

FIRE TRAINING HVAC SAU TECH

CAMDEN, ARKANSAS

INDEX OF DRAWINGS

T1.1 TITLE SHEET

MECHANICAL

M1.0 FLOOR PLAN - DEMO
M1.1 FLOOR PLAN - HVAC
M2.1 HVAC LEGENDS & SCHEDULES



PROJECT INFORMATION

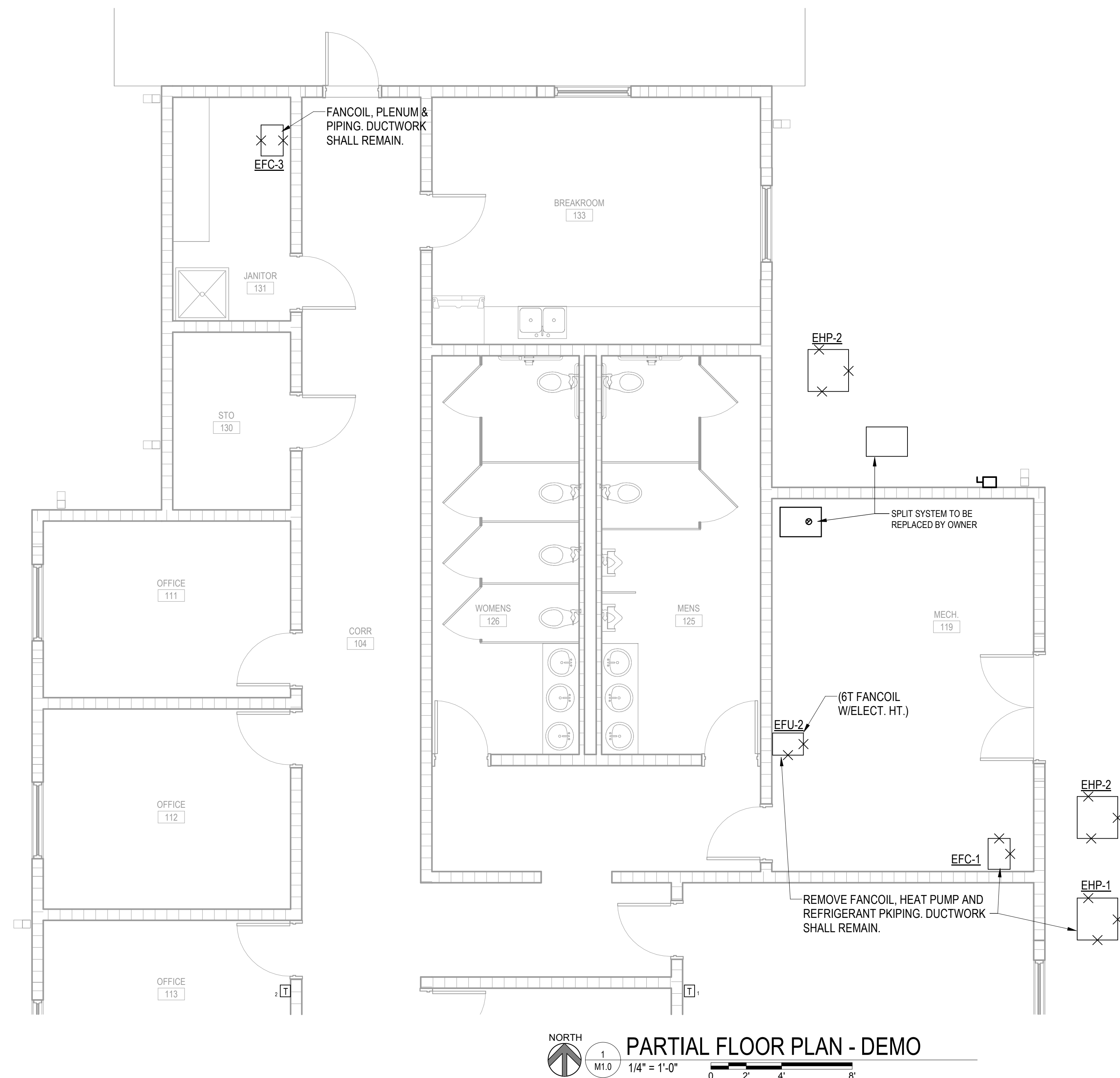
DRAWINGS AND PROJECT MANUAL APPROVED AND IDENTIFIED AS PARTS OF THE OFFICIAL CONTRACT DOCUMENT

