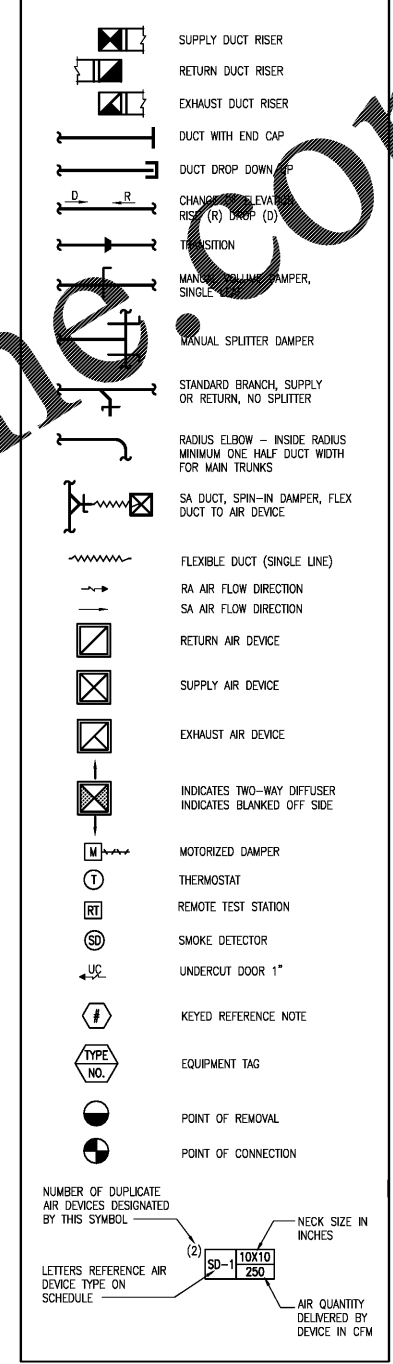


SEAL:
THIS DOCUMENT IS NOT FOR CONSTRUCTION
UNLESS THE ARCHITECT OR ENGINEER'S
SIGNATURE AND SEAL APPEAR BELOW.

