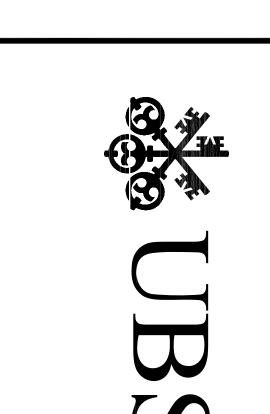
2.01 15000 HEATING, VENTILATING, 15010 MECHANICAL .04 EXI THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM T NOTES AND SPECIFICATIONS. CONTRACTOR SHALL CLEAN AND REFURBISH ALL EXISTIN REPARATION OF EQUIPMENT AND SYSTEMS PROVIDE OPERATING CHARGE OF REFRIGERANT AND OIL. PRESSURE TEST ALL PIPING SYSTEMS. SECURE PERMITS, LICENSES AND CERTIFICATES. PAY FEES FOR WORK INSTALLED CERTIFYING COMPLIANCE WITH LOCAL ERNING AUTHORITIES. DELIVER CERTIFICATES TO BUILDING OFFICE PRIOR TO THE COMMENCEMENT OF WORK. CONTRACTOR SHALL FURNISH AND INSTALL EQUIPMENT, DUCTWORK, INTERCONNECTING PIPING, FITTING, INSULATION, INTERLOCK AND CONTROL WIR-ING, ETC. PROVIDE NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN WATER-PROOF INTEGRITY OF THE BUILDING AS REQUIRED BY REMOVAL AND/OR INSTALLATION OF PIPES, DUCTS, CONDUITS AND EQUIPMENT. SUBMIT FOR REVIEW TO THE BUILDING MANAGEMENT. THIS CONTRACTOR SHALL COORDINATE SUPPORTS, AND FLASHING WITH BUILDING MANAGEMENT AND SUBMIT THE METHOD OF SUPPORT FOR REVIEW TO THE BUILDING MANAGEMENT. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, FITTING, PATCHING, WATERPROOFING, FIREPROOFING AND FLASHING THAT MAY BE REQUIRED TO SUPPORT THE GLYCOL DRY COOLER, DUAL GLYCOL PUMPS, DUCTWORK, EQUIPMENT, ETC. CONTRACTOR SHALL TAKE PRECAUTIONS AGAINST DAMAGING OR DISRUPTING BUILDING SYSTEMS, WIRING OR CONTROL TUBING FOR THE TENANTS ABOVE OR BELOW. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AT THE CONTRACTOR'S COST. THIS CONTRACTOR IS RESPONSIBLE FOR FIELD CONDITIONS AND FIELD COORDINATION WITH ALL OTHER TRADES. PROVIDE ALL ITEMS OF LABOR OR MATERIALS NOT SPECIFICALLY INDICATED, BUT REQUIRED TO COMPLETE THE INTENDED INSTALLATIONS. BY SUBMISSION OF THE BID IT IS UNDERSTOOD THAT SUCH INSPECTION HAS BEEN MADE AND INCLUDES ALL THE MATERIALS AND REQUIRED RELOCATION FOR ALL WORK. ALL DUCTWORK AND PIPING ARE SHOWN DIAGRAMMATICALLY AND DO NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS BID FOR ROUTING OF DUCTWORK AND PIPING TO AVOID OBST-RUCTIONS. EXACT LOCATIONS SUBJECT TO APPROVAL. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW SYSTEM. TURN OVER TO OWNER OR DISPOSE OF ALL REMOVED EQUIPMENT AS REQUIRED BY OWNER. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO ENSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FA—CILITIES. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH BUILDING OWNER AND BUILDING MANAGEMENT. INSTALL ISOLATION VALVES AT POINTS OF CONNECTION TO THE EXISTING PIPING. PROVIDE VOLUME DAMPERS OR TEMPORARY DUCT CAPS AT DUCT CONNECTIONS MINIMIZE SHUTDOWN TIME. CONTRACTOR BIDDING THIS JOB SHALL VISIT AND INSPECT THE JOB SITE TO BECOME FULLY KNOWLEDGEABLE OF EXISTING CONDITIONS PRIOR TO SUB-MITTING HIS BID. CONTRACTOR SHALL COORDINATE THE SITE VISIT WITH BUILDING MANAGEMENT AND/OR OWNER.CONTRACTOR SHALL ASK THE BUILDING MANAGEMENT AND/OR OWNERS REPRESENTATIVE ANY QUESTIONS HE MAY HAVE PERTAINING TO BUILDING STANDARDS AND EXISTING CONDITIONS THAT PROPERISHT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPER INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPERTY INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPERTY INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPERTY INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPERTY INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPERTY INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPERTY INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIES THE PROPERTY INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPERTY INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPERTY INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPERTY INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPERTY INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHIBIT THE PROPERTY INSTALLATION OF HIS WORK AS PER PLAN AND SPECIFIHI MATERIALS AND WORKMANSHIP, UNLESS OTHERWISE NOTED, ACCORDANCE WITH BUILDING STANDARDS. ALL MATERIALS AND BE NEW UNLESS OTHERWISE NOTED. CONTRACTOR SHALL CLEAN AND REFURBISH ALL EXISTING PERIMETER BASEBOARD RADIATORS, INCLUDING BUT NOT LIMITED TO CLEANING COCREFURBISHING CONTROLS AND RECALIBRATING THERMOSTATS. SUPPORT CEILING MOUNTED EQUIPMENT, DUCTWORK AND PIPING FROM BUIL-DING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVER-HEAD CONSTRUCTION DOES NOT PERMIT FASTENING OF SUPPORTS AND EQUIP-MENT, PROVIDE ADDITIONAL STEEL FRAMING. PROVIDE REQUIRED LABOR, MATERIALS, EQUIPMENT AND SARY FOR A COMPLETE AND SAFE INSTALLATION OF HVAC ITY WITH THE REQUIREMENTS OF BUILDING CODES AND ALJURISDICTION; ALL AS INDICATED ON DRAWINGS AND/OR H THIS CONTRACTOR SHALL INCLUDE FOR ALL CUTTING AND PATCHREQUIRED BY HIS TRADE. ALL EXISTING WORK NOT INDICATED FOR DEMOLITION SHALL BE PROTECTED FROM DAMAGE. IF EXISTING WORK IS DAMAGED, CONTRACTOR SHALL MAKE REPAIRS USING