

HVAC GENERAL NOTES

HVAC GENERAL NOTES:

- SHOP DRAWINGS SHALL BE SUBMITTED TO AND REVIEWED THROUGH THE ARCHITECT PRIOR TO ORDERING, PURCHASING, OR FABRICATING ANY MECHANICAL SYSTEM COMPONENTS. SHOP DRAWINGS SHALL INCLUDE: ALL EQUIPMENT SCHEDULED OR SPECIFIED ON THE DRAWINGS; DUCTWORK DRAWN TO 1/4" SCALE OR THE SCALE SHOWN ON THE DRAWINGS; REFRIGERANT PIPING AND CONTROL WIRING SCHEMATICS CERTIFIED BY THE AIR CONDITIONING EQUIPMENT MANUFACTURER. FAILURE TO SUBMIT REFRIGERANT PIPING DRAWINGS SHALL BE CAUSE FOR REJECTION OF THE ENTIRE SUBMITTAL. LONG LINE REFRIGERANT PIPING APPLICATIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT SPLIT SYSTEM LONG-LINE APPLICATION GUIDELINE.
- ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- ALL MECHANICAL EQUIPMENT AND SYSTEMS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE BY OWNER.
- ALL HVAC COMPRESSORS SHALL HAVE EXTENDED 4-YEAR MANUFACTURER'S WARRANTY FOR A 5-YEAR TOTAL WARRANTY. HEAT EXCHANGER SHALL HAVE A 10-YEAR WARRANTY. WARRANTIES SHALL COMMENCE ON SYSTEM ACCEPTANCE.
- INSTALL ROOF MOUNTED OUTDOOR AIR CONDITIONING EQUIPMENT LEVEL ON STRUCTURAL RAIL SYSTEMS OR MANUFACTURER'S SLOPED ROOF CURBS (SEE DETAILS AND SCHEDULES). MOUNT ALL EQUIPMENT ON NEOPRENE PADS. ALL ROOFTOP MOUNTED EQUIPMENT SHALL BE INSTALLED PER DETAILS AND AS RECOMMENDED BY THE MANUFACTURER.
- PORTIONS OF DUCTWORK AND PIPE INSULATION VISIBLE THROUGH AIR DISTRIBUTION DEVICES IN FINISHED AREAS SHALL BE PAINTED FLAT BLACK.
- ALL WORK SHALL BE COORDINATED AND PERFORMED WITH PRIOR APPROVAL FROM THE OWNER TO SUIT HIS OPERATING CONDITIONS. WORK IN HAZARDOUS (PLANT) AREAS SHALL BE PERFORMED IN ACCORDANCE WITH THE OWNER'S REQUIREMENTS.
- ANY EXISTING WALL, FLOOR, OR CEILING SURFACE THAT IS DISTURBED DURING THE COURSE OF THE HVAC WORK SHALL BE REPAIRED TO MATCH NEW AND/OR EXISTING CONDITIONS.
- AFTER CONSTRUCTION, THE ENTIRE HVAC SYSTEM SHALL BE TESTED, ADJUSTED, AND BALANCED TO DELIVER THE AIR QUANTITIES SHOWN ON THE DRAWINGS. SUBMIT CERTIFIED (AABC OR NEBB) TEST AND BALANCE REPORT TO THE ARCHITECT FOR REVIEW.
- CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC. TO FIT WITH THE SPACE ALLOWED BY THE ARCHITECTURAL AND STRUCTURAL CONDITIONS. CUTTING OR OTHERWISE ALTERING ANY STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.
- ALL PIPE AND DUCT PENETRATIONS OF FIRE AND/OR SMOKE-RATED ASSEMBLIES SHALL BE FIRE-STOPPED AS REQUIRED TO RESTORE THE ASSEMBLY TO ITS ORIGINAL INTEGRITY. FIRE BARRIER PRODUCTS SHALL BE AS MANUFACTURED BY TREMCO, HILTI, 3M OR APPROVED EQUAL.
- MANUAL OVER-RIDE CONTROL (EMERGENCY SHUT-DOWN) SWITCHES (IF APPLICABLE) FOR ALL HVAC UNITS SHALL BE LOCATED IN LOCKING COVER ADJACENT TO FIRE ALARM ANNUNCIATOR PANEL OR OTHER LOCATION APPROVED BY LOCAL AUTHORITY HAVING JURISDICTION AND PER NFPA 92A.
- PROVIDE ACCESS PANELS IN NON-ACCESSIBLE CEILINGS AND IN WALL STRUCTURE TO ALLOW ADEQUATE ROOM FOR MAINTENANCE OF EQUIPMENT AND BALANCING OF SYSTEMS. ACCESS PANELS IN CEILING AND WALLS SHALL BE PROVIDED WHERE SHOWN ON THE DRAWINGS OR NECESSARY TO ACCESS DAMPERS, VALVES, ETC. COORDINATE EXACT LOCATION OF ALL ACCESS PANELS WITH THE ARCHITECT DURING THE SHOP DRAWING PROCESS.
- ALL PIPE AND DUCT PENETRATIONS SHALL BE LABELED. ALL LABELS MUST BE SUPPLEMENTED BY WITHSTAND A 15 SECOND MINERAL SPIRIT RUB, FOLLOWED BY A 15 SECOND WATER RUB WITH A SEFT CLOTH TEST. LABELS MUST REMAIN LEGIBLE WITH NO CURLING OF EDGES PERMITTED. PROVIDED BRADY 8-955 VINYL FILM WITH PERMANENT ADHESIVE LABELS OR EQUAL.
- REFER TO ARCHITECTURAL PLANS FOR ALL FURROWDOWN CEILING AREAS AND CEILING HEIGHTS.
- REFER TO ARCHITECTURAL PLANS FOR FLOOR AND CEILING ASSEMBLY UL RATINGS AND DETAILS.

