

ORANGE COUNTY, FLORIDA

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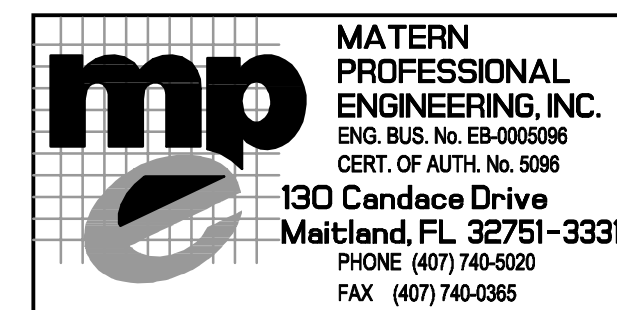
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CORRECTIONS HORIZON ELEVATOR MODERNIZATION

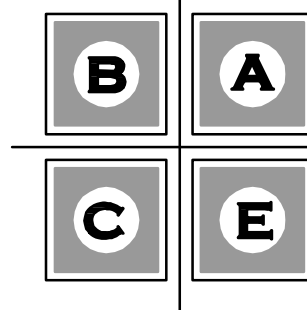
03-07-14
100% CONSTRUCTION DOCUMENTS



PRIME CONSULTANT
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**BOBES ASSOCIATES
CONSULTING ENGINEERS, INC.**
150 CIRCLE DRIVE
MAITLAND, FL 32751

MEP ENGINEER
BOBES ASSOCIATES CONSULTING ENGINEERS, INC. EB #5181
GUS BOBES JR. P.E. PRESIDENT PE #39410

REFERENCE

PH-1.1 OVERALL PHASING PLAN - LEVEL 8 AND 9

HVAC

M-0.1 HVAC GENERAL NOTES, SYMBOL LEGEND AND SCHEDULES
MD-2.1 LEVEL 8 AND 9 - FLOOR PLAN - HVAC - DEMOLITION
M-2.1 LEVEL 8 AND 9 - FLOOR PLAN - HVAC - RENOVATION
M-5.1 HVAC DETAILS

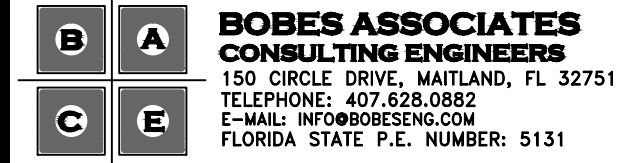
ELECTRICAL

ED-2.1 LEVEL 1 AND 8 - FLOOR PLANS - ELECTRICAL - DEMOLITION
E-2.1 LEVEL 1 AND 8 - FLOOR PLANS - ELECTRICAL - RENOVATION

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ORANGE COUNTY CORRECTIONS HORIZON ELEVATOR MODERNIZATION

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FLORIDA P.E. # 39410


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 FLORIDA STATE P.E. NUMBER: 5131

Revisions

No.	Date	Description

Key Plan

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 Designed By: ABJR
 Drawn By: MB
 Checked By: ABJR
 Issue Date: 03/07/14
 Drawing Scale: 1/4" = 1'-0"

**OVERALL PHASING PLAN
 LEVEL 8 AND 9**

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Drawing No.
PH-1.1

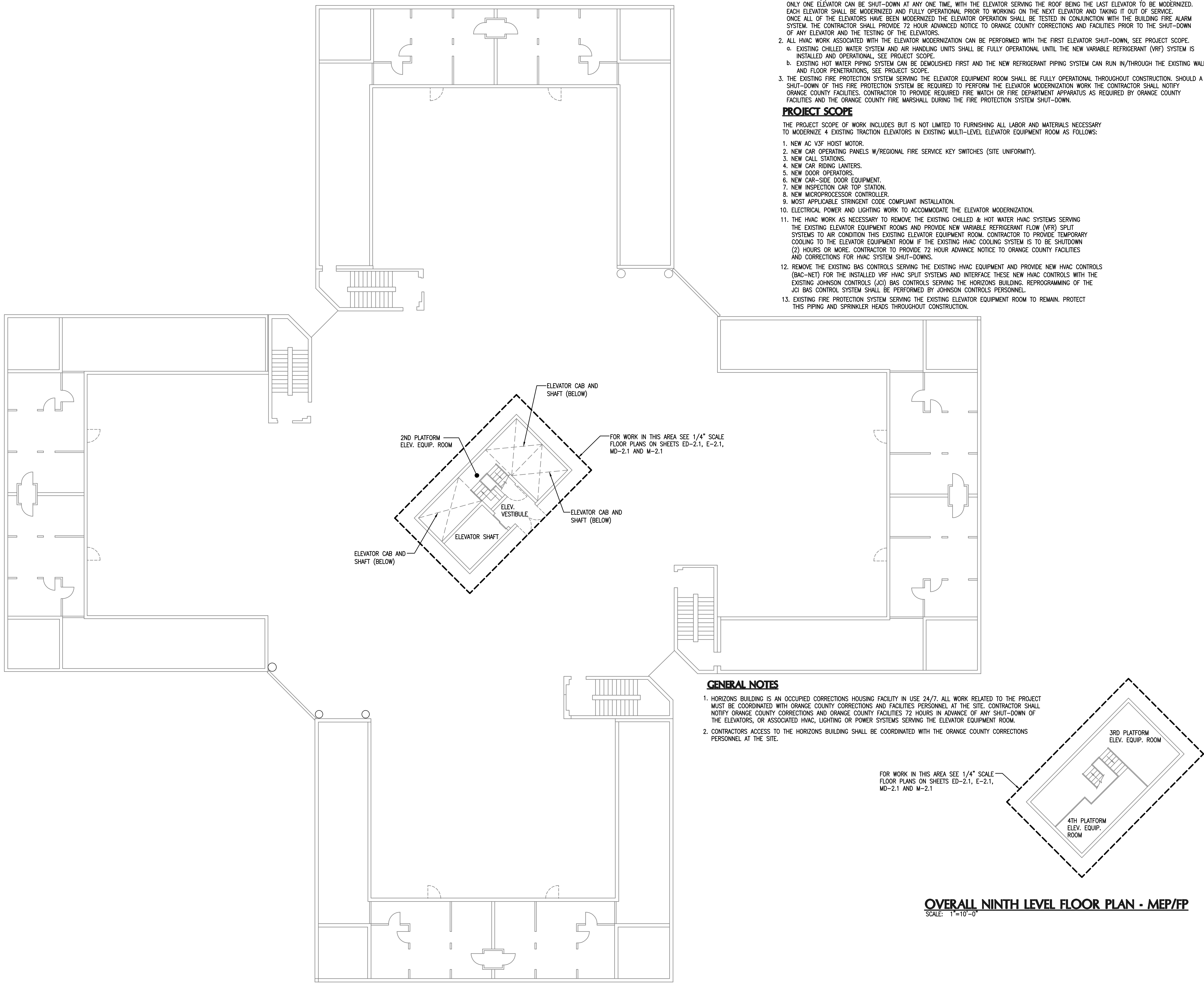
PHASING PLAN

1. THERE ARE (4) EXISTING HOIST ELEVATORS SERVING THE HORIZONS BUILDING AND ONLY ONE ELEVATOR SERVES THE ROOF LEVEL (8TH LEVEL). ONLY ONE ELEVATOR CAN BE SHUT-DOWN AT ANY ONE TIME, WITH THE ELEVATOR SERVING THE ROOF BEING THE LAST ELEVATOR TO BE MODERNIZED. EACH ELEVATOR SHALL BE MODERNIZED AND FULLY OPERATIONAL PRIOR TO WORKING ON THE NEXT ELEVATOR AND TAKING IT OUT OF SERVICE. ONCE ALL OF THE ELEVATORS HAVE BEEN MODERNIZED THE ELEVATOR OPERATION SHALL BE TESTED IN CONJUNCTION WITH THE BUILDING FIRE ALARM SYSTEM. THE CONTRACTOR SHALL PROVIDE 72 HOUR ADVANCED NOTICE TO ORANGE COUNTY CORRECTIONS AND FACILITIES PRIOR TO THE SHUT-DOWN OF ANY ELEVATOR AND THE TESTING OF THE ELEVATORS.
2. ALL HVAC WORK ASSOCIATED WITH THE ELEVATOR MODERNIZATION CAN BE PERFORMED WITH THE FIRST ELEVATOR SHUT-DOWN, SEE PROJECT SCOPE.
 - a. EXISTING CHILLED WATER SYSTEM AND AIR HANDLING UNITS SHALL BE FULLY OPERATIONAL UNTIL THE NEW VARIABLE REFRIGERANT (VRF) SYSTEM IS INSTALLED AND OPERATIONAL, SEE PROJECT SCOPE.
 - b. EXISTING HOT WATER PIPING SYSTEM CAN BE DEMOLISHED FIRST AND THE NEW REFRIGERANT PIPING SYSTEM CAN RUN IN/THROUGH THE EXISTING WALL AND FLOOR PENETRATIONS, SEE PROJECT SCOPE.
3. THE EXISTING FIRE PROTECTION SYSTEM SERVING THE ELEVATOR EQUIPMENT ROOM SHALL BE FULLY OPERATIONAL THROUGHOUT CONSTRUCTION. SHOULD A SHUT-DOWN OF THIS FIRE PROTECTION SYSTEM BE REQUIRED TO PERFORM THE ELEVATOR MODERNIZATION WORK THE CONTRACTOR SHALL NOTIFY ORANGE COUNTY FACILITIES. CONTRACTOR TO PROVIDE REQUIRED FIRE WATCH OR FIRE DEPARTMENT APPARATUS AS REQUIRED BY ORANGE COUNTY FACILITIES AND THE ORANGE COUNTY FIRE MARSHALL DURING THE FIRE PROTECTION SYSTEM SHUT-DOWN.

PROJECT SCOPE

THE PROJECT SCOPE OF WORK INCLUDES BUT IS NOT LIMITED TO FURNISHING ALL LABOR AND MATERIALS NECESSARY TO MODERNIZE 4 EXISTING TRACTION ELEVATORS IN EXISTING MULTI-LEVEL ELEVATOR EQUIPMENT ROOM AS FOLLOWS:

1. NEW AC V3F HOIST MOTOR.
2. NEW CAR OPERATING PANELS W/REGIONAL FIRE SERVICE KEY SWITCHES (SITE UNIFORMITY).
3. NEW CALL STATIONS.
4. NEW CAR RIDING LANTERS.
5. NEW DOOR OPERATORS.
6. NEW CAR-SIDE DOOR EQUIPMENT.
7. NEW INSPECTION CAR TOP STATION.
8. NEW MICROPROCESSOR CONTROLLER.
9. MOST APPLICABLE STRINGENT CODE COMPLIANT INSTALLATION.
10. ELECTRICAL POWER AND LIGHTING WORK TO ACCOMMODATE THE ELEVATOR MODERNIZATION.
11. THE HVAC WORK AS NECESSARY TO REMOVE THE EXISTING CHILLED & HOT WATER HVAC SYSTEMS SERVING THE EXISTING ELEVATOR EQUIPMENT ROOMS AND PROVIDE NEW VARIABLE REFRIGERANT FLOW (VRF) SPLIT SYSTEMS TO AIR CONDITION THIS EXISTING ELEVATOR EQUIPMENT ROOM. CONTRACTOR TO PROVIDE TEMPORARY COOLING TO THE ELEVATOR EQUIPMENT ROOM IF THE EXISTING HVAC COOLING SYSTEM IS TO BE SHUT-DOWN (2) HOURS OR MORE. CONTRACTOR TO PROVIDE 72 HOUR ADVANCE NOTICE TO ORANGE COUNTY FACILITIES AND CORRECTIONS FOR HVAC SYSTEM SHUT-DOWNS.
12. REMOVE THE EXISTING BAS CONTROLS SERVING THE EXISTING HVAC EQUIPMENT AND PROVIDE NEW HVAC CONTROLS (BAC-NET) FOR THE INSTALLED VRF HVAC SPLIT SYSTEMS AND INTERFACE THESE NEW HVAC CONTROLS WITH THE EXISTING JOHNSON CONTROLS (JCI) BAS CONTROLS SERVING THE HORIZONS BUILDING. REPROGRAMMING OF THE JCI BAS CONTROL SYSTEM SHALL BE PERFORMED BY JOHNSON CONTROLS PERSONNEL.
13. EXISTING FIRE PROTECTION SYSTEM SERVING THE EXISTING ELEVATOR EQUIPMENT ROOM TO REMAIN. PROTECT THIS PIPING AND SPRINKLER HEADS THROUGHOUT CONSTRUCTION.



OVERALL EIGHTH LEVEL (ROOF) FLOOR PLAN - MEP/FP
 SCALE: 1"=10'-0"

OVERALL NINTH LEVEL FLOOR PLAN - MEP/FP
 SCALE: 1"=10'-0"

ORANGE COUNTY CORRECTIONS HORIZON ELEVATOR MODERNIZATION

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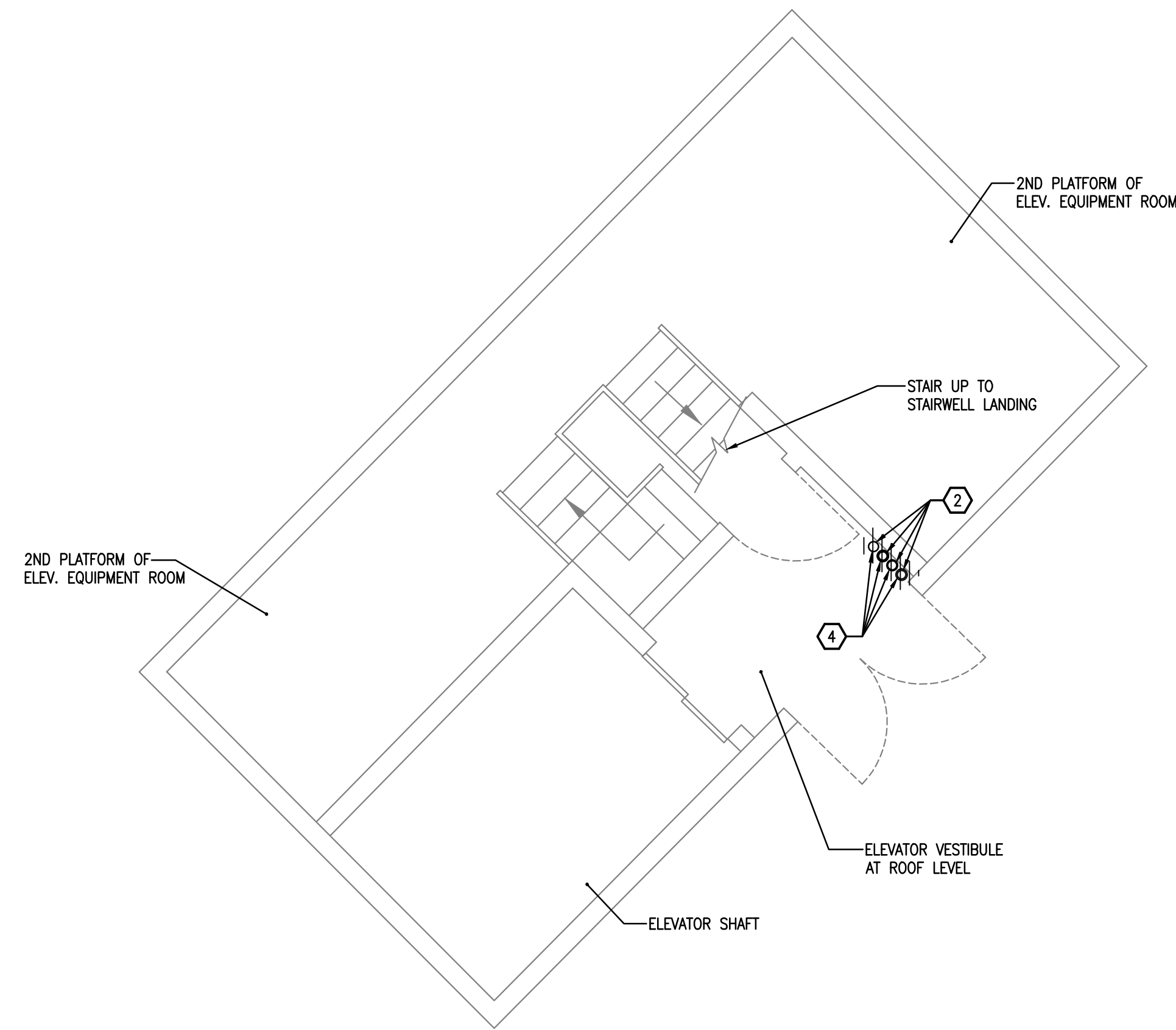
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Drawing Title:
LEVEL 8 AND 9 FLOOR PLAN HVAC DEMOLITION

