MECHANICAL SPECIFICATION CONTINUED

1.04 QUALITY ASSURANCE

A. QUALIFICATIONS: EQUIPMENT MANUFACTURER MUST SPECIALIZE IN THE MANUFACTURE OF THE PRODUCTS SPECIFIED AND HAVE FIVE YEARS EXPERIENCE WITH THE EQUIPMENT AND REFRIGERANT OFFERED.

B. CHILLER MANUFACTURER MUST BE ISO 9001:2000 REGISTERED.

1.05 DELIVERY AND HANDLING

A. CHILLERS SHALL BE DELIVERED TO THE JOB SITE COMPLETELY ASSEMBLED AND CHARGED WITH REFRIGERANT AND OIL BY THE MANUFACTURER

B. COMPLY WITH THE MANUFACTURER INSTRUCTIONS FOR RIGGING AND HANDLING EQUIPMENT.

1.06 WARRANTY

A. THE REFRIGERATION EQUIPMENT MANUFACTURER'S WARRANTY SHALL BE FOR A PERIOD OF ONE YEAR FROM DATE OF EQUIPMENT START UP. IT SHALL COVER DEFECTS IN MATERIAL AND WORKMANSHIP THAT HAVE PROVEN DEFECTIVE WITHIN THE ABOVE PERIOD, INCLUDING REFRIGERANT LOST DUE TO A WARRANTY FAILURE.

B. THE COMPRESSOR PARTS WARRANTY SHALL BE EXTENDED FOR AN ADDITIONAL 48 MONTHS.

PART 2: PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. YORK INTERNATIONAL, CARRIER AND TRANE OR APPROVED EQUAL.

2.02 UNIT DESCRIPTION

A. PROVIDE AND INSTALL AS SHOWN ON THE PLANS FACTORY ASSEMBLED, FACTORY CHARGED AND FACTORY RUN TESTED AIR-COOLED SCROLL COMPRESSOR PACKAGED CHILLER(S) IN THE QUANTITY SPECIFIED. EACH CHILLER SHALL CONSIST OF HERMETIC SCROLL COMPRESSORS, FLOODED EVAPORATOR, AIR-COOLED CONDENSER SECTION, CONTROL SYSTEM, PUMP SYSTEM AND ALL COMPONENTS NECESSARY FOR SAFE AND CONTROLLED UNIT OPERATION.