MECHANICAL/ELECTRICAL COORDINATION:

- CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL DRAWINGS PRIOR TO ORDERING EQUIPMENT OR SUBMITTING SHOP DRAWINGS, AND SHALL FURNISH EQUIPMENT WIRED FOR THE VOLTAGES SHOWN THEREIN. SHOP DRAWINGS SUBMITTED SHALL CLEARLY STATE THAT THE ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT HAS BEEN COORDINATED WITH THE ELECTRICAL CONTRACT DOCUMENTS AND THE ELECTRICAL CONTRACTOR.
- ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER SHALL BE INSTALLED WITH DISCONNECT SWITCHES AT EACH PIECE OF EQUIPMENT. COORDINATE SWITCH TYPE (FUSED OR NON-FUSED) WITH EQUIPMENT CHARACTERISTICS, MANUFACTURER'S RECOMMENDATIONS AND THE ELECTRICAL DRAWINGS.
- ALL REQUIRED CONTROL WIRING (INCLUDING POWER WIRING REQUIRED FOR CONTROL PANELS, DEVICES, ETC.) NOT SHOWN ON THE ELECTRICAL DRAWINGS SHALL BE INCLUDED AS PART OF THE MECHANICAL WORK. WIRING IN HVAC PLENUM SPACES SHALL BE INSTALLED ACCORDING TO CODE REQUIREMENTS.
- UNLESS NOTED OTHERWISE, TRANSFORMERS, CONTROLS AND CONTROL WIRING REQUIRED FOR ALL MECHANICAL SYSTEMS SHALL BE FURNISHED WITH THE EQUIPMENT IT SERVES AND INSTALLED BY THE MECHANICAL CONTRACTOR. MOTOR STARTERS FOR HVAC EQUIPMENT SHALL BE FURNISHED WITH THE MOTOR OR APPARATUS WHICH IT OPERATES. MOTOR STARTER INSTALLATION SHALL BE BY THE DIVISION OF ELECTRICAL CONTRACTOR.

