

EXHAUST FAN SCHEDULE										
MARK	MAKE	MODEL	TYPE	CFM	EXTERNAL S.P. IN (W.G.)	WATTS	ELECTRICAL			NOTES
							VOLT	PH	HZ	
EF-1	GREENHECK	SP-B90	CEILING FAN	75	.25	49.7	115	1φ	60	WALL CAP, INSECT SCREEN, W/BACK DRAFT DAMPER

LOUVER SCHEDULE										
MARK	DESCRIPTION	CFM	APPROXIMATE OUTSIDE DIMENSIONS (W X H)	FREE AREA(SF)	MAXIMUM VELOCITY OR S.P. DROP	MATERIAL	FINISH	MANUFACTURER	MODEL NO.	NOTES
L1	WALL LOUVER	177	12"W X 12"H	0.5	500 FPM	ALUMINUM		HART & COOLEY	1530ZF	

REGISTER, GRILLE, & DIFFUSER SCHEDULE*									
MARK	DESCRIPTION	MAX. NC	NECK	BORDER TYPE	MATERIAL	FINISH	MANUFACTURER	MODEL NUMBER	ACCESSORIES / NOTES
A	DIFFUSER-4-WAY	30	9"X9"	LAY-IN	STEEL	WHITE	TITUS	TDC 9X9 3 26 2	SQ-TO-RND
B	DIFFUSER-2-WAY	30	6"X6"	LAY-IN	STEEL	WHITE	TITUS	TDC 6X6 3 26 2	SQ-TO-RND
C	DIFFUSER-4-WAY	30	6"X6"	LAY-IN	STEEL	WHITE	TITUS	TDC 6X6 3 26 4	SQ-TO-RND
D	DIFFUSER-4-WAY	30	9"X9"	SURFACE	STEEL	WHITE	TITUS	TDC 6X6 3 26 4	SQ-TO-RND
R1	RETURN GRILLE	30	10"X10"	LAY-IN	STEEL	WHITE	TITUS	23RL 10X10 3 26	SQ-TO-RND
R2	RETURN GRILLE	30	10"X10"	SURFACE	STEEL	WHITE	TITUS	23RL 10X10 3 26	SQ-TO-RND

\* VERIFY CEILING TYPE BEFORE ORDERING, NARROW TEE REQUIREMENTS, PLASTER FRAMES ETC. TO BE INCLUDED WITH DIFFUSERS AT NO ADDITIONAL COST TO OWNER

NOTE:  
VERIFY THERMOSTAT LOCATION WITH OWNER PRIOR TO INSTALLING. FILTER ALL OUTSIDE AIR.

