

MECHANICAL NOTES

1. ALL DIFFUSERS AND GRILLE LOCATIONS SHALL BE COORDINATED WITH LIGHTING FIXTURES AND CEILING LAY-IN TILES.
2. MOUNTING HEIGHT OF THERMOSTATS SHALL BE 5'-0" AFF.
3. FRESH AIR INTAKES SHALL BE KEPT A MINIMUM OF 10 FT. FROM VENTS OR EXHAUST FANS.
4. DUCT TAPS AND FLEXIBLE DUCT DIMENSIONS FROM THE MAIN DUCT TO CEILING DIFFUSERS SHALL BE THE SAME SIZE AS THE DIFFUSER NECK DIMENSION.
5. CONTROLS EQUIPMENT CONTRACTOR SHALL REVIEW HVAC SPECS AND DRAWINGS TO PROVIDE ANY REQUIRED THERMOSTAT RELAYS AND APPURTENANCES NOT SPECIFIED. GENERAL CONTRACTOR SHALL COORDINATE EQUIPMENT PROVIDED BY CONTROLS CONTRACTOR TO ENSURE A FULLY COORDINATED AND FUNCTIONING SYSTEM.
6. INSULATE ALL CONCEALED DUCTWORK IN UNINSULATED SPACES WITH 2" FOIL FACED DUCTWRAP BATT INSULATION. ALL DUCT DIMENSIONS ARE CLEAR INSIDE DUCT DIMENSIONS.
7. ALL FLEXIBLE DUCT CONNECTIONS TO THE MAIN TRUNKS SHALL BE SPIN-ON TYPE WITH MANUAL BALANCING DAMPER LOCATED IN AN ACCESSIBLE SPACE. STRETCH FLEX DUCT TO ITS FULL LENGTH.
8. ALL ELBOWS IN DUCTS SHALL BE PROVIDED WITH DOUBLE THICKNESS TURNING VANES.
9. ALL AIR OUTLETS SHALL BE 24" X 24", COLOR TO MATCH CEILING TILES.
10. CONTRACTOR SHALL VERIFY ALL CEILING TYPES AND THE DIFFUSER BORDER REQUIREMENTS BEFORE ORDERING DIFFUSERS AND REGISTERS.
11. PROVIDE MANUALLY OPERATED BALANCING DAMPER IN EACH FRESH AIR DUCT IN AN EASILY ACCESSIBLE LOCATION. PROVIDE BALANCING DAMPERS FOR EACH DIFFUSER.
12. HVAC CONTRACTOR SHALL COORDINATE HIS WORK WITH ELECTRICAL CONTRACTOR.
13. MECHANICAL CONTRACTOR TO PROVIDE MOTOR STARTERS.
14. DUCTWORK SHOWN ON THE FLOOR PLANS ARE DIAGRAMMATIC AND IS INTENDED TO SHOW THE INTENT OF THE WORK. ALL CLEARANCES SHALL BE VERIFIED BEFORE FABRICATING DUCTWORK OR ORDERING EQUIPMENT. ALL DUCTWORK AND PIPING SHALL BE RUN CONCEALED IN CEILING SPACE.
15. PROVIDE FIRE DAMPERS AT ALL FLOOR AND FIRE WALL PENETRATIONS.
16. PROVIDE FLEXIBLE DUCT CONNECTIONS AT ALL SUPPLY & RETURN DUCT CONNECTIONS TO RTU'S.
17. PROVIDE DRIP PAN UNDER AHU'S. DRIP PAN TO HAVE INDIVIDUAL CONDENSATE DRAIN SEPARATE FROM AHU'S CONDENSATE LINE. COMBINE CONDENSATE LINES TOGETHER DOWNSTREAM FROM PAN.
18. INSTALLATION OF ALL HVAC SYSTEM COMPONENTS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE MOST RECENT NFPA MANUAL, SECTION 101, WITH NFPA MANUAL TAKING PRECEDENCE. IN THE EVENT OF A CONFLICT, CONSULT WITH THE ENGINEER.
19. PROVIDE TESTING AND BALANCING FOR ALL DUCT SYSTEMS 3000 CFM AND GREATER.
20. IN THE EVENT OF A DISAGREEMENT BETWEEN THE DRAWINGS AND THESE NOTES, THE NOTES SHALL TAKE PRECEDENCE.

