



Addendum #1

Port of Port Arthur
New Data Center
Port File 6.247E

Addendum Date: October 20, 2023

A. This Addendum shall be considered part of the bid documents for the above-mentioned project as though it had been issued at the same time and shall be incorporated integrally therewith. Where provisions of the following supplementary data differ from those of the original bid documents, this Addendum shall govern and take precedence. BIDDERS MUST ACKNOWLEDGE THE ADDENDUM ON THEIR BID.

B. Bidders are hereby notified that they shall make any necessary adjustments in their estimates as a result of this Addendum. It will be construed that each bidder's proposal is submitted with full knowledge of all modifications and supplemental data specified herein.

Addendum No. 1 consists of the following:

Revised Plan Sheets (11 SHEETS Dated 10-20-23):

C (Cover Sheet), E.1, E.2, E.3, E.4, E.5, ES.1, M.1, M.2, M.3, M.4

No change to floor plan / architectural sheet A1.00

Please make sure to acknowledge this addendum on your bid form.

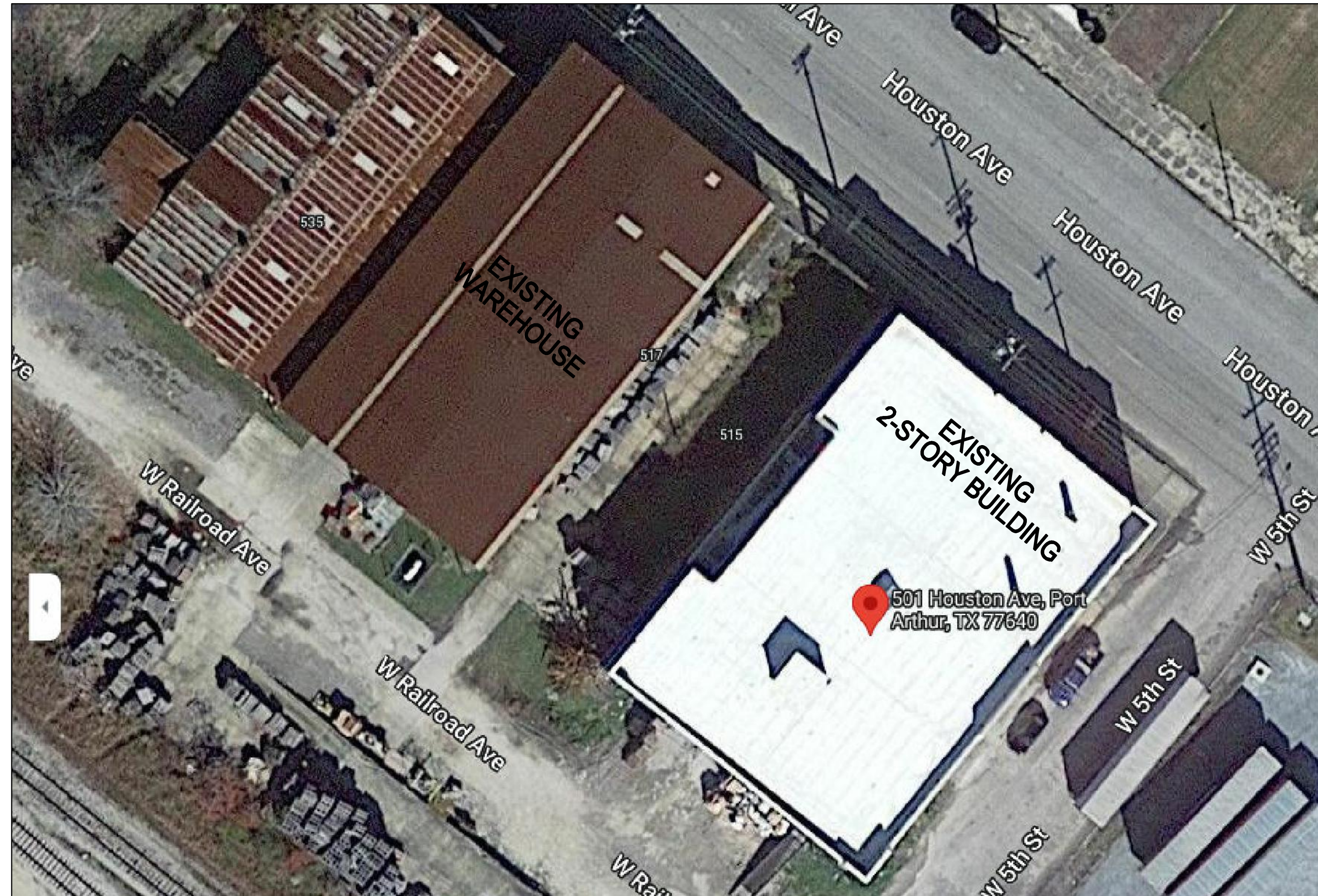
Bid Date and Time remains the same

End of Addendum

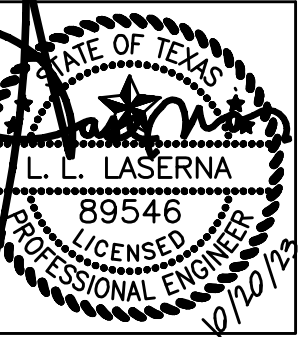
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Michael Green

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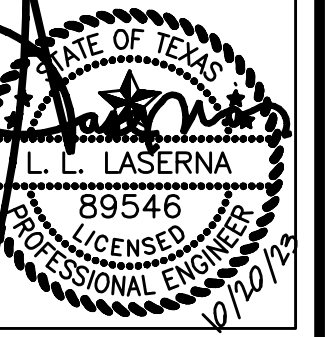
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Mechanical, Electrical & Plumbing:	
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M.3	Mechanical Details
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E.3	Electrical Notes, Symbols & Schedules
E.4	Electrical Riser One-Line Diagrams, Load Analysis, Notes & Details
E.5	Panel Schedules

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 1 OF 1 SHEETS
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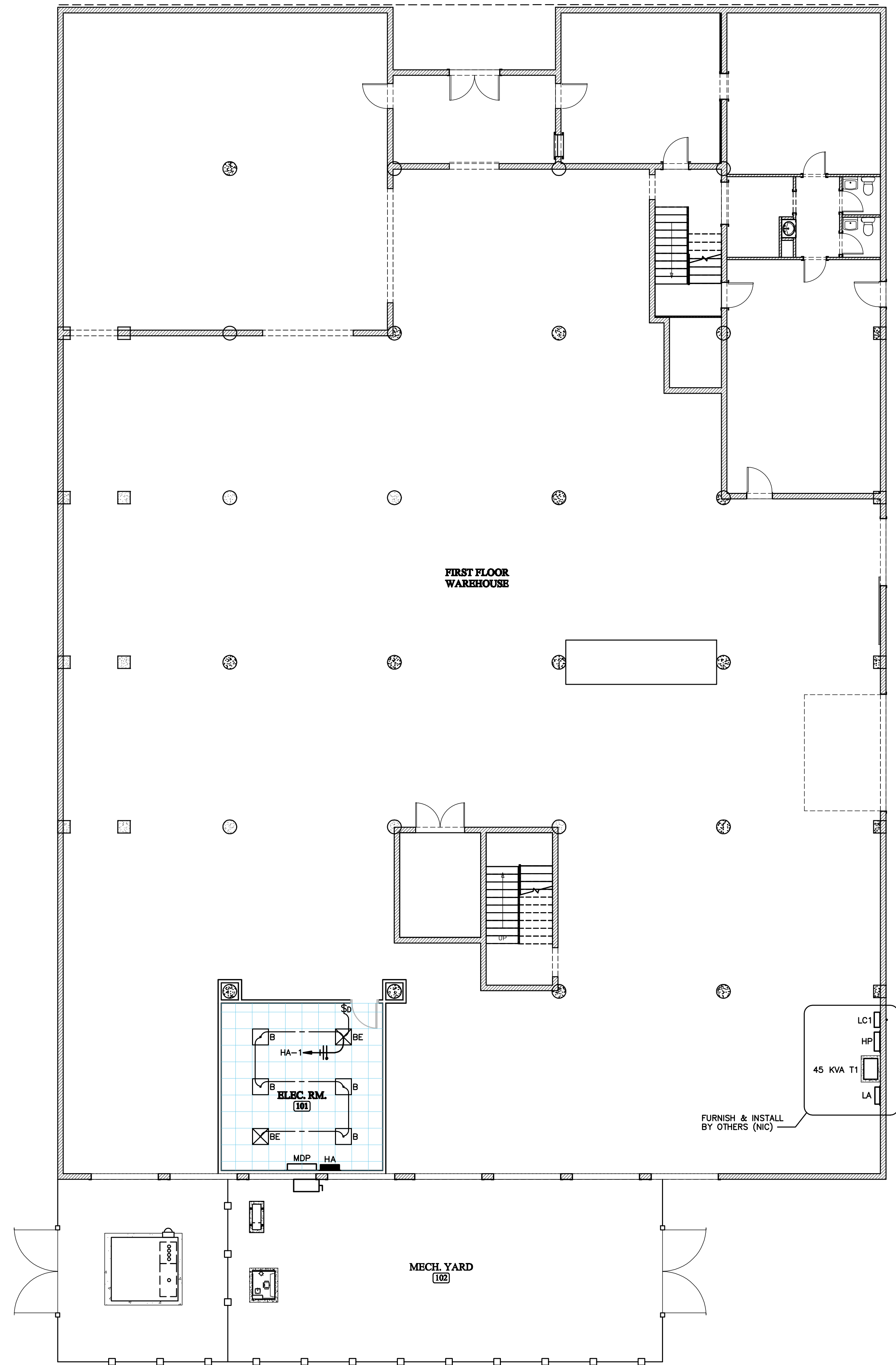


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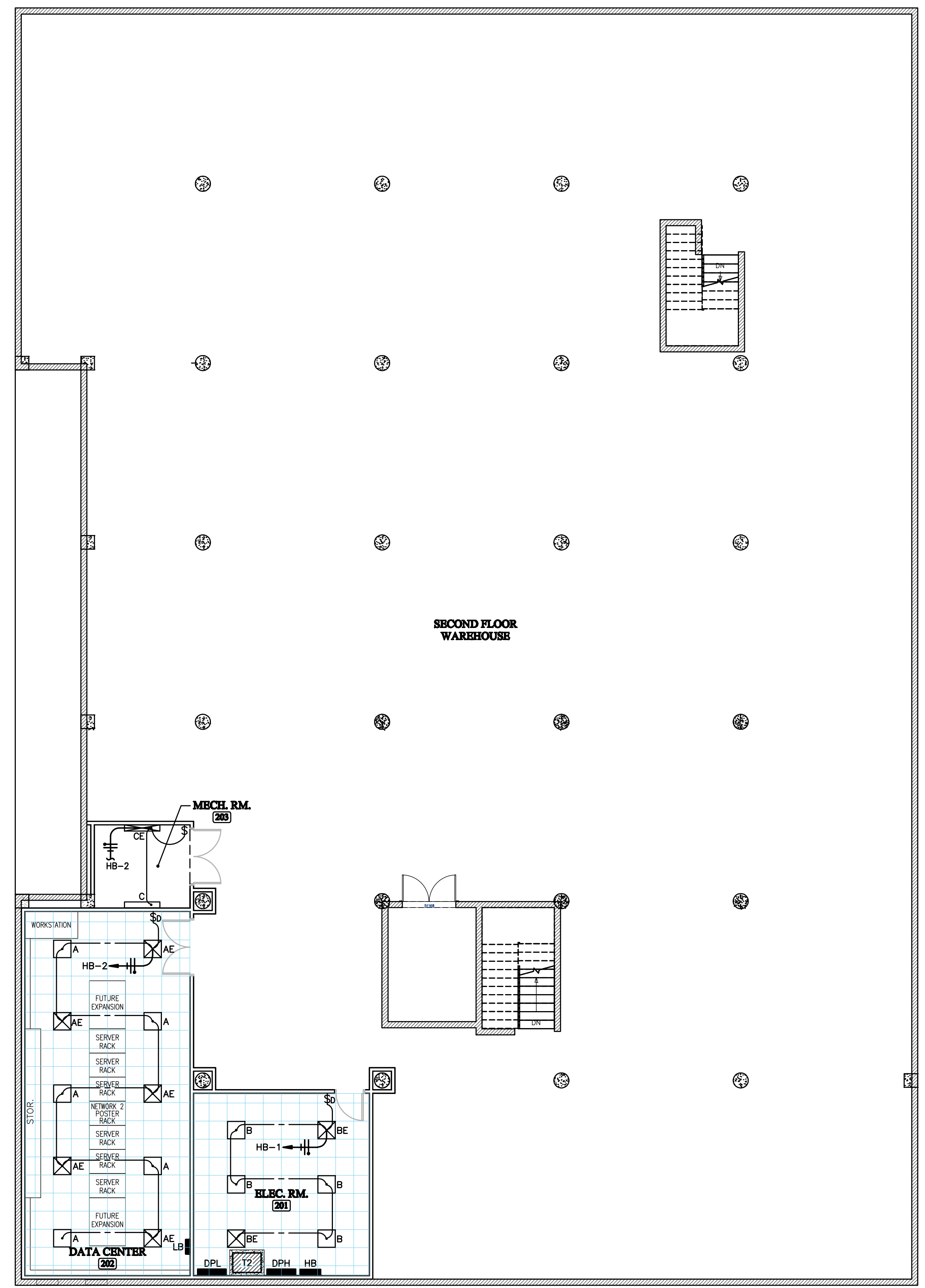
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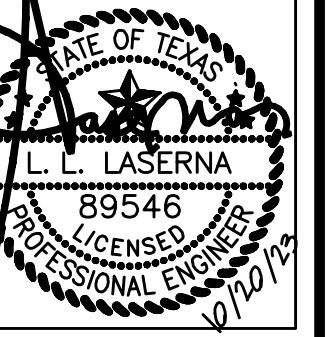
1 LIGHTING FIRST FLOOR PLAN
 SCALE: 1/8" = 1'-0"



