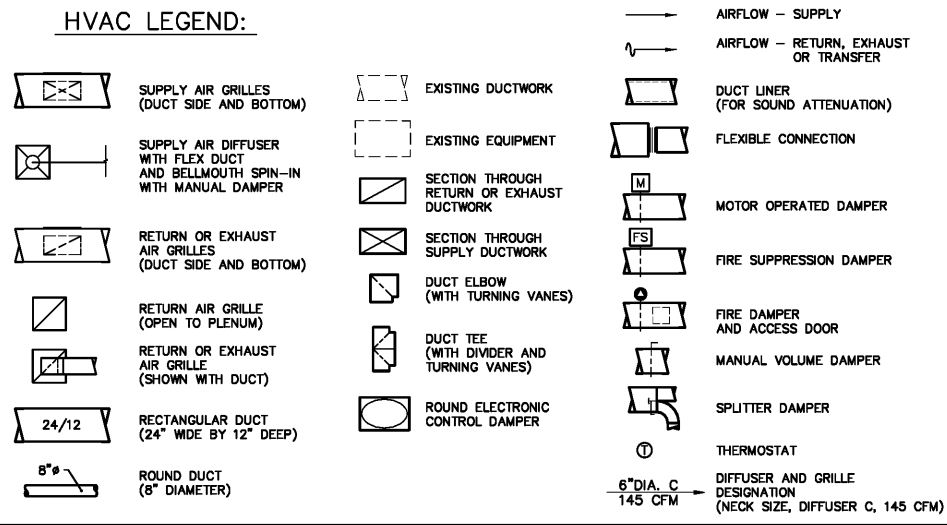


HVAC LEGEND:



ROOFTOP HVAC UNIT SCHEDULE

ITEM	CFM	ESP IN WC	OA	FAN HP	COOLING		HEATING (GAS)		ELECTRICAL			MANUFACTURER AND MODEL NUMBER	WEIGHT LB	NOTES
					TOTAL CAP MBH	SENS CAP MBH	MBH	STAGES	VOLT/Ø	MCA	MOCP			
RTU-1	1,200	0.6	240	1	37.3	28.3	72.0	2	208/3	18.9	25.0	CARRIER 48HCDA04	575	1,2,3
RTU-2	1,200	0.6	240	1	37.3	28.3	72.0	2	208/3	18.9	25.0	CARRIER 48HCDA04	575	1,2,3
RTU-3	1,200	0.6	240	1	37.3	28.3	72.0	2	208/3	18.9	25.0	CARRIER 48HCDA04	575	1,2,3

- HIGH EFFICIENCY PACKAGED AC UNIT COMPLETE WITH DX COOLING COIL, GAS HEATER, CONDENSER, ECONOMIZER W/ BAROMETRIC RELIEF, HUMID-MIZER ADAPTIVE DEHUMIDIFICATION SYSTEM, & INTEGRAL FAN ISOLATORS.
- PROVIDE VERTICAL AIRFLOW CONFIGURATION.
- FIXED OA CAPABILITY IRRESPECTIVE OF SUPPLY AIR CFM.

FAN SCHEDULE

ITEM	TYPE	SERVICE	CFM	ESP IN WC	DRIVE TYPE	SONES	RPM	HP	VOLT/Ø	MANUFACTURER AND MODEL NUMBER	NOTES
EF-1	CENTRIFUGAL ROOF	OVEN	550	0.37	DIRECT	7.4	1550	7/100	120/1	GREENHECK G-090-D	1,2
EF-2	CENTRIFUGAL ROOF	SANDWICH STATION	550	0.37	DIRECT	7.4	1550	7/100	120/1	GREENHECK G-090-D	1,2
EF-3	CENTRIFUGAL ROOF	RESTROOM	150	0.25	DIRECT	4.0	1550	1/30	120/1	GREENHECK CUE-065-D	1,2

- INTERLOCK EXHAUST FAN WITH HVAC EQUIPMENT. FAN TO BE RUN CONTINUOUSLY DURING BUSINESS OPERATION.
- PROVIDE UNIT WITH FACTORY ROOF CAP AND BACKDRAFT DAMPER.

DIFFUSER, GRILLE & REGISTER SCHEDULE

ITEM	TYPE	SERVICE	FRAME	CFM	PD IN WC	MAX NC	DAMPER OPERATOR	FACE SIZE	MANUFACTURER AND MODEL NUMBER	NOTES
A	CEILING DIFFUSER	SUPPLY	COORD.	NOTED	0.10	20	OBD	24x24	METALAIRES 5700-6 AL	1,2,3
B	CEILING DIFFUSER	SUPPLY	COORD.	NOTED	0.10	20	OBD	12x12	METALAIRES 5700-6 AL	1,2,3
C	RETURN GRILLE	RETURN	COORD.	NOTED	0.10	25	---	24x24	METALAIRES RH-6	1,2,3
D	EXHAUST GRILLE	EXHAUST	COORD.	NOTED	0.10	25	---	12x12	METALAIRES RH-1	1,2,3
E	CEILING DIFFUSER	SUPPLY	COORD.	NOTED	0.10	20	OBD	24x24	METALAIRES 5000-6 S3	1,2,3,4

- BAKED ENAMEL FINISH, COLOR TO BE SELECTED BY ARCHITECT.
- MOUNTING FRAME TYPE SHALL BE COORDINATED WITH CEILING CONSTRUCTION.
- GRILLE OR DIFFUSER NECK SIZE TO BE AS NOTED.
- DIFFUSER SHALL BLOW AWAY FROM BAKERY CASE.