### MECHANICAL NOTES (GENERAL)

- DUCTWORK LAYOUTS ARE SCHEMATIC. ALL RISES, DROPS, OFFSETS, AND TRANSITIONS REQUIRED BUT ARE NOT SHOWN SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
- DUCTWORK SHALL BE GALVANIZED STEEL AND SHALL BE CONSTRUCTED IN COMPLIANCE WITH SMACNA STANDARDS FOR LOW VELOCITY DUCTWORK. DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS. FLEXIBLE RUNOUTS SHALL NOT EXCEED 14' AND SHALL NOT BE USED TO FORM ELBOWS. CONNECTIONS FROM RECTANGULAR TO ROUND DUCT SHALL BE MADE WITH MANUFACTURED 45 DEG. LATERAL TAPS.
- SUPPLY AND RETURN DUCTWORK SHALL BE INSULATED WITH FIBERGLASS INSULATION WITH A MINIMUM THERMAL RESISTANCE OF R-8.0 (IN UNCONDITIONED AREAS) AND AN "FSK" VAPOR BARRIER. DIFFUSERS SHALL BE INSULATED WITH FIBERGLASS INSULATION WITH VAPOR BARRIER. ALL JOINTS SHALL BE TAPED WITH A FOIL BACKED TAPE TO PROVIDE A CONTINUOUS VAPOR BARRIER.
- THE ELECT. CONTRACTOR SHALL SUPPLY, AND MECH. CONTRACTOR SHALL INSTALL A SMOKE DETECTOR IN THE RETURN AIR DUCTWORK, THE EVAPORATOR FAN AND THE COMPRESSOR SHALL BE INTERLOCKED WITH THE SMOKE DETECTORS SO THAT THE COMPRESSOR AND THE EVAPORATOR FAN ARE DE-ENERGIZED WHEN SMOKE IS DETECTED. THE SMOKE DETECTORS SHALL HAVE A SUFFICIENT NUMBER OF CONTACTS TO INTERFACE WITH THE BUILDING FIRE ALARM SYSTEM.
- ALL DUCTWORK SHALL BE SEALED AIR TIGHT WITH SEALING COMPOUND.
- THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF OTHER TRADES PRIOR TO INSTALLATION OF ANY OF HIS PIPING, DUCTWORK, OR EQUIPMENT.
- THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE MECHANICAL PLANS, SCHEDULES, AND DETAILS PRIOR TO INSTALLATION OF THE MECHANICAL SYSTEMS AND REVIEW ANY CONFLICTS THAT ARE NOTED WITH THE ENGINEER.
- IT WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO ENSURE THAT ITEMS TO BE FURNISHED UNDER HIS CONTRACT WILL FIT THE SPACE AVAILABLE. HE SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS AND SHALL FURNISH AND INSTALL SUCH SIZES AND SHAPES OF EQUIPMENT THAT ARE THE TRUE AND INTENT MEANING OF THE PLANS AND SPECIFICATIONS. HE SHALL PROVIDE THE ENGINEER SCALED DRAWINGS OF ALL MECHANICAL DRAWINGS.
- ALL EQUIPMENT SHALL BE LOCATED AND INSTALLED TO PROVIDE MAXIMUM SPACE FOR MAINTENANCE AND SERVICE.
- ALL ELBOWS IN DUCTWORK SHALL BE RADIUS ELBOWS, UNLESS NOTED OTHERWISE. WHERE SQUARE ELBOWS ARE SHOWN, INSTALL TURNING VANES.
- MECHANICAL CONTRACTOR TO FIELD COORDINATE LOCATION OF MECHANICAL SYSTEMS WITH ELECTRICAL AND PLUMBING SYSTEMS. COORDINATE WITH ALL OTHER SYSTEMS AS NECESSARY.
- MECHANICAL WORK INCLUDES DEMOLITION, RELOCATION, IN EXISTING & NEW WORK AS APPLICABLE. MECHANICAL CONTRACTOR TO SUPPLY A COMPLETE SYSTEM IN EACH AREA.
- DUCT SIZES SHOWN ARE NET DIMENSIONS.

AIR HANDLER UNIT																		
AHU NO.	MANUFACTURER	MODEL	VOLTAGE	E.S.P.	OUTSIDE AIR (CFM)	CFM	UNIT FLA	REF LINES		SEER	HTR KW (240)	COOLING CAPACITY (MBH)		HEATING CAPACITY (MBH)		HSPF	MIN. CIRC. AMPACITY	M.O.C.P.
								GAS	LIQ.			TOTAL	SENS.	HIGH	LOW			
AHU-1,2,3,4	RHEEM	RH1T-4821STAN	240/1φ/60	.46	177	1600	40.0	3/8	7/8	15.0	9.6	47.0	34.1	44.5	28.8	9.0	56	60

SPLIT SYSTEM HEAT PUMP UNITS									
MARK	MANUF.	MODEL	VOLTAGE	# COMP.	MIN. CIRC. AMPACITY	M.O.C.P.	UNIT FLA.	ACCESSORIES	
HP-1,2,3,4	RHEEM	RP154BAJ1	240/1φ/60	1	26	40	21.3	EXCLUDE 8,18	

#### ACCESSORIES

- |                               |  |  |
|-------------------------------|--|--|
| 1 TIME-DELAY RELAY            | 7 LIQUID SOLENOID VALVE                                  | 13 DISCHARGE LINE MUFFLER                  |
| 2 CYCLE PROTECTOR             | 8 LOW-AMBIENT CONTROLLER                                 | 14 SUCTION AND LIQUID LINE SHUT OFF VALVES |
| 3 EVAPORATOR FREEZE PROTECTOR | 9 FILTER DRIER (LIQUID LINE)                             | 15 THERMOSTAT (SEE NOTE)                   |
| 4 ISOLATION RELAY             | 10 OUTDOOR TSTAT TO LOCK OUT AUX. HT. (SET @ 40° F ADJ.) | 16 SUPPORT FEET                            |
| 5 TXV                         | 11 LOW PRESSURE CONTROL                                  | 17 COIL GUARDS                             |
| 6 HIGH PRESSURE SWITCH        | 12 CRANKCASE HEATER                                      | 18 HUMIDISTAT                              |

