

ADDENDUM #2

TO CONTRACT DOCUMENTS FOR: Project #CP242271

ADVERTISEMENT DATE: April 10, 2024

PREPARED FOR: To Curators of the University of Missouri

CONSULTANT: McClure Engineering
1000 Clark Ave.
St. Louis, MO

The contract documents for the above noted project and the new work covered thereby and herein modified.

GENERAL INFORMATION:

Mechanical

Question 1: Is the testing and balancing scope to be performed by the owner's energy management group or by the Contractor?

Answer: The owner will perform the testing and balancing. The Contractor will need to include sufficient time to assist the balancer as required to take the measurements. See attached modifications to section 20 1080 for details.

PROJECT MANUAL:

Item No. 1 – 20 1080 – Testing, Adjusting and Balancing

- A. *MODIFIED* sections 20 1081, 20 1083, 20 1084, 20 1085, and 20 1087. *ADDED* sections 20 1088 and 20 1089. Sections 20 1082 and 20 1086 remain unchanged.

Item No. 2 – 22 8004 – Waterless Traps

- A. *Added* section for use on rooftop to prevent freezing during cold weather.

Item No. 3 – 24 3101 – (Sheetmetal Ductwork) Material

- A. *MODIFIED* sub-section E, primarily to include double wall rectangular ductwork, which is required for the ductwork between the roof and the roof-mounted intake/exhaust plenums. Also increased the insulation thickness from 2" to 3".

DRAWINGS:

Item No. 1 – M5.9 – POOL HEAT EXCHANGER CONTROL DIAGRAM

- A. *ADDED* sheet. Show control flow diagram and points list for dive pool heat exchanger HX-3.

Item No.2 – E0.0- E3.2 – All Electrical Drawings

- A. Sealed by different Electrical Engineer – All drawings reviewed and resealed.

Item No.3 – E2.1 – Mechanical Room East – Electrical Demolition

- B. Demolish PAU-2 Return Air duct detector and relay module.

Item No.4 – E3.1 – Mechanical Room East – Electrical New Work

- A. Added new PAU-2 Return Air duct detector and relay module.
- B. Added PAU-1 Supply Air duct detector and relay module.

ATTACHMENTS:

- Section 20 1080 – Testing and Balancing
- Section 22 8004 – Waterless Traps
- Section 24 3101 – Sheetmetal Ductwork Material
- Sheets M5.9, E0.0, E0.1, E0.2, E2.0, E2.1, E2.2, E3.0, E3.1 and E3.2

END OF ADDENDUM NO. 2

20 10 80 TESTING, ADJUSTING AND BALANCING

20 10 81 GENERAL

- A. This scope of services specifies the requirements and procedures for mechanical systems testing, adjusting, and balancing. Requirements include measurement and establishment of the fluid quantities of the mechanical systems as required to meet design specifications, and recording and reporting the results. The test and balance work will be performed by the Owner's personnel. It is the Contractor's responsibility to assist as outlined as below.

20 10 83 WORK INCLUDED

- A. Test, adjust and balance the following mechanical systems which are shown in the construction documents.
1. Testing and adjusting each air handling unit and return/relief fan to achieve the design airflow rates as scheduled.
 2. Testing and adjusting each pump to achieve design water flow rate as scheduled.
 3. Testing and adjusting each coil to achieve design flow rate and capacity as scheduled.
 4. Testing and adjusting each heat exchanger (main building steam-to-water and 3x pool water-to-water) to achieve design water flow as scheduled. For the building heating heat exchangers, this will include measurement of the steam flows.
 5. Testing and adjusting each exhaust fan to achieve design airflow rate as scheduled.
 6. Testing and adjusting the systems to maintain pressure relationships as follows: the Locker Room "negative" with respect to the adjacent spaces and "positive" with respect to the Natatoriums; the Natatoriums "negative" with respect to all adjacent spaces; the building "positive" with respect to outdoors. Note this will require repeated balancing of all system to obtain the pressure relationships.
 7. Testing of the PAU-1, 2 & 3 existing systems prior to modification. Also, confirming the current pressure balance of the natatoriums and the current pressure balance of the building.
 8. Furnishing and/or installing fixed sheaves for all fans.
 9. Provide sufficient labor and resources required to assist in the commissioning process, refer to commissioning specification section.

20 10 84 SUBMITTALS

- A. The Contractor shall submit to the Architect/Engineer for approval:
1. Certification that each system is installed in accordance with the Project Documents, is operable and is prepared for testing and balancing; and that products and systems meet or exceed specified requirements.
- B. The balancer will submit final measured values (initial and final for all tests performed) in an organized, tabled output format, paired with a marked up construction document of where each measurement was taken.

20 10 85 RESPONSIBILITIES AND COORDINATION

- A. The Contractor's responsibilities are as follows:
1. Notify the Owner's Representative fourteen (14) days prior to the schedule date for balancing the system..

2. Schedule a two (2) week allowance for the testing and balancing firm to complete the testing and balancing work when scheduling completion of all work required of the Contractor by the contract documents.
3. Cooperate with the testing and balancing firm and shall make all necessary preparations for the TAB efforts.
4. Complete the following work prior to the requesting the TAB effort.
 - a. Clean and flush all piping systems.
 - b. Leak test and make tight all piping systems.
 - c. Fill all piping systems with clean water.
 - d. Clean and seal all ductwork systems.
 - e. Service and tag all equipment.
 - f. Set and align all motors and drives. Furnish and install any fixed sheaves for any fans as required.
 - g. Start up and prove all equipment and systems.
 - h. Make preliminary settings on all control devices and have all systems operational.
 - i. Operate all systems successfully for twenty-four (24) hours minimum.
5. Lubricate all motors and bearings.
6. Check fan belt tension.
7. Check fan rotation.
8. Patch insulation, ductwork and housing, using materials identical to those removed.
9. Seal ducts and piping, and test for and repair leaks.
10. Seal insulation to re-establish integrity of the vapor barrier.
11. Attend a coordination meeting prior to the balancing of the system and a coordination meeting following the balancing of the system.
12. Provide a complete set of as-built drawings prior to the TAB effort.
13. Provide craftsmen of the proper trade to work with the TAB firm to make adjustments and installation changes as required.
14. Change out fan sheaves when and if required by the TAB firm.
15. Dedicate the resources to accommodate all changes identified by the test and balance firm in a timely manner.
16. If a significant rebalance (Owner's determination) of the HVAC system is required due to the Contractor's failure to properly install and check out the HVAC system, the cost of rebalancing the system shall be borne by the Contractor.

20 10 87 PROCEDURES

- A. The procedures listed herein are presented to enhance the procedures of the referenced agencies and the lack of a procedure being presented herein does not relieve the Contractor from following the procedures of the referenced agencies.
- B. In general, balancing dampers shall not be used to adjust the cfm quantity of fans but rather only to adjust the proportion of the airflow within the system. The fan speed shall be adjusted, with all of the dampers open, to a cfm slightly greater than design cfm. Then the dampers shall be adjusted to move more air towards the end of the system. The balancing damper at the furthest points of the system should be nearly full open. If these furthest dampers are not open then the fan speed shall be reduced and the process repeated until a satisfactory result is achieved.
- C. Systems with air economizer cycles shall be adjusted to provide near linear flow as the amount of outdoor varies. Three (3) conditions to be tested are minimum outdoor air, 50% outdoor air,

and 100% outdoor air. Record the values of total supply, return, relief, and building differential pressure at each of these conditions. Systems with return fans shall have the return damper adjusted to provide a change from positive to negative gauge pressure to provide a negative mixed air plenum pressure.

- D. When the Contractor has any questions regarding how the systems operate or cannot obtain design performance, they should contact the Engineer for clarifications or further instruction. The work shall not be considered complete until all systems and components achieve design performance unless the Engineer issues written direction otherwise.
- E. All systems shall be adjusted between 10% above the design value as a maximum, to the design value as a minimum.

20 10 88 PRE-BALANCING CONFERENCE

- A. Prior to the beginning of the testing, adjusting and balancing procedures, a conference with the Owner's representative, Engineer and the Test and Balance Agency's representative will be held. The objective of the conference is final coordination and verification of system operation and readiness for testing, adjusting and balancing.

