

MECHANICAL SPECIFICATIONS

GENERAL MECHANICAL REQUIREMENTS

DIVISION 15

GENERAL

DRAWINGS AND GENERAL CONDITIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTAL CONDITIONS AND DIVISION 1 SPECIFICATIONS APPLY TO WORK SPECIFIED IN THIS SECTION.

SCOPE OF WORK

WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

PROVIDE ALL LABOR, MATERIALS, SERVICES, EQUIPMENT AND APPLIANCES REQUIRED FOR THE FABRICATION, INSTALLATION, AND/OR RENOVATION OF MECHANICAL SYSTEMS INCLUDING HEATING, VENTILATING, AIR CONDITIONING AND MISCELLANEOUS SYSTEMS AS INDICATED ON THE DESIGN DRAWINGS AND AS OUTLINED IN THESE SPECIFICATIONS.

RELATED WORK SPECIFIED ELSEWHERE

REFER TO ELECTRICAL SPECIFICATION (DIV. 16) FOR ELECTRICAL WORK TO BE DONE IN CONJUNCTION WITH THE MECHANICAL WORK. THIS CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT, WIRING, JUNCTION BOXES, ETC., REQUIRED FOR HVAC CONTROLS.

INSTALL DUCT SMOKE DETECTOR FURNISHED BY DIVISION 16 IN SUPPLY AIR DUCTS OF AIR HANDLING UNITS EXCEEDING 2000CFM AND WHERE INDICATED ON DRAWINGS. DETECTOR TO SHUT UNIT DOWN WHEN ACTIVATED.

SUBSTITUTIONS

EQUIPMENT AND DESIGN OF SYSTEMS INDICATED ON THE DESIGN DRAWINGS AND WITHIN THESE SPECIFICATIONS SHALL BE CONSIDERED AS "SPECIFIED STANDARD" OF QUALITY. NO SUBSTITUTIONS SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.

ANY DEVIATION FROM SPECIFIED EQUIPMENT THAT AFFECTS THE ELECTRICAL REQUIREMENTS SHALL BE COORDINATED BY THE MECHANICAL CONTRACTOR AND EQUIPMENT VENDOR WITH THE ELECTRICAL CONTRACTOR PRIOR TO SUBMITTING BIDS. FAILURE OF MECHANICAL CONTRACTOR AND VENDOR TO DO SO WILL NOT BE CAUSE FOR CHANGE OF BID AT A LATER TIME. IT WILL NOT BE THE ELECTRICIAN'S RESPONSIBILITY TO COORDINATE REVISED ELECTRICAL REQUIREMENTS DUE TO EQUIPMENT CHANGES INITIATED BY THE MECHANICAL CONTRACTOR AND VENDOR. IN ADDITION, THE MECHANICAL CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR ANY AND ALL CHANGES TO ENGINEERING PLANS REQUIRED BY AUTHORITY HAVING JURISDICTION.

CODES AND STANDARDS

APPLICABLE CODES:

- 2010 FLORIDA BUILDING CODE - MECHANICAL
- 2010 FLORIDA BUILDING CODE - EXISTING BUILDING
- NFPA 90A, 2009 EDITION
- NFPA 72, 2007 EDITION (TO COVER THE AIR DUCT DETECTORS)
- NFPA 101, 2009 EDITION
- FLORIDA FIRE PREVENTION CODE (FFPC), 2010 EDITION

THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS, INSPECTIONS AND PAY ALL FEES.

ENVIRONMENTAL DESIGN CONDITIONS

OUTDOOR DESIGN CONDITIONS BASED ON ASHRAE DATA FOR ORLANDO, FLORIDA CONDITIONS OF 94°F DB, 79°F WB, WITH WINTER CONDITIONS OF 35°F WINTER DRY BULB.

INDOOR DESIGN CONDITIONS BASED ON STANDARD OFFICE ENVIRONMENT OF 75°F AND 50% RELATIVE HUMIDITY.