DUCT SMOKE DETECTORS:

- NEW DUCT SMOKE DETECTORS SHALL BE INSTALLED IN ALL AIR MOVING FAN SYSTEMS THAT ARE SUPPLYING AND RETURNING AIRFLOW IN EXCESS OF 2,000 CFM AS REQUIRED BY THE CURRENT/APPLICABLE SECTION 066. NEW DUCT SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 066.3 AND NFPA 72 AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR PROPER FUNCTIONALITY/TESTING/INSPECTION/MAINTENANCE. NEW DUCT SMOKE DETECTOR DEVICE SHALL BE UL-268A LISTED, REMOTE VISUAL/AUDIO TEST STATION PER NFPA 72 REQUIRED FOR EACH DUCT SMOKE DETECTOR WILL BE REQUIRED. ACCESS DOORS/PANELS SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 90A, STANDARDS FOR THE INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS.

SEE MECHANICAL DETAILS FOR DUCT SMOKE DETECTOR CONTRACTOR RESPONSIBILITIES COORDINATION.

AIR DISTRIBUTION:

- SUPPLY AND RETURN DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEETMETAL IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS, LATEST EDITION. ALL JOINTS AND SEAMS IN ALL SHEETMETAL RETURN DUCTS SHALL BE SEALED WITH DUCT SEALER.
- ALL OPEN ENDED RETURN DUCTS AND/OR FAN OUTLETS SHALL HAVE 1" SQUARE GALVANIZED CLOTH WITH GALVANIZED ANGLE FRAME AFFIXED TO THE OPENING.
- EXHAUST DUCTWORK SHALL BE GALVANIZED SHEET METAL CONSTRUCTED TO SMACNA STANDARDS AND SHALL NOT BE INSULATED UNLESS NOTED OTHERWISE.
- ALL DUCTWORK SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. DUCT SUPPORTS AND ATTACHMENT TO STRUCTURE SHALL BE PER SMACNA STANDARDS AND SUPPORTED AT A MAXIMUM 10' INTERVAL DISTANCE.
- FLEXIBLE DUCTWORK SHALL BE THERMAFLEX M-K (UL 181 LISTED, CLASS I FLEXIBLE AIR DUCT) OR EQUAL. PROVIDE THERMAFLEX M-K E R-6 (R-VALUE - 6.0 MINIMUM OR AS REQUIRED BY LOCAL ENERGY CODE) IN ATTICS AND OTHER UNCONDITIONED SPACES. AIR CONNECTORS ARE NOT ACCEPTABLE. FLEX DUCT DIAMETER SHALL MATCH DEVICE NECK DIAMETER. PROVIDE ROUND GALVANIZED STEEL RIGIDITY TO MAINTAIN A MAXIMUM FLEXIBLE DUCT LENGTH OF 5'-0". FLEXIBLE DUCTWORK SHALL BE INSTALLED AS STRAIGHT AS POSSIBLE AND SHALL BE ROUTED AND SUPPORTED WITHOUT CRIMPING OR OTHER AIR FLOW RESTRICTIONS. PROVIDE SQUARE TO ROUND ADAPTERS OR BOOTS TO CONNECT TO AIR DEVICE NECK WHEN REQUIRED. REFERENCE SMACNA DUCT MANUALS.

ME/FLEXIBLE DUCTWORK CONSTRUCTION STANDARDS.

- ROUND AND FLEXIBLE SUPPLY AIR DUCTWORK SHALL BE CONNECTED TO MAIN DUCTS WITH A SPIN-IN FITTING AND BALANCING DAMPER (WHERE DAMPER IS INSTALLED ABOVE INACCESSIBLE CEILINGS, THE DAMPER SHALL BE PROVIDED WITH A REMOTE ACTUATOR). SPIN-IN FITTING AND BALANCING DAMPER DEVICE SHALL BE MANUFACTURED ASSEMBLIES.
- TAPE, BED AND SEAL AIR TIGHT ALL PENETRATIONS FROM RETURN AIR PLenums TO NON RETURN AIR PLenums THAT ARE REQUIRED DUE TO DUCTWORK, PIPING OR OTHER ITEMS.
- DUCTWORK DIMENSIONS SHOWN ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.
- EXTERNAL STATIC PRESSURE (ESP) DOES NOT INCLUDE COIL, CASING OR FILTER RESISTANCE DROP.
- INSTALL FIRE DAMPERS IN ALL RATED WALLS, FLOOR AND CEILING PENETRATIONS. FIRE DAMPERS SHALL BE THE DYNAMIC TYPE WITH BLADES OUT OF THE AIRSTREAM.
- INSTALL SMOKE DAMPERS IN ALL DUCT PENETRATIONS THROUGH SMOKE RATED WALLS. WHERE DAMPS PENETRATE WALLS THAT CARRY BOTH FIRE AND SMOKE RATINGS, THE DAMPERS INSTALLED SHALL BE COMBINATION FIRE AND SMOKE DAMPERS. ALL DAMPERS SHALL BE UL 555 AND/OR 555S LABELED.
- DUCT ACCESS DOORS: PROVIDE ACCESS DOORS IN DUCTWORK AT EACH FIRE AND SMOKE DAMPER LOCATION.
- LOCATIONS OF GRILLES, REGISTERS, & DIFFUSERS SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE EXACT LOCATIONS WITH LIGHTS, CEILING GRID, ETC. AND ARCHITECTURAL REFLECTED CEILING PLAN.

