

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

LEGEND	
	SUPPLY AIR
	RETURN / EXHAUST AIR
	TEE - TURNING VANES AND ADJUSTABLE SPLITTER DAMPER
	ELBOW - TURNING VANES
	MANUAL DAMPER
	GAS
	MOTOR (SEE SCHEDULE ON DRAWING M2.1)
	THERMOSTAT (MOUNT 5'-0" UP) SEE CONTROL DIAGRAM, DRAWING M2.2.
	SENSOR FOR HONEYWELL THERMOSTAT (T7300); SEE CONTROL DIAGRAM, DWG.M2.2, (MOUNT 6'-0" UP)
	GAS METER
	AHU AIR HANDLING UNIT
	CAD CONCENTRIC AIR DIFFUSER AND BOX SHALL BE MICRO METL 1013 SERIES OR APPROVED EQUAL. MOUNT BOX TOP AT UNDERSIDE OF BAR JOIST.
	CFM CUBIC FEET PER MINUTE
	CU CONDENSING UNIT
	EF EXHAUST FAN
	EH ENTRANCE HEATER
	EWH ELECTRIC WALL HEATER
	SAD SUPPLY AIR DIFFUSER (SEE DETAIL 1/M2.1); CFM AND SIZE AS NOTED.
	SAG SUPPLY AIR GRILLE (SEE DETAIL 2/M2.1), CFM AND SIZE AS NOTED.
	SF SUPPLY FAN
	RAG RETURN AIR GRILLE (SEE DETAIL 3/M2.1), CFM AND SIZE AS NOTED.
	RTU ROOF TOP UNIT
	UH UNIT HEATER

- NOTES**
- ALL WORK SHOWN SHALL COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES, ORDINANCES, ETC.
 - SEE ALL OTHER DRAWINGS AND WALGREENS SPECIFICATIONS FOR ADDITIONAL WORK OR CLARIFICATION OF NECESSARY WORK.
 - PROVIDE BURGLAR PROOFING IN ALL OPENINGS GOING THRU ROOF OR WALL (12"X12" OR LARGER, EXCEPT SCUTTLE). SEE DETAIL 5/M2.1.
 - ALL FRESH AIR INTAKES ON ROOF SHALL BE LOCATED A MINIMUM OF 15'-0" AWAY FROM ANY EXHAUST DUCT, BLOWER DISCHARGE, PLUMBING VENT, ETC.
 - HVAC ROOF-TOP UNIT TO INCLUDE FLEXIBLE CONNECTIONS, TURN VANES, AND VIBRATION ELIMINATORS. OUTSIDE AIR INTAKE TO BE SIZED FOR A MINIMUM OF 100% OUTSIDE AIR FOR ECONOMIZER SYSTEMS.
 - ALL DUCTWORK TO BE GALVANIZED SHEET METAL. (LINED DUCTWORK WILL NOT BE ACCEPTED)
 - ALL HVAC SUPPLY AND RETURN AIR DUCTS SHALL HAVE 1 1/2" EXTERNAL INSULATION. (OR MORE IF CODE REQUIRES)
 - EACH HVAC UNIT TO HAVE ITS OWN CONTROLS. SEE DRAWING M2.2 FOR HVAC CONTROL WIRING DIAGRAM.
 - PROVIDE CONDENSATE DRAIN (CD) WITH TRAP, WITHIN EACH HVAC UNIT. PIPE DOWN THRU ROOF WITHIN CURB, CONNECT INTO CD LINE ABOVE CEILING. INSULATE ALL CONDENSATE LINES, SIMILAR TO DOMESTIC COLD WATER PIPING.
 - ALL HVAC SYSTEMS TO BE BALANCED (BY AN INDEPENDENT CERTIFIED AIR BALANCE CONTRACTOR WITH A MINIMUM OF 5 YEARS EXPERIENCE) AFTER COMPLETION OF WORK.
 - NOT USED
 - PROVIDE FLUE TO ROOF (WITH WEATHER CAP) FOR GAS FIRED WATER HEATER (IF APPLICABLE). SEE DETAIL 3/P2.1.
 - EQUIPMENT MANUFACTURER SHALL PROVIDE ON EACH NEW WALGREEN STORE FACTORY SUPERVISED "CHECK, TEST & START" SERVICE, UTILIZING STANDARD WALGREEN FORMS AS PROVIDED BY FACILITIES PLANNING AND DESIGN DEPARTMENT. HVAC CONTRACTOR SHALL VERIFY COMPLIANCE WITH PLANS AND SPECIFICATIONS AND SHALL FORWARD TO THE WALGREEN CO., COMPLETED C.T.S. FORMS, ALONG WITH THREE COPIES OF SERVICE AND INSTALLATION MANUALS, PARTS LIST AND ALL RELATED WARRANTIES. SUBMITTAL SHALL BE IN BOOK FORM AND APPLICABLE TO ACTUAL EQUIPMENT INSTALLED.
 - HVAC UNITS MUST BE INSTALLED LEVEL ON ROOF.
 - THERMOSTAT SENSOR WIRING TO BE RUN INSIDE PIPE COLUMNS.
 - DO NOT INSTALL SUPPLY AIR DIFFUSERS IN CEILING PANEL ADJACENT TO ROW OF LIGHT FIXTURES. COORDINATE DIFFUSERS WITH REFLECTED CEILING PLAN ON DWG. A1.2.
 - FLEXIBLE DUCT LENGTH NOT TO EXCEED A MAXIMUM OF 7'-0".
 - SUPPLY AND/OR RETURN AIR CEILING PLENUMS WILL NOT BE ACCEPTED.
 - DO NOT INSTALL UNIT HEATER ABOVE STOCK ROOM SHELVING.
 - ELECTRIC WALL HEATERS (EWH) AND ELECTRIC UNIT HEATERS (EUH) ARE PROVIDED UNDER THE ELECTRICAL CONTRACT, SHOWN HERE FOR HVAC INFORMATION ONLY.
 - GAS PIPING SHALL BE RUN ABOVE CEILING, (OUT THRU ROOF, WITHIN UNIT CURB), PROVIDE SHUT-OFF VALVE AT EACH PIECE OF EQUIPMENT (NOT BELOW ROOF FOR RTUs).
 - NOT USED

- MECHANICAL KEYED NOTES**
- HVAC ROOF-TOP UNIT. SEE GENERAL NOTES (ABOVE) AND SCHEDULE ON DRAWING M2.1 FOR ADDITIONAL INFORMATION.
 - S.A.D. (TYPE "A"). CFM AND SIZE AS NOTED. SEE SCHEDULE AND DETAIL #1 ON SHEET M2.1
 - S.A.D. (TYPE "E"). MOUNT AT GYP. BOARD CEILING. CFM AND SIZE AS NOTED. SEE DETAIL #1 AND GRILLE SCHEDULE ON SHEET M2.1
 - S.A.D. (TYPE "C"). THERMALLY POWERED VARIABLE AIR VOLUME (VAV) DIFFUSER. ACUTHERM THERMA-FUSER HC OR KRUEGER VARIFUSER AVDP SERIES. CFM AND SIZE AS NOTED.
 - S.A.G. (TYPE "B"). CFM AND SIZE AS NOTED. SEE SCHEDULE AND DETAIL #2 ON SHEET M2.1.
 - R.A.G. (TYPE "G"). CFM AND SIZE AS NOTED. SEE SCHEDULE AND DETAIL #3 ON SHEET M2.1.
 - THERMOSTAT 5'-0" AFF FOR HEATING AND COOLING. SEE SHEET M2.2 FOR DETAILS AND PROGRAMING.
 - THERMOSTAT 5'-0" AFF FOR HEATING ONLY. SEE SHEET M2.2 FOR DETAILS AND PROGRAMING.
 - NOT USED.
 - INSTALL SMOKE DETECTOR IN AIR STREAM. DETECTOR FURNISHED BY ELECTRICAL CONTRACTOR.
 - GAS FIRED, POWER VENTED UNIT HEATER (SEE SCHEDULE DWG. M2.1). BOTTOM 12'-0" UP THERMOSTAT MOUNTED 5'-0" UP ON WALL (SET AT 68 F). PROVIDE 4" FLUE TO ROOF WITH WEATHER CAP. SEE DETAIL 14/M2.1.
 - ROOF-TOP CONDENSING UNIT FOR WALK-IN COOLER/FREEZER. SEE DETAIL 8/M2.1 FOR ADDITIONAL INFORMATION.
 - PIPE PORTAL FOR WALK-IN COOLER/FREEZER CONDENSING UNIT REFRIGERANT AND ELECTRICAL LINES. SEE DETAIL 6/M2.1
 - EXHAUST FAN (WITH BACK DRAFT DAMPER), WITH EXHAUST DUCT UP THROUGH ROOF TO VENTILATION HOOD. TRANSITION FROM EXHAUST DUCT TO EXHAUST FAN AS REQUIRED, CFM AS NOTED ON SCHEDULE, SHEET M2.1.
 - ADJUST FRONT HORIZONTAL BARS TO AN ANGLE OF 45 SO THAT THE AIR FLOWS AWAY FROM THE WINDOW. THIS IS TO HELP PREVENT CONDENSATION ON THE GLASS IN HOT, HUMID CLIMATE CONDITIONS.
 - THERMOSTATIC REMOTE SENSOR MOUNTED 6'-0" AFF. PROVIDE STAINLESS STEEL COVER (RE: ARCHITECTURAL DWGS.) ROUTE WIRING WITHIN COLUMN (OR WALL). SEE DETAIL 13/M2.1.
 - NOT USED.
 - ELECTRIC WALL HEATER (EWH) FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. SEE DRAWING E1.2 FOR FURTHER INFORMATION.
 - NOT USED.
 - NOT USED.
 - NOT USED.
 - 12/12 DUCT FROM 750 CFM 18X18 EXHAUST GRILLE TO EXHAUST FAN ON ROOF. TRANSITION AS REQUIRED. SEE SCHEDULE AND DETAIL #4 ON SHEET M2.1.
 - 12/6 DUCT FROM EXHAUST FAN UP TO VENTILATOR ON ROOF. TRANSITIONS AS REQ'D. SEE VENTILATOR DETAIL 7/M2.1.
 - ALL OPENINGS 12"X12" AND LARGER THROUGH ROOF OR WALLS SHALL BE EQUIPPED WITH BURGLAR BARS. SEE DETAIL 5/M2.1.
 - 8/8 DUCT FROM 300 CFM 9X9 EXHAUST GRILLE TO EXHAUST FAN ON ROOF. TRANSITION AS REQUIRED. SEE SCHEDULE AND DETAIL #4 ON SHEET M2.1.
 - R.A.G. (TYPE "D"). CFM AND SIZE AS NOTED. SEE SCHEDULE AND DETAIL #3 ON SHEET M2.1.
 - R.A.G. (TYPE "F"). CFM AND SIZE AS NOTED. SEE SCHEDULE ON SHEET M2.1.
 - S.A.D. (TYPE "E") CFM AND SIZE AS NOTED. SEE SCHEDULE AND DETAIL #1 ON SHEET M2.1.