OWNER: _____
FACILITY: FIRE TRAINING HVAC SAU TECH
LOCATION: CAMDEN, ARKANSAS
BY: _____
DATE: _____

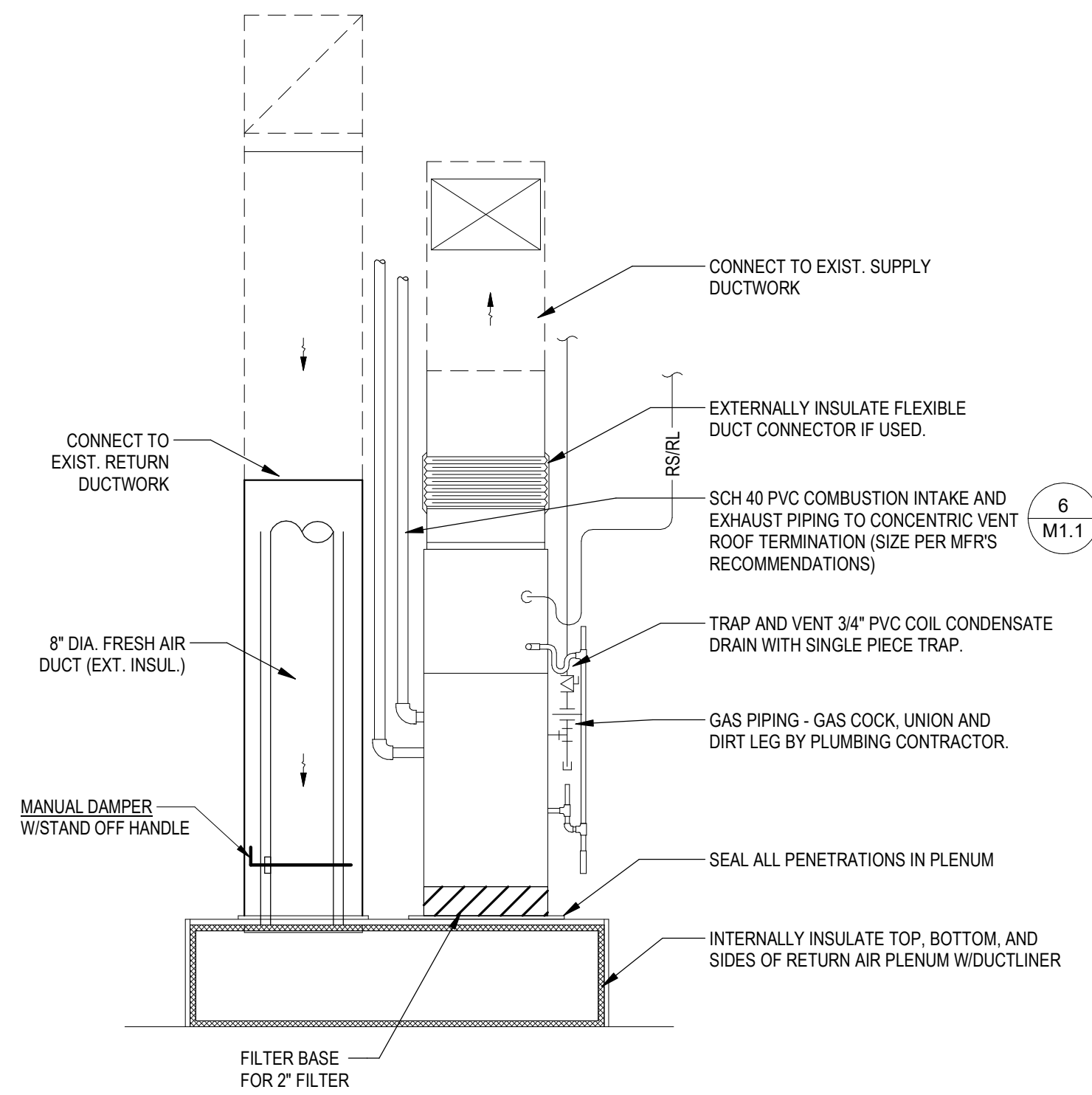
CONTRACTOR: _____
ADDRESS: _____
BY: _____
DATE: _____

ARCHITECT: LEWIS, ELLIOTT, McMORRAN, VADEN,
RAGSDALE, & WOODWARD INCORPORATED
ADDRESS: 11225 HURON LANE, SUITE 104
LITTLE ROCK, ARKANSAS 72211
BY: _____
DATE: _____

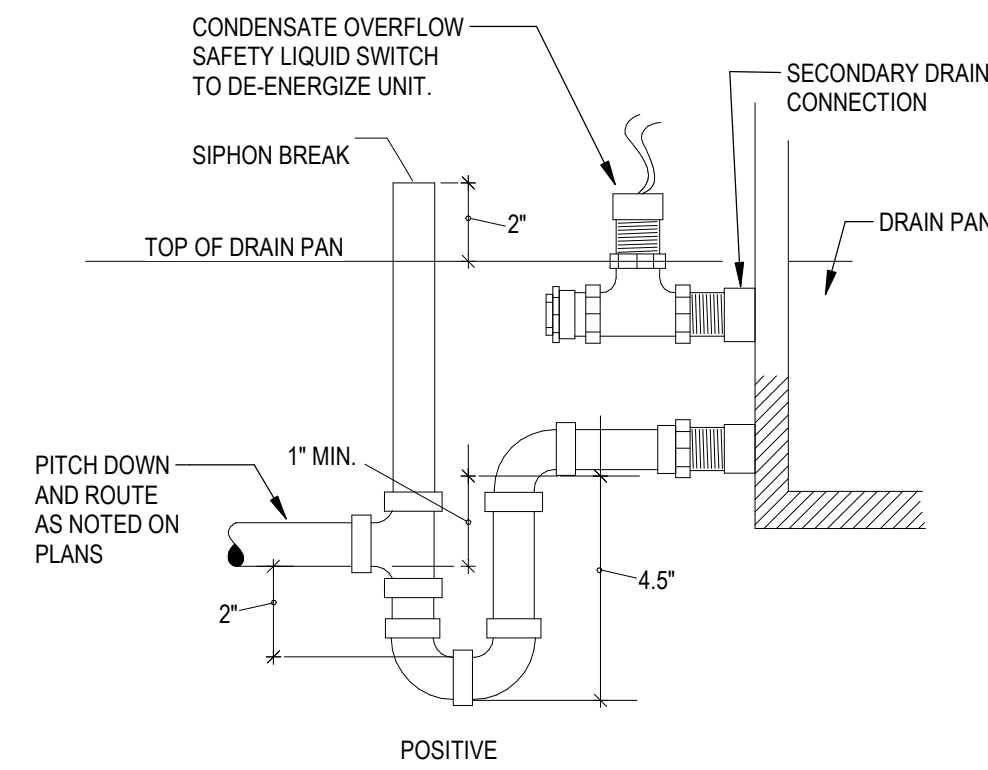
PROJECT NUMBER: 24086
DRAWINGS AND PROJECT MANUAL DATED: 2025 03-20