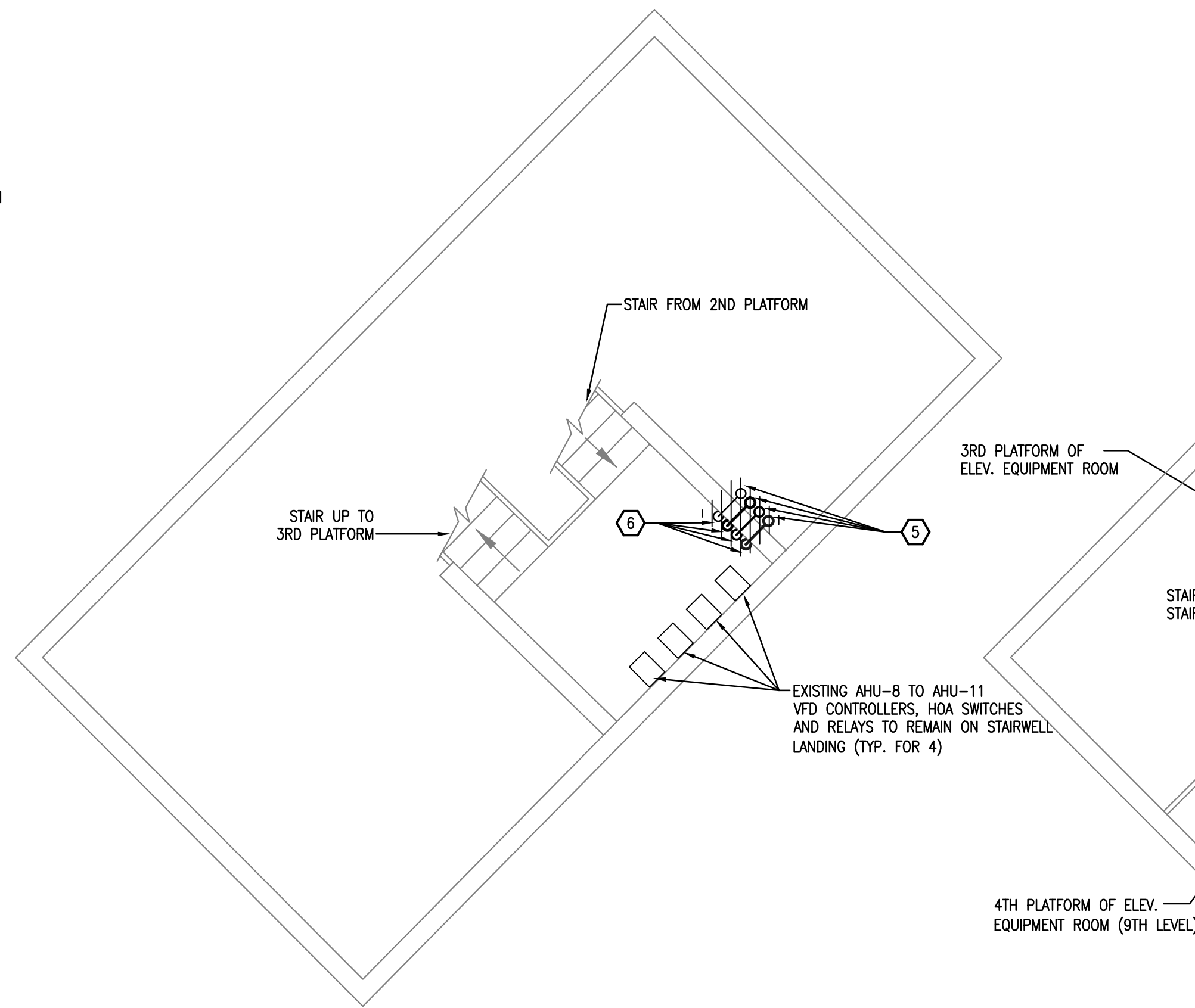
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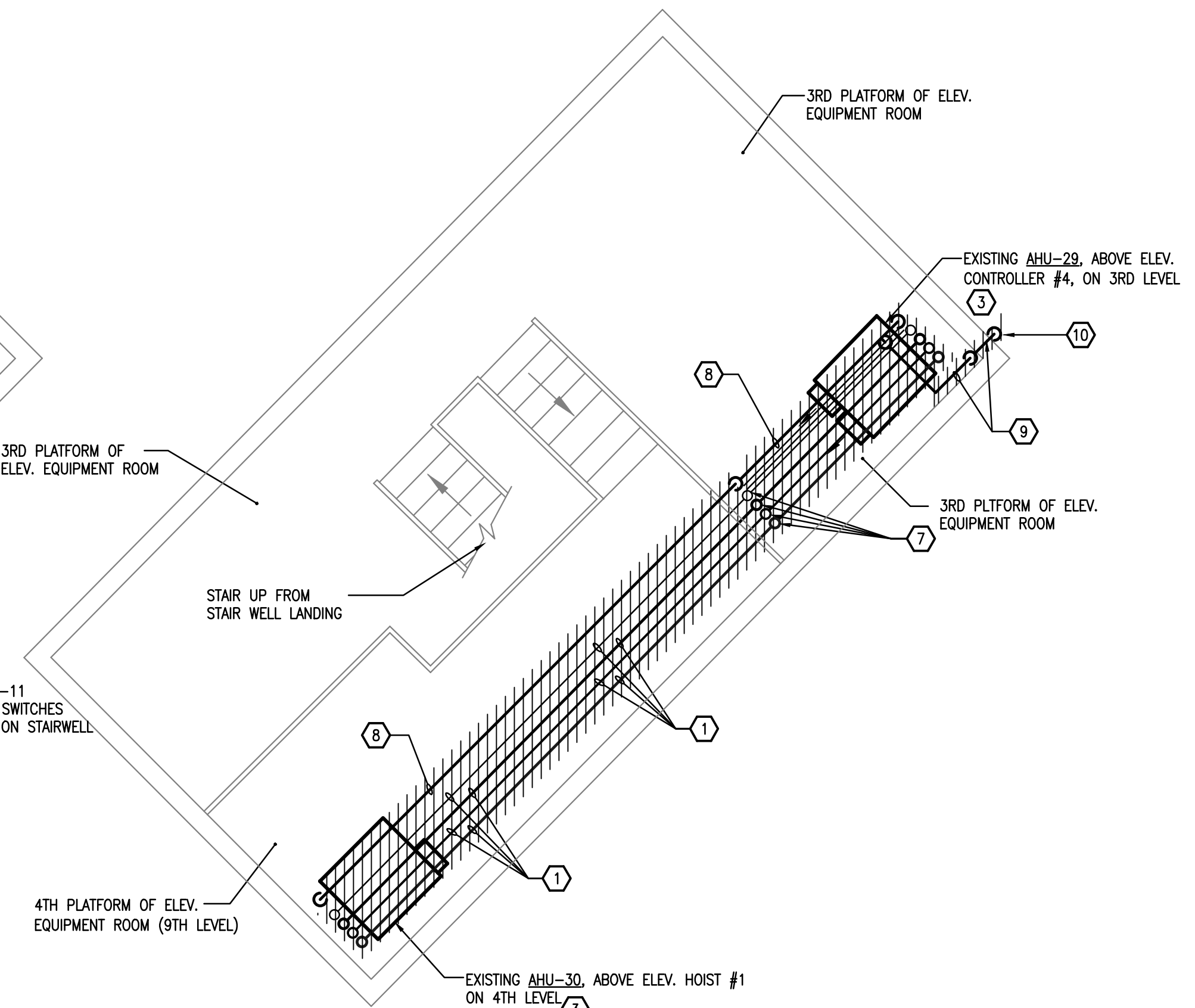
MD-2.1



EIGHTH LEVEL FLOOR PLAN (ROOF) - HVAC - DEMOLITION
 SCALE: 1/4"=1'-0"



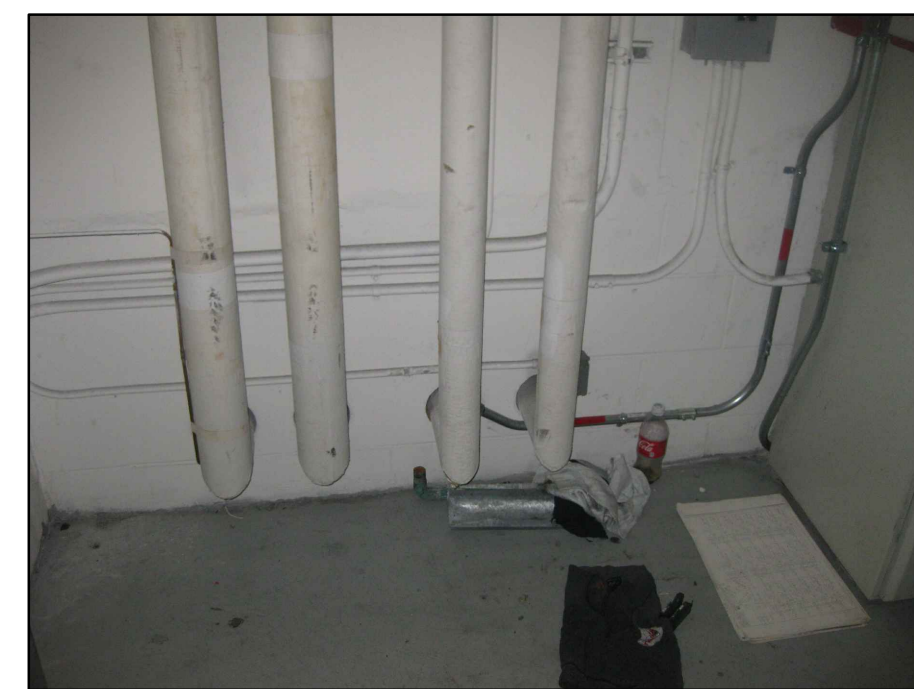
STAIRWELL LANDING FLOOR PLAN - HVAC - DEMOLITION
 SCALE: 1/4"=1'-0"



NINTH LEVEL FLOOR PLAN - HVAC - DEMOLITION
 SCALE: 1/4"=1'-0"



EXISTING CHILLED WATER AND HOT WATER PIPING THROUGH FLOOR TO BE REMOVED IN IT'S ENTIRETY (ROOF ELEV. VESTIBULE TO 2ND PLATFORM)



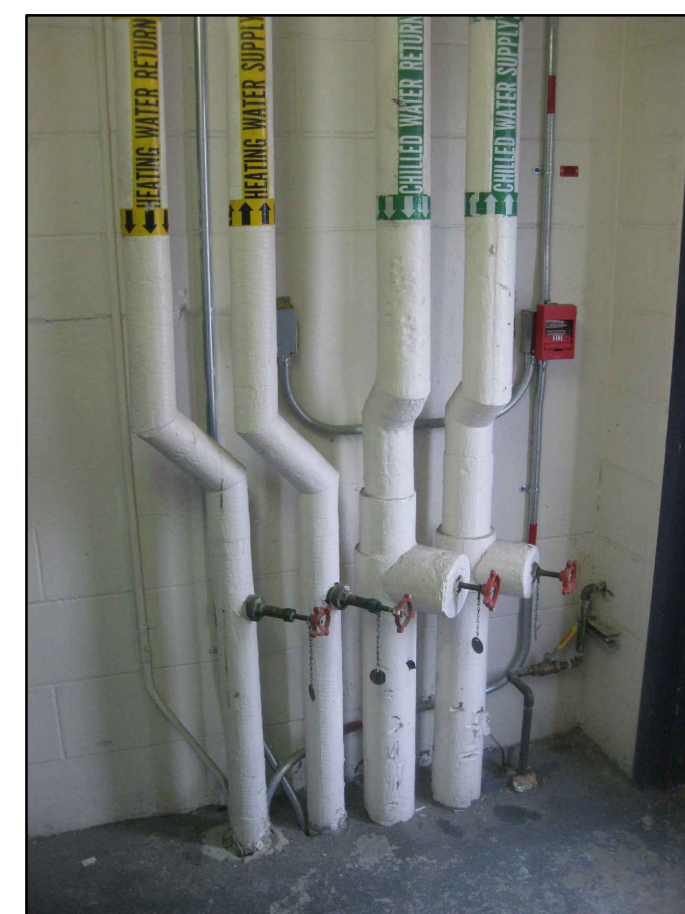
EXISTING CHILLED WATER AND HOT WATER PIPING TO BE REMOVED IN IT'S ENTIRETY



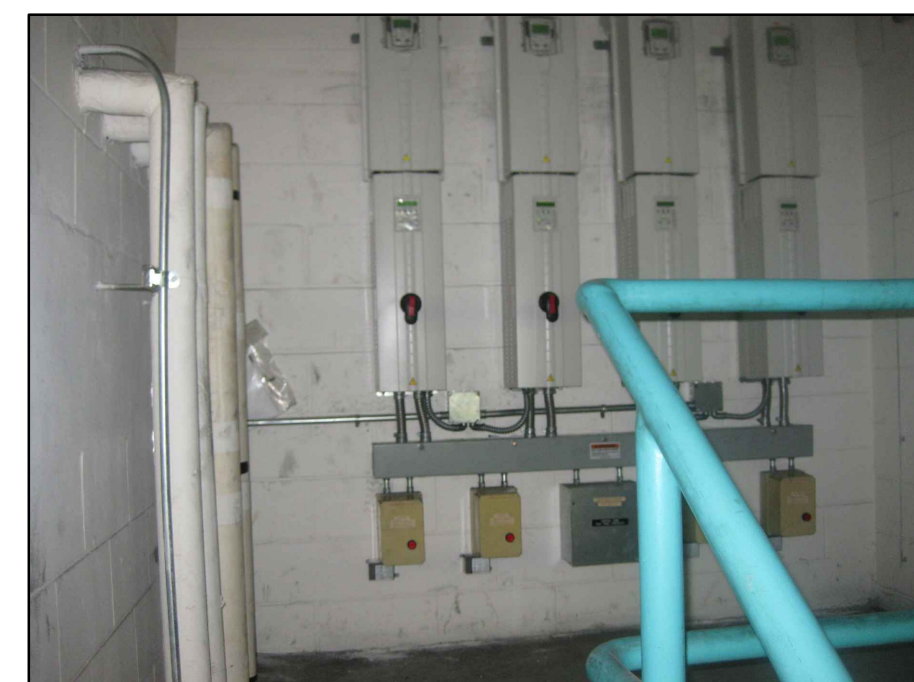
EXISTING CHILLED WATER, HOT WATER PIPING AND CONDENSATE PIPING TO BE REMOVED IN IT'S ENTIRETY (TO AHU-29 & AHU-30)



EXISTING AHU-30 AND ALL ASSOCIATED CHILLED WATER, HOT WATER AND CONDENSATE DRAIN PIPING TO BE REMOVED IN IT'S ENTIRETY



EXISTING CHILLED WATER AND HOT WATER PIPING TO BE REMOVED AND CAPPED (ROOF ELEVATOR VESTIBULE)



EXISTING HVAC CONTROLLERS SERVING EXISTING AIR HANDLING UNITS TO REMAIN. CHILLED AND HOT WATER PIPING TO BE REMOVED (STAIR WELL LANDING)



EXISTING CHILLED WATER AND HOT WATER PIPING TO BE REMOVED IN IT'S ENTIRETY (AHU-29 BEHIND PIPING)