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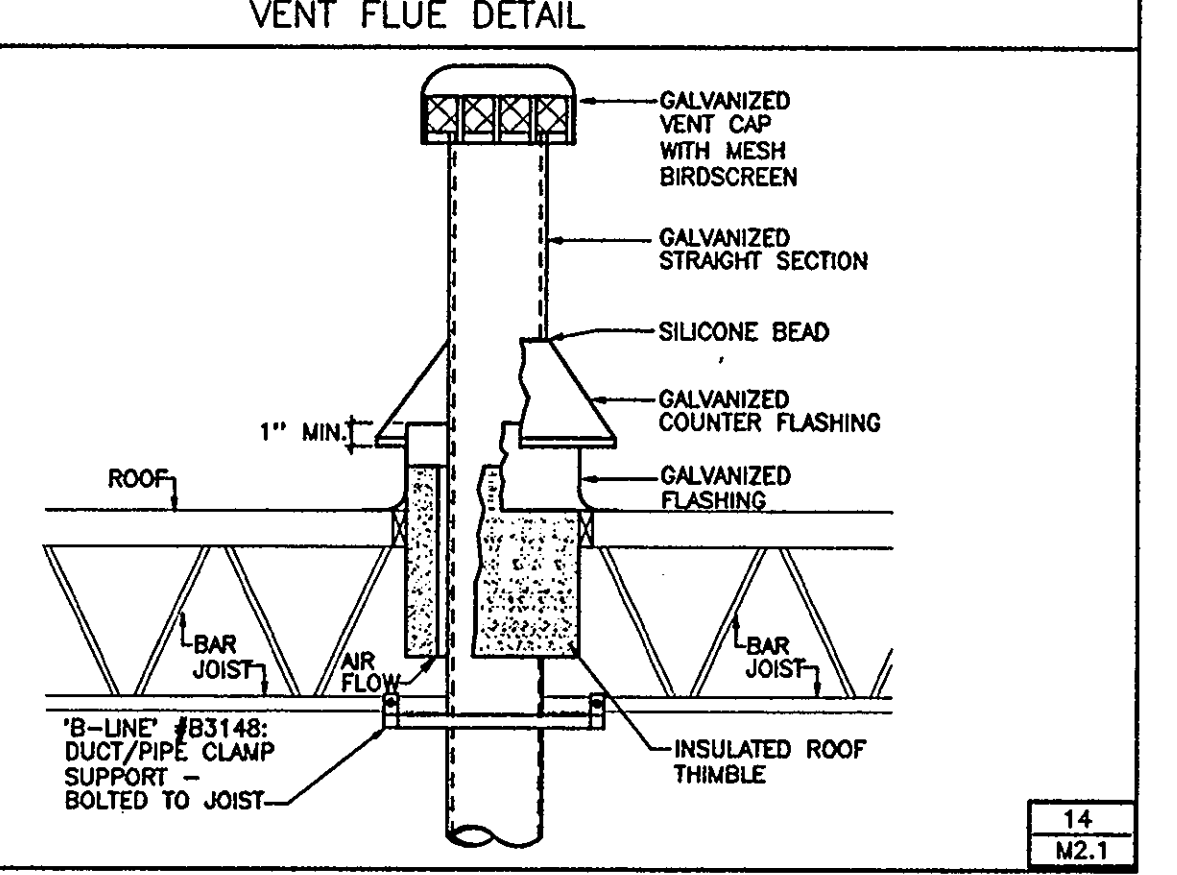
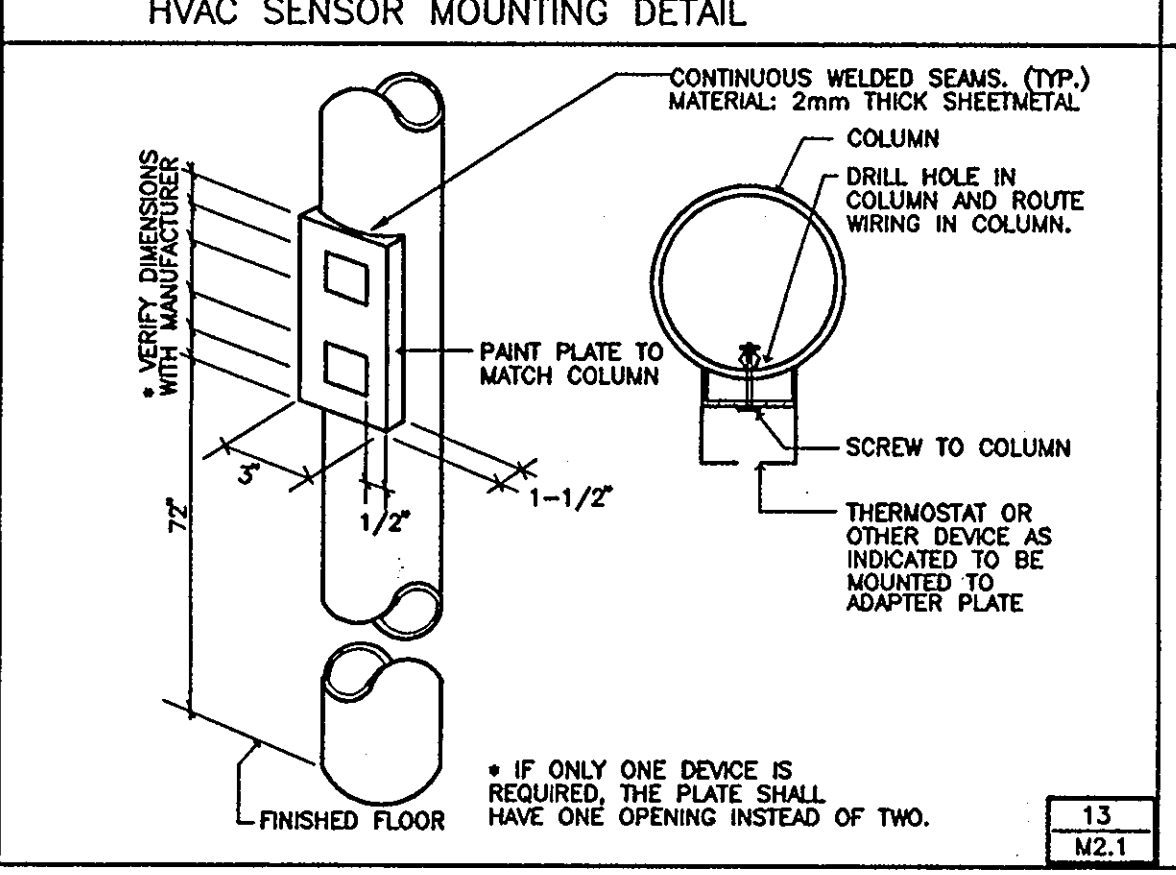
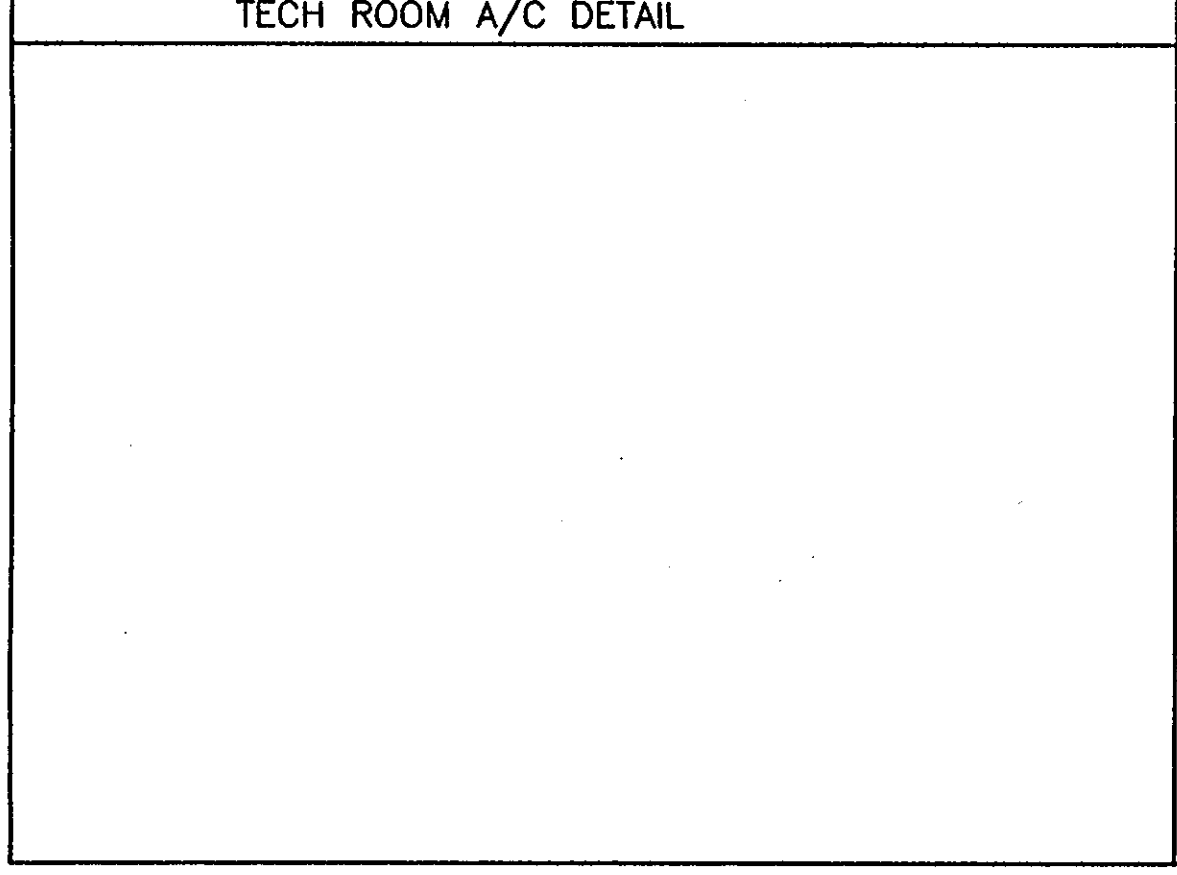