PARTIAL FLOOR PLAN - DEMO

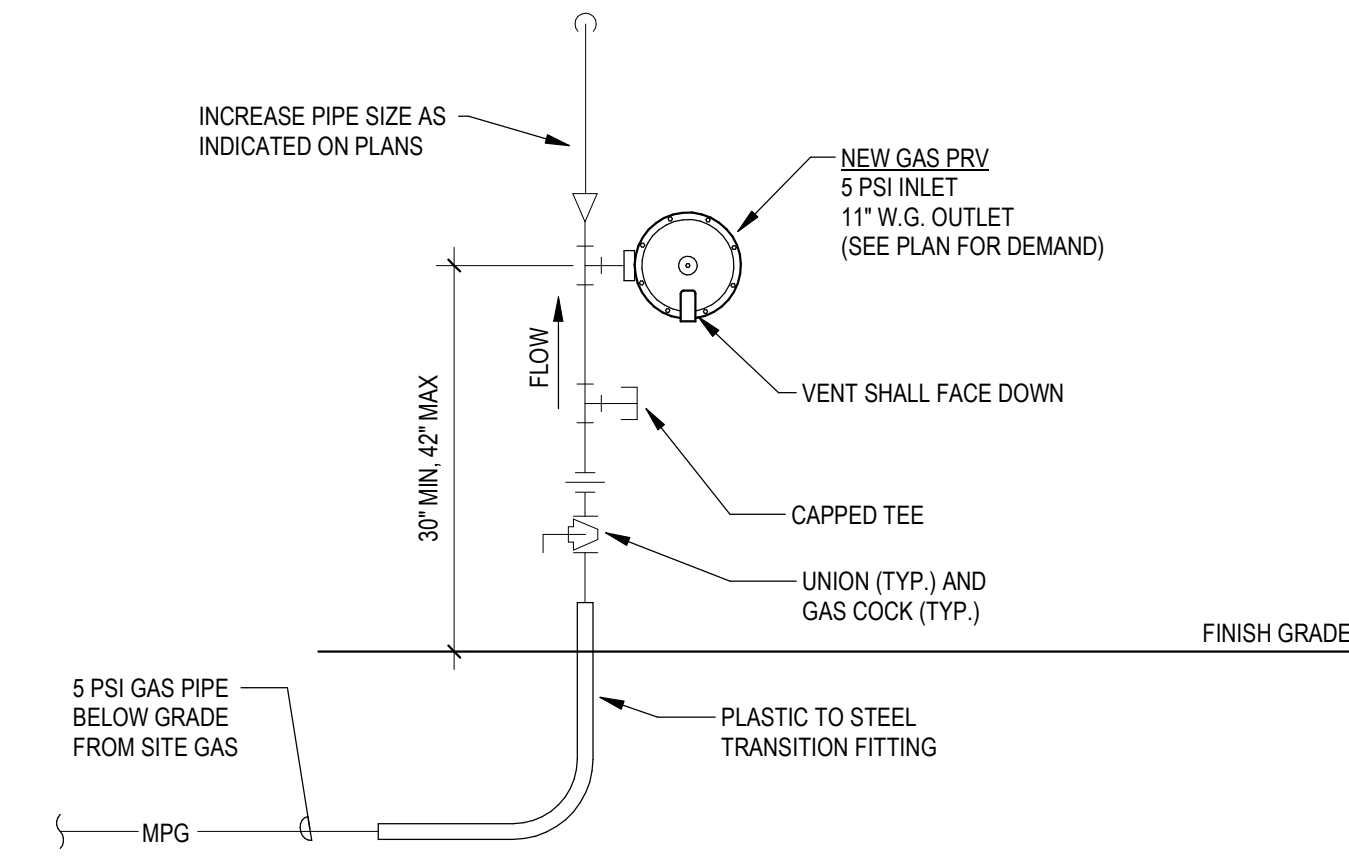
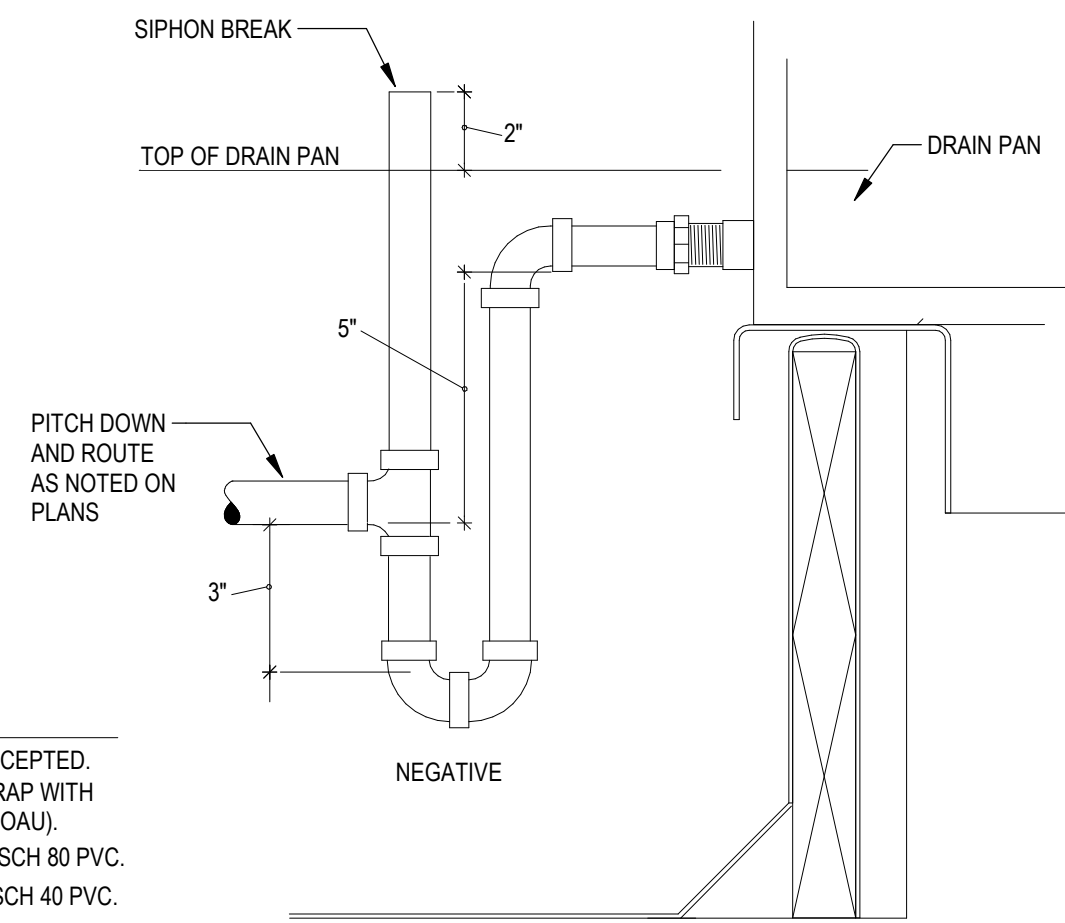