20 10 89 SEQUENCING AND SCHEDULING OF SERVICES

- B. Test, adjust and balance the air conditioning systems during summer season and heating systems during winter season. This includes at least a period of operation at outside conditions within 5 deg F wet bulb temperature of maximum summer design condition, and within 10 deg F dry bulb temperature of minimum winter design conditions. Take final temperature readings during seasonal operation.

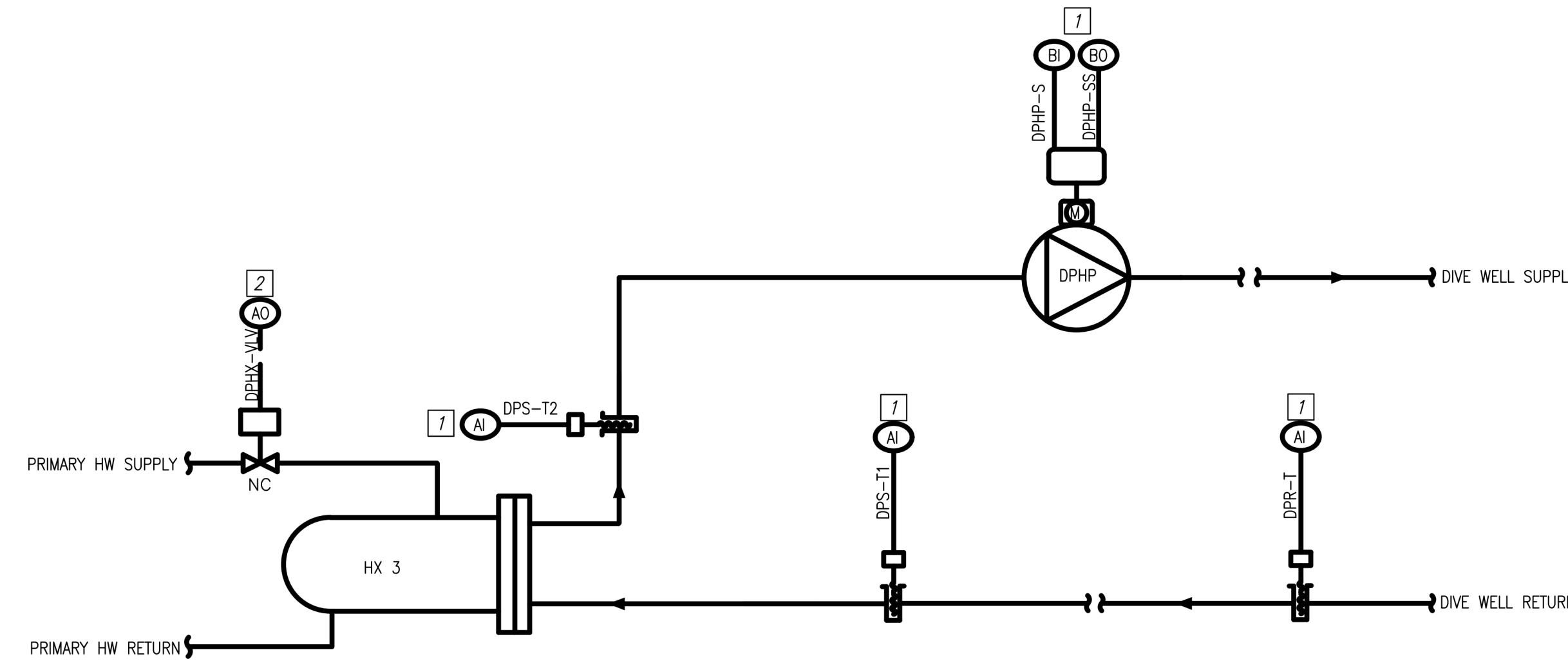
22 80 04 WATERLESS TRAPS

- A. Engineered unit to provide sealing of cooling condensate trap without retainment of any of the condensate. Solid schedule 40 PVC construction with cleanout port.
- B. Rated for up to 12" w.c. positive pressure and any negative pressure.
- C. Unit to meet requirements of IMC section M307.2.4.1.
- D. Units to be Des Champs P-Series (positive pressure applications) / N-Series (negative pressure applications) or approved equal.

24 31 01 MATERIAL

- E. Round or rectangular ductwork where indicated on the plans shall be K27 double wall internally insulated for condensation prevention. All diameters and dimensions shown on the plans are the inside (air path) dimension of the duct. Fittings shall also be double wall, tack welded, and sealed. Duct and fittings shall be labeled on the inside to reduce preparation for painting. Insulation to have a maximum conduction of 0.27 BTUH/SF-F per inch of thickness. Duct manufactured by McGill Airflow, Eastern Sheet Metal, United Sheet Metal, or equivalent.

Layer	Material	Construction	Thickness
Outer (pressure) shell	3003-H4 aluminum	Spiral lockseam	16-gauge (0.05")
Insulation	Fiberglass	1 lb/CF density	3"
Inner (liner) shell	3003-H4 aluminum	Spiral lockseam	18-gauge (0.04")



DIVING & 50M POOL HEX DDC POINTS LIST

TYPE	POINT NAME	DESCRIPTION	DEVICE
AI	DPR-T	DIVE POOL RETURN TEMP	EXISTING RTD/THERMOWELL
AI	DPS-T1	DIVE POOL SUPPLY TEMP TO HEX	EXISTING RTD/THERMOWELL
AI	DPS-T2	DIVE POOL SUPPLY TEMP FM HEX	EXISTING RTD/THERMOWELL
AI	50MPR-T	50M POOL RETURN TEMP	EXISTING RTD/THERMOWELL
AI	50MPS-T1	50M POOL SUPPLY TEMP TO HEX	EXISTING RTD/THERMOWELL
AI	50MPS-T2	50M POOL SUPPLY TEMP FROM HEX	EXISTING RTD/THERMOWELL
AO	DPHX-VLV	DIVE POOL HEX VALVE	ELECT ACTUATOR W/ SPRING RTN
AO	50MP-VLV	50M POOL HEX VALVE	EXISTING PNEUMATIC ACTUATOR W/ SPRING RTN
BI	DPFP-S	DIVE POOL FILTER PUMP STATUS	EXISTING CURRENT SWITCH
BI	DPHP-S	DIVE POOL HEATING PUMP STATUS	EXISTING CURRENT SWITCH
BI	PAU4-AUX	DIVE POOL AUX HEATING REQUEST	EXISTING POINT TO BE REMOVED
BI	PAU5-AUX	DIVE POOL AUX HEATING REQUEST	EXISTING POINT TO BE REMOVED
BI	50MPF-S	50M POOL FILTER PUMP STATUS	EXISTING CURRENT SWITCH
BI	50MHP-S	50M POOL HEATING PUMP STATUS	EXISTING CURRENT SWITCH
BI	PAU2-AUX	50M POOL AUX HEATING REQUEST	EXISTING POINT TO BE REMOVED
BI	PAU3-AUX	50M POOL AUX HEATING REQUEST	EXISTING POINT TO BE REMOVED
BO	DPHP-SS	DIVE POOL HEATING PUMP START/STOP	EXISTING CONTROL RELAY
BO	50MHP-SS	50M POOL HEATING PUMP START/STOP	EXISTING CONTROL RELAY

LEISURE POOL & SPA HEX DDC POINTS LIST

TYPE	POINT NAME	DESCRIPTION	DEVICE
AI	LPR-T	LEISURE POOL RETURN TEMP	EXISTING RTD/THERMOWELL
AI	LP1S-T	LEISURE POOL 1 SUPPLY TEMP	EXISTING RTD/THERMOWELL
AI	LP2S-T	LEISURE POOL 2 SUPPLY TEMP	EXISTING RTD/THERMOWELL
AI	SPAR-T	SPA POOL RETURN TEMP	EXISTING RTD/THERMOWELL
AI	SPAS-T	SPA POOL SUPPLY TEMP	EXISTING RTD/THERMOWELL
AO	LP-VLV	LEISURE POOL HEX VALVE	EXISTING PNEUMATIC ACTUATOR W/ SPRING RTN
AO	SPA-VLV	SPA POOL HEX VALVE	EXISTING PNEUMATIC ACTUATOR W/ SPRING RTN
BI	LPFP-S	LEISURE POOL FILTER PUMP STATUS	EXISTING CURRENT SWITCH
BI	LPHP-S	LEISURE POOL HEATING PUMP STATUS	EXISTING CURRENT SWITCH
BI	PAU1-AUX	LEISURE POOL AUX HTG REQUEST	EXISTING POINT TO BE REMOVED
BI	SPAFP-S	SPA POOL FILTER PUMP STATUS	EXISTING CURRENT SWITCH
BI	SPAHP-S	SPA POOL HEATING PUMP STATUS	EXISTING CURRENT SWITCH
BO	LPHP-SS	LEISURE POOL HEX PUMP S/S	EXISTING CONTROL RELAY
BO	SPAHP-SS	SPA POOL HEX PUMP S/S	EXISTING CONTROL RELAY

