

UNIT NO.	MANUFACTURER & MODEL NO.	NOMINAL CAPACITIES	QUANTITY	LOCATION	TYPE	SERVICE	SUPPLY FAN		COOLING				HEATING				ELECTRICAL DATA				CONNECTION SIZES			OP. WT. LBS.	DIMENSIONS	REMARKS					
							CFM	S.P. (IN.)	HP (W)	TOTAL CAPACITY (MBTU/HR)	SENSIBLE CAPACITY (MBTU/HR)	SEER (SEER)	ENT AIR TDB	ENT AIR TDB	TOTAL CAPACITY (MBTU/HR)	COP (HSPF)	ELECTRIC KEAT (KW)	VOLTS	PHASE	MCA	MOCP	VOLTS	PHASE				MCA	MOCP	LIG. LINE OD COPPER	SUCTION OD COPPER	CONDENSATE DRAIN
FC 1	CARRIER FV4CNB005LCO	4 TON	2	ABOVE CEILING	HORIZONTAL DUCTED HEAT PUMP	OFFICE	1520	0.5	1/2	48	34.79	(14)	80	67	46.55	(8.2)	13.5	208	1	5.4	15	208	3	55.5	60	3/8"	1/8"	3/4"	180	54"X23"X22"H	HORIZONTAL CONFIGURATION. PROVIDE WITH R-410A REFRIGERANT, MERV-13 FILTERS, AND FACTORY AUXILIARY ELECTRIC HEAT.
FC 2	CARRIER FJ4DNB24LLO	2 TON	1	ABOVE CEILING	HORIZONTAL DUCTED HEAT PUMP	OFFICE	800	0.5	1/3	24	17.88	(15)	80	67	23.64	(8.5)	10	208	1	59.6	60	-	-	-	-	3/8"	5/8"	3/4"	140	50"X23"X21"H	HORIZONTAL CONFIGURATION. PROVIDE WITH R-410A REFRIGERANT, MERV-13 FILTERS, AND FACTORY AUXILIARY ELECTRIC HEAT.
FC 3	CARRIER 40MAHB004XAS	3/4 TON	2	HIGH MALL	HIGH MALL DUCTLESS HEAT PUMP	WAREHOUSE RESTROOMS	380	-	(24.6)	9	7.67	(22.5)	80	67	19	(12.5)	-	208	1	0.325	-	-	-	-	1/4"	3/8"	5/8"	30	32"X19"X12"H	HIGH MALL DUCTLESS FAN COIL. PROVIDE WITH R-410A REFRIGERANT, 100V CONDENSATE PUMP AND WIRED REMOTE CONTROLLER. INDOOR UNIT POWERED THRU OUTDOOR UNIT.	

UNIT NO.	MAKE/ MODEL	NOMINAL CAPACITIES	NO. REG.	LOCATION	TYPE	SERVICE	AMBIENT AIR °F DB	REFRIGERANT	COMPRESSOR DATA			CONDENSER FANS		UNIT ELECTRICAL DATA			OPERATING WT. (LBS.)	DIMENSIONS	REMARKS
									QTY.	RLA	LRA	QTY.	FLA	MCA	MOCP	VOLTS-PHASE			
CU 1	CARRIER 25HHA442A006	4 TON	2	GRADE	HEAT PUMP W/ HORIZONTAL DUCTED FAN COIL	OFFICE	100°	R-410A	1	6.2	41	1	0.8	8.6	15	460-3	250	45"X18"X44"H	PROVIDE WITH PAD.
CU 2	CARRIER 25SCAS24A003	2 TON	1	GRADE	HEAT PUMP W/ VERTICAL DUCTED FAN COIL	OFFICE	100°	R-410A	1	11.1	59.9	1	0.6	14.5	25	208-1	160	35"X35"X38"H	PROVIDE WITH PAD.
CU 3	CARRIER 38MGRQ18B--3	1.5 TON	1	GRADE	MULTI-ZONE HEAT PUMP W/ HIGH MALL DUCTLESS FAN COILS	WAREHOUSE RESTROOMS	100°	R-410A	1	10	-	1	0.74	18	25	208-1	110	31"X15"X28"H	PROVIDE WITH PAD. INDOOR UNITS POWERED THRU OUTDOOR UNIT.

SYM	ABB.	DESCRIPTION
XX	-	DETAIL REFERENCE NUMBER
XXXX	-	SHEET-TAKEN FROM, SHEET SHOWN
○	-	AIR DISTRIBUTION EQUIP. REFERENCE
○	-	AIR QUANTITY REFERENCE (CFM)
○	-	HVAC EQUIPMENT REFERENCE UNIT NUMBER
○	-	ROUND CEILING DIFFUSER
○	-	SQUARE CEILING DIFFUSER
○	-	RETURN GRILLE
○	-	EXHAUST AIR GRILLE
○	-	RETURN AIR GRILLE
○	-	DUCT SECTION (SUPPLY)
○	-	DUCT SECTION (RETURN)
○	-	DUCT SECTION (EXHAUST)
○	-	DIRECTION OF AIR FLOW
○	-	CHANGE IN DUCT ELEVATION
○	-	DUCT SIZE, FIRST FIGURE IS SIZE SHOWN
○	BDD	BACKDRAFT DAMPER
○	-	MOTORIZED DAMPER-ELECTRIC
○	-	MOTORIZED DAMPER PNEUMATIC
○	VD	MANUAL VOLUME DAMPER
○	SMR	SIDE WALL REGISTER
○	FLEX	FLEXIBLE DUCT
○	TRANS	TRANSITION, ROUND TO RECTANGULAR
○	-	PIPE GUIDE
○	PA	PIPE ANCHOR
○	-	STEAM TRAP
○	(L)	ACOUSTICALLY LINED DUCT
CHWS	-	CHILLED WATER SUPPLY
CHWR	-	CHILLED WATER RETURN
HWHS	-	HEATING HOT WATER SUPPLY
HWHR	-	HEATING HOT WATER RETURN
LPS	-	LOW PRESSURE STEAM
HPS	-	HIGH PRESSURE STEAM
CR	-	STEAM CONDENSATE RETURN
CWS	-	CONDENSER WATER SUPPLY
CWR	-	CONDENSER WATER RETURN
TS	-	TEMPERATURE SENSOR
UNO	-	UNLESS NOTED OTHERWISE
UTR	-	UP THRU ROOF
POC	-	POINT OF CONNECTION
POR	-	POINT OF REMOVAL
GV	-	GLOBE VALVE
BV	-	BALL VALVE
STR	-	STRAINER
SFD	-	COMB. SMOKE/FIRE DAMPER
WMS	-	WIRE MESH SCREEN
SD	-	SMOKE DETECTOR

MARK	CFM	NECK	REMARKS
RA	0-220	8"φ	KRUEGER MODEL 6690
EA	221-410	10"φ	
EA	411-650	12"φ	
EA	651-850	14"φ	
EA	851-1000	16"φ	
EA	1001-1400	18"X18"	KRUEGER MODEL 6490
SA	0-220	8"φ	KRUEGER MODEL 6500
SA	221-350	10"φ	
SA	351-500	12"φ	
SA	501-650	14"φ	
SA	651-750	16"φ	
SA	751-1100	18"X18"	KRUEGER MODEL 6200
SAR	0-100	6"X6"	KRUEGER MODEL 880 WITH OBD.
SAR	101-220	8"X8"	
SAR	221-410	10"X10"	
SAR	411-600	12"X12"	
SAR	601-790	14"X14"	
RAR	0-100	6"X6"	KRUEGER MODEL 5 80 WITH OBD.
RAR	101-220	8"X8"	
RAR	221-350	10"X10"	
RAR	351-550	12"X12"	
RAR	551-700	14"X14"	
RAR	701-850	16"X16"	
RAR	851-1000	18"X18"	
RAR	1001-1250	20"X20"	
RAR	1251-1660	24"X24"	
RAR	1661-2100	30"X30"	

GENERAL NOTES AND SPECIFICATIONS

- ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE CALIFORNIA MECHANICAL CODE, CALIFORNIA BUILDING CODE, AND ALL OTHER APPLICABLE CODES AND REGULATIONS, INCLUDING CALIFORNIA ENERGY CONSERVATION STANDARDS DIVISION T-24.
- COORDINATE THE ENTIRE INSTALLATION OF THE HVAC SYSTEM WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OF INSTALLATION. PROVIDE ALL FITTINGS OFFSETS AND TRANSITIONS AS REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
- COORDINATE THE LOCATION OF ALL CEILING DIFFUSERS, REGISTERS AND GRILLES WITH THE ARCHITECTURAL REFLECTIVE CEILING PLAN, ELECTRICAL LIGHTING LAYOUT AND ARCHITECTURAL ROOM ELEVATIONS.
- COORDINATE THE LOCATION OF ALL ROOF OPENINGS AND THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT WITH THE STRUCTURAL, FIRE PROTECTION AND ARCHITECTURAL PLANS PRIOR TO ANY INSTALLATION. PROVIDE EQUIPMENT HEIGHTS AND PLATFORM SIZES.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS VALVES AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
- MAINTENANCE LABEL SHALL BE AFFIXED TO ALL MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNERS USE.
- ALL APPLIANCE AND PLUMBING VENTS AND DISCHARGE OF EXHAUST FANS SHALL BE AT LEAST TEN FEET IN HORIZONTAL DIRECTION OR THREE FEET ABOVE THE OUTSIDE AIR INTAKES FOR HVAC UNITS.
- ALL LINE AND LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT. ALL CONDUIT AND LINE AND LOW VOLTAGE WIRING, INCLUDING FINAL CONNECTIONS, SHALL BE FURNISHED AND INSTALLED AS INDICATED ON THE DRAWINGS.
- Ⓢ INDICATES ITEMS FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AS SHOWN ON THE DWGS. OR SPECIFIED IN THE ELECTRICAL SECTIONS OF THE SPECIFICATIONS.
- Ⓜ INDICATES ITEMS FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR AS SHOWN ON THE DWGS AND SPECIFIED IN THE MECHANICAL SPECIFICATIONS.
- ACCESS TO ROOF EQUIPMENT SHALL COMPLY WITH CHAPTER 9 OF THE CMG.
- ALL DUCT WORK SHALL BE CONSTRUCTED, ERECTED, SUSPENDED AND TESTED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF LOCAL REGULATIONS, PROCEDURES DETAILED IN THE ASHRAE HANDBOOK OF FUNDAMENTALS, OR THE APPLICABLE STANDARDS ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION. DUCT SHALL BE GALVANIZED STEEL OR SPIRAL LOCKSEAM. ALL DUCT SIZES ARE NET FREE AREA. SUSPEND PER SMAGNA GUIDELINES FOR SEISMIC RESTRAINT.
- MANUAL VOLUME DAMPERS SHALL BE PROVIDED IN ALL DUCT BRANCHES.
- ALL EQUIPMENT, DUCTS, PIPING AND OTHER DEVICES AND MATERIALS INSTALLED OUTSIDE OF THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHER-PROOFED.
- COORDINATE LOCATION OF EQUIPMENT WITH STRUCTURAL AND ARCHITECTURAL PLANS.
- ALL EQUIPMENT DESIGNED TO BE FIXED IN POSITION SHALL BE SECURELY FASTENED IN PLACE.
- DUCTWORK SHALL BE INSULATED OR LINED. SUPPLY AND RETURN DUCT INSULATION SHALL BE 2" THICK, 3/4 LB./CUBIC FT. DENSITY PER T-24 REQUIREMENTS. ALL DUCTWORK EXPOSED ON THE ROOF SHALL BE INTERNALLY LINED UNLESS OTHERWISE INDICATED OR SPECIFIED. ALL DUCT JOINTS SHALL BE SEALED.
- AIR BALANCING: ALL SPACE CONDITIONING AND VENTILATION SYSTEMS SHALL BE BALANCED BY AN INDEPENDENT AABC CERTIFIED COMPANY TO THE QUANTITIES SPECIFIED IN ACCORDANCE WITH THE ASSOCIATED AIR BALANCE COUNCIL (AABC) NATIONAL STANDARDS (2002). PROVIDE FINAL FIELD ADJUSTMENTS AS DIRECTED. SUBMIT FIVE COPIES OF COMPLETE REPORT TO ARCHITECT AND ONE TO BUILDING ENGINEER FOR REVIEW.
- MATERIALS EXPOSED WITHIN DUCTS OR FLENUMS SHALL HAVE A FLAME-SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH UBC STANDARD 8-1.