3
M1.1
TYPICAL FURNACE ELEVATION
NOT TO SCALE

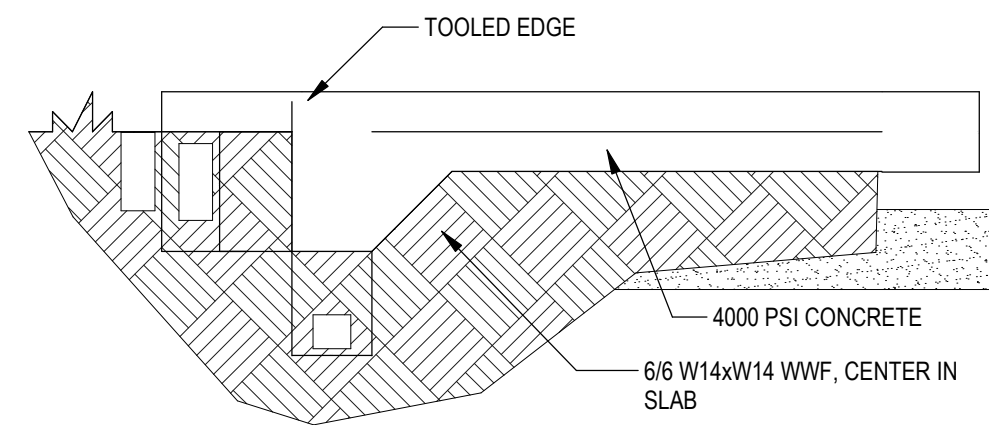


- NOTES:
1. RUNNING TRAPS WILL NOT BE ACCEPTED.
 2. INSTALL FACTORY FURNISHED TRAP WITH PACKAGED OUTSIDE AIR UNITS (POAU).
 3. EXTERIOR CONDENSATE LINES - SCH 80 PVC.
 4. INTERIOR CONDENSATE LINES - SCH 40 PVC.