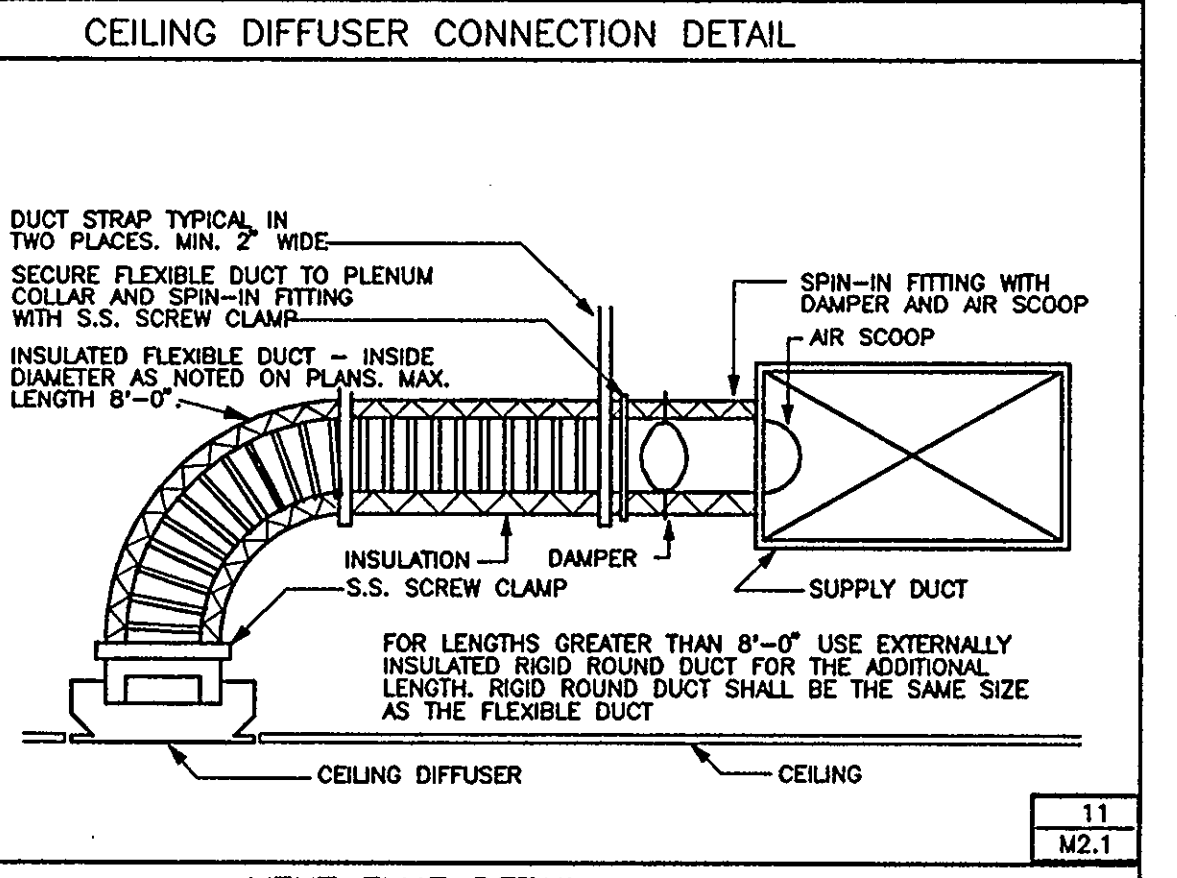
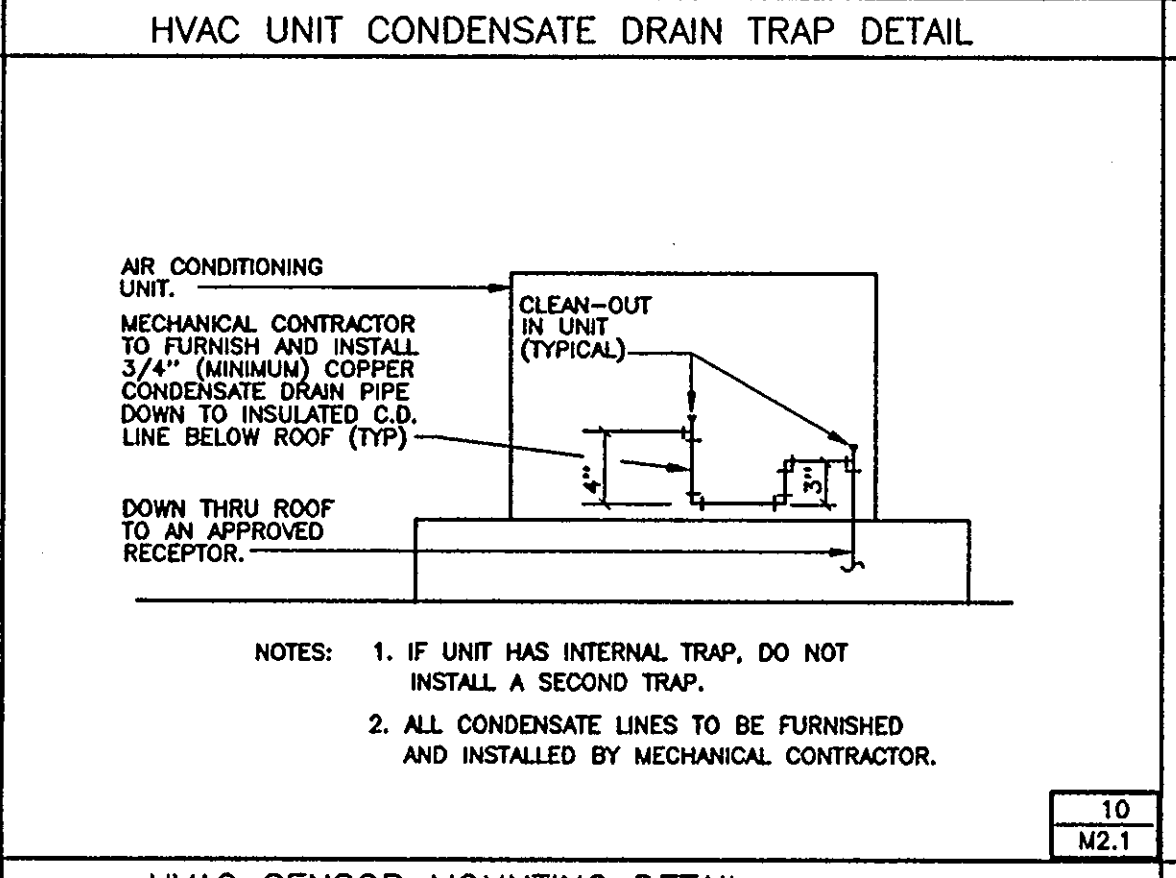
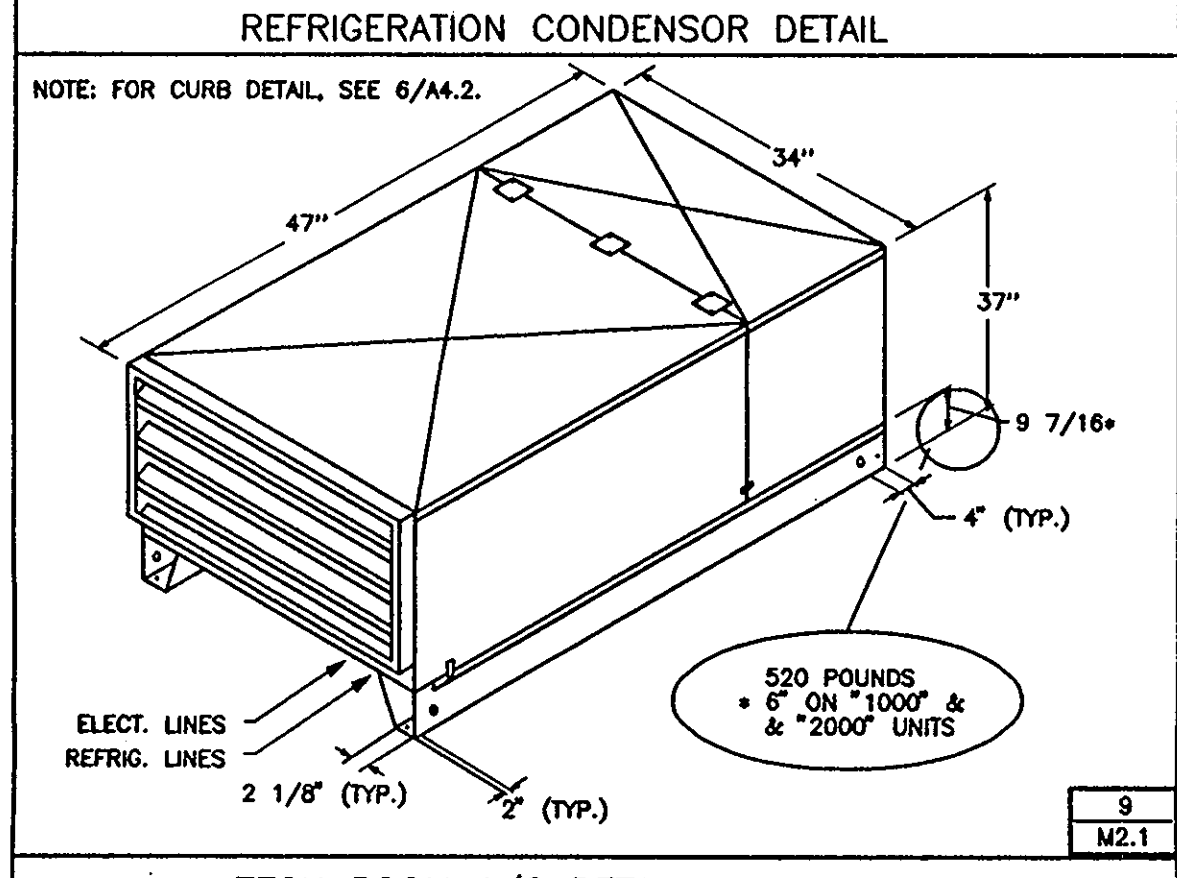
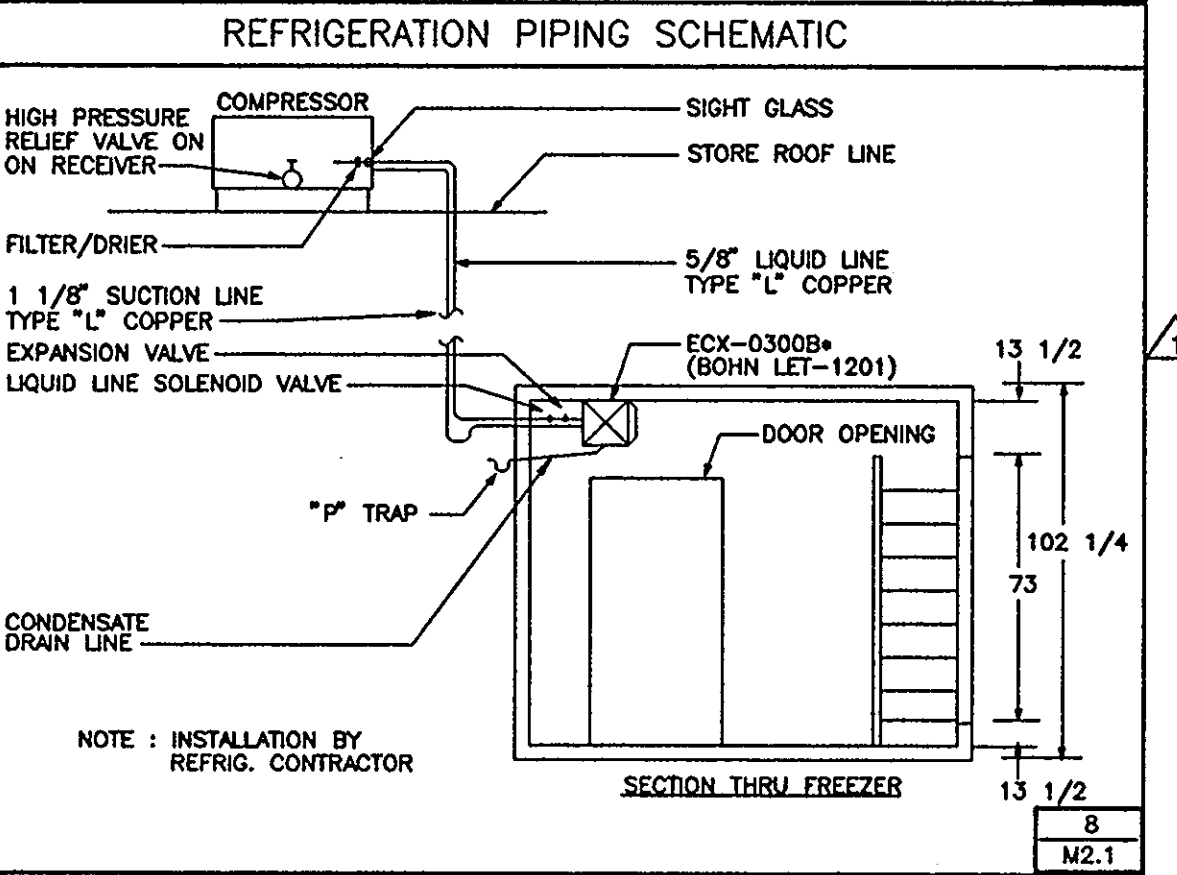