HVAC GENERAL NOTES

- ALL DRAWINGS ARE CONCEPTUAL AND SCHEMATIC AND ARE INTENDED FOR USE AS A DESIGN/BUILD GUIDE. THE CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL FIELD CONDITIONS AND ADJUSTING OR MODIFYING THE SPECIFIC ELEMENTS OF THEIR WORK AS REQUIRED TO MEET THE DESIGN INTENT. THE CONTRACTORS ARE RESPONSIBLE FOR THE FOLLOWING:
 - COORDINATION WITH OTHER TRADES.
 - PROVIDING ADDITIONAL DRAWINGS, CALCULATIONS AND OTHER DOCUMENTATION REQUIRED FOR THE BUILDING DEPARTMENT. THE MECHANICAL CONTRACTOR SHALL DOCUMENT THE INSTALLATION AND PROVIDE ALL TESTS REQUIRED TO SUBSTANTIATE CODE COMPLIANCE AS REQUIRED BY THE BUILDING DEPARTMENT AND LOCAL INSPECTOR. CONTRACTOR SHALL SUBMIT FINAL AS-BUILT DRAWINGS TO BUILDING DEPARTMENT FOR RECORD AT COMPLETION.
- MECHANICAL PLANS ARE DIAGRAMMATIC IN NATURE, NOT SHOWING EVERY ITEM IN EXACT LOCATION OR DETAIL. MEASUREMENTS AND LOCATIONS MUST BE FIELD VERIFIED AND COORDINATED WITH ARCHITECTURAL, HVAC, FIRE PROTECTION, STRUCTURAL, ELECTRICAL AND OTHER BUILDING DRAWINGS.
- CONTRACTOR TO INCLUDE IN BID ALL COSTS TO MAKE FIELD COORDINATION AND ADJUSTMENT TO DUCTWORK TO FIT INTO EXISTING STRUCTURE. CONTRACTOR SHALL VERIFY AND FIELD COORDINATE FINAL LOCATION OF MECHANICAL EQUIPMENT.
- FURNISH ALL LABOR, MATERIALS, TOOLS, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE A COMPLETE HEATING, VENTILATING, AIR CONDITIONING SYSTEM. INCLUDE ANY LABOR AND MATERIAL NOT SPECIFICALLY MENTIONED, BUT NECESSARY TO PROVIDE A COMPLETE AND OPERATING SYSTEM. ALL WORK SHALL BE INSTALLED IN A PROFESSIONAL MANNER AND SHALL MEET ALL THE REQUIREMENTS OF THE STATE BUILDING CODE, CITY BUILDING CODE, SAFETY AND HEALTH CODES, NFPA CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. ALL COSTS FOR SAID REQUIREMENTS SHALL BE INCLUDED IN THIS CONTRACTORS BID PRICE.
- ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE CODES:
 BUILDING CODE: IBC EDITION: 2012 W/2017 GA AMEND
 PLUMBING CODE: IPC EDITION: 2012 W/2015 GA AMEND
 MECHANICAL CODE: IMC EDITION: 2012 W/2015 GA AMEND
 ELECTRIC CODE: NEC EDITION: 2014
 ENERGY CODE: IECC EDITION: 2012 W/2012 GA AMEND
 FIRE CODE: IFC EDITION: 2012 W/2014 GA AMEND
- CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS AND PERFORM ALL TESTS CALLED FOR OR REQUIRED AS A PART OF HIS WORK. FURNISH APPROVED CERTIFICATE OF FINAL INSPECTION, AND TURN OVER TO OWNER AT COMPLETION OF PROJECT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL TRADES, LANDLORD REQUIREMENTS, CEILING HEIGHTS AND EXISTING STRUCTURAL CONDITIONS PRIOR TO FABRICATION OF ANY DUCTWORK OR OTHER MECHANICAL EQUIPMENT.
- ALL INSTALLATION OF THE MECHANICAL EQUIPMENT SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATION AND CLEARANCE REQUIREMENTS.
- ALL WORK SHALL BE IN ACCORDANCE WITH NFPA 90A, 90B, 90C, 94 AND NFPA 70 LIFE SAFETY CODE.
- INSTALLATION SHALL COMPLY WITH ALL LOCAL, STATE AND NATIONAL CODES WITH LATEST ASHRAE PUBLICATIONS. WORK SHALL BE NEAT AND WORKMANSHIP SHALL BE ACCEPTABLE TO BUILDING STANDARDS.
- CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE TEMPERATURE CONTROL SYSTEM TO INCLUDE: PANELS, MODULES, RELAYS, WIRING, THERMOSTATS, SENSORS, DAMPERS, ACTUATORS AND ALL MISCELLANEOUS ITEMS AS REQUIRED TO FULFILL THE DESIGN INTENT AS INDICATED ON THE PLANS AND IN THE CODED NOTES. THERMOSTATS AND SENSORS SHALL BE LOCATED GENERALLY AS SHOWN BUT THEIR EXACT LOCATION SHALL BE FIELD COORDINATED TO AVOID INTERFERENCE WITH WALL MOUNTED WORK.
