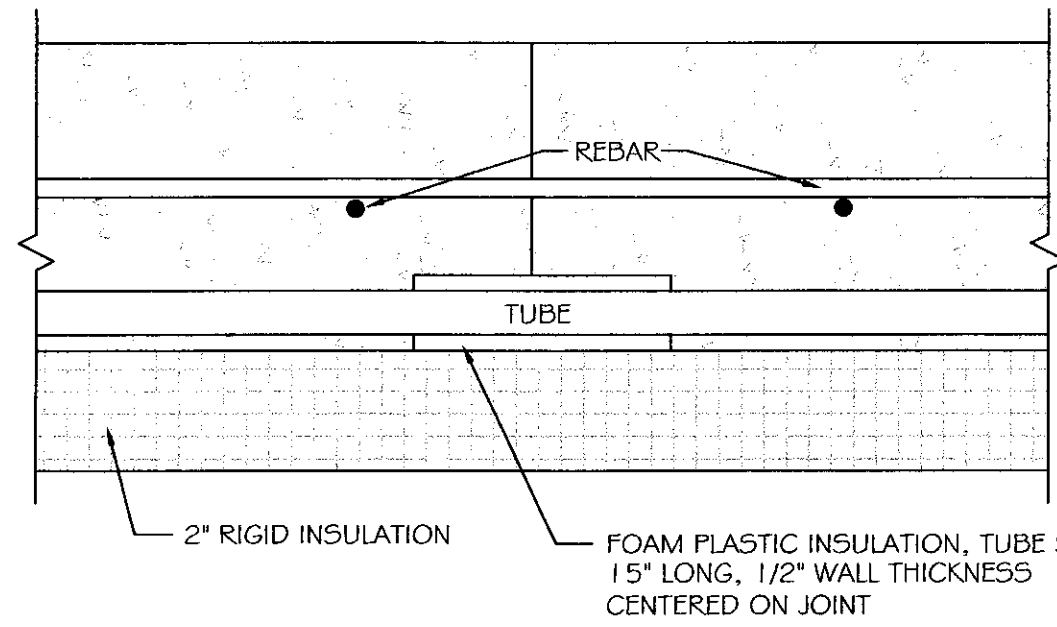
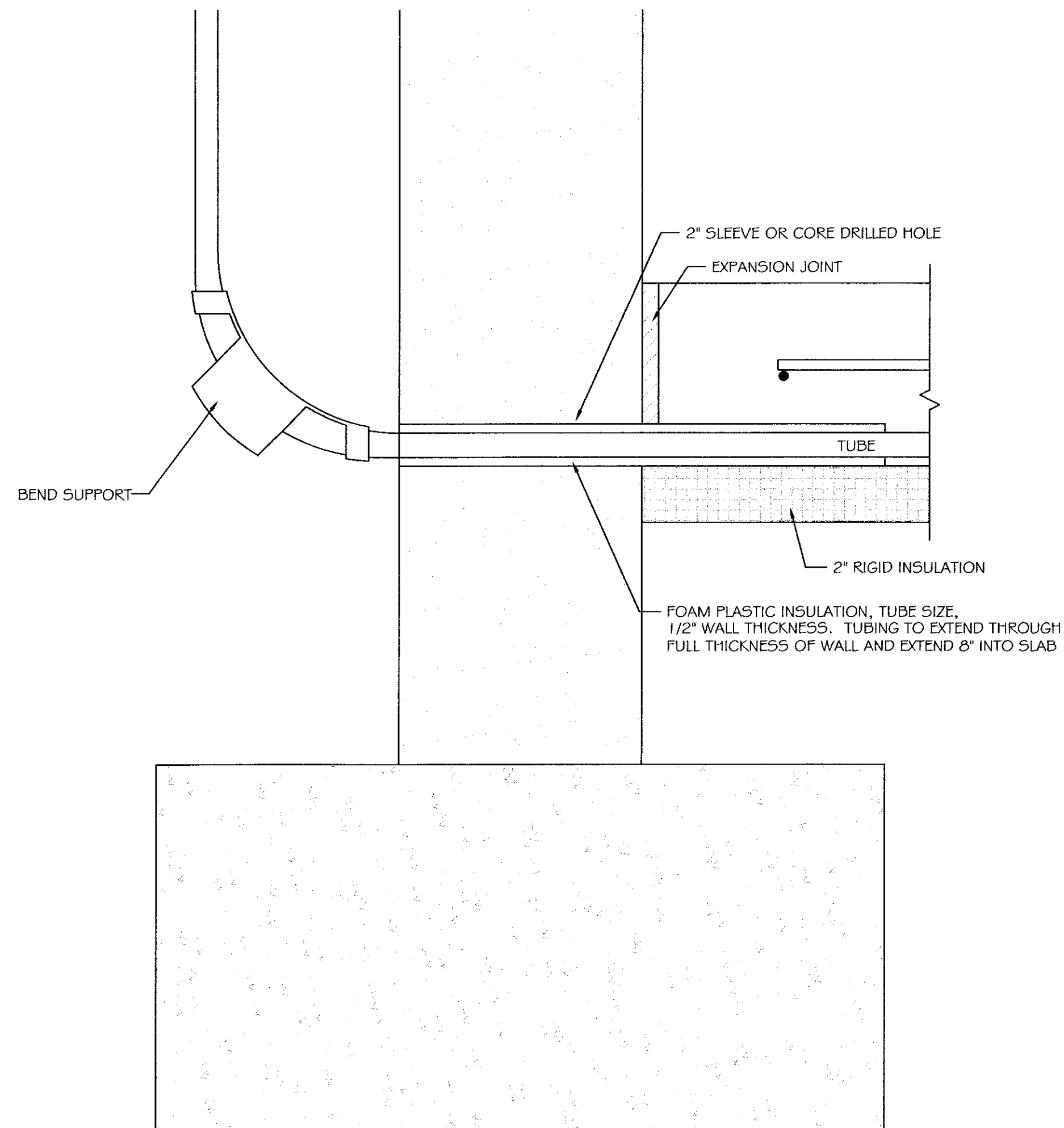