EXISTING AHU-29 AND ALL ASSOCIATED CHILLED WATER, HOT WATER AND CONDESANTE DRAIN PIPING TO BE REMOVED IN IT'S ENTIRETY

HVAC KEY NOTES

- EXISTING INSULATED CHILLED WATER AND HOT WATER PIPING TO BE REMOVED IN IT'S ENTIRETY FROM CONNECTION TO AIR HANDLING EQUIPMENT TO POINT INDICATED, SEE HVAC KEY NOTE #4. REMOVE ALL PIPE HANGERS AND SUPPORTS. PATCH EXISTING PIPE WALL AND FLOOR PENETRATIONS NOT BEING REUSED FROM REMOVED PIPING TO MATCH EXISTING CONSTRUCTION.
- EXISTING INSULATED VERTICAL CHILLED WATER AND HOT WATER PIPING TO BE REMOVED IN ITS ENTIRETY. SEE HVAC KEY NOTE #4. REMOVE ALL PIPE HANGERS AND SUPPORTS. PATCH EXISTING FLOOR PENETRATIONS TO MATCH EXISTING CONSTRUCTION.
- EXISTING HORIZONTAL CHILLED WATER AIR HANDLING UNIT (5 TON) TO BE REMOVED IN IT'S ENTIRETY. REMOVE ALL STRUCTURAL SUPPORTS, CONTROLS, CONTROL WIRING, CONDENSATE PAN AND CONDENSATE PIPING ETC., DISCONNECT POWER WIRING TO AIR HANDLING UNITS. EXISTING BUILDING TEMPERATURE CONTROLS (BAS) ARE JOHNSON CONTROLS (JCI) ALL CONTROL DEVICES AND CONTROL WIRING SHALL BE REMOVED BY JCI AND ANY RE-PROGRAMMING OF THE EXISTING BAS CONTROL SYSTEM SHALL BE PERFORMED BY JCI.
- EXISTING CHILLED WATER VALVES AND PIPING UP THOUGH FLOOR AND INCLUDING THE EXISTING SHUT-OFF VALVES TO REMAIN. REMOVE ALL CHILLED WATER AND HOT WATER PIPING ABOVE THE SHUT-OFF VALVES. CAP REMAINING END OF SHUT-OFF VALVE. PROVIDE NEW PIPE IDENTIFICATION LABELS ON REMAINING PIPING ABOVE THE FLOOR.
- EXISTING INSULATED VERTICAL CHILLED WATER AND HOT WATER PIPES TO BE REMOVED. REMOVE ALL PIPE HANGERS AND SUPPORTS. CONTRACTOR PATCH EXISTING FLOOR AND WALL PENETRATIONS NOT BEING RE-USED TO MATCH EXISTING CONSTRUCTION.
- EXISTING INSULATED VERTICAL CHILLED WATER AND HOT WATER PIPES DOWN - TO BE REMOVED. REMOVE ALL PIPE HANGERS AND SUPPORTS. CONTRACTOR TO PATCH EXISTING PIPE PENETRATIONS NOT BEING RE-USED TO MATCH EXISTING CONSTRUCTION.
- EXISTING INSULATED VERTICAL CHILLED WATER AND HOT WATER PIPES AT 3RD PLATFORM UP TO 4TH PLATFORM TO BE REMOVED. REMOVE ALL PIPE HANGERS AND SUPPORTS.
- EXISTING INSULATED CONDENSATE DRAIN PIPING AT 4TH PLATFORM TO BE REMOVED. REMOVE ALL PIPE HANGERS AND SUPPORTS.
- EXISTING INSULATED CONDENSATE DRAIN PIPING FROM AHU-29 & AHU-30 AT 3RD PLATFORM RUN DOWN TO FLOOR AND STUBBED OUT OF WALL TO BE REMOVED. REMOVE ALL PIPE HANGERS AND SUPPORTS. EXISTING WALL PENETRATION TO BE RE-USED FOR NEW CONDENSATE DRAIN PIPING.
- EXISTING INSULATED CONDENSATE DRAIN PIPING RUN DOWN EXTERIOR WALL TO NEAREST ROOF DRAIN TO BE REMOVED. REMOVE ALL PIPE HANGERS AND SUPPORTS.

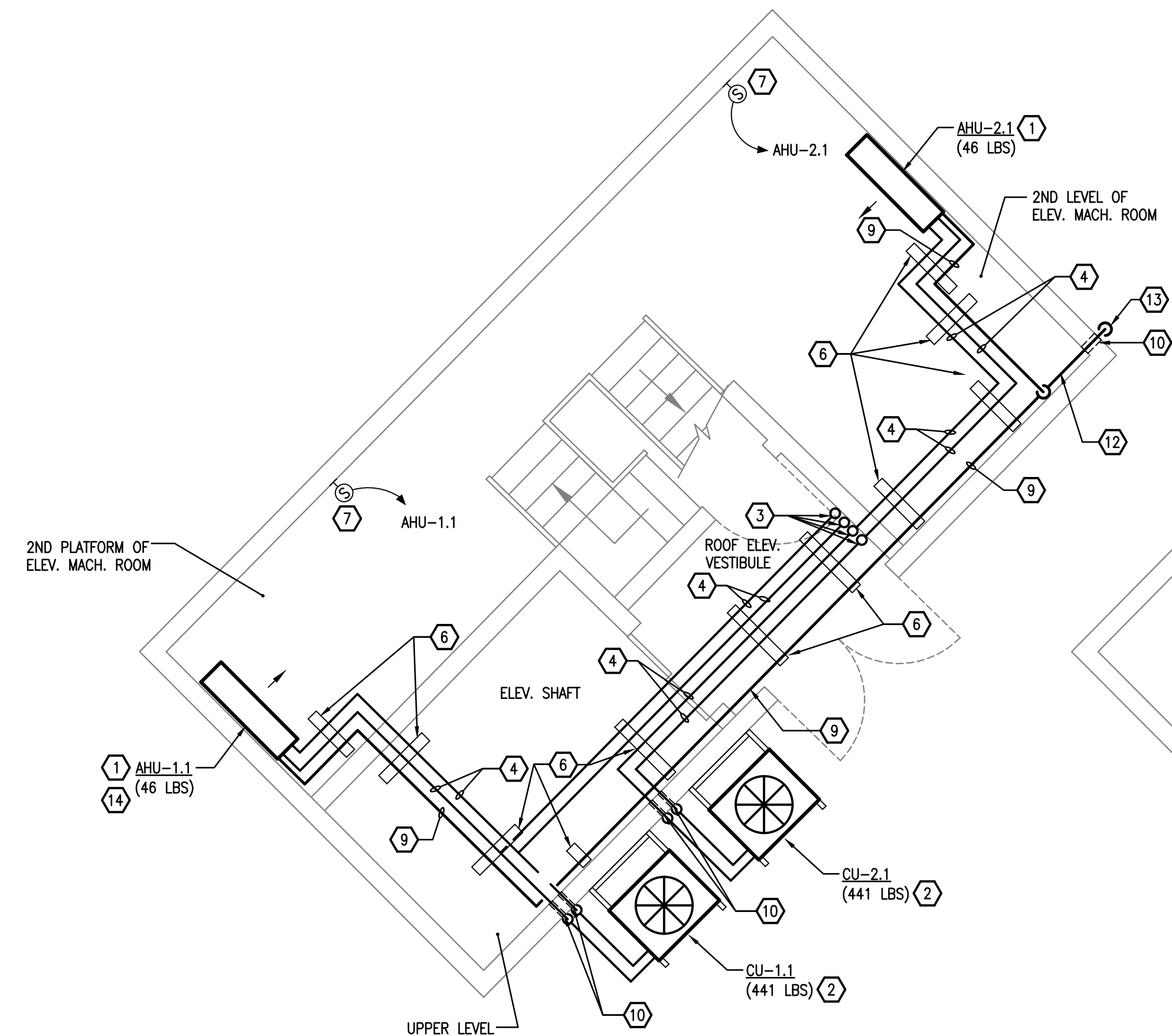
HVAC GENERAL NOTES

- EXISTING FIRE/SPRINKLER PIPING AND SPRINKLER HEADS TO REMAIN. CONTRACTOR TO PROTECT THIS PIPING AND SPRINKLER HEADS THROUGH OUT CONSTRUCTION.
- EXISTING CHILLED AND HOT WATER PIPING SYSTEMS IN THE ELEVATOR EQUIPMENT ROOM SHALL BE DRAINED PRIOR TO THEIR REMOVAL. COORDINATE WITH ORANGE COUNTY FACILITIES TO LOCATE THE DRAIN POINT OR PROVIDE NEW 3/4" TAPS TO DRAIN THIS PIPING SYSTEM. COORDINATE WITH ORANGE COUNTY FACILITIES CHEMICAL TREATMENT CONTRACTOR/VENDOR TO MAINTAIN AND TEST EXISTING CHILLED WATER AND HOT WATER CHEMICAL LEVELS OF THESE EXISTING WATER SYSTEMS. WATER DRAINED FROM THIS WATER SYSTEM SHALL NOT BE DISCHARGED INTO EXISTING STORM DRAINAGE SYSTEM DUE TO CHEMICAL TREATMENT OF THESE WATER SYSTEMS.

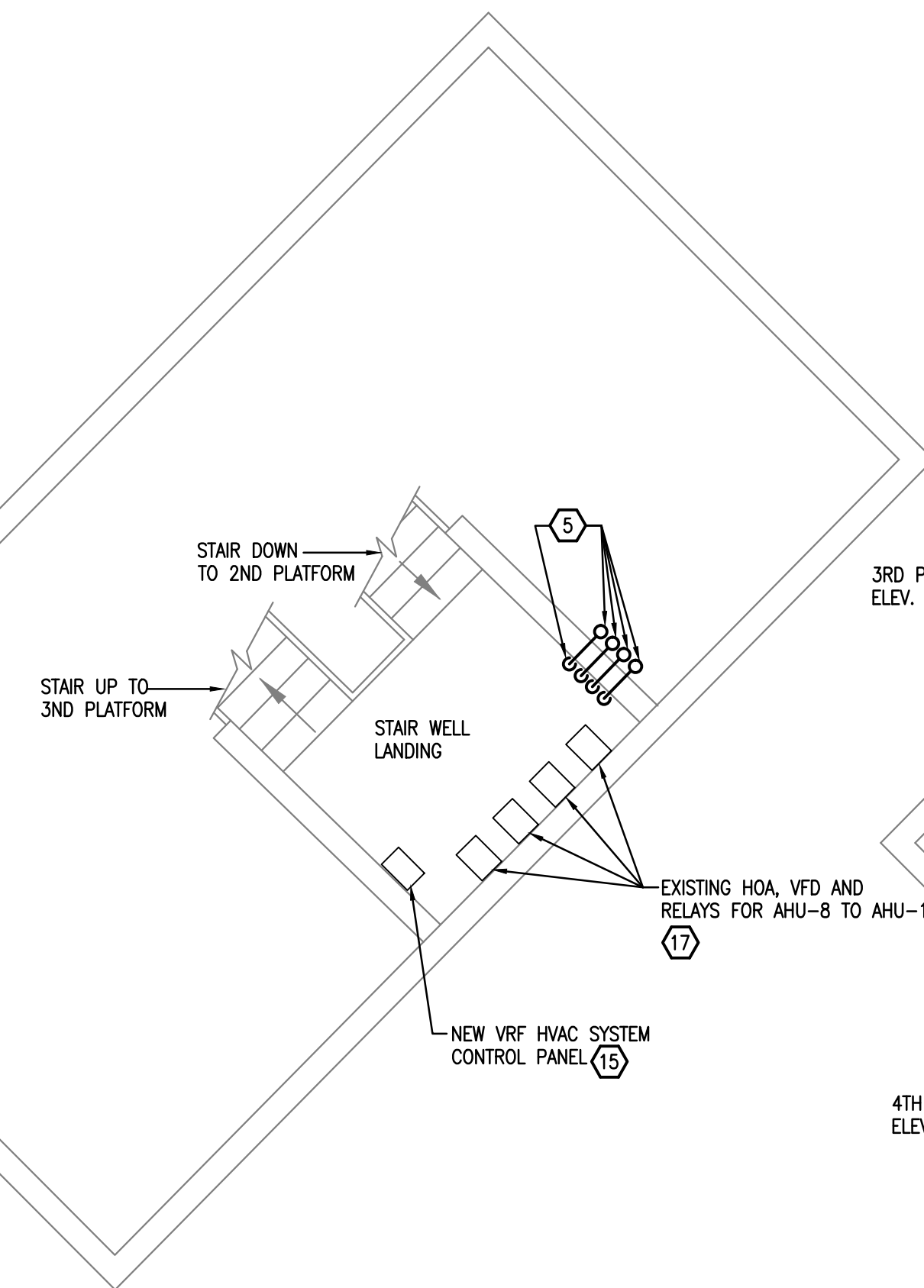
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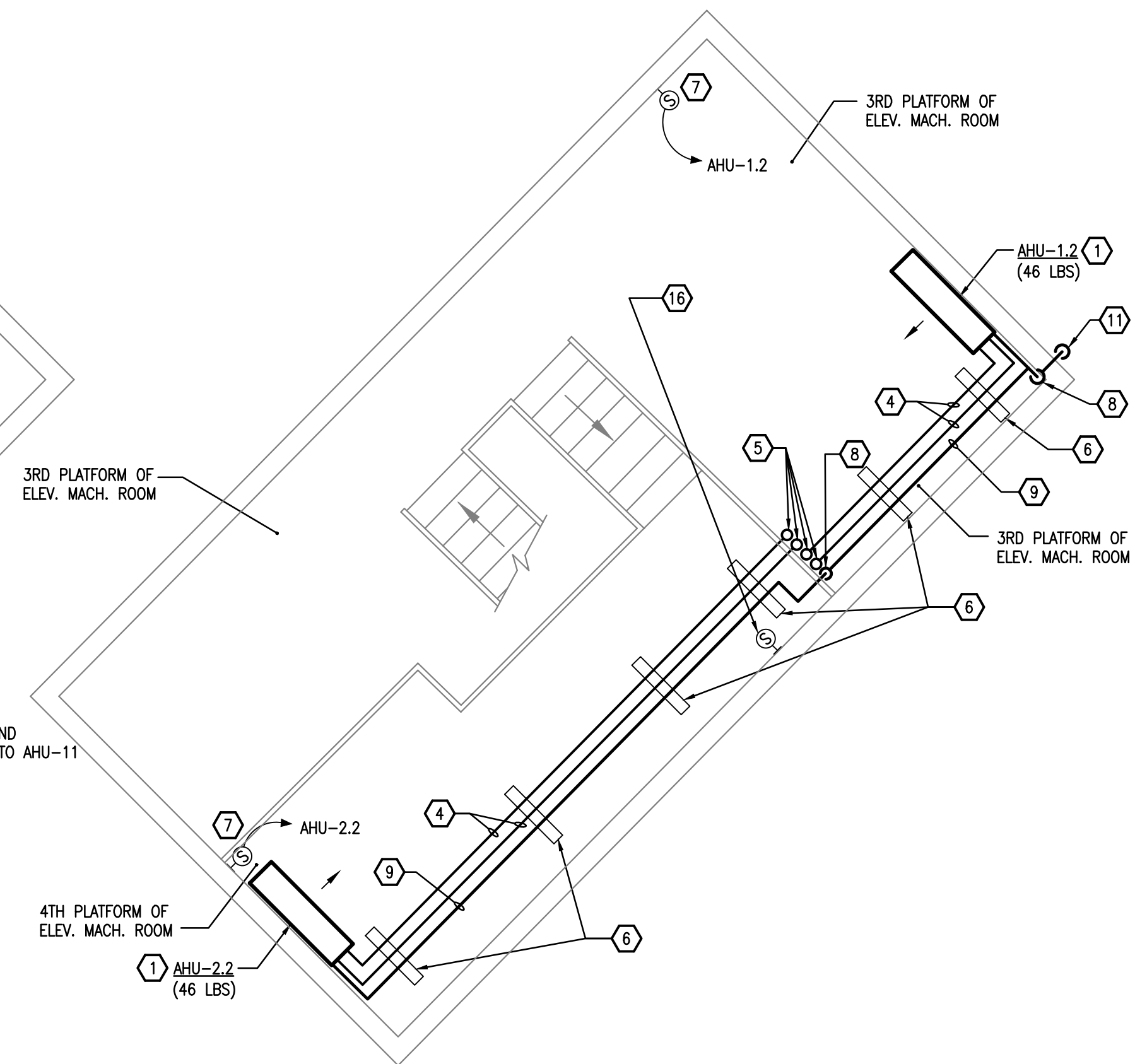
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EIGHTH LEVEL FLOOR PLAN - HVAC - RENOVATION
 SCALE: 1/4"=1'-0"



STAIR WELL LANDING LEVEL FLOOR PLAN - HVAC - RENOVATION
 SCALE: 1/4"=1'-0"



NINTH LEVEL FLOOR PLAN - HVAC - RENOVATION
 SCALE: 1/4"=1'-0"