PRODUCTS

ALL EQUIPMENT, ETC., SHALL BE NEW UNLESS OTHERWISE NOTED, AND AS SPECIFIED, FREE OF DEFECTS, AS SHOWN ON THE DRAWINGS, AND AS INDICATED IN THESE SPECIFICATIONS. ALL ELECTRICALLY POWERED EQUIPMENT SHALL BE U.L. OR E.T.L. LISTED.

WORKMANSHIP

ALL MATERIALS SHALL BE FABRICATED AND INSTALLED IN A NEAT AND WORKMANLIKE MANNER WITH THE COORDINATION OF ALL INVOLVED TRADES TO AVOID INTERFERENCES AND DELAY DUE TO LACK OF COORDINATION. NO ALLOWANCES WILL BE MADE FOR REWORK DUE TO COORDINATION DIFFICULTIES OR INTERFERENCES BETWEEN INVOLVED TRADES.

MECHANICAL CONTRACTOR SHALL DAILY REMOVE REFUSE AND DEBRIS ACCUMULATING FROM MECHANICAL CONSTRUCTION AND PRIOR TO ACCEPTANCE OF THIS WORK. LEAVE THE PREMISES "BROOM CLEAN" INsofar AS AFFECTED BY MECHANICAL WORK.

SHOP DRAWINGS AND SUBMITTALS

SUBMIT FOR ENGINEER'S APPROVAL, SHOP DRAWINGS, AND MANUFACTURER'S DATA FOR ALL NEW EQUIPMENT AND ACCESSORIES PRIOR TO PURCHASE AND OR FABRICATION.

SHOP DRAWINGS FOR EQUIPMENT REQUIRING ELECTRIC POWER OR CONTROL WIRING CONNECTIONS SHALL INCLUDE COMPLETE WIRING DIAGRAMS

SUBMITTAL PACKAGE FOR HVAC EQUIPMENT SHALL INCLUDE QUALIFICATIONS AND CERTIFICATIONS OF PROPOSED TEST AND BALANCE SUBCONTRACTOR. HVAC SUBMITTALS WILL NOT BE REVIEWED WITHOUT TEST AND BALANCE DOCUMENTATION. QUALIFICATIONS OF MULTIPLE TEST AND BALANCE CONTRACTORS ARE ACCEPTABLE (TO ACCOMPLISH COMPETITIVE BIDDING OF WORK). CONTRACTOR SHALL SUBMIT WITH BID PROPOSED TEST AND BALANCE CONTRACTOR FOR APPROVAL.

WHEN PROVIDED, THE DUCTWORK SHOP DRAWINGS WILL ONLY BE REVIEWED FOR COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS. THE DUCTWORK SHOP DRAWINGS WILL NOT BE CHECKED FOR COORDINATION WITH OTHER TRADES OR BUILDINGS STRUCTURE. IT IS THE RESPONSIBILITY OF THE CONTRACTORS TO COORDINATE AND VERIFY ROUTING AND EXACT LOCATION OF SYSTEM COMPONENTS.

RECORD DRAWINGS

CONTRACTOR SHALL PROVIDE THE ENGINEER TWO (2) SETS OF COMPLETE HVAC RECORD DRAWINGS AT THE TIME OF SUBSTANTIAL COMPLETION. RECORD DRAWINGS SHALL BE PROVIDED ON REPRODUCIBLE VELLUM AND AUTOCADD DRAWING FILES [RELEASE 2000 OR NEWER]. RECORD DRAWINGS SHALL CONSIST OF AN ACCURATE "AS-BUILT" RECORD OF THE INSTALLED WORK. PROJECT WILL NOT BE COMPLETE UNTIL ACCURATE RECORD DRAWINGS ARE DELIVERED.