INSULATION:

- DUCTWORK INSULATION
 - DUCTWORK LINER:

ASTM E84-07 OR NFPA 723, TYPE II, GRADE 2, 1-1/2" THICKNESS, 1.5 LB. DENSITY FOR LOW PRESSURE DUCTWORK AND 3.0 LB. DENSITY FOR MEDIUM PRESSURE DUCTWORK, BONDED MAT OF GLASS FIBER COMBATED WITH BLACK FIRE RESISTANT AND MICROBIAL RESISTANT COATING, COMPLYING WITH TMS AHC 101. MOISTURE ADSORPTION SHALL NOT BE GREATER THAN 0.5% MOISTURE BY VOLUME WHEN EXPOSED TO MOISTURE (AERIAL AIR) AT 100°F AND 90% RH, PER ASTM C553. INSULATION SHALL BE SCHILLER THERMOKOTE LINACUSTIC R-398, "AEROFLEX OUTLINER" AS MANUFACTURED BY OWENS CORNING FIBERGLASS CORP. OR "ULTRALITE WITH CERTA EDGE" BY CERTAINTED CORP. OR EQUAL BY KNAUF FIBERGLASS.
 - DUCTWORK EXTERNAL WRAP:

ASTM E84-07 OR NFPA 723, DUCT INSULATION SHALL BE MINIMUM 2" THICK, MINIMUM 1 LB. DENSITY FIBERGLASS.

AT LOCATIONS WITH THE INTERNATIONAL ENERGY CODE, REFER TO TABLES 6.2.2A AND 6.2 FOR MINIMUM DUCT INSULATION THICKNESS.

CONDUCTIVITY (K) EQUALS APPROXIMATELY 0.24 (BTUHR, SF, DEGREES F, IN) AT 75 °F MEAN TEMPERATURE.

INTERNAL UL RATED VAPOR BARRIER OF:
ALUMINUM FOIL REINFORCED WITH FIBERGLASS SCRM LAMINATED TO 30-LB. KRAFT PAPER.
CLASS I WHITE VINYL 0.004 INCH THICK, WHERE SPECIFIED.

NOTE: ALL DUCTWORK (SUPPLY/RETURN) SHALL MEET INSULATION REQUIREMENTS PER LOCAL, STATE AND NATIONAL ENERGY CODES.

- REFRIGERANT PIPING INSULATION
 - REFRIGERANT SUCTION/VAPOR PIPING (VAPOR PIPING AS REQUIRED BY DUCTLESS SPLIT-SYSTEM MANUFACTURERS) SHALL BE INSULATED WITH 1" THICK FLEXIBLE ELASTOMERIC TUBING INSULATION, AP 6040FLEX PIPING INSULATION MANUFACTURED BY APARCEL OR EQUAL. SEE SPECIFICATION SECTION 230702.2 D10. INSULATION SHALL BE SLD OVER PIPING FROM ONE END BEFORE PIPE ENDS ARE JOINED AND SHALL NOT BE SLIT OR CUT. ALL JOINTS AND SEAMS SHALL BE SEALED WEATHER-TIGHT. FINISH COAT FOR FLEXIBLE ELASTOMERIC INSULATION INSTALLED OUTDOORS SHALL BE WATER-BASED LATEX ENAMEL, DESIGNED FOR USE OVER ALL FORMS OF FLEXIBLE ELECTROMETRIC INSULATION. FINISH COAT SHALL PROVIDE A PROTECTIVE FINISH SUITABLE TO BOTH INDOOR AND OUTDOOR APPLICATIONS, FORMULATED FOR COLD WEATHER FLEXIBILITY TO RESIST CRACKING AND WEATHER-RESISTANT TO ULTRAVIOLET (UV) AND OZONE. COATING SHALL BE KIMBLEX WB FINISHER OR EQUIVALENT.