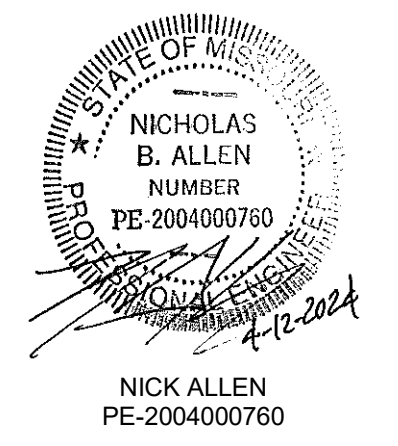
GENERAL NOTES

- HX-3 AND DPHP SHOWN, BUT OTHER SYSTEMS ARE SIMILAR.

KEYED NOTES

- 1 EXISTING CONTROL DEVICE/POINT TO REMAIN.
- 2 REPLACE EXISTING VALVE AND ACTUATOR. PROVIDE NEW WIRING FROM CONTROLLER TO ACTUATOR.

DIVING, 50M, LEISURE, & SPA POOL HEX CONTROL SCHEMATIC
NO SCALE



NICK ALLEN
PE-200400760

No.	Date	Description
1	04/10/24	ADDENDUM #2

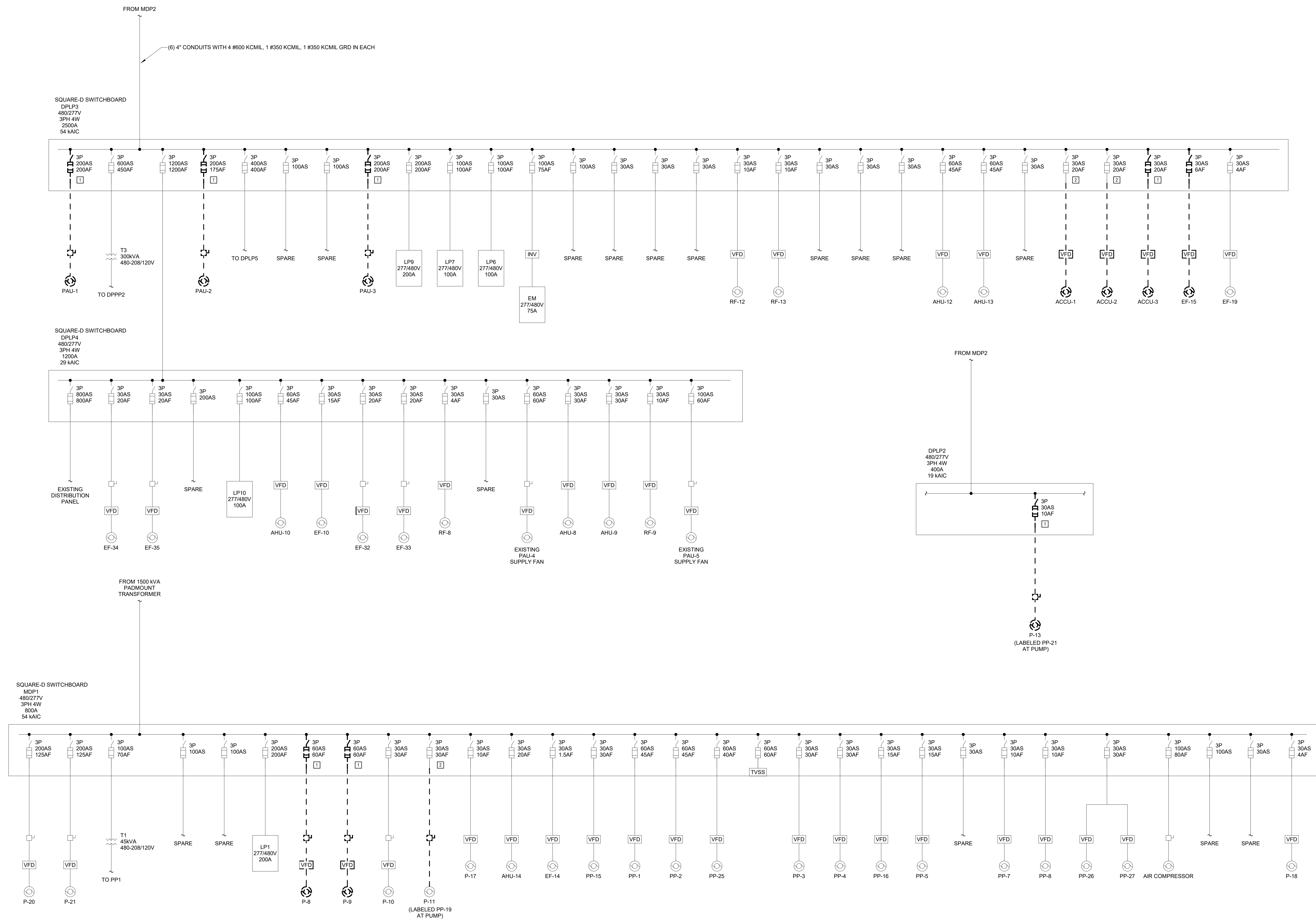
DATE: 02/14/2024
PROJECT #: 071588.002
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CHECKED BY: NBA

POOL HEX
CONTROL
DIAGRAM

M5.9

KEYED NOTES

- 1 COMPLETELY DEMOLISH AND MAKE ELECTRICALLY SAFE BACK TO SOURCE ALL FEEDERS, DISCONNECTS, AND CONTROLS ASSOCIATED WITH MECHANICAL EQUIPMENT. REMOVE FUSES AND PRESERVE EXISTING SWITCH.
- 2 COMPLETELY DEMOLISH AND MAKE ELECTRICALLY SAFE BACK TO SOURCE ALL FEEDERS, DISCONNECTS, AND CONTROLS ASSOCIATED WITH MECHANICAL EQUIPMENT. PRESERVE EXISTING SWITCH AND FUSES FOR CONNECTION TO NEW EQUIPMENT.



ELECTRICAL ONE-LINE DIAGRAM - DEMOLITION

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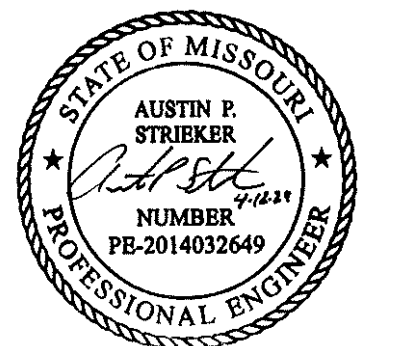
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Missouri # PE-2014032649

No.	Date	Description

DATE: 02/14/2024
PROJECT #: 071588.002
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ELECTRICAL ONE-LINE DIAGRAM - DEMOLITION

E0.1



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Missouri # PE-2014032649

No.	Date	Description

DATE: 02/14/2024
PROJECT #: 071588.002
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ELECTRICAL
ONE-LINE
DIAGRAM - NEW
WORK