HVAC RENOVATION KEY NOTES

- 1 NEW CARTRIDGE TYPE WALL MOUNTED AIR HANDLING UNIT. SEE MOUNTING DETAIL ON SHEET M-5.1.
- 2 NEW AIR COOLED CONDENSING UNIT MOUNTED ON WALL BRACKET. BOTTOM OF CU TO BE 3'-0" ABOVE MAIN ROOF BELOW CU. SEE MOUNTING DETAIL ON SHEET M-5.1.
- 3 NEW INSULATED REFRIGERANT PIPING UP ALONG WALL - PROVIDE VERTICAL SUPPORT / ATTACHMENT TO WALL EVERY 5'-0".
- 4 NEW INSULATED REFRIGERANT PIPING SUSPENDED FROM STRUCTURE USING KINDORF TRAPEZE TYPE PIPE HANGERS.
- 5 NEW INSULATED REFRIGERANT PIPING DOWN ALONG WALL - PROVIDE VERTICAL SUPPORT / ATTACHMENT TO WALL EVERY 5'-0". OFFSET PIPING AS REQUIRED AT STAIR WALL LANDING AND REUSE EXISTING FLOOR AND WALL PIPE PENETRATIONS AS NEEDED.
- 6 PROVIDE KINDORF TRAPEZE TYPE REFRIGERANT PIPE SUPPORT WITH 1/4" THREADED ROD ATTACHED TO STRUCTURE. CONTRACTOR MAY REUSE EXISTING SUPPORTS AND SHALL ADD NEW SUPPORTS AS NECESSARY.
- 7 NEW WALL MOUNTED TEMPERATURE SENSOR CONNECTED TO AHU/HPU THROUGH VRF MANUFACTURERS CONTROLLER PROVIDE INTERFACE WITH EXISTING JOHNSON CONTROLS BUILDING MANAGEMENT SYSTEM (BAS). CONTRACTOR TO COORDINATE FINAL LOCATION OF TEMPERATURE SENSOR WITH NEWLY INSTALLED ELEVATOR CONTROLLERS.
- 8 1 1/2" SCHEDULE 40 PVC INSULATED CONDENSATE DRAIN LINE DOWN TO EXISTING WALL PENETRATION AND STUB-OUT WALL. ENLARGE EXISTING WALL PENETRATION AS REQUIRED.
- 9 1" SCHEDULE 40 PVC INSULATED CONDENSATE DRAIN LINE. SLOPE DRAIN LINE MINIMUM 1/8"/FT (1%).
- 10 CONTRACTOR SHALL CORE DRILL CONCRETE MASONRY AS NECESSARY TO INSTALL NEW INSULATED REFRIGERANT PIPING OR CONDENSATE DRAIN PIPING. SEAL PIPE PENETRATION WATER TIGHT.
- 11 1 1/2" SCHEDULE 40 PVC INSULATED CONDENSATE DRAIN LINE DOWN THE EXISTING EXTERIOR WALL. PROVIDE NEW PIPE SUPPORTS AS REQUIRED.
- 12 1 1/2" SCHEDULE 40 PVC INSULATED CONDENSATE DRAIN LINE STUB-OUT THROUGH THE EXISTING EXTERIOR AND CONNECT TO 2" CONDENSATE RISER. PROVIDE NEW PIPE SUPPORTS AS REQUIRED.
- 13 2" SCHEDULE 40 PVC INSULATED CONDENSATE DRAIN LINE DOWN AND 1 1/2" CONDENSATE DRAIN UP THE EXISTING EXTERIOR WALL. PROVIDE NEW PIPE SUPPORTS AS REQUIRED. RUN 2" INSULATED CONDENSATE DRAIN ALONG ROOF TO NEAREST ROOF DRAIN. PROVIDE ALUMINUM JACKET OVER PIPE INSULATION EXPOSED TO OUTDOORS.
- 14 IF THE SLOPE OF THE RUN OF THE CONDENSATE DRAIN FROM AHU-1.1 CAN NOT BE MAINTAINED WITH OUT INTERFERENCE FROM STRUCTURE OR OTHER ITEMS PROVIDE MANUFACTURERS CONDENSATE PUMP. PROVIDE 120 VOLT POWER FOR CONDENSATE PUMP, COORDINATE WITH ELECTRICAL CONTRACTOR.
- 15 NEW VRF HVAC SYSTEM CONTROLS SHALL BE INTERFACED WITH THE EXISTING JOHNSON CONTROLS (JCI) BAS SYSTEM. JCI CONTROLS SHALL MONITOR AND PROVIDE SET-POINT ADJUSTMENTS OR ALARMS FROM THE VRF CONTROL SYSTEM (BAC-NET).
- 16 NEW WALL SENSOR CONNECTED TO JCI BAS CONTROLS SET FOR 85°F (ADJUSTABLE) TO ALARM BAS SYSTEM IF TEMPERATURE IN THE SPACE EXCEEDS SET-POINT. CONTRACTOR TO COORDINATE LOCATION OF TEMPERATURE SENSOR WITH NEWLY INSTALLED ELEVATOR CONTROLLERS AND ELECTRICAL DEVICES.
- 17 CONTRACTOR SHALL PROTECT EXISTING WALL MOUNTED HOA SWITCHES, VFDs AND RELAYS THROUGHOUT CONSTRUCTION.

SEQUENCE OF OPERATION

1. THE CARTRIDGE TYPE AIR HANDLING UNITS (AHU-1.1, AHU-1.2, AHU-2.1 AND AHU-2.2) AND THEIR RESPECTIVE CONDENSING UNITS (CU-1.1 AND CU-2.1) SHALL RUN 24/7 AND SHALL CYCLE ON/OFF AS NECESSARY TO MAINTAIN THE ELEVATOR EQUIPMENT ROOM SPACE SET POINT TEMPERATURE OF 78°F (ADJUSTABLE).
2. THE HEATING OPERATION OF THE AIR HANDLING UNITS (AHU-1.1, AHU-1.2, AHU-2.1 AND AHU-2.2) AND CONDENSING UNITS (CU-1.1 AND CU-2.1) SHALL BE LOCKED OUT AND SHALL BE INOPERABLE.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL A TOTAL OF (4) WALL MOUNTED TEMPERATURE SENSORS IN THE ELEVATOR EQUIPMENT ROOM AND SHALL INTEGRATE THEM INTO THE NEW VRF CONTROL SYSTEM. THE EXISTING JOHNSON CONTROL (JCI) BUILDING BAS SYSTEM SHALL INTERFACE WITH THE VRF CONTROLS TO MONITOR AND CONTROL THE SENSORS AND VRF SPLIT SYSTEM OPERATION. PROVIDE AN ADDITIONAL WALL TEMPERATURE SENSOR WHICH SHALL ALARM THE EXISTING BAS UPON ELEVATOR EQUIPMENT ROOM REACHING A TEMPERATURE OF 85°F (ADJUSTABLE).
4. CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY CONTROLLERS, CONTROL WIRING, CONDUIT, INTERFACE, MODULES, TRANSFORMERS ETC. FOR THE NEW VARIABLE REFRIGERANT (VRF) SPLIT SYSTEMS TO BE CONTROLLED BY THE EXISTING JOHNSON CONTROLS BUILDING AUTOMATION CONTROL SYSTEM (BAS).
5. SEE POINTS SCHEDULE ON THIS SHEET. SEE SPECIFICATIONS SECTION 15700 AND 15900 FOR BAS CONTROLS ADDITIONAL INFORMATION.

DEVICE	POINTS SCHEDULE																														
	INPUTS						OUTPUTS				SOFTWARE																				
	ANALOG			DIGITAL			ANALOG		DIGITAL		APPLICATIONS																				
	FLOW RATES GPM	LOADS MWH	OA TEMPERATURE	OUTSIDE AIR HUMIDITY	ROOM TEMPERATURE	ROOM HUMIDITY	SUPPLY AIR TEMPERATURE	RETURN AIR TEMPERATURE	RA HUMIDITY	STATIC PRESSURE (WC)	AIR FLOW (WIC)	FILTER STATUS	FAN SPEED	RUN STATUS, CURRENT SENSORS	STATUS, DIFFERENTIAL PRESS.	OVERRIDE (OCCUP/UNOCCUP)	ELEC. HEAT STAGING	WAY DAMPER POSITION	START/STOP	O.A. DAMPER (OPEN/CLOSE)	ELECTRIC HEAT LOCK-OUT (BY STAGES)	CONDENSING UNIT LOCK-OUT	NIGHT SETBACK	OCCUP/UNOCCUP	OPTIMAL START/STOP	DEMAND LIMITING	DUTY CYCLING	DYNAMIC COLOR GRAPHIC	SOFTWARE INTERLOCK		
VRF CONTROL SYSTEM			X																												
AIR HANDLING UNIT AHU-1.1																															
AIR HANDLING UNIT AHU-1.2																															
AIR HANDLING UNIT AHU-2.1																															
AIR HANDLING UNIT AHU-2.2																															
CONDENSING UNIT CU-1.1																															
CONDENSING UNIT CU-2.1																															
ELEVATOR EQUIPMENT ROOM				X																											

PROVIDE INTERFACE MODULES/CONTROLLERS NECESSARY TO INTEGRATE/INTERFACE THE NEW A/C EQUIPMENT CONTROLS WITH EXISTING JOHNSON CONTROL (JCI) BAS SYSTEM. SEE SPECIFICATION SECTION 15700 FOR VRF CONTROL POINTS AND INFORMATION. ALL VRF CONTROL POINTS AND ALARMS SHALL MONITORED BY THE EXISTING BAS CONTROL SYSTEM.

Revisions

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Drawing Title:
 LEVEL 8 AND 9 FLOOR PLAN HVAC RENOVATION