NOTE: ALL PIPING (REFRIGERANT) SHALL MEET INSULATION REQUIREMENTS PER LOCAL, STATE AND NATIONAL ENERGY CODES.

PIPPING:

- REFRIGERANT PIPING SHALL BE ACR TYPE L OR REFRIGERATION SERVICE COPPER TUBING WITH BRAZED JOINTS.
- REFRIGERANT PIPING CARRYING OTHER THAN GROUP A1 OR B1 REFRIGERANTS AND INTERCONNECTING SEPARATE PIECES OF EQUIPMENT (SPLIT HVAC SYSTEMS) AND PASSING VERTICALLY THROUGH FLOORS FROM ONE STORY TO ANOTHER SHALL BE ENCLOSED IN A CODE APPROVED RIGID TIGHT CONTINUOUS FIRE RESISTING PIPE DUCT OR SHAFT HAVING NO OPENINGS INTO FLOORS NOT SERVED BY THE REFRIGERATING SYSTEM, AS REQUIRED BY LOCAL CODE AUTHORITIES. THE PIPE DUCT OR SHAFT SHALL BE VENTED TO OUTDOORS.
- CONDENSATE FROM ALL AIR HAND CONDITIONING EQUIPMENT SHALL BE TRAPPED AND DISCHARGED ONTO THE ROOF WHERE ALLOWED BY THE A.H.J. OTHERWISE, ALL CONDENSATE SHALL BE ROUTED TO THE NEAREST FLOOR DRAIN, HUB DRAIN OR DRAIN DRAIN. CONDENSATE PIPING SHALL BE TYPE M COPPER.
- ALL PIPING ABOVE GRADE SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. PIPING HUNG FROM JOISTS SHALL BE HUNG FROM THE TOP CHORDS OF THE JOISTS.

HVAC DESIGN CRITERIA	
DESIGN CRITERIA: 2024 NA IXD GEN 5M FACILITY DESIGN CRITERIA	
SITE LOCATION:	LITTLE ROCK, ARKANSAS N 34.0° LAT., W 92.0° LONG. 257 FEET ELEVATION ABOVE SEA LEVEL ASHRAE 90.1 CLIMATE ZONE 3A
WAREHOUSE DESIGN CONDITIONS:	<u>AMBIENT CONDITIONS</u> WINTER: 16.9°F DRY BULB (ASHRAE 99.6%) SUMMER: 92.9°F DRY BULB AND 76.5°F MEAN COINCIDENT WET BULB (ASHRAE 2%) <u>INSIDE CONDITIONS</u> HEATING: 69°F WINTER INDOOR DESIGN DRY BULB (HEATING - WAREHOUSE) COOLING: 85°F DRY BULB AND 60% RH INDOOR DESIGN (COOLING - WAREHOUSE)
OFFICE DESIGN CONDITIONS:	<u>AMBIENT CONDITIONS</u> WINTER: 16.9°F DRY BULB (ASHRAE 99.6%) SUMMER: 95.3°F DRY BULB AND 77°F MEAN COINCIDENT WET BULB (ASHRAE 1%) <u>INSIDE CONDITIONS</u> HEATING: 70°F WINTER INDOOR DESIGN DRY BULB (HEATING - OFFICE) COOLING: 75°F DRY BULB AND 50% RH INDOOR DESIGN (COOLING - OFFICE)
MDP ROOM DESIGN CONDITIONS:	NOT APPLICABLE. PRE-FABRICATED PACKAGED CONTAINER/ROOM SHALL BE PROVIDED BY TENANT'S VENDOR
NOTES:	HEATING/COOLING LOAD CALCULATIONS AND EQUIPMENT SIZING ARE BASED ON ASHRAE/ACCA 183 DESIGN CRITERIA AND METHODOLOGY. <ul style="list-style-type: none"> NO EXTRA EQUIPMENT CAPACITY HAS BEEN INCLUDED IN THIS DESIGN FOR FUTURE ADDITIONS OF OFFICE AREAS.