ACCESS DOORS

CONTRACTOR SHALL PROVIDE HINGED ACCESS DOORS (MIN. 12 IN.X12 IN.) FOR DAMPERS, VALVES, ETC. WHERE FLOORS, WALLS, AND CEILINGS MUST BE PENETRATED TO ACCESS MECHANICAL SYSTEMS. FINISH SHALL BE COORDINATED THROUGH ARCHITECT TO MATCH SURROUNDING FINISHES. FIRE RATED ACCESS DOORS IN FIRE RATED WALLS OR CEILINGS SHALL BEAR A U.L. LABEL FOR FIRE RATING REQUIRED.

1. **WALL:** ACORN NO. 8211-H3, DRYWALL TYPE, PRIME COATED STEEL, CONCEALED HINGE TYPE WITH ALLEN KEY LOCK ON REMOVABLE DOOR FOR PAINTED SURFACES. FOR TILE USE ACORN NO. 8212-H1, SATIN FINISH 18-8 STAINLESS STEEL. FOR PLASTER WALLS, USE ACORN NO. 8212-H3 PRIME-COATED STEEL.
2. **EXTERIOR AREAS:** SMITH 4261, ZURN NO. Z-1460-15 CAST IRON SURFACE LEVEL ACCESS COVER ASSEMBLY WITH LIFTING DEVICE WITH Z-1450-8 FOR CONCRETE SURFACE. FOR ASPHALT CONCRETE OR EARTH SURFACE, USE ZURN NO. Z-1460-15 WITH Z1450-8.
3. **FLOORS:** SMITH 4930, ZURN NO. Z-1460-10 NICKEL BRONZE SCORLATED SECURED TOP ACCESS COVER WITH LIFTING DEVICE AND PERFORATED CONCRETE FLANGE. SIZE AS INDICATED ON DRAWINGS. USE ZURN NO. ZANB-1460-12 OR SMITH 4940 FOR HINGED NON-REMOVABLE SECURED COVER.

EXECUTION

COORDINATE AND SCHEDULE THE WORK WITH THE OWNER TO MINIMIZE DISRUPTIONS TO THE NORMAL OPERATIONS AT THE BUILDING.

ALL LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC., INDICATED ON THE DRAWINGS IS DIAGRAMMATIC AND SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE TO THE PLANS SUBJECT TO BUILDING CONSTRUCTION AND INTERFERENCES WITH OTHER TRADES. ALL WORK SHALL BE INSTALLED TO ENSURE MAXIMUM HEADROOM, BALANCED OPERATION AND SUITABLE AESTHETIC APPEARANCE. CONTRACTOR IS RESPONSIBLE FOR ANY FIELD MEASUREMENTS REQUIRED TO PROVIDE AN APPROVED AND FUNCTIONAL INSTALLATION.

COORDINATE WITH OTHER TRADES AND FIELD-VERIFY EXISTING CONDITIONS FOR EXACT LOCATION AND ROUTING OF SYSTEMS. PROVIDE OFFSETS, TRANSITIONS AND ADAPTORS AS REQUIRED.

NOT ALL COMPONENTS REQUIRED FOR A COMPLETE INSTALLATION ARE SHOWN ON THESE DRAWINGS. REFER TO EQUIPMENT INSTALLATION INSTRUCTION, SCHEDULES AND APPLICABLE CODES FOR ADDITIONAL INFORMATION, INCLUDING REQUIRED CONNECTION LOCATIONS, TYPES AND SIZES. PROVIDE ISOLATION VALVES AND UNIONS AT ALL EQUIPMENT AND AS INDICATED ON DRAWINGS.

PERFORM ALL WORK NECESSARY TO PREPARE THE STRUCTURE FOR THE INSTALLATION OF THE WORK. ALL HOLES, OPENINGS AND DAMAGED MATERIALS CREATED DURING CONSTRUCTION SHALL BE REPAIRED AND FINISHED BY EXPERIENCED WORKMEN.