2.03 DESIGN REQUIREMENTS

A. GENERAL: PROVIDE A COMPLETE PACKAGED CHILLER AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS.

2.04 CONTROLS, SAFETIES, AND DIAGNOSTICS
1. CONTROLS
A. UNIT CONTROLS SHALL INCLUDE THE FOLLOWING MINIMUM COMPONENTS:
1. MICROPROCESSOR WITH NONVOLATILE MEMORY. BATTERY BACKUP SYSTEM NOT TO BE ACCEPTED.
2. SINGLE TERMINAL BLOCK FOR POWER AND CONTROLS.
3. CONTROL TRANSFORMER TO SERVE ALL CONTROLLERS, RELAYS, AND CONTROL COMPONENTS.
4. ON/OFF CONTROL SWITCH.
5. REPLACEABLE SOLID-STATE RELAY PANELS AND CONTROLLERS.
6. PRESSURE SENSORS INSTALLED TO MEASURE COOLER ENTERING AND LEAVING SATURATED TEMPERATURES AND OUTSIDE AIR TEMPERATURE. THERMISTORS INSTALLED TO MEASURE COOLER ENTERING AND LEAVING FLUID TEMPERATURES. PROVISION FOR FIELD INSTALLATION OF ACCESSORY SENSOR TO MEASURE COMPRESSOR RETURN GAS TEMPERATURE.
2.05 UNIT CONTROLS SHALL INCLUDE THE FOLLOWING FUNCTIONS:
1. AUTOMATIC CIRCUIT LEAD/LAG FOR DUAL CIRCUIT CHILLERS.
2. CAPACITY CONTROL BASED ON LEAVING CHILLED FLUID TEMPERATURE AND COMPENSATED BY RATE OF CHANGE OF RETURN-FLUID TEMPERATURE WITH TEMPERATURE SET POINT ACCURACY TO 0.1°F.
3. LIMITING THE CHILLED FLUID TEMPERATURE PULL DOWN RATE AT START-UP TO AN ADJUSTABLE RANGE OF 0.2°F TO 2°F PER MINUTE TO PREVENT EXCESSIVE DEMAND SPIKES AT START-UP.
4. SEVEN DAY TIME SCHEDULE.
5. LEAVING CHILLED WATER PUMP START/STOP CONTROL AND PRIMARY/STANDBY SEQUENCING TO ENSURE EQUAL PUMP RUN TIME.
6. CHILLED WATER PUMP START/STOP CONTROL AND PRIMARY/STANDBY SEQUENCING TO ENSURE EQUAL PUMP RUN TIME.
7. DUAL CHILLER CONTROL FOR PARALLEL CHILLER APPLICATIONS WITHOUT ADDITION OF HARDWARE MODULES AND CONTROLS PANELS (ADDITIONAL THERMISTOR AND WELL SHALL BE REQUIRED).
8. UNOCCUPIED LOW SOUND OPERATION TO LIMIT CONDENSER FAN SOUND DURING SCHEDULED PERIODS.
9. TIMED MAINTENANCE SCHEDULING TO SIGNAL MAINTENANCE ACTIVITIES FOR PUMPS, CONDENSER COIL CLEANING, STRAINER MAINTENANCE AND USER DEFINED MAINTENANCE ACTIVITIES.
10. BOILER ENABLE SIGNAL TO INITIATE SYSTEM HEATING MODE.
11. LOW AMBIENT PROTECTION TO ENERGIZE COOLER AND HYDRONIC SYSTEM HEATERS.
12. PERIODIC PUMP START TO ENSURE PUMP SEALS ARE PROPERLY MAINTAINED DURING OFF-SEASON PERIODS.
2. DIAGNOSTICS:
A. THE CONTROL PANEL SHALL INCLUDE, AS STANDARD, A SCROLLING MARQUEE DISPLAY CAPABLE OF INDICATING THE SAFETY LOCKOUT CONDITION BY DISPLAYING A CODE FOR WHICH AN EXPLANATION MAY BE SCROLLED AT THE DISPLAY.
B. INFORMATION INCLUDED FOR DISPLAY SHALL BE:
(1) COMPRESSOR LOCKOUT.
(2) LOSS OF CHARGE.
(3) LOW FLUID FLOW.
(4) COOLER FREEZE PROTECTION.
(5) THERMISTOR MALFUNCTION.
(6) ENTERING AND LEAVING FLUID TEMPERATURE.
(7) EVAPORATOR AND CONDENSER PRESSURE.
(8) TIME OF DAY:
(A) DISPLAY MODULE, IN CONJUNCTION WITH THE MICROPROCESSOR, MUST ALSO BE CAPABLE OF DISPLAYING THE OUTPUT (RESULTS) OF A SERVICE TEST. SERVICE TEST SHALL VERIFY OPERATION OF EVERY SWITCH, THERMISTOR, FAN, AND COMPRESSOR BEFORE CHILLER IS STARTED.
(B) DIAGNOSTICS SHALL INCLUDE THE ABILITY TO REVIEW A LIST OF THE FIVE MOST RECENT ALARMS WITH CLEAR LANGUAGE DESCRIPTIONS OF THE ALARM EVENT. DISPLAY OF ALARM CODES WITHOUT THE ABILITY FOR CLEAR LANGUAGE DESCRIPTIONS SHALL BE PROHIBITED.
(C) AN ALARM HISTORY BUFFER SHALL ALLOW THE USER TO STORE NO LESS THAN 20 ALARM EVENTS WITH CLEAT LANGUAGE DESCRIPTIONS, TIME AND DATE STAMP EVENT ENTRY.
(D) THE CHILLER CONTROLLER SHALL INCLUDE MULTIPLE CONNECTION PORTS FOR COMMUNICATING WITH THE LOCAL EQUIPMENT NETWORK, A CARRIER COMFORT NETWORK® (CCN) SYSTEM AND THE ABILITY TO ACCESS ALL CHILLER CONTROL FUNCTIONS FROM ANY POINT ON THE CHILLER.
(E) THE CONTROL SYSTEM SHALL ALLOW SOFTWARE UPGRADE WITHOUT THE NEED FOR NEW HARDWARE MODULES.
3. SAFETIES:
A. UNIT SHALL BE EQUIPPED WITH THERMISTORS AND ALL NECESSARY COMPONENTS IN CONJUNCTION WITH THE CONTROL SYSTEM TO PROVIDE THE UNIT WITH THE FOLLOWING PROTECTIONS:
(1) LOSS OF REFRIGERANT CHARGE.
(2) REVERSE ROTATION.
(3) CHILLED FLUID TEMPERATURE.
(4) THERMAL OVERLOAD.
(5) HIGH PRESSURE.
(6) ELECTRICAL OVERLOAD.
(7) LOSS OF PHASE.
B. CONDENSER FAN AND FACTORY PUMP MOTORS SHALL HAVE EXTERNAL OVERCURRENT PROTECTION.

2.06 ELECTRICAL REQUIREMENTS
1. UNIT PRIMARY ELECTRICAL POWER SUPPLY SHALL ENTER THE UNIT AT A SINGLE LOCATION.
2. PRIMARY ELECTRICAL POWER SUPPLY SHALL BE RATED TO WITHSTAND 120°F OPERATING AMBIENT.
3. UNIT SHALL OPERATE ON 3-PHASE POWER AT THE VOLTAGE SHOWN IN THE EQUIPMENT SCHEDULE.
4. CONTROL POINTS SHALL BE ACCESSED THROUGH TERMINAL BLOCK.
5. UNIT SHALL BE SHIPPED WITH FACTORY CONTROL AND POWER WIRING INSTALLED.
6. ACCESSORY STORAGE TANK COOLER HEATER REQUIRES A SEPARATE POWER SOURCE.