2 LIGHTING SECOND FLOOR PLAN
 SCALE: 1/8" = 1'-0"



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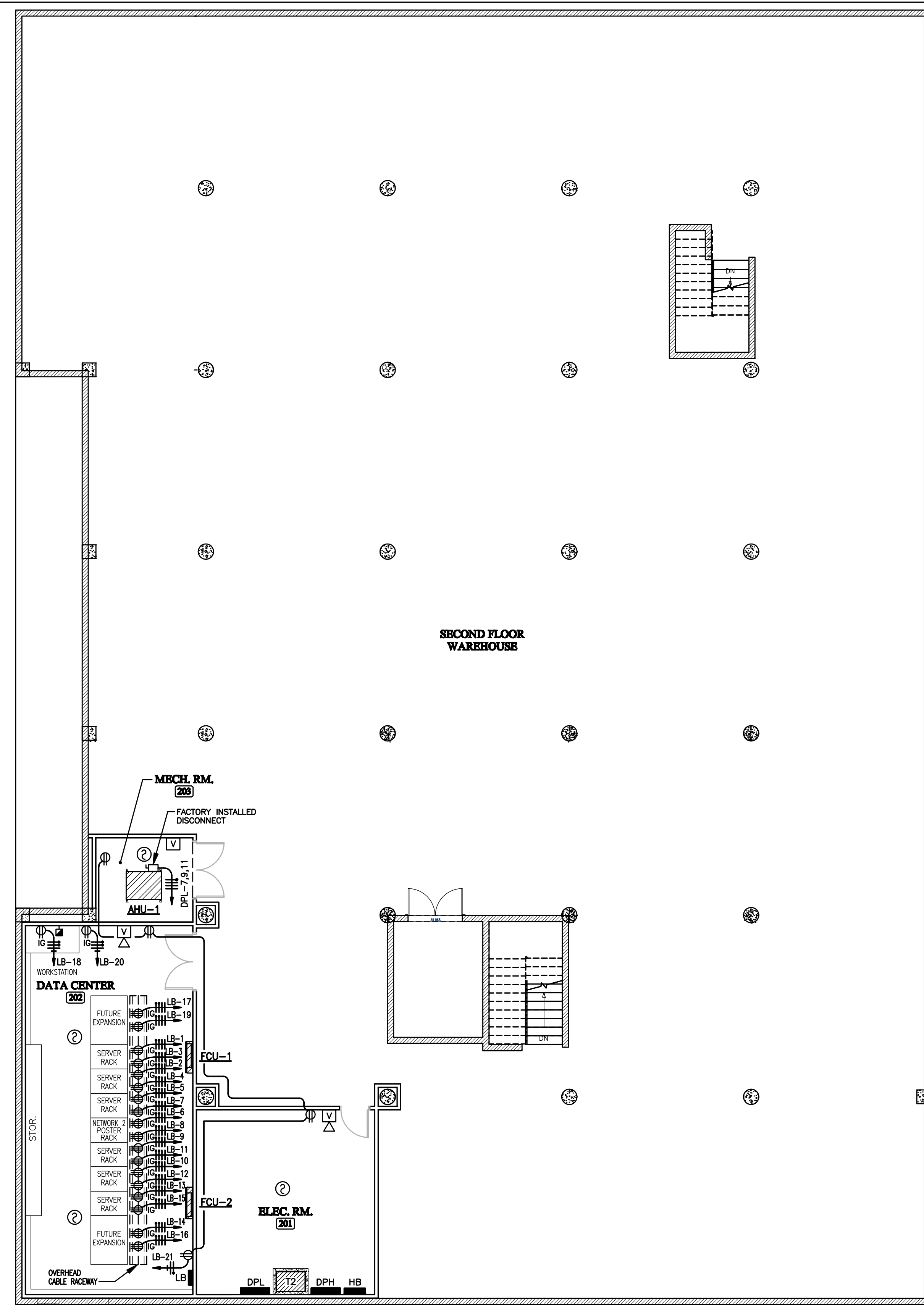


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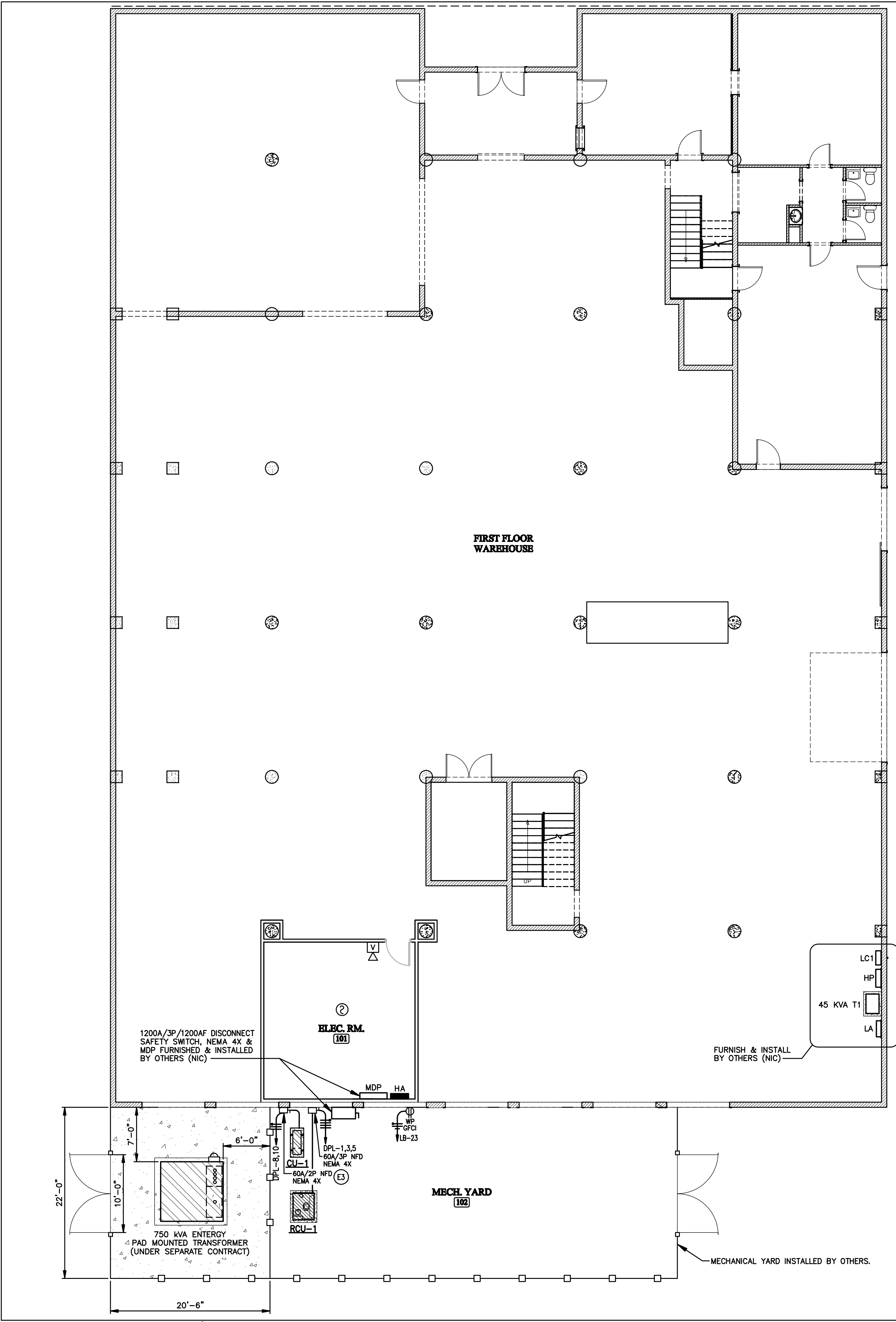
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2 POWER & COMMUNICATIONS SECOND FLOOR PLAN
 SCALE: 1/8" = 1'-0"



1 POWER & COMMUNICATIONS FIRST FLOOR PLAN
 SCALE: 1/8" = 1'-0"

ELECTRICAL SYMBOLS	
	REFERENCE TO DETAIL AND SHEET NUMBER
	SURFACE MOUNTED PANEL
	FLUSH MOUNTED PANEL
	LED LIGHT FIXTURE
	LED EMERGENCY LIGHT FIXTURE
	CEILING MOUNTED DOWNLIGHT LIGHT FIXTURE
	CEILING MOUNTED EXIT LIGHT FIXTURE
	WALL MOUNTED EXIT LIGHT FIXTURE
	NEUTRAL CONDUCTOR
	PHASE CONDUCTOR
	GROUND CONDUCTOR
	ISOLATED GROUND & GROUND CONDUCTOR
	SWITCH LEG AND/OR BRANCH CIRCUIT
	BRANCH CIRCUIT
	HOME RUN TO PANELBOARD
	SWITCH, 48" AFF
	THREE-WAY SWITCH, 48" AFF
	THREE-WAY DIMMER SWITCH, 48" AFF
	MOTOR RATED SWITCH
	SWITCH WITH PILOT LIGHT, 48" AFF
	OCCUPANCY SENSOR SWITCH, 48" AFF
	OCCUPANCY SENSOR DIMMER SWITCH, 48" AFF
	MOTOR
	DISCONNECT SAFETY SWITCH
	COMBINATION MOTOR STARTER AND DISCONNECT SAFETY SWITCH
	HARDWIRED CONNECTION
	DUPLEX RECEPTACLE, 12" AFF
	ISOLATED GROUND LOCKING SINGLE RECEPTACLES (L630R)
	ISOLATED GROUND DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE WITH MOUNTING HEIGHT
	WEATHER PROOF DUPLEX RECEPTACLE
	GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE, 12" AFF
	ISOLATED GROUND DOUBLE DUPLEX RECEPTACLE, 12" AFF
	DOUBLE DUPLEX RECEPTACLE WITH MOUNTING HEIGHT
	CEILING MOUNTED JUNCTION BOX
	DATA AND/OR VOICE OUTLETS, 12" AFF (DOUBLE DUPLEX CAT 6)
	FIRE ALARM PULL STATION, 48" AFF
	FIRE ALARM VISUAL/STROBE DEVICE, 80" AFF
	FIRE ALARM AUDIO/VISUAL DEVICE, 80" AFF
	FIRE ALARM WP EXTERIOR HORN, 108" AFF
	FIRE ALARM SHUT DOWN RELAY
	CEILING MOUNTED SMOKE DETECTOR WITH INDICATOR LIGHT
	FIRE ALARM STROBE/VISUAL DEVICE, 80" AFF
	CEILING MOUNTED HEAT DETECTOR
	CEILING MOUNTED SMOKE DETECTOR
ABBREVIATIONS	
A	AMPERES
AIC	AMPS INTERRUPTING CURRENT
AFF	ABOVE FINISHED FLOOR
C	CONDUIT
CU	COPPER
CB	CIRCUIT BREAKER
FD	FUSED DISCONNECT SAFETY SWITCH
GND	GROUND CONDUCTOR
IG	ISOLATED GROUND
KVA	KILOVOLT-AMPS
MLO	MAIN LUGS ONLY
MCB	MAIN CIRCUIT BREAKER
NEC	NATIONAL ELECTRICAL CODE
NFD	NON-FUSED DISCONNECT SAFETY SWITCH
UC	UNDER COUNTER
V	VOLTS
WP	WEATHERPROOF

LIGHT FIXTURE SCHEDULE					
MARK	MANUFACTURER	MODEL NO.	LAMPS	VOLTAGE	REMARKS
A	METALUX	22CZ2-39-S-UNV-L840-CD1-U	(1)-31W LED/840 (INCLUDED)	120/277	2' x 2' RECESSED GRID LED WITH DIE-FORMED COLD ROLLED STEEL, INTEGRAL DRIVER AND SMOOTH FROSTED ACRYLIC LENS.
AE	METALUX	22CZ2-39-S-UNV-EL14W-L840-CD1-U	(1)-31W LED/840	120/277	SAME AS FIXTURE TYPE "A" EXCEPT WITH EMERGENCY BATTERY PACK INSTALLED.
B	METALUX	22GR-FA-LD5-40-A125-UNV-L840-CD1-U	(1)-38.8W LED/840/4000K (INCLUDED)	120/277	2' x 2' RECESSED GRID LED WITH DIE-FORMED COLD ROLLED STEEL, INTEGRAL DRIVER AND 0.125 CLEAR ACRYLIC LENS.
BE	METALUX	22GR-FA-LD5-40-A125-UNV-EL14W-L840-CD1-U	(1)-38.8W LED/840/4000K (INCLUDED)	120/277	SAME AS FIXTURE TYPE "B" EXCEPT WITH EMERGENCY BATTERY PACK INSTALLED.
C	METALUX	4VT2-LD4-4-DR-UNV-L840-CD1-WL-SSL-U	(1)-38W LED/840 (INCLUDED)	120	SURFACE MOUNTED WITH FIBERGLASS HOUSING, PRISMATIC LENS, LED SYSTEM INTEGRAL DRIVER, POLYURETHANE GASKETING, STAINLESS STEEL LATCHES & EDP. WALL MOUNT AT 8'-0" AFF.
CE	METALUX	4VT2-LD4-4-DR-UNV-EL10W-L840-CD1-WL-SSL-U	(1)-38W LED/840 (INCLUDED)	120	SAME AS FIXTURE TYPE "C" EXCEPT WITH SELF-CONTAINED EMERGENCY BATTERY OPERATES 10 WATT.