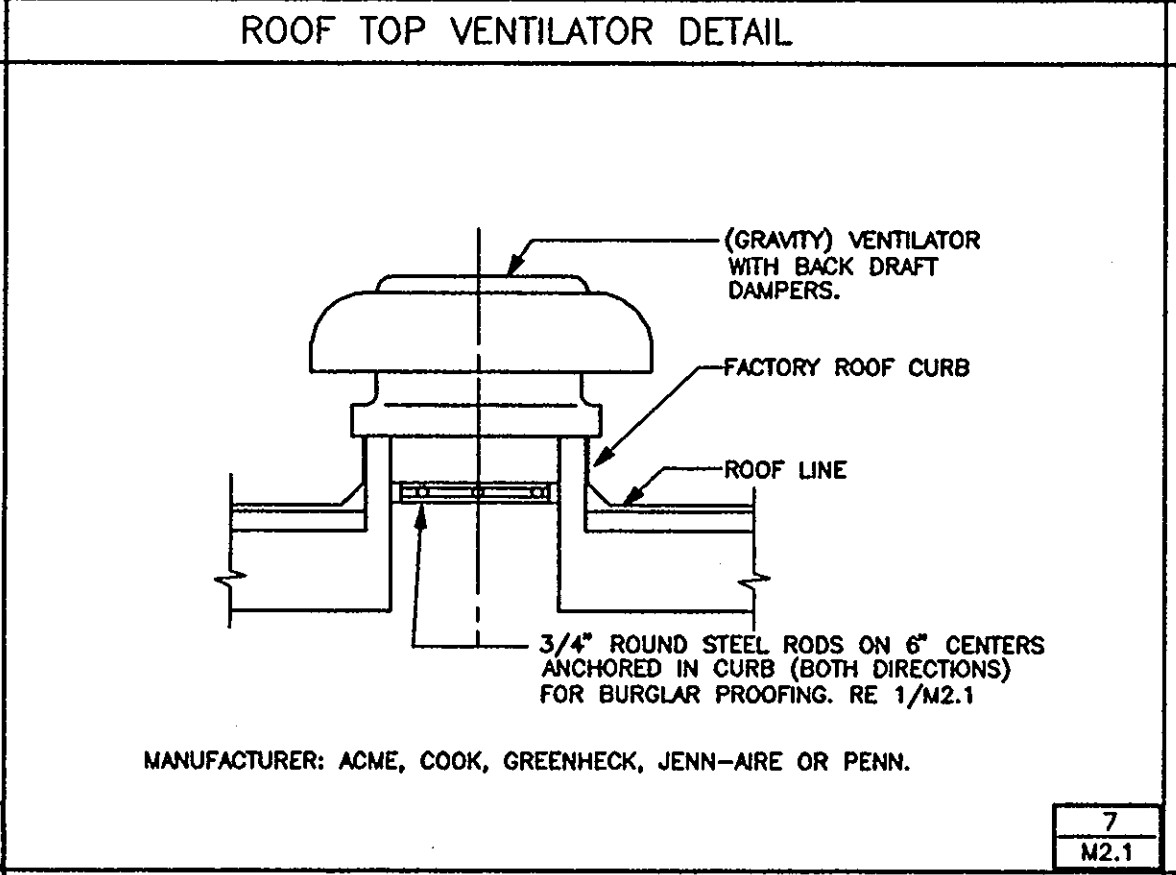
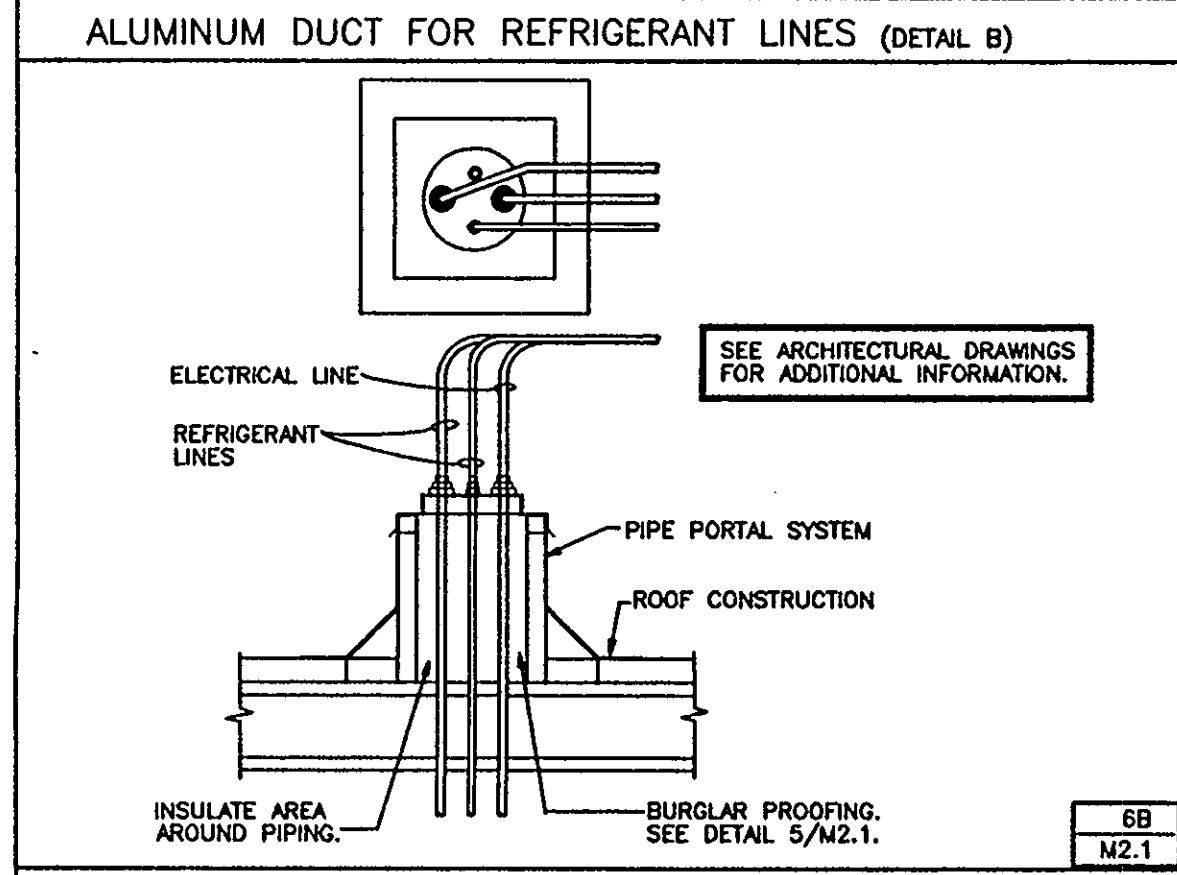
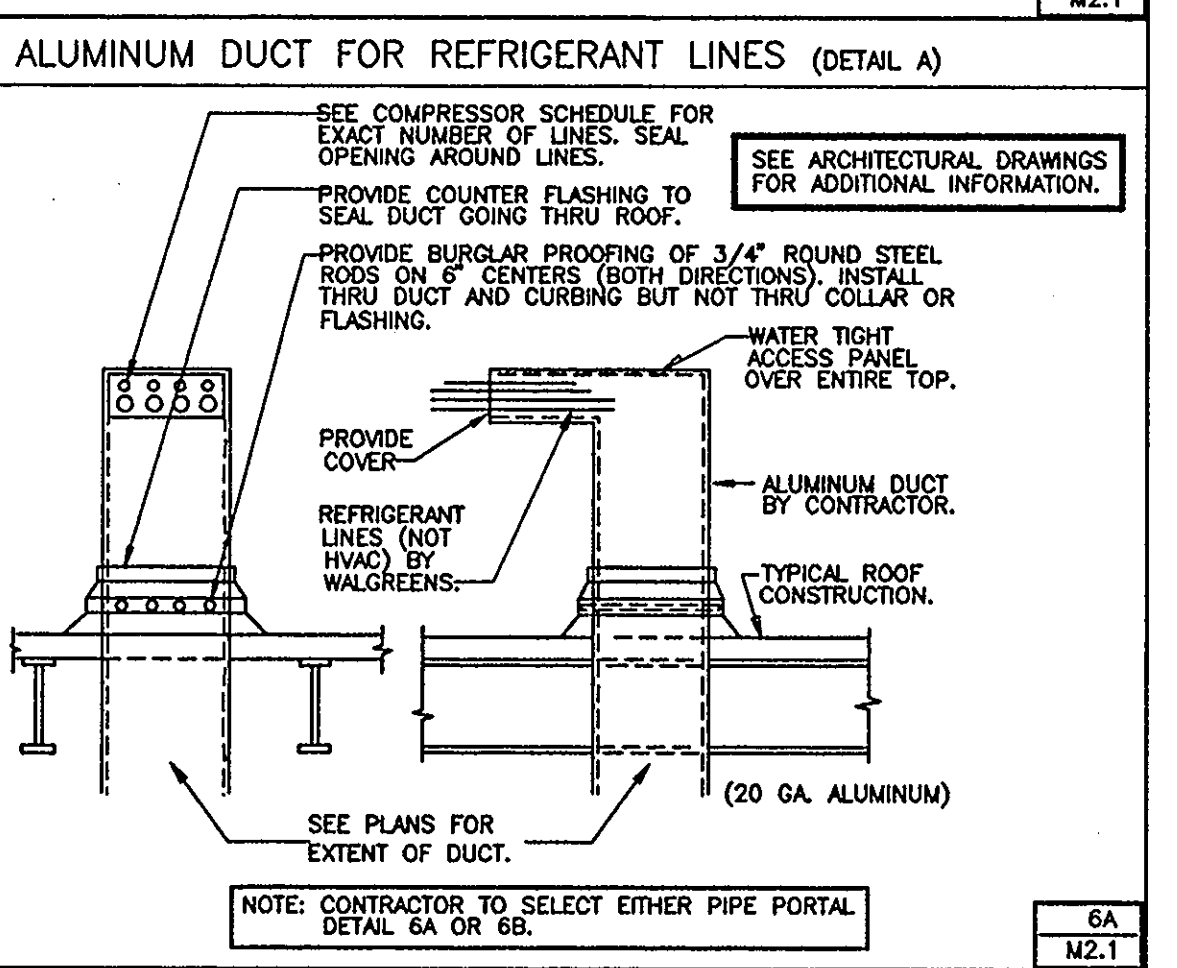
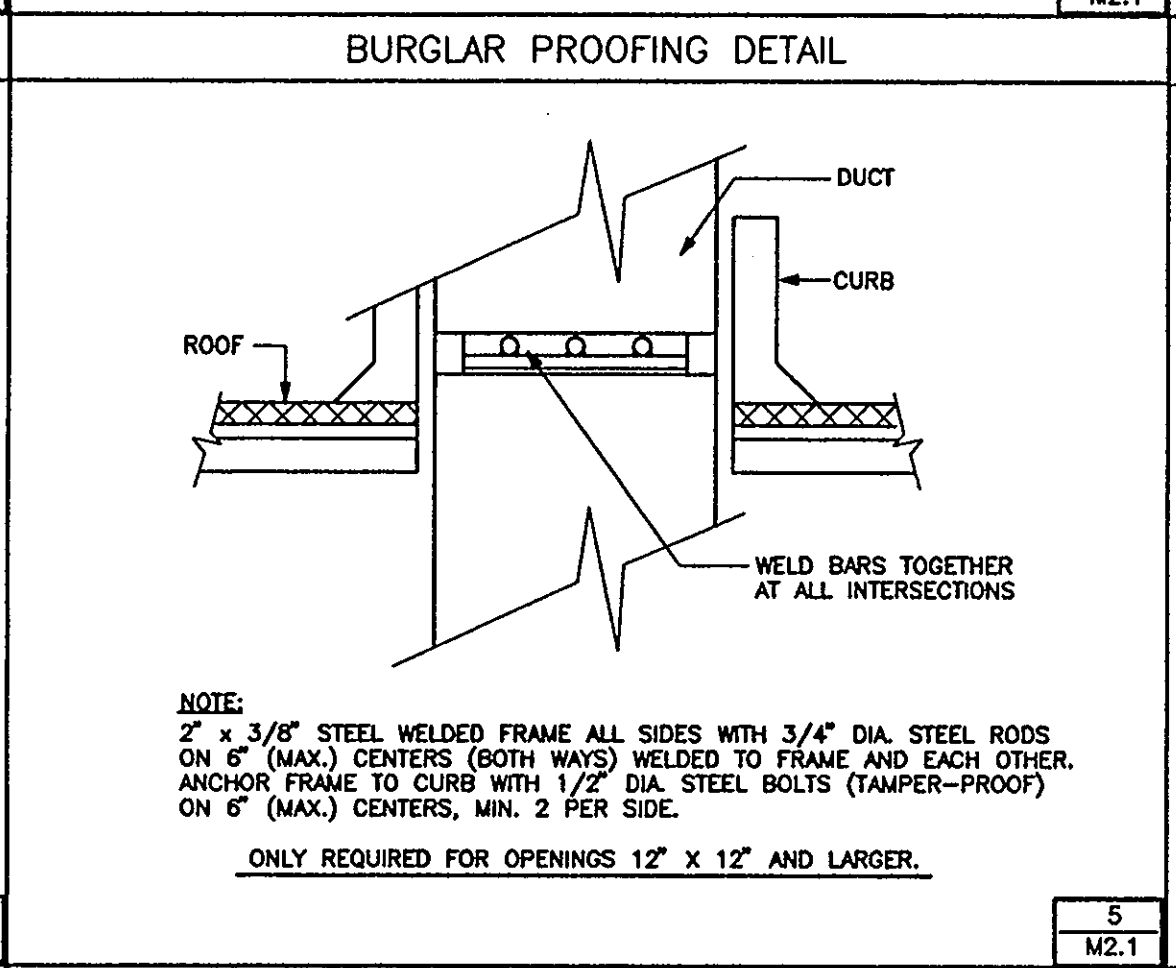
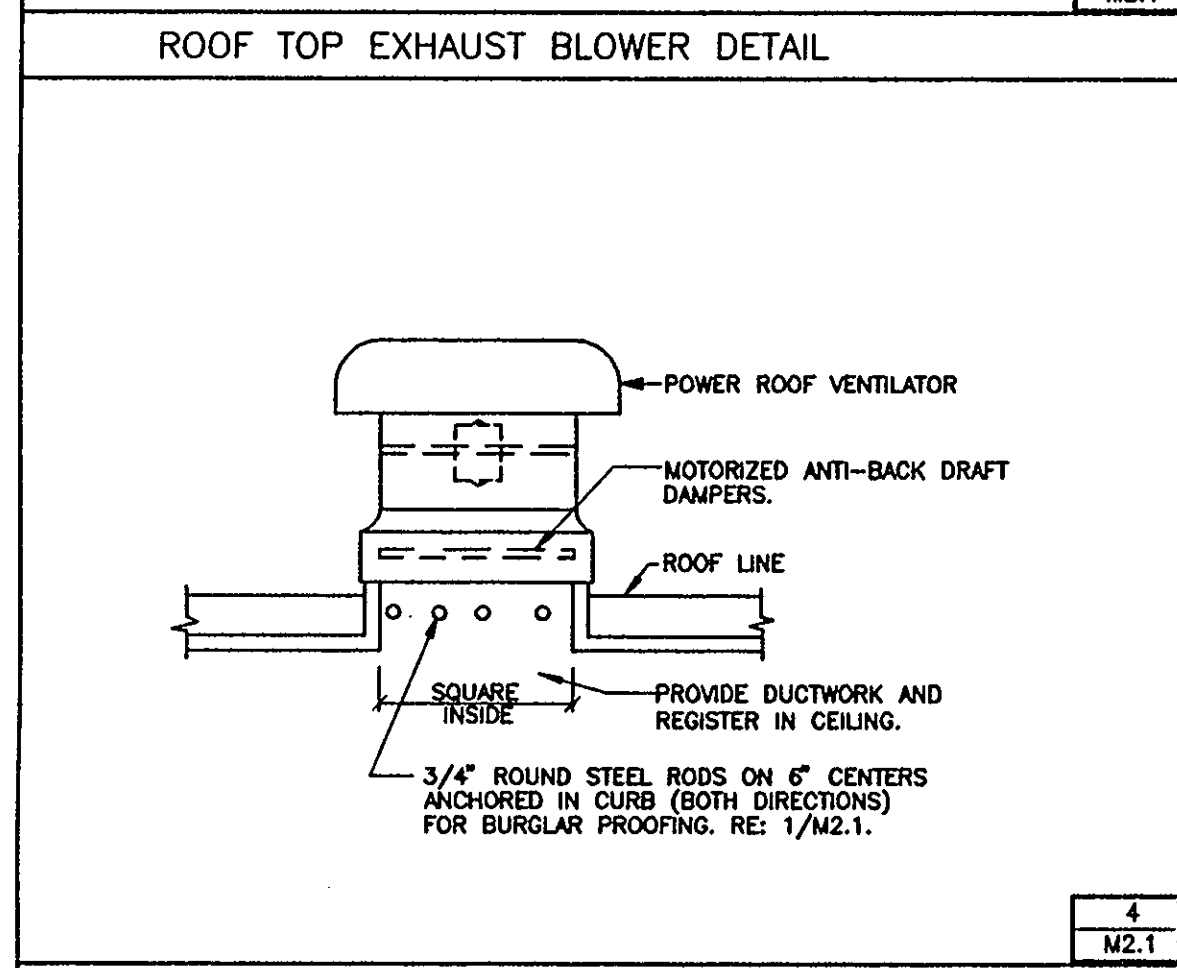