UNIT NO.	MANUFACTURER & MODEL NO.	NO. REG.	SERVICE	LOCATION	CFM	S.P. (IN.)	TYPE	HP	VOLTAGE	OPERATING WT. (LBS.)	DIMENSIONS	REMARKS
EF 1	COOK ACEB 300	3	WAREHOUSE GENERAL VENTILATION	ROOF	8,000	0.25	CENT.	1-1/2	460V, 3φ	300	55"φX50"X ROOF CURB, 8"	SUPPLY WITH ROOF CURB AND BACKDRAFT DAMPER
EF 2	COOK ACEB 120	1	ELECTRICAL ROOM	ROOF	750	0.375	CENT.	1/6	120V, 1φ	100	24"φX21"X ROOF CURB, 8"	SUPPLY WITH ROOF CURB AND BACKDRAFT DAMPER
EF 3	COOK ACEB 135	1	OFFICE	ROOF	1,450	0.375	CENT.	1/3	120V, 1φ	110	24"φX28"X ROOF CURB, 8"	SUPPLY WITH ROOF CURB AND BACKDRAFT DAMPER
EF 4	COOK ACEB 70	1	WAREHOUSE RESTROOMS	ROOF	270	0.375	CENT.	1/4	120V, 1φ	100	24"φX22"X ROOF CURB, 8"	SUPPLY WITH ROOF CURB AND BACKDRAFT DAMPER

UNIT NO.	MANUFACTURER & MODEL NO.	COOLING CAP. @ 80°F DB/67°F WB		AMB. °F	NOMINAL SUPPLY AIR		EER (SEER)	NOMINAL HEATING CAP. (KBTU/H)	ELECT. HEAT (KW)	COP	ELECTRICAL				OP. WT.	UNIT DIMENSIONS	REMARKS	MINIMUM O.S.A. CFM
		TOTAL	SENS.		CFM	ESP					UNIT FLA	MIN. CKT AMPS	MAX FUSE	VOLTAGE				
PTH 1	FRIEDRICH PVH0K	9,600	7,200	100	400	-	12.1	8,200	2.5 KW	3.51	4.5	15.9	15	208, 1φ	120	42"W X 21"D X 16"H	THRU THE WALL UNIT. PROVIDE WITH WALL SLEEVE KIT W/ SUB BASE, WIRELESS T-STAT, CONDENSATE DRAIN KIT, AND OUTDOOR GRILLE	20

VENTILATION CALCULATION

VENTILATION
 1 AIR CHANGE PER HOUR
 42,034 SQ.FT. X (32'-6") HIGH = 1,366,105 CU. FT.
 1,366,105 CU. FT. / 60 = 22,768.417 CFM
 OPERATE 3 FANS AT 8,000 CFM = 24,000 CFM TOTAL

GENERAL VENTILATION (1 ACH)
 24,000 CFM / 1,366,105 CU. FT. X 60 = 1.05 ACH

MINIMUM OUTSIDE AIR PER CMG 402
 VBZ = (1019) + (0.06)(42,034)
 = 2,612.04 CFM

VOZ = VOT = 2,612.04 CFM / 0.8 = 3,265.05 CFM

MINIMUM OUTSIDE AIR PER T-24
 42,034 SQ.FT. X 0.15 CFM/SQ.FT. = 6,305.1 CFM

GENERAL VENTILATION TO OPERATE AT 1.0 ACH.
 MIN OUTSIDE AIR REQUIREMENT - 1 FAN (24,000 CFM). SEE CONTROL DIAGRAM ON SHEET M-3

LOUVER SIZING:
 24,000 CFM / 600 FPM = 40 SQ. FT. FREE AREA
 50% FREE AREA = 80 SQ. FT. OF LOUVER (16 SQ. FT. INSTALLED)

CALGREEN CODE

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE CAL GREEN CODE.

THE CONTRACTOR SHALL INCLUDE TESTING AND ADJUSTING OF ALL COMPONENTS AND SYSTEMS OF THE HVAC SYSTEM AND CONTROLS PER THE CAL GREEN CODE.

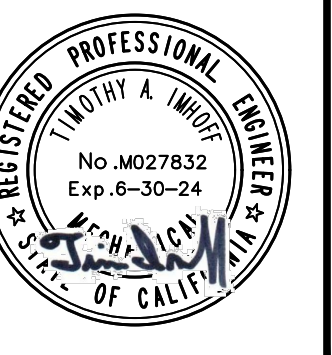
TESTING AND ADJUSTING SHALL COMPLY WITH THE FOLLOWING STANDARD. PROVIDE A WRITTEN PLAN FOR REVIEW PRIOR TO START OF WORK AND A FINAL REPORT FOR TESTING AND ADJUSTING OF HVAC SYSTEM AT TIME OF FINAL INSPECTION.

- ASHRAE'S STANDARD 111-2008

COMPLY WITH CAL GREEN SECTION 5.504.1.3 FOR VENTILATION REQUIREMENTS DURING CONSTRUCTION.

PROVIDE COVERING OF DUCT OPENINGS AND PROTECT MECHANICAL EQUIPMENT DURING CONSTRUCTION PER CAL GREEN SECTION 5.504.3.

PRIMIOR
 750 N. Diamond Bar Blvd., Suite 101
 Diamond Bar, CA 91765
 800.735.9973 | www.primior.com



ENGINEERING RESOURCES
 ELECTRICAL • MECHANICAL • ENGINEERS
 27 MAUCHLY, STE 209, IRVINE, CA 92618
 (949) 450-0431 (949) 450-0432 FAX

PROJECT:
DISTRIBUTION FACILITY
16454 ADELANTO ROAD
ADELANTO, CALIFORNIA 92301

MECHANICAL NOTES:
 LEGEND AND SCHEDULES
 DATE: 12/29/2022
 1ST PLAN CHECK SUBMITTAL
 05/16/2023 2ND PLAN CHECK SUBMITTAL
 09/05/2023 CONSTRUCTION SET

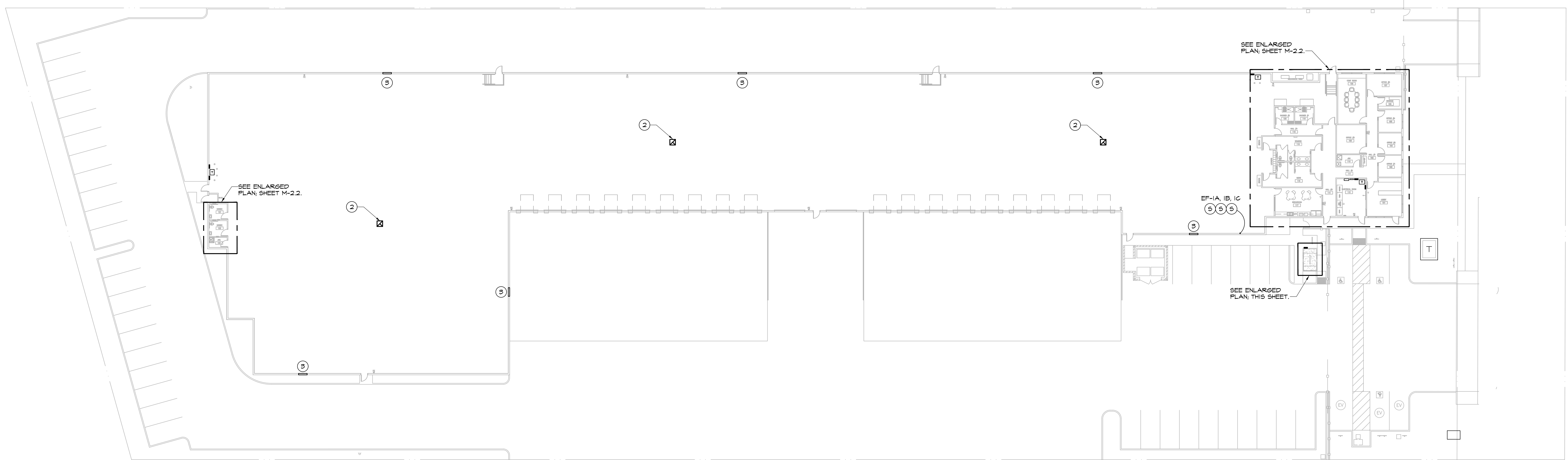
DATE: 05/13/2023

DRAWN BY: N.T.

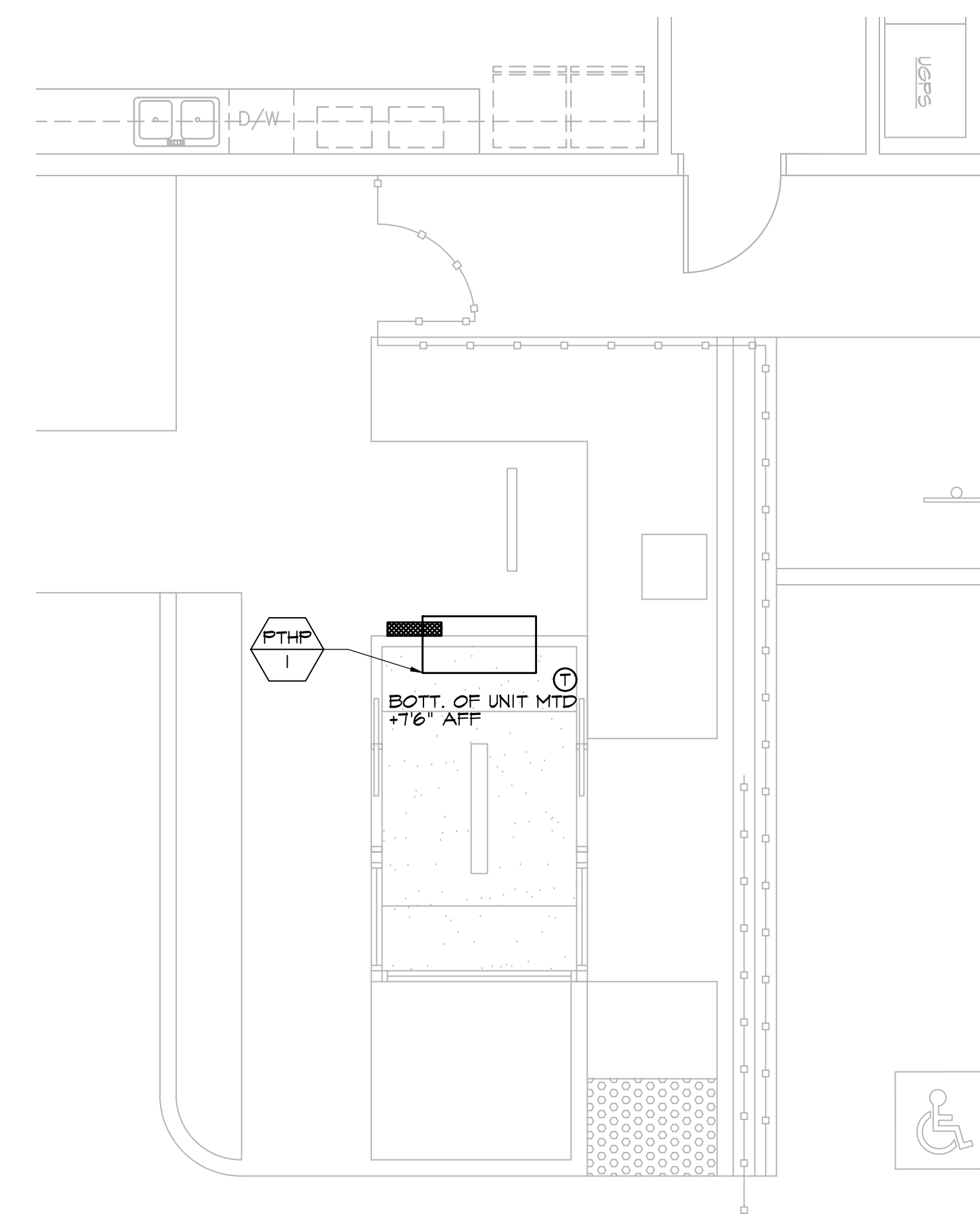
PROJECT NO: 22093

SHEET NUMBER:

M-1



MECHANICAL FLOOR PLAN
SCALE: 1" = 20'-0"



GUARD SHACK MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

DESIGN NOTES

- ① CONTRACTOR SHALL VERIFY ALL LOCATIONS AND REQUIREMENTS WITH TENANT PRIOR TO INSTALL AND ADJUST ACCORDINGLY.
- ② 31"x31" EA UTR TO EXHAUST FAN. PROVIDES GENERAL VENTILATION.
- ③ 4'x4' L4L LOUVER MODEL AG-4054-L LEVER OPERATED WALL LOUVER WITH FILTERS. PROVIDE FILTERS IN SEALED FILTER RACK. 50% FREE AREA SEE ARCH DRAWINGS. BOTTOM OF LOUVER AT 4'-0" AFF.