- ALL CONTROL WIRING, CONDUIT, AND HARDWARE TO COMPLETE THE HVAC CONTROL SYSTEMS SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR UNDER DIVISION 15 OF THE SPECIFICATIONS.
- DURING THE BIDDING PERIOD, EACH CONTRACTOR SHALL VISIT THE SITE TO DETERMINE CONDITIONS AFFECTING THE PERFORMANCE OF WORK REQUIRED CONDITIONS IN EVIDENCE THEREBY SHALL NOT BE JUSTIFICATION FOR ADDITIONAL COMPENSATION.
- THE EQUIPMENT SHALL BE LOCATED TO ALLOW FOR EASY ACCESS FOR SERVICING, ADJUSTING OR MAINTENANCE AND SPACE FOR REMOVAL OF INTERNAL ASSEMBLIES. PROVIDE MINIMUM CLEARANCES FOR ALL EQUIPMENT PER THE MANUFACTURERS RECOMMENDATIONS.
- PROVIDE ALL CONTROL EQUIPMENT, MOTOR STARTERS, RELAYS, LINE VOLTAGE CONTROLS, TRANSFORMERS, LOW VOLTAGE CONTROLS, AND DEVICES NECESSARY FOR THE COMPLETE OPERATION OF THE HEATING AND AIR CONDITIONING AND VENTILATING SYSTEM.
- ALL LOW VOLTAGE WIRING AND CONDUIT REQUIRED FOR MECHANICAL EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.
- SMOKE DETECTORS WIRED BY DIVISION 16 IF REQUIRED.
- PROVIDE ALL FANS AND ROOFTOP UNITS WITH RELAYS TO SHUT DOWN WHEN FIRE ALARM IS INITIATED. COORDINATE LOCATION WITH THE ELECTRICAL CONTRACTOR FOR THE FIRE ALARM WIRING.
- IN THE EVENT OF FAN SHUT DOWN, ALL DUCT MOUNTED DETECTORS SHALL REMAIN IN OPERATION.
- ALL WORK SHALL BE IN STRICT ACCORDANCE WITH STATE AND LOCAL CODES AND ORDINANCES AND THE NATIONAL ELECTRIC CODE.
- THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS PRIOR TO PURCHASING OR INSTALLING EQUIPMENT AND SYSTEMS INDICATED ON THE CONTRACT DOCUMENTS. PRIOR TO THE SUBMITTAL THE CONTRACTOR SHALL VERIFY THAT ADEQUATE SPACE EXIST FOR THE SUBMITTED EQUIPMENT.
- ALL THE BASE METAL SURFACES SHALL BE PRIMED AND PAINTED TO PREVENT ANY RUST, INCLUDING, BUT NOT LIMITED TO, THE FRAMING, UNIT SUPPORTS, MOUNTING HARDWARE, ETC.
- CONTRACTOR TO PROVIDE DRAWINGS WITH AS-BUILT DRAWINGS OF ALL CHANGES OR MODIFICATIONS MADE IN THE FIELD, TO THE ORIGINAL SET OF CONSTRUCTION DOCUMENTS, FOR TURN-OVER TO THE OWNER UPON COMPLETION OF THE PROJECT. PROVIDE ALL EQUIPMENT SHOP DRAWINGS, INFORMATION ON CONTROL DEVICES, CONTROL WIRING DIAGRAMS AND OTHER PERTINENT INFORMATION AT COMPLETION OF PROJECT.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE MECHANICAL EQUIPMENT COMPONENTS ARE INSTALLED AT LOCATIONS AND ELEVATIONS WHICH MAKE THEM READILY ACCESSIBLE FOR ROUTINE MAINTENANCE WITHOUT REQUIRING ANY EXTRAORDINARY MEASURES.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ADMINISTERING ALL WARRANTIES ON EQUIPMENT WHICH HE INSTALLS. THIS INCLUDES ALL CONDENSERS, REFRIGERANT PIPES, AND OTHER ITEMS FURNISHED BY OTHERS AS WELL AS THOSE FURNISHED BY HIM.
- CONDENSATE DRAINAGE PIPING FROM RTU'S SHALL BE TRAPPED, SUPPORTED AND RUN AS SHOWN ON DRAWINGS.
- FIELD VERIFY THE EXACT LOCATION OF ALL EQUIPMENT WITH ARCHITECT/OWNER PRIOR TO INSTALLATION. INFORM OWNER OF ANY EQUIPMENT ITEMS THAT REQUIRE RELOCATION.
- CONTRACTOR SHALL VERIFY THAT ALL EQUIPMENT, AS SHOWN ON THESE DRAWINGS, WILL NOT CONFLICT WITH ANY DRAINS, VENTS, MECH. PIPING OF ANY KIND, ELECTRICAL, ETC.
