

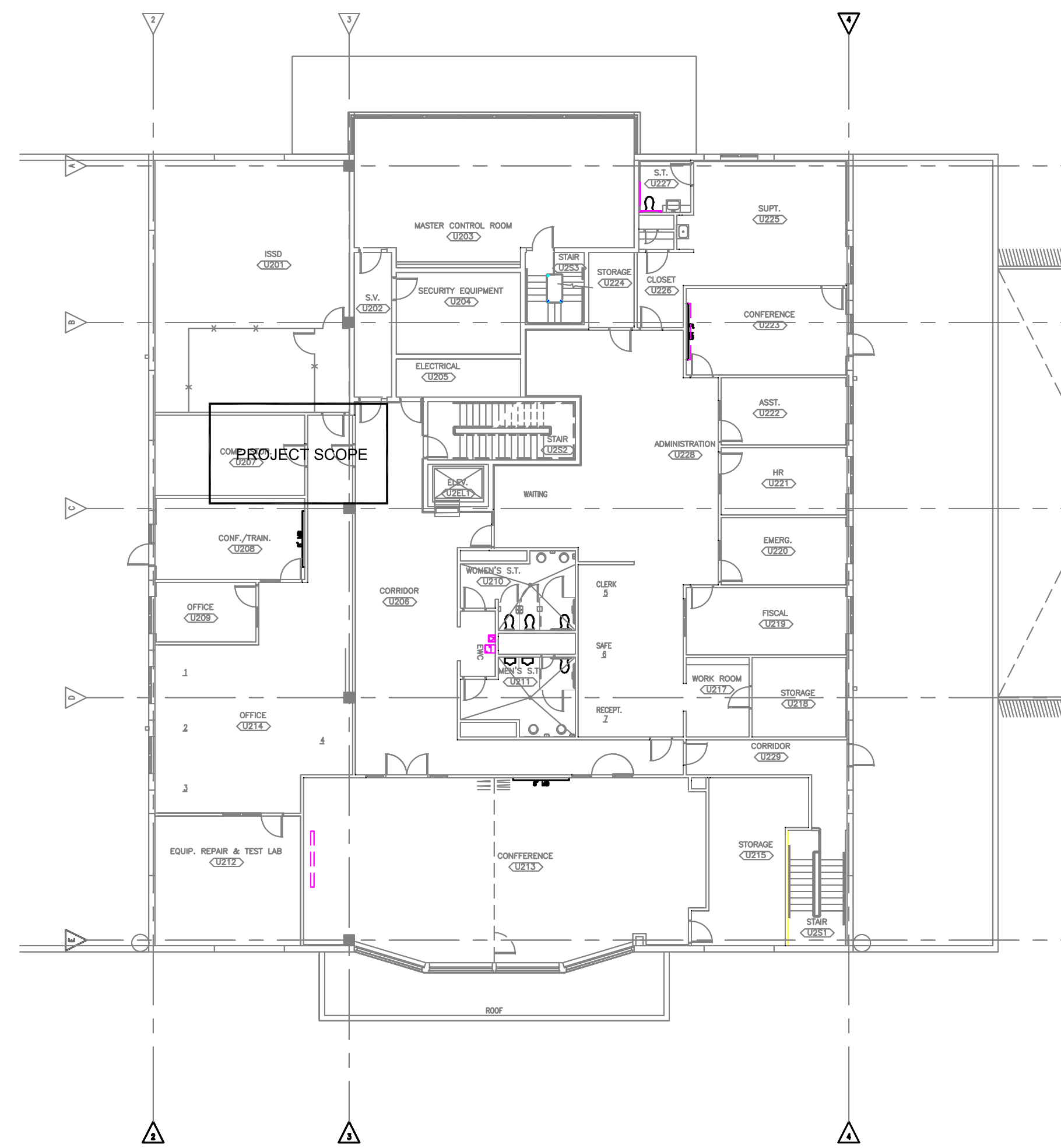
Coffee Creek Correctional Facility (CCCF)

Oregon Department of Corrections

24499 SW Grahams Ferry Rd, Wilsonville, OR 97070

HVAC AND FIRE SUPPRESSION UPGRADE

SECURITY CAMERA SERVER ROOM



1 OVERALL BUILDING PLAN
M1.0 SCALE: 1/16"=1'-0"

SCOPE OF WORK:

MECHANICAL

DEMOLITION:

- REMOVE (E)CEILING HUNG, INDOOR CRAC UNIT AND CONTROLS.
- REMOVE (E)CONDENSINT UNIT ON ROOF.

NEW WORK:

- PROVIDE HVAC SYSTEMS TO PROVIDE COOLING AND HUMIDIFICATION TO THE NEW SERVER ROOM FOR SECURITY CAMERAS. PROVIDE N+1 REDUNDANCY.
- PROVIDE MAIN UNITS TO MAINTAIN ROOM TEMP AND HUMIDITY.
- PROVIDE REDUNDANT UNIT TO REPLACE CAPACITY OF ONE MAIN UNIT.
- MAIN UNITS: CRAC-1A AND 1B
 - (2)NOMINAL 6T CEILING HUNG CRAC UNIT AND CONTROLS.
 - (2)NOMINAL 6T CONDENSING UNIT ON ROOF AND PROVIDE REF PIPING TO INDOOR UNIT.
- REDUNDANT UNIT:(VRF SYSTEMS, HP-1 & FC'S)
 - (1) 10T VRF HEAT PUMP UNIT ON ROOF.
 - INSTALL (3) 3T WALL MOUNTED, DUCTLESS UNIT ON SERVER ROOM WALLS.
 - SET TEMPERATURE SENSOR FOR THIS SYSTEM TO KICK ON WHEN SPACE TEMPERATURE RISES TO 78 DEGREE F (ADJUSTABLE)
- FOR ALL INDOOR UNITS ABOVE, CONNECT CONDENSATE DRAINS TO EXISTING LINE.

FIRE SUPPRESSION

DEMOLITION:

- REMOVE (E) FIRE SUPPRESSION SYSTEM. CONTRACTOR TO VERIFY EXISTING SYSTEM AND CONDITIONS.

NEW WORK:

- CONTRACTOR TO PROVIDE NEW FM200 CLEAN AGENT DRY FIRE SUPPRESSION SYSTEM

ELECTRIAL

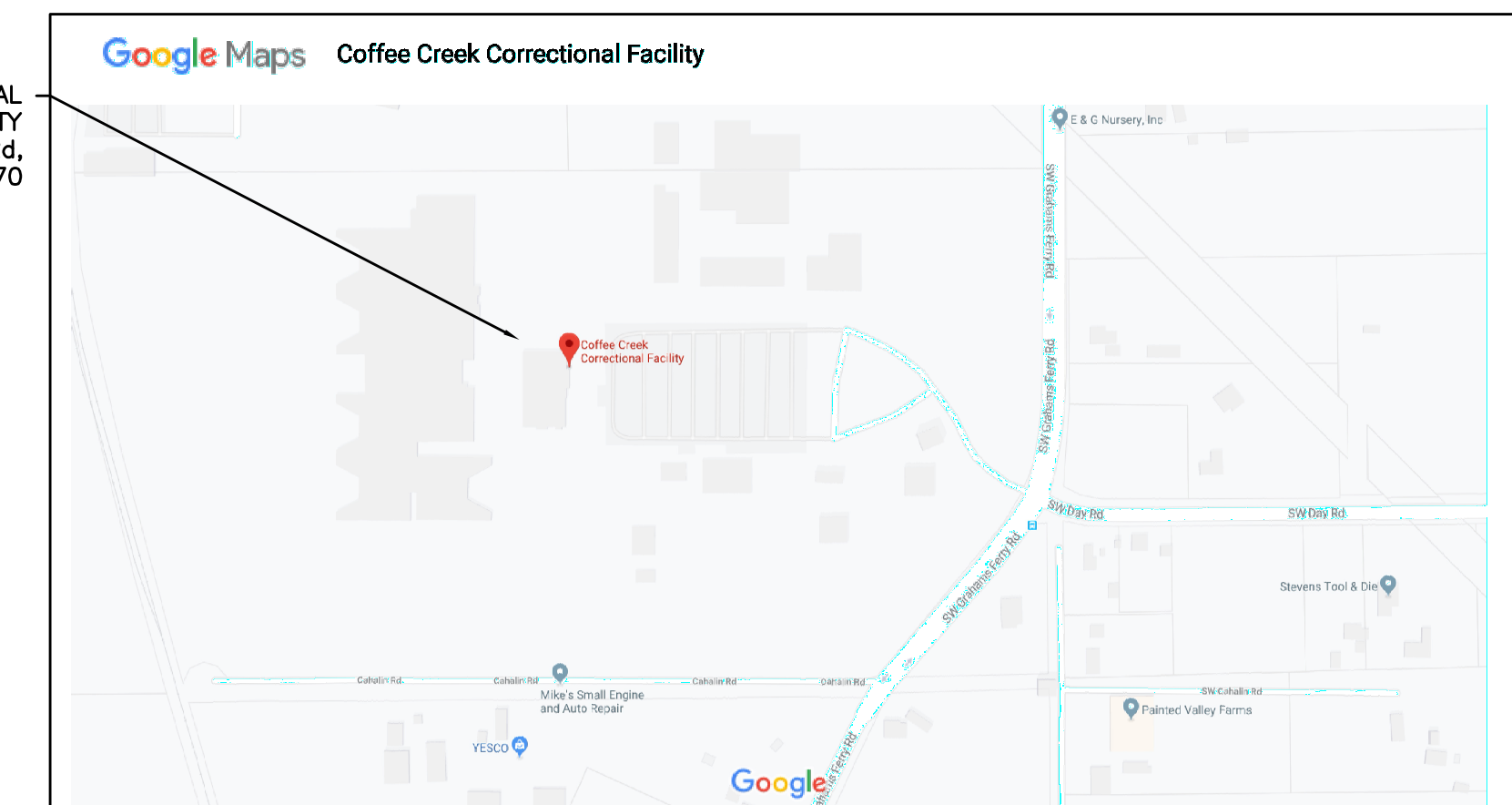
DEMOLITION:

- REMOVE POWER CONNECTIONS TO (E)INDOOR CRAC UNIT AND OUTDOOR UNIT.

NEW WORK:

- PROVIDE NEW POWER CONNECTIONS TO ALL NEW HVAC UNITS.