PROVIDE ALL PENETRATIONS REQUIRED TO COMPLETE INSTALLATION AND REMOVAL OF WORK (MAINTAIN FIRE RATING OF EXISTING STRUCTURE). ALL PENETRATIONS SHALL BE PATCHED AND FINISHED TO MATCH SURROUNDING SURFACES AND FINISHES. ALL PENETRATIONS SHALL BE SLEEVED AND SEALED SO AS TO BE WATER AND AIR TIGHT.

ALL ROOF CUTS AND REPAIRS SHALL BE PERFORMED BY OWNER APPROVED ROOFING CONTRACTOR IN ORDER TO MAINTAIN ROOF WARRANTY.

CLEANING, TESTING AND ADJUSTING:

THE MECHANICAL CONTRACTOR, AT HIS EXPENSE, SHALL CLEAN, REPAIR, ADJUST, CHECK, BALANCE, AND PLACE IN SERVICE THE VARIOUS SYSTEMS HEREIN SPECIFIED WITH THEIR RESPECTIVE EQUIPMENT, ACCESSORIES AND PIPING. HE SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND TOOLS REQUIRED FOR PERFORMANCE TESTS REQUIRED BY THESE SPECIFICATIONS AND BY THE GOVERNING AUTHORITIES.

NO WORK SHALL BE COVERED OR CONCEALED UNTIL PROPERLY INSPECTED AND TESTED.

EXCAVATION AND BACKFILL:

PROVIDE ALL EXCAVATION AND TRENCHING TO THE CORRECT ELEVATIONS, FOR THE INSTALLATION OF ALL PIPING, VALVE, VALVE PITS AND FOUNDATIONS INCLUDED UNDER THIS DIVISION OF THE WORK.

PROVIDE ALL BACKFILL AND COMPACTION IN STRICT ACCORDANCE WITH THE EXCAVATION AND BACKFILL SECTION OF DIVISION 1 SPECIFICATIONS.

TESTING:

CONDENSATE DRAINS SHALL BE TESTED BY TEMPORARILY PLUGGING ALL OUTLETS AND FILLING THE SYSTEM WITH WATER TO THE LEVEL OF THE HIGHEST VENT STACK. THE SYSTEM MUST BE INSPECTED AND ALL LEAKS REPAIRED AND THE TEST REPEATED UNTIL THE WATER LEVEL DOES NOT DECREASE FOR A PERIOD OF 24 HOURS.

ADJUST THE AIR CONDITIONING SYSTEMS, VENTILATING SYSTEMS, FANS, ETC., TO DELIVER NOT LESS THAN THE REQUIRED AIR QUANTITIES WITH QUANTITIES IN EXCESS TO BE SUBJECT TO THE APPROVAL OF THE ENGINEER IF FOUND TO NOT HAVE OBJECTIONABLE EFFECTS SUCH AS NOISE, DRAFTS, OR MOTOR OVERLOAD.

PRIOR APPROVAL BY THE ENGINEER OF TESTING AND BALANCING CONTRACTOR IS REQUIRED. REFER TO SHOP DRAWINGS AND SUBMITTAL SECTION. TEST AND BALANCE REPORTS BY NON-APPROVED CONTRACTORS WILL BE REJECTED.

THIS CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF A TEST AND BALANCE REPORT TO THE ENGINEER AT TIME OF SUBSTANTIAL COMPLETION INSPECTION. THE TEST AND BALANCE REPORT SHALL BE PREPARED BY A CONTRACTOR CERTIFIED BY ASSOCIATED AIR BALANCE COUNCIL OR NATIONAL ENVIRONMENTAL BALANCING BUREAU

THE TEST AND BALANCE REPORT SHALL BE TYPEWRITTEN AND CONTAIN THE FOLLOWING DATA:

1. DATE, TIME, WEATHER, WHEN TEST TAKEN.
2. AIR CAPACITIES AT EACH UNIT INCLUDING OUTSIDE AIR. (ENTERING AND LEAVING DB/WB)
3. STATIC PRESSURE THROUGH UNITS AND UNIT COMPONENTS.
4. MOTOR OPERATING VOLTAGE AND AMPERAGE.
5. DRIVE TYPES, SIZES AND SPEED RANGE.
6. IDENTIFICATION OF ALL AIR TERMINAL DEVICES WITH DESIGN CFM AND ACTUAL CFM.