ELECTRICAL NOTES	
E1	COORDINATE EXACT LOCATION OF ALL LIGHT FIXTURES WITH ACTUAL CEILING GRID SYSTEMS AND STRUCTURES. REFERENCE ARCHITECTURAL REFLECTED CEILING PLAN, WALLS, ROOF/CEILING STRUCTURES, SECTIONS & ELEVATIONS. IN EXPOSED CEILING STRUCTURES, CONFIRM WITH ENGINEER AND ARCHITECT EXACT CONDUIT ROUTING PRIOR TO MAKE INSTALLATION AND MUST BE CONCEALED AS MUCH AS POSSIBLE.
E2	INSTALL SINGLE GANG DEEP FLOOR BOX WITH APPROPRIATE COVER PLATE FOR DATA AND/OR VOICE OUTLETS. PROVIDE (1)-1" EMPTY CONDUIT WITH PULL STRING FROM SINGLE GANG DEEP FLOOR BOX UP WALL TO 6" ABOVE ACCESSIBLE CEILING WITH BUSHING.
E3	INSTALL POWER CIRCUIT AS INDICATED FOR CU-1/FCU-1.2. INSTALL 60A/2P NON-FUSED DISCONNECT SWITCH AND MOUNT ON WALL AS SHOWN. POWER TO FCU-1.2 SUPPLIED FROM CU-1. PROVIDE CONDUIT SYSTEM REQUIRED FOR CONTROLS. FIELD COORDINATE AND WITH MECHANICAL CONTRACTOR EXACT REQUIREMENTS.
E4	INSTALL WALL AND/OR BACK BOX WITH 3/4" EMPTY CONDUIT WITH PULL STRING UP WALL TO 6" ABOVE ACCESSIBLE CEILING WITH BUSHING FOR FIRE ALARM AND/OR SECURITY DEVICES. CONFIRM ALL REQUIREMENTS WITH FIRE ALARM AND SECURITY SYSTEMS INSTALLER. ALL LOCATIONS AND REQUIREMENTS OF SECURITY SYSTEM MUST BE CONFIRMED AND COORDINATED WITH SECURITY SYSTEM INSTALLER, FIRE ALARM AND SECURITY SYSTEMS INSTALLER TO PROVIDE SEPERATE DRAWINGS PER NFPA 72 AND 101.
E5	INSTALL SINGLE GANG WALL BOX WITH APPROPRIATE COVER PLATE FOR HVAC THERMOSTAT. PROVIDE 3/4" EMPTY CONDUIT WITH PULL STRING FROM SINGLE GANG WALL BOX UP TO 6" ABOVE ACCESSIBLE CEILING WITH BUSHING. COORDINATE EXACT LOCATION WITH DIVISION 15. MECHANICAL CONTRACTOR. REFER TO MECHANICAL FLOOR PLAN, SHEET 1/M.1 FOR LOCATION OF WALL MOUNTED THERMOSTAT.
E6	ROUGH-IN AND MAKE FINAL CONNECTIONS TO EQUIPMENT SPECIFIED IN OTHER DIVISIONS, OR FURNISHED BY OWNER. FIELD CONFIRM WITH EQUIPMENT SUPPLIER AND/OR INSTALLER EXACT REQUIREMENTS PRIOR BIDDING AND INSTALLATION.
E7	ALL LOCATIONS OF ELECTRICAL AND TECHNOLOGY DEVICES MUST BE CONFIRMED WITH ARCHITECTURAL SECTIONS, ELEVATIONS, MILLWORKS AND CASEWORK PRIOR TO MAKE FINAL INSTALLATIONS. ALL CHANGES DUE TO CONFLICT OF LOCATIONS AND/OR LACK OF ARCHITECTURAL SHEETS COORDINATION SHALL BE MADE WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
E8	ALL CONDUIT PENETRATIONS AT FIRE RATED WALLS MUST BE PROVIDED WITH SCHEDULE 40 GALVANIZED CONDUIT SLEEVE SECURED TO PARTITION WITH GROUT AND CAULK ANNULAR SPACE BETWEEN CONDUIT AND SLEEVE WITH FIRE RETARDANT SEALANT. WHERE CONDUIT IS EXPOSED AT FINISHED WALLS, PROVIDE FLUSH MOUNTED SLEEVE AND STAINLESS STEEL ESCUTCHEON PLATES. AT NON-FIRE RATED INTERIOR WALLS, CAULK ANNULAR SPACE BETWEEN CONDUIT AND SLEEVE WITH 1 LB. DENSITY FIBERGLASS AND SEAL ENDS WITH DOW CORNING 732 RTV OR EQUAL.
E9	ALL EXHAUST FANS (120V/1Ø) ARE SPECIFIED WITH FACTORY INSTALLED DISCONNECT SAFETY SWITCH. MOTOR STARTERS ARE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. THERMOSTATS, FAN INTERLOCKS AND HVAC CONTROLS ARE ALL PROVIDED AND INSTALLED UNDER DIVISION 15. CONFIRM WITH DIVISION 15 AND MECHANICAL SCHEDULES.
E10	COORDINATE AND CONFIRM HORSEPOWER RATING AND LOCATION OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH DIVISION 15 AND MECHANICAL SCHEDULES PRIOR TO ORDERING AND INSTALLATION OF DISCONNECT SAFETY SWITCHES, MOTOR STARTERS OR COMBINATION MOTOR STARTERS.
E11	ALL LIGHTING CIRCUITS SHALL HAVE SEPARATE NEUTRALS. NO SHARED NEUTRALS.

ELECTRICAL DEMOLITION NOTES	
ED1	REFERENCE ARCHITECTURAL SHEETS FOR DEMOLITION AND RENOVATION OF EXISTING WALLS, CEILINGS AND FLOORS. THE FINAL ELECTRICAL SYSTEM AFTER NEW WORK AND DEMOLITION SHALL MEET ALL LOCAL, STATE ELECTRICAL CODES AND 2020 NFPA 70.
ED2	REMOVE EXISTING SERVICE WEATHERHEAD AND RELATED SERVICE CONDUIT, CONDUCTORS, METER TRANSOCKET, BUILDING DISCONNECT SAFETY SWITCH, PANELS AND RELATED FEEDERS AS REQUIRED. FIELD COORDINATE WITH OWNER PRIOR TO MAKE FINAL DEMOLITION.
ED3	REMOVE EXISTING LIGHT FIXTURES AND RELATED SWITCHES, JUNCTION/WALL BOXES, CIRCUIT, CONDUIT AND CONDUCTORS IN RENOVATED AREAS.
ED4	REMOVE EXISTING ELECTRICAL TECHNOLOGY AND FIRE ALARM DEVICES AND RELATED JUNCTION/WALL BOXES, CIRCUIT, CONDUIT AND CONDUCTORS IN RENOVATED AREAS.
ED5	RECONNECT EXISTING EXTERIOR LIGHT FIXTURES TO NEW PANEL "LA" DUE TO DEMOLITION OF EXISTING ELECTRICAL SYSTEMS.
ED7	ALL ELECTRICAL DEMOLITION AND RENOVATION ACTIVITIES SHALL BE PERFORMED CAREFULLY AND ORDERLY SO AS TO AVOID DAMAGING EXISTING WALLS AND CEILING TO REMAIN. CLOSELY FIELD COORDINATE WITH ALL TRADES SEQUENCE OF ELECTRICAL DEMOLITION. ELECTRICAL CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL EXISTING ELECTRICAL SYSTEMS AND SHALL INCLUDE ALL NECESSARY DEMOLITION WORK REQUIRED AS SHOWN BY ARCHITECTURAL PLANS, IN HIS SCOPE OF WORK. ALL ELECTRICAL CUT-OFFS AND SWITCH-OVERS SHALL BE REVIEWED AND COORDINATED WITH ALL TRADES IN ADVANCE OF ANY NEEDS TO AVOID UNWARRANTED INTERRUPTION OF POWER. FIELD CONFIRM EXACT REQUIREMENTS WITH GENERAL CONTRACTOR PRIOR TO SUBMIT BIDDING.

FIRE ALARM & SMOKE DETECTION SYSTEM NOTES	
F1	IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE ALL CONDUIT SYSTEMS AND ELECTRICAL CEILING/WALL BOXES REQUIRED BY FIRE ALARM SYSTEM INSTALLER. FIELD CONFIRM EXISTING FIRE ALARM SYSTEM.
F2	FIRE ALARM INSTALLER TO PROVIDE A SEPARATE DRAWINGS SHOWING ALL DEVICES FOR ENTIRE BUILDING PER NFPA 72/101 AND LOCAL CODES. COORDINATE AND CONFIRM WITH ELECTRICAL CONTRACTOR PRIOR TO SUBMIT BIDDING. FIRE ALARM SYSTEM MUST BE INCLUDED UNDER ELECTRICAL CONTRACTOR BIDS.



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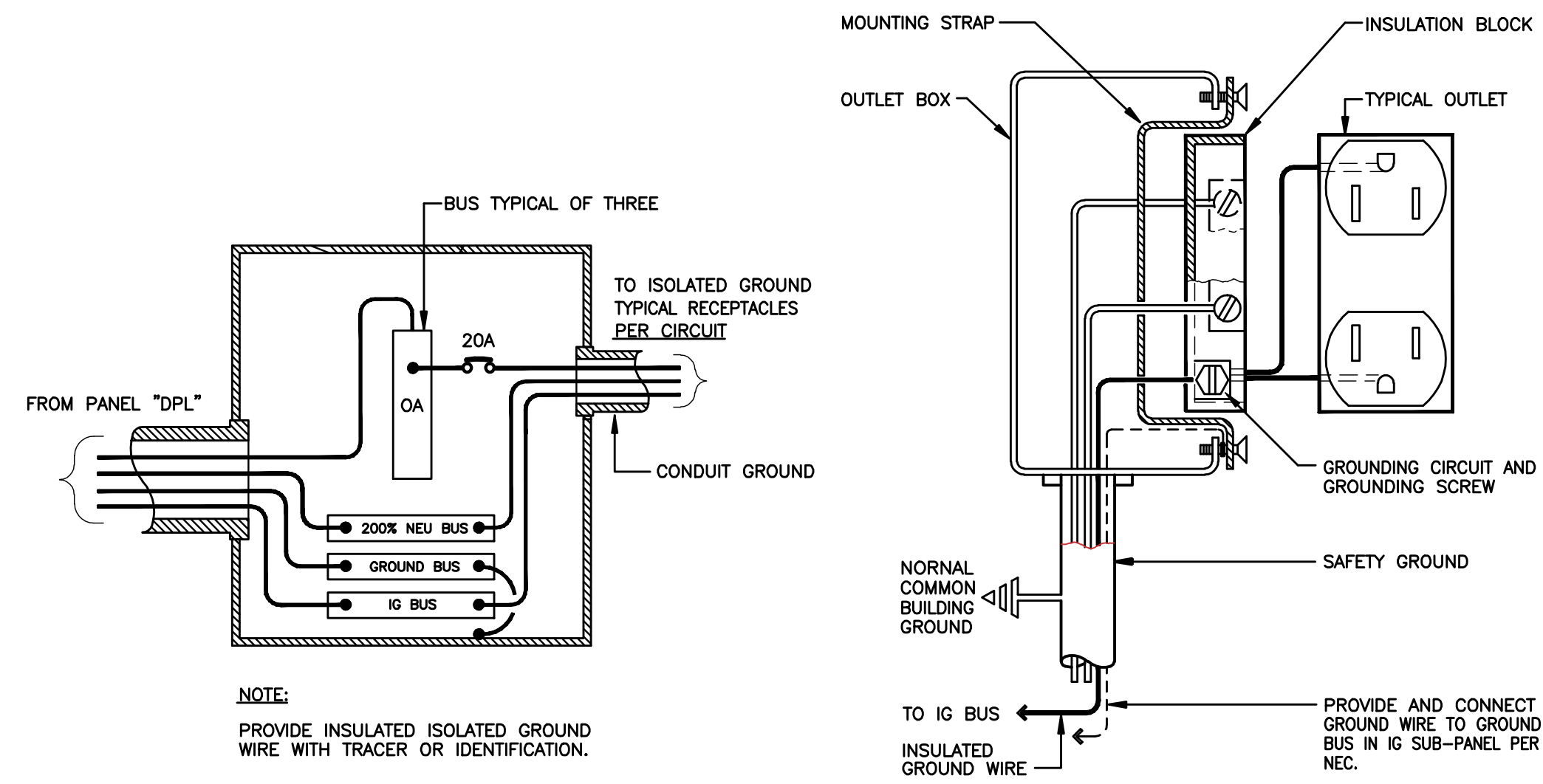