SAME MATERIALS AT THE CONTRACTOR'S COST. CONNECT NEW WORK TO EXISTING IN NEAT AND APPROVED MANNER. RESTORE EXISTING WORK DISTURBED WHILE INSTALLING NEW WORK TO ACCEPTABLE CONDITION AS DETERMINED BY OWNER AND BUILDING MANAGEMENT. INSTALL ALL WORK SO AS TO MAINTENANCE AND REPAIR. THIS CONTRACTOR SHALL PROVIDE SLEEVES FOR DUCTS AND PIPING AND PROVIDE ESCUTCHEONS. SEAL OPENINGS AROUND DUCTS AND PIPING THROUGH PARTITIONS, WALLS AND FLOOR (NOT IN SHAFTS) WITH MINERAL WOOL OR OTHER NON-COMBUSTIBLE MATERIAL. PROVIDE FOR LEGAL REMOVAL AND DISPOSAL OF ALL RUBBISH AND DEBRIS FROM THE BUILDING AND SITE. COORDINATE ALL DEMOLITIONS AND REMOVALS WITH BUILDING MANAGEMENT. PROTECT ALL WORK NOT SLATED FOR DEMOLITION ALL WORK SHALL BE DONE IN ACCORDANCE WITH BUILDING AND IN QUALITY WORKMANSHIPLIKE MANNER. ALL APPLICABLE CODES, LAWS AND REGULATIONS, GOVERN TO ANY PORTION OF THIS WORK, INCLUDING UTILITY CC CONTRACTOR SHALL ERECT AND MAINTAIN BARRIERS TO PROTECT ADJACENT AREAS FROM DUST AND DEBRIS DURING DEMOLITION AND CONSTRUCTION. WHEN CONFLICTS OCCUR IN THE SPECIFICATIONS OR IN THE DRAWINGS OR BETWEEN EITHER, PROVIDE THE ITEM OF GREATER QUANTITY OR HIGHER COST. DURING THIS INSPECTION THE CONTRACTOR FINDS ANY OBSTRUCTION OR INTERFERENCE THAT MAY PROHIBIT THE PROPER INSTALLATION OF HIS WORK HE IS TO MAKE IT KNOWN TO THE BUILDING MANAGEMENT AND/OR OWNER AND TENANT BEFORE AND AT THE TIME OF SUBMITTING HIS PROPOSAL. REMOVE EXISTING DUCTWORK AND AIR TERMINALS AS INDICATED. PROVIDE CAP OR BLANKING PLATES AND SEAL ALL OPENINGS IN THE DUCTS CAUSED BY REMOVAL OR RELOCATION OF DUCTS AND TERMINAL UNITS. INVESTIGATE EACH SPACE THROUGH WHICH EQUIPMENT MUST BE MOVED AND WHEN NECESSARY EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN CRATED SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH RESTRICTED SPACES AVAILABLE, ASCERTAIN FROM BUILDING OWNER AND TENANT AT WHAT TIMES OF DAY EQUIPMENT COULD BE MOVED THROUGH CERTAIN RESTRICTED AREAS, AND REVIEW WITH OWNER PLANNED APPROACH FOR ANY REQUIRED EQUIPMENT RIGGING INTO BUILDING. TAG ALL EQUIPMENT REMOVED. STORE ALL EQUIPMENT SLATED FOR RELOCA-TON ON THE FLOOR. TURN OVER TO THE BUILDING MANAGEMENT ALL OTHER REMOVED EQUIPMENT. DISPOSE OF EQUIPMENT AND MATERIAL AS REQUIRED BY THE BUILDING MANAGEMENT. PROVIDE CAPPED CONNECTIONS ON ALL OPENINGS IN THE PIPING 3Y RELOCATION OR REMOVAL OF PIPING. MENT TO REM. TRK DONE BY THE CONTED BY THE CONTRACTOR. AND CHARGES CODES AND GOV. MANAGEMENT SHALL BE IN EQUIPMENT TO CAUSED 1.01 15050 SUBMITTAL DATA 15030 TESTING, BALANCING AND ADJU AS èπ SUBMIT ALL SHOP DRAWIN P.E., P.C. OFFICE PRIOR TINSTALLATION. VALVES TAGS AND SYSTEMS CHARTS: MINIMUM 2" DIAMETE WITH IDENTIFICATION NUMBER AND SYSTEM NUMBERS FOR OLS. FASTEN WITH HEAVY ALUMINUM, BRASS HOOKS OR AND TYPE OF TAG SHALL FOLLOW EXISTING BUILDING SYSYSTEMS SHALL BE SCHEMATIC WITH LOCATION AND FLYALVES. MOUNT ON WOOD PLAQUE WITH CLEAR PLASTIC LING DIAGRAMS. CHECK FANS AND PUMPS, INSTRUMENTATION DEVICES, CODAMPERS, ETC., FOR PROPER OPERATION AND CALIBRATION IENCIES WHICH CANNOT BE CORRECTED. MARK AND LOCK PROPER POSITION. ALL PIPING, DUCTWORK, AND EQUIPMENT LAYOUT SHALL B 3/8" SCALE DRAWINGS AND SHALL BE COORDINATED AND TRADES. SHOP DRAWINGS SHALL SHOW LOCATION OF ALL EQUIPMENT, EXISTING WORK AND NEW WORK. CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY, AND ASSUME FULL RESPONSIBILITY OF ALL EXPENSES INCURRED FOR, ANY WORKMANSHIP AND/OR EQUIPMENT IN WHICH DEFECTS OCCUR WITHIN ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER. THIS CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR START-UP AND 24 HOUR/DAY SERVICE WITH A MAXIMUM RESPONSE TIME OF 4 HOURS AND QUARTERLY PREVENTIVE MAINTENANCE (4 MAINTENANCE INSPECTIONS A YEAR) FOR A PERIOD OF ONE YEAR FOR ALL NEW EQUIPMENT, AS INDICATED UNDER "EQUIPMENT". THE COST OF THIS SHALL BE INCLUDED IN THIS CONTRACT. ALL SUBMITTALS SHALL INCLUDE ADEQUATE DESCRIPTIVE LITERATURE, CATALOG CUTS, SHOP DRAWINGS AND OTHER DATA NECESSARY ASCERTAIN THAT THE PROPOSEQUIPMENT AND MATERIALS COMPLY WITH SPECIFICATION REQUIREMENTS. CATALOG CUTS SUBMITTED FOR APPROVAL SHALL BE LEGIBLE AND SHALL CLEARLY IDENTIFY EQUIMENT BEING SUBMITTED. ADJUST, TEST AND CONFIRM DESIGN AIR AND WATER FLOW RATES, PRESSURES, TEMPERATURES, AIR AND WATER QUANTITIES, EQUIPMENT SPEED AND MOTOR AMPERAGES FOR EACH SEGMENT BRANCH, AND COMPONENT OF EACH SYSTEM. AIR AND WATER SYSTEM BALANCING SHALL BE PERFORMED BY AN INDEPENDE ORGANIZATION SPECIALIZING IN SYSTEM BALANCING AND PROCEDURES HAVING AT LEAST FIVE (5) YEARS EXPERIENCE AND SHALL BE ASSOCIATED AIR AND WATER BALANCING COUNCIL CERTIFIED. NAMEPLATES : PROVIDE NAMEPLATES (FASTENED WITH MAJOR EQUIPMENT ITEMS INDICATING UNIT NUMBER. CONTRACTOR SHALL SUBMIT 'AS-BUILT' RECORD DRAW (SIZE 1/8" = 1' - 0") AS COMPLETION OF PROJECT. THIS ONE YEAR MAINTENANCE CONTRLIMITED TO THE FOLLOWING