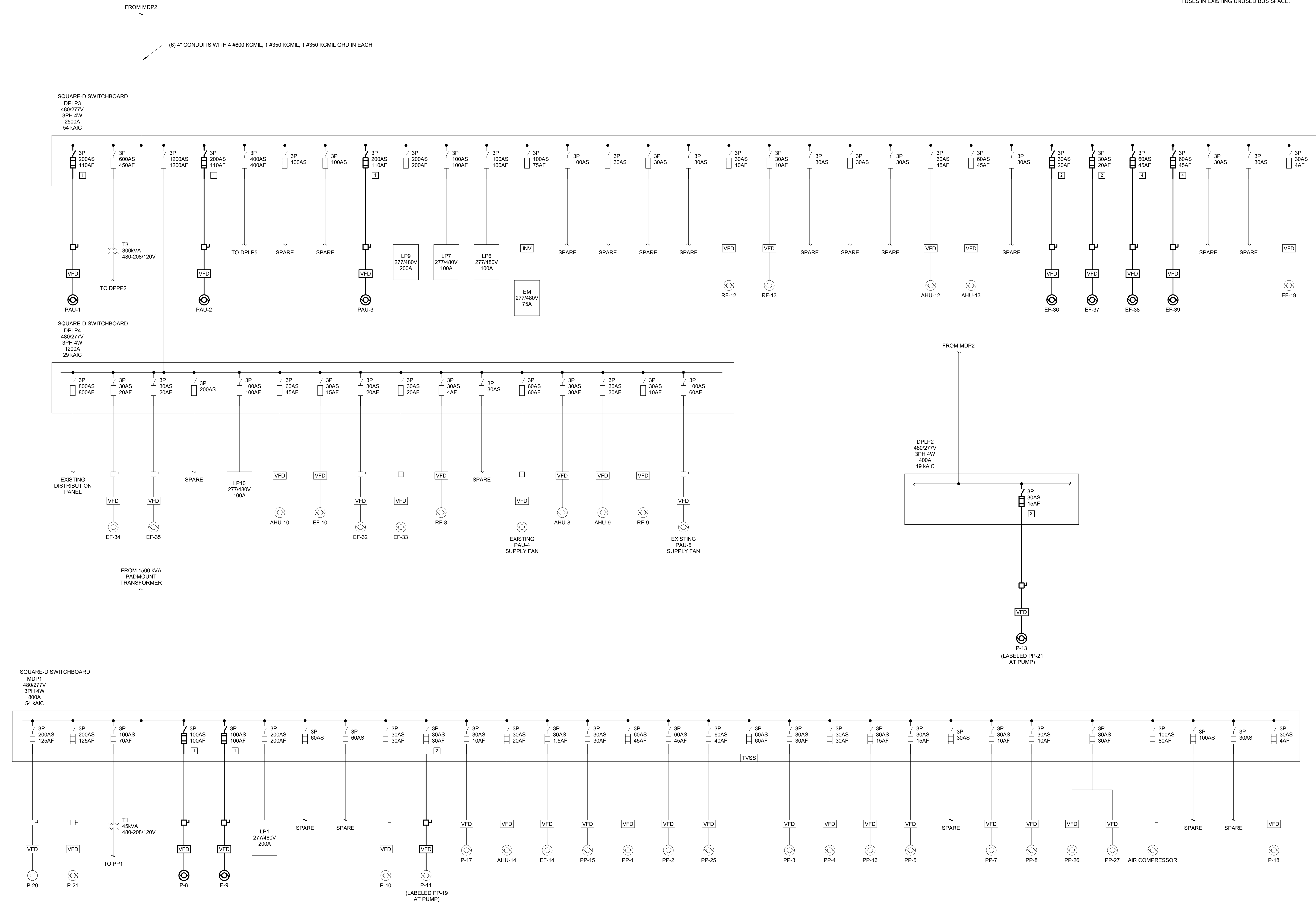
E0.2

GENERAL NOTES

1. ALL NEW VFDS SHALL BE CAPABLE OF A 12KHZ SINE CODED PULSE WIDTH MODULATED OUTPUT. LINE SIDE FEEDERS SHALL BE SIZED ACCORDINGLY. REFER TO THE MECHANICAL ELECTRICAL INTERFACE SHEET E0.0 FOR MORE INFORMATION.

KEYED NOTES

- 1. INSTALL NEW TIME DELAY FUSES IN EXISTING SWITCH. FEED NEW MECHANICAL EQUIPMENT. PROVIDE NEW DISCONNECT AND CONTROLS. REFER TO MECHANICAL ELECTRICAL INTERFACE SHEET E0.1 FOR MORE INFORMATION.
- 2. FEED NEW MECHANICAL EQUIPMENT FROM EXISTING SWITCH AND FUSES. PROVIDE NEW DISCONNECT AND CONTROLS. REFER TO MECHANICAL ELECTRICAL INTERFACE AND CONNECTION DIAGRAMS SHEET E0.1 FOR MORE INFORMATION.
- 3. FEED NEW MECHANICAL EQUIPMENT FROM EXISTING SWITCH. REPLACE FUSES. PROVIDE NEW DISCONNECT AND CONTROLS. REFER TO MECHANICAL ELECTRICAL INTERFACE AND CONNECTION DIAGRAMS SHEET E0.1 FOR MORE INFORMATION.
- 4. FURNISH AND INSTALL NEW 60A SQUARE-D QMB362TW SWITCH WITH 45A FUSES IN EXISTING UNUSED BUS SPACE.



ELECTRICAL ONE-LINE DIAGRAM - NEW WORK



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Missouri # PE-2014032649

No.	Date	Description

DATE: 02/14/2024
PROJECT #: 071588.002
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MECHANICAL ROOMS -
ELECTRICAL
DEMOLITION

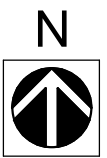
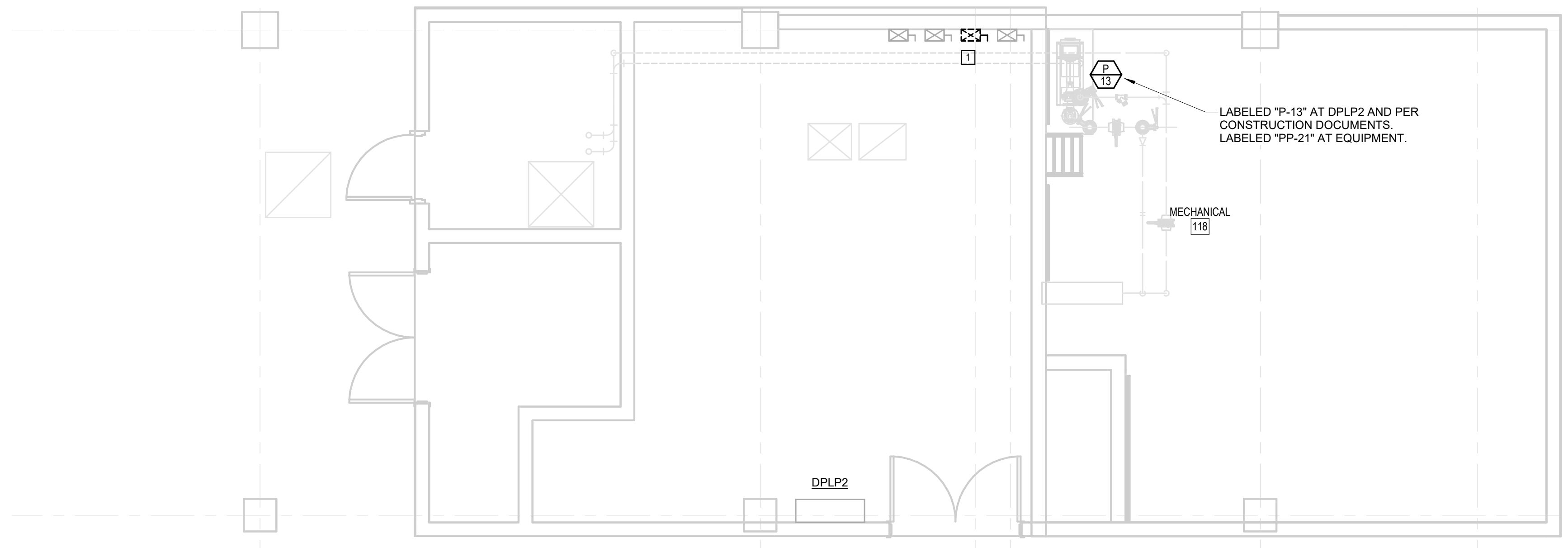
E2.0