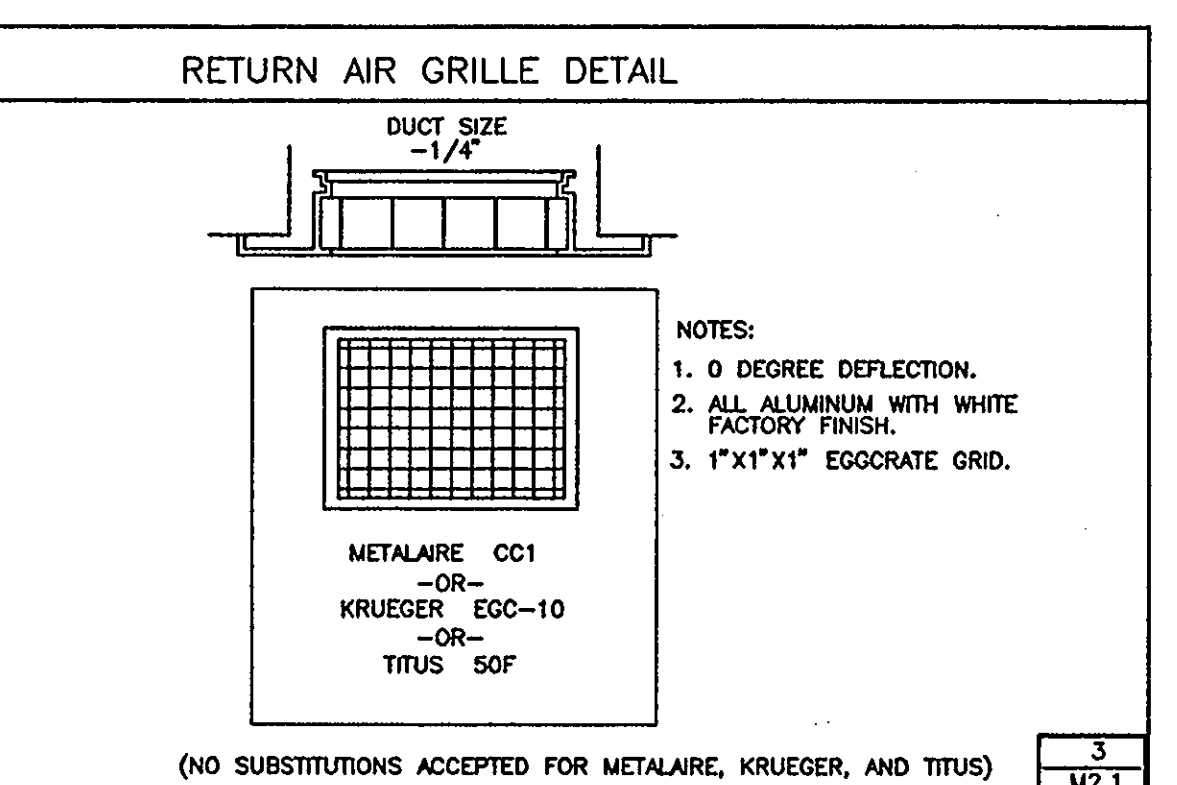
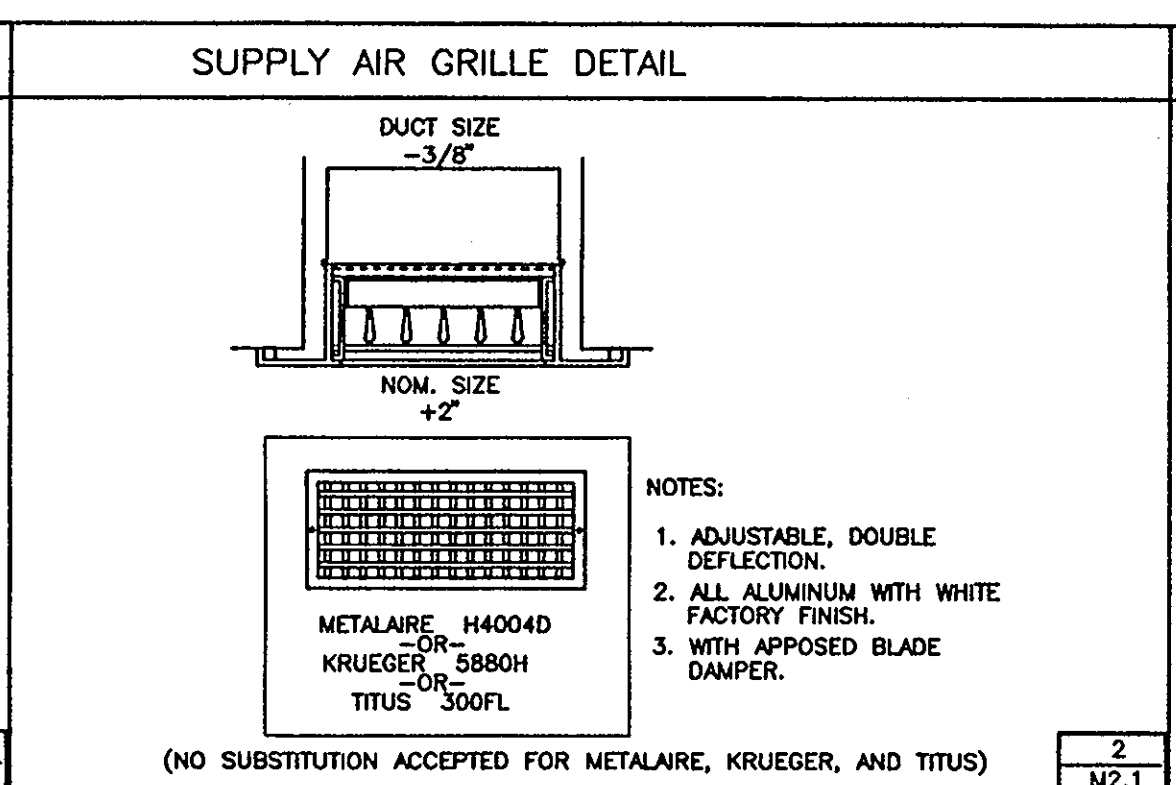
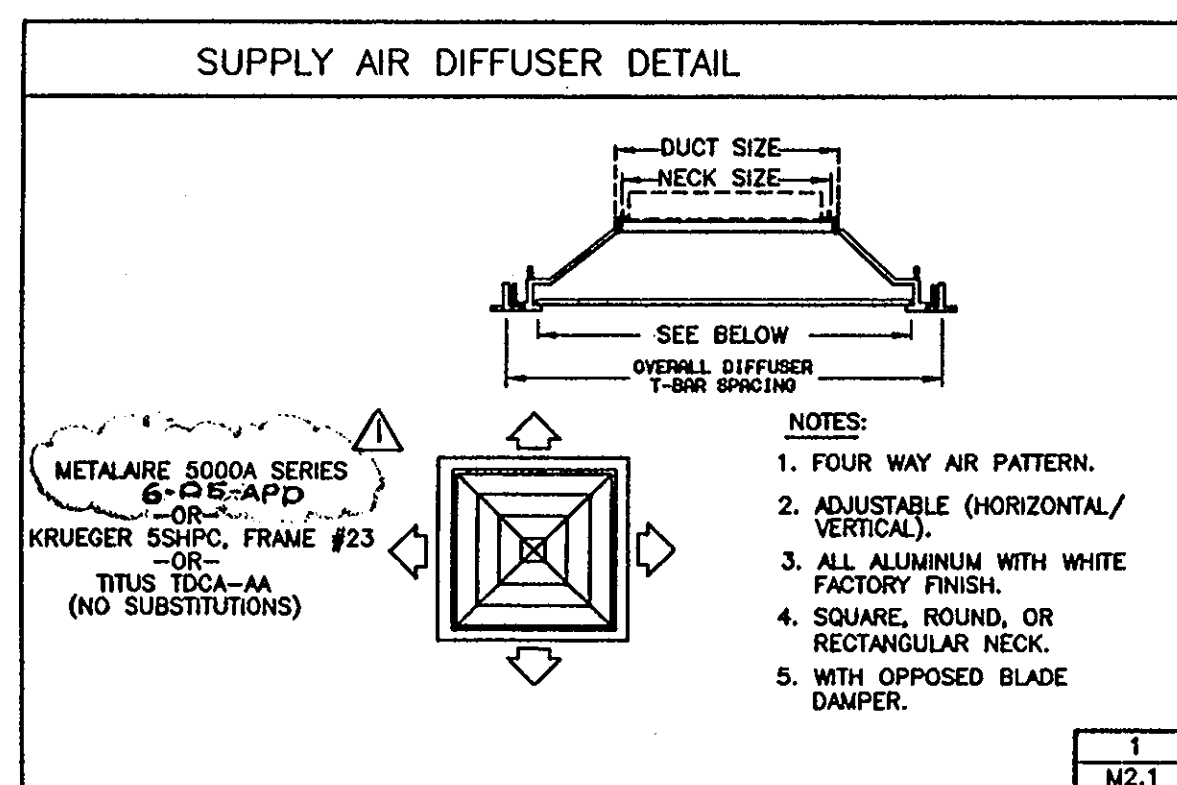
REVISIONS
11/15/95 "WALGREENS COMMENTS"