WORK: DETERMINE REQUIRED MINIMUM STATIC PRESSURE SET POINT OF BASE BUIL—DING AIR HANDLING UNIT TO ENSURE THAT DESIGN AIRFLOWS ARE ATTAINED. INFORM BUILDING OPERATOR OF THIS REQUIRED SETTING. VERIFY THAT DIFFUSER DISCHARGE PATTERNS HAVE BEEN AIR FLOWS SHALL BE BALANCED WITH VOLUME DAMPERS INS DUCTWORK. OPPOSED BLADE DAMPERS (OBD) IN THE DIFFUSIN THE FULLY OPEN POSITION DURING BALANCING. AFTER TISS BALANCED WITHIN LIMITS SPECIFIED ABOVE, OBD CANMINOR ADJUSTMENTS. PERFORM TESTS PER AABC NATIONAL STANDARDS OR EQUIVALENT NEBB METHODS. RECORD DATA ON STANDARD AABC OR NEBB FORMS. PIPING SHALL BE LABELED TO INDICATE SIZE, PURPOSE, OF FLOW IN SUCH A MANNER THAT IT CAN EASILY BE RELETTERS SHALL BE NOT LESS THAN 2". WHEN NECESSARY TO ELIMINATE CONFLICTS, THE CONTRACTOR SHALL REVISE SHOP DRAWINGS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER. FOR COORDINATED DUCTWORK AND PIPING SHOP DRAWINGS, SUBMIT ONE PAPER SEPIA AND WHITE PRINTS. FOR SUBMISSIONS ON 8-1/2" X 14" OR SMALLER, SUBMIT ONE ORIGINAL AND TWO COPIES. IF SUBMISSIONS ARE CATALOG CUTS: SUBMIT ONE ORIGINAL AND TWO COPIES. ALL CATALOG CUTS SHALL BE COMPLETE. SUBMIT COORDINATED SHOP DRAWINGS FOR ALL EQUIPMENT, DIFFUSERS, TERMINAL UNITS, AUTOMATIC CONTROL DIAGRAMS, DUCTWORK LAYOUT, PIPING LAYOUT, AND SHEET METAL CONSTRUCTION STANDARDS. SUBMIT EACH SECTION SEPARATELY AND INCLUDE THE FOLLOWING: INFORMATION WHICH CONFORMS TO CONTRACT REQUIREMENTS. INCLUDE THE MANUFACTURER'S NAME, MODEL OR CATALOG NUMBERS, CATALOG INFORMATION, TECHNICAL DATA SHEETS, SHOP DRAWINGS, PICTURES, NAMEPLATE DATA AND TEST REPORTS AS REQUIRED. SET MAXIMUM AND MINIMUM CFM SET POINTS ON ALL NEW AND REUSED VAVBOXES PER DESIGN MAXIMUM AND MINIMUM CFM SCHEDULED ON DRAWINGS. MAKE ALL REQUIRED ADJUSTMENTS TO EXISTING AIR SYSTEMS UNTILL ALL SPECIFIED PERFORMANCES ARE MET. BEFORE COMMENCEMENT OF CONSTRUCTION TEST EXISTING EQUIPMENT TO ESTABLISH OUTPUT, ETC. SUBMIT CERTIFIED REPORTS INCLUDING TOTAL SYSTEM CFM, MOTOR AMPERAGE DRAW, RPM, STATIC PRESSURE, OUTDOOR TEMPERATURE AT TIME OF TEST, RETURN AIR, MIXED AIR, DISCHARGE AIR AND SETTING OF ALL CONTROLLERS. ADJUSTMENTS AND TESTS SHALL BE MADE UNDER SIMI CONDITIONS. THE MANUAL S BUILT DRAWINGS SUBMIT AIR AND WATER BAL FURNISH TO CLIFFORD DIAS ENGINEERING P.E., P.C. FOU INDEXED COPIES OF THE FINAL APPROVED INSTALLATION, MAINTENANCE MANUALS FOR NEW EQUIPMENT AND SYSTE THE MANUAL SHALL PROVIDE DETAILED INFORMATION ON THE APPROVED INSTALLATION, OPERATION AND USE, TROUBLESHOOTING, PARTS LIST, LUBRICATION AND PERIODIC MAINTENANCE, TOGETHER WITH THE SOURCE OF REPLACEMENT PARTS AND SERVICE FOR THE ITEMS OF EQUIPMENT AND THE SYSTEMS COVERED, INCLUDING ELECTRICAL EQUIPMENT, DEVICES AND SYSTEMS CONTRACTOR SHALL INCLUDE FOR ONE FULL DAY FOR CLIENT'S PERSONNEL AND THE BUILDING ENGINEERS IN THE SYSTEM. CHECK LINES FOR LEAKAGE OF REFRIGERANT/WATER. REFILL LINES IF NECESSARY. LUBRICATE MOTORS. CHECK OPERATION OF THERMOSTATS AND MAKE CORRECED CONDENSER COILS. CLEAN CONDENSER COILS. CHECK AND TIGHTEN ELECTRICAL CONNECTIONS. CHECK CONTROLS AND MAKE CORRECTIONS IF NECESSA CHECK FOR NOISE AND VIBRATION. CHECK FOR NOISE AND VIBRATION. CHECK CURRENT (AMPERAGE) DRAW OF ALL MOTORS. CHECK OPERATION OF CONDENSATE DRAIN SYSTEM. CHECK AND ADJUST BLOWER FAN BELT TENSION. AC AIR SYSTEMS TO WITHIN +10% NGS FOR REVIEW AND APPROVAL TO PURCHASE, FABRICATION AND N PROPERLY SET. INSTALLED IN BRANCH IFFUSERS SHALL BE SET R THE MAIN SYSTEM CAN BE USED FOR UR (4) BOUND AND OPERATIONS AND BE SUBMITTED ON STAMPED BY ALL NEW AND EXISTING THE INSTRUCTION OF ONTROL DEVICES, N. REPORT DEFIC— DAMPERS AT THEI TED MAXIMUM LOAD AND DIRECTION AD FROM THE FLOO TO CLIFFORD DIAS -5% OF DESIGN JT IS NOT 15100 SHEET METAL 1. SAME MATERIAL AS DUCT, PER SMACNA, EXCEPT PROVIDE BEARING AT ONE END OF DAMPER ROD AND QUADRANT, WITH LEVER AND LOCKSCREW AT OTHER END. FOR INSULATION, INSTALL WITH LEVERS MOUNTED ON COLLAR TO CLEAR INSULATION, INSTALL WITH LEVERS ACCESSIBLE. BALANCING DAMPERS SHALL BE THE OPPOSED BLADE TYPE ACCESSIBLE. BALANCING DAMPERS SHALL BE THE OPPOSED BLADE TYPE ACCESSIBLE. BALANCING DAMPERS ON EACH SUPPLY(EXCEPT UPSTREAM OF VANTERMINALS), RETURN, AND EXHAUST DUCT TAKE—OFF, AND AT EACH TAKE—OFF TO REGISTER, GRILLE OR DIFFUSER. 