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Drawing Index:

- M1.0 Cover Sheet/Scope of Work
- M2.0 Mechanical Demo plan
- M3.0 Mechanical Plan
- M4.0 Mechanical Legend, Schedules and Details.
- M4.1 Mechanical Details
- P1.0 Piping Plan - 1st Floor
- P2.0 Piping Plans - 2nd floor & Roof
- FP1.0 Fire Protection Plan



Date: 7-29-21
Proj No: 9938
Drawn By: MD
Chkd By: MD
DSGN By: MD
Acad File: 9862

COFFEE CREEK CORRECTIONAL FACILITY
OREGON DEPARTMENT OF CORRECTIONS
WOMENS PRISON AND INTAKE CENTER
WILSONVILLE
OREGON 97070
MECHANICAL COVER SHEET

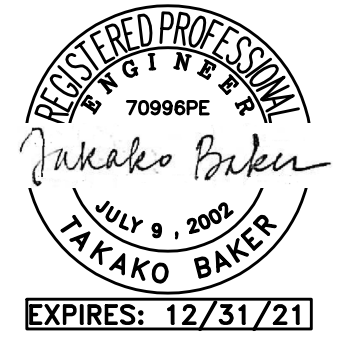


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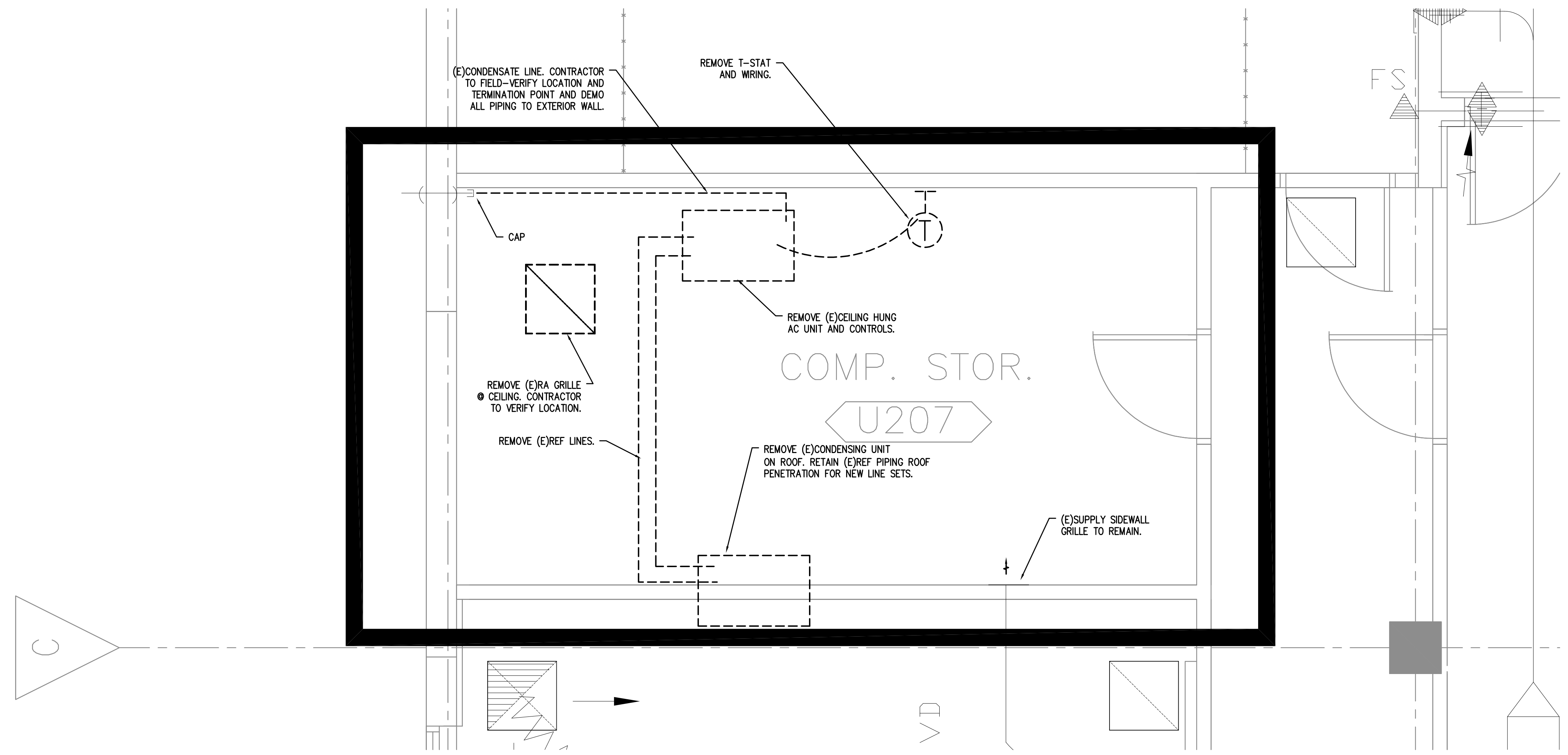
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M1.0

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1 MECHANICAL DEMO PLAN
 M2.0 SCALE: 1/2"=1'-0"

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MECHANICAL DEMO PLAN

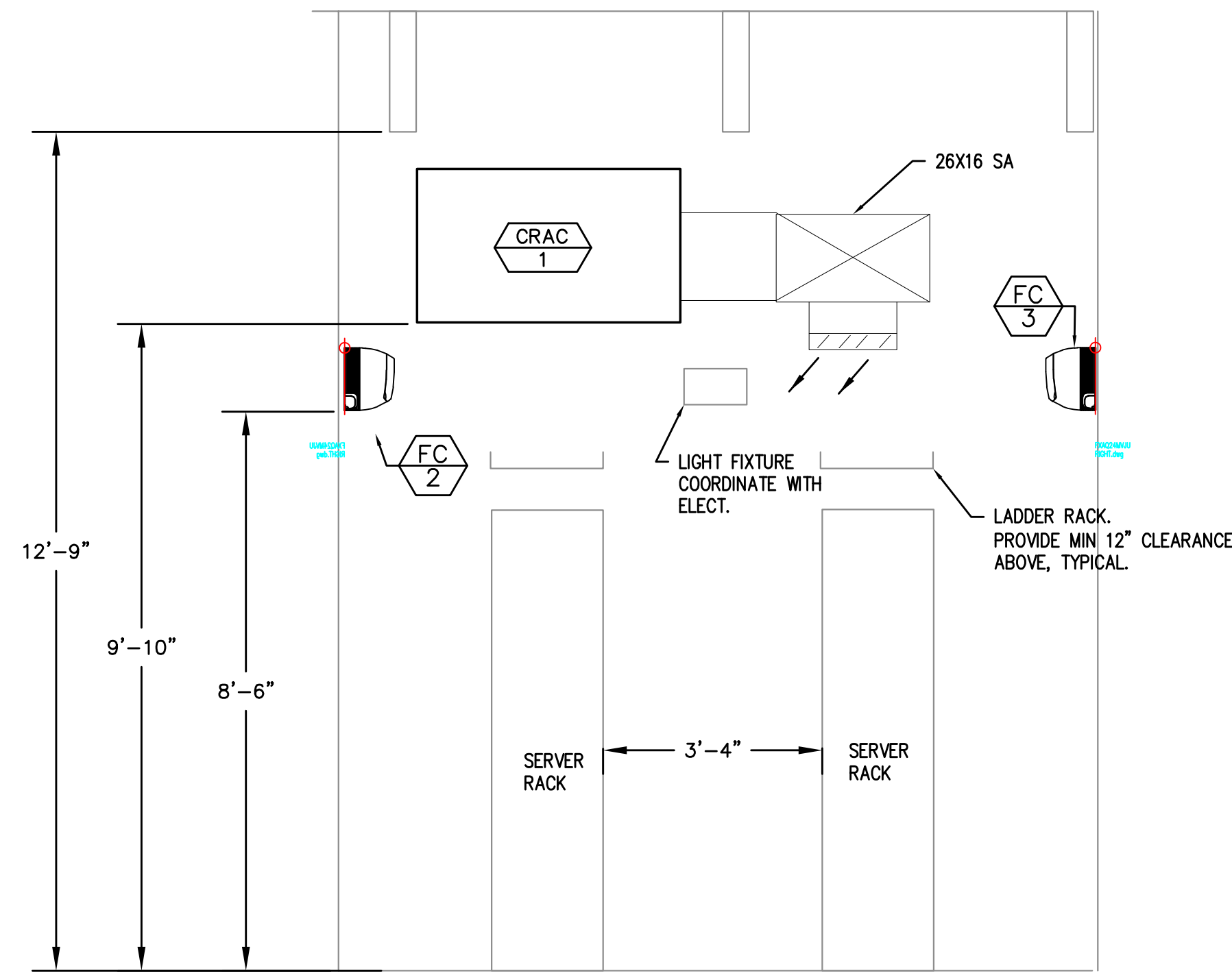


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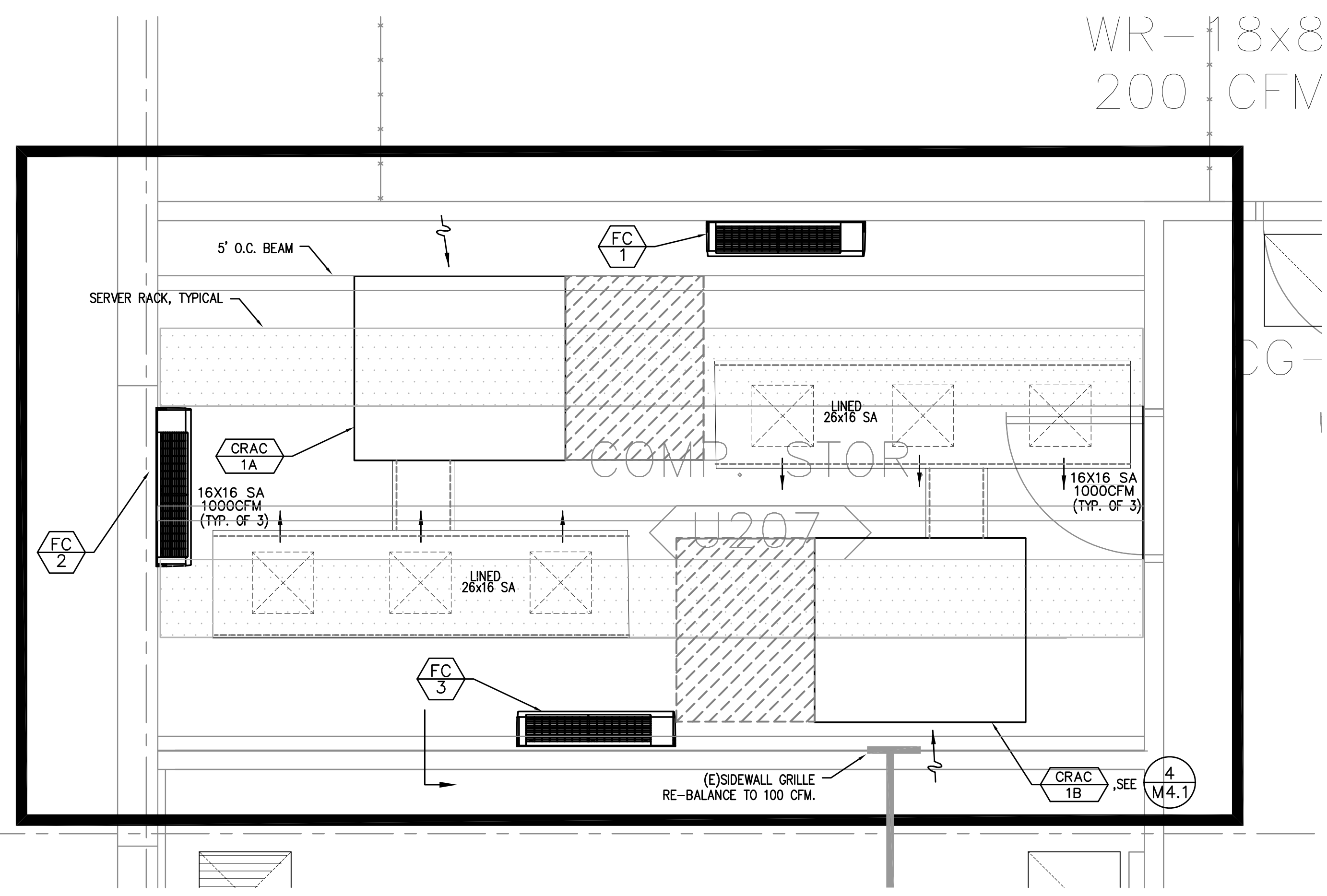
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2 SECTION
M3.0 SCALE: 1/2"=1'-0"