GENERAL NOTES

1. ALL SYMBOLS SHOWN DASHED HEAVY ARE EXISTING ELECTRICAL DEVICES TO BE REMOVED OR HANDLED AS NOTED. ALL SYMBOLS SHOWN HALF-TONE LIGHT LINE ARE EXISTING ELECTRICAL DEVICES TO REMAIN. EXISTING ELECTRICAL DEVICES WHICH ARE TO REMAIN SHALL BE EXTENDED TO BE FLUSH WITH NEW FINISH OR FURRING ON EXISTING WALLS WHERE REQUIRED.
2. ALL EXISTING ELECTRICAL DEVICES IN A WALL THAT IS TO BE REMOVED; ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER, CUT OFF CONDUCTORS AND CAP CONDUIT IN FLOOR OR CEILING AS REQUIRED. DEVICES ARE TO BE REMOVED ALONG WITH WALL BY GENERAL CONTRACTOR UNLESS OTHERWISE NOTED.
3. ALL EXISTING ELECTRICAL DEVICES TO BE REMOVED FROM WALLS WHICH ARE TO REMAIN; ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER, REMOVE CONDUCTORS, REMOVE DEVICE AND PROVIDE BLANK COVERPLATES AS REQUIRED. UNLESS OTHERWISE NOTED.
4. FOR A PORTION OF A CIRCUIT WHICH IS REMOVED OR ABANDONED, RE-ESTABLISH CIRCUIT CONTINUITY FOR THE PORTION OF THE CIRCUIT WHICH IS TO REMAIN.
5. ALL EXISTING CONDUITS, RACEWAYS AND WIRING ROUTED IN EXISTING WALLS AND CEILING SPACES (WHICH ARE TO BE DEMOLISHED) WHICH SERVE OTHER AREAS SHALL BE REROUTED AS REQUIRED WITH PERMISSION OF OWNER.
6. PROVIDE AND INSTALL SUPPORTS FOR EXISTING CABLES AND CONDUITS ABOVE CEILINGS THAT ARE CURRENTLY UNSUPPORTED IN ALL AREAS WHERE CEILING IS BEING REMOVED.

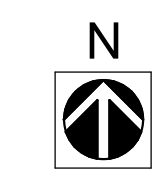
KEYED NOTES

- COMPLETELY DEMOLISH AND ELECTRICALLY MAKE SAFE BACK TO SOURCE ALL FEEDERS, DISCONNECTS, AND CONTROLS ASSOCIATED WITH HVAC EQUIPMENT. REMOVE FUSES AND PRESERVE EXISTING SWITCH AT SOURCE. REFER TO DEMOLITION ONE-LINE DIAGRAM FOR MORE INFORMATION.
- ▣ COMPLETELY DEMOLISH AND ELECTRICALLY MAKE SAFE BACK TO SOURCE ALL FEEDERS, DISCONNECTS, AND CONTROLS ASSOCIATED WITH HVAC EQUIPMENT. PRESERVE EXISTING SWITCH AND FUSES AT SOURCE FOR RECONNECTION TO NEW EQUIPMENT.



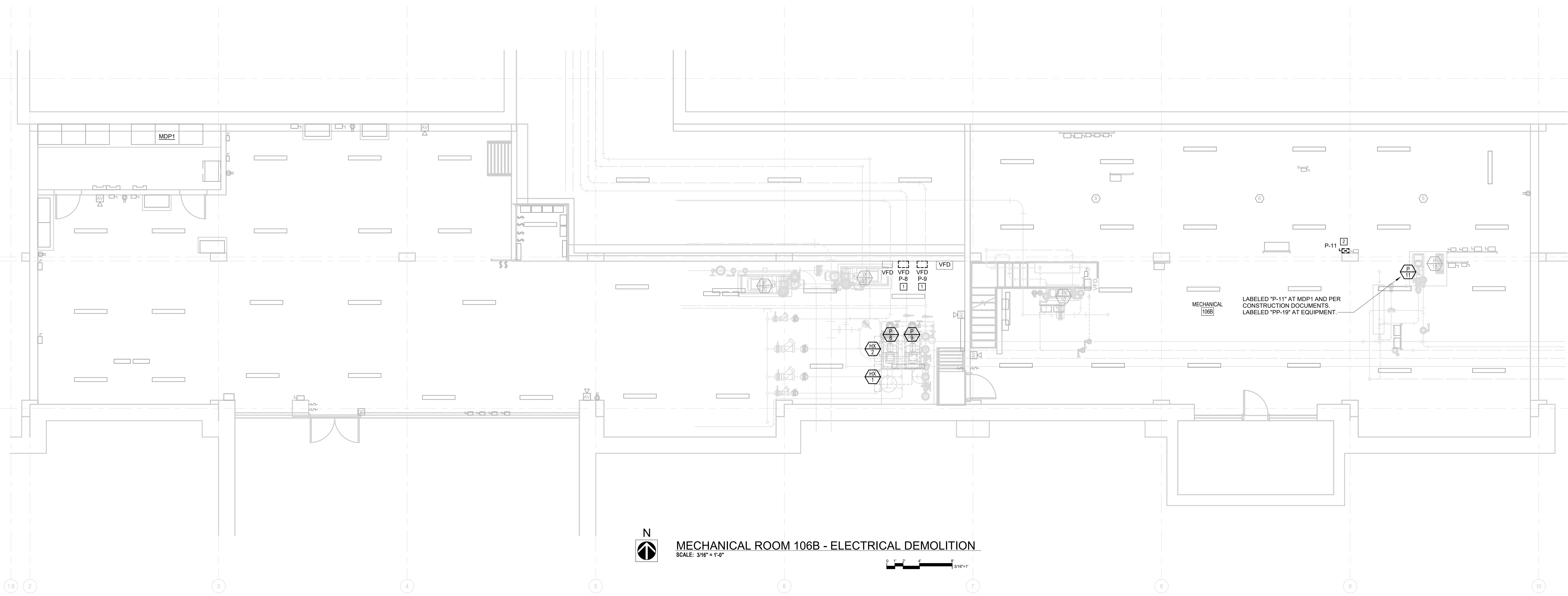
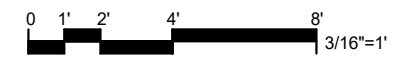
MECHANICAL ROOM 118 - ELECTRICAL DEMOLITION

SCALE: 1/4" = 1'-0"