LAI Project No. 95178.000
Walgreen Store Number 3802
Issued for Permit
Issued for Bidding
Issued for Construction

M1.1
Floor Plan-
Mechanical

R.H. George and Associates, Inc.
Consulting Engineering
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Date: October 02, 1995



GRILLE SCHEDULE

MARK	DESCRIPTION	TYPE	VOLUME CONTROL	CONSTRUCT. MATERIAL	FINISH	MANUFACTURER	MODEL	REMARKS
A	SUPPLY AIR DIFFUSER	ALUM OBD	---	ALUM.	OFF WHITE	METAL-AIRE KRUEGER TITUS	5000A-6-DE-APD 55HPC TDCA-AA	SUPPLY AIR DIFFUSER, 24"X24" FACE. FRAME STYLE FOR EXPOSED T-BAR CEILING.
B	SUPPLY AIR GRILLE	ALUM OBD	---	ALUM.	OFF WHITE	METAL-AIRE KRUEGER TITUS	H4004D 5880H 300FL	DOUBLE DEFLECTION SUPPLY AIR GRILLE WITH EXPOSED ADJUSTMENT KNOB.
C	VAV DIFFUSER	ALUM OBD	---	STEEL	OFF WHITE	ACUTHERM	THERMAFUSER HC	SELF CONTAINED VARIABLE VOLUME DIFFUSER, 24"X24" FACE. FRAME STYLE FOR EXPOSED T-BAR CEILING.
D	RETURN AIR GRILLE	---	---	ALUM.	OFF WHITE	METAL-AIRE KRUEGER TITUS	CC1 EGC-10 50F	EGGRATE TYPE RETURN AIR GRILLE. FRAME STYLE FOR EXPOSED T-BAR CEILING. 24"X48" FACE.
E	SUPPLY AIR DIFFUSER	ALUM OBD	---	ALUM.	OFF WHITE	METAL-AIRE KRUEGER TITUS	5500A 55HPC TDCA-AA	SURFACE MOUNTED.
F	EXHAUST/RETURN AIR REGISTER	ALUM OBD	---	ALUM.	OFF WHITE	METAL-AIRE KRUEGER TITUS	RHD 5580H 3FL	FIXED 45 DEGREE RETURN AIR GRILLE. FRAME TO BE SURFACE MOUNTED WITH DAMPER.
G	RETURN AIR GRILLE	---	---	ALUM.	OFF WHITE	METAL-AIRE KRUEGER TITUS	CC1 EGC-10 50F	EGGRATE TYPE RETURN AIR GRILLE. FRAME STYLE FOR EXPOSED T-BAR CEILING. 24"X24" FACE.