MECHANICAL FLOOR PLAN

DATE	REMARKS
12/29/2022	1ST PLAN CHECK SUBMITTAL
05/16/2023	2ND PLAN CHECK SUBMITTAL
05/03/2023	CONSTRUCTION SET

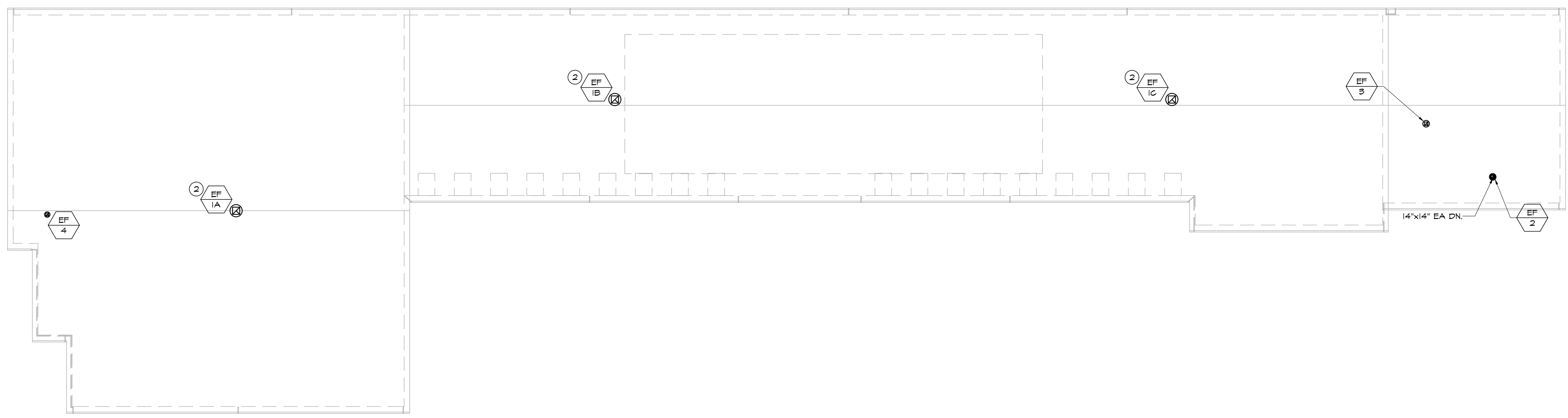
DATE: 05/13/2023

DRAWN BY: N.T.

PROJECT NO: 22093

SHEET NUMBER:

M-2.1



① MECHANICAL ROOF PLAN
SCALE: 1" = 20'-0"

DESIGN NOTES

- ① CONTRACTOR SHALL VERIFY ALL LOCATIONS AND REQUIREMENTS WITH TENANT PRIOR TO INSTALL AND ADJUST ACCORDINGLY.
- ② PROVIDES GENERAL VENTILATION.

MECHANICAL ROOF PLAN

DATE	REMARKS
12/29/2022	1ST PLAN CHECK SUBMITTAL
05/16/2023	2ND PLAN CHECK SUBMITTAL
05/03/2023	CONSTRUCTION SET

DATE: 05/13/2023

DRAWN BY: N.T.

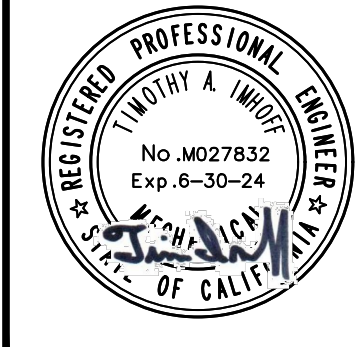
PROJECT NO: 22093

SHEET NUMBER:
M-2.3

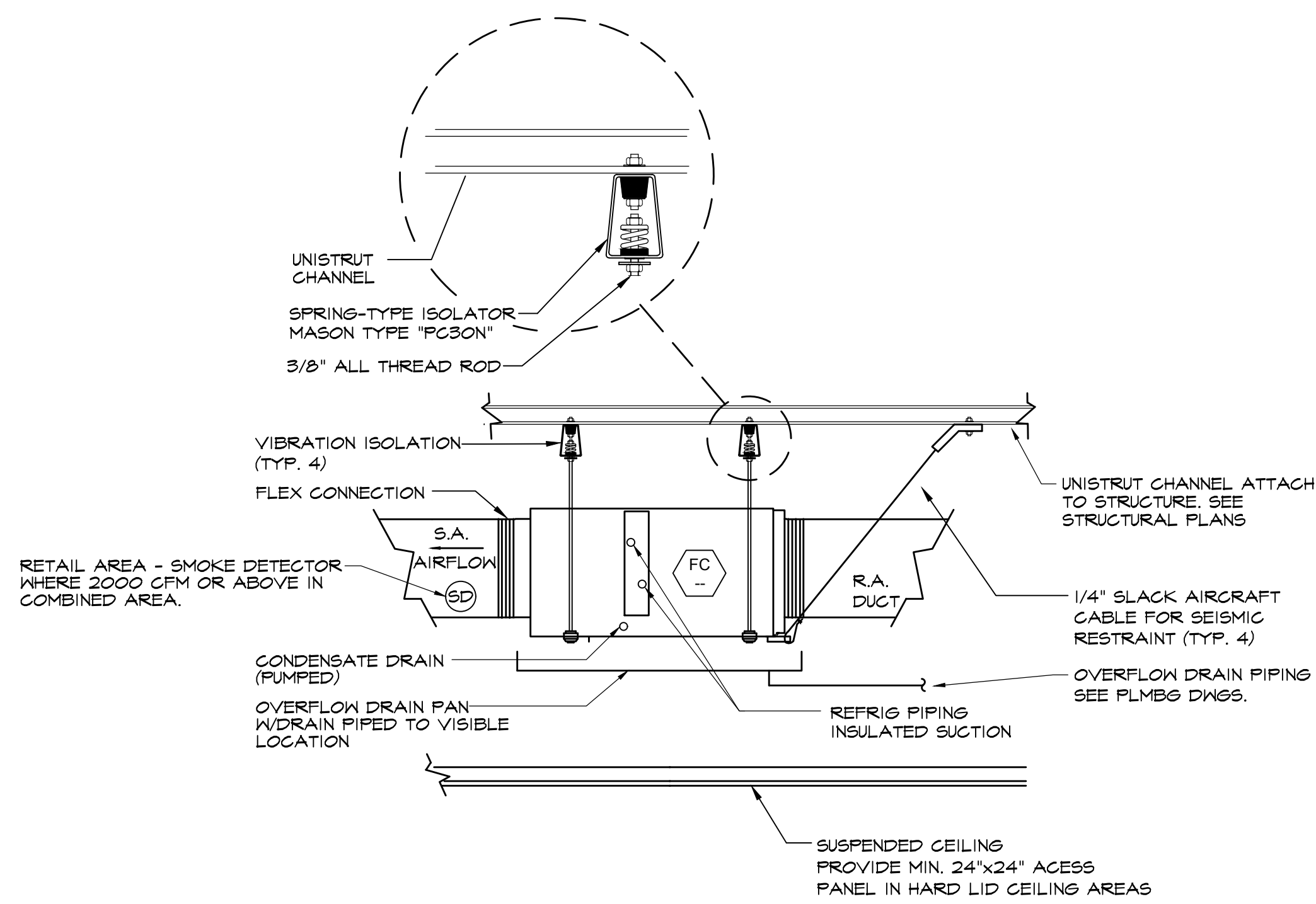
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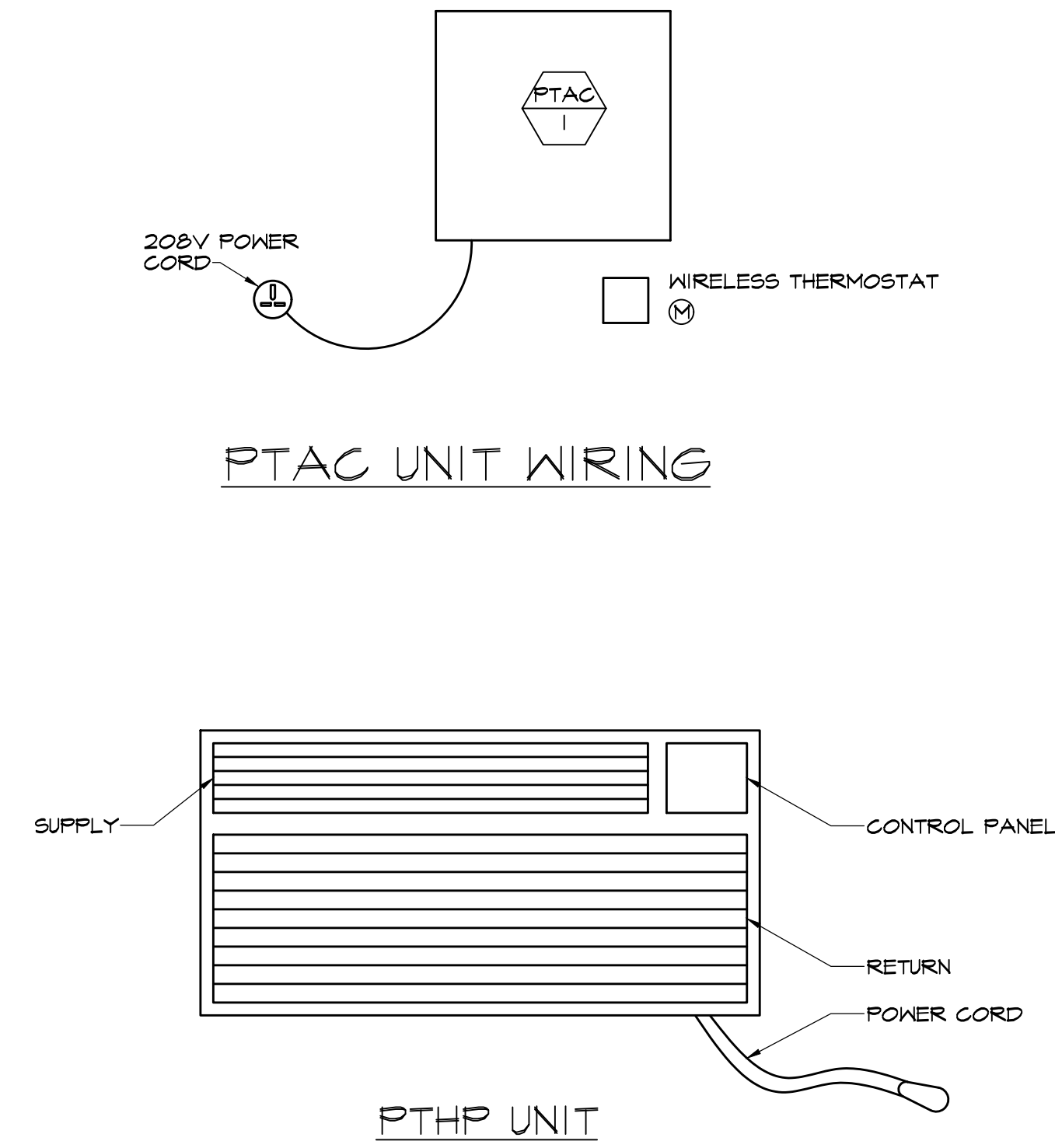


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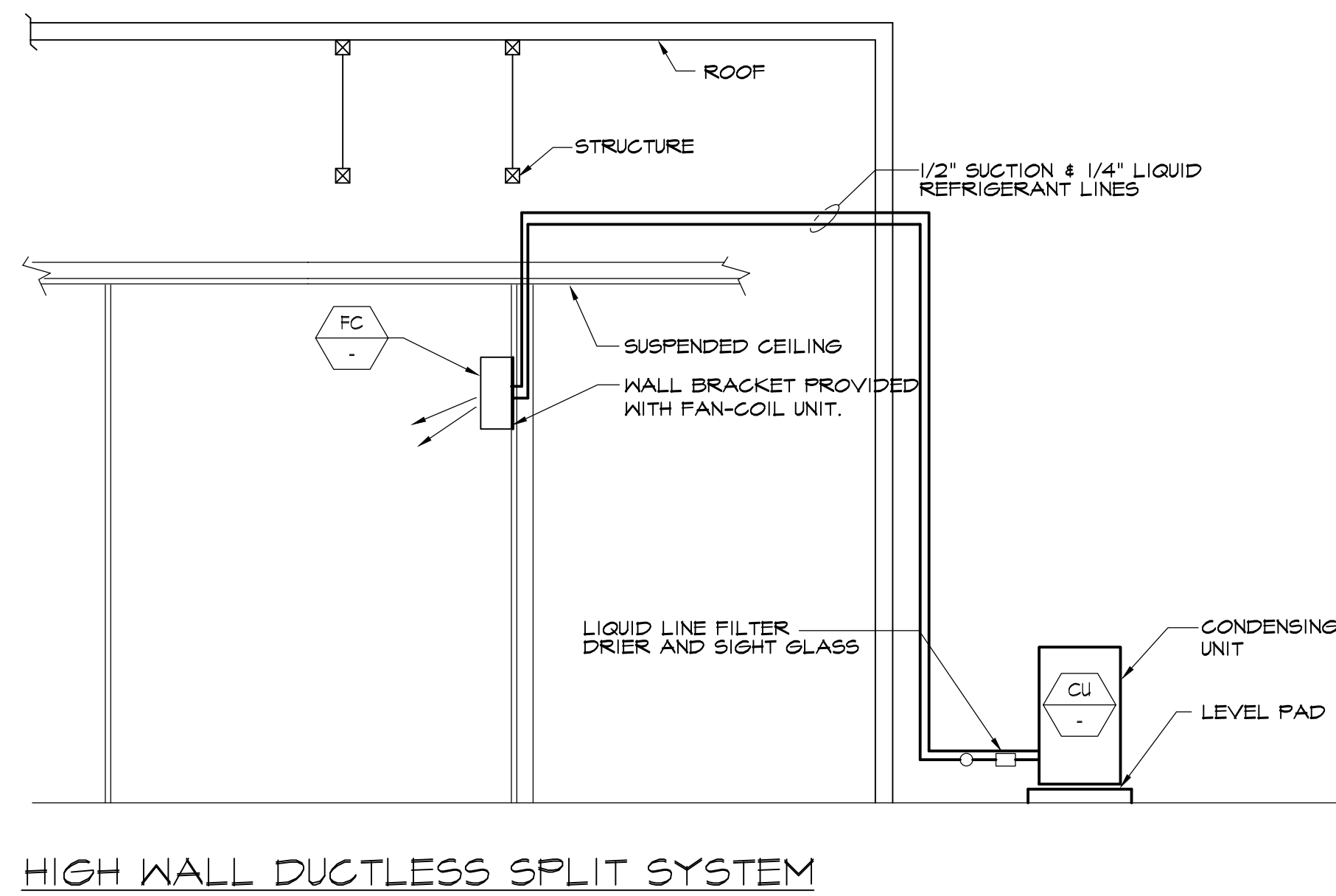
- NOTES:
1. PROVIDE ACCESS CLEARANCE AS REQUIRED BY MANUFACTURER.
 2. PROVIDE RESTRAINT PER SMACNA REQUIREMENTS.
 3. COORDINATE STRUCTURAL SUPPORT/ANCHORING WITH ARCHITECT/STRUCTURAL.