MECHANICAL ROOM 106B - ELECTRICAL DEMOLITION

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

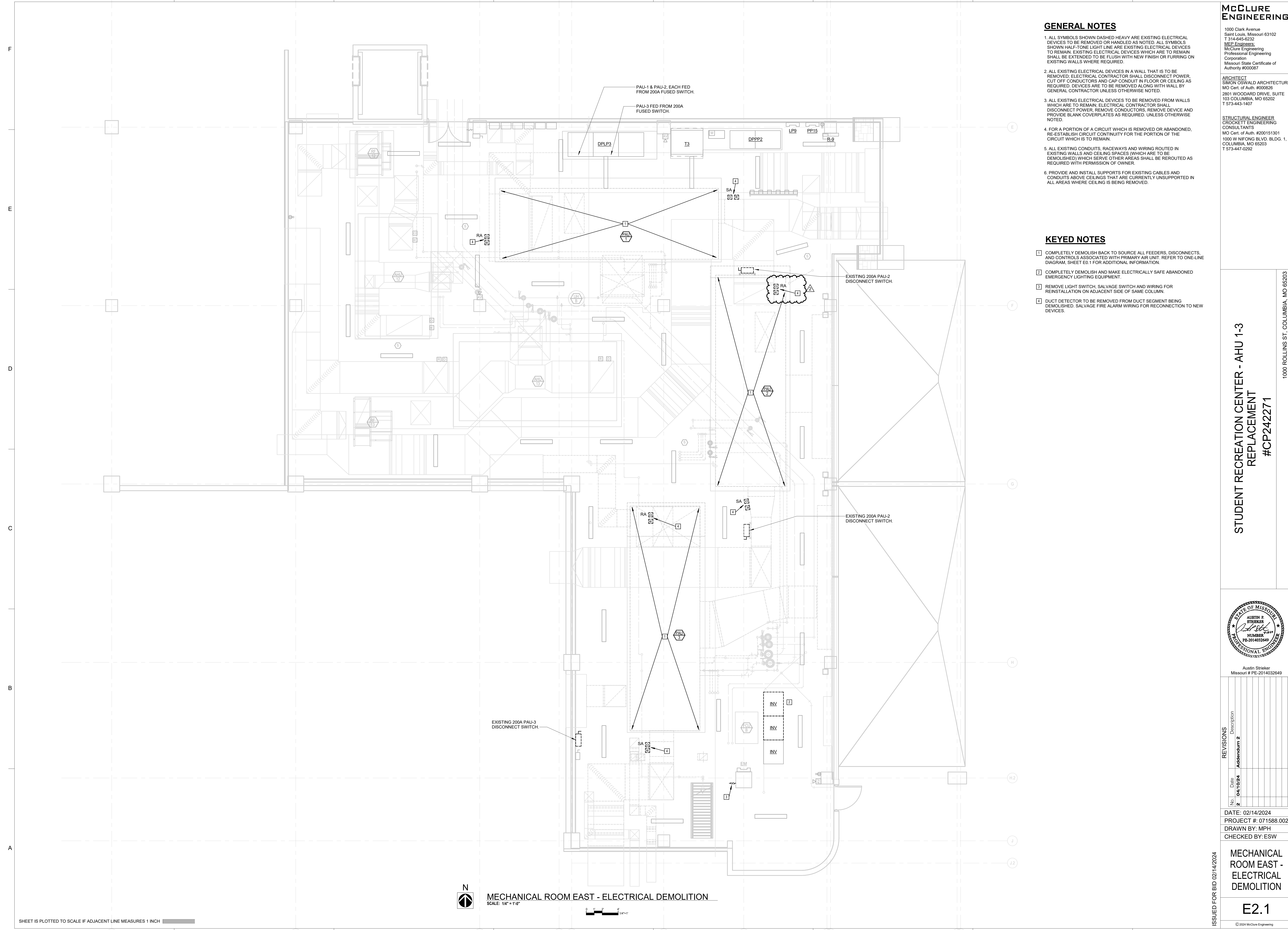


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2. ALL EXISTING ELECTRICAL DEVICES IN A WALL THAT IS TO BE REMOVED; ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER, CUT OFF CONDUCTORS AND CAP CONDUIT IN FLOOR OR CEILING AS REQUIRED. DEVICES ARE TO BE REMOVED ALONG WITH WALL BY GENERAL CONTRACTOR UNLESS OTHERWISE NOTED.
3. ALL EXISTING ELECTRICAL DEVICES TO BE REMOVED FROM WALLS WHICH ARE TO REMAIN; ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER, REMOVE CONDUCTORS, REMOVE DEVICE AND PROVIDE BLANK COVERPLATES AS REQUIRED, UNLESS OTHERWISE NOTED.
4. FOR A PORTION OF A CIRCUIT WHICH IS REMOVED OR ABANDONED, RE-ESTABLISH CIRCUIT CONTINUITY FOR THE PORTION OF THE CIRCUIT WHICH IS TO REMAIN.
5. ALL EXISTING CONDUITS, RACEWAYS AND WIRING ROUTED IN EXISTING WALLS AND CEILING SPACES (WHICH ARE TO BE DEMOLISHED) WHICH SERVE OTHER AREAS SHALL BE REROUTED AS REQUIRED WITH PERMISSION OF OWNER.
6. PROVIDE AND INSTALL SUPPORTS FOR EXISTING CABLES AND CONDUITS ABOVE CEILINGS THAT ARE CURRENTLY UNSUPPORTED IN ALL AREAS WHERE CEILING IS BEING REMOVED.

KEYED NOTES

- 1 COMPLETELY DEMOLISH BACK TO SOURCE ALL FEEDERS, DISCONNECTS, AND CONTROLS ASSOCIATED WITH PRIMARY AIR UNIT. REFER TO ONE-LINE DIAGRAM, SHEET ED.1 FOR ADDITIONAL INFORMATION.
- 2 COMPLETELY DEMOLISH AND MAKE ELECTRICALLY SAFE ABANDONED EMERGENCY LIGHTING EQUIPMENT.
- 3 REMOVE LIGHT SWITCH, SALVAGE SWITCH AND WIRING FOR REINSTALLATION ON ADJACENT SIDE OF SAME COLUMN.
- 4 DUCT DETECTOR TO BE REMOVED FROM DUCT SEGMENT BEING DEMOLISHED. SALVAGE FIRE ALARM WIRING FOR RECONNECTION TO NEW DEVICES.



STUDENT RECREATION CENTER - AHU 1-3
REPLACEMENT
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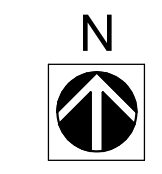
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Missouri # PE-2014032649

No.	Date	Description
2	04/10/24	Addendum 2

DATE: 02/14/2024
PROJECT #: 071588.002
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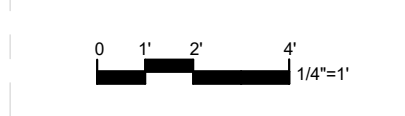
MECHANICAL ROOM EAST -
ELECTRICAL DEMOLITION

E2.1



MECHANICAL ROOM EAST - ELECTRICAL DEMOLITION

SCALE: 1/4" = 1'-0"



GENERAL NOTES

1. ALL SYMBOLS SHOWN DASHED HEAVY ARE EXISTING ELECTRICAL DEVICES TO BE REMOVED OR HANDLED AS NOTED. ALL SYMBOLS SHOWN HALF-TONE LIGHT LINE ARE EXISTING ELECTRICAL DEVICES TO REMAIN. EXISTING ELECTRICAL DEVICES WHICH ARE TO REMAIN SHALL BE EXTENDED TO BE FLUSH WITH NEW FINISH OR FURRING ON EXISTING WALLS WHERE REQUIRED.
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3. ALL EXISTING ELECTRICAL DEVICES TO BE REMOVED FROM WALLS WHICH ARE TO REMAIN; ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER, REMOVE CONDUCTORS, REMOVE DEVICE AND PROVIDE BLANK COVERPLATES AS REQUIRED. UNLESS OTHERWISE NOTED.
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6. PROVIDE AND INSTALL SUPPORTS FOR EXISTING CABLES AND CONDUITS ABOVE CEILINGS THAT ARE CURRENTLY UNSUPPORTED IN ALL AREAS WHERE CEILING IS BEING REMOVED.

KEYED NOTES

- 1 COMPLETELY DEMOLISH BACK TO SOURCE ALL FEEDERS, DISCONNECTS, AND CONTROLS ASSOCIATED WITH MECHANICAL EQUIPMENT. REFER TO ONE-LINE DIAGRAM, SHEET E0.1 FOR ADDITIONAL INFORMATION.

STUDENT RECREATION CENTER - AHU 1-3
REPLACEMENT
#CP242271



Austin Strieker
Missouri # PE-2014032649

No.	Date	Description

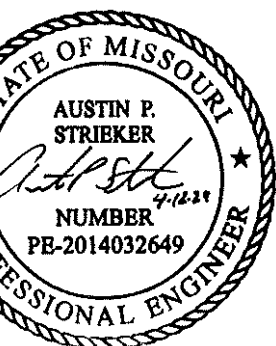
DATE: 02/14/2024
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CHECKED BY: ESW

MECHANICAL ROOM EAST
ROOF -
ELECTRICAL
DEMOLITION

E2.2



MECHANICAL ROOM EAST ROOF - ELECTRICAL DEMOLITION
SCALE: 1/4" = 1'-0"