ADDITIONALLY, SYSTEMS DRAWINGS CLEARLY MARKED TO IDENTIFY LOCATION OF EQUIPMENT AND AIR DEVICES TESTED SHALL BE PROVIDED ALONG WITH THE WRITTEN TEST AND BALANCE REPORT.

MAINTENANCE MANUALS

PROVIDE COMPLETE MAINTENANCE MANUALS (3 REQUIRED) ON ALL NEW EQUIPMENT. ORGANIZE OPERATING AND MAINTENANCE DATA INTO SUITABLE SETS OF MANAGEABLE SIZE. BIND PROPERLY INDEXED DATA IN INDIVIDUAL, HEAVY-DUTY, 2-INCH, 3-RING VINYL-COVERED BINDERS WITH POCKET FOLDERS FOR FOLDED SHEET INFORMATION. MARK APPROPRIATE IDENTIFICATION ON FRONT AND SPINE OF EACH BINDER. INCLUDE THE FOLLOWING TYPES OF INFORMATION. THE INFORMATION WILL BE TURNED OVER TO THE OWNER AT TIME OF SUBSTANTIAL COMPLETION:

- OPERATING AND MAINTENANCE INSTRUCTIONS
- SPARE PARTS LIST
- COPIES OF WARRANTIES
- WIRING DIAGRAMS
- INSPECTION REPORTS & APPROVALS
- SHOP DRAWINGS AND PRODUCT DATA
- TEST AND BALANCE INFORMATION

TRAINING SERVICES

THOROUGHLY INSTRUCT THE OWNER'S REPRESENTATIVE IN THE OPERATION OF ALL EQUIPMENT FURNISHED AND LOCATION OF ALL VALVES AND CONTROL DEVICES.

TRAIN BUILDING OWNER'S PERSONNEL DURING NORMAL WORKING HOURS ON START-UP AND SHUTDOWN PROCEDURES, TROUBLESHOOTING PROCEDURES, SERVICING AND PREVENTATIVE MAINTENANCE SCHEDULE AND PROCEDURES. REVIEW WITH THE OWNER'S PERSONNEL THE DATA CONTAINED IN THE OPERATING AND MAINTENANCE MANUALS. SCHEDULE TRAINING WITH OWNER, PROVIDE AT LEAST 7-DAYS PRIOR NOTICE TO ARCHITECT/ENGINEER.

SYSTEM IDENTIFICATION

PROVIDE IDENTIFICATION LABELS ON OR NEAR EACH PIECE OF MAJOR EQUIPMENT AND EACH OPERATIONAL DEVICE AND DISCONNECT. THE LABELS SHALL BE CONSTRUCTED OF ENGRAVED PLASTIC LAMINATE SIGN OR PLASTIC EQUIPMENT MARKER PERMANENTLY SECURED TO EQUIPMENT. THE LETTERING SHALL BE A MINIMUM OF 1/2 INCH HIGH FOR EQUIPMENT NAME AND 3/8 INCH FOR EQUIPMENT INFORMATION.

ALL VALVES SHALL BE TAGGED USING PLASTIC LAMINATE TAGS AND SECURED WITH BRASS CHAINS. THE TAGS SHALL INDICATE THE VALVE SIZE, SERVICE AND FUNCTION (I.E. 2" CW, MAIN SERVICE SHUTOFF).

HANGERS AND SUPPORTS

PROVIDE ALL NECESSARY DUCTWORK, PIPE SUPPORTS, HANGERS, RODS, CLAMPS AND ATTACHMENTS TO PROPERLY INSTALL AND SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM THE BUILDING STRUCTURE.