TYPICAL CROSS SECTION
NOT TO SCALE



TYPICAL JOINT DETAIL
NOT TO SCALE

NOTE:
CONTRACTOR TO TAKE SPECIAL CARE WHEN CUTTING JOINT NOT TO DAMAGE TUBING.



TUBING PASSING THROUGH INTERIOR WALL DETAIL
NOT TO SCALE

LEGEND	
	BALL VALVE, FULL PORTED, S.S. BALL VALVE WHOSE THREADS & BRASS CAP STRAINER & BALL VALVE BLOW DOWN
	MIXING VALVE SET @ 95°F TACO 5003-C1
	PRESSURE RELIEF VALVE, PIPE TO 6" A.F.F.
	THERMOSTAT, MOUNT @ 54" A.F.F.
	SENSOR, MOUNT @ 54" A.F.F.
	THERMOMETER
	TACO FLO CHECK
	CIRCULATOR
	SPIROVENT 1-1/2" AIR SEPARATOR
	PRESSURE GAUGE
	VACUUM GAUGE
	TOUR-ANDERSON STAD BALANCING VALVE
	KENT OIL METER
	FUEL OIL TRANSFER PUMP, SUNTEC BB-1020M
	FUEL OIL RATED, FULL PORT, S.S. BALL VALVE
	SUNTEC PRV-38
	FIREMATIC VALVE
	CHECK VALVE

SEQUENCE OF CONTROL

- A. OUTSIDE AIR SENSOR SHALL BE LOCATED ON THE NORTH WALL WHERE IT WON'T BE INFLUENCED BY ANYTHING OTHER THAN THE OUTSIDE AIR TEMP.
- B. HEATING SYSTEM:
- THE BOILER, DOMESTIC HOT WATER MAKER, AND CIRCULATORS SHALL BE CONTROLLED BY A WIRSBO PROMIX 212 CONTROL PANEL, EITHER DIRECTLY OR INDIRECTLY.
 - WHEN OUTDOOR AIR FALLS BELOW 60° (ADJ):
 - BOILER IS ENABLED.
 - FUEL OIL TRANSFER PUMP IS ENABLED.
 - CIRCULATORS C-1, C-2 AND C-8 ARE STARTED.
 - CIRCULATORS C-3 THROUGH C-6, AND C-9 THROUGH C-10 ARE ENABLED.
 - OPERATING AQUASTAT ON BOILER TO MAINTAIN BOILER BETWEEN 150°F AND 170°F.
 - INJECTION CIRCULATOR C-3 AND C-9 TO BE MODULATED BY A CONTROLLER BASED ON: OUTSIDE AIR TEMPERATURE, INSIDE AIR TEMPERATURE OF GARAGE AND LOOP TEMPERATURE TO MAINTAIN CALCULATED LOOP SUPPLY SETPOINT. SETPOINT, OFFSET AND RATIO TO BE ADJUSTABLE AT CONTROLLER. INITIAL VALUES FOR CONTROLLER:

MODES 1	RST	(GARAGE)
WSD 1	65°F	
MIX 1OK 1	INDR	
MIX RM 1	65°F	(ROOM TEMP)
MIX IND 1	65°F	
MIX DSN 1	97°F	
MIX MAX 1	140°F	
OUT D5GN	-20°F	
 - CIRCULATOR C-4 TO CYCLED ON AND OFF BY THE THERMOSTAT IN THE BATHROOM TO MAINTAIN SETPOINT.
 - CIRCULATOR C-5 TO CYCLED ON AND OFF BY THE THERMOSTAT IN THE AOT OFFICE TO MAINTAIN SETPOINT.
 - CIRCULATOR C-6 TO CYCLED ON AND OFF BY THE THERMOSTAT IN THE BREAKROOM TO MAINTAIN SETPOINT.
 - AQUASTAT IN DOMESTIC HOT WATER TANK TO ENABLE BOILER AND CYCLE CIRCULATOR C-7 TO MAINTAIN SETPOINT.
 - CIRCULATOR C-10 TO CYCLE ON AND OFF BY THE THERMOSTAT IN THE WOMENS ROOM TO MAINTAIN SETPOINT.
- C. FUEL OIL TRANSFER PUMP TO OPERATE WHENEVER BOILER OPERATES. EMERGENCY BOILER SHUT-OFF SWITCH TO SHUT OFF TRANSFER PUMP ALSO.
- D. FAN F-1 TO COME ON WITH LIGHT SWITCH, AND OPERATE FOR 5 MINUTES AFTER LIGHT IS TURNED OFF.
- E. FAN F-2 TO BE CONTROLLED BY A SPRING WOUND TIMER SWITCH. SEE ELECTRICAL DRAWING FOR DETAILS.
- F. MOD-1 TO OPEN WHENEVER FAN F-2 OPERATES AND CLOSE WHEN F-2 STOPS.
- G. FAN F-3 TO OPERATE WHEN BURNER OPERATES.

EQUIPMENT SCHEDULE

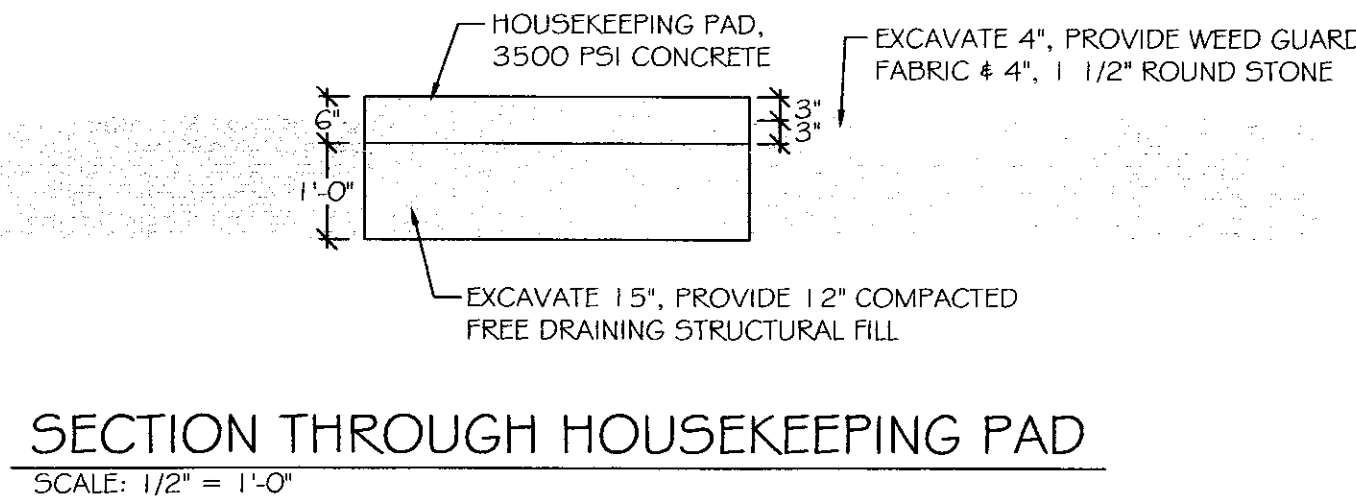
PLAN SYMBOL	DESCRIPTION	MANUF. # MODEL	CHARACTERISTICS	ELECTRIC VOLTS / Ø / HZ	NOTES
B-1	BOILER	BUDERUS G215-G	294,000 BTU INPUT, 223,000 BTU NET IFR, RIELLO 40 SERIES-F10 BURNER	120/1 / 60 2.2 A	
XT-1	EXP. TANK	AMTROL ST-30V	14 GALLON TANK 11.3 GALLON ACCEPTANCE		
L-1	RELIEF LOUVER	VENT PRODUCTS 2750	36" x 36"		BRONZE ANODIZED, ARCH TO SELECT COLOR
L-2	LOUVER	VENT PRODUCTS 2750	16" x 20"		BRONZE ANODIZED ARCH TO SELECT COLOR
MOD-1	RELIEF DAMPER	VENT PRODUCTS 5703	36" x 36"	120 / 1 / 60	BELIMO DIRECT COUPLED ACTUATOR SPRING WOUND N.C.
AC-1	AIR CONDITIONER AOT	FRIEDRICH U508A10A	8000 BTU THROUGH WALL SEER 10.0	7.5A 120/1/60	
AC-2	AIR CONDITIONER DMV	CARRIER 400A060	58,500 BTU, 1600 CFM, SEER 10.8	208 / 230-1-60, MCA 3.3, MOCP 15.0, FLA 2.6	SUSPEND UNIT FROM ROOFING STEEL (179#) PROVIDE VIBRATION ISOLATION
ACC2	CONDENSER DMV	CARRIER 38HDC60	MATCHED CONDENSER	208 / 230-1-60, MOCP 60.0, FLA 30.4	