2
M1.1
CONDENSATE TRAP DETAIL
NOT TO SCALE

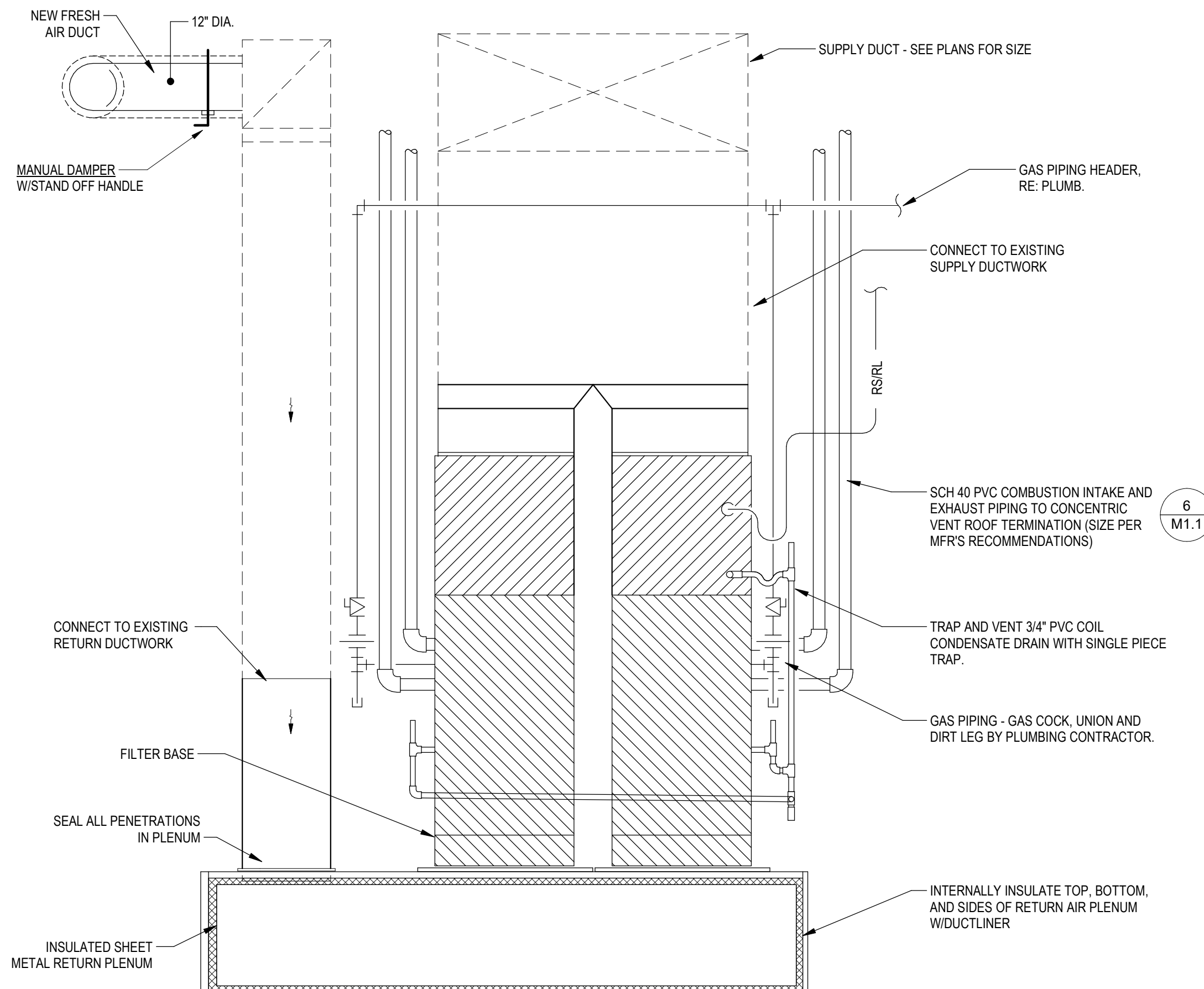


5
M1.1
GAS PRV DETAIL
NOT TO SCALE

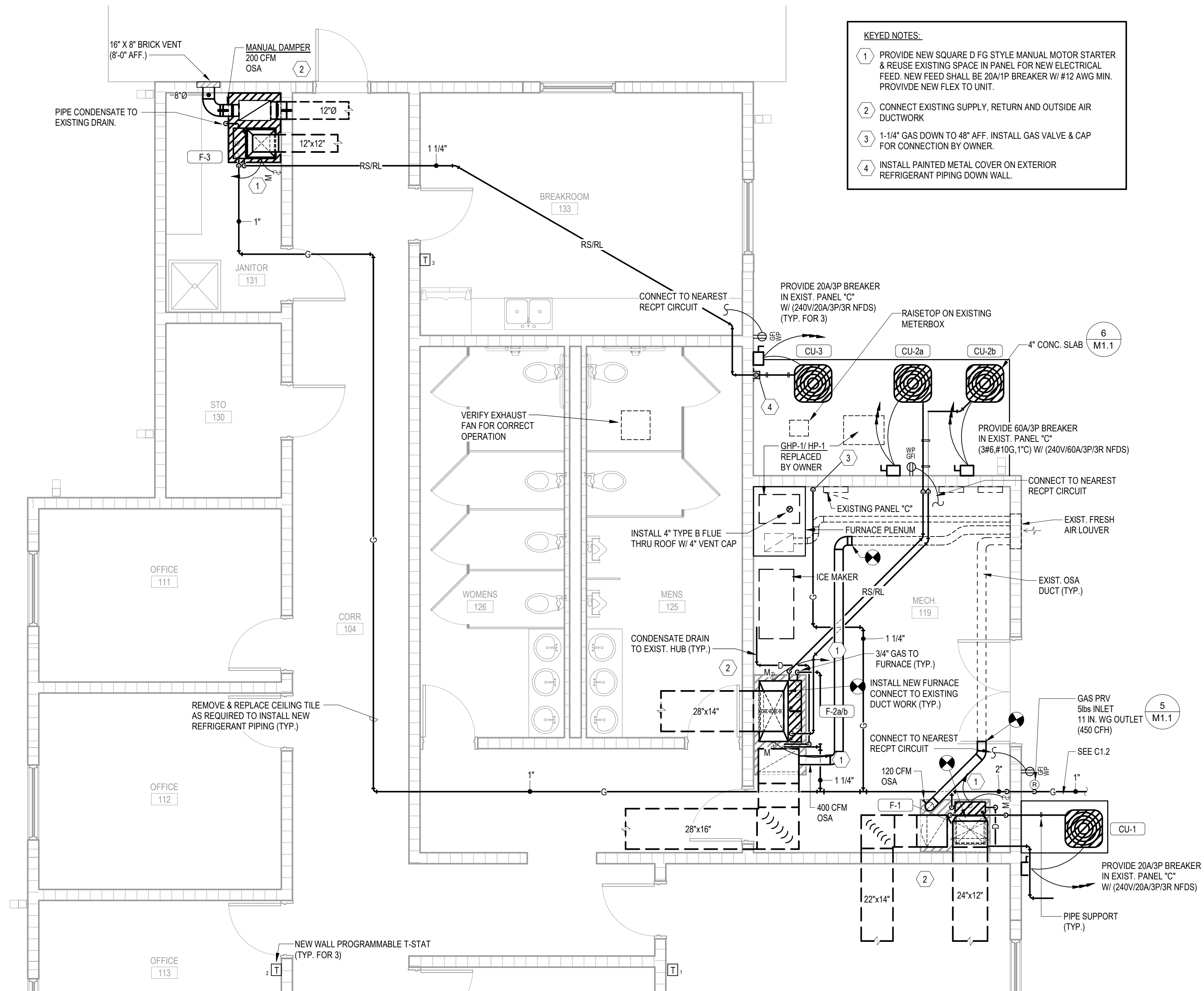


NOTE: ALL EXTERIOR CONCRETE TO BE 4000 PSI

6
M1.1
EDGE OF CONCRETE PAD
NOT TO SCALE



4
M1.1
TYPICAL TWINNED FURNACE ELEVATION
NOT TO SCALE



- KEYED NOTES:
1. PROVIDE NEW SQUARE D FG STYLE MANUAL MOTOR STARTER & REUSE EXISTING SPACE IN PANEL FOR NEW ELECTRICAL FEED. NEW FEED SHALL BE 20A/1P BREAKER W/ #12 AWG MIN. PROVIDE NEW FLEX TO UNIT.
 2. CONNECT EXISTING SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK
 3. 1-1/4" GAS DOWN TO 48" AFF. INSTALL GAS VALVE & CAP FOR CONNECTION BY OWNER.
 4. INSTALL PAINTED METAL COVER ON EXTERIOR REFRIGERANT PIPING DOWN WALL.



1
M1.1
PARTIAL FLOOR PLAN - HVAC
1/4" = 1'-0"

0 2' 4' 8'

- NAMEPLATE NOTES
1.

ALL ELECTRICAL EQUIPMENT, TIMER SWITCHES, SAFETY SWITCHES, STARTERS, PANELS, AND TRANSFORMERS SHALL HAVE LAMINATED BAKELITE NAMEPLATES SERCURELY FASTENED TO DEVICE.