1 MECHANICAL FLOOR PLAN
M3.0 SCALE: 1/2"=1'-0"

COFFEE CREEK CORRECTIONAL FACILITY
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MECHANICAL FLOOR PLAN



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MECHANICAL LEGEND

	SUPPLY AIR DIFFUSER	AFF	ABOVE FINISH FLOOR
	RETURN AIR GRILLE	AHU	AIR HANDLING UNIT
	EXHAUST AIR GRILLE	B.D.	BOTTOM OF DUCT
	PERFORATED RETURN AIR PANEL	BHP	BRAKE HORSEPOWER
	DIRECTIONAL AIR FLOW	BTU	BRITISH THERMAL UNITS
	MANUAL VOLUME DAMPER	CFM	CUBIC FEET PER MINUTE
	SUPPLY OR OUTSIDE AIR DUCT UP & DOWN	CONN.	CONNECTION
	RETURN AIR DUCT UP & DOWN	CONT.	CONTINUATION
	EXHAUST AIR DUCT UP & DOWN	CW	DOMESTIC COLD WATER
	SUPPLY OR OUTSIDE AIR DUCT UP & DOWN	DB	DRY BULB
	RETURN AIR DUCT UP & DOWN	DIA.	DIAMETER
	EXHAUST AIR DUCT UP & DOWN	DIST.	DISTRIBUTION
	VAV TERMINAL UNIT	EA	EXHAUST AIR
	VVT TERMINAL UNIT	EDB	ENTERING DRY BULB TEMPERATURE
	EXISTING	EWB	ENTERING WET BULB TEMPERATURE
	CONNECT TO EXISTING	EWT	ENTERING WATER TEMPERATURE
	THERMOSTAT OR TEMP. SENSOR	FF	FINISH FLOOR
	NOTE	FIXT.	FIXTURE
	EQUIPMENT DESIGNATOR	FPM	FEET PER MINUTE
	BALL VALVE	FPS	FEET PER SECOND
	GATE VALVE	FT	FEET / FOOT
	CHECK VALVE	GA.	GAUGE
	BALANCING VALVE	GPM	GALLONS PER MINUTE
	THERMOMETER	H	HEIGHT
	DIRECTION OF FLOW	HP	HORSEPOWER
	PUMP	I.D.	INSIDE DIAMETER
	STRAINER	IN.	INCHES
	PRESSURE GAUGE	L	LENGTH
	PET'S PLUG	LBS.	POUNDS
	DOUBLE CHECK ASSEMBLY	LDB	LEAVING DRY BULB
	PRESSURE REDUCING VALVE	LWB	LEAVING WET BULB
	UNION	LWT	LEAVING WATER TEMPERATURE
	2-WAY CONTROL VALVE	MAX.	MAXIMUM
	3-WAY CONTROL VALVE	MBH	THOUSANDS OF BTUs PER HOUR
	CAP	MIN.	MINIMUM
	SMOKE DETECTOR	NC	NOISE CRITERIA
	MOTORIZED DAMPER	N.C.	NORMALLY CLOSED
		N.I.M.	NOT IN MECHANICAL
		NO.	NUMBER
		N.O.	NORMALLY OPEN
		O.A.	OUTSIDE AIR
		P	PERSON
		PSI	POUNDS PER SQUARE INCH
		P/T	PRESSURE / TEMPERATURE
		R.A.	RETURN AIR
		RECT.	RECTANGULAR
		REQ'D	REQUIRED
		S.A.	SUPPLY AIR
		S.P.	STATIC PRESSURE
		SQ.	SQUARE
		TEMP.	TEMPERATURE
		TYP.	TYPICAL
		VAV	VARIABLE AIR VOLUME
		W	WIDTH
		WB	WET BULB
		WPD	WATER PRESSURE DROP
		Ø	DIAMETER
			(E) EXISTING
			(D) DEMOLISH
			NEW WORK
		HWS	(HWS) HEATING WATER SUPPLY
		HWR	(HWR) HEATING WATER RETURN
			FIRE DAMPER
			FIRE / SMOKE DAMPER
			SMOKE DAMPER
			SEISMIC BRACING
			LATERAL BRACING
			LONGITUDINAL BRACING
			LONGITUDINAL & LATERAL BRACING

CONDENSERS

MARK NUMBER	CU 1A1 / CU 1A2	CU 1B1 / CU 1B2
TYPE	CONDENSER	CONDENSER
INDOOR UNITS	CRAC 1A	CRAC 1A
NOMINAL TONS	6 TONS	6 TONS
# OF FANS	1	1
FAN MOTOR HP	1/2	1/2
AIRFLOW (CFM)	2000	2000
ELECTRICAL (V/PH)	460/3	460/3
FLA/MCA (A)	5.7/9.5	5.7/9.5
MOP (A)	15	15
WEIGHT (LBS)	175	175
BASIS OF DESIGN: DATAIRE	STULTZ OHS-032-RCU-0	STULTZ OHS-032-RCU-0

AC UNITS

MARK NUMBER	CRAC 1A / CRAC 1B
SYSTEM	SERVER ROOM
TYPE	CEILING HORIZONTAL
CFM	3000
EXTERNAL STATIC PRESS (" H2O)	0.50
MOTOR H.P.	1.50
FILTER SIZE, W" X H" (QTY)	(2)20X20
FILTER TYPE	4" MERV 8
REFRIGERANT TYPE	R-410A
CONDENSATE PUMP	YES
EAT (DB/WB) °F	72°F/60°F
TOTAL CAPACITY (BTU/HR)	64 MBH
SENSIBLE CAPACITY (BTU/HR)	60 MBH
HUMIDIFIER CAPACITY (LB H2O/HR)	4-15LBS/HR
HUMIDIFIER (KW)	5.1 KW
ELECTRIC HEAT (KW)/STAGE	10 KW/1
EFFICIENCY (SCOP)	2.39
UNIT DIMENSIONS (W" X L" X H")	48.25X48"X27.75"
ELECTRICAL (V/PH/HZ)	460/3/60
FLA/MCA/MOP (A)	22.4/28.1/30
WEIGHT (LB)	920
BASIS OF DESIGN	DATAIRE GTAD-01834

- NOTES:
 1. PROVIDE WITH BAGNET MS/TP INTERFACE FOR FUTURE INTEGRATION.
 2. PROVIDE WITH CONDENSATE PUMP.

VRV INDOOR UNITS

TAG #	TYPE	Heat Pump Unit	BOD: LG	Airflow (CFM)	DESIGN SENSIBLE Cooling (BTUH)	DESIGN TOTAL Cooling (BTUH)	Design Heating (BTUH)	Weight (LBS)	Electrical (V/PH)	Notes
FC-1	WALL MOUNTED	HP-1	ARNU363SVA4	918	20,000	20,000		80	208/1	1
FC-2	WALL MOUNTED	HP-1	ARNU363SVA4	918	20,000	20,000		80	208/1	1.00
FC-3	WALL MOUNTED	HP-1	ARNU363SVA4	918	20,000	20,000		80	208/1	1.00

- Notes
 1. PROVIDE INTEGRAL CONDENSATE DRAIN PAN, FLOAT AND ALARM. PROVIDE EXTERNAL CONDENSATE PUMP.

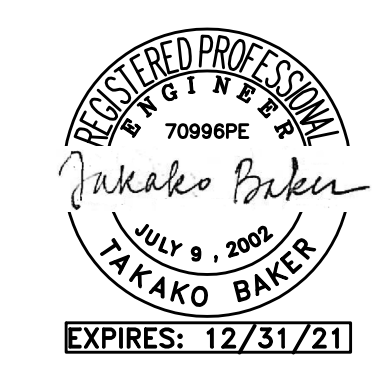
OUTDOOR UNITS - HEAT PUMPS

MARK NUMBER	HP 1
SYSTEM - VRV - HEAT PUMP	SERVER ROOM
TYPE	HEAT RECOVERY HEAT PUMP
LG MODEL (BASIS OF DESIGN)	ARUM121DTES
DESIGN COOLING CAPACITY	107.4 MBH
NORMAL HEATING CAPACITY	127.6 MBH
MAX PIPING LENGTH	540 FT
REFRIGERANT	410 A
REFRIGERANT CHARGE	36 LBS
EER	11.2
IEER	22.3
HEATING COP 47F	3.36
SCHE	22.9
POWER - VOLTS/HZ/PH	460/60/3
COMPRESSOR TYPE	INVERTOR
MCA(MODULE 1/MODULE 2)	18.4/18.4
MOCP(MODULE 1/MODULE 2)	25/25
WEIGHT	1390

System Commissioning
 IECC Section C408.

