

MECHANICAL SPECIFICATIONS

SCOPE: THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE DRAWINGS AND SPECIFICATIONS BEFORE SUBMITTING A PROPOSAL. ALL WORK SHALL BE IN ACCORDANCE WITH THE FLORIDA BUILDING CODES FIFTH EDITION (2014), WITH ALL AMENDMENTS, AND LOCAL CODES AND ORDINANCES. THE SYSTEMS, EQUIPMENT, DEVICES AND ACCESSORIES SHALL BE INSTALLED, FINISHED, TESTED AND ADJUSTED FOR CONTINUOUS AND PROPER OPERATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK FITTING IN PLACE AND SHALL COORDINATE WITH OTHER TRADES TO AVOID INTERFERENCE WITH THEIR WORK. THE INFORMATION GIVEN HEREIN AND ON THE DRAWINGS IS AS EXACT AS COULD BE SECURED, BUT ITS EXTREME ACCURACY IS NOT GUARANTEED. THE DRAWINGS ARE DIAGRAMMATIC, INTENDED TO SHOW GENERAL ARRANGEMENT, CAPACITY AND LOCATION OF VARIOUS COMPONENTS, EQUIPMENTS, AND DEVICES. IF WORK IS REQUIRED IN A MANNER TO MAKE IT IMPOSSIBLE TO PRODUCE FIRST CLASS WORK, OR SHOULD DISCREPANCIES APPEAR AMONG THE CONTRACT DOCUMENTS, OR BETWEEN THE CONTRACT DOCUMENTS AND THE MANUFACTURER'S RECOMMENDATIONS, THE CONTRACTOR SHALL REQUEST INTERPRETATION BEFORE PROCEEDING WITH WORK. CONTRACTOR SHALL FURNISH AND INSTALL ALL MINOR ITEMS WHICH ARE OBVIOUSLY AND REASONABLY NECESSARY TO COMPLETE THE INSTALLATION WHETHER OR NOT SPECIFIED IN THE DOCUMENTS.

REQUIRED COORDINATION: ALL WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN DUCTS AND PIPING (INCLUDING DIVIDED DUCTS) AND TRANSITIONS AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

CONSTRUCTION PLANS: IN GENERAL, PLANS AND DIAGRAMS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED.

REQUIRED ACCESS: CONTRACTOR SHALL ENSURE THAT ALL EQUIPMENT AND DEVICES THAT REQUIRE REPLACEMENT, SERVICING, ADJUSTING OR MAINTENANCE SHALL BE LOCATED TO ALLOW EASY ACCESS AND SPACE FOR REMOVAL OF INTERNAL ASSEMBLIES, IF REQUIRED. CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE REQUIRED TO ALLOW ACCESS, EVEN IF NOT INDICATED ON THE DRAWINGS AT NO ADDITIONAL COST TO OWNER.

WIND RESISTANCE: ALL EQUIPMENT, APPLIANCE AND SUPPORTS LOCATED EXTERIOR OF THE FACILITY SHALL BE INSTALLED TO RESIST WIND LOADS AS DETAILED IN THE BUILDING CODE.

CUTTING AND PATCHING: ALL OPENINGS AROUND DUCT OR PIPE PENETRATIONS THROUGH SMOKE OR FIRE RATED FLOORS, CEILINGS OR WALLS SHALL BE SEALED AIRTIGHT WITH MATERIALS HAVING A RATING EQUAL TO THE MATERIAL OF THE WALL, CEILING OR FLOOR PENETRATED.

EQUIPMENT TAGS: ALL EQUIPMENT WILL HAVE A PERMANENTLY FIXED ENGRAVE PHENOLIC LABEL CORRESPONDING TO THE EQUIPMENT TAG ON THE ENGINEER'S DRAWINGS.

FIRESTOPPING: UL APPROVED MATERIALS AND METHODS SHALL PROTECT THE PENETRATIONS OF FIRE AND/OR SMOKE RATED WALLS, CEILINGS OR FLOORS. THE RATING OF THE FIRESTOPPING SHALL EQUAL THE RATING OF THE RATED ASSEMBLY. ALL INSULATION SHALL HAVE COMPOSITE FIRE AND SMOKE HAZARD RATINGS AS TESTED BY PROCEDURE ASTM E-84, NFPA-225, UL-723 NOT EXCEEDING:

FLAME SPREAD 25
SMOKE DEVELOPED 50
FUEL DISTRIBUTED 50

ACCESSORIES SUCH AS ADHESIVE, MASTIC, CEMENTS AND TAPES SHALL HAVE THE SAME COMPONENT RATING AS LISTED ABOVE.