DUCTED FAN COIL UNIT
N.T.S.

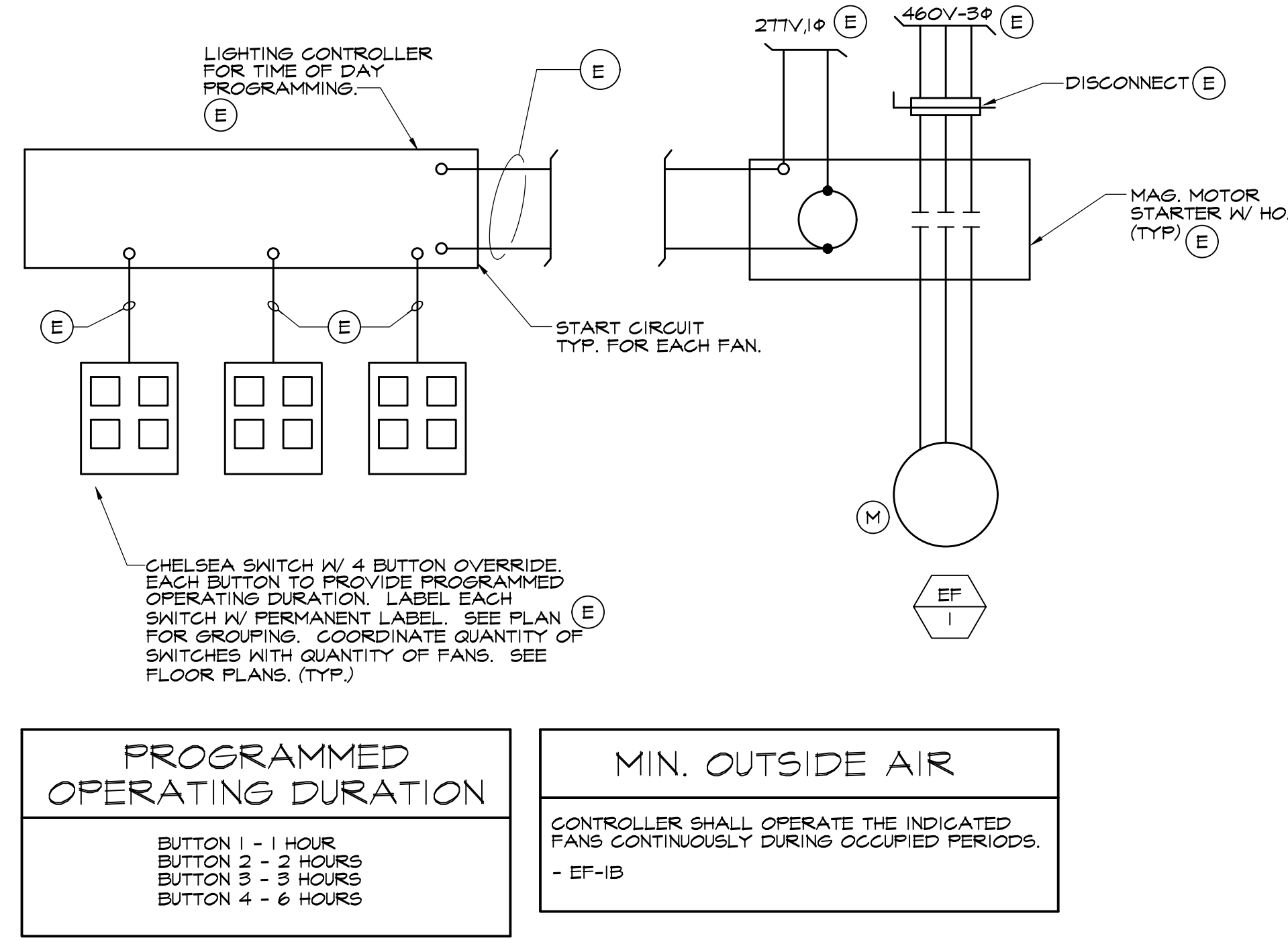


PTAC UNIT WIRING

PTHP UNIT



HIGH WALL DUCTLESS SPLIT SYSTEM



PROGRAMMED OPERATING DURATION	MIN. OUTSIDE AIR
BUTTON 1 - 1 HOUR	CONTROLLER SHALL OPERATE THE INDICATED FANS CONTINUOUSLY DURING OCCUPIED PERIODS.
BUTTON 2 - 2 HOURS	- EF-1B
BUTTON 3 - 3 HOURS	
BUTTON 4 - 6 HOURS	

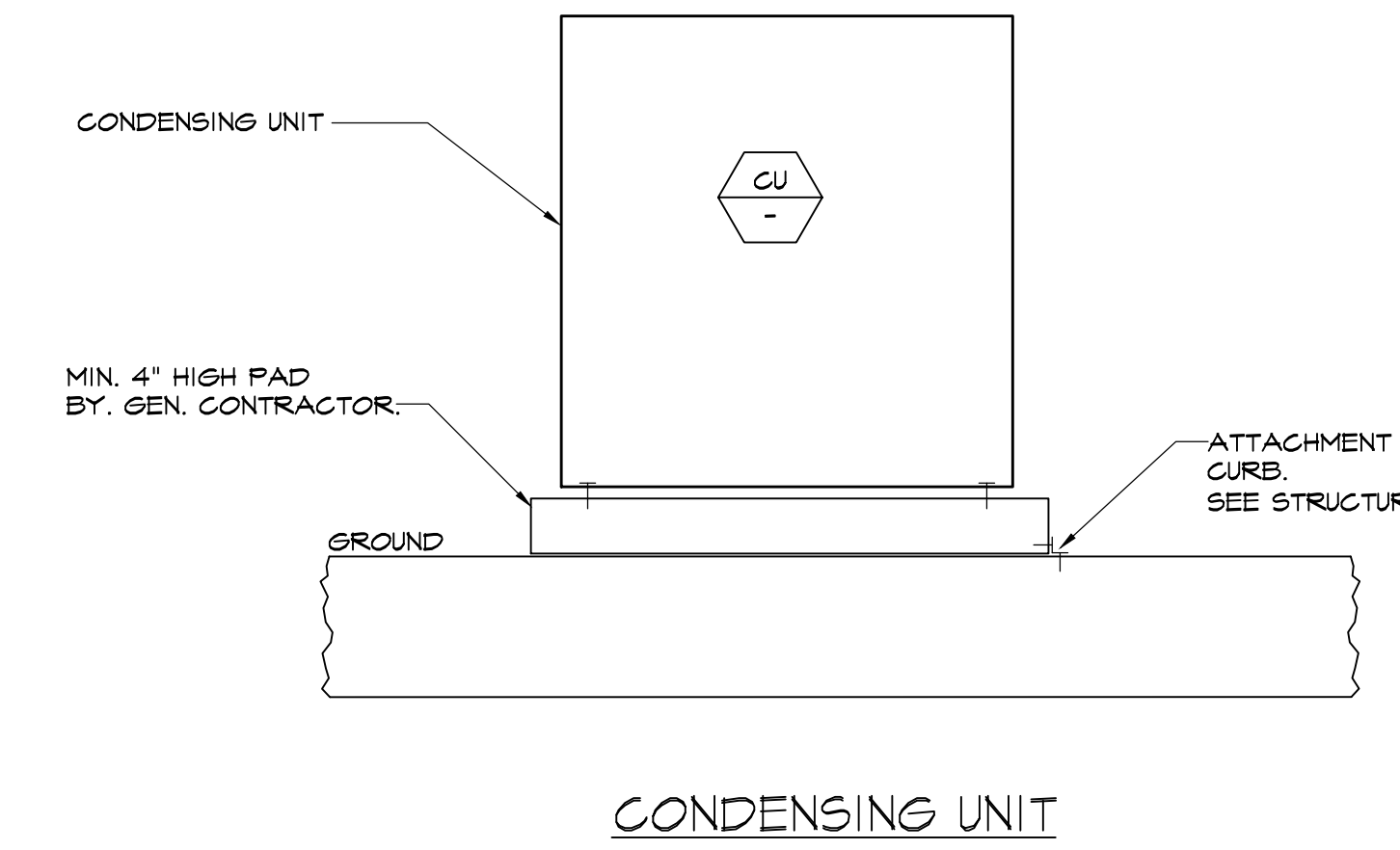
WAREHOUSE AREA EXHAUST FAN WIRING

GENERAL SEQUENCE OF OPERATION

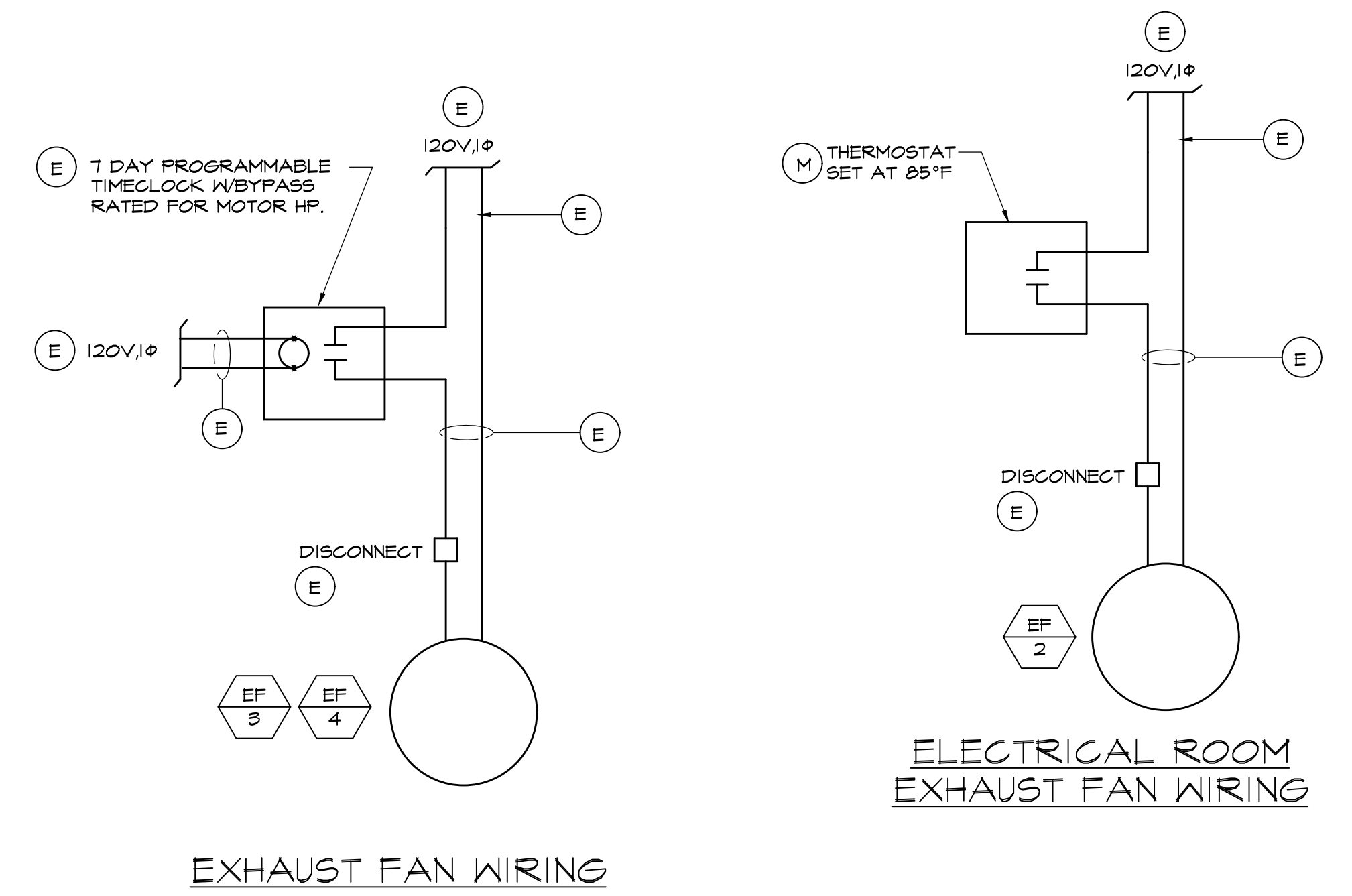
ELECTRICAL ROOM (EF-1)
THE FAN WILL BE CONTROLLED WITH A WALL MOUNTED THERMOSTAT SET AT 85°F.