Contractor Responsibilities

- The contractor is responsible for following all the requirements of IECC Section C408.
- The contractor shall hire and utilize an approved CX agent
- The CX agent shall
 - Prepare a CX plan
 - Oversee the TAB measurements
 - Conduct the Prefunctional and Functional Tests
 - Prepare the Preliminary CX report
 - Prepare the Final CX report
 - Review the Tab report
 - Review the O&Ms
 - Prepare the Systems Manuals
- Systems required to be Commissioned
 - HP-1, FC-1, FC-2 and FC-3
 - CRAC-1A, 1B, CU-1A1 & 1A2, CU-1B1 & 1B2



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MECHANICAL SCHEDULES AND DETAILS

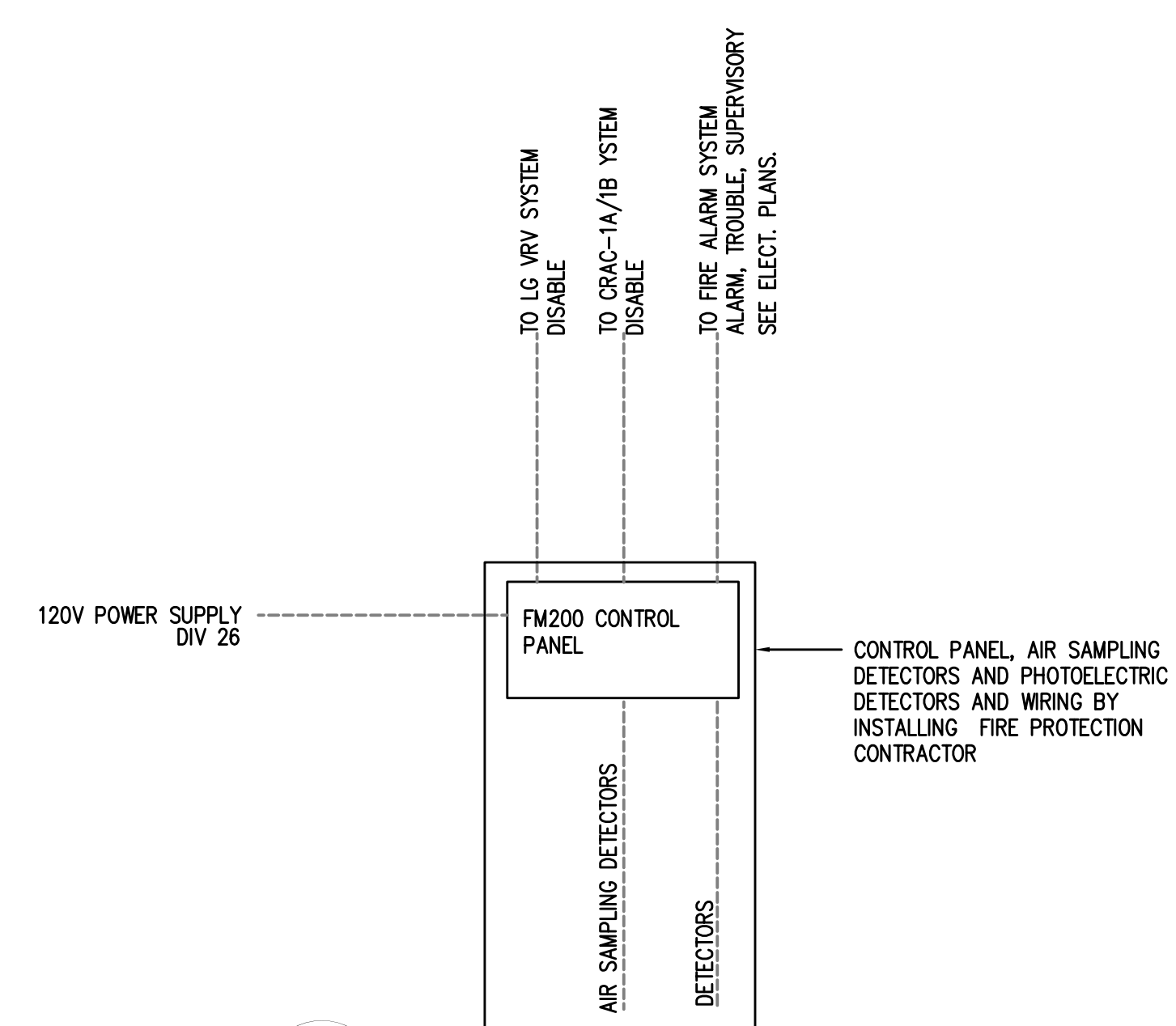
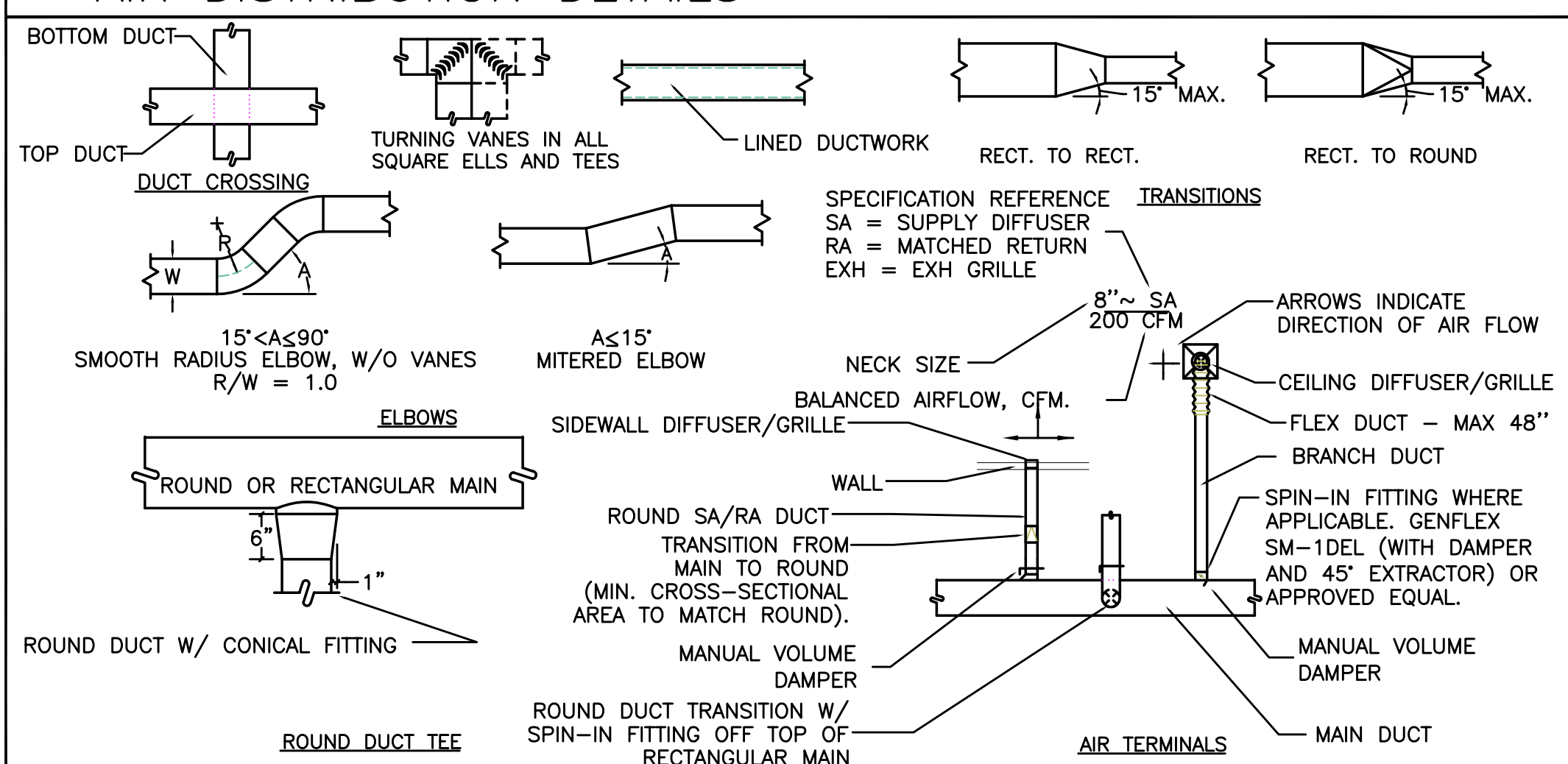


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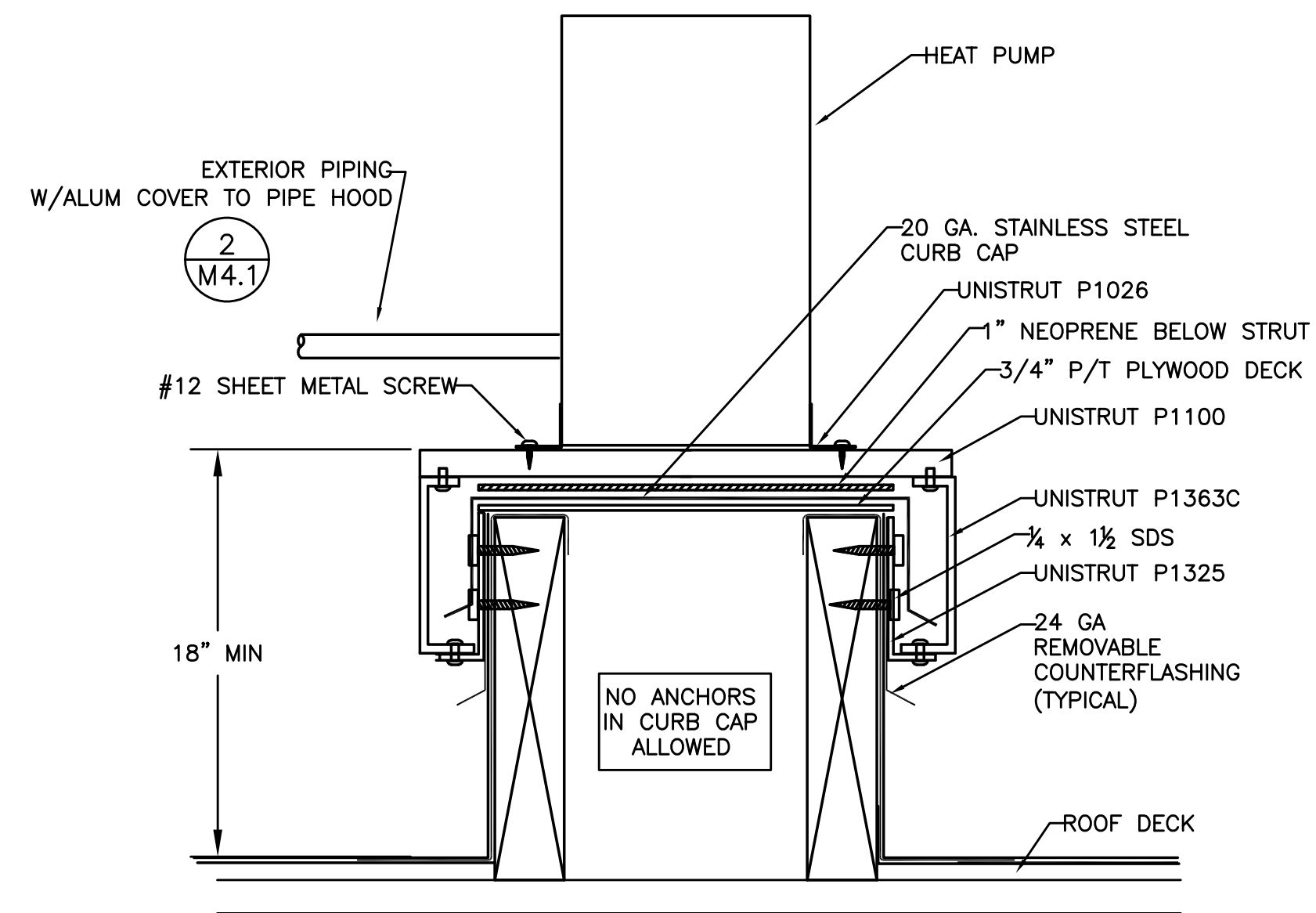
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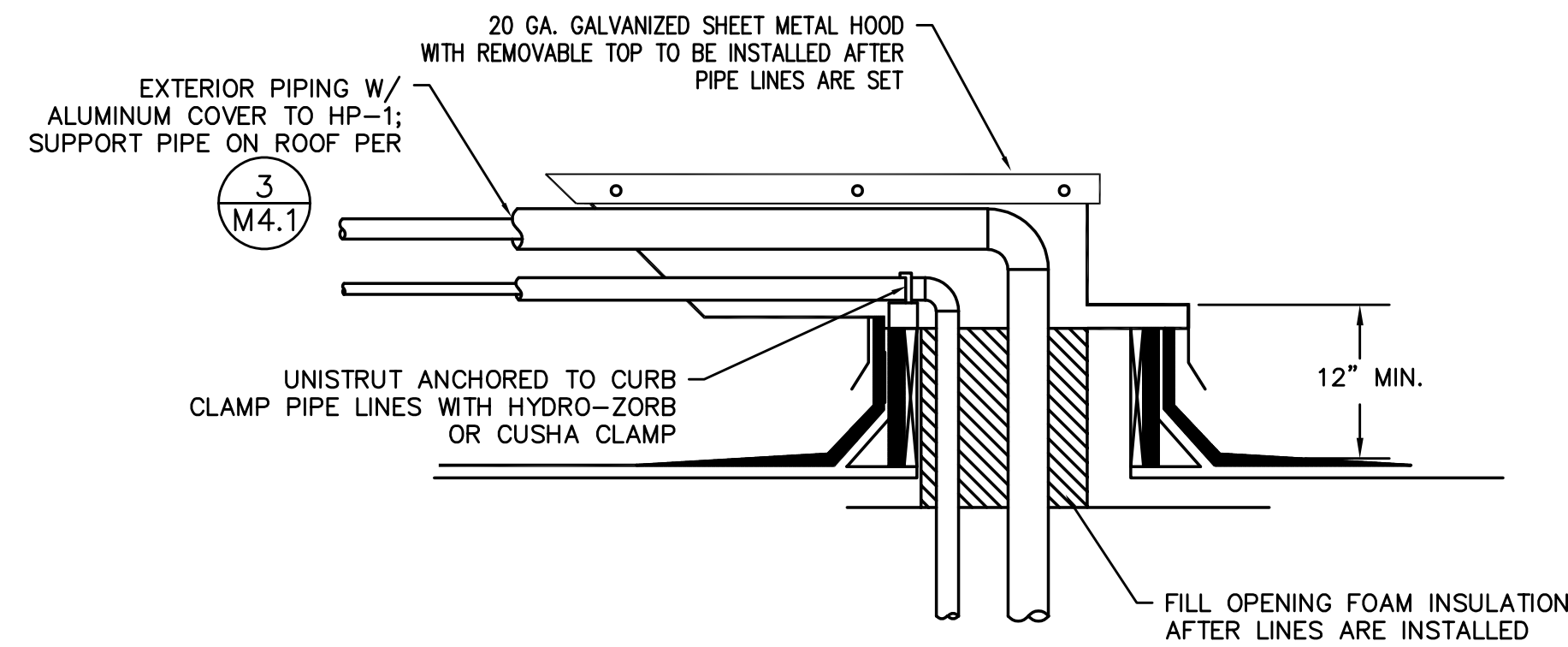
AIR DISTRIBUTION DETAILS