CODE REFERENCES

2021 INTERNATIONAL BUILDING CODE ARKANSAS AMENDED
2021 INTERNATIONAL MECHANICAL CODE ARKANSAS AMENDED
2009 INTERNATIONAL ENERGY CODE ARKANSAS AMENDED

HVAC LEGEND	
SYMBOL	DESCRIPTION
	RECTANGULAR DUCT, WIDTH x DEPTH (INCHES)
	ROUND DUCT (INCHES)
	FLEXIBLE DUCT
	ACOUSTICAL DUCT LINING
	FLEXIBLE CONNECTION
	SUPPLY DUCT
	EXHAUST OR RETURN DUCT
	CROSS SECTION THRU ROUND DUCT
	VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EXCEPT TRANSFER AIR SOUND ELBOW)
	STANDARD RADIUS ELBOW
	RETURN AIR CEILING GRILLE AND RETURN AIR CEILING GRILLE WITH SOUND Baffle
	CEILING DIFFUSERS (ARROWS DEMOTE THROW PATTERN IF THROW IS SOMETHING OTHER THAN 4-WAY)
	EXHAUST CEILING REGISTER OR GRILLE
	SIDEWALL EXHAUST OR RETURN AIR GRILLE OR REGISTER
	SIDEWALL SUPPLY REGISTER
	DUCT TRANSITION FROM RECTANGULAR TO ROUND
	HUMIDITY SENSOR
	THERMOSTAT
	TEMPERATURE SENSOR
	CARBON DIOXIDE SENSOR
	DUCT SMOKE DETECTOR
	MANUAL BALANCING DAMPER (YD)
	FIRE DAMPER (FD)
	FIRE/SMOKE DAMPER (FSD)
	30° RISE IN DIRECTION OF ARROW
	ACCESS DOOR
	KEYED NOTE
	ROOM NUMBER
	HEX SYMBOL INDICATES NEW EQUIPMENT (U.N.O.) NUMBER REFERS TO SPECIFIC EQUIPMENT IDENTIFIED IN EQUIPMENT SCHEDULE
	OFFICE UNITS ONLY: XXX INDICATES NEW EQUIPMENT (U.N.O.) NUMBER REFERS TO SPECIFIC EQUIPMENT IDENTIFIED IN EQUIPMENT SCHEDULE
	WAREHOUSE UNITS ONLY: XXX INDICATES NEW EQUIPMENT (U.N.O.) NUMBER REFERS TO SPECIFIC EQUIPMENT IDENTIFIED IN EQUIPMENT SCHEDULE
	NUMBER REFERS TO SPECIFIC EQUIPMENT IDENTIFIED IN EQUIPMENT SCHEDULE
	OUTSIDE AIR QUANTITY (CPM)
	REVISION TRIANGLE REVISION NUMBER
	DETAIL NUMBER DRAWING WHERE DETAIL APPEARS
	AIR DEVICE TYPE
	AIR DEVICE NECK SIZE
	NUMBER OF AIR DEVICES
	CFM