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M-2.1

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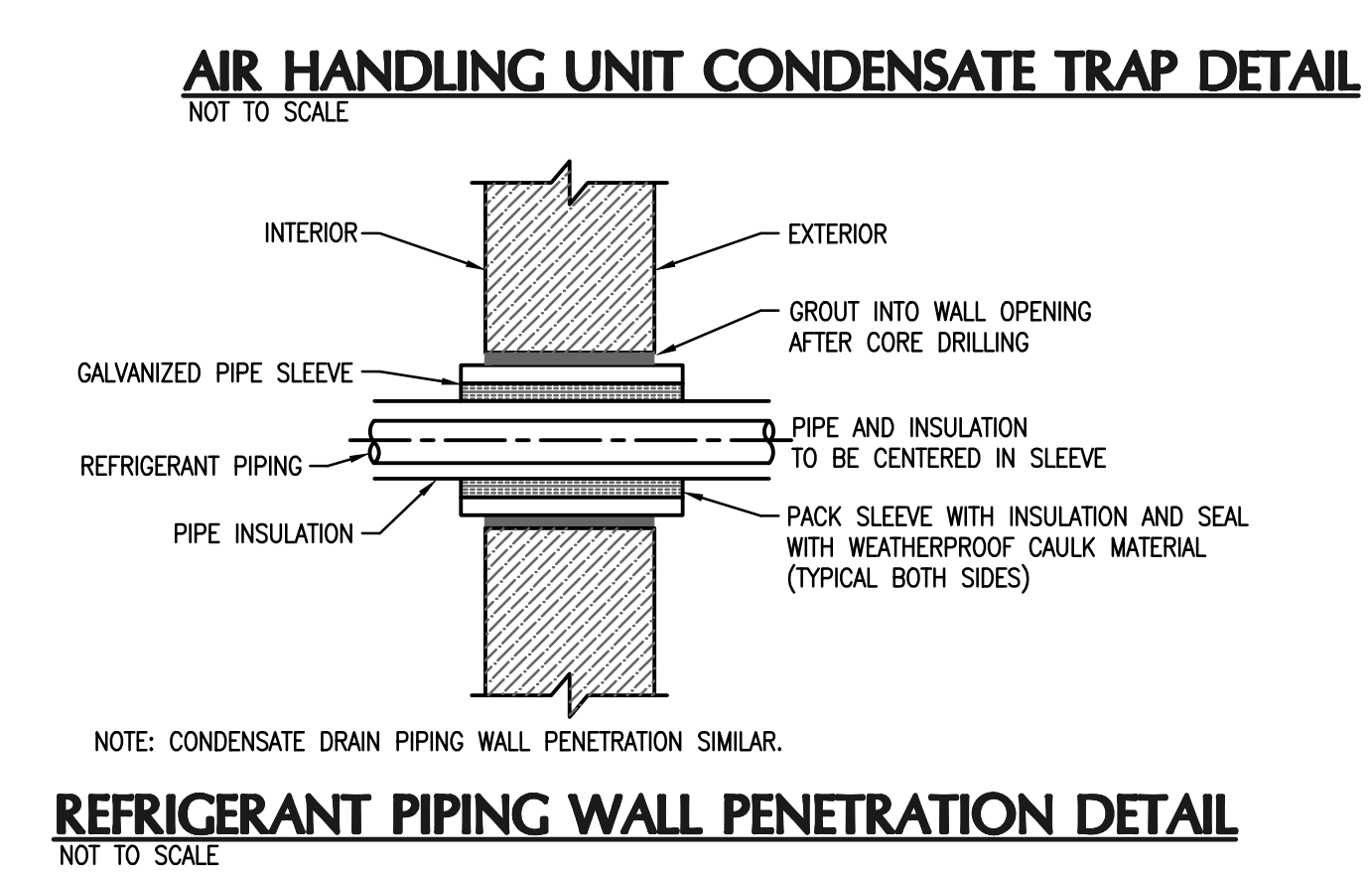
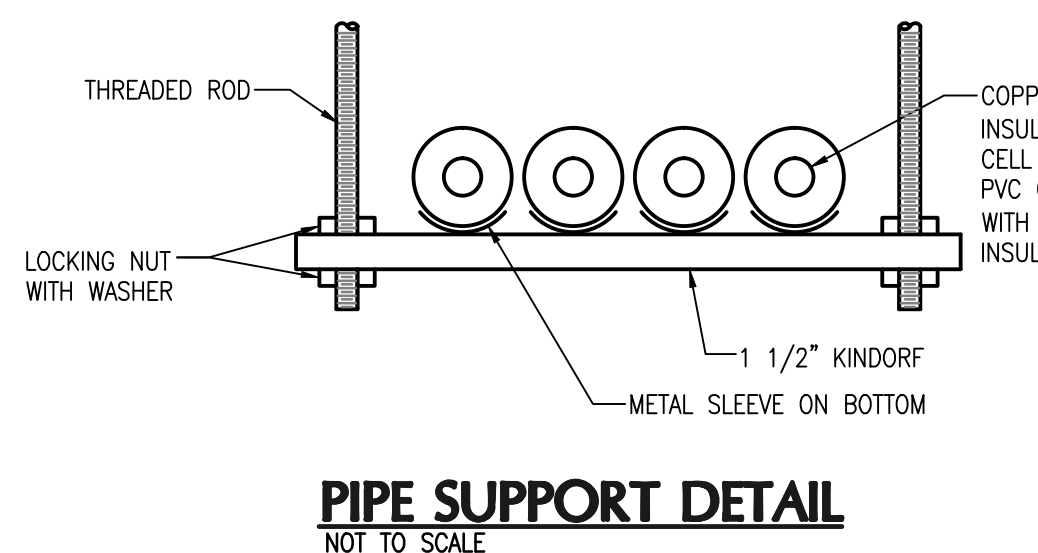
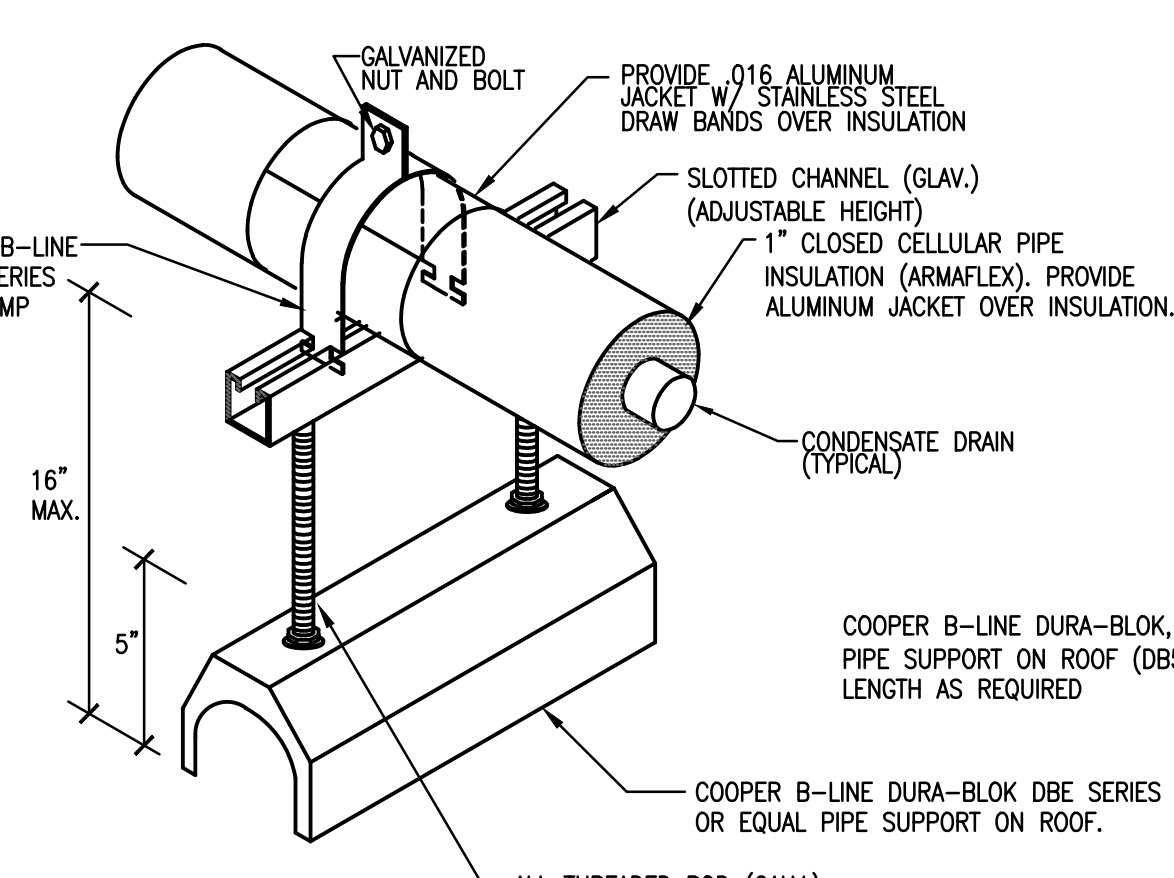
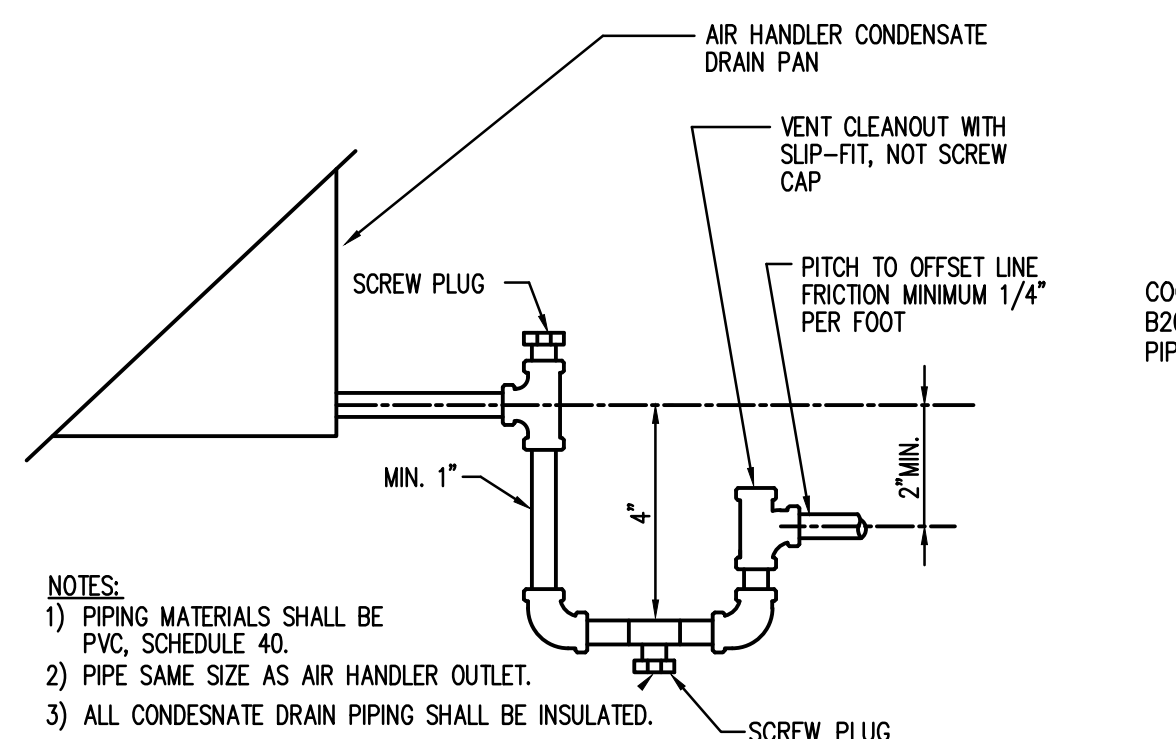
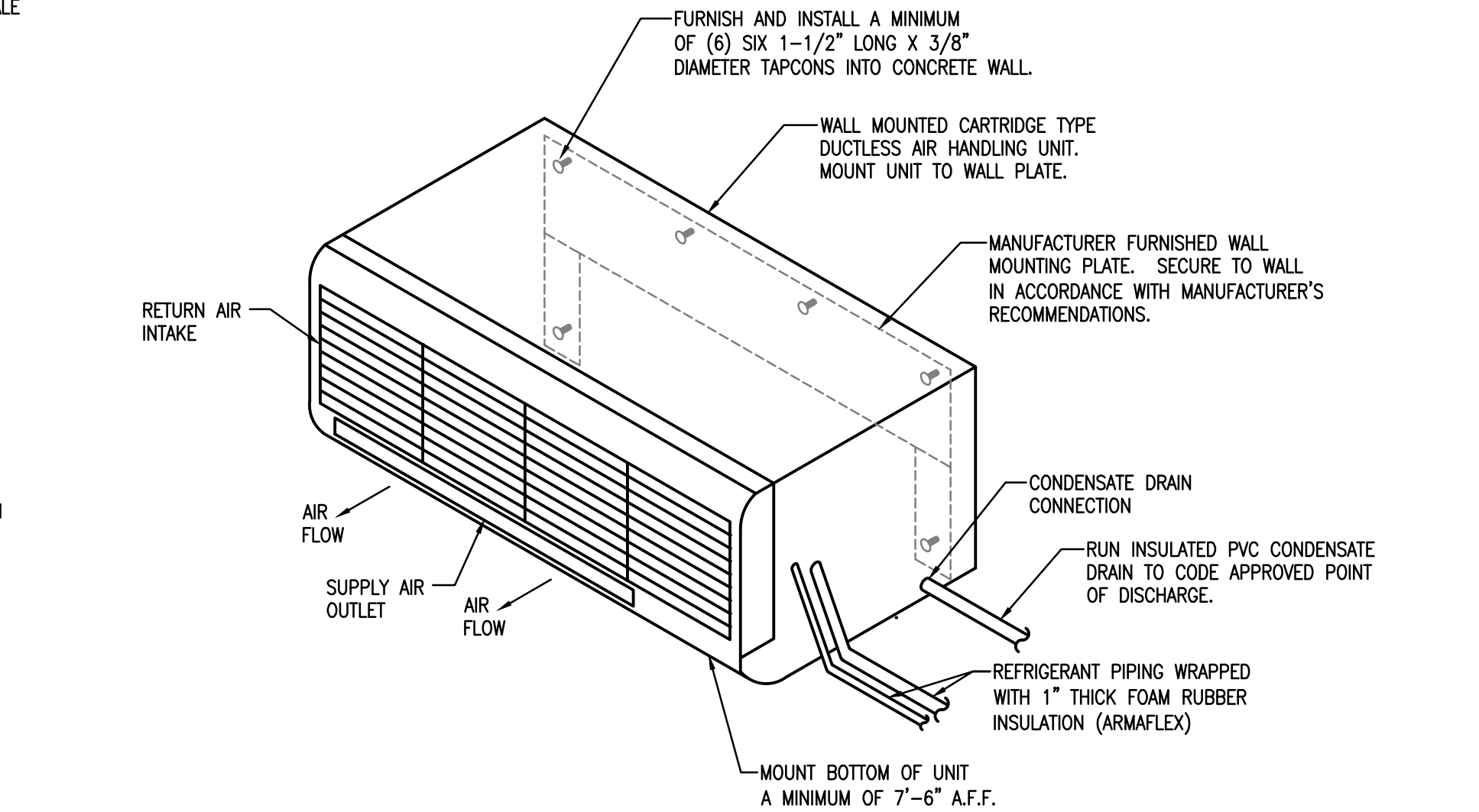
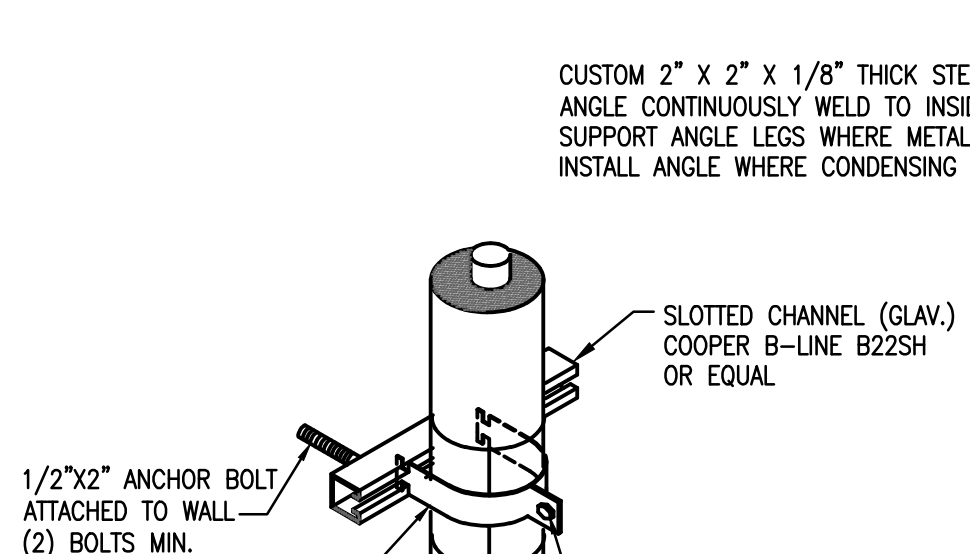
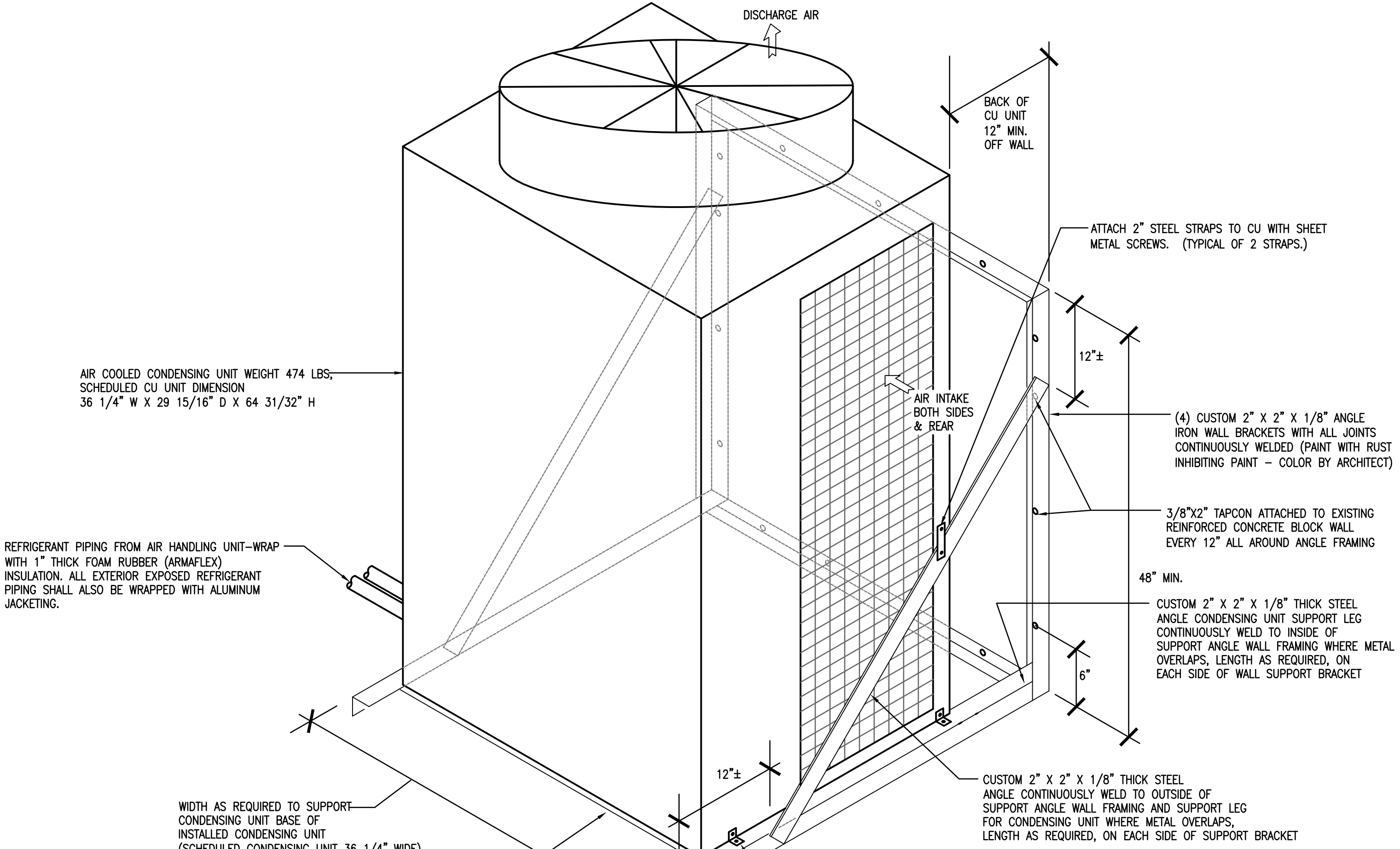
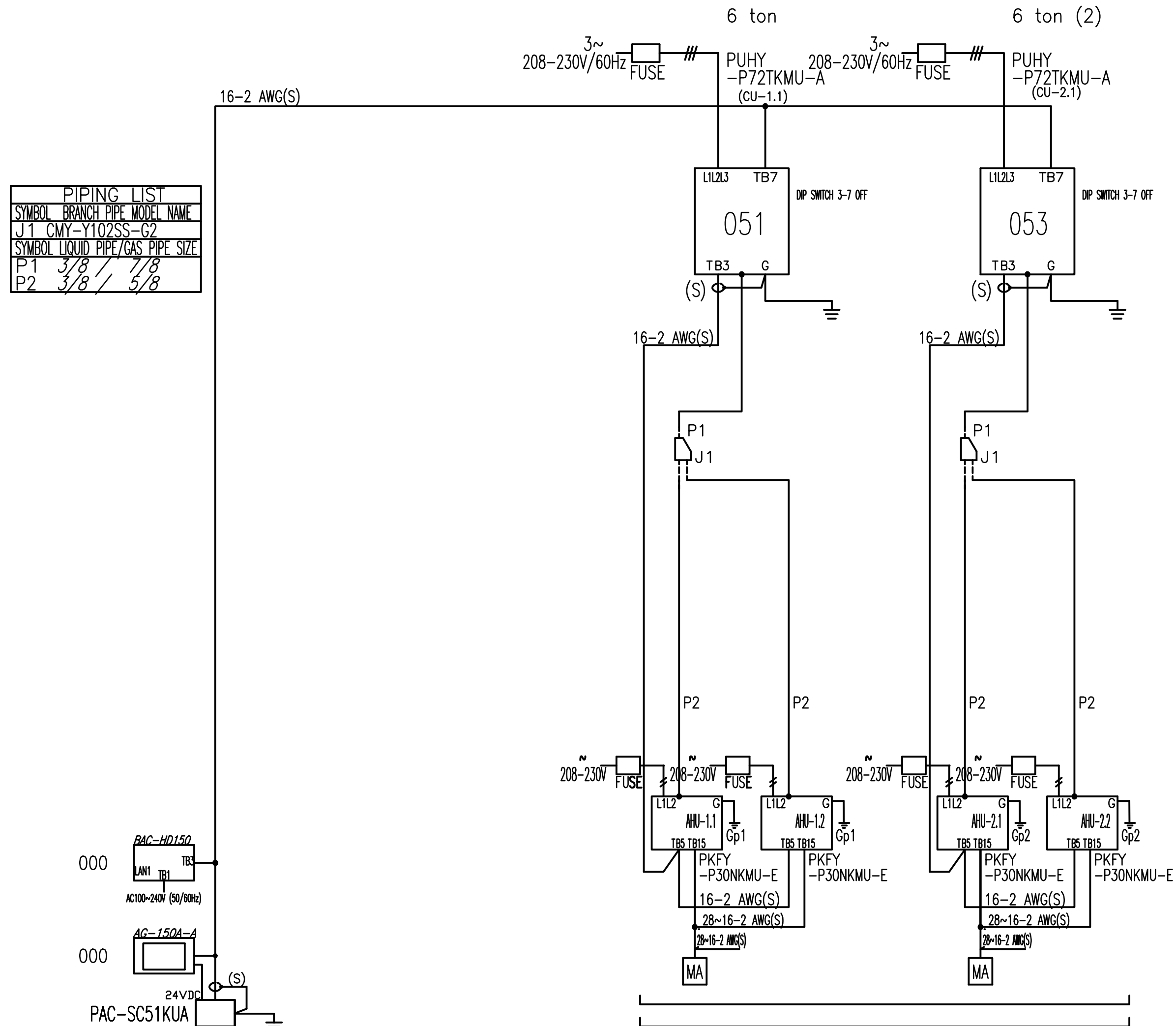
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 Designed By: ABJR
 Drawn By: MB
 Checked By: ABJR
 Issue Date: 03/07/14
 Drawing Scale: 1/4" = 1'-0"

Drawing Title:
HVAC DETAILS

100% CONSTRUCTION DOCUMENTS
 Drawing No.