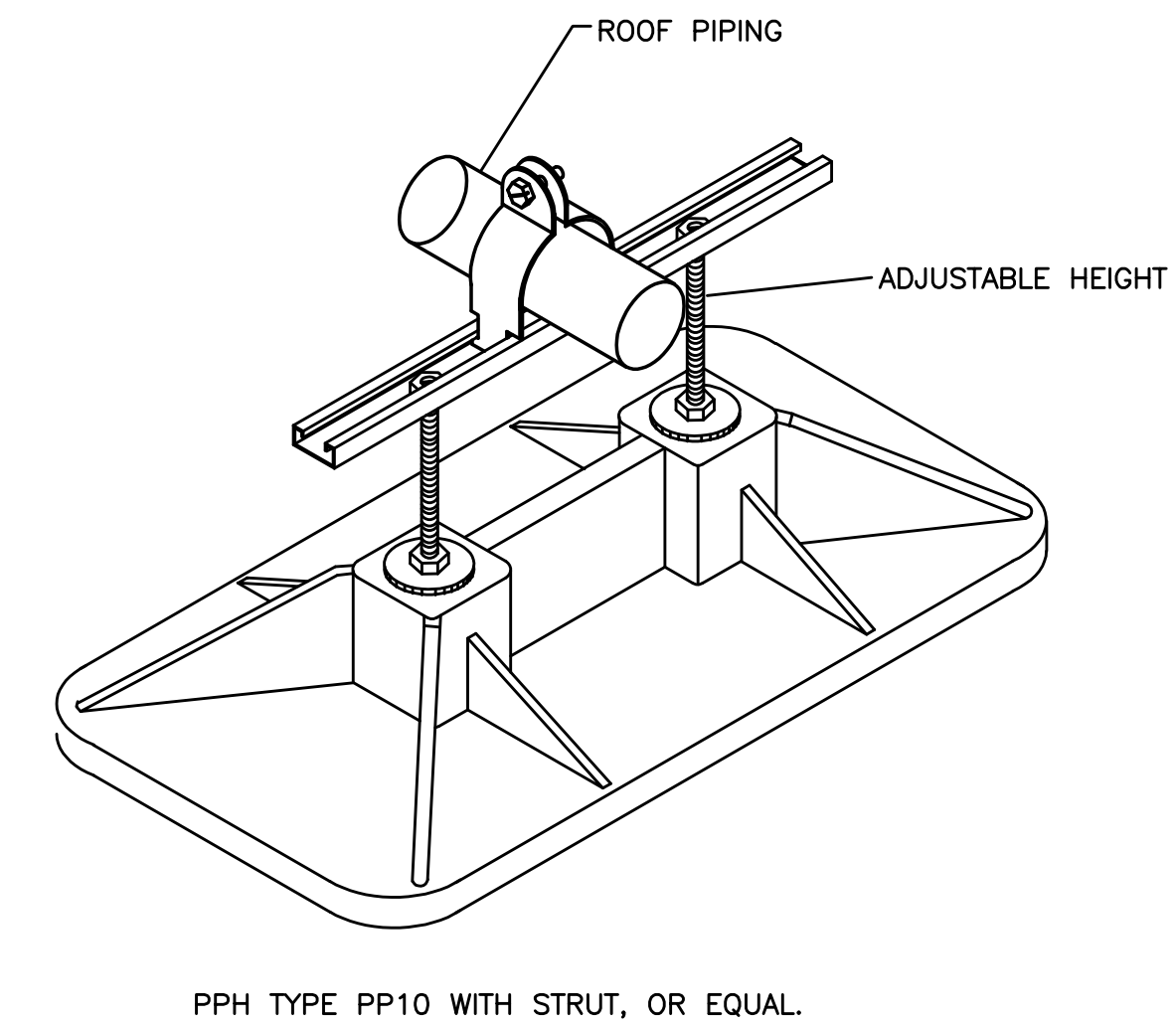
1 FM200 CONTROL PANEL WIRING
 M4.0 SCALE: DETAIL