No.	Date	Description

DATE: 02/14/2024
PROJECT #: 071588.002
DRAWN BY: MPH
CHECKED BY: ESW

MECHANICAL
ROOMS -
ELECTRICAL
NEW WORK

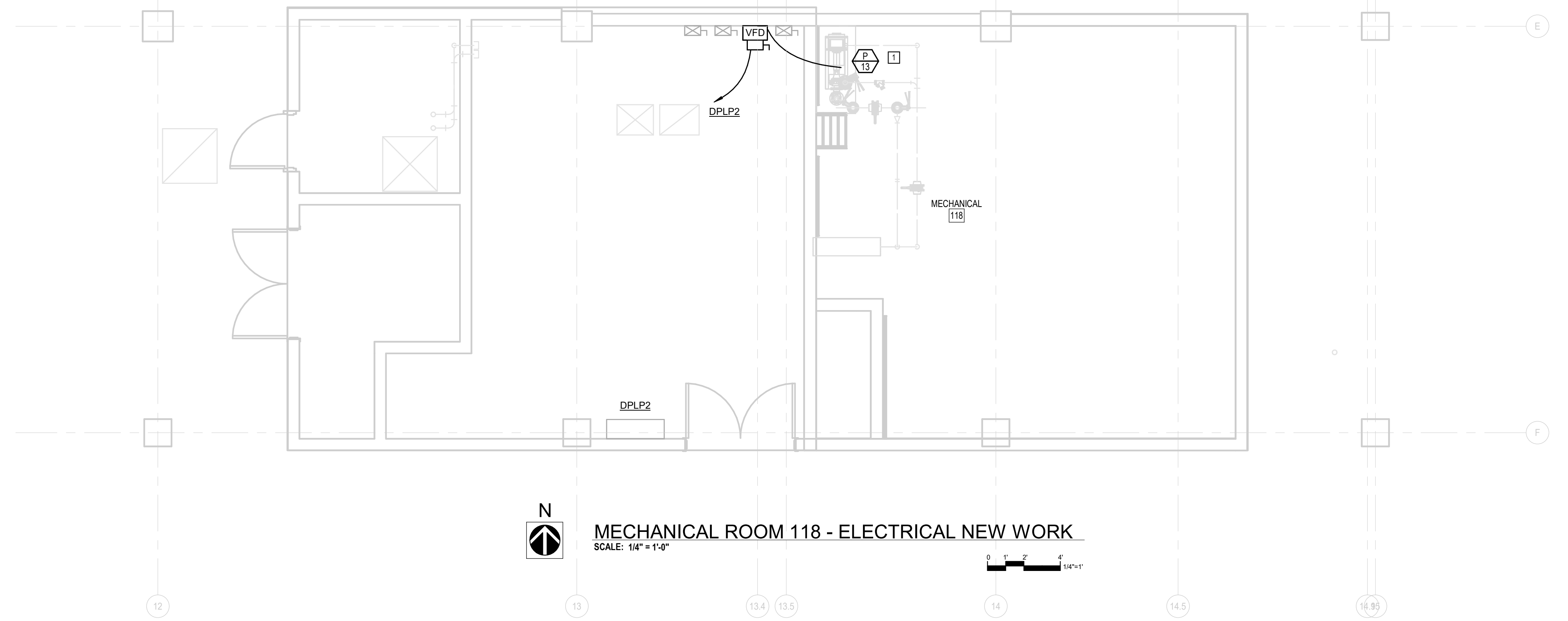
E3.0

GENERAL NOTES

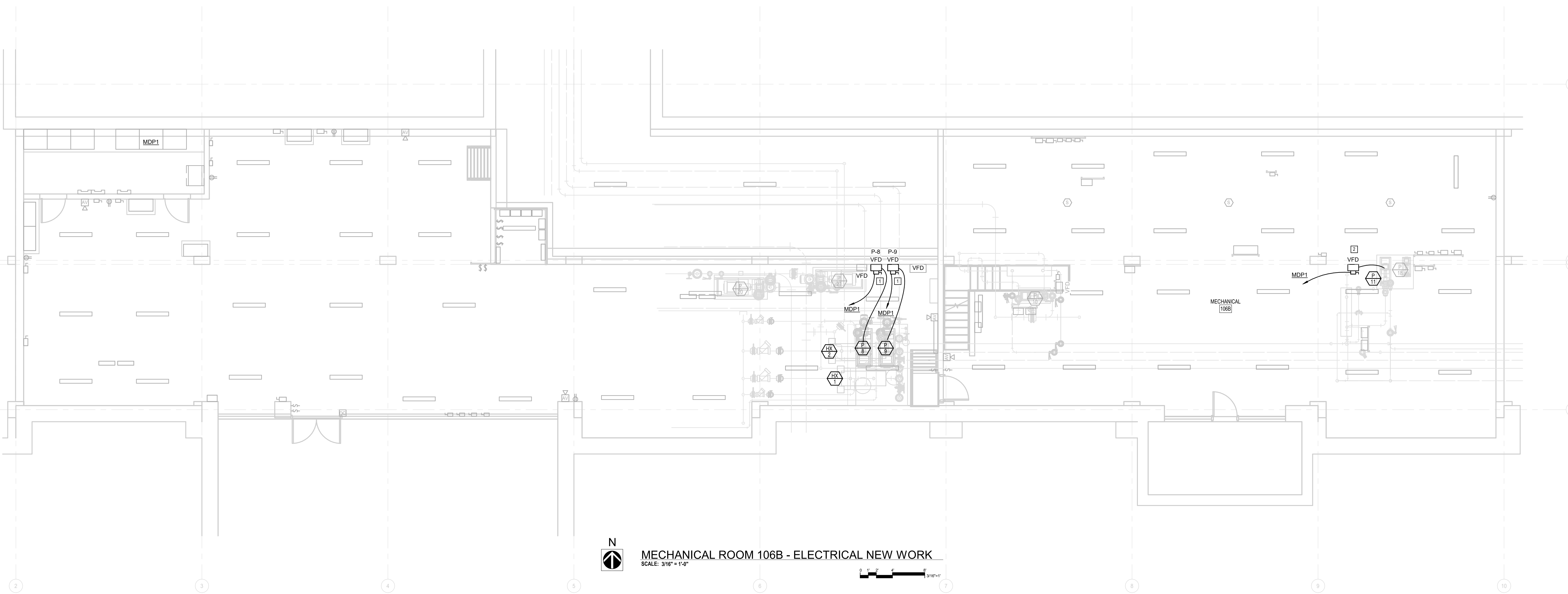
- COORDINATE ALL LOCATIONS, HEIGHTS AND REQUIREMENTS OF ROUGH-INS AND PATHWAYS, CONDUITS AND CABLE TRAY LOCATIONS WITH OWNER, ARCHITECT, CONSULTANTS, AND OTHER TRADES PRIOR TO ORDER AND INSTALLATION. PROVIDE NYLON GROMMETS ON EXPOSED ENDS OF ALL PATHWAY CONDUITS.
- FIRE SEAL ALL PENETRATIONS OF FIRE RATED ASSEMBLIES. SEAL ALL ROOF AND EXTERIOR WALL PENETRATIONS WEATHER TIGHT.
- PROVIDE UNISTRUT SUPPORT AS REQUIRED FOR ALL VFDs AND STARTERS.
- REFER TO MECHANICAL / ELECTRICAL INTERFACE ON SHEET E0.1 FOR ADDITIONAL MECHANICAL EQUIPMENT INFORMATION: FEEDER SIZE, UNIT CONTROLS, AND OVERCURRENT DETAILS.
- COORDINATE ALL BRANCH CIRCUITING AND FEEDER CONDUITS WITH MECHANICAL PIPING AND OTHER UTILITIES.

KEYED NOTES

- FURNISH AND INSTALL NEW DISCONNECT AND CONTROLS FOR EQUIPMENT. INSTALL NEW FUSES IN EXISTING SWITCH. FEED NEW MECHANICAL EQUIPMENT. REFER TO MECHANICAL ELECTRICAL INTERFACE AND ONE-LINE DIAGRAM FOR MORE INFORMATION.
- FURNISH AND INSTALL NEW DISCONNECT AND CONTROLS FOR EQUIPMENT. CONNECT TO EXISTING FUSES AND SWITCH AT SOURCE. FEED NEW MECHANICAL EQUIPMENT. REFER TO MECHANICAL ELECTRICAL INTERFACE AND ONE-LINE DIAGRAM FOR MORE INFORMATION.



MECHANICAL ROOM 118 - ELECTRICAL NEW WORK
SCALE: 1/4" = 1'-0"



MECHANICAL ROOM 106B - ELECTRICAL NEW WORK
SCALE: 3/16" = 1'-0"

GENERAL NOTES

- COORDINATE ALL LOCATIONS, HEIGHTS AND REQUIREMENTS OF ROUGH-INS AND PATHWAYS, CONDUITS AND CABLE TRAY LOCATIONS WITH OWNER, ARCHITECT, CONSULTANTS, AND OTHER TRADES PRIOR TO ORDER AND INSTALLATION. PROVIDE NYLON GROMMETS ON EXPOSED ENDS OF ALL PATHWAY CONDUITS.
- FIRE SEAL ALL PENETRATIONS OF FIRE RATED ASSEMBLIES. SEAL ALL ROOF AND EXTERIOR WALL PENETRATIONS WEATHER TIGHT.
- PROVIDE UNISTRUT SUPPORT AS REQUIRED FOR ALL VFDS AND STARTERS.
- REFER TO MECHANICAL / ELECTRICAL INTERFACE ON SHEET E0.1 FOR ADDITIONAL MECHANICAL EQUIPMENT INFORMATION, FEEDER SIZE, UNIT CONTROLS, AND OVERCURRENT DETAILS.
- COORDINATE ALL BRANCH CIRCUITING AND FEEDER CONDUITS WITH MECHANICAL PIPING AND OTHER UTILITIES.