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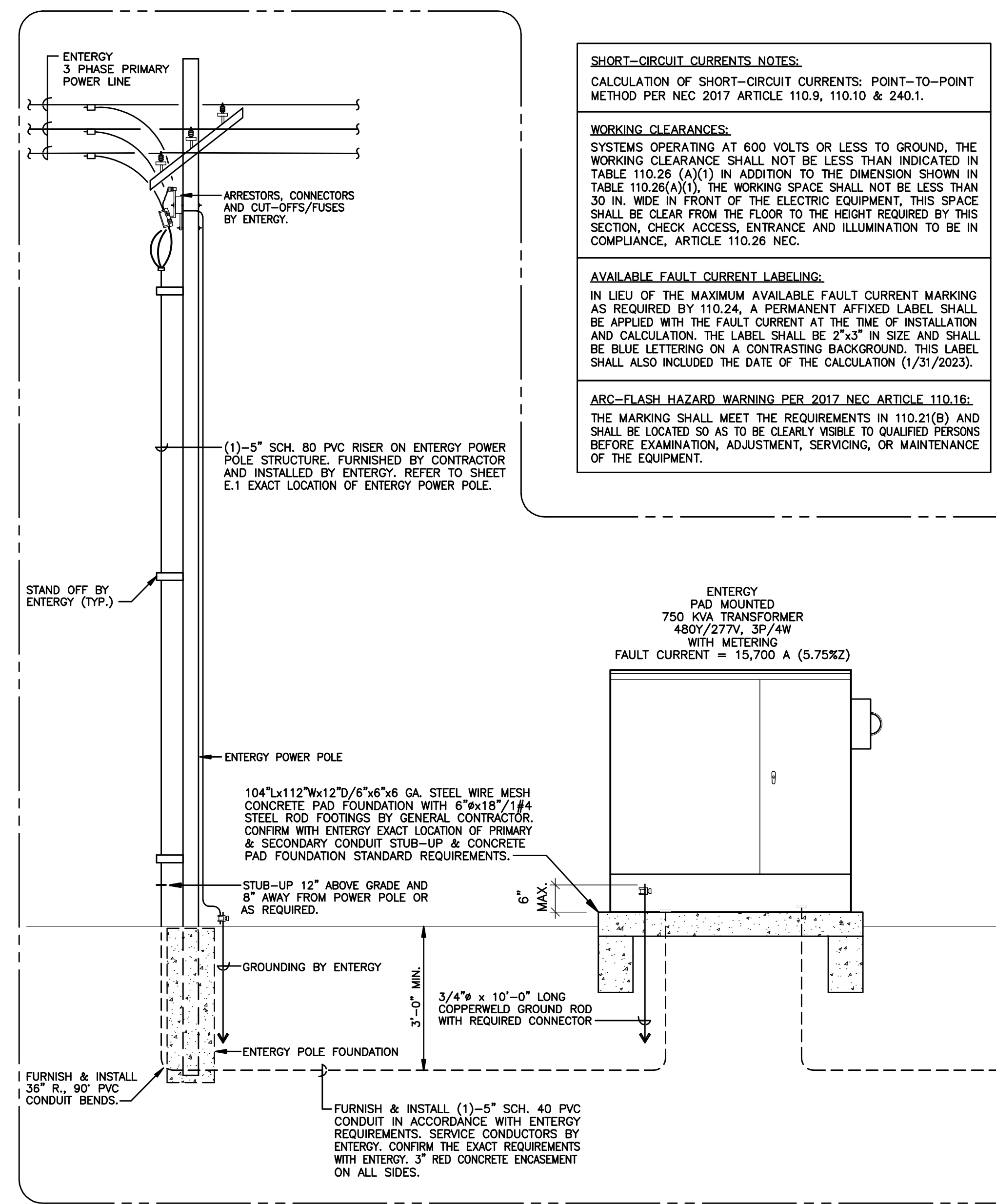


ISOLATED GROUND SUB-PANEL

ISOLATED GROUND RECEPTACLE

2 ISOLATED GROUND REQUIREMENTS

SCALE: NOT TO SCALE



SHORT-CIRCUIT CURRENTS NOTES:
CALCULATION OF SHORT-CIRCUIT CURRENTS: POINT-TO-POINT METHOD PER NEC 2017 ARTICLE 110.9, 110.10 & 240.1.

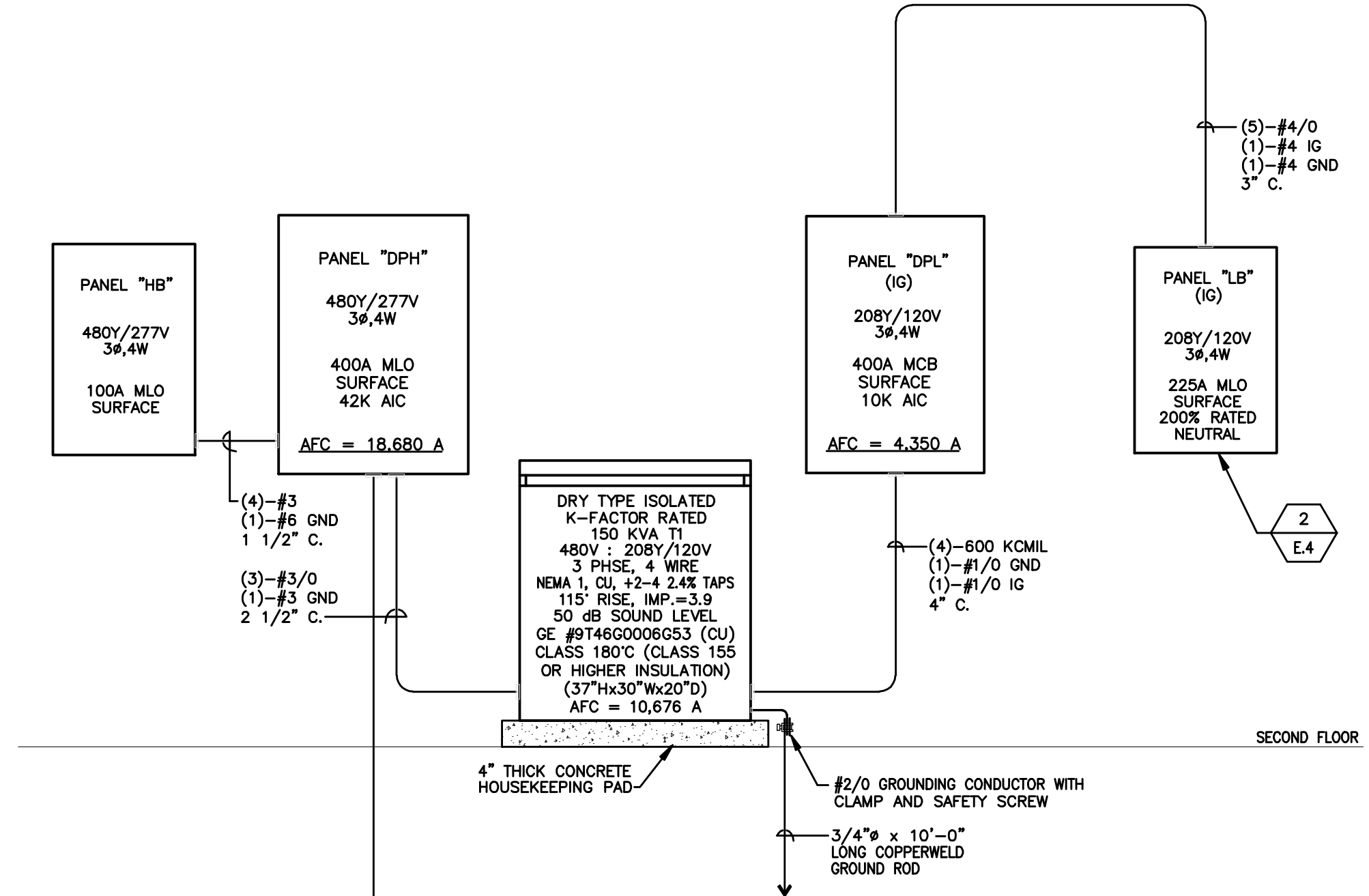
WORKING CLEARANCES:
SYSTEMS OPERATING AT 600 VOLTS OR LESS TO GROUND, THE WORKING CLEARANCE SHALL NOT BE LESS THAN INDICATED IN TABLE 110.25 (A)(1) IN ADDITION TO THE DIMENSION SHOWN IN TABLE 110.26(A)(1). THE WORKING SPACE SHALL NOT BE LESS THAN 30 IN. WIDE IN FRONT OF THE ELECTRIC EQUIPMENT, THIS SPACE SHALL BE CLEAR FROM THE FLOOR TO THE HEIGHT REQUIRED BY THIS SECTION. CHECK ACCESS, ENTRANCE AND ILLUMINATION TO BE IN COMPLIANCE, ARTICLE 110.26 NEC.

AVAILABLE FAULT CURRENT LABELING:
IN LIEU OF THE MAXIMUM AVAILABLE FAULT CURRENT MARKING AS REQUIRED BY 110.24, A PERMANENT AFFIXED LABEL SHALL BE APPLIED WITH THE FAULT CURRENT AT THE TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2"x3" IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDED THE DATE OF THE CALCULATION (1/31/2023).

ARC-FLASH HAZARD WARNING PER 2017 NEC ARTICLE 110.16:
THE MARKING SHALL MEET THE REQUIREMENTS IN 110.21(B) AND SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.

1 ELECTRICAL RISER ONE-LINE DIAGRAM

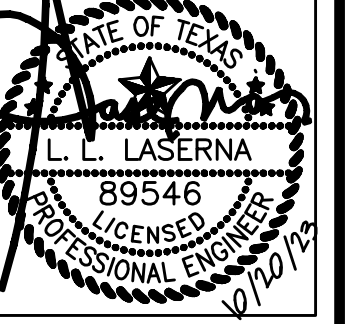
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ELECTRICAL RISER NOTES

- (ER1) ELECTRICAL CONTRACTOR MUST CONFIRM THE ACTUAL PHYSICAL DIMENSIONS OF NEW PANELS AND TRANSFORMER PRIOR TO MAKE FINAL INSTALLATION AND TO BE INSTALLED PER NEC OR AT "WORKING HEIGHT".
- (ER2) FIELD VERIFY AND COORDINATE EXACT ROUTING OF ALL CONDUITS WITH ALL TRADES PRIOR TO MAKE FINAL INSTALLATION.
- (ER3) CONFIRM EXACT REQUIREMENTS WITH MANUFACTURER PRIOR MAKE FINAL INSTALLATION.
- (ER4) CONTACT LEAH PIERCE AT (281) 610-8067 (EMAIL: Leah.Pierce@Cummins.com) OF CUMMINS FOR 750 KW GEN./1200A ATS/REMOTE ALARM ANNUNCIATOR QUOTES AND REQUIREMENTS PRIOR TO SUBMIT BIDDING.

LOAD ANALYSIS	
LOADS: VOLT-AMPERES (VA)	VA
LIGHTING LOADS (NEC 2017 ARTICLE 220.12)	
LIGHTING LOADS: 28,000 x 3.5 VA/SF x 1.25 = 122,500 VA	122,500
RECEPTACLE LOADS (NEC 2017 ARTICLE 220.14 (K))	
RECEPTACLE LOADS: 28,000 x 1.00 VA/SF = 28,000 VA	28,000
MOTOR AND HVAC LOADS (NEC 2017 ARTICLE 430.24.25 & 440)	
a.) HVAC & PLUMBING = 28,000 x 20 VA/SF = 560,000 VA	
b.) 25% OF THE HIGHEST MOTOR (10 HP-480/3Ø) = 11,600 VA x .25 = 2,900 VA	
c.) EQUIPMENT & MISCELLANEOUS = 28,000 x 5 VA/SF = 140,000 VA	
TOTAL HVAC LOAD = 560,000 + 2,900 + 140,000 = 702,900 VA	702,900
A.) DEMAND LOAD - BUILDING	853,400
REMARKS:	
TOTAL CALCULATED DEMAND LOAD IN AMPS (SERVICE VOLTAGE IS 480Y/277VAC 3P/4W) = 863,400/(480 x 1.732) = 1039 AMPS. THEREFORE, 1200 AMPS SERVICE IS SELECTED.	

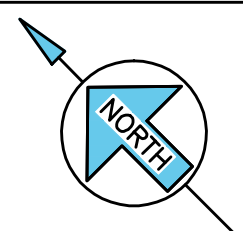
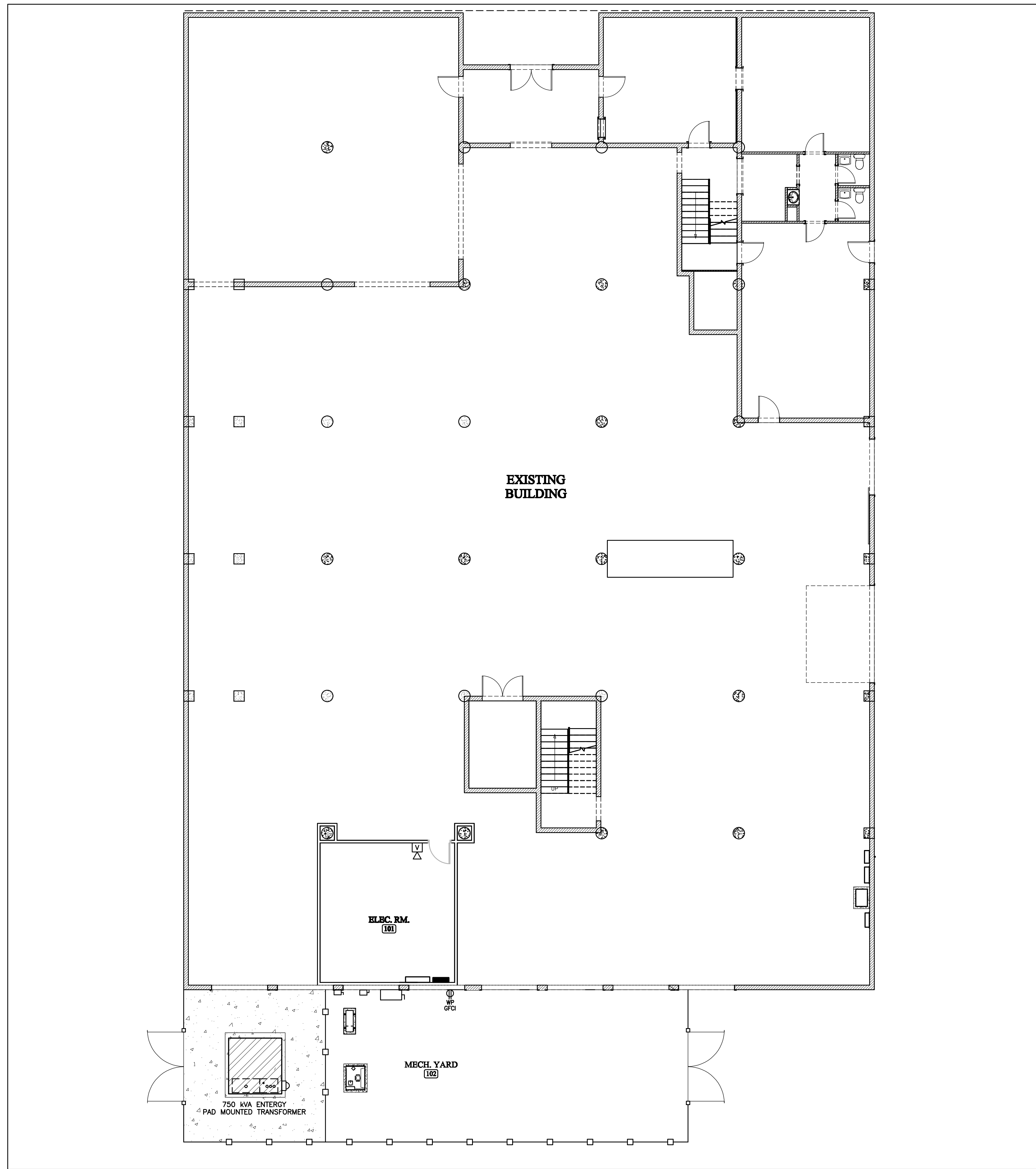