3. NOTE: ALL REQUIRED VOLUME DAMPERS MAY NOT BE INDICATED ON DRAWINGS BUT DAMPERS SHALL BE PROVIDED AS NECESSARY FOR BALANCING. SPLITTER DAMPERS, AND EXTRACTORS (ADJUSTABLE TURNING VANES WITH PARALLEL BLADES) SHALL NOT BE USED AS A BALANCING DEVICE. PIPING SHALL BE COMPLETE WITH PIPE FITTINGS, VALVES, COUPLING, STRAINERS, HANGER RODS, HANGERS, SUPPORTS, GUIDES, SLEEVES, AND ACCESSORIES IN CONFORMANCE WITH THE LATEST CODES AND ASME, ANSI ASTM, AND MSS STANDARDS. HORIZONTAL PIPING SHALL BE SUPPORTED BY FORGED STEEL ADJUSTABLE CLEVIS TYPE "CARPENTER & PATTERSON" FIG. #100 OR 100SH OR APPROVED EQUAL. PROVIDE MINIMUM PITCH TO INSURE ADEQUATE VENTING AND DRAINAGE PROVIDE, AS REQUIRED AUTOMATIC AIR VENTS, MANUAL AIR VENTS AND RELIEF AIR VALVES. ACCESS TILE IDENTIFICATIONS: PROVIDE BUTTONS, TABS AND MARKERS IDENTIFY LOCATION OF ALL CONCEALED VALVES, DAMPERS, AND EQUIPMENT. SUBMIT TO ARCHITECT FOR APPROVAL. TURNING VANES: GALVANIZED STEEL, DOUBLE THICKNESS VANES WITH MINIMUM 2" INSIDE RADIUS. ALL SQUARE ELBOWS SHALL HAVE TURNING VANES. NEOPRENE-COATED GLASS FABRIC, 30 OZ. PER SQ.YD. WITH SEWED CEMENTED SEAMS, SIMILAR TO VENT FABRICS. PROVIDE FLEXIBLE CONNECTIONS BETWEEN ALL EQUIPMENT AND DUCTWORK. APPLY LINING WITH ADHESIVE OVER ENTIRE SURFACE AND SECURE WITH WELD PINS SPACED 16" ON CENTERS. COAT EDGES WITH SEALER AND PROVIDE SHEET METAL EDGE PROTECTORS. SEALER SHALL BE IN CONFORMANCE WITH NFPA 90. PROVIDE 1" SOUNDLINING FOR MIXED AIR AND RELIEF AIR PLENUMS AND SUPPLY AIR PLENUMS AT SLOT DIFFUSER. DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS. EXCEPT AS OTHERWISE NOTED, ALL DUCTWORK AND OTHER SHEET METAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH LATEST EDITION OF THE SHEET METAL AND AIR CONDITIONING NATIONAL ASSOCIATION, INC. (SMACNA), "HVAC DUCT CONSTRUCTION STANDARDS" MANUAL. DUCTWORK SHALL BE GALVANIZED SHEET STEEL UNLESS OTHERWISE NOTED. PROVIDE DIELECTRIC FITTINGS FOR JOINTS OF DISSIMILAR METALS: ISOLATING GASKETS, SLEEVES AND WASHERS BETWEEN FLANGES, BOLTS, AND NUTS. COORDINATE AND PROVIDE WATER TREATMENT IN ACCORDANCE WITH THE BUILDING STANDARD. NO PIPING SHALL BE LESS THAN 3/4", UNLESS OTHERWISE NOTED. FOR PIPE SIZE NOT INDICATED ON PLANS, SEE MANUFACTURER'S EQUIPMENT CONNECTION DETAILS. MAXIMUM LENGTH SHALL NOT EXCEED THREE (3) FEET. FLEXIBLE DUCTWORK SHALL ONLY BE PERMITTED BETWEEN DUCTWORK AND SUPPLY DIFFUSERS. VERTICAL PIPING SHALL BE SUPPORTED WITH BEARING PLATE ON STRUCTURAL SUPPORT. PROVIDE GUIDES AT EVERY SECOND FLOOR (SPACING NOT TO EXCEED 25FT.) SUPPORT AT TOP SHALL BE PROVIDE WITH SPRING HANGER HAVING A PROVISION FOR EXPANSION. TRAP SEAL IN CONDENSATE DRAIN PIPING SHALL BE MINIMUM 1" GREATER "HAN THE STATIC PRESSURE IN SYSTEM. CONDENSER WATER AND HOT WATER PIPING SHALL BE COPPER TYPE CONDENSATE DISCHARGE PIPING SHALL BE COPPER TYPE "L" PIPE. PROVIDE ADDITIONAL SUPPORTS AT CHANGE OF DIRECTONCENTRATED LOADS DUE TO VALVES, ETC. PROVIDE DIELECTRIC GASKETS BETWEEN JOINTS OF DISSIMILAR METALS, SLEEVES, AND WASHERS BETWEEN FLANGES, BOLTS, AND NUTS. PROVIDE 3/4" DRAIN VALVE AND CAPPED HOSE NIPPLE AT LOW POINTS SYSTEMS AND WHERE INDICATED. PROVIDE UNION CONNECTIONS AT EACH PIECE OF EQUIPMENT AND ON EACH SIDE OF ALL VALVES AND IN-LINE EQUIPMENT. SHALL BE SIMILAR TO CLEVAFLEX TYPE 12FV WITH 1" THICK INSULATION AND SHALL CONFORM TO UL 181 AND NFPA BULLETIN 90A. THE FUEL CONTRIBUTED AND SMOKE DEVELOPED SHALL NOT EXCEED 50 AND FLAMES PREAD SHALL NOT EXCEED 25. UNEQUAL ELBO' WITH THROAT. COPPER PIPING EXCEPT CITY WATER AND CONDENSATE DISC SOLDER) HIGH TEMPERATURE BRAZING ALLOY CONNECTION. FOR MANUAL AIR VENTS PROVIDE LINE SIZE AIR CHAMBER WITH 1/2" PROVIDE VALVES AT ALL HIGH POINTS WHERE FLOW CHANGES FROM TORIZONTAL TO DOWNWARD. NING AND FILLING AVOID ENTRY OF FOREIGN MATTER INTO SOUNDLINING SHALL BE ARMACELL FIBER FREE LINER, MIN. 1.5 LB. DENSITY, "THICKNESS, MAX. 0.25 K FACTOR AT 75 F. MEAN TEMPERATURE AND MUSIAVE A MAXIMUM WATER VAPOR TRANSMISSION RATE OF 0.0 PERM—IN (FLAME). PREAD LESS THAN 25, SMOKE DEVELOPED LESS THAN 50 PROVIDE 1/2" DRAIN VALVE AND CAPPED CONNECTIONS AT LOW POINTS. ROVIDE 3/4" CAPPED CONNECTION FOR DRAINING CONNECTION AT THE OWEST POINT IN THE SYSTEM AND IN EQUIPMENT ROOM. OPPER PIPING FOR HUMIDIFIER MAKE-UP AND CONDENSATE DISCHARGE PING: 95-5 TIN-ANTIMONY SOLDER JOINT CONNECTIONS - NO LEAD. CESS DOORS: INSULATED OR UNINSULATED, SAME AS DUCT. PROVIDE IMUM 20" X 14" ACCESS DOORS ON MAIN DUCTS, 12" X 6" ACCESS DORS ON BRANCH DUCTS, UNLESS OTHERWISE NOTED. ALL ACCESS DOOF BE HINGED, WITH LATCH SIMILAR TO VENTLOCK #100. PROVIDE ESS DOORS IN DUCTS ADJACENT TO FIRE DAMPERS, COMBINATION FIRE DISCUSSION SMOKE DAMPERS, BALANCING DAMPERS, FIRE AND SMOKE DAMPERS, COMATIC DAMPERS, BALANCING DAMPERS, FIRE AND SMOKE DAMPERS, COMATIC DAMPERS (LINKAGE SIDE), COILS IN DUCTS (ENTERING AND WING SIDE), SMOKE DETECTION HEADS, FAN BEARINGS ENCLOSED IN 2T AND BOTH SIDES OF DUCTS WHERE NECESSARY TO PROVIDE NTENANCE ACCESSIBILITY TO EQUIPMENT ON THE OTHER SIDE. ER COMPLETION OF PIPING, FLUSH WATER SYSTEM WITH WATER L CLEAR. REMOVE AND CLEAN STRAINER, AND BLOW OFF ALL PIPING POINTS AT THE END OF THE FLUSH PERIOD. REFILL SYSTEM WITH GER RODS AND MAX FITTINGS FOR CHANGE IN PIPE SIZE AND FOR FINAL CONNECTION MENT, AS REQUIRED. STATIC PRESSURE CONSTRUCTION SHALL BE 2" W.G. RESSURE CONSTRUCTION SHALL BE 4" W.G. FOR E ABOVE 2" W.G. BUT NOT EXCEEDING 4" W.G. ALL AL CLASS 'A'. SHALL BE AS FOLLO R MAX SPACING 6 FT. 8 FT. 8 FT. 10 FT. Έ AC: AUTOFLOW COMBINATION BALL VALVE, AUTOFLOW REGULATOR AND UNION WITH SEVEN ACCESSORY PORT LOCATIONS. UNIT IS FACTORY SET TO AUTOMATICALLY LIMIT THE GPM TO WITHIN 5% OF THE SPECIFIED AMOUNT. YC: COMBINATION BALL VALVE, WYE STRAINER AND UNION WITH SEVEN ACCESSORY PORT LOCATIONS. 