FIRE SAFETY NOTES

1. HVAC SUPPLEMENTAL MATERIALS SHALL HAVE A FLAME SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DEVELOPED RATING NOT TO EXCEED 50 WHEN TESTED IN ACCORDANCE WITH NFPA 255.
2. PROVIDE DUCT SMOKE DETECTOR IN RETURN DUCT UPSTREAM OF LAST BRANCH LINE.
3. EXHAUST FLUES FOR HEAT PRODUCING EQUIPMENT SHALL COMPLY WITH THE MATERIALS REQUIREMENTS OF NFPA 21P.

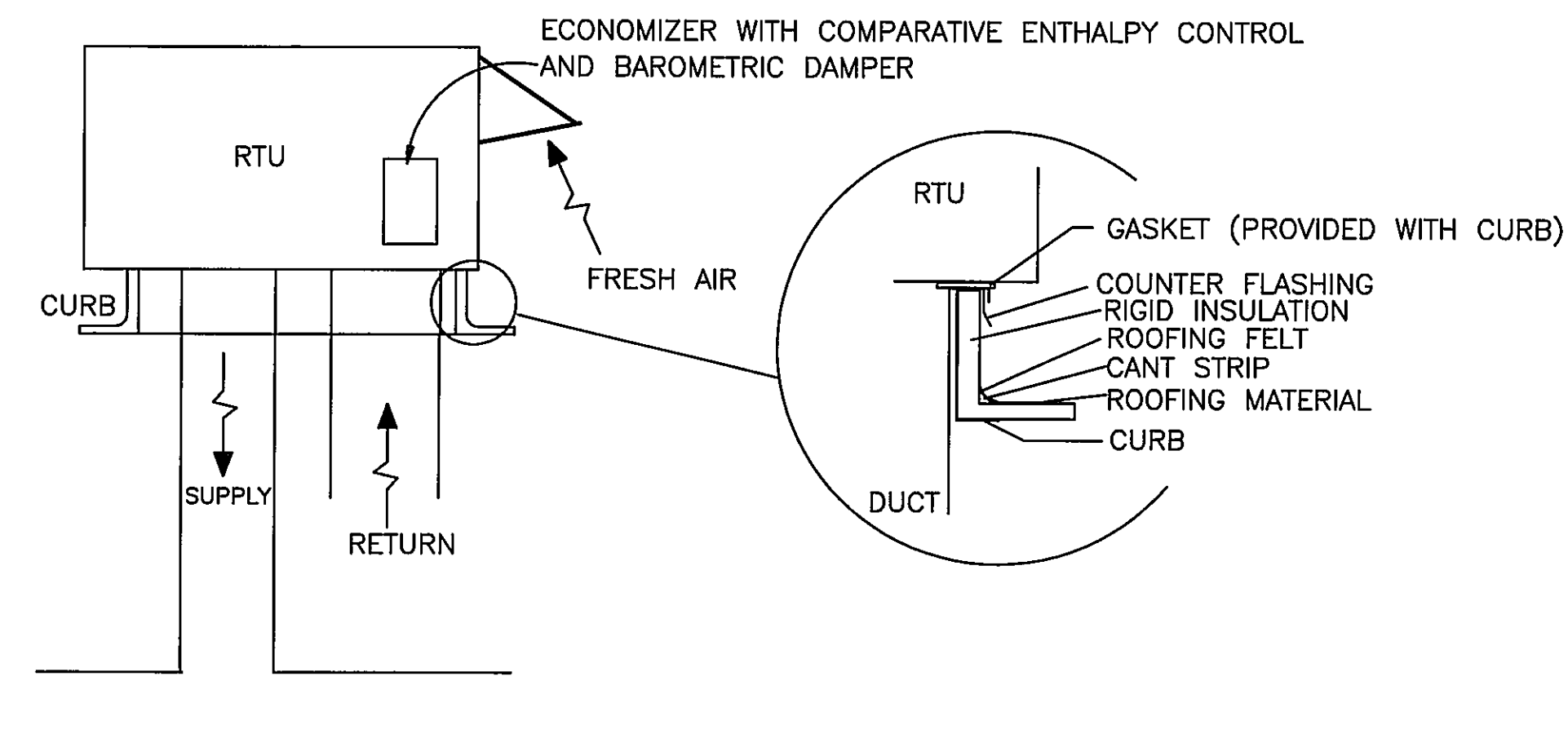
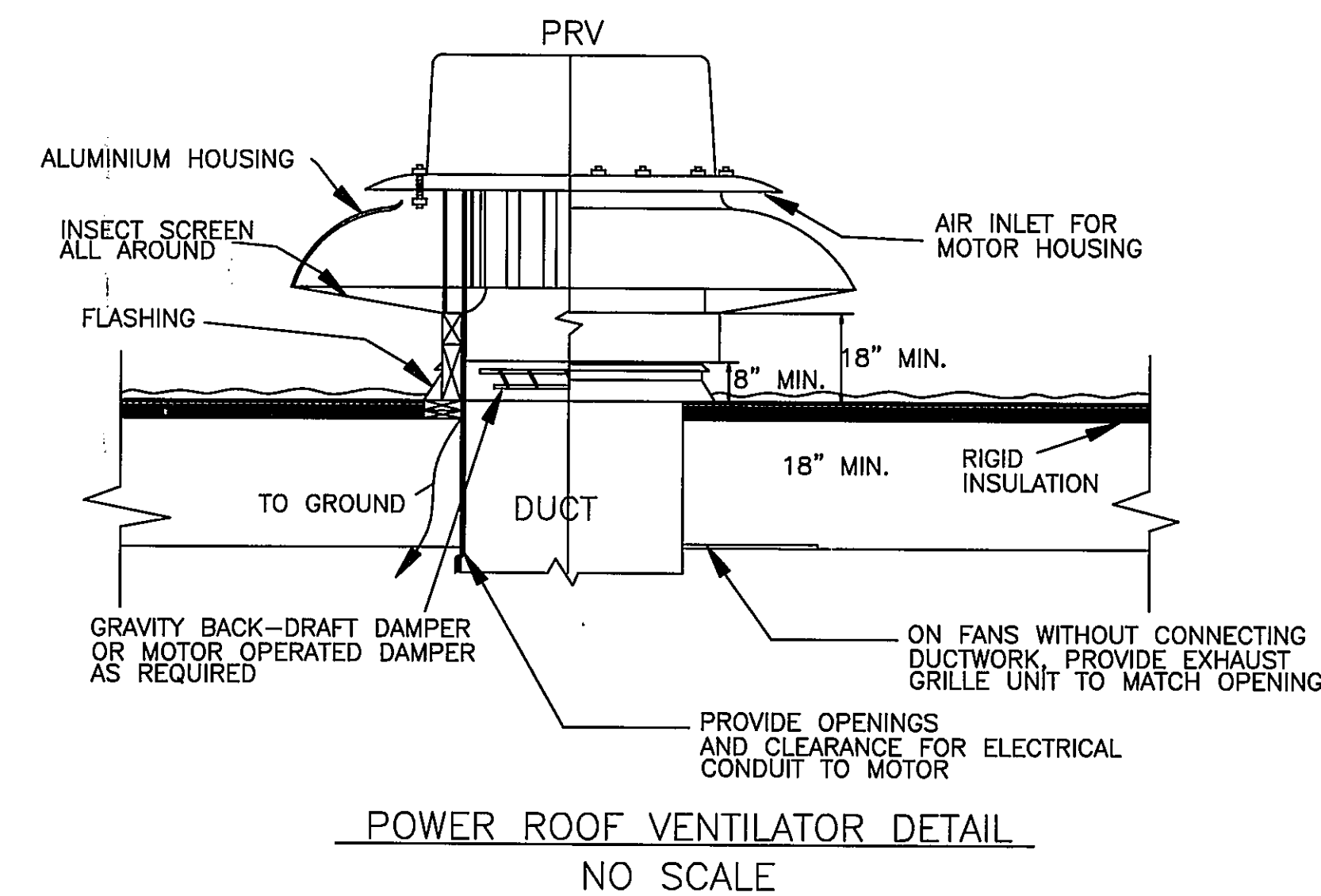
DIFFUSER AND GRILLE SCHEDULE				
SYMBOL	CFM	CARNES #	CEILING OPENING	TYPE
CD-1	70 - 120 CFM	SPMB22406	24X24	LAY-IN PERF. SUPPLY
CD-2	125 - 160 CFM	SPMB22407	24X24	LAY-IN PERF. SUPPLY
CD-3	165 - 240 CFM	SPMB22408	24X24	LAY-IN PERF. SUPPLY
CD-4	245 - 400 CFM	SPMB22410	24X24	LAY-IN PERF. SUPPLY
CD-5	405 - 600 CFM	SPMB22412	24X24	LAY-IN PERF. SUPPLY
RG-2	100 - 150 CFM	SPRB224-07	24X24	LAY-IN PERF. RET. AIR GRILLE
RG-3	155 - 205 CFM	SPRB224-08	24X24	LAY-IN PERF. RET. AIR GRILLE
RG-4	210 - 360 CFM	SPRB224-10	24X24	LAY-IN PERF. RET. AIR GRILLE
RG-5	365 - 600 CFM	SPRB224-12	24X24	LAY-IN PERF. RET. AIR GRILLE
RG-6	605 - 900 CFM	SPRB224-14	24X24	LAY-IN PERF. RET. AIR GRILLE
RG-7	905 - 1425 CFM	SPRB224-16	24X24	LAY-IN PERF. RET. AIR GRILLE

MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
W" X D"	RECTANGULAR DUCT, WIDTH X DEPTH (INCHES)
W" X D"	RECTANGULAR DUCT, CHANGE IN ELEVATION
D"Ø	ROUND FLEXIBLE DUCT, DIAMETER (INCHES)
D"Ø	ROUND RIGID DUCT, DIAMETER (INCHES)
24" X 24" CFM	24" X 24" LAY-IN DIFFUSER, CFM AS SHOWN
24" X 24" CFM	24" X 24" LAY-IN RETURN, CFM AS SHOWN
Ø CFM	ROUND DIFFUSER, ROUND NECK, SIZE SHOWN ON SCHEDULE
Ø CFM	ROUND RETURN, ROUND NECK, SIZE SHOWN ON SCHEDULE
—	BALANCING DAMPER
⊖	THERMOSTAT
—	BACKDRAFT DAMPER
—	FIRE DAMPER

SHEET METAL THICKNESS TABLE			
GAUGE	24	22	20
MAX DIM. LONG SIDE	UP TO 28"	52"	82"

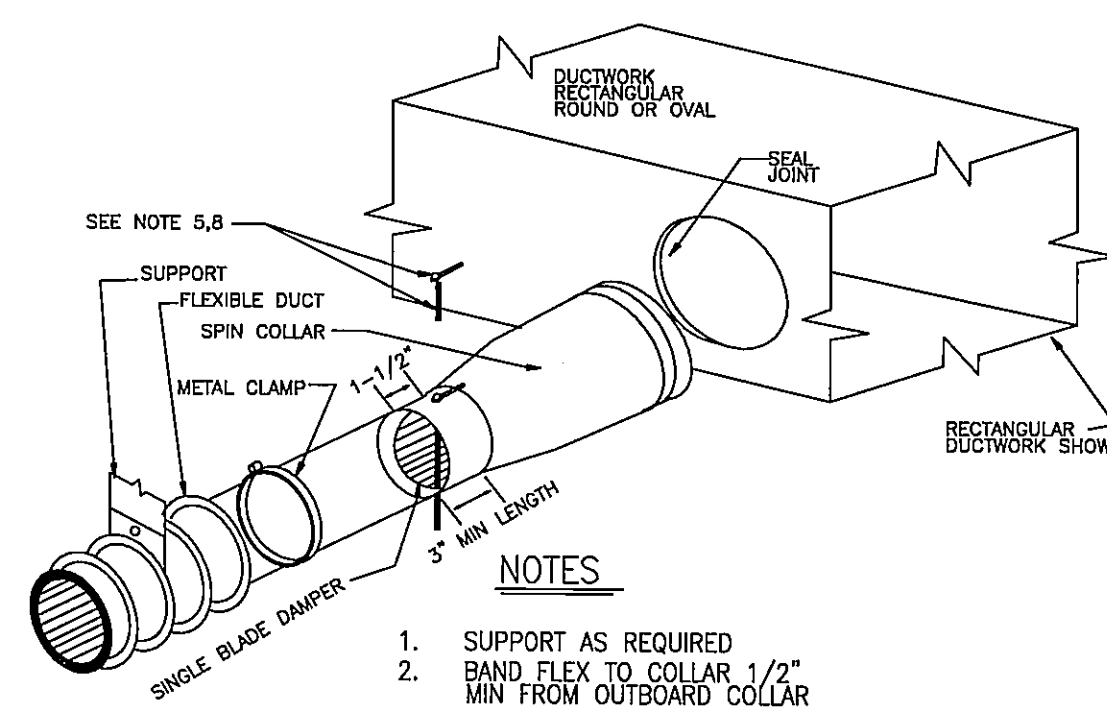
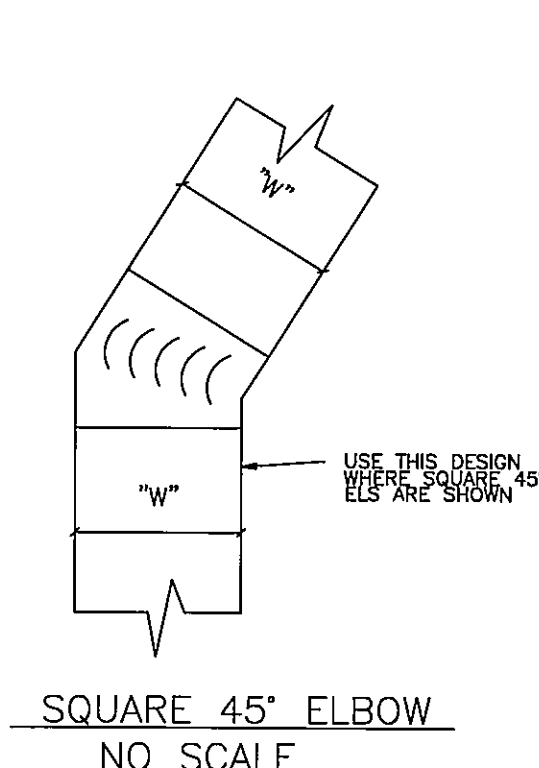
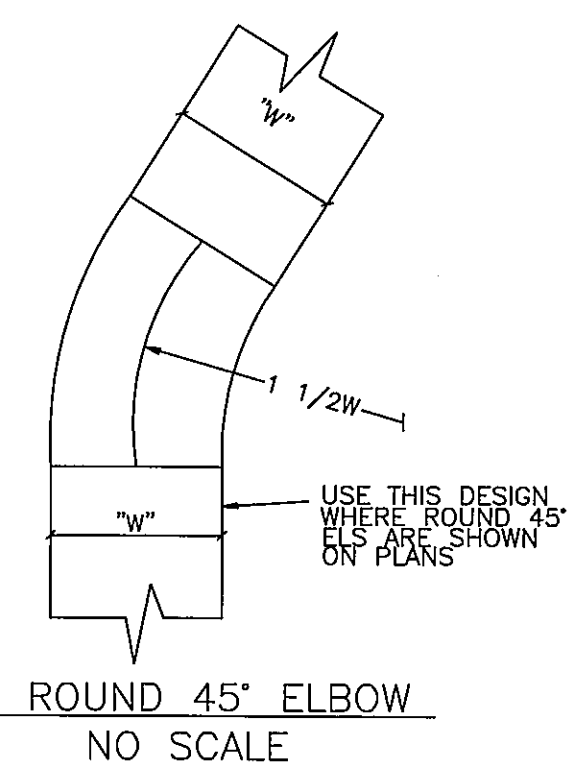
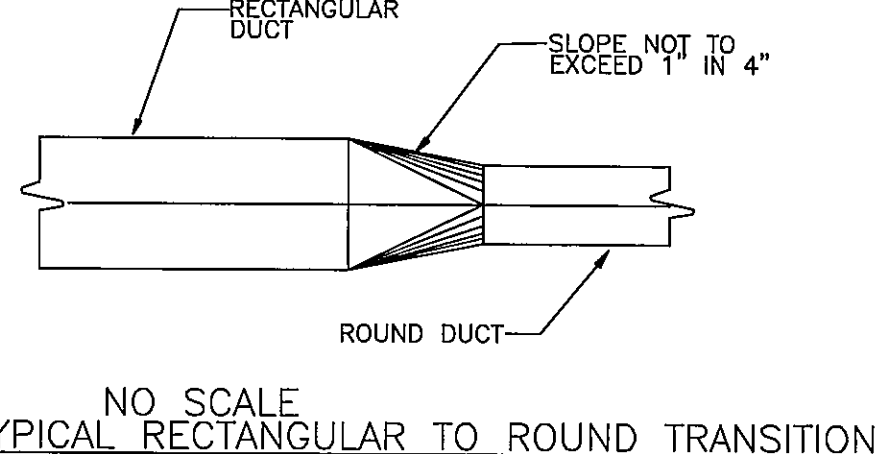
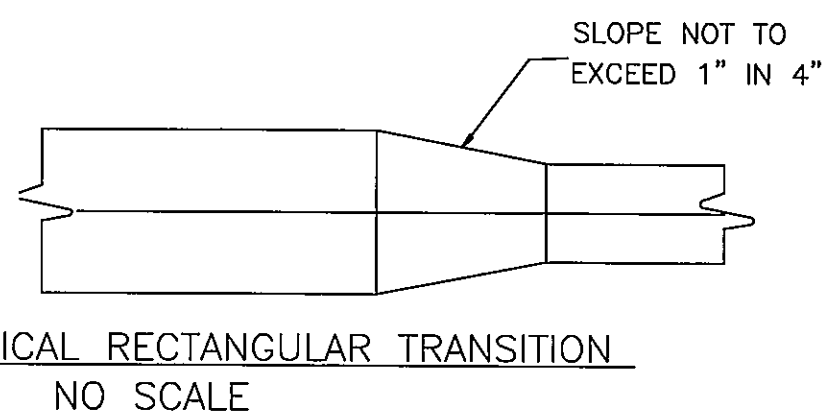
EQUIPMENT SCHEDULE											
MARK	MFG. MOD #	COOL/HEAT (MBH)	AIRFLOW (CFM)	ELEC. DATA				EER/COP/AFUE%	DESCRIPTION	AREA SERVED WEIGHT/DIMENSIONS	REMARKS
				VOLT/Ø	FLA/RLA	MCA	BRKR				
RTU	CARRIER 50PGC-16J6E	193.1 75 KW	6000	480/3	97.6	99.5	100	11.6	15 TON PACKAGED ROOFTOP AIR CONDITIONER W/ELECTRIC HEAT	132" X 93" X 51", 1771 LBS	
WHTR	RAYWALL # AFAB-20D	2250W	175	208/1	11	11	20	---	ELECTRIC WALL HEATER, SURFACE MOUNT	EXTERIOR STAIRWELLS; 20" X 15". PROVIDE FPQ-BOX SURFACE MOUNT ADAPTER	
EF-1	GREENHECK # G-065	---	187Ø.125	115/1	.9A	1.1A	15	---	2 UNIT BATHROOM EXHAUST FAN	2 UNIT BATHROOMS; 10" SQ. ROOF OPENING DUCT	
EF-2	GREENHECK # G-080	---	335Ø.125	115/1	1.1A	1.7A	15	---	4 UNIT BATHROOM EXHAUST FAN	4 UNIT BATHROOMS; 12" SQ. ROOF OPENING DUCT	