GENERAL VENTILATION AREA
THE FANS WILL PROVIDE 1 ACH. THE FANS WILL BE CONTROLLED THROUGH THE LIGHTING CONTROLLER. EACH FAN WILL CONNECT SEPARATELY TO THE PROGRAMMABLE CONTROLLER. THE CONTROLLER WILL BE PROGRAMMED TO OPERATE MIN. O.A. FANS DURING OCCUPIED TIMES TO PROVIDE MINIMUM OUTSIDE AIR.

THE CONTROLLER WILL ALSO HAVE A SECOND PROGRAM TO OPERATE THE FANS ON A TIME OF DAY SCHEDULE FOR NIGHT OPERATION TO COOL DOWN THE BLDG. WALL SWITCHES LOCATED IN THE SPACE WILL ALSO START THE FANS FOR A PROGRAMMED LENGTH OF TIME. EACH SWITCH SHALL BE ABLE TO START THE FAN FOR FOUR DIFFERENT LENGTHS OF TIME.

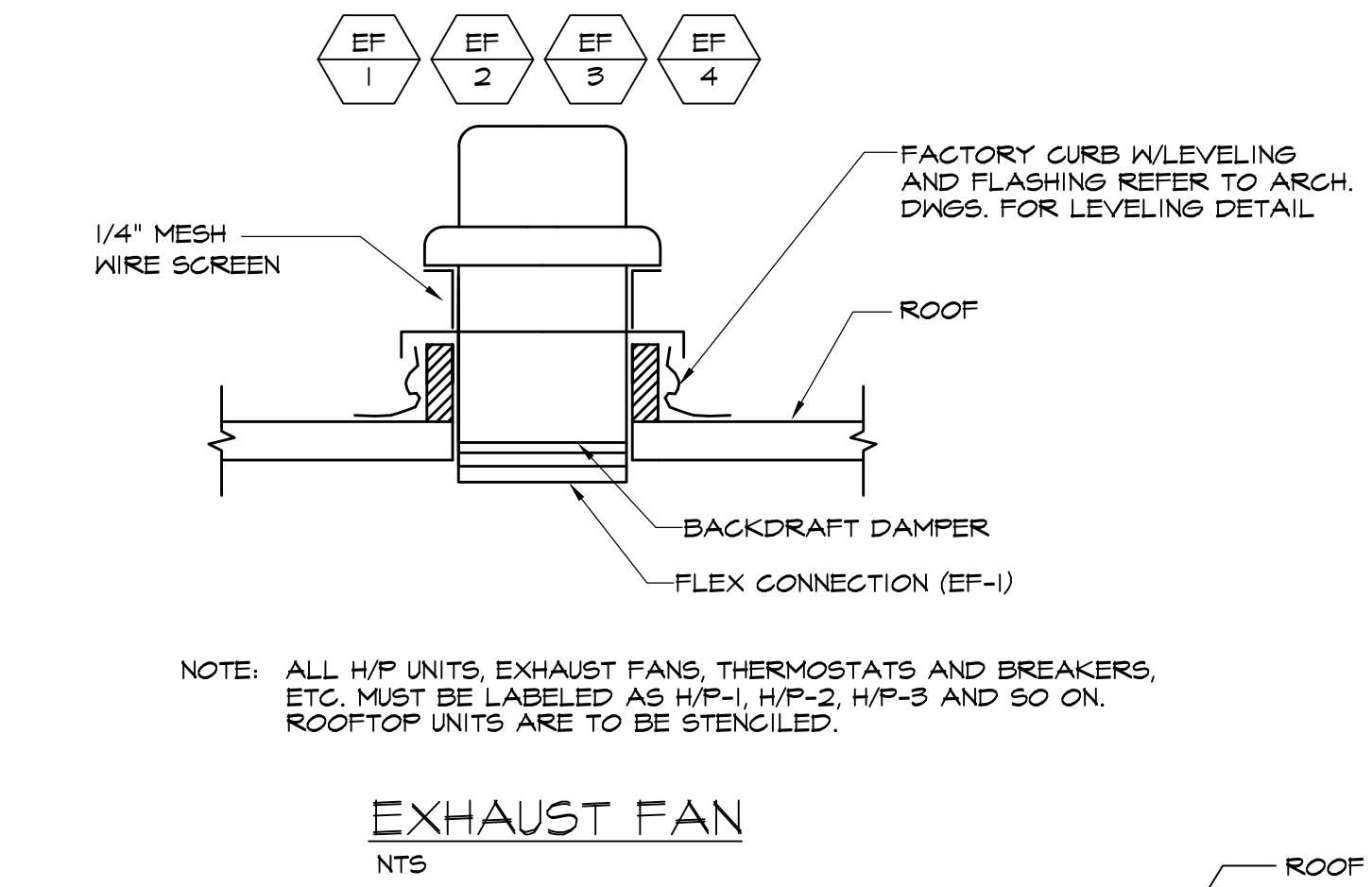


CONDENSING UNIT



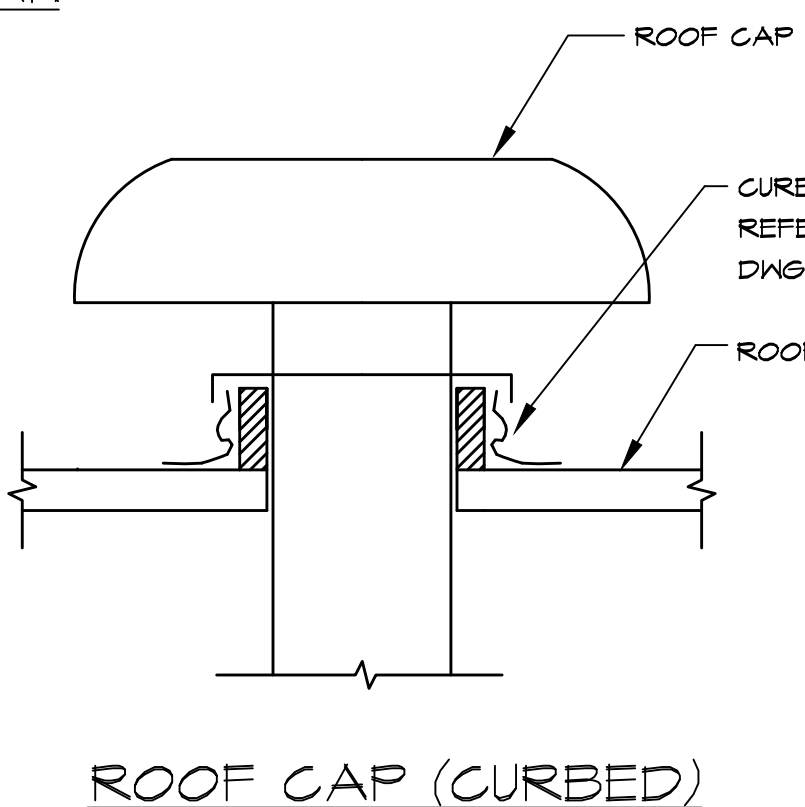
EXHAUST FAN WIRING

ELECTRICAL ROOM EXHAUST FAN WIRING

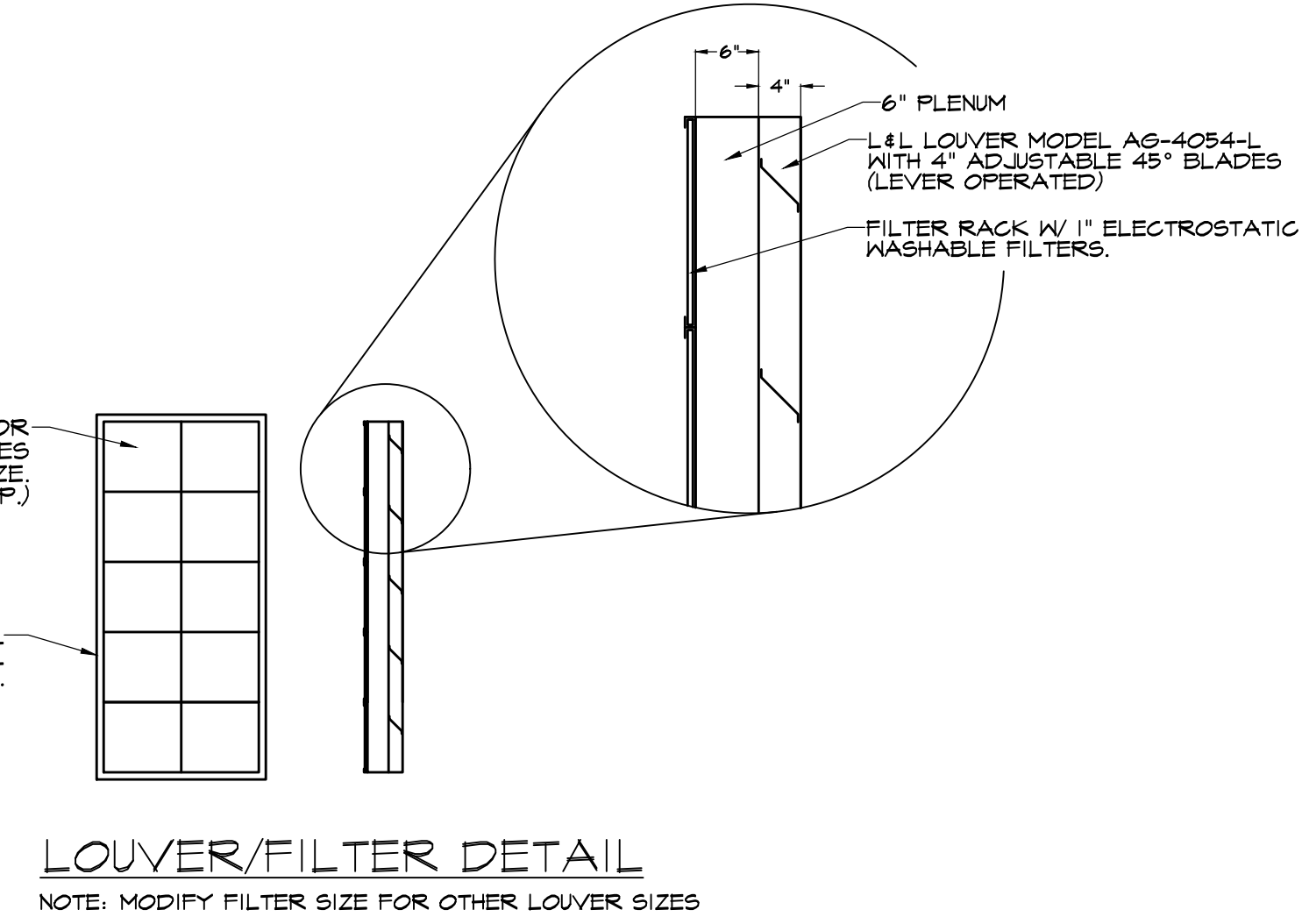


EXHAUST FAN
N.T.S.