HVAC SPECIFICATIONS

GENERAL

SCOPE
THE INTENT OF THE SPECIFICATION AND THE DRAWINGS IS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL MECHANICAL SYSTEM. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETE THE MECHANICAL WORK.

SITE EXAMINATION
THE MECHANICAL CONTRACTOR SHALL THOROUGHLY EXAMINE ALL AREAS WHERE EQUIPMENT, DUCTWORK, AND PIPING WILL BE INSTALLED AND WILL REPORT ANY CONDITION THAT, IN HIS OPINION, PREVENTS THE PROPER INSTALLATION OF THE MECHANICAL WORK.

STANDARDS
EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF ARI, ASME, ASTM, UL, NEMA, ANSI, SMACNA, ASHRAE, NFPA, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.

CODES
ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE MECHANICAL CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD WITHOUT ANY EXTRA COST TO THE PROJECT.

PERMITS AND FEES
THE MECHANICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, FEES AND INSPECTIONS NECESSARY TO COMPLETE THE MECHANICAL WORK.

WARRANTY
THE MECHANICAL CONTRACTOR SHALL UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER AND WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE AND RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE MATERIALS AND WORKMANSHIP.

DUCTWORK & ACCESSORIES

SHEETMETAL DUCTWORK
ALL DUCTWORK TO BE RIGID SHEETMETAL CONSTRUCTED FROM GALVANIZED SHEET STEEL IN ACCORDANCE WITH SMACNA LOW VELOCITY DUCT CONSTRUCTION STANDARDS. ALL EXPOSED DUCTWORK TO BE ROUND, SPIRAL, OR RECTANGULAR LOCK-SEAM TYPE, AS SHOWN ON HVAC PLAN SHEETS.

ASSEMBLE AND INSTALL DUCTWORK IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICE FOR ACHIEVING AIR TIGHT (LESS THAN 5% LEAKAGE) AND NOISELESS (NO OBJECTIONABLE NOISE) SYSTEMS, CAPABLE OF PERFORMING EACH INDICATED SERVICE. FURNISH ALL REQUIRED DAMPERS, TRANSITIONS, CONNECTIONS TO AIR TERMINALS, AND OTHER ACCESSORIES NECESSARY FOR A COMPLETE OPERATING SYSTEM. NO VARIATION OF DUCT CONFIGURATION OR SIZES WILL BE PERMITTED EXCEPT BY PERMISSION FROM THE ENGINEER.

DUCT SEALANT
SEAL ALL LONGITUDINAL AND TRANSVERSE JOINTS WITH A NON-HARDENING, NON-MIGRATING MASTIC OR LIQUID ELASTIC SEALANT OF A TYPE RECOMMENDED BY THE MANUFACTURER FOR SEALING JOINTS AND SEAMS IN SHEET METAL DUCTWORK. COVER ALL FIELD JOINTS, JOINTS AROUND SPIN-IN FITTINGS AND FASTENING SCREWS WITH MASTIC. SUPPORTS PROVIDE HOT-DIPPED GALVANIZED STEEL, FASTENERS, ANCHORS, RODS, STRAPS, TRIM, AND ANGLES FOR SUPPORT OF DUCTWORK.

DAMPERS
PROVIDE SINGLE BLADE VOLUME CONTROL DAMPERS WHERE INDICATED ON DRAWINGS AND AT POINTS ON LOW PRESSURE SUPPLY, RETURN AND EXHAUST DUCTS WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS. PROVIDE UL LISTED FIRE DAMPERS WHERE REQUIRED AND IN ACCORDANCE WITH NFPA AND LOCAL CODES. PROVIDE CONVENIENTLY LOCATED ACCESS DOORS OF AMPLE SIZE AND QUANTITY FOR SERVICING THE DAMPERS.

GRILLES, REGISTERS & DIFFUSERS
GRILLES, REGISTERS AND DIFFUSERS SHALL BE PROVIDED AS SCHEDULED, OR APPROVED EQUIVALENT, AND SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR. DIFFUSERS SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS AND SCHEDULES. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS ITEMS NECESSARY FOR A COMPLETE AND PROPER INSTALLATION IN THE TYPE OF CEILING AND WALLS USED IN THIS PROJECT.