CIRCULATOR SCHEDULE

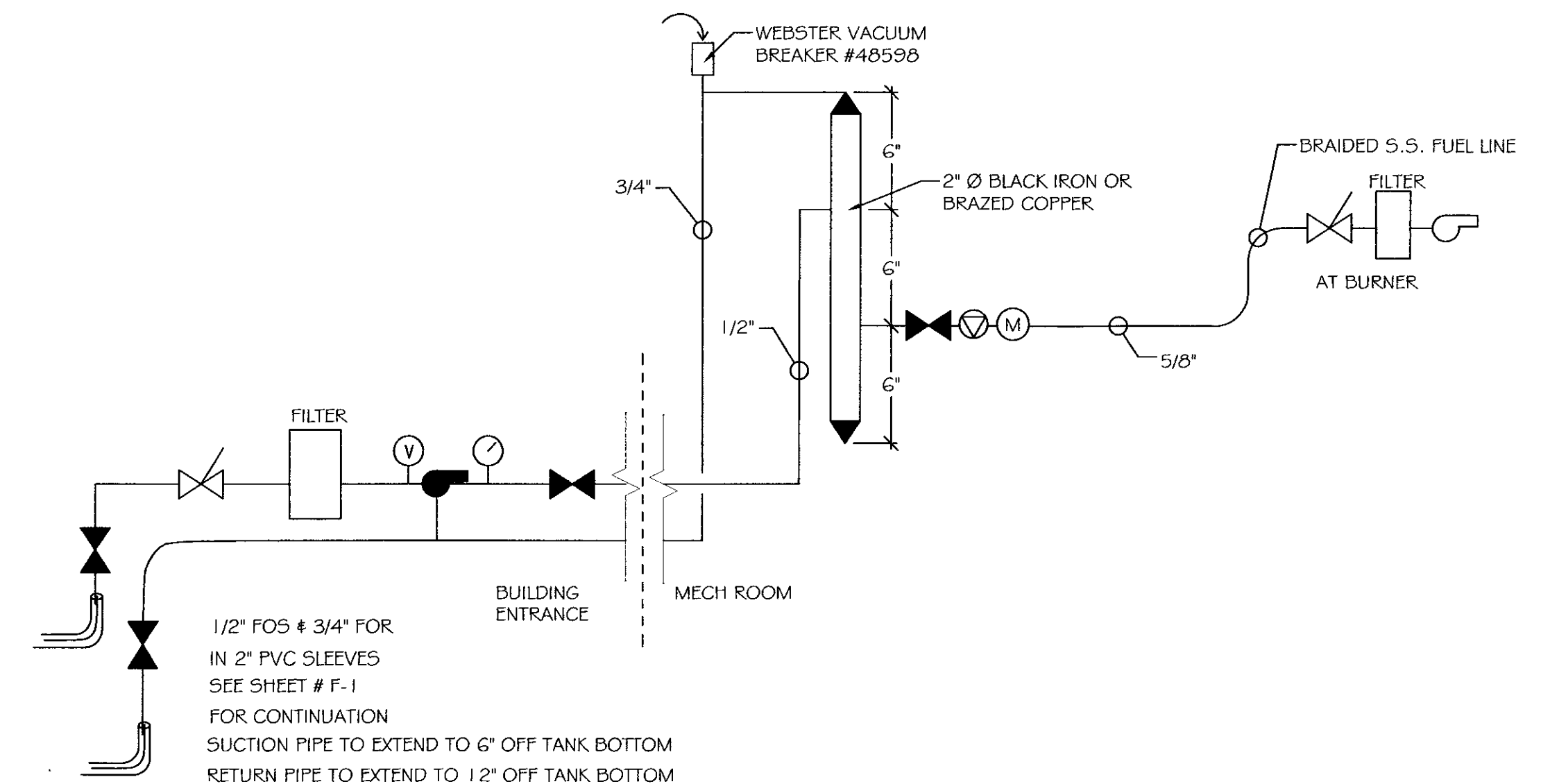
PLAN SYMBOL	SYSTEM	MANUF. # MODEL	G.P.M.	FEET HEAD	H.P.	ELECTRICAL	R.P.M.	NOTES
C-1	MAIN	TACO 0010	20.0	4.0	1/15	120/1/60 1.3 A	3250	
C-2	GARAGE ZONE	TACO 1615	25.0	24.0	1/3	120/1/60	1750	
C-3	GARAGE INJECTION	TACO 006 (CI)	4.0	4.0	1/35	120/1/60 .52 A	3250	
C-4	OFFICE ZONE	TACO 006 (CI)	0.5	1.0	1/35	120/1/60 .52 A	3250	
C-5	PARTS / BATHROOM ZONE	TACO 006 (CI)	0.2	1.0	1/35	120/1/60 .52 A	3250	
C-6	BREAK ROOM	TACO 006 (CI)	0.7	1.0	1/35	120/1/60 .52 A	3250	
C-7	WATER HEATER	TACO 007	15.9	5.0	1/25	120/1/60 .70 A	3250	
C-8	OFFICE / WAITING	TACO 007	2.4	10	1/25	120/1/60 .70 A	3250	
C-9	OFFICE / WAITING INJECTION	TACO 006 (CI)	1.0	1.0	1/35	120/1/60 .52 A	3250	
C-10	MENSWOMENS	TACO 006 (CI)	0.2	1.0	1/35	120/1/60 .52 A	3250	