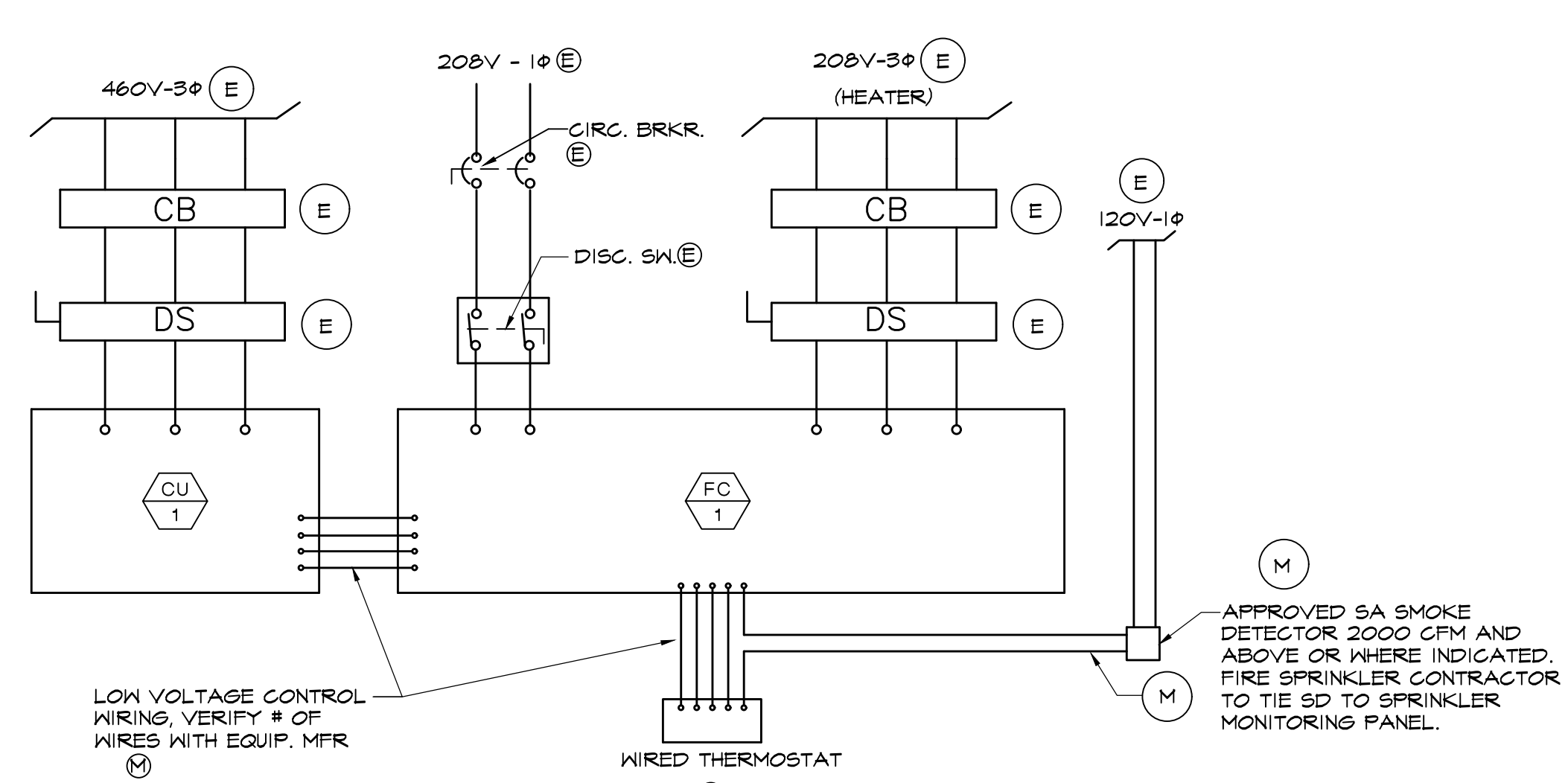
NOTE: ALL H/P UNITS, EXHAUST FANS, THERMOSTATS AND BREAKERS, ETC. MUST BE LABELED AS H/P-1, H/P-2, H/P-3 AND SO ON. ROOFTOP UNITS ARE TO BE STENCILED.



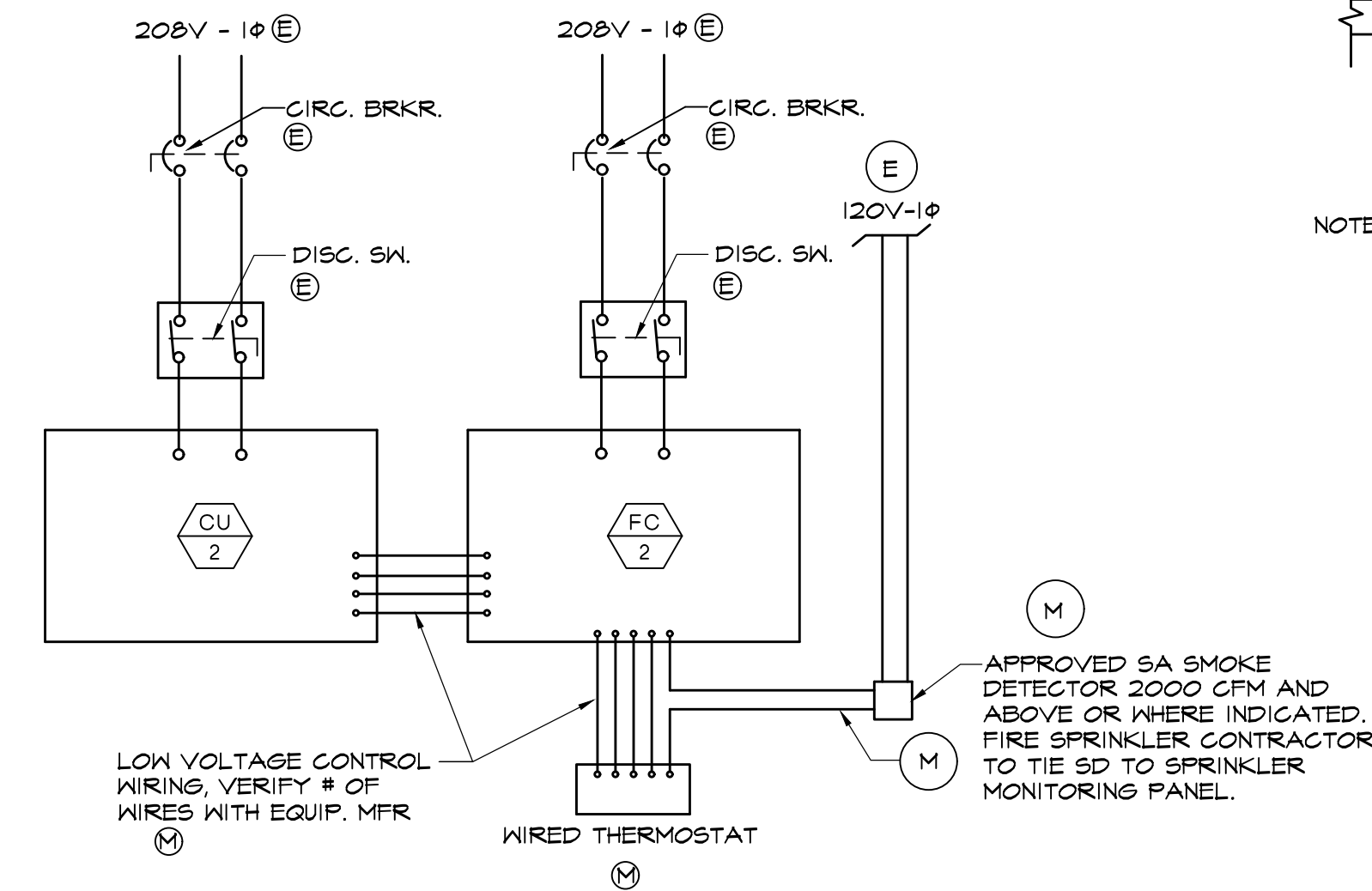
ROOF CAP (CURBED)



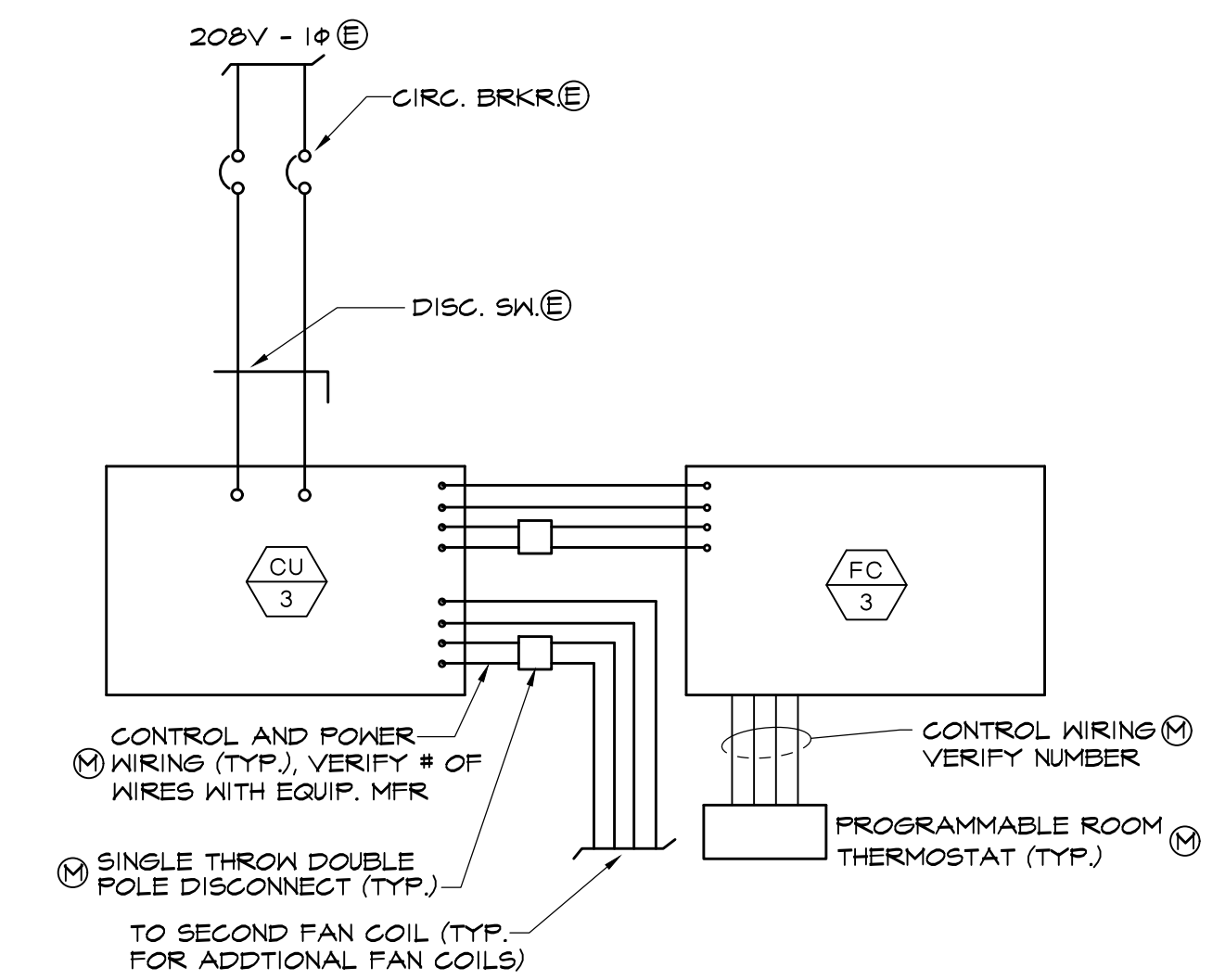
LOUVER/FILTER DETAIL
NOTE: MODIFY FILTER SIZE FOR OTHER LOUVER SIZES



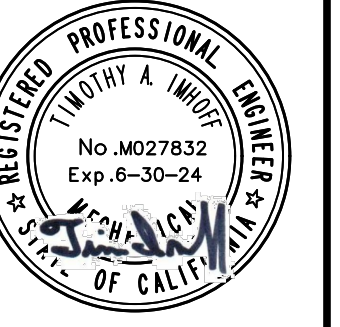
HORIZ. DUCTED SPLIT SYSTEM WIRING



HORIZ. DUCTED SPLIT SYSTEM WIRING



DUCTLESS SPLIT SYSTEM WIRING
(MULTIPLE FAN COILS)



DATE	REVISIONS
12/29/2022	1ST PLAN CHECK SUBMITTAL
05/16/2023	2ND PLAN CHECK SUBMITTAL
09/05/2023	CONSTRUCTION SET

DATE: 05/13/2023
DRAWN BY: N.T.
PROJECT NO: 22093
SHEET NUMBER: **M-3**

TITLE 24 MECHANICAL/PLUMBING MANDATORY MEASURES

ANY APPLIANCE FOR WHICH THERE IS A CALIFORNIA STANDARD ESTABLISHED IN THE APPLIANCE EFFICIENCY STANDARDS MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED TO THE COMMISSION, AS SPECIFIED IN THOSE REGULATIONS, THAT THE APPLIANCE COMPLIES WITH THE APPLICABLE STANDARD FOR THAT APPLIANCE. INCLUDED ARE ROOM AIR CONDITIONERS, CENTRAL AIR CONDITIONING HEAT PUMPS (REGARDLESS OF CAPACITY, EXCEPT THAT REQUIREMENTS FOR CENTRAL AIR CONDITIONING HEAT PUMPS WITH COOLING CAPACITY OF 195,000 BTU/HR OR MORE APPLY TO HEATING PERFORMANCE BUT NOT COOLING PERFORMANCE), OTHER CENTRAL AIR CONDITIONERS WITH A COOLING CAPACITY LESS THAN 195,000 BTU/HR, FAN TYPE CENTRAL FURNACES WITH INPUT RATE LESS THAN 400,000 BTU/HR, BOILERS, WALL FURNACES, FLOOR FURNACES, ROOM HEATERS, UNIT HEATERS, AND DUCT FURNACES SHALL HAVE BEEN CERTIFIED TO THE CALIFORNIA ENERGY COMMISSION BY ITS MANUFACTURER TO COMPLY WITH THE APPLIANCE EFFICIENCY STANDARDS.

THE FOLLOWING SPACE CONDITIONING EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE EQUIPMENT MEETS OR EXCEEDS ALL APPLICABLE EFFICIENCY REQUIREMENTS LISTED IN 102 OF THE ENERGY EFFICIENCY STANDARDS. ALL AIR CONDITIONERS, HEAT PUMPS AND CONDENSING UNITS > 195,000 BTU/HR, ALL WATER CHILLERS; ALL GAS-FIRED BOILERS > 300,000 BTU/HR, ALL OIL-FIRED BOILERS > 225,000 BTU/HR, AND ALL WARM AIR FURNACES AND COMBINATION WARM AIR FURNACES/AIR-CONDITIONING UNITS > 225,000 BTU/HR. FAN TYPE CENTRAL FURNACES SHALL NOT HAVE A PILOT LIGHT.