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1 ELECTRICAL SITE PLAN
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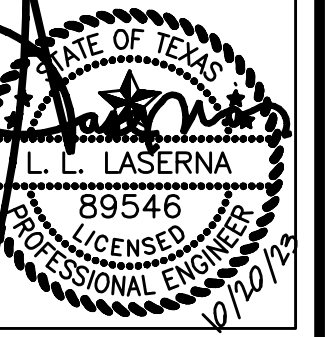
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SHEET NUMBER
ES.1
 1 OF 1 SHEETS

MEPT123-01
 PROJECT NO.



MEPTech Engineering, Incorporated
 TYPE FIRM # F-10227
 5000 ADA AVENUE
 BEAUMONT, TEXAS 77708
 PHONE: (409) 679-6019
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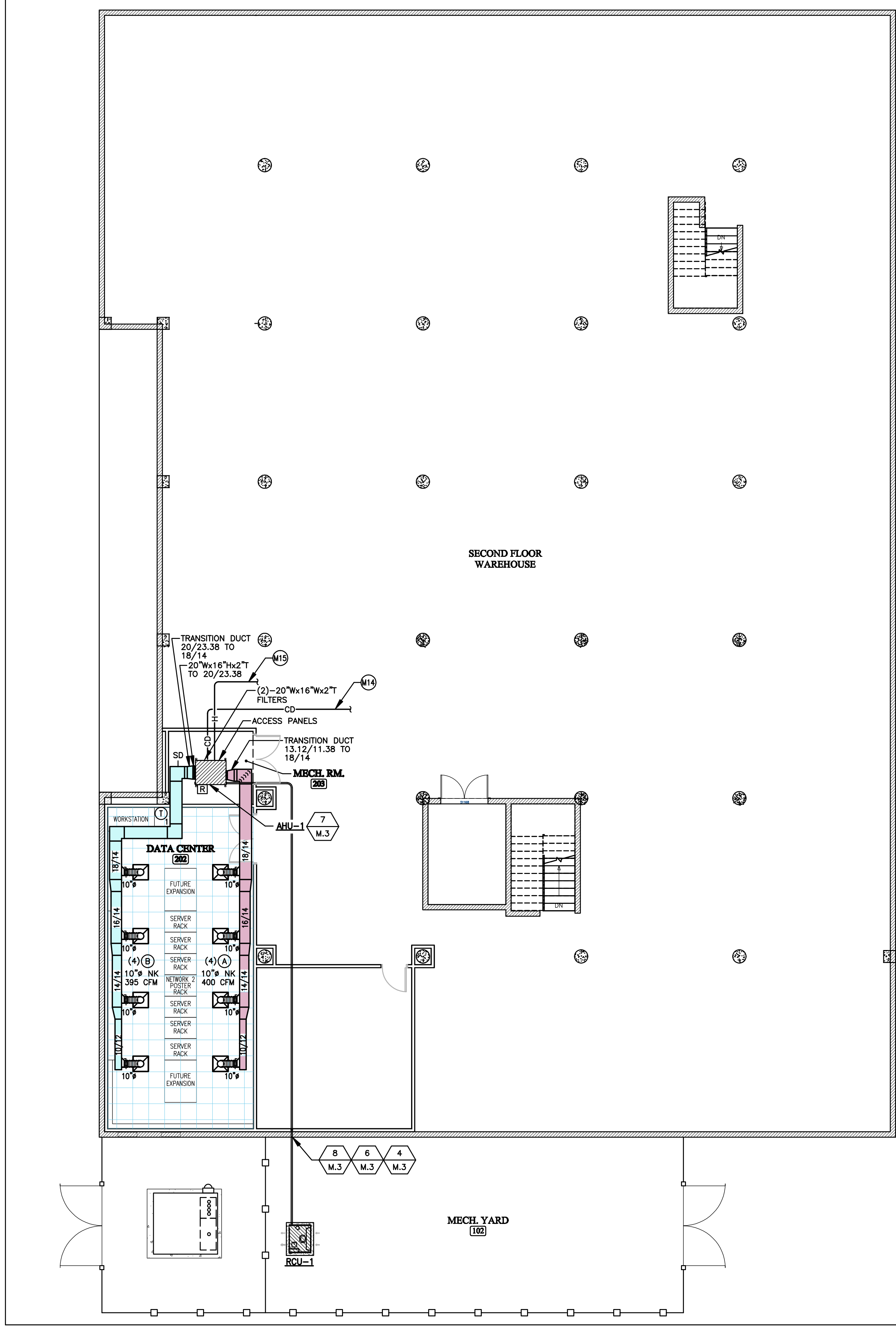


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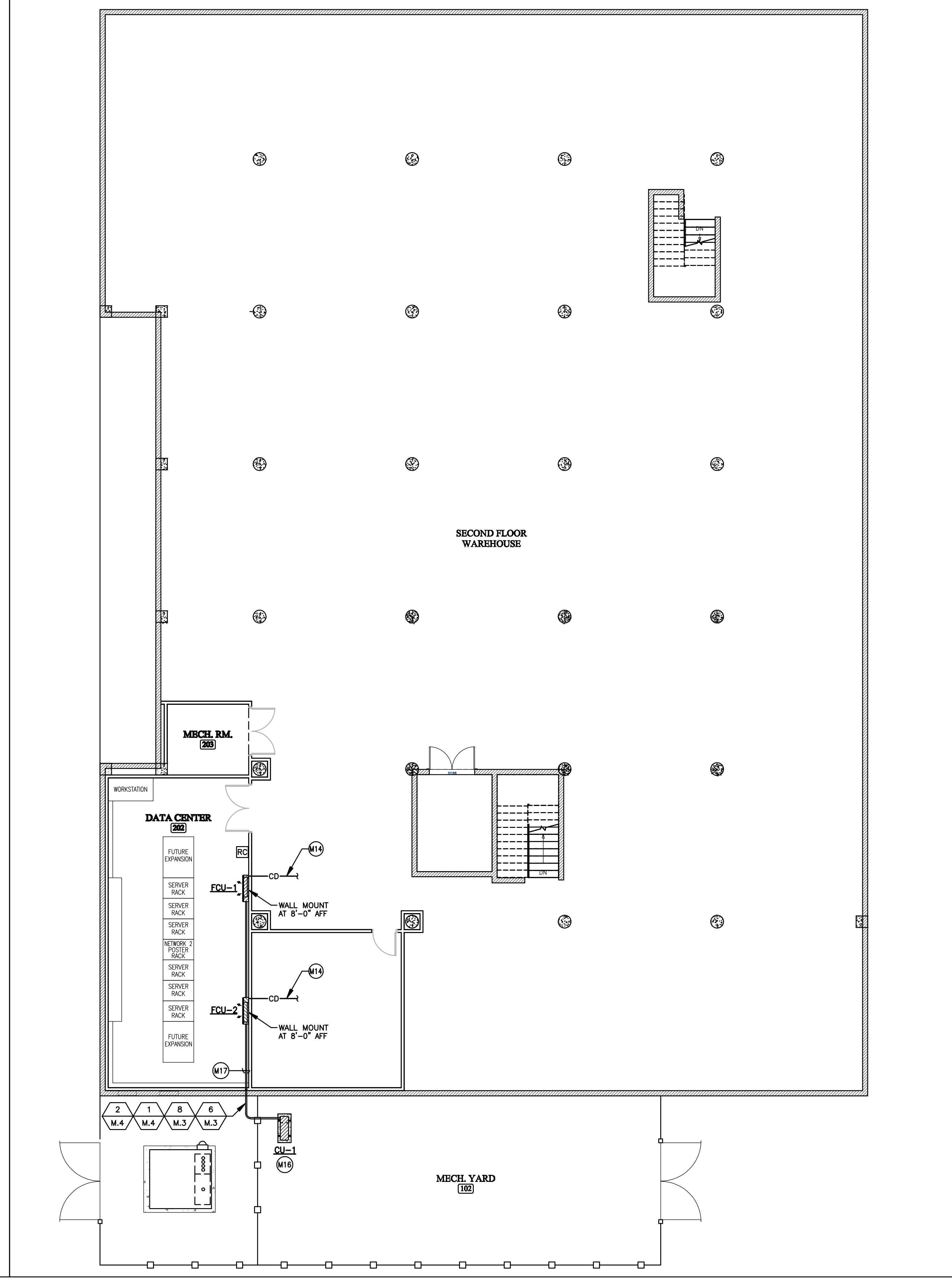
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1 MECHANICAL SECOND FLOOR PLAN
 SCALE: 1/8" = 1'-0"



1 MECHANICAL SECOND FLOOR PLAN
 SCALE: 1/8" = 1'-0"

CONDENSING UNIT SCHEDULE																				
MARK	COOLING CAPACITY		AMBIENT TEMP. (°F)		COMPRESSOR				OUTDOOR FAN			REFRIGERANT		ELECTRICAL SUPPLY			REMARKS			
	TON	MBH	db	wb	TYPE	STAGE	RLA	LRA	DRIVE	MOTOR HP	CFM	TYPE	PIPE SIZE (IN.) SUCTION LIQUID	MCA	MOCP	VOLT		PHASE	Hz	
RCU-1	4.0	55	95	77	SCROLL	1	15.4	114.0	BELT	0.8	3200	R-407C	1-1/8	1/2	22.9	35	208	3	60	STULZ OHS-048-RCU-0

NOTES: 1.) ALL ALUMINUM CABINET CONSTRUCTION, ALUMINUM FIN COPPER TUBE COIL CONSTRUCTION & VIBRATION ISOLATION OF COMPRESSOR.
2.) FACTORY INSTALLED WEATHERPROOF DISCONNECT SAFETY SWITCH.
3.) COOLING ONLY. 15 SEER MIN. RATING.
4.) FIVE (5) YEARS LIMITED WARRANTY FOR COMPRESSOR & ALL COVERED COMPONENTS.

VRV CONDENSING UNIT SCHEDULE																				
MARK	COOLING CAPACITY			AMBIENT TEMP. (°F)		COMPRESSOR				OUTDOOR FAN			REFRIGERANT		ELECTRICAL SUPPLY			REMARKS		
	TON	MBH	INPUT POWER kW	db	wb	TYPE	STAGE	RLA	SOUND POWER L dBA	SOUND PRESSURE H dBA	CFM	TYPE	PIPE SIZE (IN.) SUCTION LIQUID	MCA	MOCP	VOLT	PHASE		Hz	
CU-1	4.0	45.5	4.85	80	67	HEAT PUMP	INVERTER	19	76	58	2682	R-410A	5/8	3/8	29.1	35	208	1	60	DAIKIN RXTQ48TAVJUA

NOTES: 1.) VARIABLE REFRIGERANT TEMPERATURE TECHNOLOGY.
2.) ENGINEERED WITH HIGHLY RELIABLE DAIKIN SWING COMPRESSOR.
3.) COOLING ONLY. 18 SEER RATING. 2 PIPE REFNET JOINT #KHRP26A22T9 AND CONFIRM EXACT REQUIREMENTS WITH DAIKIN.
4.) TEN (10) YEARS LIMITED WARRANTY FOR COMPRESSOR & PARTS.