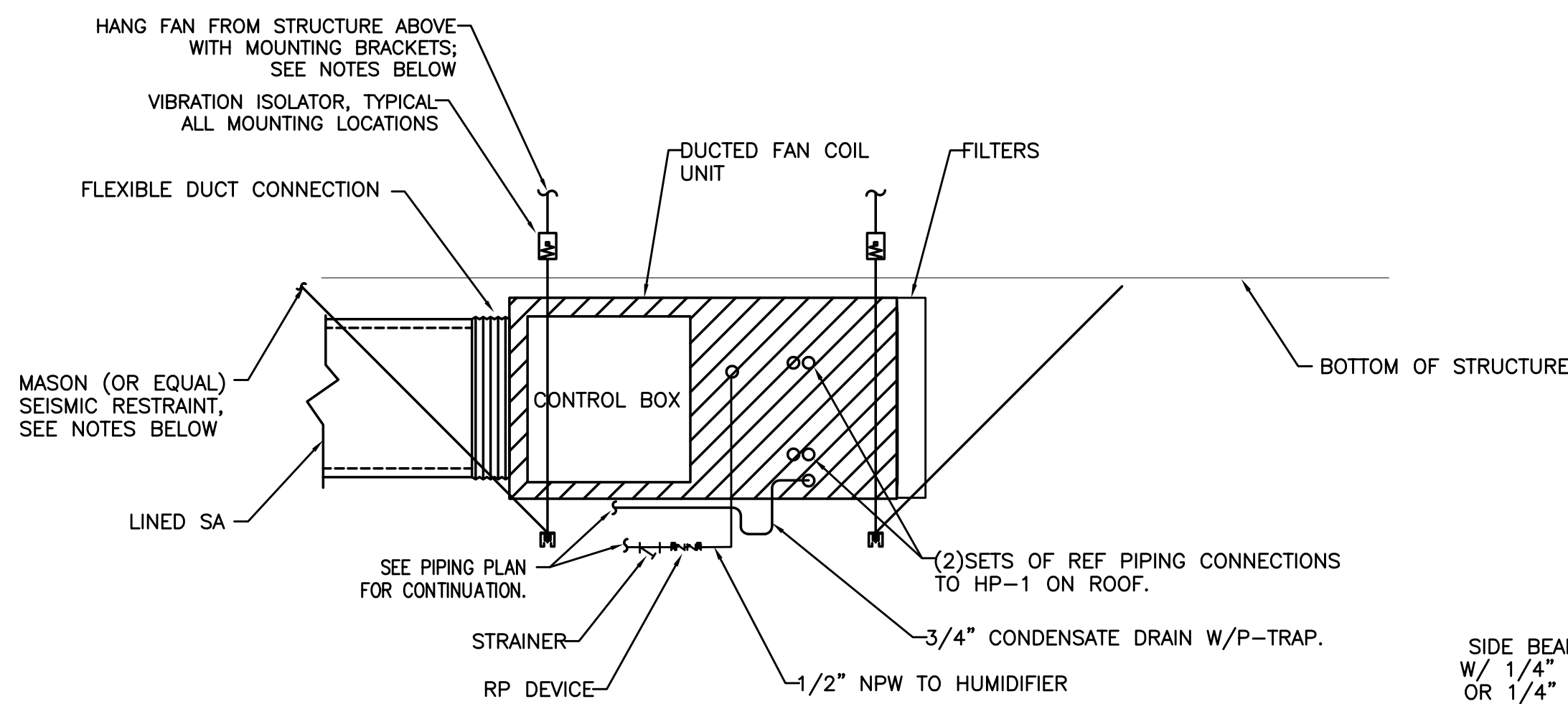
1 HP/CU CURB DETAIL
M4.1 SCALE: DETAIL



2 REFRIGERANT PIPE HOOD
M4.1 NTS

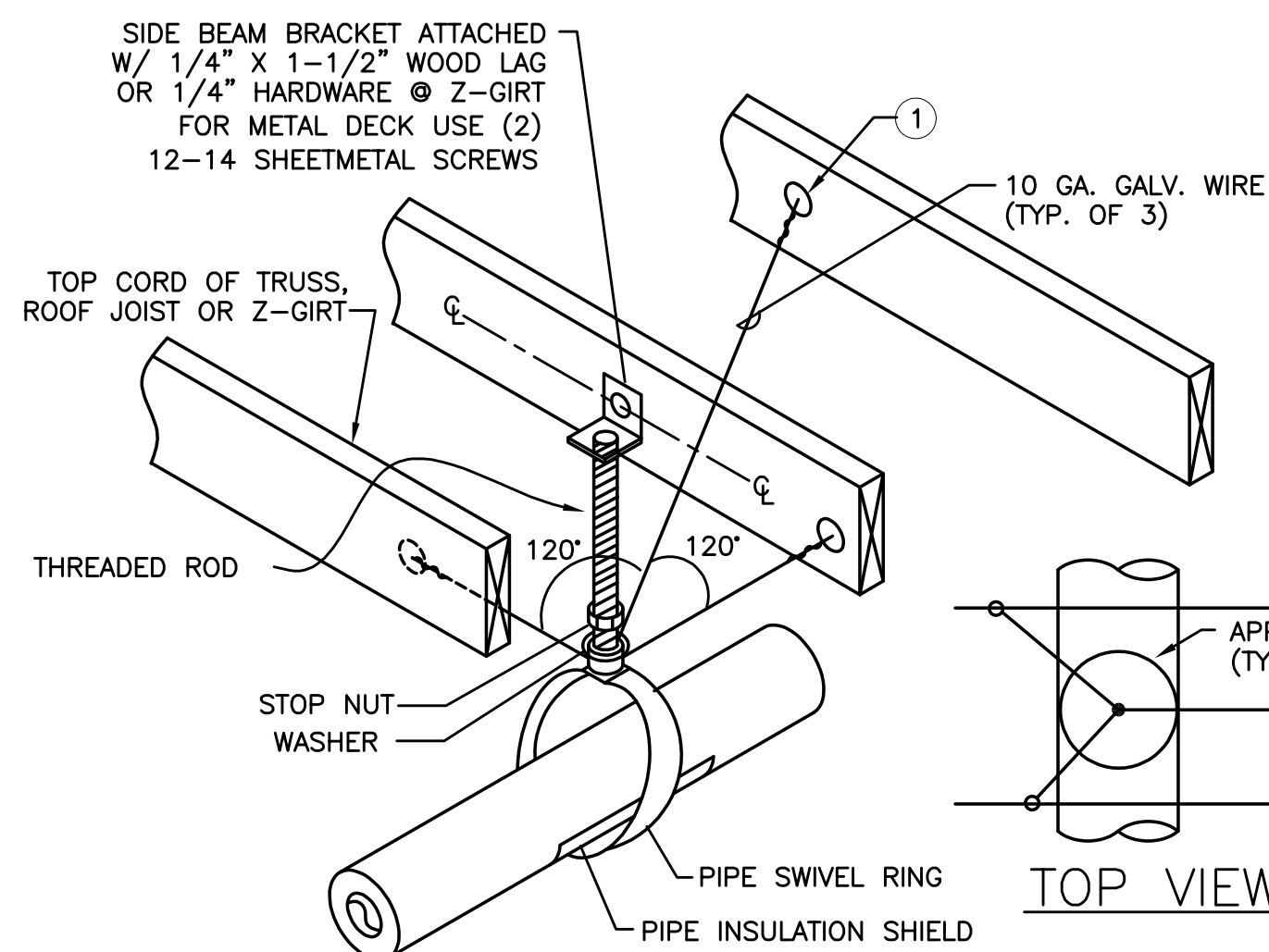


3 ROOF PIPING SUPPORT DETAIL
M4.1 SCALE: DETAIL



- NOTES:
1. LOCATE SUPPORT & SIESMIC SO ACCESS TO UNIT IS NOT AFFECTED.
 2. PROVIDE FLOAT AND LOCKOUT ON PRIMARY CONDENSATE DRAIN FOR ALL FAN COIL (FCs) UNITS.
 3. PROVIDE MANUFACTURER REQUIRED CLEARANCES TO CONTROL BOX AND FAN COIL UNIT.
 4. CAP PUMPED CONDENSATE DRAIN OUTLET
 5. SEE SCHEDULE FOR VAPOR & LIQUID REF. LINES.
 6. LOCATE ACCESS SIDE ABOVE FULL CEILING W/ NO OBSTRUCTIONS.

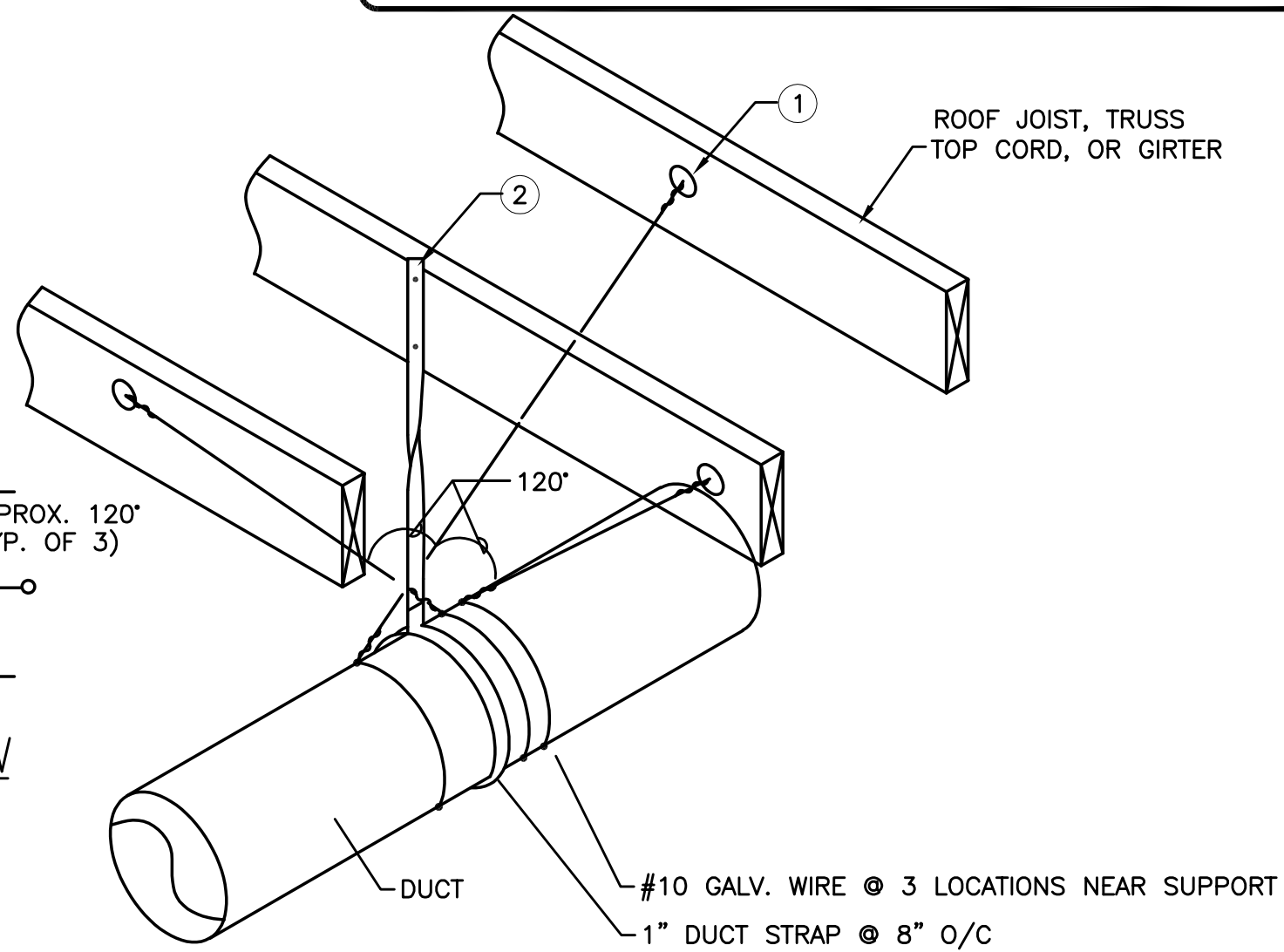
4 CRAC UNIT DETAIL
M4.1 SCALE: DETAIL



- 5/M4.1 NOTES
- 1 - 1/4" GALV. THREADED EYE BOLT @ CENTER OF WOOD MEMBER (TYP. OF 3). FOR 2 GIRT USE MACHINE THREAD EYE BOLT W/ JAMB NUT & 1/4" WASHER @ EACH SIDE OF GIRT USE 12 SHEETMETAL SCREWS & 16 GA. MIN. 16 GA. MIN. STRUT ANGLE CLIP

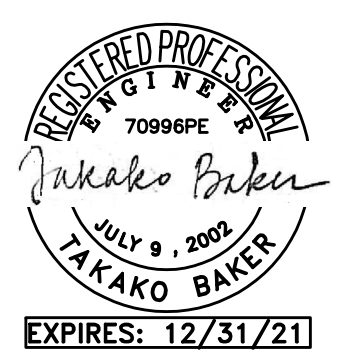
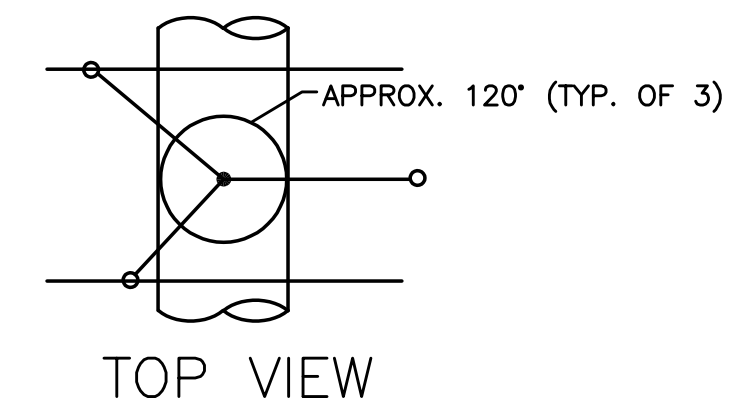
5 PIPE SUPPORT
M4.1 SCALE: DETAIL

- 6/M4.1 NOTES
- 1 - 1/4" GALV. THREADED EYE BOLT @ CENTER OF WOOD MEMBER (TYP. OF 3). FOR Z-GIRT USE MACHINE THREAD EYE BOLT W/ JAMB NUT & 1/4" WASHER @ EACH SIDE OF GIRT. FOR METAL DECK USE 12 SHEETMETAL SCREWS & 16 GA. MIN. STRUT ANGLE CLIP
 - 2 - ATTACH TO TOP CORD. OF TRUSS ONLY OR WOOD JOIST W/ #12 X 1-5/8 DECK SCREW @ MIN. 1" FROM WOOD MATERIAL EDGE. ATTACH TO Z-GIRT W/ (2) #12 TEK SCREWS. FOR METAL DECK USE (2) 12-14 SHEETMETAL SCREWS