PROVIDE RTU WITH ENERGY WHEEL, CO2 SENSOR, THRU THE BOTTOM DUCT CONNECTIONS, CONVENIENCE OUTLET, RETURN & SUPPLY AIR SMOKE DETECTOR (CONNECTED TO EXISTING FIRE ALARM PANEL) AND ROOF CURB. PROVIDE SIEMENS PROGRAMMABLE CONTROLS FOR RTU.



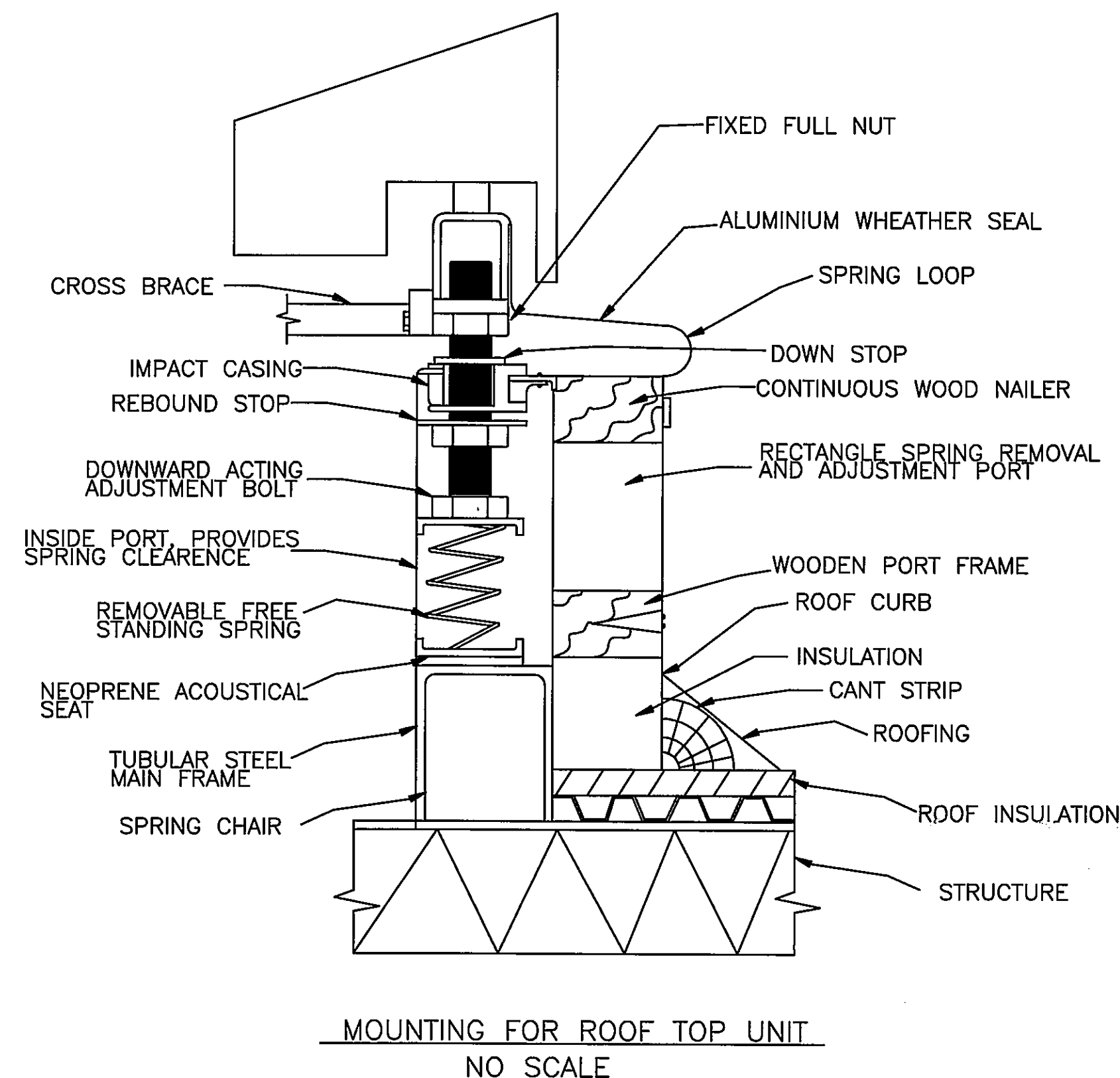
DUCTWORK DETAILS NOTES

1. ALL DUCTWORK SHALL BE CONSTRUCTED AND ERECTED IN A NEAT AND WORKMANLIKE MANNER.
2. DUCTS SHALL BE CONSTRUCTED OF THE WEIGHTS, GAGES AND MATERIAL SHOWN IN THE SCHEDULE ON THESE DRAWINGS.
3. THE DIMENSIONS FOR ALL DUCTS SHOWN IN THE PLAN GIVE THE WIDTH FIRST AND THEN THE HEIGHT.
4. DUCT RISERS SHOULD BE SUPPORTED BY ANGLES AT EVERY FLOOR.
5. AIR TURN VANES SHALL BE INSTALLED IN ALL ABRUPT ELBOWS TO PREVENT TURBULANCE.
6. DUCTS SHALL BE SECURELY ATTACHED TO THE BUILDING CONSTRUCTION IN AN APPROVED MANNER.
7. DIVERGING TRANSITION PIECES SHOULD BE MADE AS GRADUAL AS POSSIBLE.
8. INSTALL PIPE DAMPER AS REQUIRED BY N.F.P.A PAMPHLET NO. 90A. OF LOCAL CODES.
9. ACCESS PANELS SHOULD BE PLACED BEFORE AND/OR AFTER EQUIPMENT INSTALLED IN THE DUCT.
10. DUCT AREA SHOULD NOT BE DECREASED MORE THAN 10 PERCENT WHEN OBSTRUCTIONS CANNOT BE AVOIDED, AND THEN A STREAMLINED FITTING SHOULD BE USED.
11. FLEXIBLE CONNECTIONS SHOULD BE USED ON BOTH THE INLET AND OUTLET TO ALL FANS.