FAN SCHEDULE

PLAN SYMBOL	SYSTEM	MANUF. MODEL # TYPE	C.F.M.	S.P. IN.	SONES	FAN RPM	HP.	ELECTRICAL	NOTES
F-1	BATHROOM	GREENHECK G-065-D	100	.25	2.8	1325	1/30	120/1/60	BIRD SCREEN, BDD, CURB & SPEED CONTROL, 3 IDENTICAL UNITS
F-2	GARAGE VENT	GREENHECK 5B5-1L24-4	4250	.125	12.2	649	1/4	120/1/60	W/WEATHER HOOD, SCREEN & MOD W/ BELIMO ACTIVATOR
F-3	COMBUSTION	GREENHECK 5E1-B-440-E	100	.125	2.2	1050	1/100	120/1/60	W/WEATHER HOOD, SCREEN & MOD W/ BELIMO ACTIVATOR



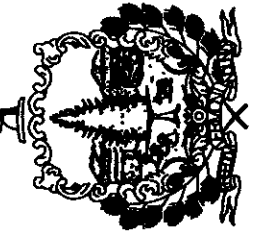
SECTION THROUGH HOUSEKEEPING PAD
SCALE: 1/2" = 1'-0"



FUEL SUPPLY SCHEMATIC
NOT TO SCALE



STATE OF VERMONT
Department of Buildings
and General Services
Agency of Administration
Montpelier, Vermont



VERMONT

AGENCY OF TRANSPORTATION
NORTH FERRISBURG GARAGE
HVAC DETAILS & SCHEDULES
NORTH FERRISBURG, VERMONT

REVISIONS

SCALE:	A5 NOTED
DATE:	JANUARY 4, 2006
DRAWN BY:	N. HERGEY
APPR. BY:	TEIGH

A.O.T.
NORTH FERRISBURG
GARAGE

DETAILS

M-2