GRAVITY OR AUTOMATIC DAMPERS INTERLOCKED AND CLOSED ON FAN SHUTDOWN SHALL BE PROVIDED ON THE OUTSIDE AIR INTAKES AND DISCHARGES OF ALL SPACE CONDITIONING AND EXHAUST SYSTEMS.

AIR BALANCING. ALL SPACE CONDITIONING AND VENTILATION SYSTEMS SHALL BE BALANCED TO THE QUANTITIES SPECIFIED IN THESE PLANS, IN ACCORDANCE WITH THE ASSOCIATED AIR BALANCE COUNCIL (AABC) NATIONAL STANDARDS (2002).

OUTSIDE AIR CERTIFICATION. THE SYSTEM SHALL PROVIDE THE MINIMUM OUTSIDE AIR AS SHOWN ON THE MECHANICAL DRAWINGS, AND SHALL BE MEASURED AND CERTIFIED BY THE INSTALLING ENGINEER (E-200) MECHANICAL CONTRACTOR OR AABC INDEPENDENT AIR BALANCE COMPANY.

EACH SYSTEM PROVIDING HEATING OR COOLING AIR IN EXCESS OF 2000 CFM SHALL BE EQUIPPED WITH A SMOKE DETECTOR INSTALLED IN THE MAIN GREGULATION SUPPLY AIR DUCT.

THE FOLLOWING NOTES (ITEMS) REPRESENT THE MANDATORY REQUIREMENTS FOR ALL THE BUILDINGS AND SHALL APPEAR AS NOTES ON THE PLANS.

A. THE PERSON WITH OVERALL RESPONSIBILITY FOR THE CONSTRUCTION OR THE PERSON RESPONSIBLE FOR THE INSTALLATION OF REGULATED MECHANICAL SYSTEMS SHALL POST OR MAKE AVAILABLE WITH THE BUILDING PERMIT(S) ISSUED FOR THE BUILDING, THE INSTALLATION CERTIFICATE(S) FOR MANUFACTURED DEVICES REGULATED BY THE APPLIANCE STANDARDS OR PART 6, SUCH INSTALLATION CERTIFICATE(S) SHALL BE MADE AVAILABLE TO THE ENFORCEMENT AGENCY FOR ALL APPROPRIATE INSPECTIONS. THESE CERTIFICATES SHALL:

1. IDENTIFY FEATURES REQUIRED TO VERIFY COMPLIANCE WITH THE APPLIANCE STANDARDS AND PART 6.
2. INCLUDE A STATEMENT INDICATING THAT THE INSTALLED DEVICES CONFORM TO THE APPLIANCE STANDARDS AND PART 6 AND THE REQUIREMENTS FOR SUCH DEVICES GIVEN IN THE PLANS AND SPECIFICATIONS APPROVED BY THE LOCAL ENFORCEMENT AGENCY.
3. STATE THE NUMBER OF THE BUILDING PERMIT UNDER WHICH THE CONSTRUCTION OR INSTALLATION WAS PERFORMED.

AFTER INSTALLING WALL, CEILING, OR FLOOR INSULATION, THE INSTALLER SHALL MAKE AVAILABLE TO THE ENFORCEMENT AGENCY OR POST IN A CONSPICUOUS LOCATION IN THE BUILDING A CERTIFICATE SIGNED BY THE INSTALLER STATING THAT THE INSTALLATION IS CONSISTENT WITH THE PLANS AND SPECIFICATIONS DESCRIBED IN SECTION 10-102.6. THE CERTIFICATE SHALL ALSO STATE THE MANUFACTURER'S NAME AND MATERIAL IDENTIFICATION AND THE INSTALLED R-VALUE.

MANUFACTURED PENETRATION PRODUCTS AND EXTERIOR DOORS SHALL:

1. HAVE TEMPORARY LABEL, NOT TO BE REMOVED BEFORE INSPECTION BY THE ENFORCEMENT AGENCY, LISTING THE CERTIFIED CONTRACTOR AND SHGC, AND CERTIFYING THAT THE AIR LEAKAGE REQUIREMENTS OF SEC. 106(g) ARE MET; AND
2. HAVE A PERMANENT LABEL MEETING THE REQUIREMENT OF SECTION 10-111(g)(2) IF THE PRODUCT IS RATED USING NFRC PROCEDURES.

FIELD FABRICATED PENETRATION PRODUCTS AND EXTERIOR DOORS SHALL BE CAULKED BETWEEN THE PENETRATION PRODUCTS OR EXTERIOR DOOR AND THE BUILDING, AND SHALL BE WEATHER-STRIPPED. EXCEPTION: UNFRAMED GLASS DOORS AND FIRE DOORS.

JOINTS AND OTHER OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHER-STRIPPED, OR OTHERWISE SEALED TO LIMIT INFILTRATION AND EXFILTRATION.

ALL INSULATING MATERIAL SHALL BE INSTALLED IN COMPLIANCE WITH THE FLAME SPREAD RATING SMOKE DENSITY REQUIREMENTS OF SECTION 107 OF THE CBC.

THE BUILDER SHALL PROVIDE THE BUILDING OWNER OR THE PERSON(S) RESPONSIBLE FOR BUILDING MAINTENANCE (IN CASE OF MULTI-TENANT OR CENTRALLY OPERATED BUILDINGS) AT OCCUPANCE THE FOLLOWING:

1. OPERATING INFORMATION. THE APPROPRIATE CERTIFICATE(S) OF COMPLIANCE AND A LIST OF THE HEATING, COOLING, WATER HEATING, AND LIGHTING SYSTEMS & FEATURES, MATERIALS, COMPONENTS, AND MECHANICAL DEVICES, CONSERVATION OR SOLAR DEVICES INSTALLED IN THE BUILDING, AND INSTRUCTIONS ON HOW TO USE THEM EFFICIENTLY.
2. MAINTENANCE INFORMATION. REQUIRED ROUTINE MAINTENANCE ACTION SHALL BE CLEARLY STATED AND INCORPORATED ON A READILY ACCESSIBLE LABEL. THE LABEL MAY BE LIMITED TO IDENTIFYING THE MAINTENANCE MANUAL.
3. VENTILATION INFORMATION. A DESCRIPTION OF THE QUANTITIES OF OUTDOOR AND REQUIRED AIR THAT THE VENTILATION SYSTEM IS DESIGNED TO PROVIDE TO EACH AREA.

THE LESSER OF THE MINIMUM RATE OF OUTDOOR AIR REQUIRED BY SECTION 102(b)(2), OR THREE COMPLETE AIR CHANGES, WHICHEVER IS LESS, SHALL BE SUPPLIED TO THE ENTIRE BUILDING DURING THE ONE-HOUR PERIOD IMMEDIATELY BEFORE THE BUILDING IS NORMALLY OCCUPIED.

CONNECTIONS OF METAL DUCTS AND THE INNER CORE OF FLEXIBLE DUCTS SHALL BE MECHANICALLY FASTENED. OPENINGS SHALL BE SEALED WITH MASTIC TAPE, AEROSOL SEALANT, OR OTHER DUCT CLOSURE SYSTEM THAT MEETS THE APPLICABLE REQUIREMENTS OF UL181, UL181A, OR UL181B. IF MASTIC OR TAPE IS USED TO SEAL OPENINGS GREATER THAN 1/4" THE COMBINATION OF MASTIC OR EITHER MESH OR TAPE SHALL BE USED.

OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON FAN SHUT-DOWN.

THE MINIMUM VENTILATION RATE SPECIFIED IN SECTION 121 (B) 2 SHALL BE PROVIDED FOR ALL VENTILATION SYSTEMS SERVING THE BUILDING IN ACCORDANCE WITH ONE OF THE PROCEDURES OUTLINED IN SECTION 121 (F).

THE THERMOSTATIC CONTROLS FOR HVAC SYSTEMS SHALL MEET THE FOLLOWING REQUIREMENTS AS APPLICABLE:

- a) EACH SPACE CONDITIONING ZONE SHALL BE CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL THAT RESPONDS TO TEMPERATURE IN THE ZONE AND MEETS THE APPLICABLE REQUIREMENTS OF SUBSECTION (b).
- b) EACH THERMOSTATIC CONTROL REQUIRED BY SUBSECTION (a) SHALL BE CAPABLE OF BEING SET LOCALLY OR REMOTELY BY ADJUSTMENT OR SELECTION OF SENSORS TO CONTROL:
 - 1) COMFORT HEATING DOWN TO 55°F OR LOWER.
 - 2) COMFORT COOLING UP TO 55°F OR HIGHER.
- c) BOTH HEATING AND COOLING, THE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 5°F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.

EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT COMPLY WITH ITEMS 1 AND 2 BELOW:

- 1) ARE CAPABLE OF AUTOMATICALLY SHUTTING OFF THE SYSTEM DURING PERIODS OF NON-USE AND SHALL HAVE:
 - a) AN AUTOMATIC TIME SWITCH CONTROL DEVICE COMPLYING WITH SEC. 119(c), WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOWS OPERATION OF THE SYSTEM FOR UP TO 4 HOURS, OR
 - b) AN OCCUPANCY SENSOR, OR
 - c) A FOUR HOUR TIMER THAT CAN BE MANUALLY OPERATED.
 EXCEPTION: MECHANICAL SYSTEMS SERVING RETAIL STORES AND ASSOCIATED WALLS, RESTAURANTS, GROCERY STORES, CHURCHES AND THEATERS EQUIPPED WITH 7-DAY PROGRAMMABLE TIMERS.
- 2) AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN:
 - a) A SETBACK HEATING THERMOSTAT SETPOINT, IF THE SYSTEM PROVIDES MECHANICAL HEATING; AND
 - b) A SETUP COOLING THERMOSTAT SETPOINT, IF THE SYSTEM PROVIDES MECHANICAL COOLING.
 EXCEPTION: AREA WITH THE DESIGN SUMMER OUTDOOR TEMPERATURE OF LESS THAN 100°F.

THE PIPING FOR ALL SPACE CONDITIONING AND SERVICE WATER HEATING SYSTEMS SHALL BE INSULATED IN ACCORDANCE WITH TABLE 129-A.

HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPABLE OF ADJUSTMENT FROM THE LOWEST TO THE HIGHEST ACCEPTABLE TEMPERATURE SETTINGS FOR THE INTENDED USE AS LISTED IN TABLE 2, CHAPTER 4R OF THE ASHRAE HANDBOOK, HVAC APPLICATIONS VOLUME.

SERVICE WATER HEATING SYSTEMS AND EQUIPMENT SHALL MEET THE APPLICABLE REQUIREMENTS OF THE APPLIANCE EFFICIENCY REGULATIONS AS REQUIRED BY SECTION 11.

CIRCULATING SERVICE WATER HEATING SYSTEMS SHALL HAVE A CONTROL CAPABLE OF AUTOMATICALLY TURNING OFF THE CIRCULATING PUMP WHEN HOT WATER IS NOT REQUIRED.

LAVATORIES IN PUBLIC RESTROOMS SHALL HAVE HOT WATER CONTROLS THAT LIMIT THE WATER SUPPLY TEMPERATURE TO 101°F.

ALL AIR DISTRIBUTION SYSTEM DUCT AND FLENUMS, INCLUDING, BUT NOT LIMITED TO BUILDING CAVITIES, MECHANICAL CLOSETS, AIR HANDLER BOXES AND SUPPORT PLATFORMS USED AS DUCTS OR FLENUM, SHALL BE INSTALLED, SEALED AND INSULATED TO MEET THE REQUIREMENTS OF CHAPTER 6 OF THE 2019 CMV. SUPPLY AIR AND RETURN AIR DUCTS CONVEYING HEATED OR COOLED AIR SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-8, UNLESS DUCTS ARE IN CONDITIONED SPACE. DUCT ON ROOF SHALL BE INTERNALLY LINED AND INSULATED AS REQUIRED BY T-24.

THE CONTRACTOR SHALL FILE ALL CERTIFICATE(S) OF ACCEPTANCE REQUIRED BY THE MECH-C, WITH THE ENFORCEMENT AGENCY PRIOR TO RECEIVING A FINAL OCCUPANCY PERMIT. THE SIGNERS SHALL BE ELIGIBLE UNDER DIVISION 52 OF THE BUSINESS AND PROFESSIONS CODE TO SIGN SUCH DOCUMENTS.

AN INTEGRATED ECONOMIZER MUST BE PROVIDED FOR EACH INDIVIDUAL COOLING SPACE CONDITIONING SYSTEM THAT HAS A DESIGN SUPPLY CAPACITY OVER 2500 CFM AND A TOTAL COOLING CAPACITY OVER 54,000 BTU/HR.

THE OPAQUE PORTIONS OF FRAMED DEMISING WALLS IN NONRESIDENTIAL BUILDINGS SHALL BE INSULATED WITH AN INSTALLED R-VALUE OF NO LESS THAN R-19 BETWEEN FRAMING MEMBERS.