20 MESH STAINLESS STEEL STRAINER IS REMOVABLE FROM THE VALVE BODY FOR INSPECTION AND CLEANING WITHOUT BREAKING THE MAIN PIPING. UP: UNION AND PORT SELECTION WITH FOUR OPTION LOCATIONS. 1/2"-2 1/2" BRASS "O"-RING TYPE UNION: VITON"O"-RING, BRASS NUT AND TAILPIECE. GROUND JOINT BRASS/COPPER TYPE ARE NOT ACCEPTABLE. PROTECTION SADDLES AND SHIELDS. VIBRATION ISOLATORS AIR DISTRIBUTION DEVICES CONDENSER PIPING. PIPING UPTO 4 INCH IPS: PIPING 5 INCH AND ABOVE: VAPOR SEAL REQUIRED. FLOW CONTROL VALVES AND STRA AUTOFLOW, INC. (973-927-9090) GLOBE VALVE: "JENKINS" FIGURE 556P, FIGURE, OR FIGURE 923—C OR APPROVED EQUAL. FINISH FOR DIFFUSERS AND GRILLES SHALL BE BAKED ENAMEL TO MATCH COLOR SAMPLE AS APPROVED BY ARCHITECT. SLEEVES FOR WEATHERPROOF AND FIRERATED WALLS, FLOORS AND MECHANICAL EQUIPMENT ROOM SHALL BE CAST IRON OR STEEL PIPE EXTENDING THROUGH CONSTRUCTION. EXTEND SLEEVES MINIMUM 2" ABOY FLOOR. SLEEVES FOR WEATHERPROOF CONSTRUCTION SHALL BE OF THE FLASHING TYPE AND SHALL BE AS REQUIRED BY THE BUILDING OWNER. FOR INSULATED PIPE, SLEEVES SHALL BE SIZED TO ALLOW FOR INSULATION TO PASS THROUGH SUFFIXED. PRESSURE GAUGES SHALL BE BOURDON SPRING TYPE AS MANUFACTURED US GAUGE, LONERGAN, TRERICE, MARSH, ASHCROFT, OR AS APPROVED EQUAL. VALVES FOR WATER AND GLYCOL PIPING SHALL BE SUITABLE SERVICE PRESSURE AND TEMPERATURE AND SHALL BE: FOR CEILING MOUNTED EQUIPMENT ISC COMBINATION SPRING/ ELASTOMER HAN WATER PIPING SYSTEM SHALL BE HYDI ALL THERMOMETERS SHALL BE INSTALLED IN SUCH A MANNER AS TO CAUSE A MINIMUM OF RESTRICTION TO FLOW IN THE PIPES AND SO THAT THEY CAN EASILY BE READ FROM THE FLOOR. THE SCALE RANGE FOR THE THERMOMETER SHALL BE 30 F TO 250 F. THERMOMETERS SHALL BE SEPARABLE WELL TYPE AS MANUFACTURED IN AMERICA, TRERICE, WEISS, OR APPROVED EQUAL AND SHALL BE 5" HERMETICALLY SEALED, BIMETAL, DIAL THERMOMETERS WITH STAINLESS STEEL CASED ANTI-PARALLAX DIAL (WITH RAISED JET BLACK FIGURES), STAINLESS STEEL STEMS AND BRASS SEPARABLE SOCKETS. FOR EQUIPMENT, PIPING AND DUCTWO VIBRATION ISOLATION SYSTEM WITH VIB AND SUPPORTS. ALL INSULATION AND SLEEVES ETC. PRIOR TO APPLYING ANY INSULATION, ALL PRESSURE AND LEAK TESTS SHALL BE COMPLETE AND APPROVED. ALL INSULATION SHALL BE BUTTED FIRMLY. USE 2 IN. LAP STRIPS AT ALL SEAMS SECURED WITH ADHESIVE. NO STAPLES ARE PERMITTED. APPLY COAT OF VAPOR SEAL ADHESIVE WHERE REQUIRED. WHERE MANUFACTURED, USE FACTORY PREMOLDED FITTINGS (OF THE SAME MATERIAL AND THICKNESS AS THE PIPE INSULATION) FOR FITTINGS, FLANGES AND VALVES. WHERE PREMOLDED INSULATION FITTINGS ARE NOT MANUFACTURED, INSULATE FITTINGS, FLANGES AND VALVES WITH MITERED SEGMENTS OF THE SAME DENSITY AS THE ADJOINING PIPE COVERING. INSULATE ALL NEW DUCTWORK AND PATCH/REPAIR EXISTING DUCTWORK EXCEPT WHERE SOUNDLINING IS OF MINIMUM THICKNESS SPECIFIED FOR INSULATION. PROVIDE PETE PLUGS AS INDICATED GAUGES SHALL BE FITTED WITH RAY PRESSURE SNUBERS BY AMERICA, TRERICE, WEISS, OR APPROVED EQUAL. ALL GAUGES SHALL BE INSTALLED SO THE FLOOR. INSULATION OF STRAINERS, EXPANSION ACCESSORIES REQUIRING SERVICING OR FOR REMOVAL AND REPLACEABLE WITHO 18 GAUGE ALUMINUM COVERS FLA INSULATE ALL REFRIGERANT PIPING, CHILLED WATER, CONDENSER WATER, GLYCOL, HOT WATER HEATING, AND CONDENSATE DRAIN PIPING. ALL INSULATION MATERIALS INCLUDING JACKETS, FACING, ADHESIVE, COATING AND ACCESSORIES SHALL BE FIRE AND SMOKE HAZARD RATED AND LISTED BY UNDERWRITERS LABORATORIES INC. AND COMPLY WITH UL 723 (ASTM E—84). THE FUEL CONTRIBUTED AND SMOKE DEVELOPED SHALL NOT EXCEED 50 AND FLAME SPREAD SHALL NOT EXCEED 25. FOR INSULATED PIPE, SLEEVES SHALL INSULATION TO PASS THROUGH SLEEVE NAILOR SQUARE CEILING DIFFUSER WITH REMOVABLE CORE AUNI FOR LAY IN T—BAR CEILING. CONTRACTOR SHALL COORDINATE BORDER TYPE WITH ARCHITECTURAL DRAWINGS NAILOR FLOW BAR GRILLE SCONTROLLER. BORDER TYPE ARCHITECT. SEE DETAILS PI RETURN GRILLES SHALL BE NAILOR MODEL 5145H FOR LAY IN T-BAR CEILING (45° DEFLECTION). CONTRACTOR SHALL COORDINATE BORDER TYPE WITH ARCHITECTURAL DRAWINGS. 8928F, OR APPROVED EQUA TO 150 PSI. 11, FIGURE 751, FIGURE 752 OR DLATORS SHALL NGER TYPE 30N. A JOINTS, FITTINGS, AND RINSPECTION SHALL BE ARRANGED OUT DAMAGE AND ENCLOSED WITHIN ANGED AND BOLTED. 1" THICK 3/4 LB. DENSITY (—FACTOR AT 75 F MEAN FOIL—SCRIM—KRAFT—FACING. ROSTATICALLY TESTED TO LESS THAN 150 PSI. AS TO BE EASILY READABLE FROM HALL BE FLH SERIES WITH PATTERN SHALL BE COORDINATED WITH AN FOR SLOT WIDTH. OPPOSED BLADE DA BE MASON 1-1/2 IN. 2 IN. 2-1/2 IN. 1/2 IN. 1-1/2 IN. 2 IN. INSTALL COMPLETE FOUNDATIONS AS MANUFACTURED 613-C, $\omega \omega \nu$ $\frac{2}{2-1/2}$



IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO ENSURE THAT THE VOLTAGE AND CURRENT CHARACTERISTICS OF THE ELECTRICAL EQUIPMENT FURN BY HIM SHALL BE SUITABLE FOR THE ELECTRICAL SERVICES AS SPECIFIED.

PROVIDE COMBINED UNFUSED DISCONNECT SWITCH ACROSS—THE—LINE MAGNETIC STARTERS FOR ALL MOTORS WITH HOA SELECTOR SWITCH, PILLIGHTS AND AUXILIARY CONTACTS AS REQUIRED FOR INTERLOCKING AND REMOTE START/STOP.

HEAT PUMP SHALL BE TRANE WATER-COOLED HEAT PUMP WITH WALL MOUNTED PROGRAMMABLE THERMOSTAT WITH MANUAL OVERRIDE, AUTOMATIC CHANGEOVER, OFF-AUTO SELECTOR SWITCH, FAN OFF-AUTO SELECTOR SWITCH, AND INTEGRAL THERMOMETER.
MODELS, RATINGS, AND ELECTRICAL SUPPLY AS PER SCHEDULE.

UPPLY 1—12 HOUR MANUAL OVERRIDE FOR OVERTIME OPERATION,)NDENSATE PUMP, VIBRATION ISOLATOR KIT AND AUXILIARY DRAIN PAN TH WATER DETECTOR FOR EACH UNIT. (AUXILIARY DRAIN PAN SHALL BE LARGER THAN THE UNIT).