AIR HANDLING UNIT SCHEDULE																								
MARK	DISCHARGE FLOW	AIRFLOW CFM/TON	EVAPORATOR COIL				BLOWER				REFRIGERANT		CONDENSATE DRAIN		CONDENSATE PUMP		HUMIDIFIER INLET		SYSTEM ELECTRICAL POWER SUPPLY		REMARKS			
			COOLING CAPACITY		DX COOLING TEMP. (°F)		DRIVE TYPE	SPEED	MOTOR HP	FLA	ESP H ₂ O	TYPE	PIPE SIZE (IN.)		CONNECTION/SIZE (IN.)	HP	FLA	CONNECTION/SIZE (IN.)	VOLT	PHASE		Hz	MCA	MOCP
			MBH	db	wb	GAS							LIQUID											
AHU-1	HORIZONTAL	1600/4.0	55	75	62.5	BELT	ADJUSTABLE	1	3.3	0.50	R407C	1-1/8	1/2	3/4	1/30	1.2	1/4	208	3	60	26	30	STULZ OHS-048-AHU	

NOTES: 1.) AHU-1 WITH:
a.) FILTER CABINET AND UV GERMICIDAL LAMP.
AHU-1: FILTER SIZE - (2)-20"x16"xh2".
b.) SINGLE-POINT POWER SOURCE CONTROL BOX (FAN, CONDENSATE PUMP AND UV LAMP) WITH FACTORY INSTALLED DISCONNECT SAFETY SWITCH.
c.) CORROSION RESISTANT DRAIN PAN HAVE PIPE DRAINS.
d.) TOUCHSCREEN THERMOSTAT.
e.) HUMIDICATION WITH CYCLING STANDARD CONTROL.
f.) UNIT MOUNTED RETURN AIR SENSOR & FIELD INSTALLED SPOT TYPE WATER DETECTOR.
g.) STULZ FACTORY STARTUP.

FAN COIL UNIT SCHEDULE																			
MARK	DISCHARGE FLOW	AIRFLOW RATE H/L CFM	EVAPORATOR COIL				REFRIGERANT		CONDENSATE DRAIN		CONDENSATE PUMP		HUMIDIFIER INLET		SYSTEM ELECTRICAL POWER SUPPLY		REMARKS		
			COOLING CAPACITY		DX COOLING TEMP. (°F)		TYPE	PIPE SIZE (IN.)		CONNECTION/SIZE (IN.)	WATTS	FLA	CONNECTION/SIZE (IN.)	VOLT	PHASE	Hz		MCA	MOCP
			MBH	db	wb	GAS		LIQUID											
FCU-1,2	FORWARD	635/470	24	80	67	R410A	5/8	3/8	11/16	16	0.15	1/4	208	1	60	0.6	15	DAIKIN FXAQ24PVJU	

NOTES: 1.) FCU-1,2:
a.) MINI UNIVOLT 100-250 PUMP KIT DACA-CP-1.
b.) ELECTRONIC CONDENSATE OVERFLOW SWITCH DACA-CFS1.
c.) NAVIGATION REMOTE CONTROLLER BRC1E73.
d.) AUTO-SWING MECHANISM IAR DISTRIBUTION.
e.) FIVE DIFFERENT AIRFLOW DISTRIBUTION ANGLES PROGRAMMABLE.
f.) WIDE AIR DISCHARGE OUTLET DISTRIBUTION.
g.) STANDARD LIMITED WARRANTY 10-YEAR WARRANTY ON COMPRESSOR AND ALL PARTS.

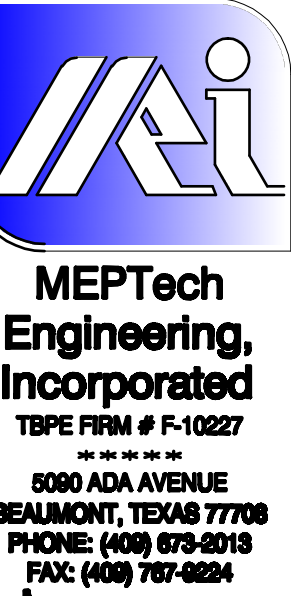
AIR DISTRIBUTION DEVICE SCHEDULE							
MARK	FUNCTION	MAKE MODEL NO. OR APPROVED EQUAL	FACE SIZE (INCH)	OPENING SIZE (INCH)	MOUNTING STYLE BORDER	MATERIAL OF CONSTRUCTION	REMARKS
(A)	SUPPLY AIR DIFFUSER	TITUS OMNI-AA	24x24	22x22	GRID/LAY-IN	ALUMINUM	NOTES: 1, 2, 3, 4
(B)	RETURN AIR GRILLE	TITUS 45F	24x24	22x22	GRID/LAY-IN	ALUMINUM	NOTES: 1, 2, 3, 4, 5

NOTES:
1. REFER TO MECHANICAL FLOOR PLAN FOR NECK SIZES.
2. 4-WAY THROW UNLESS OTHERWISE NOTED.
3. STANDARD FINISH #26 WHITE. CONFIRM COLOR WITH OWNER.
4. 1/2" x 1/2" x 1" SIGHT-PROOF EGGRATE RETURN GRILLES

NOTE:
REMOVE EXISTING SPRINKLER HEADS, AND RELATED PIPING AND SUPPORTS AFFECTED BY RENOVATION. MODIFY, REROUTE OR INSTALL NEW PIPING AND SUPPORTS AS REQUIRED. MODIFICATION AND INSTALLATION SHALL CONFORM WITH 2022 NFPA 13, SPRINKLER SYSTEMS.

MECHANICAL SYMBOLS	
	REFERENCE TO DETAIL AND SHEET NUMBER
	EQUIPMENT FURNISHED BY DIVISION 15
	EQUIPMENT FURNISHED BY OTHER DIVISIONS
	THERMOSTAT, 48" AFF. NUMBER DENOTES UNIT
	NAVIGATION REMOTE CONTROLLER, 48 AFF
	DUCT MOUNTED SMOKE DETECTOR WITH LIGHT
	SHUT DOWN RELAY
	ABOVE FINISHED FLOOR
	REMOTE CONDENSING UNIT/AIR HANDLING UNIT
	CONDENSING UNIT/FAN COIL UNIT
	REFRIGERANT SUCTION
	REFRIGERANT LIQUID
	CONDENSATE DRAIN PIPING
	REFRIGERANT FILTER/DRYER
	THERMOSTATIC EXPANSION VALVE
	SIGHT GLASS AND MOISTURE INDICATOR
	SUPPLY AIR DEVICE WITH TYPE AND CFM
	RETURN AIR DEVICE WITH TYPE AND CFM
	SUPPLY DUCTWORK WITH DIMENSION (WIDTHxDEPTH)
	RETURN DUCTWORK WITH DIMENSION (WIDTHxDEPTH)
	MANUAL VOLUME CONTROL DAMPER
	MOTORIZED VOLUME CONTROL DAMPER-LOW VOLTAGE
	TURNING VANE
	FIRE DAMPER

MECHANICAL NOTES	
(M1)	THE EXACT MOUNTING HEIGHTS AND/OR LOCATIONS OF ALL HVAC EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL OTHER MECHANICAL, ELECTRICAL, ARCHITECTURAL AND STRUCTURAL SYSTEMS.
(M2)	THE FINAL LOCATION OF AIR DEVICES MUST BE COORDINATED WITH THE LOCATION OF LIGHT FIXTURES, CEILING FANS, ARCHITECTURAL AND STRUCTURAL SYSTEMS.
(M3)	ALL ACCESS DOORS REQUIRED IN GENERAL CONSTRUCTION ARE TO BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR. IT IS THE RESPONSIBILITY OF THE HVAC CONTRACTOR TO IDENTIFY SIZE, TYPE AND LOCATION OF SUCH DOORS FOR PROPER ACCESS TO ALL CONCEALED HVAC EQUIPMENT, VALVES AND OTHER RELATED EQUIPMENT. THE HVAC CONTRACTOR SHALL IDENTIFY THESE REQUIREMENTS ON A COORDINATED SHOP DRAWING PRIOR TO SYSTEM FABRICATION AND INSTALLATION.
(M4)	THE EXACT SIZES AND LOCATIONS OF ALL WALL AND/OR ROOF OPENINGS REQUIRED MUST BE COORDINATED AND APPROVED BY GENERAL CONTRACTOR AND OWNER. STRUCTURAL FRAMES AROUND ALL OPENINGS SHALL BE FURNISHED AND INSTALLED AS REQUIRED.
(M5)	PROVIDE SLEEVES AND FLASHING REQUIRED FOR PIPING AND DUCTWORK PENETRATIONS. PROVIDE ESCUTCHEON PLATES FOR ALL PIPING PENETRATING FINISHED WALLS AND CEILINGS.
(M6)	VERIFY ALL EQUIPMENT VOLTAGES WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING ALL HVAC EQUIPMENT. ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL POWER AND CONTROL CONDUIT FOR HVAC EQUIPMENT AS REQUIRED. HVAC CONTROLS CONTRACTOR WILL INSTALL CONTROL VOLTAGE WIRING IF REQUIRED. HVAC CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS WITH ALL TRADES.
(M7)	ONLY THE MANUFACTURERS LISTED ON CONTRACT DRAWINGS OR SPECIFICATIONS ARE APPROVED FOR BIDDING UNLESS INSTRUCTED OTHERWISE BY OWNER. ALL OTHER MANUFACTURERS WILL BE CONSIDERED AS SUBSTITUTIONS AND MUST HAVE PRIOR APPROVAL IN WRITING SUBMITTED TO THE OWNER AS SOON AS POSSIBLE BEFORE THE BID DATE.
(M8)	FOR ALL CEILING SUPPLY AIR DIFFUSERS, PROVIDE A 2" THICK R-8 FOIL FACED INSULATION BLANKET COMPLETELY COVERING TOP OF DIFFUSERS. ALL INSULATION MATERIALS USED THROUGHOUT THE AIR DISTRIBUTION SYSTEMS SHALL BE FACTORY STAMPED WITH RELATED R VALUE.
(M9)	MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCE AROUND HVAC EQUIPMENT. ALL DUCT SIZES NOTED ARE INSIDE CLEAR DIMENSIONS.
(M10)	ALL INTERIOR SUPPORTS, CLAMPS AND RELATED ITEMS SHALL BE SHOP PRIMED UNLESS GALVANIZED CONSTRUCTION. ALL EXTERIOR SUPPORTS, CLAMPS AND RELATED ITEMS SHALL BE OF GALVANIZED CONSTRUCTION. COAT ANY FIELD WELDS, CUTS OR DAMAGED WITH GALVANIZED COATING WITH TWO COATS ZINC RICH CHROMATE PAINT.
(M11)	FLEXIBLE DUCT DIAMETER SHALL MATCH THE NECK SIZE OF THE DIFFUSER TO WHICH IT CONNECTS, UNLESS NOTED OTHERWISE. THE TOTAL LENGTH OF FLEXIBLE DUCT RUN SHALL NOT EXCEED 6 FT. EXTEND HARD DUCT WITHIN 6 FT. OF THE AIR DEVICE FOR COMPLIANCE. FLEXIBLE DUCTWORK IS NOT PERMITTED FOR USE IN ANY PARTS OF THE RETURN OR EXHAUST AIR SYSTEMS. FLEXIBLE DUCTWORK MUST BE INSTALLED WITH SUPERIOR WORKMANSHIP MAINTAINING FULL CROSS SECTIONAL AREA THROUGHOUT. SUPPORT FROM STRUCTURE AT 24" INTERVALS WITH THREADED RODS AND UNISTRUTS TO ENSURE FULL CROSS SECTIONAL AREA FOR MAXIMUM AIR FLOW.
(M12)	PROVIDE PROGRAMMABLE THERMOSTAT AT 48" AFF. AT LOCATION AS SHOWN ON PLANS. VERIFY THE EXACT LOCATION AND REQUIREMENTS WITH OWNER AND/OR ARCHITECT. INSTALL WALL BOX AND CONDUIT SYSTEM REQUIRED FOR WALL MOUNTED THERMOSTAT. COORDINATE THE REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
(M13)	INSTALL LOW VOLTAGE MOTORIZED VOLUME DAMPER REQUIRED. INTERLOCK WITH AHU. OPENS WHEN FAN IS ON AND CLOSSES WHEN FAN IS OFF.
(M14)	MECHANICAL CONTRACTOR TO INSTALL AND/OR EXTEND 3/4" CONDENSATE DRAIN PIPING TO SANITARY SEWER LINE OR APPROVED DRAIN SYSTEM IN ACCORDANCE OF LOCAL CODES. FIELD CONFIRM AND COORDINATE EXACT LOCATION OF CONNECTION AND REQUIREMENTS PRIOR TO SUBMIT BIDDING AND/OR MAKE FINAL INSTALLATION.
(M15)	MECHANICAL CONTRACTOR TO INSTALL AND/OR EXTEND 1/2" HUMIDIFIER WATER PIPING TO WATER LINE WITH CUT-OFF VALVE. FIELD CONFIRM AND COORDINATE EXACT LOCATION OF CONNECTION AND REQUIREMENTS PRIOR TO SUBMIT BIDDING AND/OR MAKE FINAL INSTALLATION.
(M16)	INSTALL 45"x21"x4" CONCRETE PAD. STRAP DOWN WITH 2 GALV. METAL STRAPS OVER THE CU-1 AND CONCRETE PAD.
(M17)	PROVIDE SUPPORTS AND ROUTE GAS/LIQUID REFRIGERANT PIPING AND CONTROLS WIRING IN CONDUIT SYSTEM FROM CU-1 UP ABOVE CEILING THROUGH WALL TO FCU-1 & 2. SEAL WATERTIGHT PIPING PENETRATIONS ON WALL WITH FLASHING. FIELD COORDINATE AND CONFIRM EXACT ROUTING OF PIPING AND CONTROLS WIRING WITH GENERAL CONTRACTOR AND/OR OWNER PRIOR TO MAKE FINAL INSTALLATION.