M-5.1

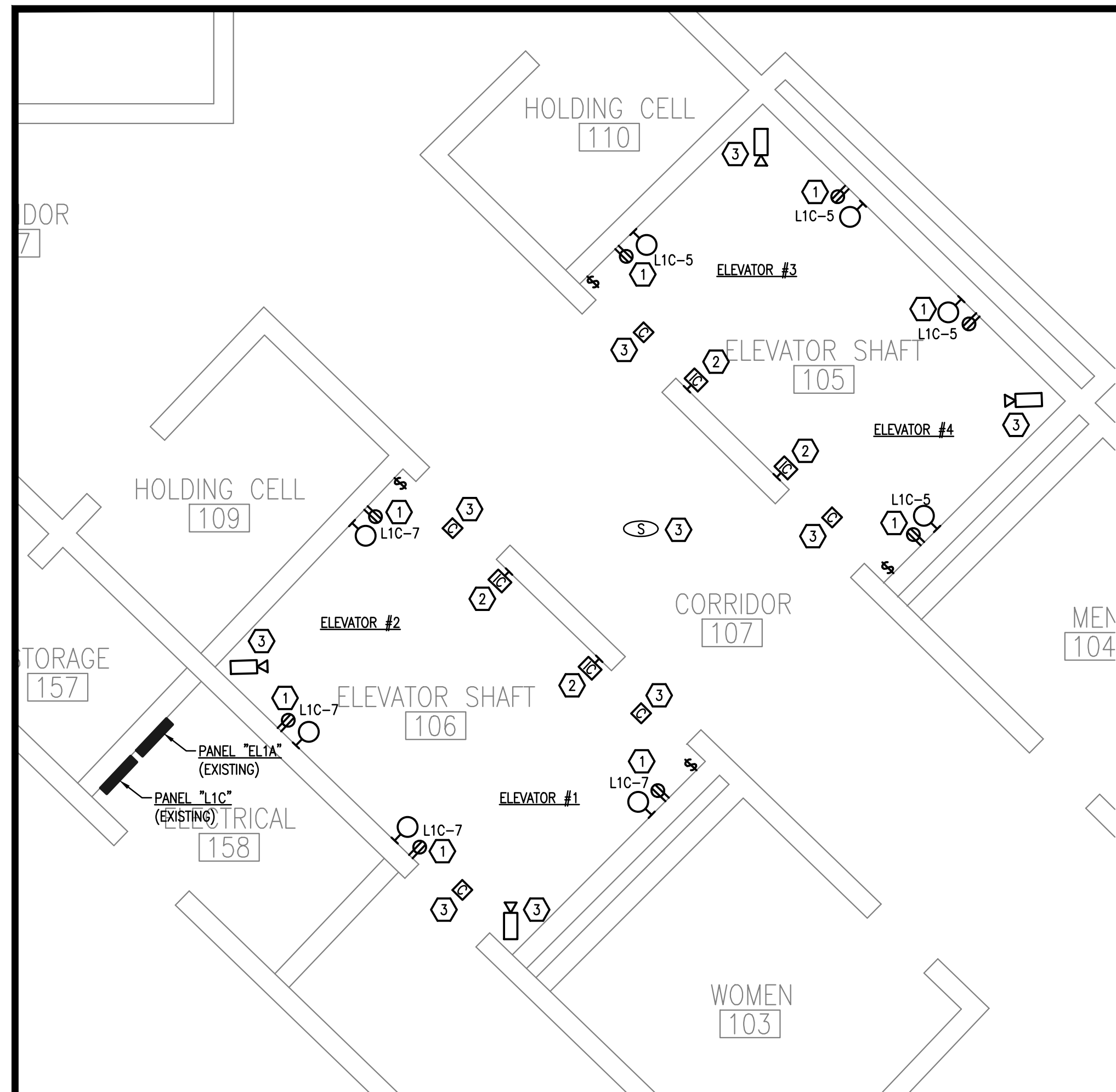
Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.
 1.25mm³(16 AWG) : 1.25mm³(20 AWG) or more. 0.75mm³(20 AWG) : between 0.5mm³(24 AWG) and 0.75mm³(20 AWG).



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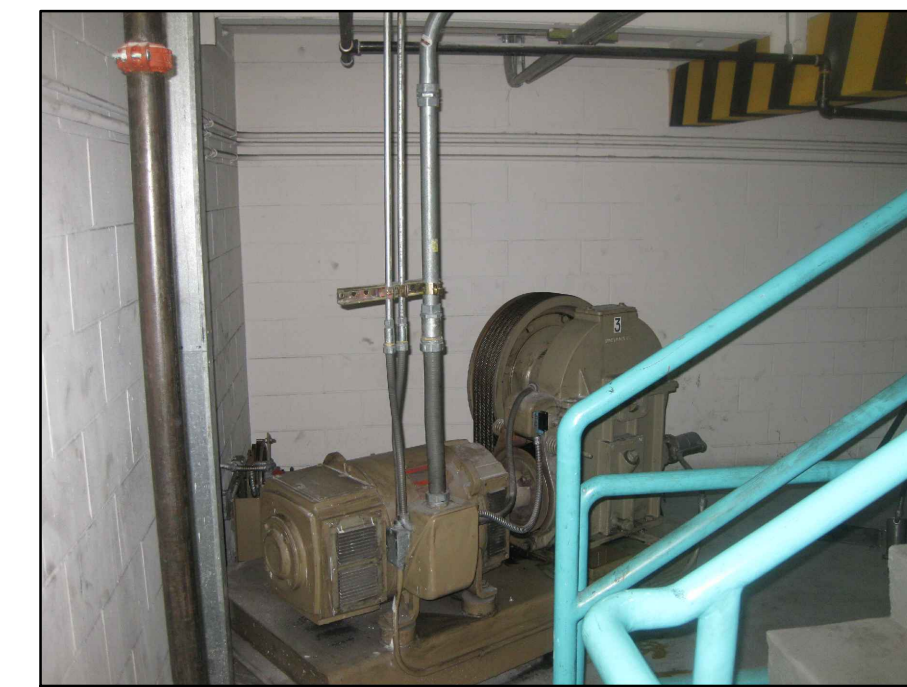
LEVEL 1 FLOOR PLAN - ELECTRICAL - DEMOLITION
SCALE: 1/4"=1'-0"



EXISTING ELEVATOR CONTROLLERS TO BE REMOVED AND REPLACED



EXISTING ELEVATOR CONTROLLERS TO BE REMOVED AND REPLACED



EXISTING ELEVATOR MOTOR TO BE REMOVED AND REPLACED



EXISTING ELEVATOR CONTROLLERS TO BE REMOVED AND REPLACED



EXISTING ELEVATOR MOTOR TO BE REMOVED AND REPLACED

KEY NOTES

- 1 EXISTING RECEPTACLES AND LIGHT SWITCH IN ELEVATOR PIT TO BE REMOVED AND REPLACED.
- 2 EXISTING ELEVATOR CONTROL PANEL TO BE REMOVED AND REPLACED ALONG WITH INTERCOM AND PHONE.
- 3 EXISTING EQUIPMENT TO REMAIN "AS-IS". PROTECT THIS EQUIPMENT AND ALL ASSOCIATED WIRING THROUGHOUT CONSTRUCTION.
- 4 EXISTING LIGHTING FIXTURES TO BE REMOVED AND REPLACED.
- 5 EXISTING ELEVATOR HOIST MOTOR TO BE REMOVED AND REPLACED.
- 6 EXISTING ELEVATOR CONTROLLER TO BE REMOVED AND REPLACED.
- 7 EXISTING ELEVATOR MOTOR DISCONNECT SWITCH, CONDUIT AND WIRING TO BE REMOVED AND REPLACED.

SYMBOL LIST

- FUSED DISCONNECT SWITCH
- GFCI RECEPTACLE
- WALL MOUNTED LIGHT FIXTURE
- LIGHT SWITCH
- 4' FLUORESCENT LIGHT FIXTURE
- 4' FLUORESCENT LIGHT FIXTURE WITH EMERGENCY BALLAST
- SECURITY CAMERA
- SECURITY DOOR CONTACT
- INTERCOM/PHONE
- FIRE ALARM SPEAKER/STROBE
- FIRE ALARM SMOKE DETECTOR
- FIRE ALARM HEAT DETECTOR

ORANGE COUNTY CORRECTIONS HORIZON ELEVATOR MODERNIZATION

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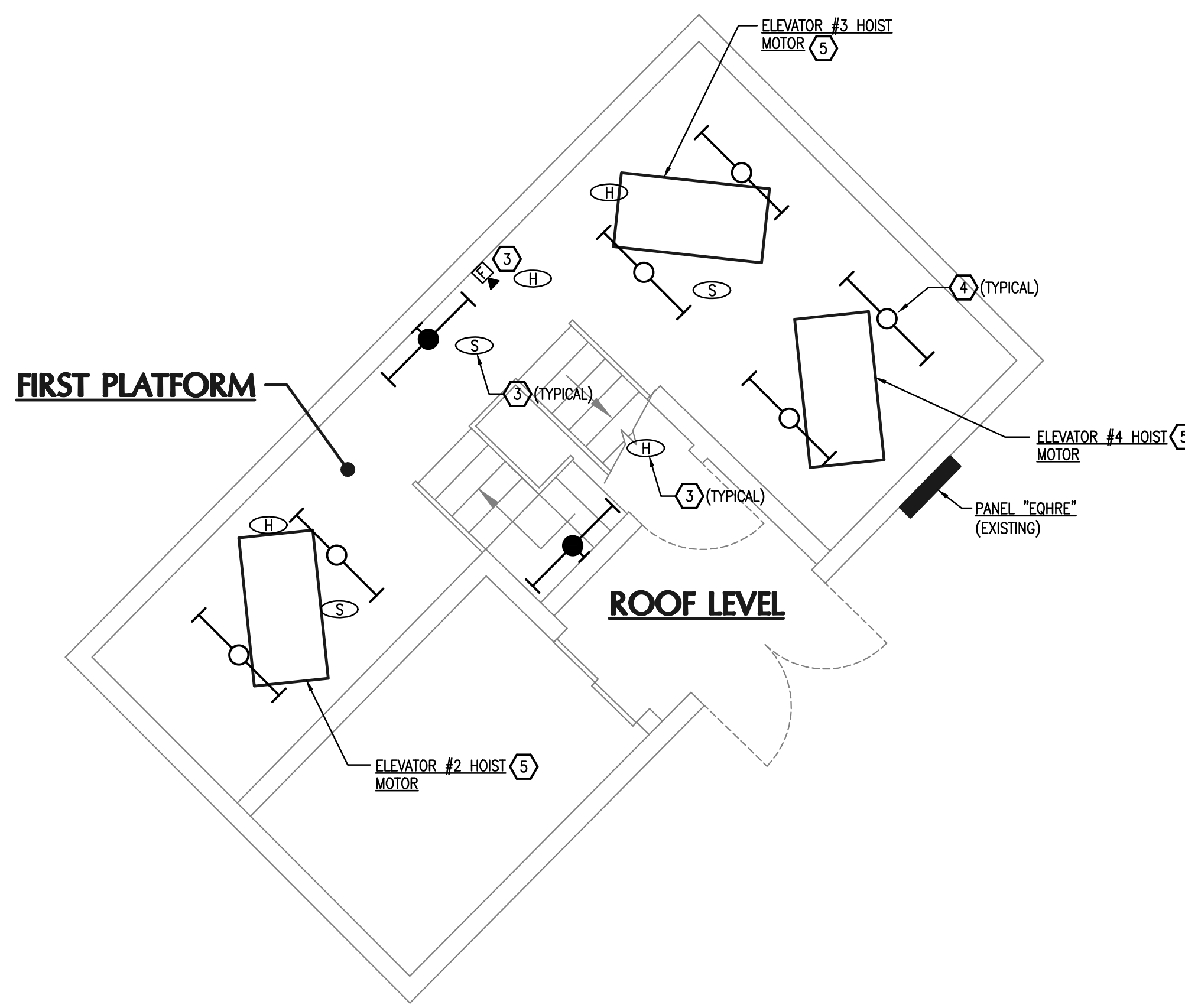
Revisions

No.	Date	Description

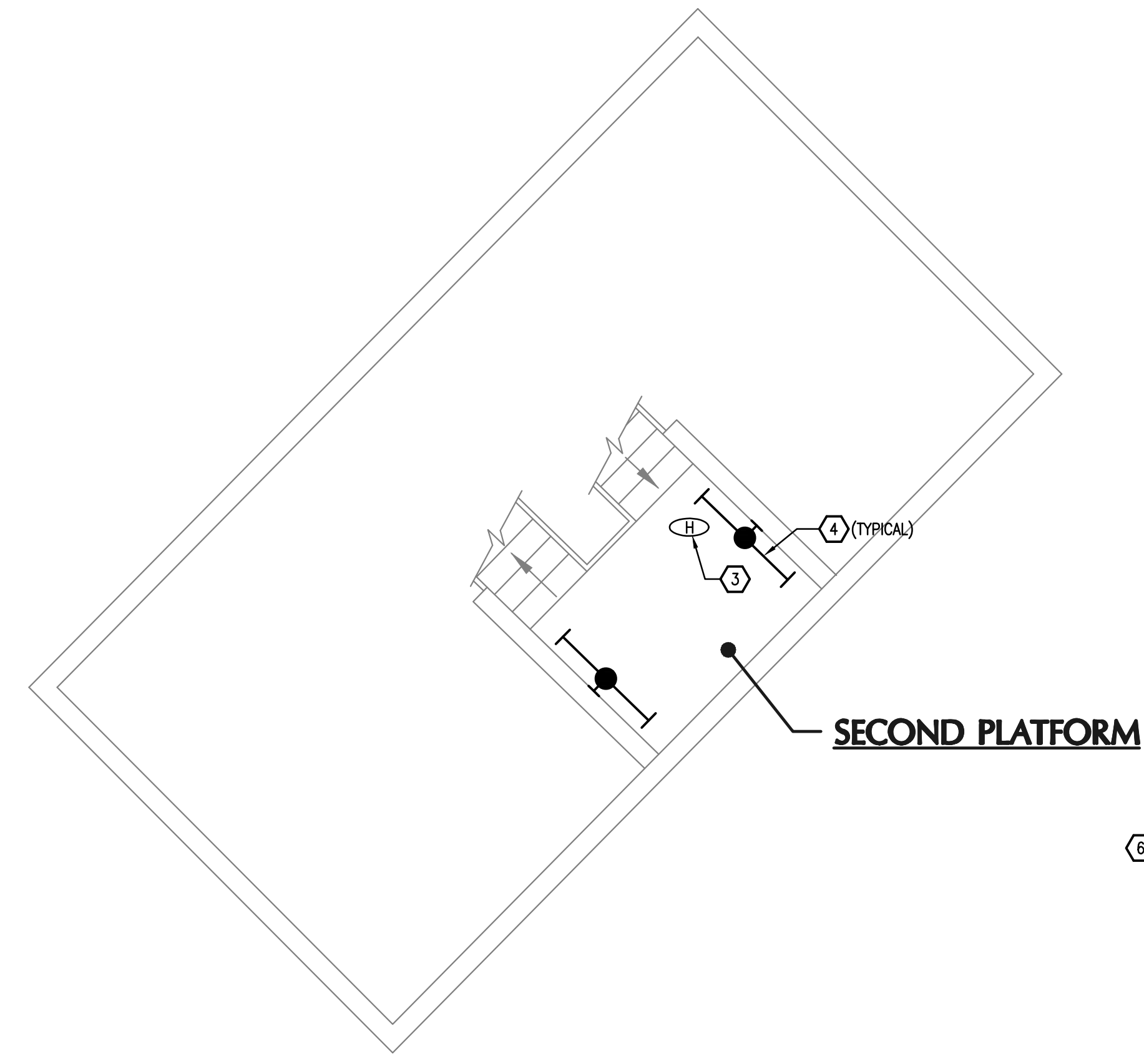
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Designed By: WMC
Drawn By: WMC
Checked By: ABJR
Issue Date: 03/07/14
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Drawing Title:
LEVELS 1 & 8 FLOOR PLANS ELECTRICAL DEMOLITION
100% CONSTRUCTION DOCUMENTS
Drawing No.