- PROVIDE VIBRATION ISOLATION DEVICES AND FLEXIBLE CONNECTIONS TO ALL MOVING MACHINERY.
- DUCT DIMENSIONS SHOWN ARE INSIDE NET DIMENSIONS. ADD TO SHEET METAL SIZE FOR INSULATION THICKNESS. HOLD DUCTWORK TIGHT TO UNDERSIDE OF STRUCTURE UNLESS OTHERWISE NOTED OR REQUIRED BY FIELD CONDITIONS. IT IS REQUIRED TO COORDINATE EXACT MOUNTING HEIGHT IN FIELD WITH SITE INVESTIGATION. SUPPLY, RETURN, OUTSIDE AIR AND RELIEF AIR DUCTS SHALL BE EXTERNALLY INSULATED WITH 1" THICK, 1.5 LBS. DENSITY FOIL FACED FIBERGLASS INSULATION. INSULATION WRAP SHALL BE SEALED WITH FAB AND MASTIC.
- ALL DUCTWORK SHALL MAINTAIN SYSTEM PRESSURE. THE AIR DISTRIBUTION COMPONENTS SHALL BE SEALED IN ACCORDANCE WITH SMACNA REQUIREMENTS. TWO INCH PRESSURE CLASS.
- ALL RESTROOM EXHAUST AIR DUCTWORK SHALL BE A MINIMUM 26 GA. GALV. SHEET METAL DUCTWORK, DUCTBOARD IS NOT PERMITTED.
- DUCT INSULATION CLOSURE SYSTEM SHALL CONSIST OF GLASS FABRIC AND NON MIGRATING MASTIC, SEAL AIR TIGHT.
- ALL FLEXIBLE DUCTS SHALL BE SUPPORTED EVERY 4'-0" WITH 2" WIDE GALV. STEEL BANDS. MINIMUM ONE PER FOOT SECTION OF FLEXIBLE DUCT. MAXIMUM LENGTH OF FLEX DUCT SHALL BE 5'-0" LONG. ALL SHALL MEET INSTALLATION AND MATERIAL REQUIREMENTS OF LOCAL CODES.
- NO FLEXIBLE DUCTS SHALL PASS THROUGH FIRE WALLS, OR BE CONNECTED TO AN EXISTING DUCT WITHIN 5'-0" FROM EITHER SIDE OF THE FIRE WALL.
- ALL BRANCH TAKEOFFS SHALL BE PROVIDED WITH MANUAL BALANCING DAMPERS LOCATED ABOVE ACCESSIBLE CEILING AS CLOSE TO MAIN TRUNK AS PRACTICABLE.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING BOX-OUT OPERATIONS FOR ALL AIRWAY MOUNTED AIR DEVICES WITH MECHANICAL CONTRACTOR AND CEILING FRAMING. CONTRACTOR SHALL COORDINATE ALL DUCT AND DIFFUSER LOCATIONS WITH LIGHTING LAYOUTS AS REQUIRED.
- ALL DUCTWORK BEHIND RETURN AIR PLENUMS SHALL BE PAINTED FLAT BLACK.
- ALL SUPPLY DUCT BENDS FROM THE VERTICAL TO HORIZONTAL AND ANGLED TURNS OF DUCTWORK SHALL HAVE TURNING VANES INSTALLED.
- PROVIDE SMOOTH TRANSITIONS AT EQUIPMENT AND AIR DEVICES TO MATCH CONNECTION SIZES. ALL DUCTWORK SHALL BE SHEET METAL FABRICATED IN ACCORDANCE WITH ASHRAE GUIDE AND SMACNA MANUAL LATEST EDITIONS.
- THE CONTRACTOR SHALL ENGAGE AN INDEPENDENT AIR BALANCING AGENCY SUBSEQUENT TO THE APPROVAL OF THE OWNERS REPRESENTATIVE. THE T&B AGENCY CAN ONLY ACT AS HIS OWN REPORTING AGENCY IF SUITABLE INSTRUMENTS HEREINAFTER REQUIRED ARE DEMONSTRATED TO BE PART OF HIS NORMAL PROCEDURE TO THE SATISFACTION OF THE OWNERS REPRESENTATIVE. THE T&B AGENCY SHALL BE AABC OR NEBB CERTIFIED. CONTRACTOR SHALL PROVIDE LANDLORD WITH WATER AND AIR BALANCE REPORT.
- IT SHALL BE THE RESPONSIBILITY OF THIS T&B AGENCY TO PROVIDE THE LOCAL BUILDING DEPARTMENT AND OWNER WITH PROPER TEST & BALANCE DATA ON AABC OR NEBB FORMS.
- BUILDING AIR SYSTEMS SHALL BE BALANCED PER DATA INCLUDED ON THE DRAWINGS TO ACHIEVE RELATIVE AIR VOLUMES AS INDICATED ON THE DRAWINGS AND SCHEDULED HEREIN. REFER TO AIR FLOW DIAGRAM FOR DETAILS.
- ALL MAKEUP AIR FANS AND KITCHEN ROOFTOP UNIT SHALL DE-ENERGIZE UPON ACTIVATION OF FIRE/ANSUL HOOD SYSTEM.
- THE OUTSIDE AIR DAMPER SHALL BE A 2-POSITION MOTORIZED DAMPER IF ECONOMIZER IS NOT USED. THE EXHAUST DUCT WILL HVAC ZERO LEAKAGE BACKDRAFT DAMPERS. ALL DAMPERS WILL AUTOMATICALLY SHUT WHEN SYSTEMS OR SPACES SERVED ARE NOT IN USE.