START-UP: CONTRACTOR SHALL STARTUP ALL EQUIPMENT AND FOLLOW THE MANUFACTURER'S START-UP PROCEDURES.

OPERATING AND MAINTENANCE DATA: SUBMIT THREE COPIES OF MANUFACTURER'S OPERATING AND MAINTENANCE INSTRUCTIONS AND SPARE PARTS LIST FOR EACH PIECE OF EQUIPMENT.

CONDENSATE DRAIN PIPING: CONDENSATE DRAIN PIPING SHALL BE PVC TYPE DWV. DRAINS SHALL BE PITCHED NOT LESS THAN 1" IN 10'. RUNS SHALL BE AS SHORT AS POSSIBLE WITHOUT ANY DIPS TO TRAP WATER AND INTERFERE WITH PROPER DRAINAGE. PROVIDE TRAPS AND CLEANOUTS AT DRAIN PAN CONNECTIONS. RUN CONDENSATE DRAIN PER PLANS.

DIMENSIONAL DATA: ALL DUCTWORK DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.

SUPPLEMENTARY SUPPORTS: CONTRACTOR SHALL PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED TO SUSPEND MECHANICAL EQUIPMENT AND MATERIALS, IN ORDER TO PROVIDE A "VIBRATION-FREE" RIGID INSTALLATION.

DUCTWORK - GENERAL: FABRICATE AND INSTALL ALL DUCTWORK AND DUCT ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, THE LATEST NFPA STANDARDS, AND THIS SPECIFICATION. THE MOST STRINGENT OF THESE SHALL BE THE MINIMUM STANDARD. MINIMUM OF 1" PRESSURE CLASS RATING FOR ALL FIBERGLASS DUCTWORK AND 2" FOR ALL SHEET METAL.

ALL NEW RIGID DUCTWORK SHALL BE GALVANIZED SHEET METAL STEEL OF LOCKFORMING GRADE CONFORMING TO ASTM A653 AND ASTM A924. G-60 ZINC COATING.

DUCTWORK INSTALLATION: ALL INTERIOR DUCTWORK SHALL BE SEALED TO SMACNA CLASS (C) REQUIREMENTS. PROVIDE DOUBLE THICKNESS TURNING VANES IN ALL NINETY (90) DEGREE SQUARE ELBOWS. CONTRACTOR SHALL FURNISH AND INSTALL ALL DUCT OFFSETS AS REQUIRED TO CLEAR INTERFERENCES WITH EXISTING BUILDING STRUCTURE, PIPES AND ELECTRICAL CONDUITS. FURNISH AND INSTALL ALL MISCELLANEOUS STEEL SUPPORTS REQUIRED FOR HANGING AND SUPPORTING DUCTWORK UNLESS OTHERWISE NOTED.

INSULATION: ASSURE ALL DUCTWORK IS SEALED PRIOR TO INSTALLING INSULATION. ALL SHEET METAL SUPPLY & RETURN DUCTWORK SHALL BE WRAPPED WITH 2" THICK FIBERGLASS BLANKET INSULATION WITH FSK (ASJ) FACING. MINIMUM INSTALLED R VALUE OF 6.0, AND FLAME SPREAD/SMOKE DEVELOPED RATINGS OF 25/50 BY ASTM E-84.

INSTALL INSULATION ON DUCTWORK USING ADHESIVE AND/OR WELDED PINS WITH WASHERS. SEAL ALL INSULATION JOINTS, SEAMS AND FASTENER PIN PENETRATIONS WITH VAPOR RETARDING PRESSURE SENSITIVE TAPE OR WITH GLASS FABRIC AND MASTIC.

SMOKE DETECTORS: INSTALL SMOKE DETECTORS AS RECOMMENDED BY MANUFACTURER TO ACQUIRE PROPER READINGS. LOCATION OF DUCT MOUNTED SMOKE DETECTORS ARE FOR REFERENCE LOCATION ONLY. FINAL PLACEMENT SHALL MEET ALL REQUIREMENTS IN THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE 12"x12" ACCESS DOOR FOR INSPECTION AND SERVICE. SMOKE DETECTORS SHALL BE FURNISHED & WIRED BY ELECTRICIAN/FIRE ALARM CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR. WIRE SMOKE DETECTORS TO SHUTOFF UNIT WITH THE DETECTION OF SMOKE.

CONTROLS: PROVIDE CONTROLS COMPLETE TO SUIT THE EQUIPMENT PROVIDED AND TO ACCOMPLISH THE SEQUENCE OF OPERATION AS REQUIRED BY PLANS AND SYSTEMS. LOCATE THERMOSTATS 48" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED. THERMOSTATIC CONTROLS SHALL BE PROGRAMMABLE TO INCLUDE ALL ITEMS REQUIRED BY 2014 FBC-ENERGY CODE.