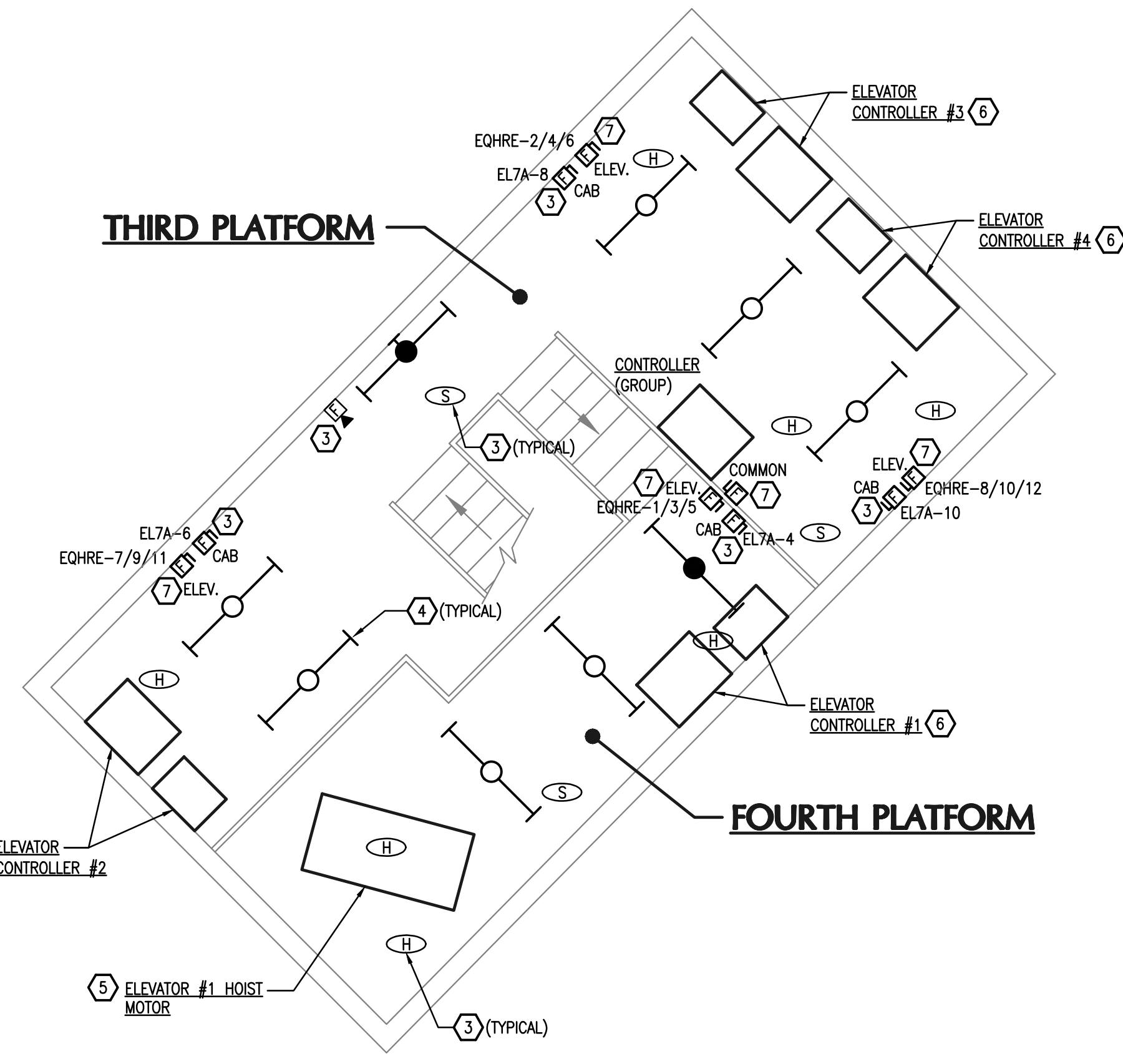
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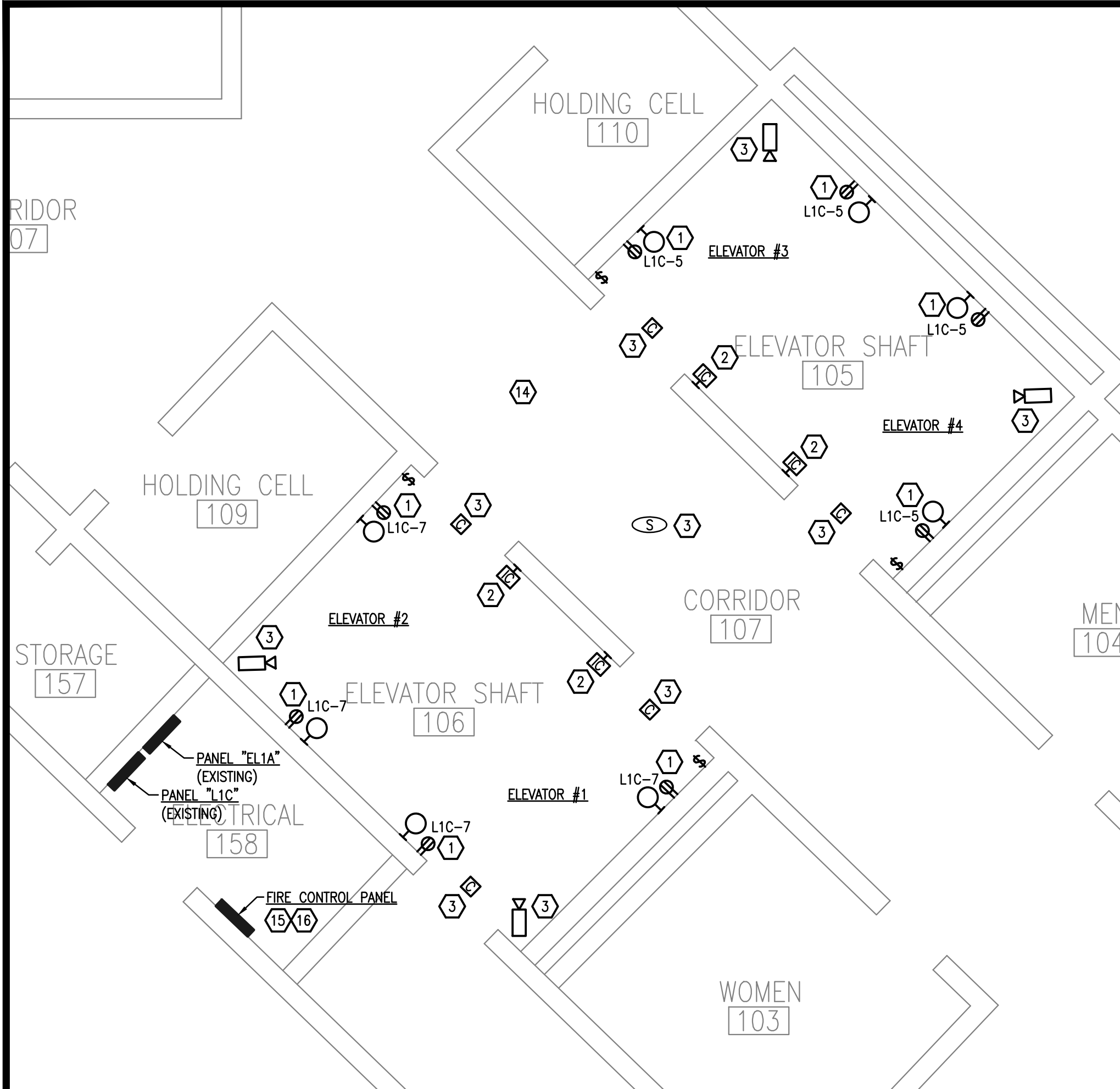
LEVEL 8 ROOF FLOOR PLAN - ELECTRICAL - DEMOLITION
SCALE: 1/4"=1'-0"



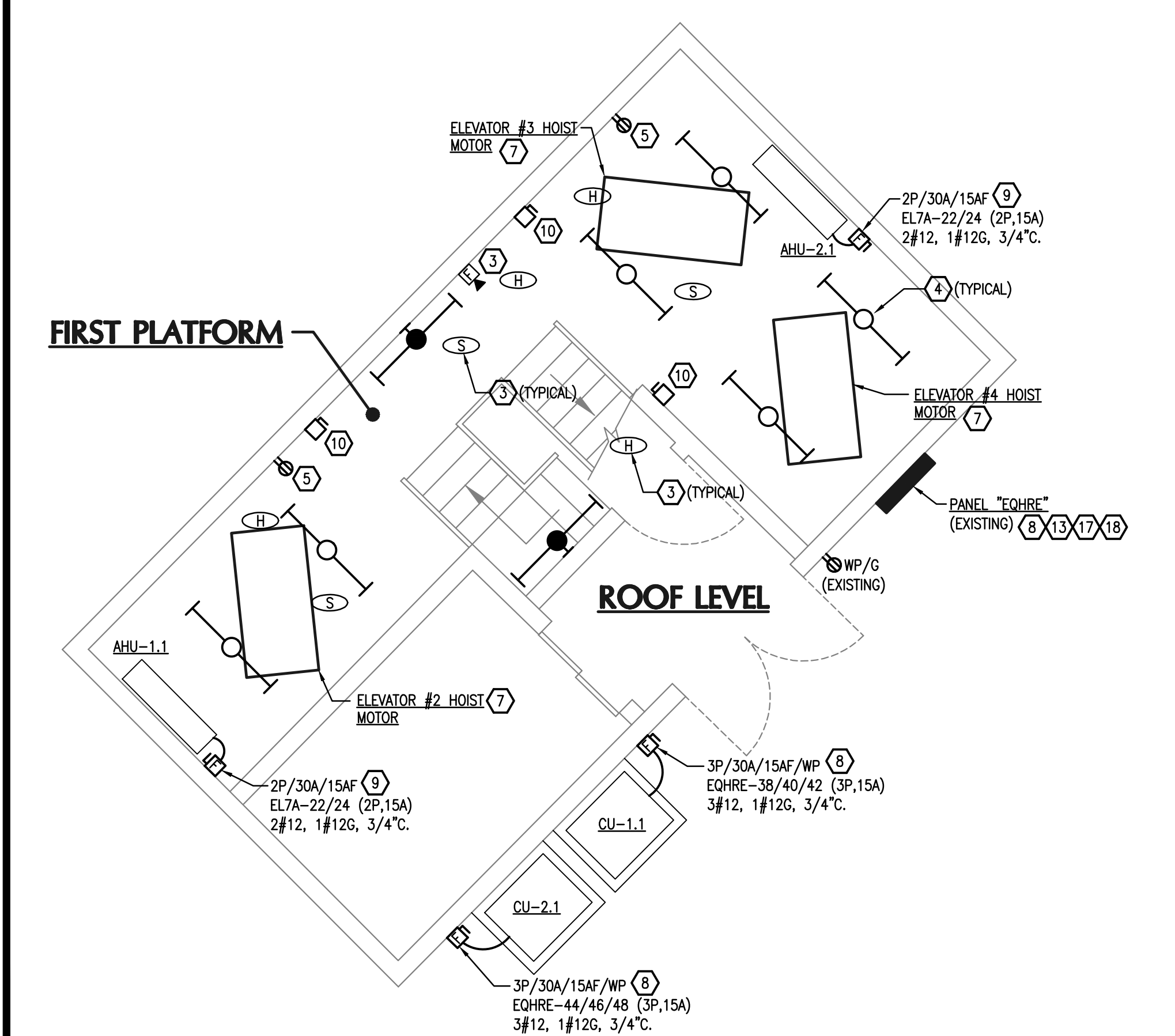
LEVEL 8 ROOF FLOOR PLAN - ELECTRICAL - DEMOLITION
SCALE: 1/4"=1'-0"



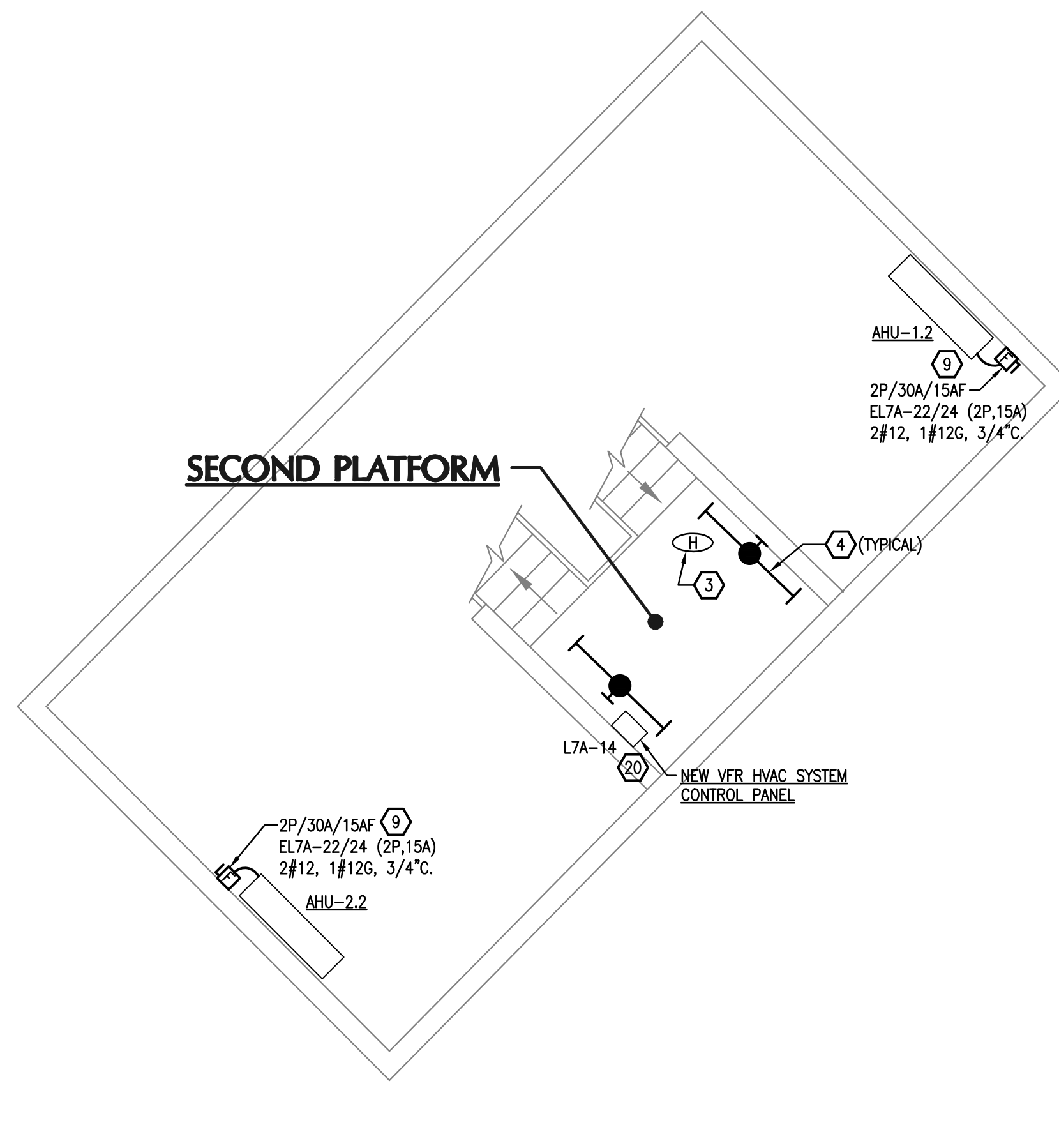
LEVEL 8 ROOF FLOOR PLAN - ELECTRICAL - DEMOLITION
SCALE: 1/4"=1'-0"