PROVIDE ANY ANGLE IRON OR UNISTRUT AND SUSPENSION RODS REQUIRED TO INSTALL EQUIPMENT, PIPING AND DUCTWORK.

ALL SUPPORTS EXPOSED TO OUTDOORS SHALL BE CLEANED, PRIMED AND PAINTED TO PREVENT RUSTING. FINISH COLOR AS SELECTED BY OWNER.

THE USE OF BALING WIRE, NATURAL OR SYNTHETIC FABRIC STRAPS, OR PERFORATED METAL STRAPPING IS NOT ACCEPTABLE FOR SUPPORTS.

WARRANTY/GUARANTEES:

THE CONTRACTOR SHALL WARRANTY/GUARANTEE AND MAINTAIN THE STABILITY OF WORK AND MATERIALS AND KEEP SAME IN PERFECT REPAIR AND CONDITION OF THE PERIOD OF ONE (1) YEAR.

DEFECTS OF ANY KIND DUE TO FAULTY WORK OR MATERIALS APPEARING DURING THE ABOVE MENTIONED PERIOD MUST BE IMMEDIATELY MADE GOOD BY THE CONTRACTOR AT HIS OWN EXPENSE TO THE ENTIRE SATISFACTION OF THE OWNER AND ARCHITECT AND ENGINEER. SUCH RECONSTRUCTION AND REPAIRS SHALL INCLUDE ALL DAMAGE TO THE FINISH OR FURNISHING OF THE BUILDING RESULTING FROM THE ORIGINAL DEFECT OR REPAIRS THERETO.

HEATING/VENTILATING/AIR CONDITIONING SPECIFICATIONS

SCOPE OF WORK

FURNISH AND INSTALL COMPLETE AIR CONDITIONING SYSTEMS AS INDICATED ON THE DESIGN DRAWINGS AND AS OUTLINED WITHIN THESE SPECIFICATIONS. WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FABRICATION AND/OR INSTALLATION OF THE SCHEDULED AIR CONDITIONING UNITS, EXHAUST FANS, VARIABLE VOLUME BOXES, AIR DISTRIBUTION AND DUCTWORK.

EQUIPMENT:

AIR CONDITIONING UNITS:

UNITS SHALL BE SPLIT SYSTEM AIR-TO-AIR ELECTRIC AIR CONDITIONING UNITS AS SCHEDULED ON THE DESIGN DRAWINGS. UNITS WITH INTEGRAL ELECTRIC RESISTANCE HEATERS SHALL HAVE A SINGLE-POINT ELECTRIC CONNECTION.

TOTAL COOLING CAPACITY OF THE UNITS SHALL BE AS SCHEDULED ON DRAWINGS. UNIT CABINET SHALL BE CONSTRUCTED OF GALVANIZED STEEL, BONDERIZED AND COATED WITH BAKED ENAMEL. CABINET INSULATION SHALL COMPLY WITH FLORIDA ENERGY CODE.

REFRIGERATION SYSTEM - THE UNITS SHALL CONTAIN HERMETIC COMPRESSORS WITH SERVICE VALVES AND VIBRATION ISOLATION. UNITS SHALL HAVE DUAL COMPRESSORS AND DUAL REFRIGERATION CIRCUITS OR CAPACITY REDUCTION STEPS WHERE INDICATED ON EQUIPMENT SCHEDULE.

FANS AND MOTORS - THE INDOOR AIR FANS SHALL BE OF THE FORWARD-CURVED CENTRIFUGAL CLASS 1 TYPE. THE OUTDOOR AIR FANS SHALL BE OF THE PROPPELLER TYPE, EACH DIRECTLY DRIVEN BY AN INHERENTLY PROTECTED MOTOR. MOTOR AND DRIVE TO PROVIDE HIGHER FAN OUTPUT WHEN JOB REQUIREMENTS EXCEED STANDARD FAN CAPACITY SHALL BE PROVIDED.

