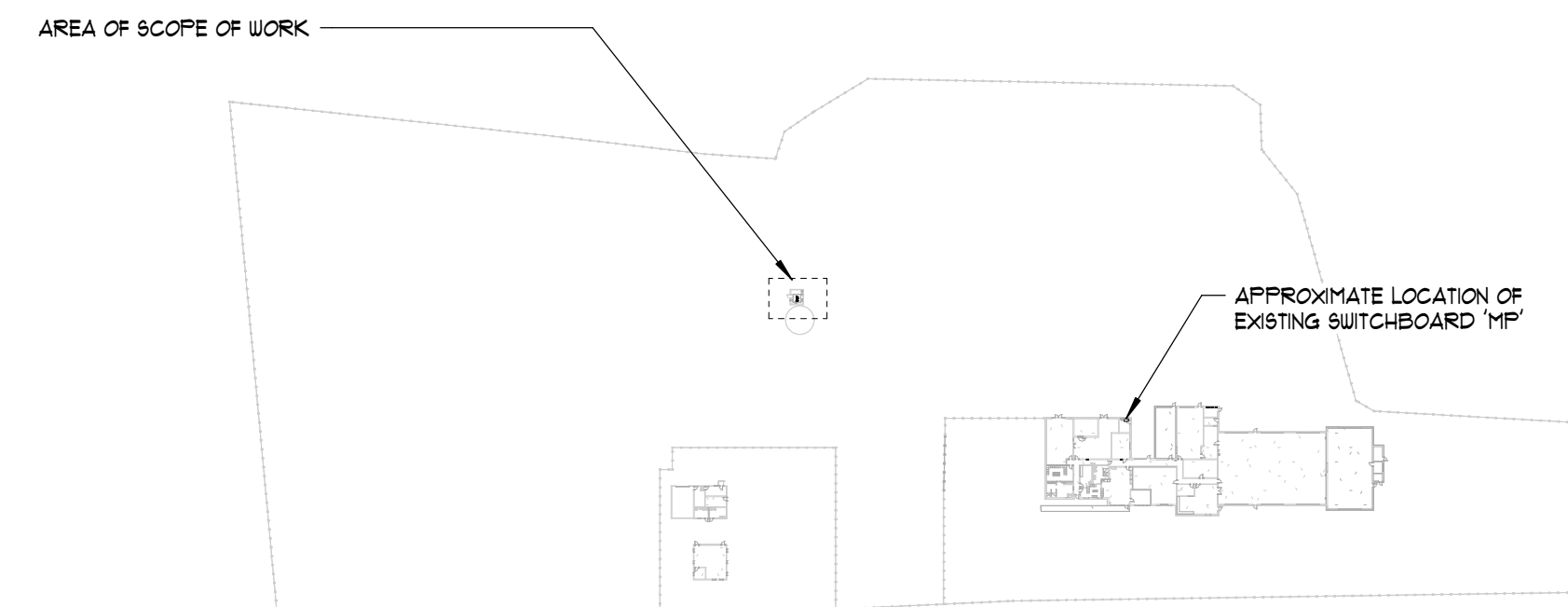
2 PUMP HOUSE FLOOR PLAN - ELECTRICAL
1/2" = 1'-0"
NORTH

ELECTRICAL GENERAL NOTES:

1. COORDINATE EXACT LOCATION FOR ALL ELECTRICAL AND DEVICES WITH ARCHITECT PRIOR TO INSTALLATION
2. LABEL PANELBOARD SCHEDULES PER NEC 408.4

ELECTRICAL KEY NOTES: APPLY TO THIS SHEET ONLY

- ① CONTRACTOR SHALL REMOVE EXISTING PANEL AND RECONNECT ALL EXISTING TO REMAIN CIRCUITS TO NEW PANEL AS INDICATED ON SHEET E01.
- ② REPLACE EXISTING DUPLEX RECEPTACLE WITH GFCI DUPLEX RECEPTACLE RECONNECT TO EXISTING CIRCUIT.
- ③ REMOVE EXISTING LIGHT FIXTURE. INSTALL NEW LED FIXTURE AND RECONNECT TO EXISTING CIRCUIT.



1 KEY PLAN - ELECTRICAL
1" = 100'-0"
NORTH

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| Job Number | 23034 |
| Date | 02/02/2024 |
| Drawn By | CO |
| Checked By | AS |

Project Title

**UTES #2
RENOVATIONS
FORT NOVOSSEL, AL**

Sheet Title
**FLOOR PLAN -
ELECTRICAL**

Sheet Number

E1.1

ALABAMA
LICENSED
No. 37158
PROFESSIONAL
ENGINEER
ALLEN TAYLOR SASSER
02/02/2024