12. JOINTS AND SEAMS OF SUPPLY DUCTS SHALL BE FASTENED SECURELY AND MADE AIR TIGHT.



- NOTES**
1. SUPPORT AS REQUIRED
 2. BAND FLEX TO COLLAR 1/2" MIN FROM OUTBOARD COLLAR
 3. INSTALL SPIN COLLAR DAMPER IN OPEN POSITION; FINAL ADJUSTMENT BY TAB CONTRACTOR
 4. FLEXIBLE DUCTWORK INSULATION UP TO END OF SPIN COLLAR AND EDGE OF RECTANGULAR DUCTWORK; SEAL VAPOR BARRIER W/ GREY TAPE TO PREVENT MOISTURE MIGRATION
 5. PROVIDE EXTENSION RODS TO ACCOMMODATE INSULATION; PULL TO EDGE OF DUCTWORK AS REQUIRED AND SEAL TO EFFECT VAPOR BARRIER
 6. POP RIVET OR SHEET METAL SCREWS, MIN 3 EA. AT 120" INTERVALS, CONNECTING STOVEPIPE TO COLLAR. ENSURE RIVETS OR SCREWS DO NOT INTERFERE W/ DAMPER.
 7. TAPE AND SEAL ALL JOINTS TO PREVENT LEAKAGE
 8. INSTALL LOCKING QUADRANT AND HANDLE ON BOTTOM OF DUCT FOR EASY SERVICE (SHOWN ON TOP FOR EASE OF ILLUSTRATION ONLY)
 9. FOR USE ONLY WHERE BRANCH-OUT CONNECTOR IS SMALLER THAN MAIN DUCTWORK, OTHERWISE USE BASE BUILDING STANDARD 15" TAKE-OFF WITH RECTANGULAR TO ROUND DUCT TRANSITION

SPIN COLLAR FLEXIBLE DUCT CONNECTOR WITH DAMPER NO SCALE



ENGINEER'S CERTIFICATION STATEMENT

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16927, EXPIRATION DATE MAY 12, 2010.

REVISIONS

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