COOLING CAPACITY @ 80 DEG. F DB/67 DEG WB AIR ENTERING INDOOR UNIT & 95 DEG. F DB AIR ENTERING OUTDOOR UNIT  
HEATING CAPACITY: HIGH TEMP = 70 DEG F DB INDOOR EAT & 47 DEG F DB/43 DEG F WB AIR ENTERING OUTDOOR UNIT  
LOW TEMP = 70 DEG F DB INDOOR EAT & 17 DEG F DB ENTERING OUTDOOR UNIT

T-STAT: THE NUMBER OF STAGES OF HEATING/COOLING SHALL MATCH THE NUMBER OF STAGES OF HEAT AVAILABLE IN THE HPIU OR THE NUMBER OF STAGES OF COOLING AVAILABLE IN THE HPOU. PROVIDE WITH T-STAT; 7 DAY PROGRAMMABLE, DIGITAL.

NOTE:  
VERIFY THERMOSTAT LOCATION WITH OWNER PRIOR TO INSTALLING. FILTER ALL OUTSIDE AIR.

(TYPICAL OF EACH TENANT)  
METHOD OF COMPLIANCE:  
PRESCRIPTIVE  ENERGY COST BUDGET   
THERMAL ZONE 4A - HARNETT COUNTY, NC

#### EXTERIOR DESIGN CONDITIONS

WINTER DRY BULB 16 DEG. F.  
SUMMER DRY BULB 92 DEG. F.

#### INTERIOR DESIGN CONDITIONS

WINTER DRY BULB 70 DEG. F.  
SUMMER DRY BULB 74 DEG. F.