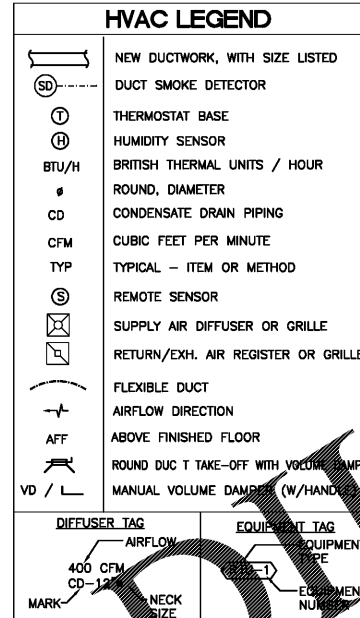
TESTING AND BALANCING: THE CONTRACTOR SHALL ENSURE THAT ALL DEVICES AND SYSTEMS ARE COMPLETE, TESTED AND BALANCED, AND READY FOR OPERATION WHEN THE FACILITY IS HANDED OVER TO THE OWNER. THE AIR CONDITIONING SYSTEM SHALL BE TESTED IN ACCORDANCE WITH AABC OR NEBB PROCEDURES. WRITTEN REPORT SHALL BE SUBMITTED TO MECHANICAL ENGINEER FOR APPROVAL.

SUBMITTALS REQUIRED: SUBMIT SHOP DRAWINGS FOR ALL MATERIALS, EQUIPMENT, AND SYSTEMS REQUIRED BY THESE DOCUMENTS (SEE ARCH. PLANS/SPECS FOR SPECIFIC FORMATTING), INCLUDING:

- ROOFTOP UNITS
- EXHAUST FANS
- ROOF A/C STANDS
- DUCTWORK & SHEET METAL ACCESSORIES (CONNECTIONS, MASTICS, ETC.)
- THERMOSTATS & CONTROLS

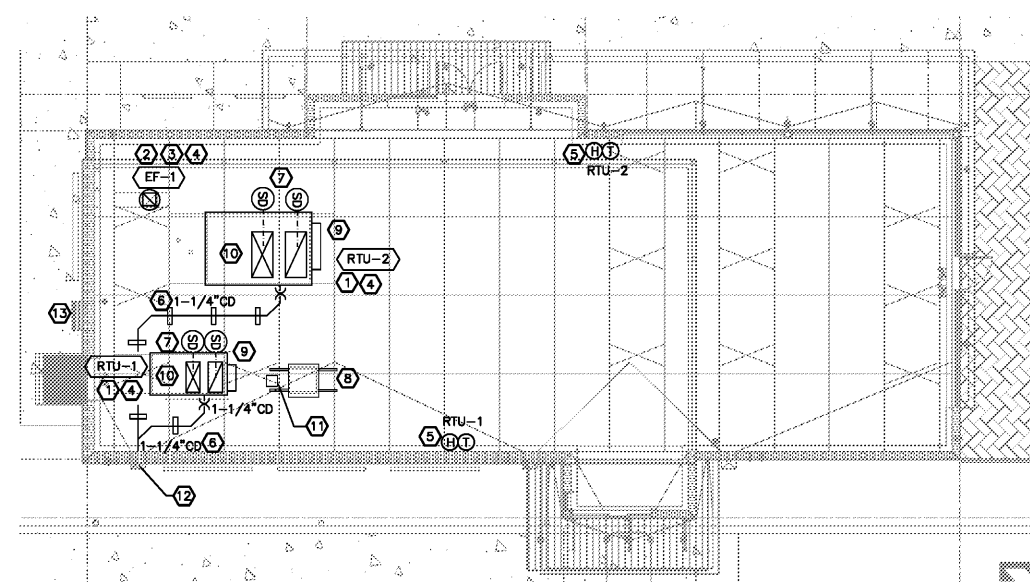
SUBSTITUTIONS: CONTRACTOR SHALL PAY FOR ANY AND ALL ADDED COSTS ASSOCIATED WITH ANY SUBSTITUTION, INCLUDING SUBSTITUTIONS THAT REQUIRE CHANGES TO THE OTHER BUILDING COMPONENTS, SUCH AS ELECTRICAL, STRUCTURAL REINFORCING, CEILING, WALLS, ROOFS, ETC. THIS WILL INCLUDE ANY ENGINEERING/ARCHITECTURAL RE-DESIGN COSTS AS A RESULT OF SAID SUBSTITUTION. THESE COSTS SHALL NOT BE BORNE BY THE OWNER, ARCHITECT, NOR ENGINEER, REGARDLESS OF ACCEPTABILITY OF SUBSTITUTION. ENGINEER RESERVES THE RIGHT TO ACCEPT OR DENY ANY SUBSTITUTION THAT HE DOES NOT DEEM TO BE EQUIVALENT, AND CONTRACTOR SHALL PROVIDE SPECIFIED EQUIVALENT MATERIALS/EQUIPMENT AT NO ADDITION COST TO OWNER, SHOULD A SUBSTITUTION BE DENIED.