- FOR SHEETMETAL DUCTS 11" TO 27" IN DIAMETER & ALL SQUARE OR RECTANGULAR DUCTS (STRAP ALONE IS SUFFICIENT FOR DUCTS SMALLER THAN 11" IN DIAMETER)
- STRAP INTERVAL MAY BE DECREASED (LESS THAN 96" O/C TO REDUCE THE NEED FOR WIRE TIES AS DETAILED. CONSULT ENGINEER OR SMACNA STANDARDS

6 DUCT SUPPORT
M4.1 SCALE: DETAIL

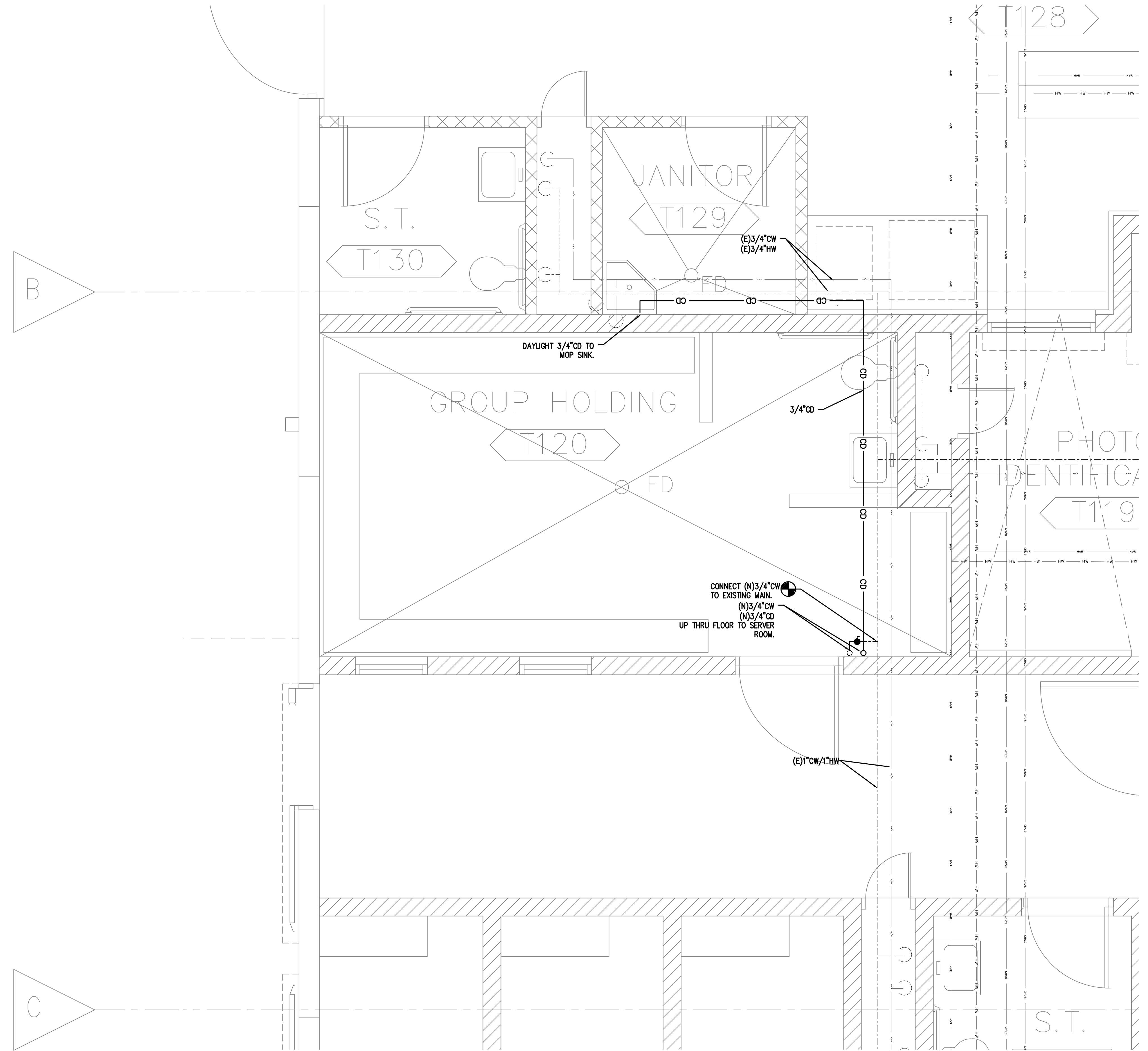



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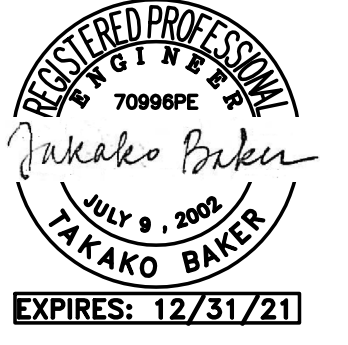
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1 PIPING PLAN - 1ST FLOOR
 SCALE: 1/2" = 1'-0"



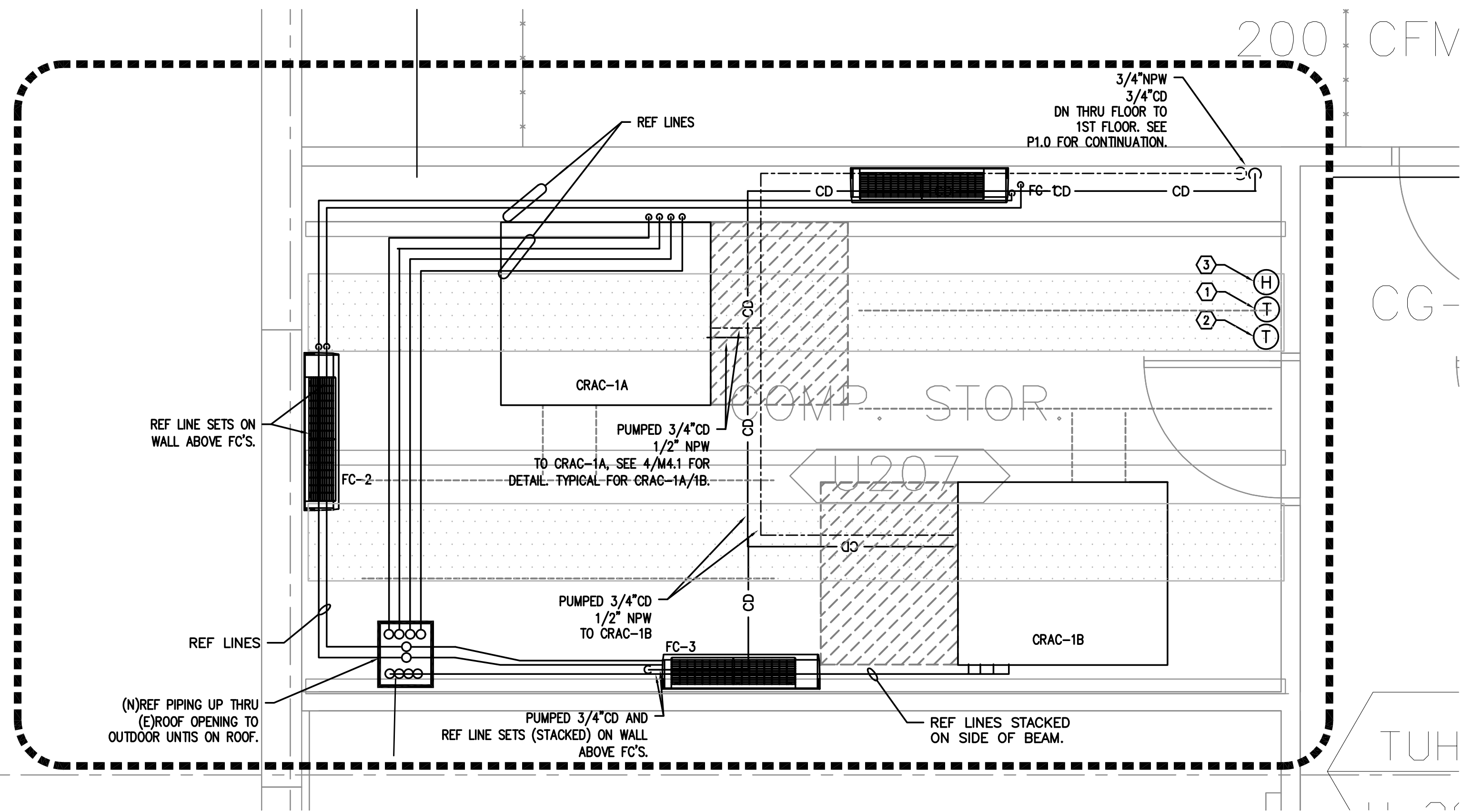
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PIPING PLAN - 1ST FLOOR



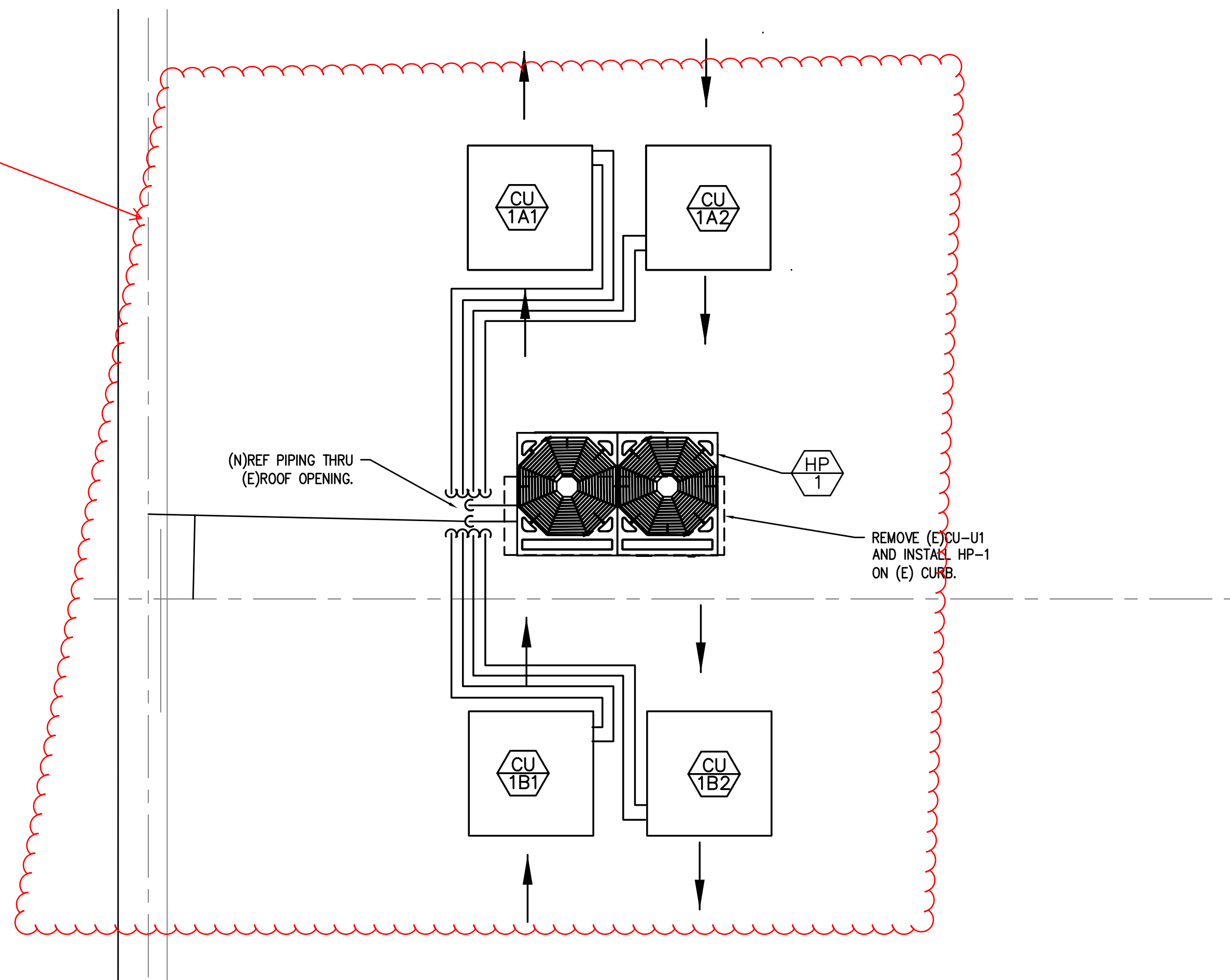
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1 PIPING PLAN - 2ND FLOOR
P2.0 SCALE: 1/2" = 1'-0"