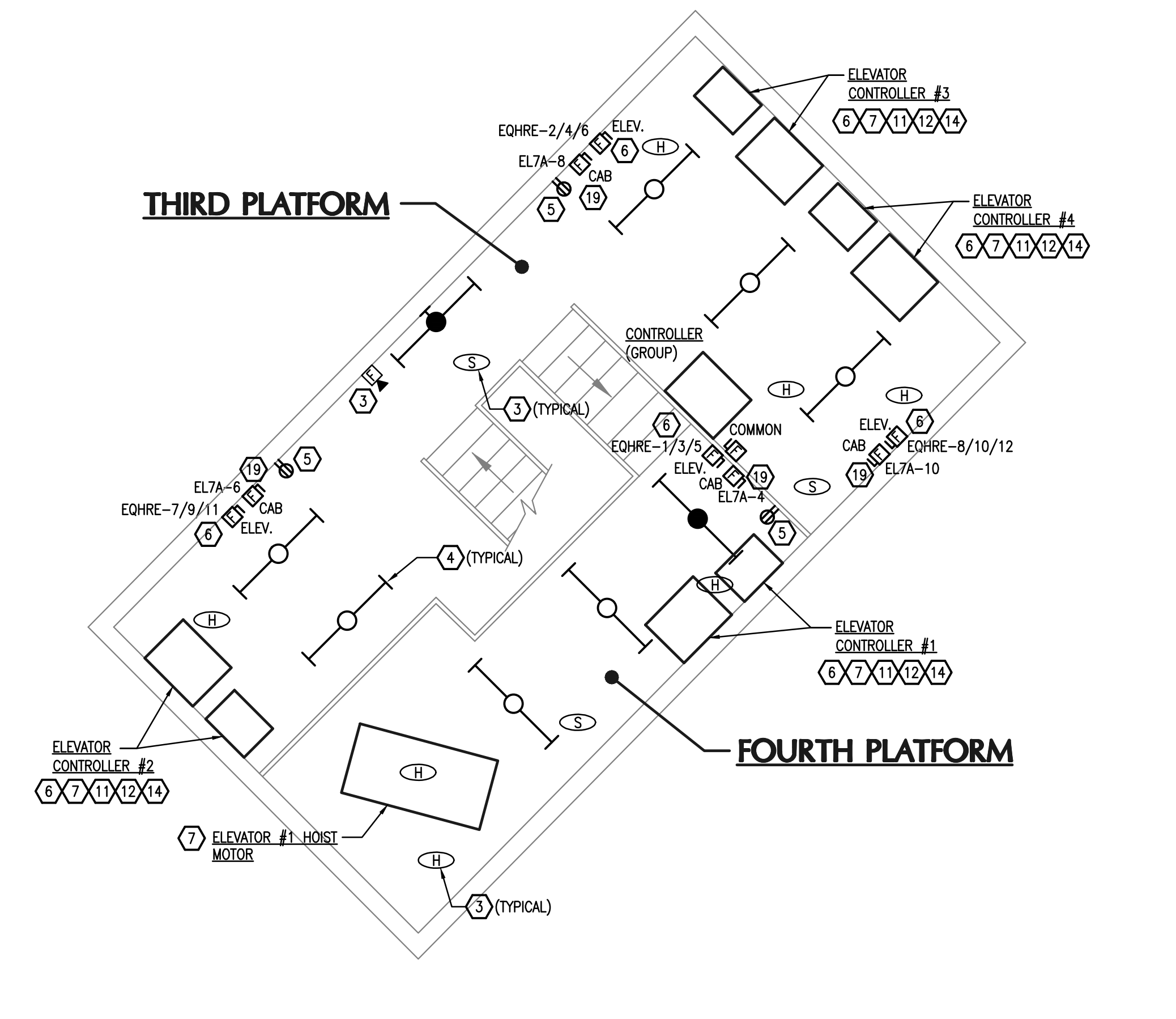
LEVEL 1 FLOOR PLAN - ELECTRICAL - RENOVATION
SCALE: 1/4"=1'-0"



LEVEL 8 ROOF FLOOR PLAN - ELECTRICAL - RENOVATION
SCALE: 1/4"=1'-0"



LEVEL 8 ROOF FLOOR PLANS - ELECTRICAL - RENOVATION
SCALE: 1/4"=1'-0"



SYMBOL LIST

- NON-FUSED DISCONNECT SWITCH
- ⊞ FUSED DISCONNECT SWITCH
- ⊕ GFCI RECEPTACLE
- ⊖ WALL MOUNTED LIGHT FIXTURE
- ⊞ LIGHT SWITCH
- ⊞ 4' LED LIGHT FIXTURE, WET LOCATION LISTED, 80W TOTAL INPUT, INDUSTRIAL LIGHTING PRODUCTS CAT. NO. WT-BOWLED-UNV-5000K (OR EQUAL)
- ⊞ 4' LED LIGHT FIXTURE, WET LOCATION LISTED, 80W TOTAL INPUT, BATTERY BACKUP, INDUSTRIAL LIGHTING PRODUCTS CAT. NO. WT-BOWLED-UNV-5000K-LEDDB (OR EQUAL)
- ⊞ SECURITY CAMERA
- ⊞ SECURITY DOOR CONTACT
- ⊞ INTERCOM
- ⊞ FIRE ALARM SPEAKER/STROBE
- ⊞ FIRE ALARM SMOKE DETECTOR
- ⊞ FIRE ALARM HEAT DETECTOR

KEY NOTES

1. REPLACE EXISTING RECEPTACLES AND LIGHT SWITCH IN ELEVATOR PIT WITH NEW. ALL RECEPTACLES SHALL BE GROUND FAULT CIRCUIT INTERRUPTING TYPE WITH WEATHERPROOF COVERS. CLEAN ALL PIT LIGHTS AND INSTALL NEW 150 WATT LAMPS.
2. NEW ELEVATOR CONTROL PANEL WITH INTERCOM/PHONE.
3. EXISTING EQUIPMENT TO REMAIN "AS-IS". PROTECT THIS EQUIPMENT AND ALL ASSOCIATED WIRING THROUGHOUT CONSTRUCTION.
4. REPLACE EXISTING FLUORESCENT LIGHTING FIXTURES WITH NEW LED FIXTURES. SEE SYMBOL LIST FOR FIXTURE DESCRIPTION. CIRCUIT ALL FIXTURES TO EXISTING EMERGENCY LIGHTING CIRCUIT EHTA-11. CONTRACTOR TO VERIFY CIRCUIT NUMBER.
5. VERIFY THAT ALL 120VAC RECEPTACLES IN ELEVATOR MACHINE AND EQUIPMENT ROOMS ARE GFCI PROTECTED AND REPLACE IF REQUIRED.
6. EXISTING 3 POLE, 60 AMP FUSED DISCONNECT SWITCH IS TO BE REPLACED WITH A 3 POLE, 100 AMP DISCONNECT SWITCH WITH 70 AMP RK5 FUSES AND AUXILIARY CONTACT TO FEED NEW ELEVATOR CONTROLLER. INSTALL 3#4 AND 1#8 GROUND IN 1" CONDUIT FROM DISCONNECT TO CONTROLLER AND MAKE ALL CONNECTIONS PER ELEVATOR MANUFACTURER'S REQUIREMENTS. PROVIDE GROUNDING FOR CONTROLLER ISOLATION TRANSFORMER PER N.E.C. SEE ELEVATOR DRAWINGS AND SPECIFICATIONS FOR EXACT REQUIREMENTS.
7. INSTALL 3#4 AND 1#8 GROUND IN 1" CONDUIT FROM ELEVATOR CONTROLLER TO NEW ELEVATOR HOIST MOTOR AND MAKE ALL CONNECTIONS PER ELEVATOR MANUFACTURER'S REQUIREMENTS. SEE ELEVATOR DRAWINGS AND SPECIFICATIONS FOR EXACT REQUIREMENTS. THE GOVERNOR LOCATED NEXT TO THE HOIST MOTOR IS ALSO TO BE REPLACED. DISCONNECT AND RECONNECT CONDUIT AND WIRING AS REQUIRED.
8. PROVIDE POWER FOR NEW CONDENSING UNIT FROM A NEW 3 POLE, 15 AMP CIRCUIT BREAKER TO BE INSTALLED IN EXISTING PANEL AT SPACES INDICATED. PROVIDE A NEW UPDATED CIRCUIT DIRECTORY IN THE PANEL.
9. PANEL "EL7A" IS LOCATED IN A 7TH FLOOR ELECTRICAL ROOM NEAR THE ELEVATORS. IN PANEL "EL7A", RELOCATE EXISTING 1 POLE, 20 AMP CIRCUIT BREAKER AND WIRING FEEDING FIRE ALARM FROM CIRCUIT 22 TO CIRCUIT 20. INSTALL A NEW 2 POLE, 15 AMP CIRCUIT BREAKER AT CIRCUITS 22/24 TO FEED (4) NEW AIR HANDLING UNITS AHU-1.1 THRU 2.2. UPDATE CIRCUIT DIRECTORY IN PANEL WITH NEW LOADS.
10. PROVIDE ADDITIONAL 3 POLE, 100 AMP, NON-FUSED DISCONNECT SWITCH AS REQUIRED BY ELEVATOR INSTALLER TO DISCONNECT DRIVE MACHINE AT THIS LEVEL.
11. PROVIDE AND INSTALL TELEPHONE CONNECTION TO ELEVATOR CONTROLLER AS REQUIRED.
12. PROVIDE AND INSTALL FIRE ALARM SYSTEM CONNECTION TO ELEVATOR CONTROLLER AS REQUIRED.
13. VERIFY THAT CIRCUIT BREAKERS FEEDING ELEVATORS HAVE A SHUNT TRIP CONNECTED TO SPRINKLER SYSTEM HEAT DETECTORS IN ELEVATOR EQUIPMENT/MACHINE ROOMS AND PROVIDE AS REQUIRED.
14. ELEVATORS ARE FED THROUGH AUTOMATIC TRANSFER SWITCH AT#3 IN MAIN ELECTRICAL ROOM ON FIRST FLOOR. TIMERS IN ATS MUST BE SET FOR 30 SECOND PRE AND POST TIME DELAY DURING TRANSFER OF POWER.
15. INSTALL 3" (MAX.) EMPTY CONDUIT WITH PULL WIRE FROM FIRE CONTROL PANEL UP TO ELEVATOR MACHINERY ROOM TO PROVIDE FOR WIRING (BY OTHERS) TO EACH ELEVATOR CONTROLLER.
16. LOCATION OF ELEVATOR MONITORING SYSTEM WORKSTATION IN SECURITY CONTROL ROOM TO BE DETERMINED BY OWNER. THE WORKSTATION WILL REQUIRE 120VAC.
17. INSTALL A LISTED, WEATHERPROOF TRANSIENT VOLTAGE SURGE SUPPRESSOR ON PANEL AND CONNECT PER MANUFACTURER'S INSTRUCTIONS.
18. VERIFY THAT THE TRIP SETTING ON EXISTING 100 AMP CIRCUIT BREAKER THAT FEEDS ELEVATOR IS ADJUSTABLE TO MEET REQUIREMENTS OF NEW ELEVATOR AND ADJUST AS REQUIRED. FEEDERS TO NEW ELEVATOR DISCONNECT SWITCH SHOULD BE 3#4 AND 1#8 GROUND IN 1" CONDUIT MINIMUM.
19. EXISTING DISCONNECT SWITCH FOR ELEVATOR CAB IS TO BE REUSED. MAKE ALL CONNECTIONS TO NEW ELEVATOR EQUIPMENT PER ELEVATOR INSTALLERS REQUIREMENTS.
20. PROVIDE POWER FOR NEW VFR HVAC SYSTEM CONTROL PANEL FROM NEAREST RECEPTACLE CIRCUIT. CONTRACTOR TO VERIFY CIRCUIT NUMBER.

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2007 FLORIDA ELEVATOR CODE, THE AMERICANS WITH DISABILITIES ACT (ADA) AND THE 2008 NATIONAL ELECTRICAL CODE (NEC).
2. ALL BRANCH CIRCUITS FOR 120 VOLT, 20 AMP CIRCUITS EXCEEDING EIGHTY FEET IN LENGTH SHALL BE INCREASED IN SIZE AS REQUIRED TO ALLOW FOR VOLTAGE DROP LOSSES.
3. PACK ALL SLEEVES FOR CONDUITS PASSING THROUGH FIRE RATED WALLS AND FLOOR SLABS WITH FIRE RESISTANT MATERIALS. ALL PENETRATIONS SHALL BE UL RATED.
4. ALL EMPTY CONDUITS (EC) SHALL BE PROVIDED WITH NYLON PULL WIRES.
5. ALL CONDUITS ABOVE SLAB, WHETHER EXPOSED OR CONCEALED, SHALL BE EMT, IMC, OR RIGID GALVANIZED STEEL.
6. FLEXIBLE METAL RACEWAYS SHALL NOT EXCEED 6' IN LENGTH.
7. "LIQUID-TIGHT" TYPE FLEXIBLE WEATHERPROOF RACEWAYS SHALL HAVE A METALLIC INTERIOR AND NOT EXCEED 6' IN LENGTH.
8. ALL BOXES, PLASTER RINGS, EXTENSION RINGS, AND BOX COVERS SHALL BE METAL.
9. ALL CONDUITS SHALL BE PARALLEL AND PERPENDICULAR TO STRUCTURAL MEMBERS.
10. ALL BENDS SHALL BE MADE IN CONDUIT USING PROPER EQUIPMENT AND MEET NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS.
11. ALL WIRE, INCLUDING BUT NOT LIMITED TO FEEDERS AND BRANCH CIRCUIT WIRING, SHALL BE COPPER - #12 AWG THIN MINIMUM.
12. ALL BREAKERS SHALL BE "FULL SIZE", NO TANDEM, PIGGY BACK, TWIN, OR HALF SIZE BREAKERS WILL BE ACCEPTED. MATCH EXISTING AIC RATING FOR EXISTING PANEL.
13. ALL DEVICES SHALL BE SPECIFICATION GRADE.
14. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY POWER AND TEMPORARY LIGHTING DURING CONSTRUCTION. TEMPORARY POWER SHALL PROVIDE ADEQUATE POWER FOR NORMAL CONSTRUCTION USE. TEMPORARY LIGHTING SHALL PROVIDE ADEQUATE LIGHT SO THAT THE INDIVIDUAL TRADES WORK CAN BE COMPLETED.
15. ALL ELECTRICAL EQUIPMENT SHALL BE UL LISTED.
16. A GREEN INSULATED COPPER GROUND CONDUCTOR SHALL BE INSTALLED IN ALL RACEWAYS.
17. GROUNDING SYSTEM SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250 AND APPLICABLE REQUIREMENTS OF IEEE STANDARDS 142 AND 241.
18. CONDUCTORS ARE SIZED FOR VOLTAGE DROP PER N.E.C. ARTICLE 210.19(A)(1) FPN No. 4 AND F.B.C. 505.7.3.1&2. ELECTRICAL CONTRACTOR SHALL PERFORM VOLTAGE DROP CALCULATIONS IN ACCORDANCE WITH N.E.C. ARTICLE 210.19 (A)(1) FPN No. 4 AND F.B.C. 505.7.3.1&2 ON ANY CIRCUITS THAT ARE INSTALLED THAT DIFFER FROM THE DESIGN SHOWN IN THESE PLANS. FEEDER CONDUCTORS SHALL BE SIZED FOR A MAXIMUM VOLTAGE DROP OF 2% AND BRANCH CIRCUIT CONDUCTORS 3% AT DESIGN LOAD.

NOTE FOR BUILDING DEPARTMENT PLAN REVIEWER
ALL PANELBOARDS USED IN THIS RENOVATION ARE EXISTING PANELS THAT HAVE SUFFICIENT SPACES AND SPARE CAPACITY TO ACCOMMODATE THE SCOPE OF WORK OF THIS PROJECT. EXISTING PANEL "EQHRE" IS A 400 AMP PANEL WITH AN ESTIMATED CONNECTED LOAD OF 246 AMPS. AN ADDITIONAL HVAC LOAD OF 16 AMPS IS BEING ADDED FOR A NEW CONNECTED LOAD OF 262 AMPS. THE NEW ELEVATOR LOADS ARE SIMILAR TO THE OLD ELEVATORS BEING REPLACED.

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ORANGE COUNTY CORRECTIONS HORIZON ELEVATOR MODERNIZATION

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Revisions

No.	Date	Description

Key Plan

MPE PROJ#: 2012-051
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Drawn By: WMC
Checked By: ABJr
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