SAFETY CONTROLS - COOLING SYSTEM SHALL BE PROTECTED BY: LOSS OF CHARGE PROTECTION, HIGH AND LOW PRESSURESTAT, COMPRESSOR MOTOR OVERLOADS, AND A TIMING DEVICE WHICH WILL PROHIBIT THE COMPRESSOR MOTOR FROM BEING SUBJECTED TO A STARTING CURRENT MORE THAN ONCE EVERY FIVE MINUTES.

CONTROLS - PROVIDE WALL MOUNTED, HEAT/COOL ON-OFF-AUTO THERMOSTAT AND 139 DEGREE FIRESTAT FOR EACH UNIT.

SINGLE PACKAGE UNITS SHALL BE PROVIDED WITH MANUAL OUTSIDE AIR INTAKE HOOD AND 14" HIGH FULL PERIMETER ROOF CURBS (SEE SCHEDULE). POWER CONNECTIONS SHALL BE FROM THE BOTTOM OF THE UNIT WITHIN THE PERIMETER OF ROOF CURB.

WARRANTY:

PROVIDE A ONE (1) YEAR WARRANTY ON THE COMPLETE SYSTEM AND AN ADDITIONAL FOUR (4) YEAR FACTORY WARRANTY ON ALL COMPRESSORS. LOSS OF REFRIGERANT WILL BE REPLACED AT NO COST TO OWNER FOR A PERIOD OF ONE (1) YEAR.

CONDENSATE DRAINS:

TYPE L COPPER OR SCHEDULE 80 PVC. ROUTE AS INDICATED ON PLANS. INSULATE WITH 1/2" ARMAFLEX INSULATION RATED FOR PLENUM APPLICATION. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

MECHANICAL DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
M0.1	MECHANICAL SPECIFICATIONS AND LEGEND
M0.2	MECHANICAL SPECIFICATIONS
M1.1	OVERALL MECHANICAL REFERENCE PLAN
M1.2	FIRST FLOOR PLAN - MECHANICAL DEMOLITION
M1.3	PARTIAL FIRST FLOOR PLAN - MECHANICAL LOBBY AREA
M1.4	PARTIAL FIRST FLOOR PLAN - MECHANICAL THEATER KITCHEN
M2.1	PARTIAL SECOND FLOOR PLAN - MECHANICAL OFFICE AREA
M2.1	PARTIAL SECOND FLOOR PLAN - MECHANICAL THEATER AREA
M3.1	OVERALL ROOF PLAN - MECHANICAL ALL LEVELS
M4.1	MECHANICAL SCHEDULES
M4.2	MECHANICAL DETAILS

H.V.A.C. LEGEND			
	SUPPLY DIFFUSER		NEW DUCTWORK
	RETURN GRILLE		SPIN-IN COLLAR WITH VOLUME DAMPER
	EXHAUST GRILLE		END CAP
	NEW SLOT DIFFUSER		SUPPLY DUCT UP
	SIDEWALL GRILLE OR LOUVER		SUPPLY DUCT DOWN
	DIFFUSER DESIGNATION		RETURN DUCT UP
	EQUIPMENT TAG		RETURN DUCT DOWN
	EXHAUST FAN ON ROOF		EXHAUST DUCT UP
	DUCT SMOKE DETECTOR		EXHAUST DUCT DOWN
	FIRESTAT		NEW FLEX DUCT (MAX. LENGTH = 8'-0")
	MOTOR OPERATOR		UNDER CUT DOOR
	BACK DRAFT DAMPER		CONDENSATE DRAIN ELBOW UP
	NEW THERMOSTAT		ELBOW DOWN
			REFERGERANT LINE (REF)

40% PROGRESS SET 2/4/2014

PENINSULA ENGINEERING INC.
CONSULTING ENGINEERS
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ADDITIONS + MODIFICATIONS
ENZIAN THEATER
MAITLAND, FLORIDA

DRAWN M.J.P.
CHECKED J.H.M.
DATE
SCALE
JOB NO.
SHEET
M0.1
OF 8 SHEETS