RELATIVE HUMIDITY 54%

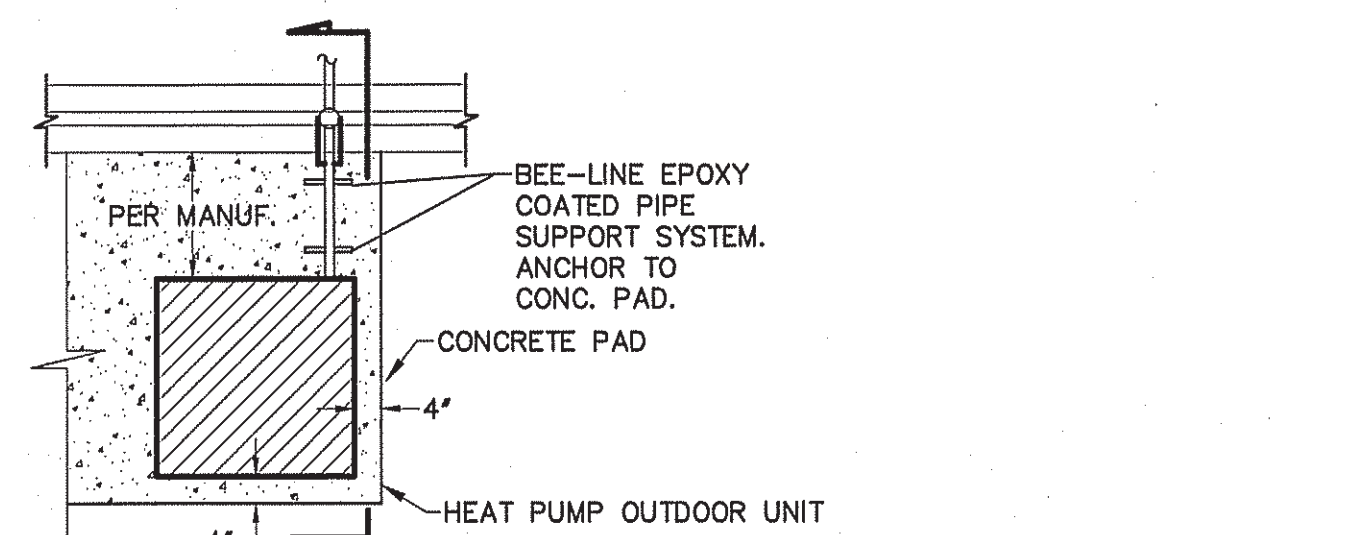
BUILDING HEATING LOAD 31.6 MBH

BUILDING COOLING LOAD 3.8 TONS

#### MECHANICAL SPACE CONDITIONING SYSTEM

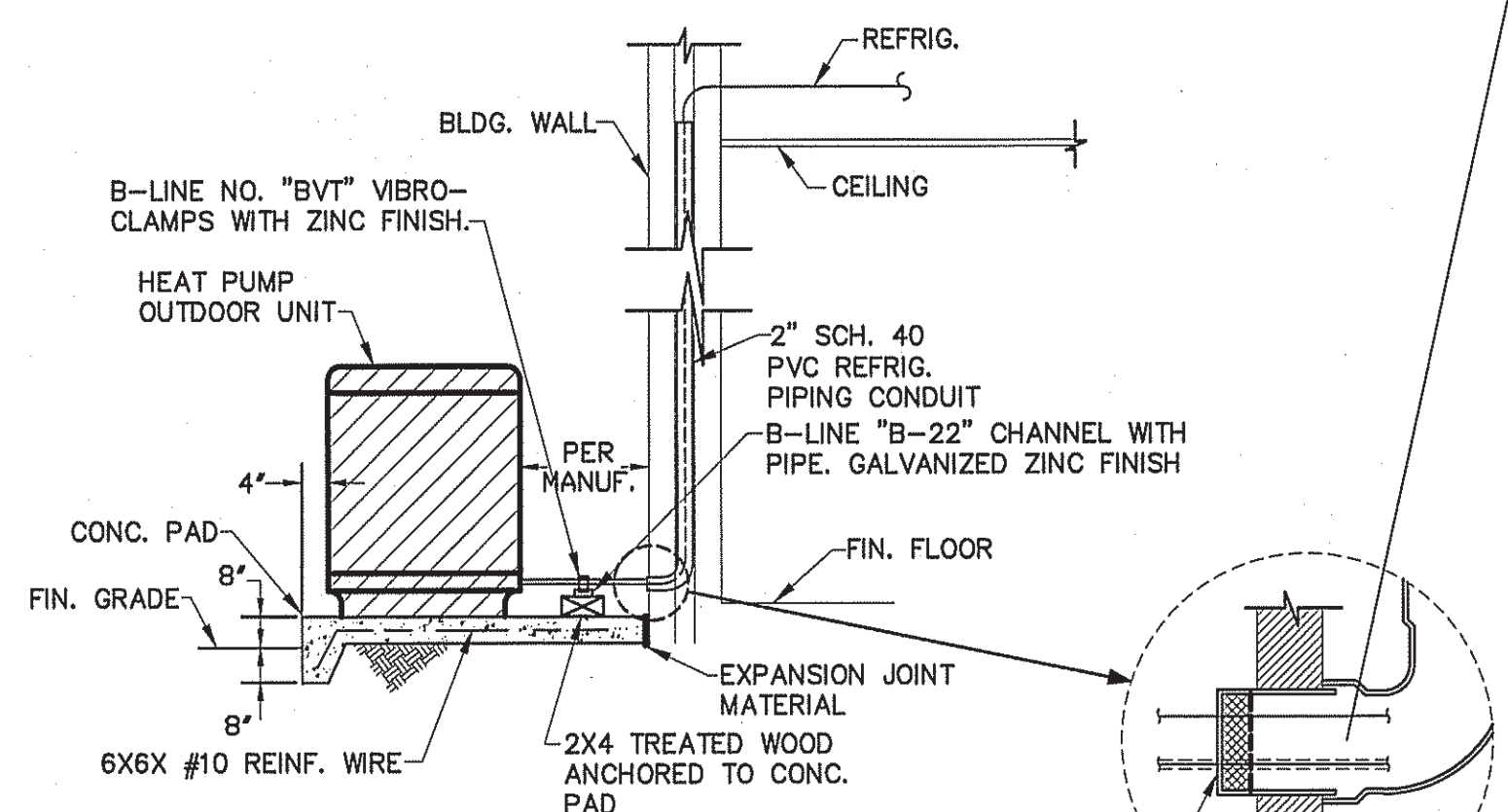
UNITARY DESCRIPTION OF UNIT - HEAT PUMP  
HEATING EFFICIENCY - 9.0 HSPF  
COOLING EFFICIENCY - 15.0 SEER  
SIZE CATEGORY OF UNIT - <65K  
BOILER - NOT APPLICABLE IN THIS PROJECT  
CHILLER - NOT APPLICABLE IN THIS PROJECT