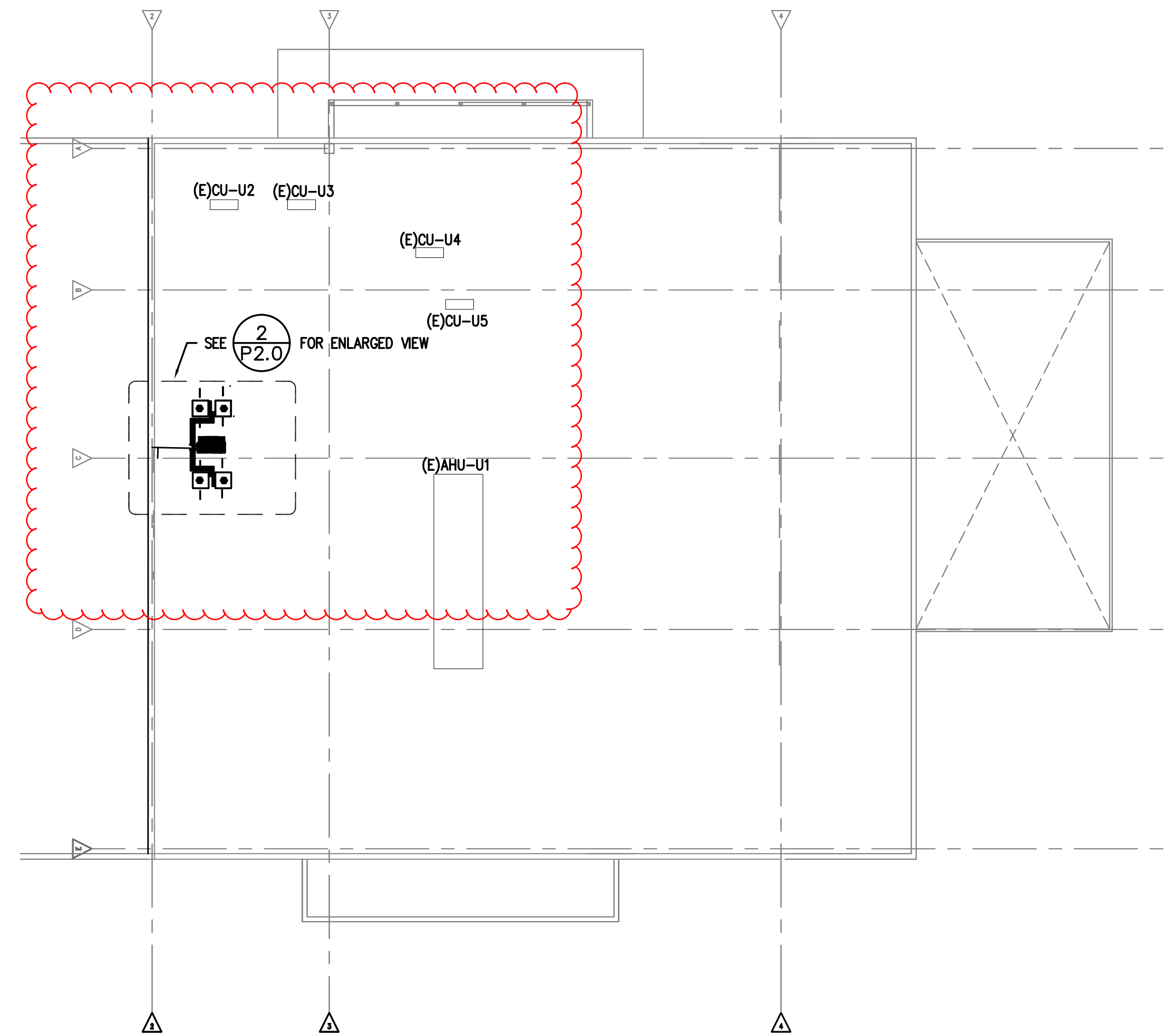
need
structural
calcs for this



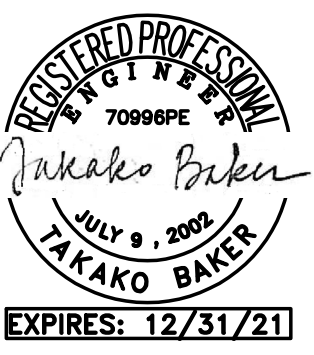
2 PIPING PLAN - ROOF
P2.0 SCALE: 1/2" = 1'-0"

KEYED NOTES:

1. T-STAT FOR CRAC-1A AND 1B, SET TO 72°F (ADJUSTABLE). COORDINATE LOCATION OF T-STAT WITH OWNER AND FINAL SERVER RACK LAYOUT.
2. T-STAT FOR FC-1 THRU 4, SET TO 80°F (ADJUSTABLE). THIS T-STAT IS INTENDED TO AUTOMATICALLY TRIGGER THE REDUNDANT SYSTEM (VRF) TO START WHEN EITHER CRAC-1A OR 1B IS SHUT-DOWN. COORDINATE LOCATION OF T-STAT WITH OWNER AND FINAL SERVER RACK LAYOUT.
3. HUMIDISTAT FOR CRAC-1A AND 1B. COORDINATE LOCATION OF DEVICE WITH OWNER AND FINAL SERVER RACK LAYOUT.



3 OVERALL ROOF PLAN
P2.0 SCALE: 1/4" = 1'-0"



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PIPING PLANS - 2ND FL. & ROOF

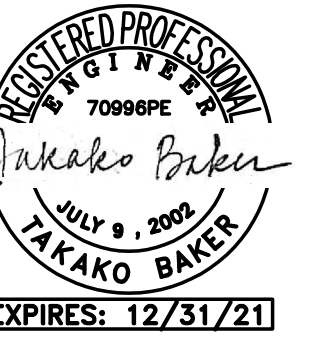


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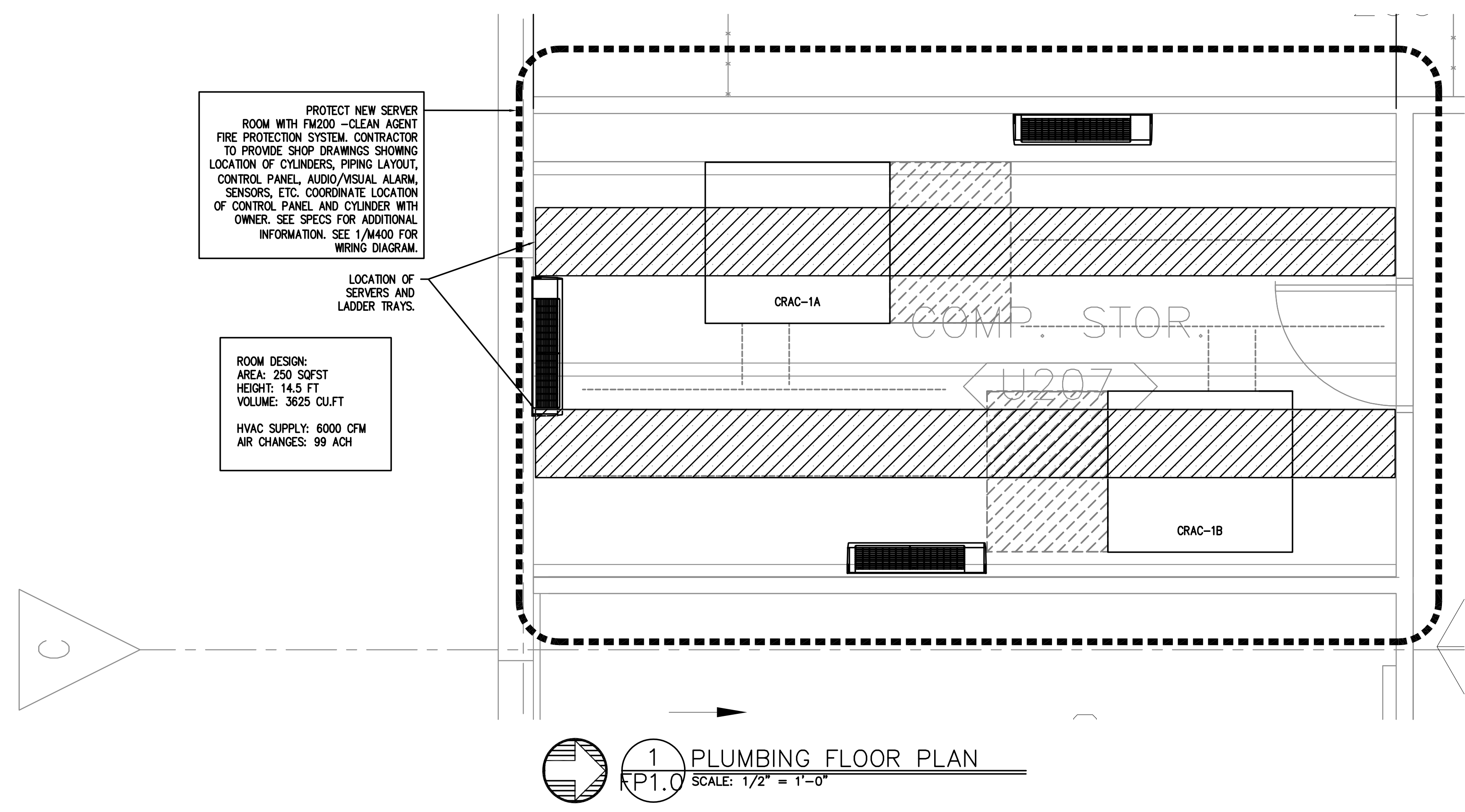
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FIRE PROTECTION PLAN



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