2.

NAMEPLATE SIZE SHALL BE 1 1/2" x 4" WITH BEVELED EDGES AND 1/4" LETTERS.

3.

NAMEPLATE SHALL INCLUDE PANEL OR EQUIPMENT DESIGNATION,INCLUDE AMPERAGE VOLTAGE, PHASE, AND WIRE FOR THE PANELS,AND "PANEL FED FROM" FOR THE EQUIPMENT.

4.

NAMEPLATES SHALL BE INSTALLED TO PANELS, CABINETS, SWITCHES,ETC. WITH RIVETS OR STAINLESS STEEL SCREWS. PLATES ATTACHED TO DRYWALL OR BLOCK ON INTERIOR MAY BE ADHESIVE BACK.

5.

NAMEPLATES FOR 120 OR 208 VOLT EQUIPMENT SHALL BE BLACK, 277 OR 480 VOLT EQUIPMENT SHALL BE RED. LETTERS SHALL BE WHITE.

6.

EMBOSSED STICK BACK WILL NOT BE ALLOWED.

7.

NAMEPLATES FOR SWITCHES MAY BE OMITTED FOR FURNACES WHEN THE EQUIPMENT WHICH IS SERVED IS OBVIOUS TO SERVICE TECHNICIAN.

8.

WHERE EQUIPMENT DISCONNECT IS AT A PANEL, SECURE NAMEPLATE (WITH UNIT DESIGNATION AND "FED FROM PANEL") TO THE EQUIPMENT.
- TYPICAL PANEL NAMEPLATE

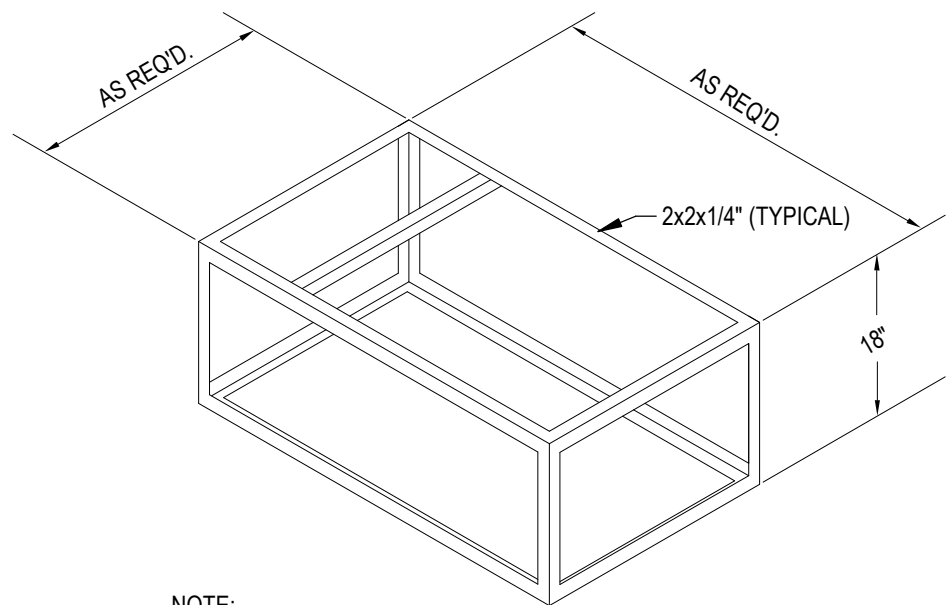
TYPICAL EQUIPMENT NAMEPLATE

2

M2.1

EQUIP TAG DETAIL

NOT TO SCALE



- NOTE:
1. COVER TOP, BOTTOM AND EXPOSED SIDES WITH 20 GA. SHEET METAL. SEAL ALL JOINTS AIR TIGHT

2. COVER ALL INTERIOR SURFACES OF PLENUM WITH 1\"/>

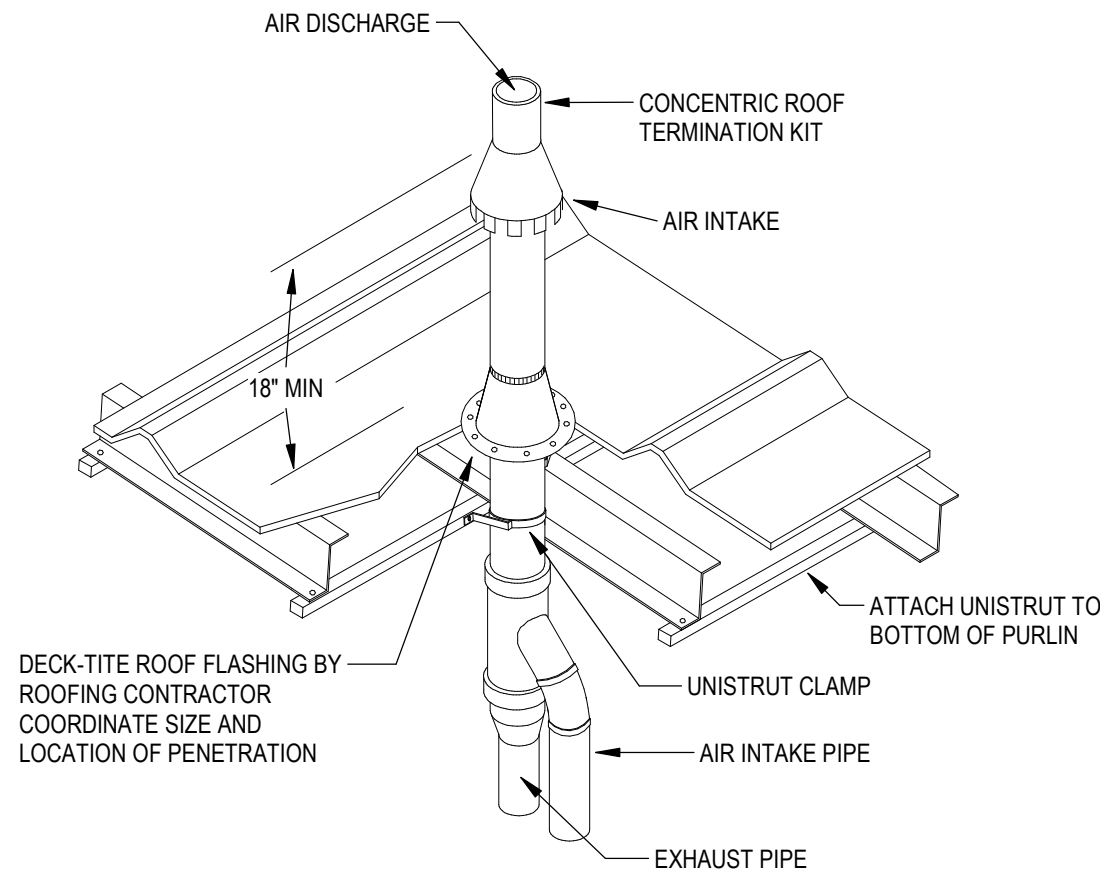
3. IF THERE ARE MULTIPLE FURNACE PLENUMS IN AN AREA PROVIDE DIVIDER PIECE FOR EACH PLENUM.