ONDENSATE PUMPS: PUMPS SHALL BE CAPABLE OF DELIVERING MIN. 2 GI 15' HD. COMPLETE WITH RESERVOIR AND AUTOMATIC SWITCHES TO ART PUMP AT PREDETERMINED LOW LEVEL OF WATER IN RESERVOIR, AND 1UT DOWN THE AC UNIT AT A PREDETEMINED HIGH LEVEL OF WATER IN 1E RESERVOIR. ELECTRICAL SUPPLY: 115V, 60 HZ, 1 PH.

EQUIPMENT

ALL MOTORS SHAI FACTOR RATINGS.

07.13.07 07.13.07 SUE FOR BID UE FOR PERMI AREA QF WORK

-QTY. (1) MODEL LT410 SUPERVISED LIQUITECT WATER DETECTION SENSOR. TO BE INSTALLED IN FIELD SUPPLIED AUXILIARY DRAIN PAN. NONPOWERED CONTACTS TO BE WIRED TO UNITS SHUTDOWN TERMINALS AND WALL MOUNTED REMOTE ALARM PANEL. (REQUIRES POWER FROM FIELD WIRED 24 VOLT TRANSF

PROVIDE FOUR (4) YEARS

SEOVER CONTROL

PANEL, AC4; ONE (1) FOR EACH DATA ROOM.

FOLLOWING EQUIPMENT SHALL BE SUBMITTED BY THE MANUFACTURER OF THE AC UNIT FOR FIELD INSTALLATION. FIELD INSTALLATION SHALL BE PERFORMED UNDER MANUFACTURER'S SUPERVISION.