#### LIST EQUIPMENT EFFICIENCIES

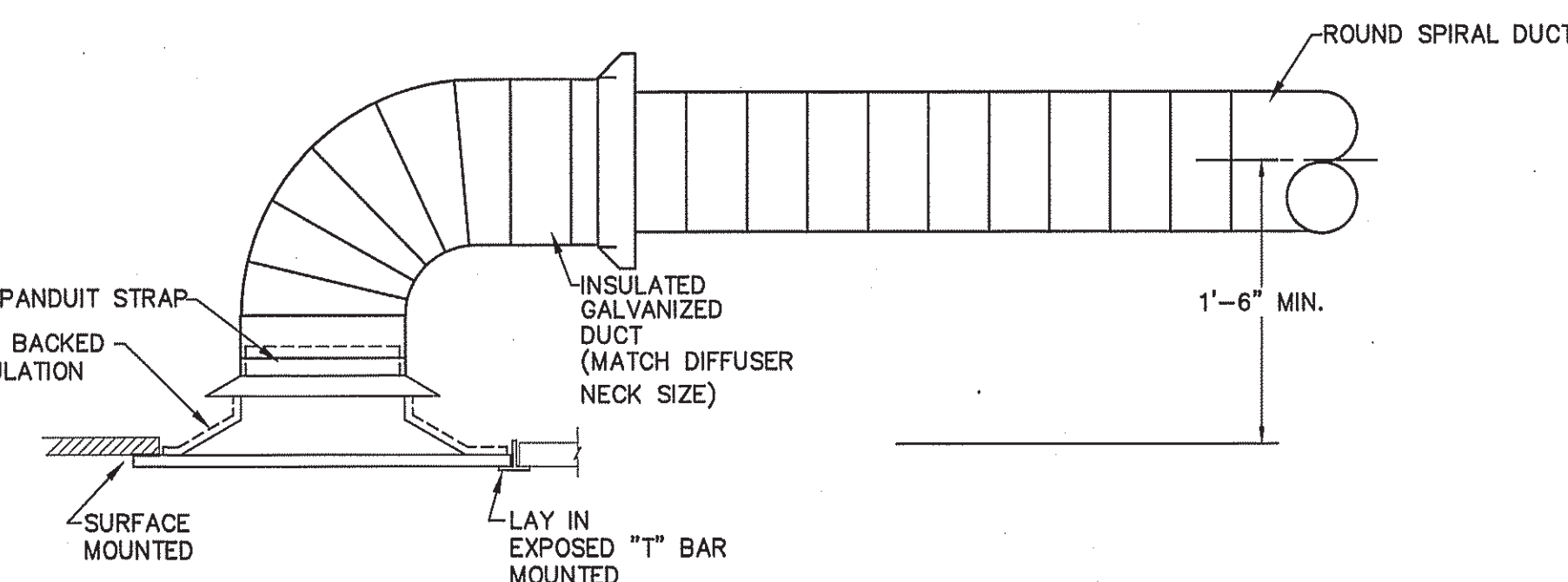


PLAN VIEW  
NOT TO SCALE

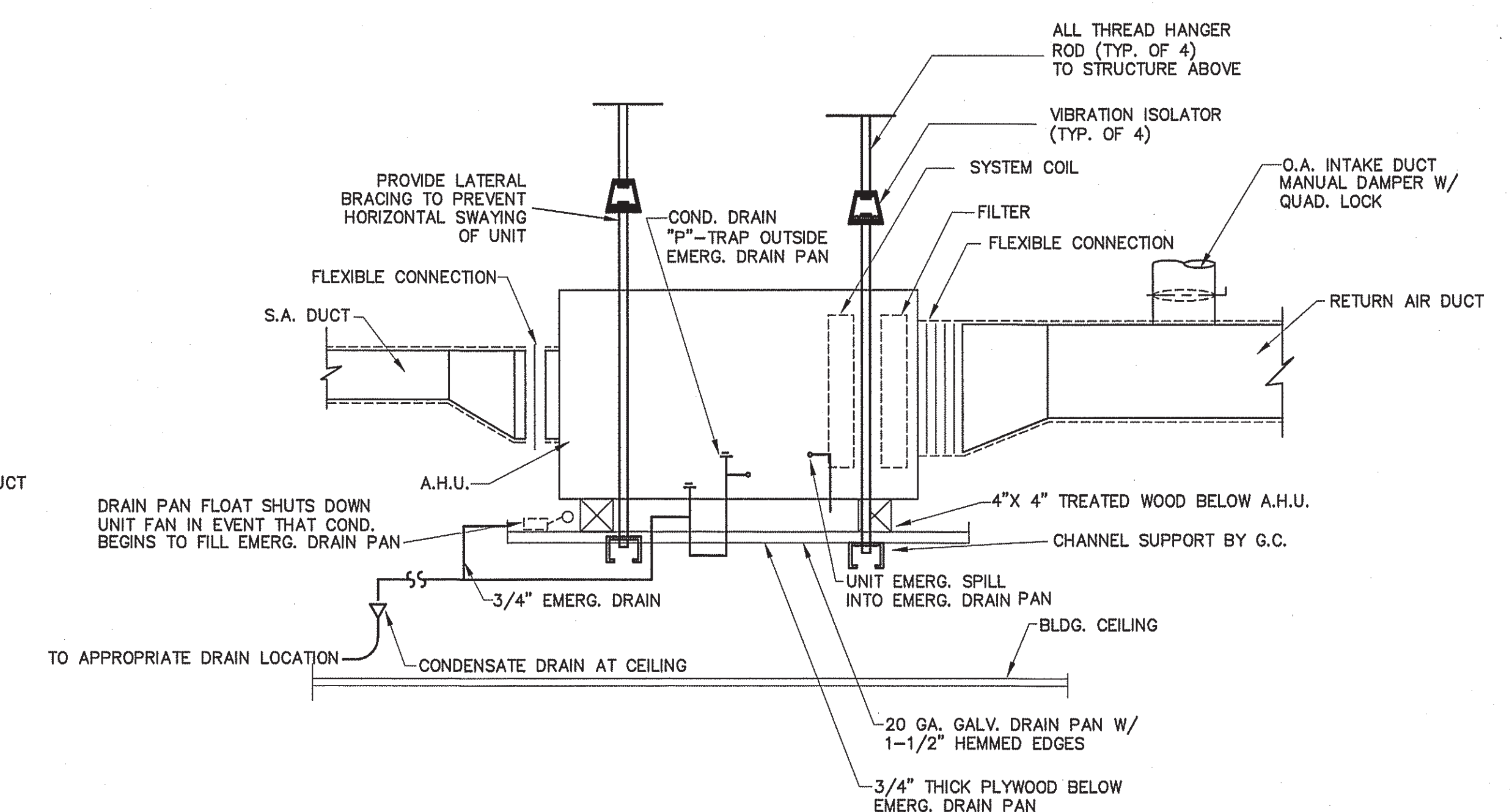
LEAVE A 1/4" SPACE AT CONDUIT FACE & FILL WITH CLOSED CELL NEOPRENE FOAM INSULATION TO PROVIDE BACKING FOR SILICONE CAULKING



SECTION  
NOT TO SCALE



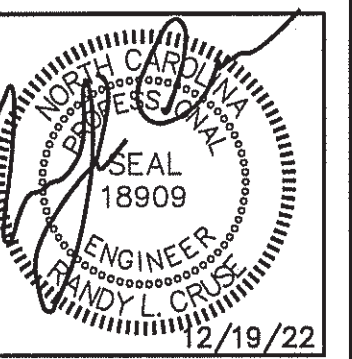
DETAIL-CEILING DIFFUSER CONNECTION  
NOT TO SCALE



TYPICAL DETAIL AT AIR HANDLING UNITS  
NOT TO SCALE

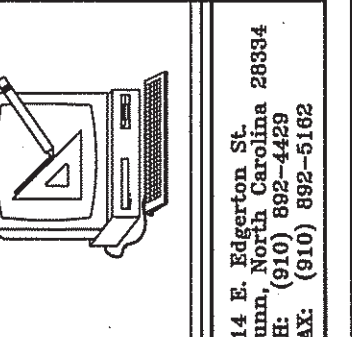
### DETAIL-TYPICAL HEAT PUMP OUTDOOR UNIT

NOT TO SCALE



UP-FIT PLANS FOR:  
T&L COATS  
BUILDING #2  
COATS, NORTH CAROLINA

REVISIONS	
NO.	



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And  
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