KEYED NOTES

- INSTALL NEW FUSES IN EXISTING FUSED SWITCHES TO FEED NEW PAU-1, PAU-2, AND PAU-3. REFER TO ONE-LINE DIAGRAM AND MECHANICAL-ELECTRICAL INTERFACE ON SHEET E0.1 FOR ADDITIONAL INFORMATION.
- INSTALL SALVAGED LIGHT SWITCH ON THIS SIDE OF COLUMN. EXTEND EXISTING WIRING TO NEW LOCATION IN ORDER TO MAINTAIN PREVIOUS FUNCTIONALITY.
- FURNISH AND INSTALL NEW UNISTRUT RACK FOR MOUNTING NEW EQUIPMENT CONTROLS. COORDINATE WITH MECHANICAL CONTRACTOR.
- NEW DUCT DETECTOR AND RELAY IN NEW DUCTWORK. CONNECT TO EXISTING FIRE ALARM SYSTEM VIA SALVAGED WIRING FROM DEMOLITION. PROGRAM DEVICES INTO EXISTING FIRE ALARM SYSTEM.

STUDENT RECREATION CENTER - AHU 1-3
REPLACEMENT
#CP242271



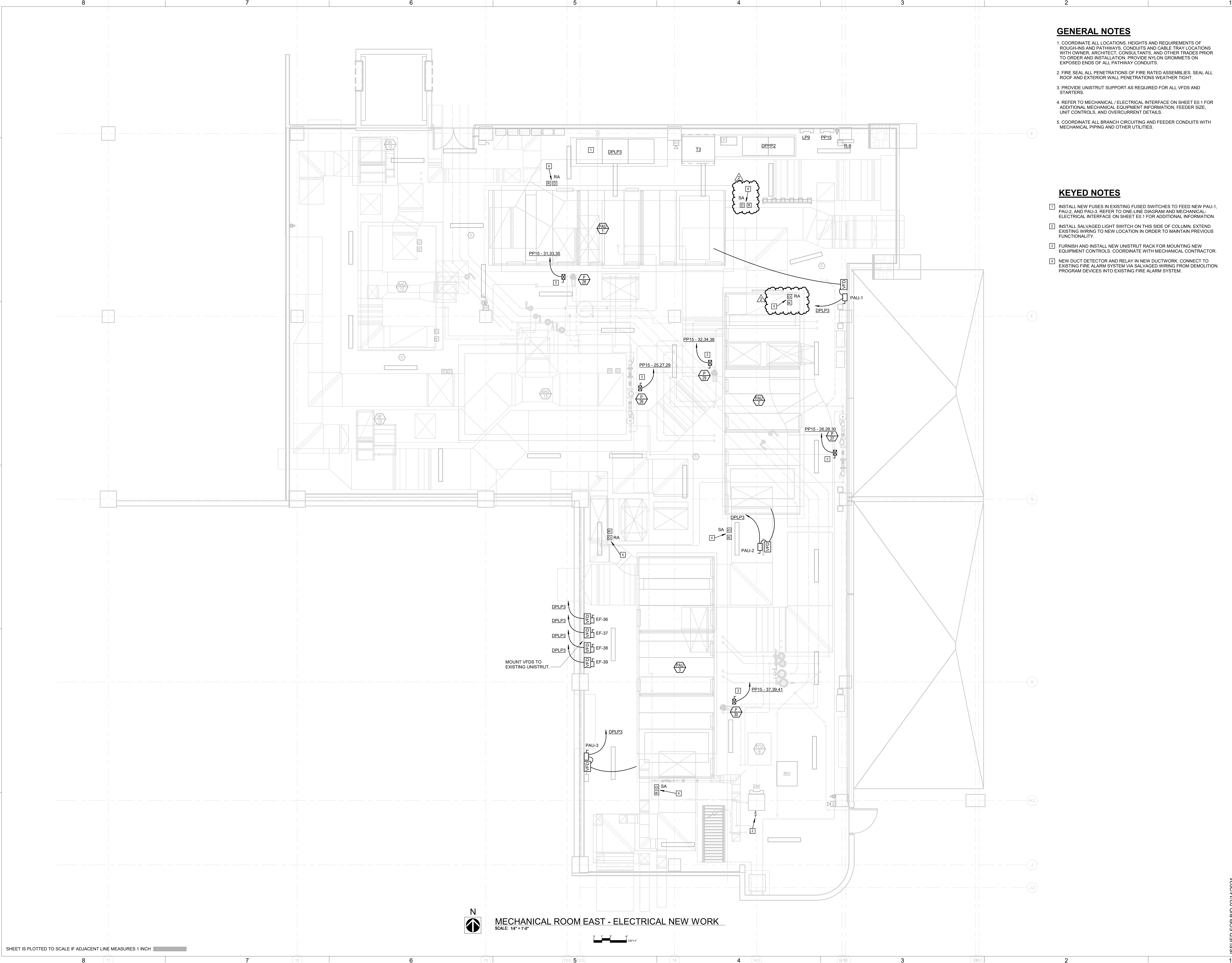
Austin Strieker
Missouri # PE-2014032649

No.	Date	Description
2	04/11/2024	Addendum 2

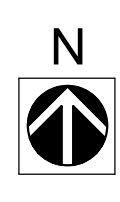
DATE: 02/14/2024
PROJECT #: 071588.002
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CHECKED BY: ESW

MECHANICAL ROOM EAST -
ELECTRICAL
NEW WORK

E3.1

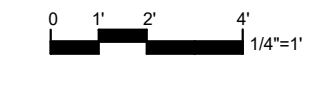


MOUNT VFDS TO EXISTING UNISTRUT.



MECHANICAL ROOM EAST - ELECTRICAL NEW WORK

SCALE: 1/4" = 1'-0"

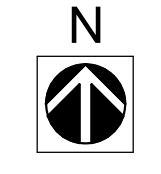


GENERAL NOTES

- COORDINATE ALL LOCATIONS, HEIGHTS AND REQUIREMENTS OF ROUGH-INS AND PATHWAYS, CONDUITS AND CABLE TRAY LOCATIONS WITH OWNER, ARCHITECT, CONSULTANTS, AND OTHER TRADES PRIOR TO ORDER AND INSTALLATION. PROVIDE NYLON GROMMETS ON EXPOSED ENDS OF ALL PATHWAY CONDUITS.
- FIRE SEAL ALL PENETRATIONS OF FIRE RATED ASSEMBLIES. SEAL ALL ROOF AND EXTERIOR WALL PENETRATIONS WEATHER TIGHT.
- PROVIDE UNISTRUT SUPPORT AS REQUIRED FOR ALL VFDS AND STARTERS.
- REFER TO MECHANICAL/ELECTRICAL INTERFACE ON SHEET E0.1 FOR ADDITIONAL MECHANICAL EQUIPMENT INFORMATION, FEEDER SIZE, UNIT CONTROLS, AND OVERCURRENT DETAILS.
- COORDINATE ALL BRANCH CIRCUITING AND FEEDER CONDUITS WITH MECHANICAL PIPING AND OTHER UTILITIES.

KEYED NOTES

- PROVIDE LOCAL NON-FUSED, NEMA-3R DISCONNECT SWITCH AT EQUIPMENT WITH AUXILIARY CONTACT TO VFD IN MECHANICAL SPACE BELOW. SEE SHEETS E0.1 AND E3.1 FOR ADDITIONAL INFORMATION.
- NEW 277 VOLT LED LIGHT IN PLENUM. CIRCUIT TO PANEL LP9 IN EAST MECH ROOM BELOW. COORDINATE LOCATION WITH MECHANICAL CONTRACTOR.
- WEATHER RESISTANT GFCI DUPLEX RECEPTACLE WITH WEATHERPROOF IN-USE COVER MOUNTED TO PLENUM. CONNECT TO GENERAL PURPOSE RECEPTACLE CIRCUIT FROM EAST MECH ROOM BELOW.



MECHANICAL ROOM EAST ROOF - ELECTRICAL NEW WORK
SCALE: 1/4" = 1'-0"



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Missouri # PE-2014032649

REVISIONS	Description	Date	No.

DATE: 02/14/2024
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MECHANICAL ROOM EAST ROOF - ELECTRICAL NEW WORK
E3.2