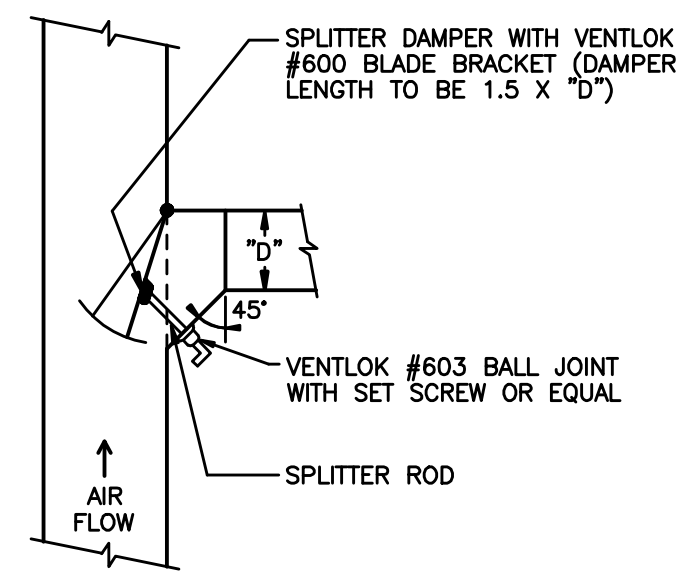


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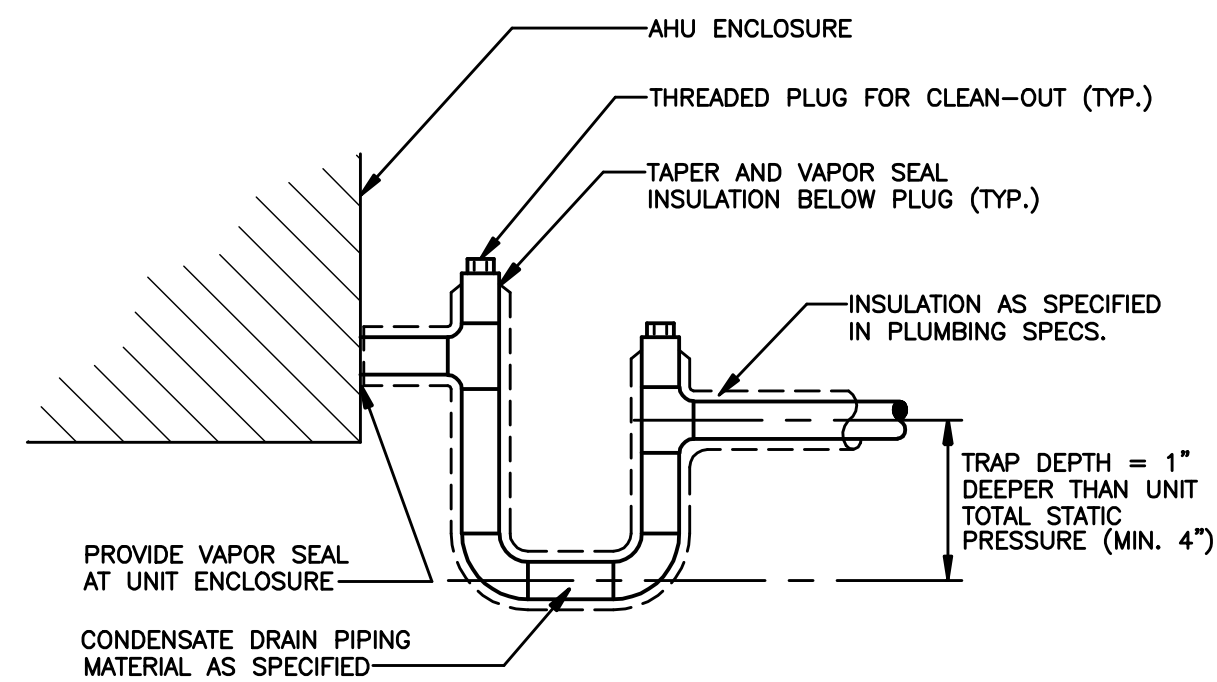
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SUB-BRANCH TAKE-OFF
(MAXIMUM 1000 CFM)

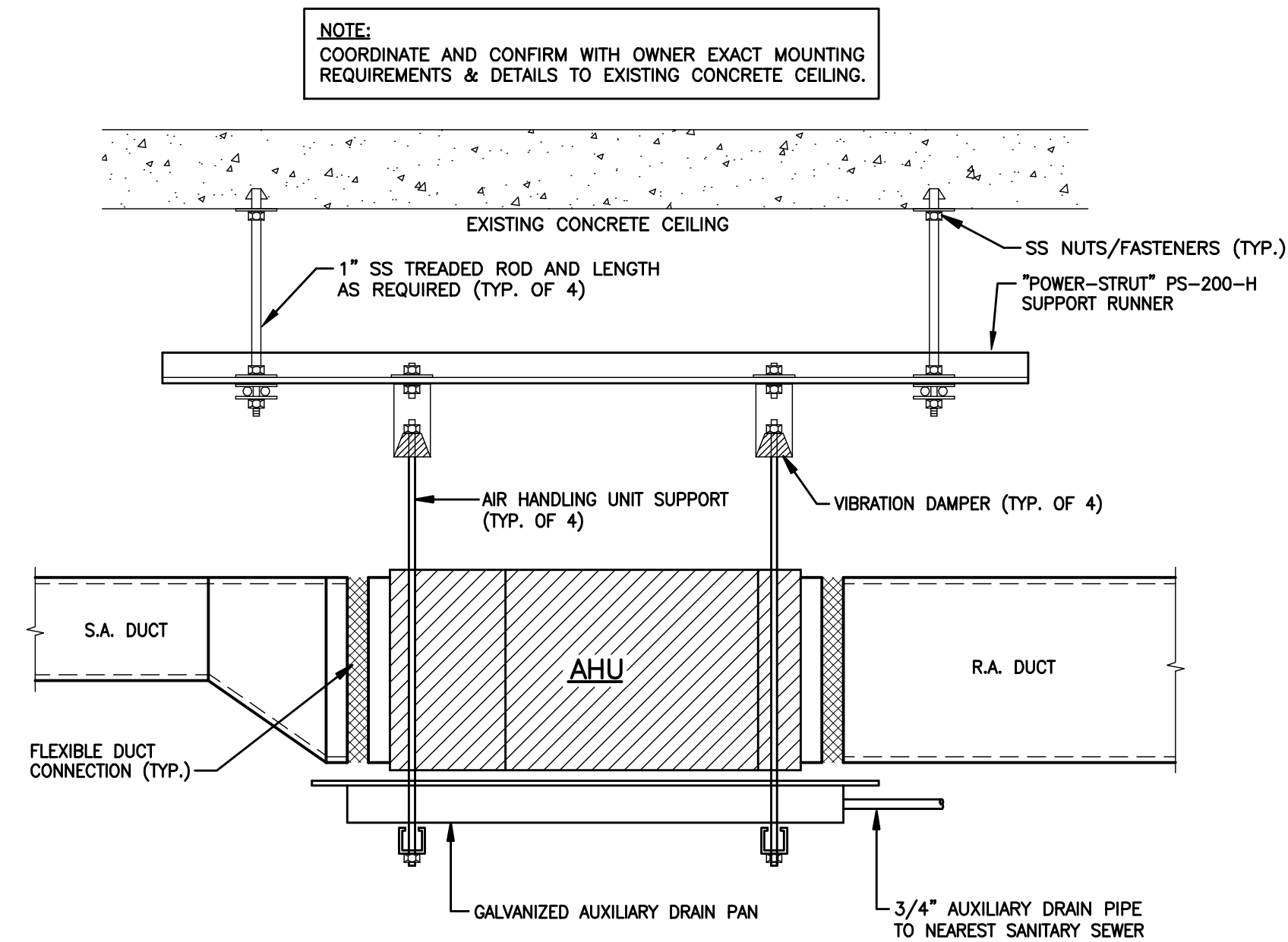
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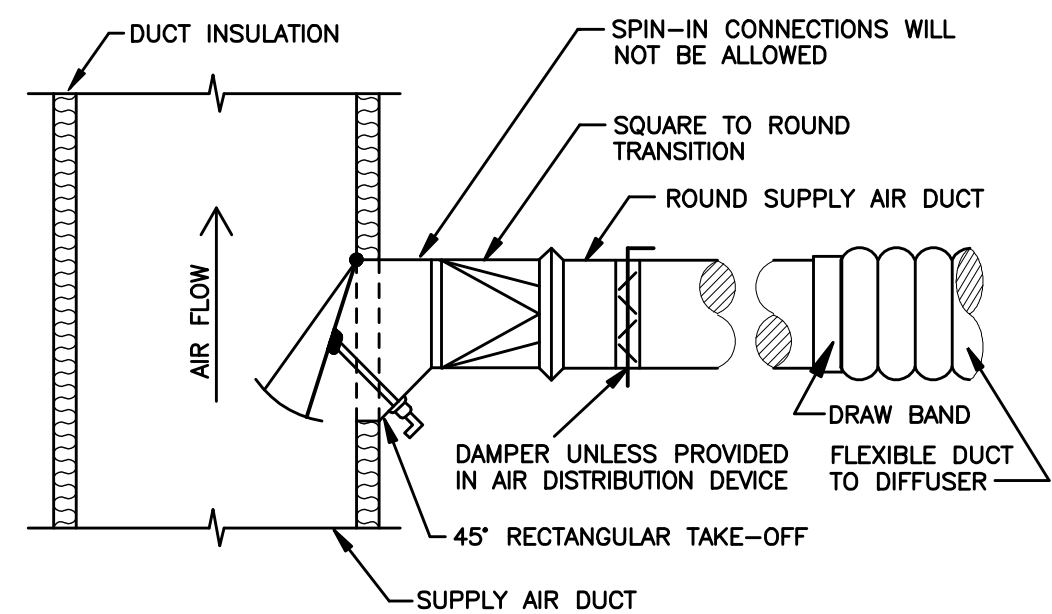
2 CONDENSATE DRAIN PIPING

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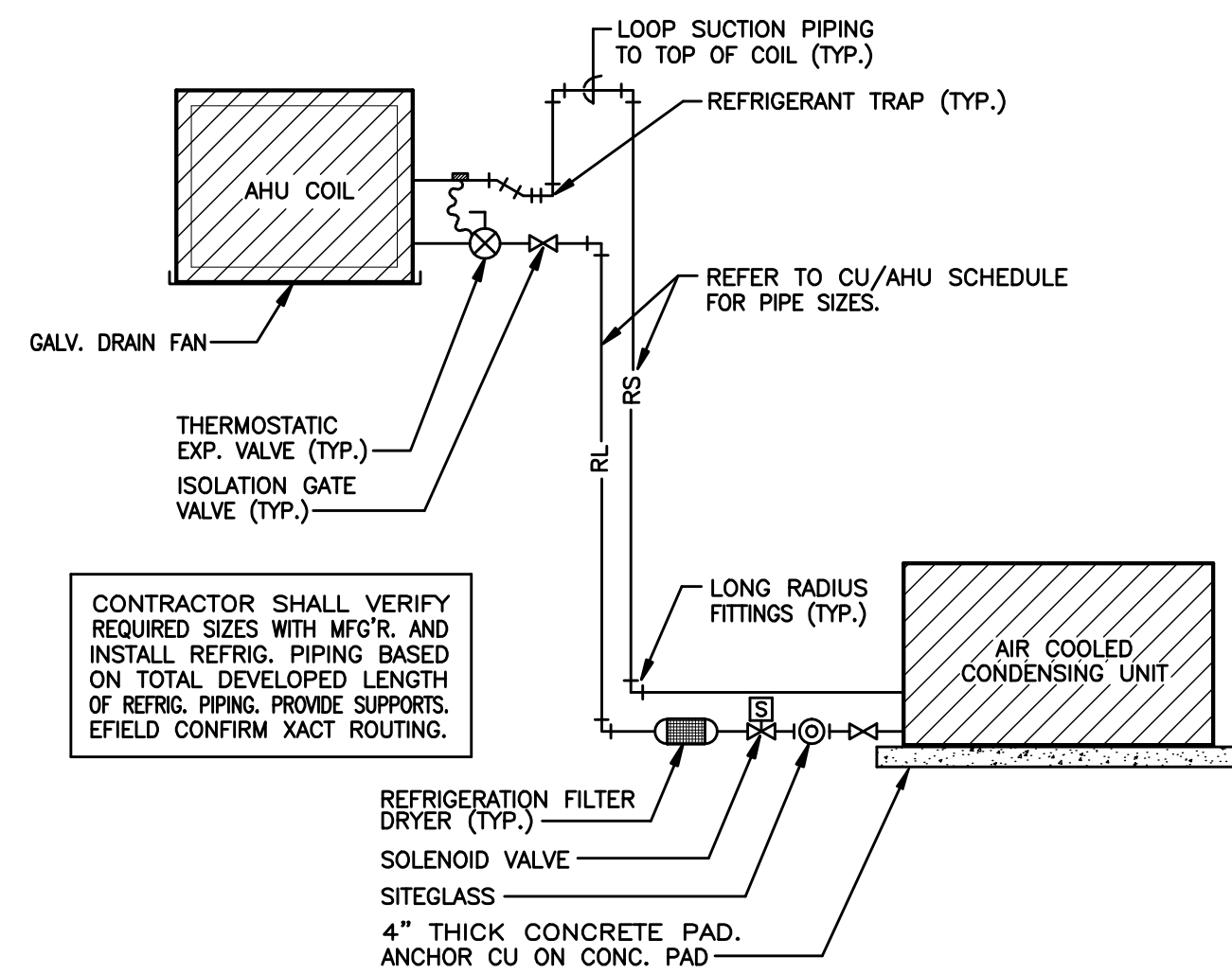
7 AIR HANDLING UNIT SUPPORT REQUIREMENTS