3

M2.1

FURNACE PLATFORM

NOT TO SCALE



4

M2.1

VENT THRU ROOF

NOT TO SCALE

SEQUENCE OF OPERATION

- REFER TO SECTION 23 09 23
- GENERAL

A.

OCCUPIED/UNOCCUPIED MODE SHALL BE DETERMINED BY OWNER/OPERATOR BASED ON A WEEKLY SCHEDULE WITH EVENT AND HOLIDAY OVERRIDE SCHEDULES.

2.

SPLIT FURNACE/CONDENSING UNIT SYSTEMS (CU-1, CU-2, CU-3, F-1, F-2a/b, F-3)

A.

UNIT SHALL BE CONTROLLED BY DDC SUPPLIED CONTROLLER SET FOR 75°F COOLING / 70°F HEATING (ADJUSTABLE).

B.

OCCUPIED MODE

a.

BLOWER SHALL CYCLE ON DEMAND FOR HEATING OR COOLING.

b.

75°F COOLING/70°F HEATING (ADJUSTABLE).

c.

7:00 AM TO 6:00 PM (M-F) (ADJUSTABLE).

C.

UNOCCUPIED MODE

a.

BLOWER SHALL CYCLE ON DEMAND FOR HEATING OR COOLING.

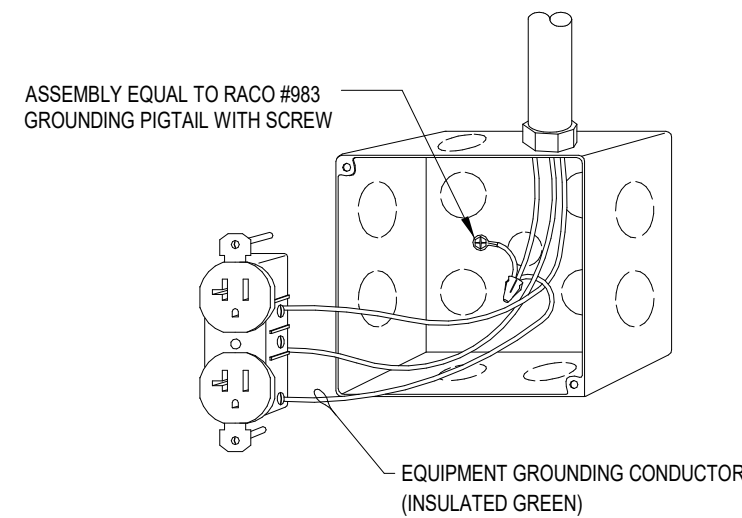
b.

84°F COOLING/62°F HEATING (ADJUSTABLE).

MINIMUM WIRING NOTES

WHETHER SHOWN OR NOT - THE CONTRACTOR SHALL PROVIDE THE MINIMUM WIRE NOTED BELOW FOR ALL EQUIPMENT CONNECTIONS:

MOC/BREAKER	WIRE
20A	#12AWG
25A-30A	#10AWG
35A-40A	#8AWG
45A-55A	#6AWG
55A-70A	#4AWG
70A-85A	#3AWG
85A-100A	#2AWG



1

M2.1

RECEPTACLE GROUND DETAIL

NOT TO SCALE

HVAC ABBREVIATIONS

(SEE SHT T-1 FOR GENERAL ABBREVIATIONS)	
A.F.F.	ABOVE FINISHED FLOOR
ABV	ABOVE
CFM	CUBIC FEET PER MINUTE
DISCH.	DISCHARGE
DN.	DOWN
MIN.	MINIMUM
OSA	OUTSIDE AIR
PLUMB.	PLUMBING
R.A.	RETURN AIR
S.A.	SUPPLY AIR
T-STAT	THERMOSTAT
U.N.O.	UNLESS NOTED OTHERWISE
W/	WITH
I.D.	INTERNAL DIAMETER
EXT. INSUL.	EXTERNALLY INSULATED
INT. INSUL.	INTERNALLY INSULATED
VRF	VARIABLE REFRIGERANT FLOW

MECHANICAL GENERAL NOTES

1.

DUE TO THE SMALL SCALE OF THIS DRAWING, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND SHALL COORDINATE AND ARRANGE HIS WORK ACCORDINGLY.
2.

DUCT SIZES INDICATED ON PLANS ARE ACTUAL SHEET METAL SIZES AND DO ALLOW FOR INTERNAL INSULATION OF RECTANGULAR DUCT, IF APPLICABLE.
3.

ROUND BRANCH DUCT RUNOUTS SHALL BE SAME SIZE AS DIFFUSER THROAT UNLESS OTHERWISE NOTED.
4.