UNIT HEATER SCHEDULE

UNIT	AREA SERVED	BTU/HR INPUT	CFM	MOTOR		RPM	TYPE	MAKE AND MODEL
				HP.	VOLT PHASE			
UH-1	STOCK AREA	25,000	380	1/70	120-1-60	1550	INDOOR POWER VENTED	REZNOR FE25
UH-2	RECEIVING	50,000	650	1/40	120-1-60	1550	INDOOR POWER VENTED	REZNOR FE50
EH-1	ENTRANCE	175,000	1500	1/2	208-3-60	760	OUTDOOR POWER VENTED	REZNOR R8B175 MIN. COMBUSTION EFFICIENCY SHALL BE 76% AT MAX. RATED OUTPUT

FAN SCHEDULE

UNIT	AREA SERVED	CFM	SP.	MOTOR		RPM	TYPE	MAKE AND MODEL
				HP	VOLTS PHASE			
EF-1	LOUNGE	300	0.125	190 WATTS	120 1	1580	CEILING MOUNTED EXHAUST FAN	GREENHECK #SP-127 W/ BACKDRAFT DAMPER AND WHITE PLASTIC GRILLE.
EF-2	MEN TOILET RM.	240	0.375	120 WATTS	120 1	1000	CEILING MOUNTED EXHAUST FAN	GREENHECK #SP-150 W/ BACKDRAFT DAMPER AND WHITE PLASTIC GRILLE.
EF-3	WOMEN TOILET RM.	240	0.375	120 WATTS	120 1	1000	CEILING MOUNTED EXHAUST FAN	GREENHECK #SP-150 W/ BACKDRAFT DAMPER AND WHITE PLASTIC GRILLE.
EF-4	OFFICE	300	0.125	1/30	120 1	1300	ROOF MOUNTED EXHAUST FAN	GREENHECK #G-85-G W/ MOTORIZED BACKDRAFT DAMPER, FACTORY ROOF CURB (GPS) AND BIRDSCREEN.
EF-5	PHOTO	750	0.250	1/6	120 1	1140	ROOF MOUNTED EXHAUST FAN	GREENHECK #G-100-G W/ MOTORIZED BACKDRAFT DAMPER, FACTORY ROOF CURB (GPS) AND BIRDSCREEN.

HEATING/COOLING UNIT SCHEDULE

NOTE: AT 95 DEG. CONDENSER ENTRANCE AIR TEMPERATURE & ARI CONDITIONS.

UNIT	AREA SERVED	FUSE SIZE MAX AMP 480 VOLTS 3 PHASE	BLOWER		COMPRESSOR		AIR COOLED CONDENSER		GAS FIRED FURNACE		MAKE/MODEL/WEIGHT/FILTERS						
			CFM	MOTOR	ELECT. REQ.	COOLING CAPACITY	ELECT. REQ.	BTU/HR RATE	INPUT	OUTPUT							
			S.A.	O.A.	HP.	VOLTS/PHASE	FL.	VOLTS/PHASE				FL.	VOLTS/PHASE				
RTU-1	GENERAL SALES	SEE ELEC. DRAWINGS	7,965	653	10.0	14.6	460/3	35.6	460/3	213,443	186,115	5.6	2 AT 1	460/3	270,000	216,000	W/(1)(5)(6)(7)(8)(9)(10)(11)
RTU-2	GENERAL SALES	SEE ELEC. DRAWINGS	4,180	557	5.0	7.4	460/3	25.8	460/3	129,217	103,050	1.4	2 AT 1/4	460/3	224,000	183,700	W/(2)(5)(6)(7)(8)(9)(10)(11)
RTU-3	PHARMACY	SEE ELEC. DRAWINGS	3,165	345	3.0	4.8	460/3	10.0	460/3	84,302	75,559	0.7	1/4	460/3	180,000	147,000	W/(3)(5)(6)(7)(8)(9)(10)(11)
RTU-4	STOCK ROOM	SEE ELEC. DRAWINGS	1,125	132	1.5	2.2	460/3	5.1	460/3	29,510	26,020	0.4	1/4	460/3	72,000	59,040	W/(4)(5)(6)(7)(8)(9)(10)(11)

NOTES:
1) CARRIER 48HJD025, 2,735 LBS. WITH DISPOSABLE FILTERS.
2) CARRIER 48HJD014, 1,250 LBS. WITH DISPOSABLE FILTERS.
3) CARRIER 48HJD012, 1,235 LBS. WITH DISPOSABLE FILTERS.
4) CARRIER 48HJE04, 630 LBS. WITH FILTER RACK & DISPOSABLE FILTERS. PROVIDE "MICRO METL" CURB ADAPTOR, FLEX DUCT PACKAGE, AND CONCENTRIC DIFFUSER PAC.
5) EXTENDED 5 YEAR WARRANTY ON COMPRESSOR.
6) EXTENDED 10 YEAR WARRANTY ON HEAT EXCHANGER.
7) WARRANTIES OR A COPY OF WARRANTIES IS TO BE GIVEN TO WALGREEN'S PROJECT ARCHITECT UPON COMPLETION OF PROJECT.
8) ECONOMIZER SYSTEMS NOT REQUIRED.
9) UNITS SHALL HAVE THE HIGHEST EFFICIENCY RATINGS AVAILABLE FROM THE MANUFACTURER FOR BOTH HEATING AND COOLING.
10) SEE ME-1.1 FOR OUTSIDE AIR CALCULATIONS.
11) ROOF CURB.

ROOF TOP HVAC UNITS (TONNAGE/EFFICIENCY RATING)

(Manufacturer shall be Carrier, Lennox, Trane, or York, only the exact Trade or Signature Name and the Highest Efficiency Units Available From Each of These Manufacturers will be Acceptable.)

MANUFACTURER	3 / SEER	10 / SEER	12.5 / EER	20 / EER
CARRIER	HJ004 13.0	HJ012 11.0	HJ014 9.9	HJ025 9.3
LENNOX	16-413 10.1	24-1353 10.0	24-1603 9.3	LGA/LCA 240 9.0
TRANE	037 12.0	121 10.0	151 10.0	241 9.0
YORK	036 11.1	120 10.0	150 9.7	240 9.5

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M2.1
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Details/Schedules

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Date: October 02, 1995

**SECTION 15F
AUTOMATIC TEMPERATURE CONTROL**

OUTSIDE AIR CALCULATIONS

ROOF TOP UNIT #1

RETAIL SALES		CFM OA	CFM SA	Z
4640 Sq. Ft. x $\frac{8 \text{ PEOPLE}}{1000 \text{ Sq. Ft.}} \times \frac{15 \text{ CFM}}{1 \text{ PERSON}}$	=	557 CFM	5,785 CFM	.096
OFFICE				
140 Sq. Ft. x $\frac{7 \text{ PEOPLE}}{1000 \text{ Sq. Ft.}} \times \frac{20 \text{ CFM}}{1 \text{ PERSON}}$	=	20 CFM	510 CFM	.040
PHOTO				
140 Sq. Ft. x .05 CFM/Sq. Ft.	=	7 CFM	830 CFM	.008
PASSAGE 2				
195 Sq. Ft. x .05 CFM/Sq. Ft.	=	10 CFM	760 CFM	.013
VALUABLE ROOM				
80 Sq. Ft. x .15 CFM/Sq. Ft.	=	<u>12 CFM</u>	<u>80 CFM</u>	.150
X = 606/7,965 = .076		<u>606 CFM</u>	<u>7,965 CFM</u>	
Y = .076/[1 + .076 - .150] = .082				
CFM OUTSIDE AIR = 7,965 CFM SA x .082 = <u>653 CFM OA</u>				

ROOF TOP UNIT #2

RETAIL SALES				
4,640 Sq. Ft. x $\frac{8 \text{ PEOPLE}}{1000 \text{ Sq. Ft.}} \times \frac{15 \text{ CFM}}{1 \text{ PERSON}}$	=	<u>557 CFM</u>		

ROOF TOP UNIT #3

PHARMACY				
950 Sq. Ft. x $\frac{8 \text{ PEOPLE}}{1000 \text{ Sq. Ft.}} \times \frac{15 \text{ CFM}}{1 \text{ PERSON}}$	=	114 CFM	1,880 CFM	.060
EMPLOYEE LOUNGE				
4 PEOPLE x 15 CFM / PERSON x .5	=	30 CFM	200 CFM	.015
PASSAGE 1				
100 Sq. Ft. x .05 CFM/Sq. Ft.	=	5 CFM	135 CFM	.037
REST ROOMS				
4 PEOPLE x 50 CFM / FIXTURE	=	200 CFM	205 CFM	---
TECH. ROOM				
119 Sq. Ft. x $\frac{8 \text{ PEOPLE}}{1000 \text{ Sq. Ft.}} \times \frac{15 \text{ CFM}}{1 \text{ PERSON}}$	=	14 CFM	750 CFM	.019
X = 363/3,170 = .115		<u>363 CFM</u>	<u>3,170 CFM</u>	
Y = .115/[1 + .115 - .060] = .109				
CFM OUTSIDE AIR = 3,170 CFM SA x .109 = <u>345 CFM OA</u>				

ROOF TOP UNIT #4

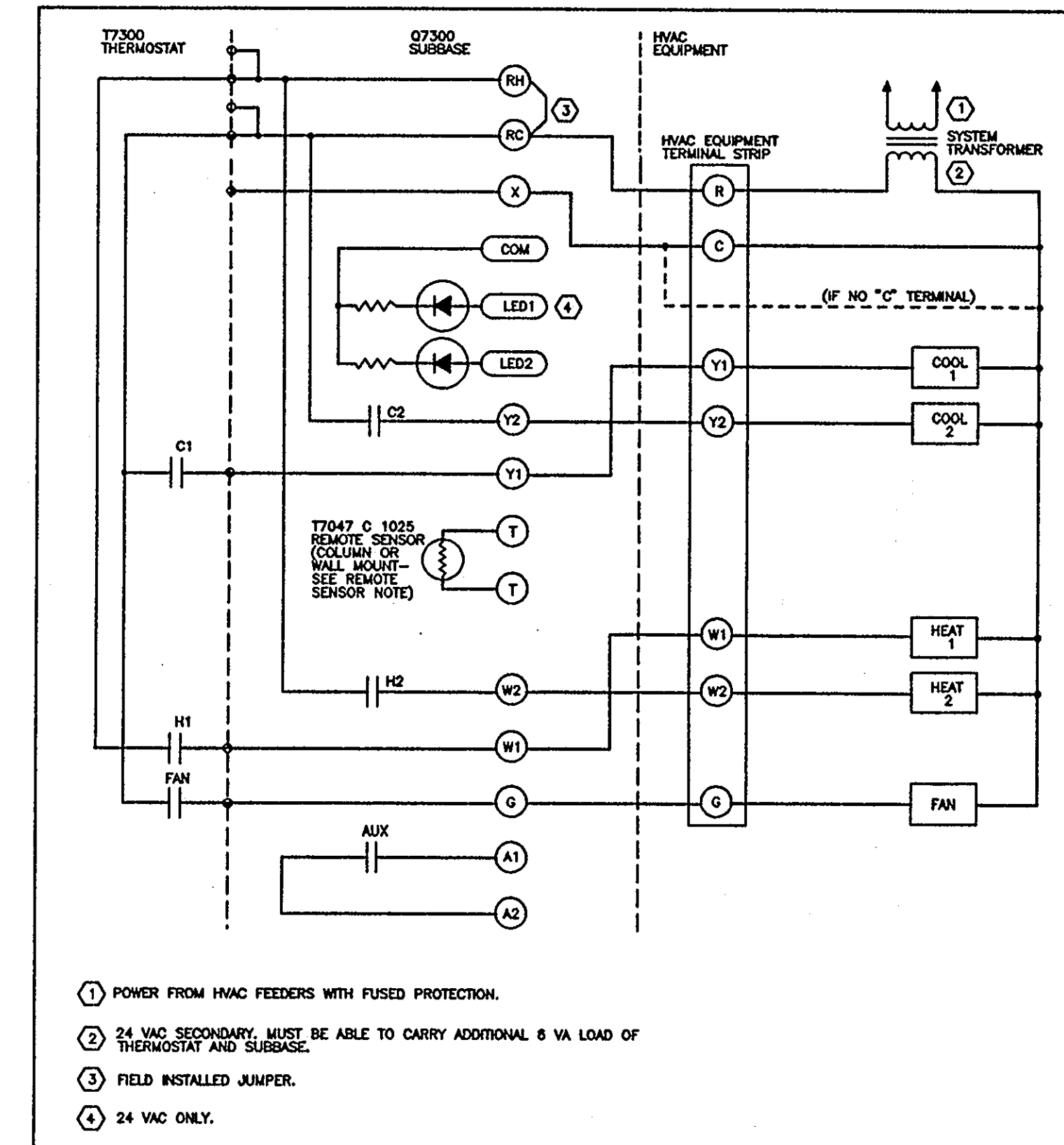
STOCK ROOM				
1,320 Sq. Ft. x .10 CFM/Sq. Ft.	=	<u>132 CFM</u>		