HVAC SYMBOLS LEGEND



HVAC ABBREVIATIONS

A	AMPS	LAT	LEAVING AIR TEMPERATURE
AFF	ABOVE FINISHED FLOOR	LDB	LEAVING DRY BULB TEMPERATURE
AHU	AIR HANDLING UNIT	LRA	LOCKED ROTOR AMPS
AMB	AMBIENT	LWB	LEAVING WET BULB TEMPERATURE
BTU	BRITISH THERMAL UNIT	MAU	MAKEUP AIR UNIT
CFM	CUBIC FEET PER MINUTE	MAX	MAXIMUM
DA	DIAMETER	MBH	1,000 BTU'S PER HOUR
EAT	ENTERING AIR TEMPERATURE	MCA	MAXIMUM CIRCUIT AMPACITY
EDB	ENTERING DRY BULB TEMPERATURE	MIN	MINIMUM
EF	EXHAUST FAN	MOPC	MAXIMUM OVERCURRENT PROTECTION
ERTU	EXISTING ROOFTOP UNIT	N T S	NOT TO SCALE
ESP	EXTERNAL STATIC PRESSURE	OA	OUTSIDE AIR
EWB	ENTERING WET BULB TEMPERATURE	PH	PHASE
'F	DEGREE FAHRENHEIT	RLA	RUNNING LOAD AMPS
FLA	FULL LOAD AMPS	RPM	REVOLUTIONS PER MINUTE
FPM	FEET PER MINUTE	NRTU	NEW ROOF TOP UNIT
FT	FOOT OR FEET	SA	SUPPLY AIR
HP	HORSEPOWER	SD	SPLITTER DAMPER
KEF	KITCHEN EXHAUST FAN	SHC	SENSIBLE HEAT CAPACITY
KW	KILOWATT	SQ. FT.	SQUARE FEET
HZ	HERTZ	T	THERMOSTAT
IN	INCH	TEF	TOILET EXHAUST FAN

FIELD VERIFY ALL CONDITIONS

NOTE! AS NOTED IN THE SPECIFICATIONS, ALL WIRING LAYOUTS, PIPING LAYOUTS AND DUCT LAYOUTS ARE SCHEMATIC. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONSTRUCTION AND STRUCTURE OF THE BUILDING AND SHALL BE VERIFIED AND COORDINATED IN THE FIELD. EACH TRADE CONTRACTOR SHALL VERIFY WITH THE GENERAL CONTRACTOR THAT HE HAS THOROUGHLY REVIEWED AND COORDINATED ALL LOCATIONS AND ROUTINGS WITH ALL OTHER TRADES PRIOR TO FABRICATION OF CONDUITS, DUCTS, OR PIPING, AND START OF INSTALLATION OF SAME (INCLUDING SPRINKLER PIPING WHEN PRESENT ON JOB). ANY INSTALLATION OR CONSTRUCTION CONFLICTS WHICH OCCUR IN THE FIELD SHALL BE RESOLVED BY THE TRADE CONTRACTOR TO THE SATISFACTION OF THE OWNER AND ARCHITECT AND AT NO EXPENSE TO THE OWNER, ARCHITECT AND/OR GENERAL CONTRACTOR.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES. THE PLANS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

PROJECT NO: 2017.0221
 DATE: 12.08.2017

MO.1
 MECHANICAL LEGEND AND NOTES

CHECKED: AS DRAWN: PH

Order Plans

@