MOUNT ALL TEMPERATURE SENSORS &/OR THERMOSTATS AT 48" TO TOP OF BOX.
5.

FLEXIBLE DUCT MAY BE USED FOR FINAL CONNECTIONS TO DIFFUSERS. A MAXIMUM LENGTH OF THREE FEET (3') SHALL BE USED.
6.

ALL CEILING-MOUNTED SUPPLY DIFFUSERS SHALL HAVE FOUR-WAY (4-WAY) PATTERN UNLESS OTHERWISE INDICATED.
7.

WHERE SPLITTER DAMPERS ARE LOCATED ABOVE NON-ACCESSIBLE CEILINGS, PROVIDE EXTENDED CONTROL ROD AND REGULATOR AS SPECIFIED.
8.

WHERE MANUAL DAMPERS ARE INSTALLED IN EXTERNALLY INSULATED DUCTWORK, PROVIDE STAND-OFF BRACKET TO PREVENT COMPRESSION OF INSULATION BY DAMPER OPERATOR HANDLE.
9.

PROVIDE TURNING VANES IN ALL 90-DEGREE ELBOWS. UNLESS NOTED OTHERWISE.
10.

INTERNALLY INSULATE ALL RECTANGULAR SUPPLY AND RETURN DUCTWORK UNLESS NOTED OTHERWISE.
11.

EXHAUST DUCTWORK SHALL BE UNINSULATED, UNLESS OTHERWISE NOTED.
12.

EXTERNALLY INSULATE LOW-VELOCITY ROUND RUNOUT DUCTWORK.
13.

INSULATE THE TOP OF ALL SUPPLY AIR DIFFUSERS WITH A MINIMUM OF 1/2" THICK FIBERGLASS DUCT WRAP.
14.

INSULATE ALL PIPING, DUCTS, AND EQUIPMENT, WHETHER INDICATED OR NOT, WHICH ARE SUBJECT TO FREEZING OR CONDENSATION FORMATION.
15.

INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S INSTRUCTIONS.
16.

VERIFY WITH EXISTING CEILING FOR EXACT LOCATION OF DIFFUSERS.
17.

COORDINATE LOCATION OF DUCTS AND DIFFUSERS WITH STRUCTURAL FRAMING MEMBER. OFFSET DUCTS AS REQUIRED TO CLEAR STRUCTURAL MEMBERS.
18.

COORDINATE LOCATIONS AND ELEVATION OF DUCT RUNS WITH PLUMBING AND ELECTRICAL CONTRACTORS.
19.

COORDINATE EQUIPMENT ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
20.

COORDINATE GAS REQUIREMENTS WITH PLUMBING CONTRACTOR.
21.

SCREWS TO SECURE AIR DEVICES SHALL BE PAINTED HEAD TYPE PROVIDED BY DEVICE MANUFACTURER. ANY OTHER TYPE USED WILL BE REPLACED WITH PROPER SCREW BEFORE ACCEPTANCE.
22.

INSURE 10'-0" MINIMUM CLEARANCE BETWEEN FRESH AIR INTAKE VENTILATORS AND VENTS FOR FURNACE/PLUMBING AND EXHAUST VENTILATORS.

FURNACE SCHEDULE														
MARK	MANUFACTURER	MODEL	TYPE	AREA SERVED	CFM	TONNAGE	INPUT (BTUH)	OUTPUT (BTUH)	E.S.P.	(ECM)	VOLTAGE / PHASE	MOC/P	MCA	NOTES
F-1	CARRIER	59TP6B100V21-22	MULTI-POISE VARIABLE SPEED CONDENSING FURNACE	CONF 116, INSTRUCTOR 110, CORRIDOR 114	2000	5	100,000	97,000	0.5'	2HP	115V/1	20	12.6	1, 2, 3, 5
F-2a/b	CARRIER	59SC6A100M21-22	MULTI-POISE VARIABLE SPEED CONDENSING FURNACE	OFFICE 111, 112, 113, 114, 115, CORR. 118, VEST. 120, MEN 125, WOMEN 126	2000	5	100,000	97,000	0.5"	2HP	115V/1	15	12.5	1, 2, 3, 4, 5
F-3	CARRIER	59TP6A040E14-10	MULTI-POISE VARIABLE SPEED CONDENSING FURNACE	STO. 130, BREAKROOM 133	600	1.5	40,000	39,000	0.5"	1HP	115V/1	15	7.5	1, 2, 3, 5

- ACCESSORIES AND NOTES:
1. PROVIDE UNITS WITH FILTER BASE TO MATCH FURNACE EQUAL TO EZ-FILTER BASE MFG. MODEL EZ-2025, EZ-1625, OR EZ-1425 (SIZED FOR UNIT) & 2" PLEATED MERV 8 FILTER.

2. PROVIDE ALL UNITS WITH CONCENTRIC VENT KIT.

3. PROVIDE ALL UNITS WITH FACTORY PROGRAMMABLE THERMOSTAT.

4. PROVIDE TWINNING KIT

5. 2-STAGE GAS VALVE

CONDENSING UNIT AND COOLING COIL SCHEDULE

MARK	MANUFACTURER	MODEL	COOLING COIL	COOLING CAPACITY TOTAL	SEER	VOLTAGE / PHASE	MCA / MOC/P
CU-1	CARRIER	24ABB360A005	CVPVP6024AMC	56000	13	208V/230 / 3	21.4 / 30
CU-2a/b	CARRIER	24ABB360A005	CVPMA6021XMC	110000	13	208V/230 / 3	39 / 60
CU-3	CARRIER	24ACC418A003	CNPVP1814ALA	18000	14	208V/230 / 1	11.7 / 20

- ACCESSORIES & NOTES:
1. PROVIDE W/ EVAPORATOR FREEZE THERMOSTAT, CRANKCASE HEATER, SIGHT GLASS, FILTER DRIER & LOW AMBIENT.

2. UNIT SHALL HAVE LOUVERED COIL GUARDS ON ALL FOUR SIDES.