THERMAL INSULATION
PROVIDE EXTERNAL THERMAL INSULATION WITH AN INTEGRAL VAPOR BARRIER FACING OF SUFFICIENT THICKNESS TO MEET LOCAL ENERGY CODE REQUIREMENTS. PROVIDE INSULATION ON EXHAUST AND OUTSIDE AIR DUCTS, AND ON CONCEALED PORTIONS OF SUPPLY AND RETURN AIR DUCTS. DO NOT INSULATE EXPOSED DUCTWORK AND PORTIONS OF DUCTWORK THAT ARE INTERNALLY LINED. THERMAL INSULATION SHALL COMPLY WITH AN NFPA FLAME SPREAD OF 25 OR LESS, AND SMOKE DEVELOPED RATING NO GREATER THAN 50.

ACOUSTICAL DUCT LINER
UNLESS OTHERWISE INDICATED ON THE PLANS, PROVIDE 1" GLASS FIBER ACOUSTICAL DUCT LINER ON SUPPLY AND RETURN DUCTWORK WITHIN 15 FEET OF THE DISCHARGE AND INTAKE OF AIR HANDLING UNITS. INCREASE DUCT SIZED INDICATED ON PLANS 2" IN EACH DIMENSION TO ACCOMMODATE LINER.

ROOFTOP HVAC SYSTEMS
INSTALL NEW ROOFTOP HVAC UNITS WITH GAS HEATERS AS SHOWN AND NOTED ON THE DRAWINGS. INSTALL NEW UNITS WITH PERFORMANCE REQUIREMENTS AS SCHEDULED. PROVIDE ALL ACCESSORIES AND OTHER COMPONENTS REQUIRED FOR A COMPLETE AND OPERATIONAL INSTALLATION. ADJUST SYSTEM OPERATION TO MEET THE PERFORMANCE REQUIREMENTS SHOWN ON THE DRAWINGS. PROVIDE COMPLETE CONTROLS PACKAGE INCLUDING, BUT NOT LIMITED TO, NEW ELECTRONIC PROGRAMMABLE THERMOSTAT.

EXHAUST FANS
FANS SHALL BE ROOF MOUNTED, CENTRIFUGAL EXHAUST FAN. FANS SHALL BE U.L. LISTED AND SHALL BE AMCA CERTIFIED FOR SOUND AND AIR PERFORMANCE.

FANS SHALL EXCEED U.L. REQUIREMENTS FOR SMOKE AND HEAT GENERATION. FANS SHALL BE PROVIDED WITH ALUMINUM BACKDRAFT DAMPER IN DISCHARGE. THE INLET BOX SHALL BE MINIMUM 22 GAUGE GALV. STEEL. MOTOR SHALL BE ISOLATION MOUNTED. A WHITE, NON-YELLOWING, HIGH IMPACT MOLDED GRILLE SHALL BE PROVIDED. FAN WHEELS SHALL BE CENTRIFUGAL FORWARD CURVED TYPE AND SHALL BE BALANCED IN ACCORDANCE WITH AMCA STANDARD 204-96.

MOTORS SHALL BE OPEN DRIP PROOF TYPE WITH PERMANENTLY LUBRICATED BEARINGS. FAN SHALL BE COOK OR APPROVED EQUAL.

CONTROLS & OPERATION

CONTROL WIRING
THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING IN CONDUIT NECESSARY FOR THE COMPLETE AND PROPER OPERATING TEMPERATURE CONTROL SYSTEM.

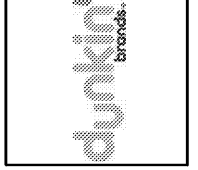
THERMOSTAT
THERMOSTATS SHALL BE MANUFACTURERS STANDARD PROGRAMMABLE WITH SWITCHING SUBBASE FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. ONE THERMOSTAT SHALL BE PROVIDED FOR EACH AIR CONDITIONING SYSTEM. MOUNT THERMOSTATS AT 48" ABOVE FINISHED FLOOR IN LOCATIONS AS SHOWN. MECHANICAL CONTRACTOR SHALL PROVIDE ALL THERMOSTATS UNLESS NOTED OTHERWISE.

TESTING, ADJUSTING & BALANCING

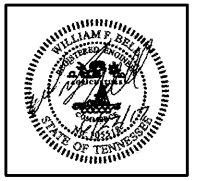
TESTING, ADJUSTING, BALANCING MECHANICAL CONTRACTOR OR AN INDEPENDENT NEBB OR ABE CERTIFIED AIR BALANCE CONTRACTOR SHALL ACCURATELY BALANCE THE AIR SYSTEMS TO PROVIDE AIR QUALITIES INDICATED ON THE DRAWINGS AND IN THIS SPECIFICATION. OPERATE AUTOMATIC CONTROLS SYSTEM AND VERIFY SET POINTS DURING BALANCING. SUBMIT TWO (2) COPIES OF THE BALANCE REPORT TO THE ENGINEER FOR APPROVAL. INCLUDE A COPY OF THE BALANCE REPORT AS APPROVED BY THE ENGINEER WITH APPLICATION FOR FINAL CONTRACT PAYMENT.

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