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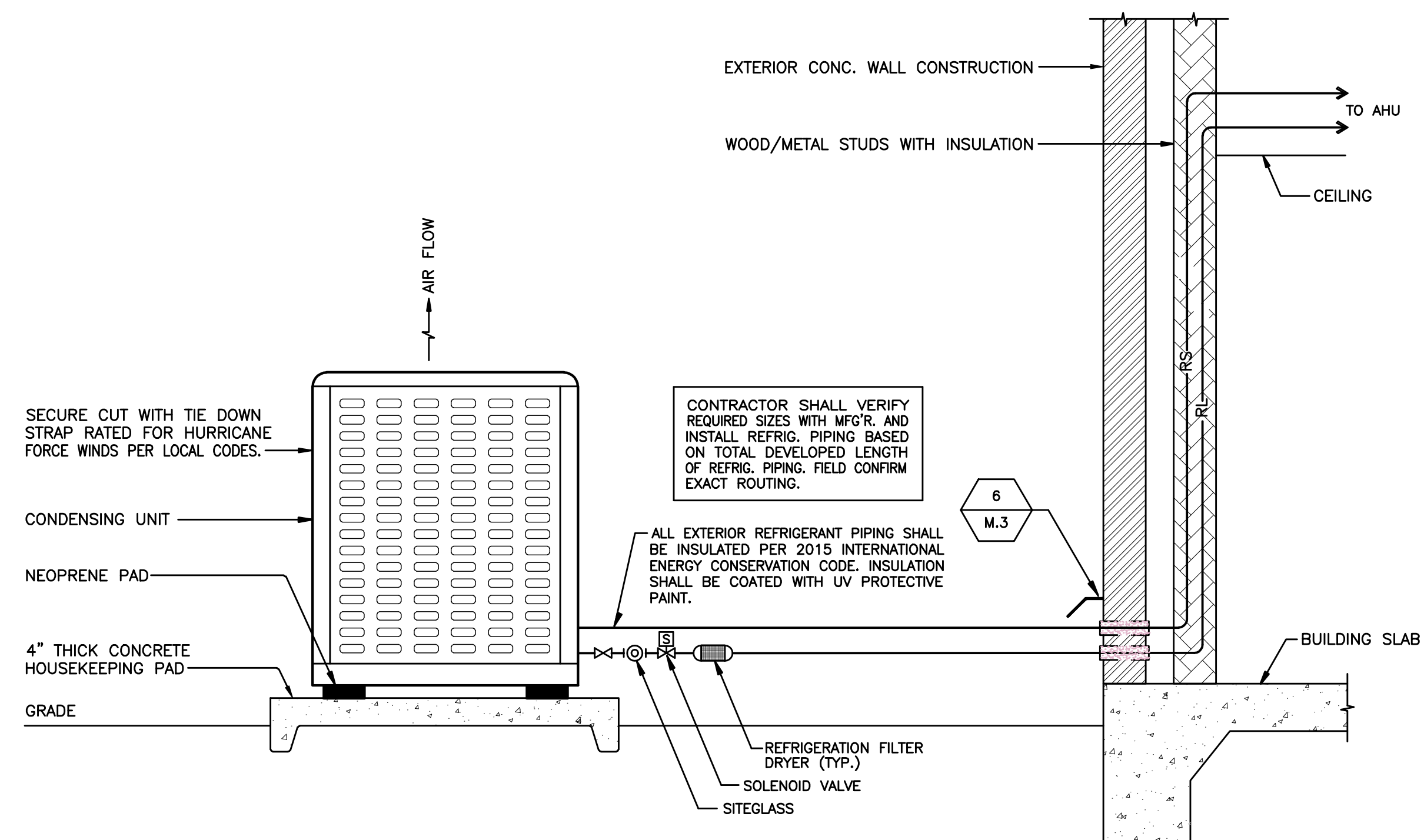
3 FLEXIBLE DUCT CONNECTION

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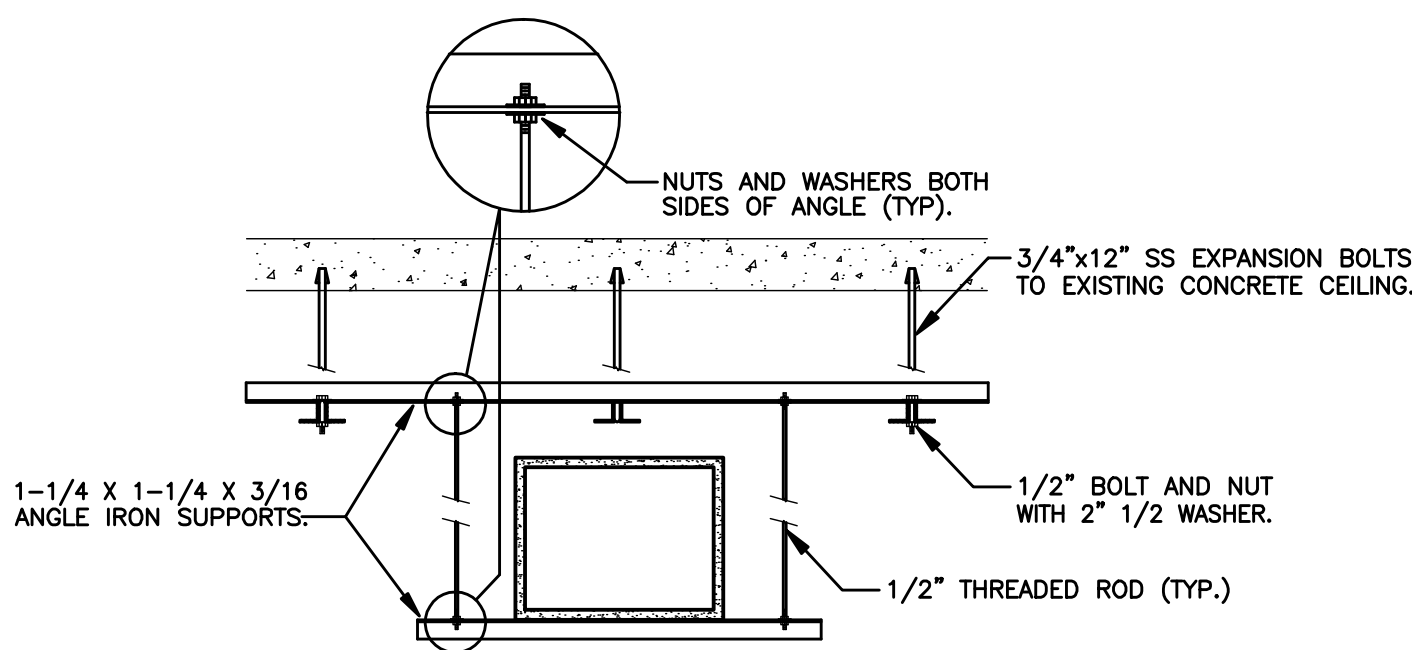
4 REFRIGERANT PIPING DIAGRAM

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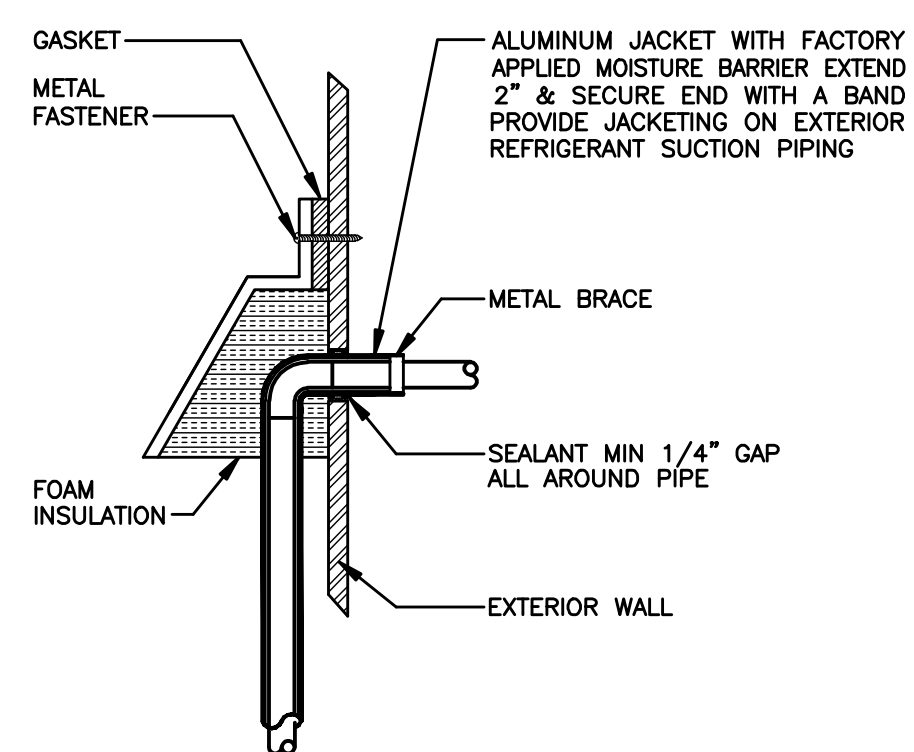
8 AIR COOLED CONDENSING UNIT & PIPING

SCALE: NOT TO SCALE



5 SUPPLY & RETURN DUCT HANGER

SCALE: NOT TO SCALE



6 REFRIGERANT PIPING THRU EXTERIOR WALL

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L. L. LASERNA
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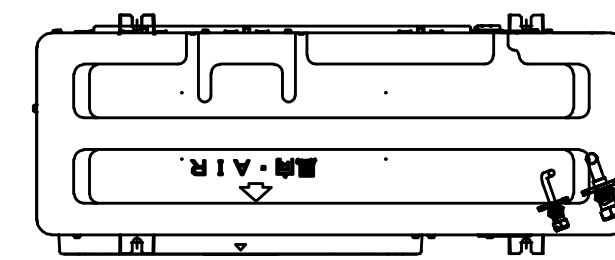
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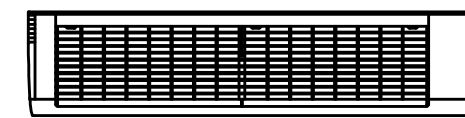
CU - 1
RXTQ48TAVJUA



3/8 x
5/8"

KHRP26A22T9

3/8 x
5/8"



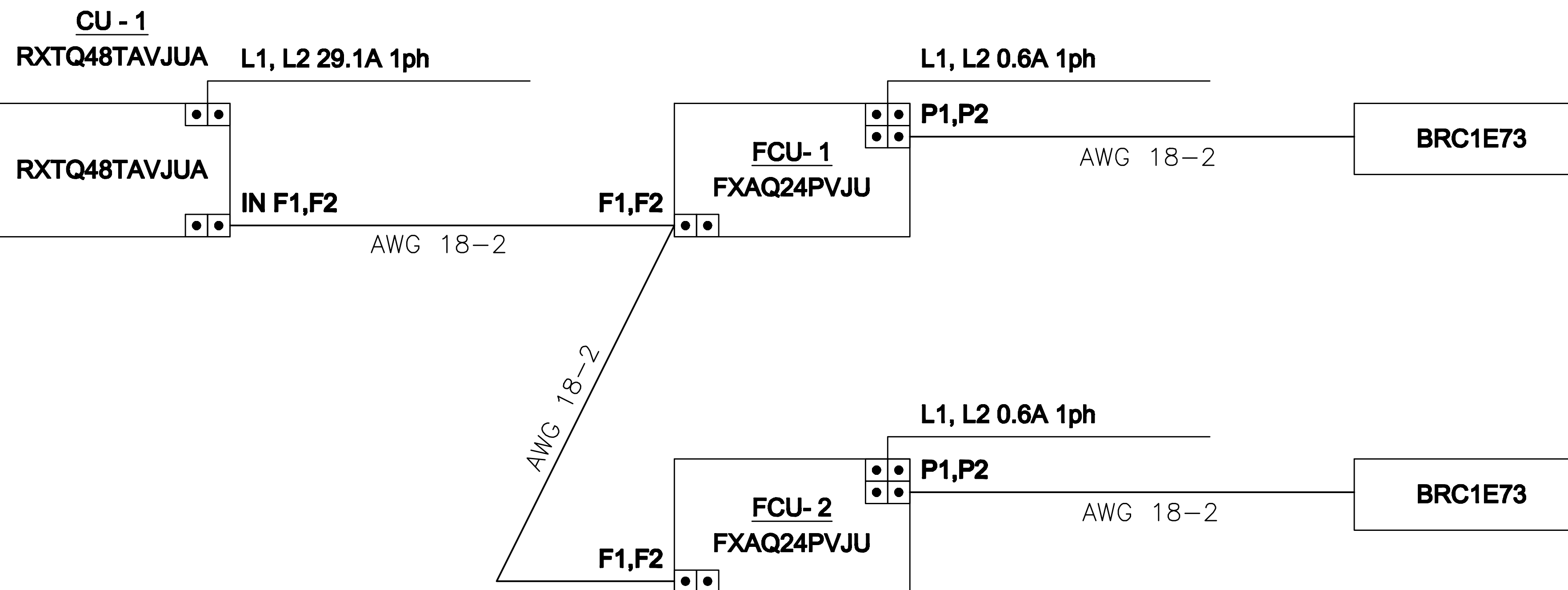
FCU- 1
FXAQ24PVJU



3/8 x
5/8"

FCU- 2
FXAQ24PVJU

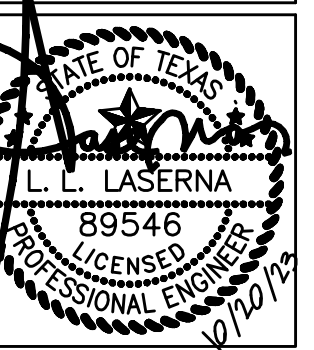
1 VRV PIPING DIAGRAMS
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2 VRV WIRING DIAGRAMS
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