ROOM AIR CONDITIONING UNITS (CRAC 10-1 & 2)

WALL-MOUNTED IDF ROOM AIR CONDITIONING UNITS SHALL BE LIEBERT DATAMATE

WATER-COOLED MODEL. UNIT SHALL BE COMPLETE WITH ELECTRIC REHEAT,

"ILTERS, OPERATING CHARGE OF OIL, CONDENSATE PUMP INSIDE UNIT,

WALL MOUNTED SOLID STATE CONTROL SYSTEM INCLUDING THERMOSTAT, HUMIDISTAT,

WALY CONTROL VALVE, 277 V STEP DOWN TRANSFORMER, AND DISCONNECT SWITCH.

CONTROL VENDOR SHALL SUPPLY DDC CONTF

VAV UNITS SHALL BE NAILOR MODEL,
PRESSURE INDEPENDENT WITH MIN. 1" THICK FIBER FREE LINING IN
CONFORMANCE WITH NFPA 90A WITH AIR REGULATORS, FACTORY CALIBRATED
FOR MINIMUM AND MAXIMUM FLOW AND FACTORY MOUNTED ACTUATORS AND
CONTROLS. MIN. AND MAX. AIR FLOWS SHALL BE CLEARLY INDICATED ON UNIT
MODELS AND RATINGS AS PER SCHEDULE.

CONNECT DIRECT DIGITAL CONTROLLER (DDC) TO BUILDING'S ENERGY MANAGEMENT SYSTEM. FINAL TIE-IN SHALL BE PERFORMED BY BUILDING ATC CONTRACTOR. INSTALL SENSORS AS INDICATED ON HVAC PLAN.

DDC SHALL BE PROGRAMMED TO MODULATE PRIMAMAINTAIN SPACE TEMPERATURE OF 74 F (ADJ.).

RY AIR DAM

THE INTENT OF THIS SECTION IS TO DESCRIBE THE COMPLETE FUNCTIONAL CONTROL OF ALL MECHANICAL EQUIPMENT, SYSTEMS AND DEVICES OF THE PROJECT. THIS CONTRACTOR IS TO FURNISH AND INSTALL AS REQUIRED ELECTRIC/ELECTRONIC OR DDC CONTROLS, ALL NECESSARY COMPONENTS, CONTROL WIRING, INTERLOCK WIRING, CONTACTORS, RELAYS, CONTROL TRANSFORMERS, ALARMS, CONTROL VALVES ETC. TO ACHIEVE THE DESIRED CONTROL OPERATION FOR THE AIR CONDITIONING SYSTEMS.

MECHANICAL CONTRACTOR SHALL RETAIN AUTOMATIC CONTROLS CONTRACTOR.

THE SERVICES OF

A QUALIFIED

CONTROL WIRING: 1/2" DIA.).

SHALL BE COPPER INSTALLED IN EMT CONDUIT (MIN.

FINAL TIE-IN BY BUILDING ATC INCLUDING GRAPHICS UPGRADE TO REFLECT NEW LOCATIONS OF VAV BOXES AND HOT WATER RADIATOR CONTROL VALVES

UNIT SHALL BE STARTED AND STOPPED BY WALL MOUNTED THERMOSTAT, BUT WITH CAPABILITY OF A 1-12 HOUR MANU

WHEN WATER IS DETECTED IN THE AUXILIARY DRAIN PAN, OR THE HIGH LEVEL LIMIT IS REACHED IN THE CONDENSATE PUMP RESERVOIR, THE ACJUIT SHALL STOP AND ISOLATION VALVE SHALL BE CLOSED. A LOCAL AUDIBLE AND VISUAL ALARM SHALL ACTIVATE (VISUAL ALARM WILL BE LOCATED ADJACENT TO THE MANUAL OVERRIDE SWITCH).

WHEN SPACE IS OCCUPIED, SUPPLY FAN SHALL RUN CONTINUOUSLY. "HE ROOM THERMOSTAT SHALL ENERGIZE THE REFRIGERATION COMPRE "O MAINTAIN SPACE TEMPERATURE OF 74°F (ADJUSTABLE).

TEMPLE STREET

OOM AIR COND

URING THE UNOCCUPIED MODE, THE COMPRESSOR --ENERGIZED AND SUPPLY FAN SHALL BE OFF.

WATER-COOLED COMPUTER ROOM UNIT CONTROL SYSTEM SHALL BE COMPLETELY SOLID STATE AND SHALL OPERATE UNITS 24 HOURS PER DAY, 365 DAYS PER YEAR. UNIT SHALL BE MANUALLY STARTED AND STOPPED BY WALL MOUNTED MOUNTED MICROPROCESSOR CONTROL PANEL

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MPUTER ROOM AIR CONDITIONING UNIT, CRAC 10-1, SHALL OPERATE THE PRIMARY UNIT AND COMPUTER ROOM AIR CONDITIONING UNIT, 2007 10-2, SHALL OPERATE AS THE SUPPLEMENTAL/STAND-BY UNIT. 2017 10-1 WALL MOUNTED MICROPROCESSOR CONTROL PANEL SHALL ERGIZE SUPPLY FAN, AND ENERGIZE THE REFRIGERATION COMPRESSOR MAINTAIN SPACE TEMPERATURE OF 72°F (ADJUSTABLE).

WHEN WATER IS DETECTED IN THE AUXILIARY DRAIN PAN, OR THE HIGHLEVEL LIMIT IS REACHED IN THE CONDENSATE PUMP RESERVOIR, THE UNITS SHALL STOP AND A LOCAL AUDIBLE AND VISUAL ALARM SHALL ACTIVATE. A SIGNAL SHALL BE SENT TO THE MONITORING PANEL TO IDENTIFY SOURCE OF ALARM.

PON FAILURE OF PRIMARY UNIT, CRAC 10-1, AUTOCHANGEOVER DNTROLLER, AC4, SHALL ACTIVATE STAND-BY UNIT, CRAC 10-2, AND JDIBLE/VISUAL ALARM SHALL BE ACTIVATED.

SIGNAL SHALL BE SENT TO THE MONITORING PANEL TO IDENTIFY THE NIT FAILURE.

NITS MODE/FUNCTION SHALL BE SWITCHED ON A WEEKLY BASIS.

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MECHANICAL SPECIFICATIONS

-BY MODE