- SCOPE OF WORK**
THE CONTRACTOR UNDER THIS HEADING SHALL BE THE HEATING AND AIR CONDITIONING CONTRACTOR WHO SHALL FURNISH ALL CONTROL EQUIPMENT, ENGINEERING SERVICES, JOB DRAWINGS AND FIELD SUPERVISION FOR TEMPERATURE CONTROL.
THIS SPECIFICATION IS INTENDED TO COVER EQUIPMENT FOR THE AUTOMATIC TEMPERATURE CONTROL FOR:
HEATING
VENTILATION
AIR CONDITIONING
- SERVICE AND GUARANTEE**
THE CONTROL SYSTEM AS HEREIN SPECIFIED SHALL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIAL UNDER NORMAL USE AND SERVICE. IF WITHIN TWELVE (12) MONTHS FROM DATE OF ACCEPTANCE BY THE ENGINEER, ANY OF THE EQUIPMENT HEREIN DESCRIBED IS PROVED TO BE DEFECTIVE IN WORKMANSHIP OR MATERIAL, IT SHALL BE REPLACED OR REPAIRED FREE OF CHARGE.
THIS CONTRACTOR SHALL, AFTER COMPLETION OF THE ORIGINAL TEST OF THE INSTALLATION AND ACCEPTANCE BY THE ENGINEER, PROVIDE ANY SERVICE INCIDENTAL TO THE PROPER PERFORMANCE OF THE TEMPERATURE CONTROL SYSTEM UNDER GUARANTEES OUTLINED ABOVE FOR THE PERIOD OF ONE (1) YEAR. AFTER COMPLETION OF THE INSTALLATION, THIS CONTRACTOR SHALL REGULATE AND ADJUST ALL EQUIPMENT PROVIDED UNDER THIS CONTRACT. HE SHALL PLACE THEM IN COMPLETE OPERATING CONDITION SUBJECT TO THE APPROVAL OF WALGREEN CO..
- DRAWINGS AND LAYOUTS**
THIS CONTRACTOR SHALL SUBMIT TO WALGREEN CO. A COMPLETE SHOP DRAWING OF THE ENTIRE CONTROL SYSTEM BEFORE STARTING WORK. UPON COMPLETION OF ALL WORK, HE SHALL PROVIDE FOUR COPIES OF AS-BUILT LAYOUTS OF THE CONTROL SYSTEM TO WALGREEN CO. ENGINEERING DEPARTMENT.
- INSTALLATION OF VALVES AND DAMPERS MOTORS**
ALL CONTROL VALVES AND DAMPER MOTORS, WHERE REQUIRED, SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR.
- POSITIONING OF DAMPERS**
ALL DAMPERS SHALL BE POSITIONED BY THE VENTILATION CONTRACTOR. VENTILATION CONTRACTOR SHALL ALSO MARK POSITIONS OF DAMPERS ON AS-BUILT LAYOUTS.
- CONTROL MOTORS**
ALL MOTORS MUST BE SPRING RETURN AND MUST HAVE OIL IMMERSER GEAR TRAIN.
- ELECTRIC WIRING**
ALL WIRING AND MOUNTING OF TEMPERATURE CONTROL DEVICES SHALL BE PROVIDED UNDER THE ELECTRICAL CONTRACT AND SHALL BE IN ACCORDANCE WITH ALL EXISTING CODES. THE ELECTRICAL CONTRACTOR SHALL RUN ALL CONDUIT IN ACCORDANCE WITH SCHEMATIC DIAGRAM. THIS CONTRACTOR SHALL PROVIDE FINAL JOB WIRING DRAWINGS TO THE ELECTRICAL CONTRACTOR FOR INSTALLATION.
- HONEYWELL T7300 - SEQUENCE OF OPERATIONS**
THE HEATING AND COOLING SETPOINTS SHALL BE INDIVIDUALLY ADJUSTABLE FOR BOTH OCCUPIED AND UNOCCUPIED PERIODS. THE THERMOSTATS SHALL HAVE A MINIMUM DEADBAND OF 2 F AND A MAXIMUM DEADBAND OF 48 F (NO MECHANICAL HEATING OR COOLING SHALL OPERATE WITHIN THIS DEADBAND). SPACE TEMPERATURE DEVIATION ABOVE COOLING SETPOINT OR BELOW THE HEATING SETPOINT SHALL GENERATE A DEMAND SIGNAL TO CONTROL THE SYSTEM AS FOLLOWS:
A. HEATING
1) THE THERMOSTAT SHALL CONTROL THE HEATING OUTPUTS BASED ON THE DEMAND SIGNAL COMMUNICATED FROM THE THERMOSTAT PROGRAM, TAKING INTO ACCOUNT BOTH SPACE TEMPERATURE DEVIATION (PROPORTIONAL ERROR) AND THE DURATION OF THAT TEMPERATURE DEVIATION (INTEGRAL ERROR).
2) THE OUTDOOR AIR DAMPER SHALL BE AT A MINIMUM POSITION DURING THE OCCUPIED PERIOD, AND SHALL BE CLOSED DURING THE UNOCCUPIED PERIOD OF THE HEATING MODE.
3) AUXILIARY HEAT SHALL BE CONTROLLED AT 2°F BELOW HEATING SETPOINT ON HEAT PUMP SYSTEMS.
B. COOLING
THE THERMOSTAT SHALL CONTROL THE COOLING OUTPUTS BASED ON THE DEMAND SIGNAL COMMUNICATED FROM THE THERMOSTAT PROGRAM, TAKING INTO ACCOUNT BOTH SPACE TEMPERATURE DEVIATION (PROPORTIONAL ERROR) AND THE DURATION OF THAT TEMPERATURE DEVIATION (INTEGRAL ERROR).
C. HEATING SETBACK AND COOLING SETUP
INITIATION OF HEATING SETBACK OR COOLING SETUP FOR EACH OF 7 DAYS SHALL BE PROVIDED BY A PROGRAMMED TIME SCHEDULE MANUALLY ENTERED INTO THE THERMOSTAT. WHEN ALL OR A PORTION OF A MANUALLY PROGRAMMED SCHEDULE IS UNAVAILABLE, THE THERMOSTAT SHALL CONTROL THE UNAVAILABLE PROGRAM FUNCTIONS TO OCCUPIED MODE AND DEFAULT SETPOINT RANGES AS FOLLOWS:

	TABLE OF DEFAULT SETPOINT RANGES			
	OCCUPIED		UNOCCUPIED	
	*F	*C	*F	*C
HEATING	68	20	55	13
COOLING	78	26	90	32

BILL OF MATERIAL			
THE FOLLOWING CONTROLS TO BE FURNISHED BY TEMPERATURE CONTROL CONTRACTOR			
NO.	QUANTITY	MAKE	REMARKS
T1	1 (PER UNIT)	HONEYWELL T707581006	-20° F TO 80° F SCALE 1 DEGREE DIFFERENCE (USE AS COMPRESSOR LOCKOUT SET AT 50° F).
T2	1 (PER UNIT)	HONEYWELL T7300A1005 MODEL 07300A1018	NOTE: FOR PHARMACY UNIT USE T7300/07300B1003
	1 (PER UNIT)	HONEYWELL T7047C1025	REMOTE SENSOR (NOTE: EXCEPT PHARMACY UNIT)

REMOTE SENSOR NOTE:
REMOTE SENSOR (T7047C1025) IS TO BE MOUNTED ON COLUMN (OR WALL), 6"-0" UP, WITH THE SUBBASE (T7300) LOCATED IN OFFICE (AS SHOWN ON PLANS). CONNECT REMOTE SENSOR TO T-1 TERMINALS OF SUBBASE VIA TWO (2) #16 AWG WIRES. SEE CONTROL WIRING DIAGRAM. (NOTE: NOT TO INCLUDE PHARMACY UNIT.)



T7300/07300 (CONFIGURED FOR 2H-2C) USED IN SINGLE TRANSFORMER, 2 STAGE HEATING/ 2 STAGE COOLING SYSTEM WITHOUT ECONOMIZER.

HVAC CONTROL DIAGRAM (EACH UNIT)

**T-7300 THERMOSTATS (HONEYWELL)
NO SUBSTITUTIONS**
(CONTROLS WITH OTHER NAMEPLATES, SUCH AS 'LENNOX' AND 'YORK', WHICH ARE MADE BY HONEYWELL AND PERFORM EXACTLY AS HONEYWELL ARE ACCEPTABLE).

PROGRAM	
1) COOLING 76° F	} OCCUPIED SALES AND PHARMACY
2) HEATING 72° F	
1) COOLING 78° F	} OCCUPIED GENERAL STOCKROOM
2) HEATING 68° F	
1) COOLING 85° F	} NOT OCCUPIED SALES/ GENERAL STOCKROOM
2) HEATING 60° F	
1) COOLING 80° F	} NOT OCCUPIED PHARMACY
2) HEATING 68° F	
OCCUPIED (ON)	8 AM
UNOCCUPIED (OFF)	10 PM

Walgreen
Jupiter & Campbell Rd.
Richardson, Texas

Development of
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515 Post Oak Blvd.
Suite 310
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Levinson Associates, Inc.
Architecture Planning Interior Design
One Greenway Plaza
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REVISIONS



LSI Project No. 95178.000
Walgreen Store Number 3802
Issued for Permit
Issued for Bidding
Issued for Construction

M2.2
Mechanical
HVAC Controls

R.H. George and Associates, Inc.
Consulting Engineering
8700 Jameel, Suite 150
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Date: October 02, 1995