WARRANTY: THE ONE-YEAR GUARANTEE PERIOD SHALL NOT START UNTIL THE PROJECT IS FULLY COMPLETED AND THE CONTRACTOR HAS RECEIVED THE FINAL PAYMENT. ALL NEW EQUIPMENT AND ALL WORK SHALL BE FULLY GUARANTEED, PARTS AND LABOR, FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR ONE YEAR FROM THE DATE OF FINAL PAYMENT, AT NO ADDITIONAL COST TO OWNER. REPAIRS MADE DURING THIS PERIOD MUST BE FULLY GUARANTEED FROM DEFECTS IN MATERIAL AND WORKMANSHIP AT NO EXPENSE TO THE OWNER, FOR AN ADDITIONAL ONE YEAR PERIOD FROM THE DATE OF REPAIRS AT NO ADDITIONAL COST TO OWNER. IN ADDITION, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO THE BUILDING, AND ITS CONTENTS OR OTHER EQUIPMENT CAUSED BY DEFECTS OR IMPROPER INSTALLATION OF EQUIPMENT OR MATERIAL INSTALLED. ALL NEW HVAC UNITS SHALL INCLUDE 5-YEAR WARRANTY ON COMPRESSORS AND 1-YEAR WARRANTY ON ALL OTHER PARTS AND LABOR FOR UNIT.



KEY NOTES ON PLANS:

- 1 PACKAGED ROOFTOP A/C UNIT. COORDINATE FINAL LOCATION WITH G.C.
- 2 NEW ROOF MOUNTED EXHAUST FAN.
- 3 PROVIDE 4-FT LONG FULL SIZE (MIN. 12"x12") DUCT DROP DOWN BELOW ROOF.
- 4 COORDINATE UNIT INSTALLATION REQUIREMENTS WITH G.C. AND STRUCTURAL PLANS AND DETAILS.
- 5 INSTALL THERMOSTAT / HUMIDITY SENSOR TEMPORARILY ON WALL WITH 75-FT EXTRA WIRING COILED AT UNIT (TYPICAL)
- 6 ROUTE CONDENSATE PIPING ON PIPE SUPPORTS AT 4-FT INTERVALS.
- 7 INSTALL DUCT SMOKE DETECTOR IN SUPPLY & RETURN DUCT DROP (TYPICAL-2 RTU'S)
- 8 MECHANICAL CONTRACTOR SHALL FURNISH AND G.C. TO INSTALL NEW ROOF STAND FOR FUTURE TENANT ICE MACHINE CONDENSER.
- 9 OUTSIDE AIR INTAKE ON THIS END OF RTU - COORDINATE INSTALL TO ENSURE MIN. 10-FT CLEAR FROM EXHAUST FAN AND PLUMBING VENT STACKS.
- 10 PROVIDE 4-FT LONG FULL-SIZE DUCT DROPS INTO CEILING CAVITY WITH ENDS CAPPED FOR FUTURE.
- 11 12"x12" PIPE CURB FOR FUTURE ICE MACHINE CONDENSER.
- 12 SPILL CONDENSATE MANIFOLD THROUGH SCUPPER AND INTO DOWNSPOUT (TYPICAL ON ROOF)
- 13 PERMANENT LADDER ON WALL FOR ROOF ACCESS WITH OPENING IN PARAPET.



MECHANICAL ROOF PLAN
SCALE: 1/8" = 1'-0"

NOTE: FINAL UNIT SIZING, SPECS, AND LOCATIONS MUST BE APPROVED BY TENANT AND LANDLORD'S ENGINEER PRIOR TO BID.

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TO THE BEST OF THE KNOWLEDGE OF THE ARCHITECT AND ENGINEER, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE MINIMUM FIRE SAFETY STANDARDS.

no.	date	revision descriptions

STARBUCKS SHELL CONSTRUCTION
2500 MONUMENT ROAD
JACKSONVILLE, FL

12.13.17
date
17047
comm. no.

MECHANICAL
ROOF PLAN
& SPECIFICATIONS

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