SPEAKING TO THE DETECTOR TESTING

1. THE MECHANICAL SUBCONTRACTOR SHALL VERIFY PROPER OPERATION OF EACH ROOM UNIT BEFORE TESTING AND DETERMINE SCOPE OF WORK. ACTIVATION TESTING SHALL BE PERFORMED USING "CANNEED SMOKE" SPRAYED INTO THE REMOTE END OF THE SAMPING TUBES. SPRAYING CANNEED SMOKE INTO THE DETECTOR ITSELF (UNDER THE COVER WITH THE TAMPER FEATURE DEFEATED) WILL NOT BE ACCEPTED. TESTING SHALL BE CONSIDERED ACCEPTABLE IF ONLY TESTS CIRCUT INTENSITY AND NOT THE CLOUD CHAMBER PERFORMANCE.
2. VERIFY THAT ACTIVATION OF THE SMOKE DETECTOR SHUTS DOWN THE AIRPANEL AND ALARM SYSTEMS. VERIFY THAT ACTIVATION OF THE SMOKE DETECTOR IS SHOWN BY THE FIRE ALARM SYSTEM WHERE MONITORING IS REQUIRED.
3. THE TEST AND BALANCE SUBCONTRACTOR SHALL PREPARE A TEST LOGGED TESTING REPORT AND SIGNATURE OF THE ENGINEER OF RECORD FOR REVIEW PRIOR TO PROJECT COMPLETION.
4. TESTING OF SMOKE DETECTORS SHALL BE ACCOMPANIED BY THE ELECTRICIAN AND/OR THE CONTROLS SYSTEMS SUPPLIER, IF THE SMOKE DETECTOR IS INTEGRATED TO A BUILDING MANAGEMENT SYSTEM. THE MANUFACTURER MUST BE PRESENT DURING THE TESTING.

SEISMIC NOTE

ALL MECHANICAL EQUIPMENT AND DISTRIBUTION SYSTEMS SHALL BE PROVIDED WITH SEISMIC RESTRAINTS FOR THE SEISMIC DESIGN REQUIREMENTS IN WHICH THE SITE SPECIFIC SEISMIC IS LOCATED. THE SEISMIC DESIGN SHALL BE BASED ON THE SEISMIC HAZARD CATEGORY AND IMPORTANCE FACTOR (IP) TO DETERMINE EXACT REQUIREMENTS IN ACCORDANCE WITH THE 200X INTERNATIONAL BUILDING CODE (SECTION 1611), EARTHQUAKE PROVISIONS 7-10 CHAPTER 13 (FORMULAS 13.3-1, 13.3-2, AND 13.3-3), AND THE 200X INTERNATIONAL BUILDING CODE CHAPTER 17 STRUCTURAL TESTS, AND SPECIAL INSULATION REQUIREMENTS. THE DESIGN AND SUBMITTAL DATA TO INCLUDE SEISMIC CALCULATIONS CATERING AND SEALED TO THE SEISMIC DESIGN REQUIREMENTS. THE SEISMIC DESIGN PROJECT LOCATION AND EMPLOYED BY THE SEISMIC RESTRAINT MANUFACTURER. SHOP DRAWINGS OF ALL SEISMIC RESTRAINTS SHALL BE SUBMITTED TO THE SEISMIC DESIGNER FOR REVIEW AND SHALL BE BY MASON INDUSTRIES, OR AN APPROVED QUALITY ASSURED MANUFACTURER. THE SEISMIC DESIGNER SHALL REVIEWED AND ACCOMPANYING CERTIFICATE OF INSTALLATION SHALL BE PROVIDED BY MANUFACTURER'S APPROVED REPRESENTATIVE. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

ELECTRICAL COORDINATION

THE MECHANICAL SUBCONTRACTOR SHALL COORDINATE THE ELECTRICAL CHARACTERISTICS OF ALL HVAC EQUIPMENT (VOLTAGE, PHASE, AMPS, ETC...) WITH THE ELECTRICAL SUBCONTRACTOR AND ELECTRICAL PLANS BEFORE ORDERING ANY MECHANICAL EQUIPMENT. ANY SUBSEQUENT MISMATCH BETWEEN HVAC EQUIPMENT ELECTRICAL REQUIREMENTS AND THE ELECTRICAL SERVICE AS DESIGNED AND PROVIDED SHALL BE THE RESPONSIBILITY OF THE MECHANICAL SUBCONTRACTOR.

**PROJECT CLEAR
HEIGHTS**

**MAINTAIN THE FOLLOWING CLEAR HEIGHTS
WITHIN THE BUILDING:**

OPEN WAREHOUSE: 36'-0"

***HVLS FANS CAN BE INSTALLED DOWN TO 32'-0"**

**TO MEET NFPA CODE. SEE FLOOR PLAN NOTE FOR MORE
INFORMATION.**