PRIMIOR
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Diamond Bar, CA 91765
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PROJECT:
DISTRIBUTION FACILITY
16454 ADELANTO ROAD
ADELANTO, CALIFORNIA 92301

MECHANICAL TITLE 24 AND MANDATORY MEASURES
DATE: 12/29/2022
1ST PLAN CHECK SUBMITTAL: 05/16/2023
2ND PLAN CHECK SUBMITTAL: 09/05/2023
CONSTRUCTION SET

DATE: 05/13/2023

DRAWN BY: N.T.

PROJECT NO.: 22093

SHEET NUMBER:

M-4.1

Project Name:	Adelanto Distribution Facility	NRCC-PRF-01-E	Page 1 of 11
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Input File Name:	22093 Adelanto Bldg.cibd19x		

A. GENERAL INFORMATION			
1	Project Location (city)	Adelanto	8 Standards Version
2	CA Zip Code	92301	9 Compliance Software (version)
3	Climate Zone	14	10 Weather File
4	Total Conditioned Floor Area in Scope	3,060 ft ²	11 Building Orientation (deg)
5	Total Unconditioned Floor Area	42,034 ft ²	12 Permitted Scope of Work
6	Total # of Stories (Habitable Above Grade)	1	13 Building Type(s)
7	Total # of dwelling units	0	14 Gas Type

B. PROJECT SUMMARY	
Table Instructions: Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within permit application.	

Envelope (see Table G)	Building Components Complying via Performance		Building Components Complying Prescriptively	
	Performance	Covered Process: Commercial Kitchens	Performance	The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E)
Mechanical (see Table H)	<input type="checkbox"/> Not Included	<input type="checkbox"/> Not Included	<input checked="" type="checkbox"/> Performance	Indoor Lighting (Unconditioned)§140.6 NRCC-L7-E
Domestic Hot Water (see Table I)	<input type="checkbox"/> Not Included	<input type="checkbox"/> Not Included	<input checked="" type="checkbox"/> Performance	Outdoor Lighting §140.7 NRCC-L7D-E
Lighting (Indoor Conditioned, see Table K)	<input type="checkbox"/> Not Included	<input type="checkbox"/> Not Included	<input checked="" type="checkbox"/> Performance	Sign Lighting §140.8 NRCC-L7S-E
Solar Thermal Water Heating (see Table L)	<input type="checkbox"/> Not Included	<input type="checkbox"/> Not Included	<input checked="" type="checkbox"/> Performance	Mandatory Measures
	<input type="checkbox"/> Not Included	<input type="checkbox"/> Not Included	<input checked="" type="checkbox"/> Performance	Electrical power systems, commissioning, solar ready, elevator and escalator requirements are mandatory and should on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E)
	<input type="checkbox"/> Not Included	<input type="checkbox"/> Not Included	<input checked="" type="checkbox"/> Performance	Electrical Power Distribution §110.11 NRCC-E1-E
	<input type="checkbox"/> Not Included	<input type="checkbox"/> Not Included	<input checked="" type="checkbox"/> Performance	Commissioning §120.8 NRCC-CR-E
	<input type="checkbox"/> Not Included	<input type="checkbox"/> Not Included	<input checked="" type="checkbox"/> Performance	Solar Ready §110.10 NRCC-SRA-E

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C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kWh/ft ² -yr)			
COMPLIES			
Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) ¹
Space Heating	27.48	38.34	-10.86
Space Cooling	122.74	130.57	-7.83
Indoor Fans	174.76	47.63	127.13
Heat Rejection	--	--	--
Pumps & Misc.	--	--	--
Domestic Hot Water	57.66	57.64	0.02
Indoor Lighting	33.00	39.29	-6.29
ENERGY STANDARDS COMPLIANCE TOTAL	415.64	313.47	102.17 (24.6%)

¹ Notes: The number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS ¹			
This project is pursuing CalGreen Tier 1		This project is pursuing CalGreen Tier 2	
Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) ¹
Receptacle	353.06	353.06	--
Process	19.82	19.82	--
Other Ltg	404.77	404.77	--
Process Motors	--	--	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	1,199.29	1,091.12	102.2 (8.6%)

¹ Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.

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G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)				
1	2	3	4	5
Opaque Surfaces & Orientation	Total Gross Surface Area (ft ²)	Total Fenestration Area (ft ²)	Window to Wall Ratio (%)	
North-Facing ¹	500 ft ²	172 ft ²	34.4%	
East-Facing ¹	1,027 ft ²	263 ft ²	25.6%	
South-Facing ¹	723 ft ²	168 ft ²	23.2%	
West-Facing ¹	314 ft ²	14 ft ²	04.5%	
Total	2,564 ft²	617 ft²	24.1%	
Roof	3,060 ft ²	0 ft ²	00.0%	

Notes:
¹North-Facing is oriented to within 45 degrees of true north, including 45°00'00" east of north (NE), but excluding 45°00'00" west of north (NW).
²East-Facing is oriented to within 45 degrees of true east, including 45°00'00" south of east (SE), but excluding 45°00'00" north of east (NE).
³South-Facing is oriented to within 45 degrees of true south, including 45°00'00" west of south (SW), but excluding 45°00'00" east of south (SE).
⁴West-Facing is oriented to within 45 degrees of true west, including 45°00'00" north of due west (NW), but excluding 45°00'00" south of west (SW).

G3. OPAQUE SURFACE ASSEMBLY SUMMARY									
1	2	3	4	5	6	7	8	9	10
Surface Name	Surface Type	Area (ft ²)	Framing Type	Cavity R-Value	Continuous R-Value	Units	Value	Description of Assembly Layers	U-Factor
R-38 Roof4	Roof	45034	NA	36	NA	U-Factor	0.060	Metal Standing Seam - 1/16 in. Metal standing seam roof, R-0	N
Metal Wall w/R-136	ExteriorWall	2276	NA	13	NA	U-Factor	0.113	Metal Siding - 1/16 in. Metal building wall, single layer batt, R-13	N
Slab On Grade11	UndergroundFloor	45094	NA	0	NA	F-Factor	0.73	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R-0	N
R-22 Wall Metal Stud35	InteriorWall	2583	Metal	22	NA	U-Factor	0.135	Gypsum Board - 1/2 in. Metal framed wall, 24in. OC, 7.25in., R-22	N

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G3. OPAQUE SURFACE ASSEMBLY SUMMARY										
1	2	3	4	5	6	7	8	9	10	11
Surface Name	Surface Type	Area (ft ²)	Framing Type	Cavity R-Value	Continuous R-Value	Units	Value	Description of Assembly Layers	U-Factor	U-Factor
R-30 Roof74	Roof	60	Metal	30	NA	U-Factor	0.055	Asphalt shingles - 1/4 in. Vapor permeable felt - 1/8 in. Plywood - 3/4 in. Air Ceiling - 3/4 in. Metal framed roof, 24in. OC, 11.25in., R-30 Gypsum Board - 1/2 in. Metal Siding - 1/16 in. Vapor permeable felt - 1/8 in.	N	N
Metal Frame Wall w/ R-1976	ExteriorWall	288	Metal	19	NA	U-Factor	0.146	Plywood - 3/4 in. Metal framed wall, 24in. OC, 5.5in., R-19 Gypsum Board - 1/2 in.	N	N

G5. FENESTRATION ASSEMBLY SUMMARY								
1	2	3	4	5	6	7	8	9
Fenestration Assembly Name / Tag or I.D.	Fenestration Type / Product Type / Frame Type	Certification Method ¹	Assembly Method	Area ft ²	Overall U-Factor	Overall SHGC	Overall VT	U-Factor
Dual Pane Windows	VerticalFenestration FixedWindow N/A	NFRC Rated	Manufactured	617	0.50	0.35	0.32	N

¹ Newly installed fenestration shall have a certified NFRC Label Certificate or use the CBC default values from Table 110.6.A and Table 110.6.B. Center of Glass (COG) values are for the glass only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix M and are used in the analysis.
² Status: N - New, A - Altered, E - Existing

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C3. ENERGY USE SUMMARY						
Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	--	4.7	-4.7	40.7	--	40.7
Space Cooling	9.0	10.2	-1.2	--	--	--
Indoor Fans	18.4	5.0	13.4	--	--	--
Heat Rejection	--	--	--	--	--	--
Pumps & Misc.	--	--	--	--	--	--
Domestic Hot Water	6.2	6.2	0.0	--	--	--
Indoor Lighting	3.5	4.1	-0.6	--	--	--
Compliance Total	37.1	30.2	6.9	40.7	0.0	40.7
Receptacle	37.1	37.1	0.0	--	--	--
Process	2.1	2.1	0.0	--	--	--
Other Ltg	42.6					

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H3. EXHAUST FAN SUMMARY
This Section Does Not Apply

H4. Wet System Equipment (boilers, chillers, cooling towers, etc.)
This Section Does Not Apply

H5. PUMPS
This Section Does Not Apply

H6. SYSTEM SPECIAL FEATURES
This Section Does Not Apply

1	2	3	4	5	6	7
Zone Name	Mechanical Ventilation Ventilation Function	# of people	Supply OA CFM	Exhaust CFM	Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both
3-CU-2/FC-2 Conference Room	Office - Office space	3.03	45	0	303	NA
4-CU-1B/FC-1B Office Interi	Office - Office space	17.98	270	0	1798	NA
5-CU-3/FC-3A/FC-3B Warehouse	Office - Office space	1.20	18	0	120	NA
6-PTHP-1 Guard Shack	Office - Office space	0.60	9	0	60	NA

H8. HIGH-RISE RESIDENTIAL DWELLING UNIT AND HOTEL/MOTEL VENTILATION
This Section Does Not Apply

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M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	Form/Title
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration
Mechanical	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
	NRCA-MCH-03-A Constant Volume Single Zone HVAC
	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to 9.20.1(c)(3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints
	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance

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H9. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY													
System ID	Zone Name	System Type	Qty	Rated Capacity (kBtu/h)		Airflow (cfm)			Fan				
				Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	VSD	
PTHP-1 Guard Shack	6-PTHP-1 Guard Shack	PTHP	1	9.00	9.00	400	NA	NA	0.100	bhp			
1-CU-1A/FC-1A Office Exteri-Trm	1-CU-1A/FC-1A Office Exteri	Uncontrolled	1	NA	NA	1600	NA	0.00	0.300	bhp	NA		
3-CU-2/FC-2 Conference Room-Trm	3-CU-2/FC-2 Conference Room	Uncontrolled	1	NA	NA	800	NA	0.00	0.200	bhp	NA		
4-CU-1B/FC-1B Office Interi-Trm	4-CU-1B/FC-1B Office Interi	Uncontrolled	1	NA	NA	1600	NA	0.00	0.300	bhp	NA		
5-CU-3/FC-3A/FC-3B Warehouse-Trm	5-CU-3/FC-3A/FC-3B Warehouse	Uncontrolled	1	NA	NA	380	NA	0.00	0.028	bhp	NA		

H10. EVAPORATIVE COOLER SUMMARY
This Section Does Not Apply

H11. HEAT RECOVERY SUMMARY
This Section Does Not Apply

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Project Address:	16454 Adelanto Rd. Adelanto 92301	Calculation Date/Time:	15-58, Mon, Dec 19, 2022
Input File Name:	22093 Adelanto Bldg.cibd19x		

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Tim Imhoff	Signature:
Company: Engineering Resources Mechanical	Signature Date: 2022-12-19
Address: 27 Mauchly, Suite 209	CEA/ HERS Certification Identification (if applicable): M27832
City/State/Zip: Irvine CA 92618	
Phone: 949-450-0431	

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Envelope Designer Name:	Signature:
Company:	Date Signed:
Address:	
City/State/Zip:	
Phone:	Title: License #:
Responsible Lighting Designer Name:	Signature: NOT IN SCOPE
Company:	Date Signed:
Address:	
City/State/Zip:	
Phone:	Title: License #:
Responsible Mechanical Designer Name: Tim Imhoff	Signature:
Company: Engineering Resources	Date Signed: 2022-12-19
Address: 27 Mauchly, Ste 209	
City/State/Zip: Irvine CA 92618	
Phone: 949-450-0431	Title: License #:

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Project Name:	Adelanto Distribution Facility	NRCC-PRF-01-E	Page 9 of 11
Project Address:	16454 Adelanto Rd. Adelanto 92301	Calculation Date/Time:	15-58, Mon, Dec 19, 2022
Input File Name:	22093 Adelanto Bldg.cibd19x		

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Building Component	Form/Title
Envelope	NRCI-ENV-01-E - Must be submitted for all buildings
Mechanical	NRCI-MCH-01-E - Must be submitted for all buildings

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ENGINEERING RESOURCES
ELECTRICAL • MECHANICAL • ENGINEERS
27 MAUCHLY, STE 209, IRVINE, CA 92618
(949) 450-0431 (949) 450-0432 FAX

PROJECT:
DISTRIBUTION FACILITY
16454 ADELANTO ROAD
ADELANTO, CALIFORNIA 92301

DATE	REMARKS
12/29/2022	1ST PLAN CHECK SUBMITTAL
05/16/2023	2ND PLAN CHECK SUBMITTAL
09/05/2023	CONSTRUCTION SET

DATE: 05/13/2023

DRAWN BY: N.T.

PROJECT NO: 22093

SHEET NUMBER:

M-4.2