2.07 CHILLED WATER CIRCUIT:
1. CHILLED WATER CIRCUIT SHALL BE RATED FOR 300 PSIG. UNITS WITH OPTIONAL PUMP PACKAGE ARE RATED FOR 150 PSIG WORKING PRESSURE.
2. SOLID STATE FLOW MONITOR WITH INTEGRAL RELAY SHALL BE FACTORY INSTALLED AND WIRED.
3. BRASS BODY STRAINER WITH 20 MESH SCREEN AND BALL TYPE BLOW DOWN.
4. OPTIONAL HYDRONIC PACKAGE:
A. FIELD PIPE CONNECTIONS SHALL BE COPPER FTP TYPE.
B. OPTIONAL SINGLE OR PRIMARY/STAND-BY OPERATION PUMP SYSTEMS. DUAL PUMP SYSTEMS SHALL HAVE A PUMP DISCHARGE CHECK VALVE.
C. PUMPS SHALL BE SINGLE STAGE DESIGN, FOR INSTALLATION IN VERTICAL POSITION AND CAPABLE OF BEING SERVICED WITHOUT DISTURBING PIPING CONNECTIONS.
(1) PUMP CASING SHALL BE OF CLASS 30 CAST IRON.
(2) THE IMPELLER SHALL BE OF CAST BRONZE, CLOSED TYPE, DYNAMICALLY BALANCED, KEYED TO THE SHAFT AND SECURED BY LOCKING CAP SCREW.
(3) THE HYDRONIC KIT WILL BE PROVIDED WITH A FLUSH LINE CONNECTION TO ENSURE LUBRICATION AT THE SEAL FACE AND ALLOW FOR POSITIVE VENTING OF THE SEAL CHAMBER.
(4) PUMP SHALL BE RATED FOR 150 PSIG WORKING PRESSURE.
(5) THE PUMP CASE SHALL HAVE GAGE TAPPINGS AT THE SUCTION AND DISCHARGE NOZZLES AND INCLUDE DRAIN PORTS.
(6) MOTORS SHALL TOTALLY ENCLOSED 3-PHASE TYPE WITH GREASE LUBRICATED BALL BEARINGS.
(7) EACH PUMP SHALL BE FACTORY TESTED PER HYDRAULIC INSTITUTE STANDARDS.
D. FLUID EXPANSION TANK SHALL BE FACTORY INSTALLED WITHIN THE CHILLER CABINET INSULATED, PRE-CHARGED AND RATED FOR A MAXIMUM WORKING PRESSURE OF 150 PSIG.
E. WATER PRESSURE TAPS (2) SHALL BE FACTORY INSTALLED ACROSS THE COOLER AND RATED FOR 150 PSIG.
F. BALANCING VALVE SHALL BE FACTORY INSTALLED TO SET FLOW GAGE PORTS, SHALL BE FACTORY INSTALLED AND RATED FOR 300 PSIG.
G. HYDRONIC ASSEMBLY SHALL HAVE FACTORY SUPPLIED ELECTRIC FREEZE PROTECTION TO -20°F WHEN OPTIONAL HEATERS ARE USED.
H. PIPING SHALL BE TYPE-L SEAMLESS COPPER TUBING.

PART 3: EXECUTION

3.01 INSTALLATION

A. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS, SHOP DRAWINGS, AND CONTRACT DOCUMENTS.

B. ADJUST AND LEVEL CHILLER IN ALIGNMENT ON SUPPORTS.

C. COORDINATE ELECTRICAL INSTALLATION WITH ELECTRICAL CONTRACTOR.

D. COORDINATE CONTROLS WITH CONTROL CONTRACTOR.

E. PROVIDE ALL APPURTENANCES REQUIRED ALLOWING A FULLY OPERATIONAL AND FUNCTIONAL CHILLER.

3.02 START-UP

A. ENSURE PROPER CHARGE OF REFRIGERANT AND OIL.

B. PROVIDE AUTHORIZED FACTORY START-UP BY FACTORY TRAINED TECHNICIANS FOR EACH CHILLER. TECHNICIAN SHALL PROVIDE INSTRUCTION TO THE OWNER ON PROPER OPERATION AND MAINTENANCE DURING START-UP.

SECTION 23 73 00

INDOOR CENTRAL-STATION AIR-HANDLING UNITS

PART 1 GENERAL

1.01 SUMMARY

A. SECTION INCLUDES MODULAR FACTORY FABRICATED AIR-HANDLING UNITS AND ACCESSORIES.1.02 SUBMITTALS

A. SHOP DRAWINGS: INDICATE ASSEMBLY, UNIT DIMENSIONS, WEIGHT LOADING, REQUIRED CLEARANCES, CONSTRUCTION DETAILS, FIELD CONNECTION DETAILS, AND ELECTRICAL CHARACTERISTICS AND CONNECTION REQUIREMENTS.

B. PRODUCT DATA, SUBMIT THE FOLLOWING:
1. PUBLISHED LITERATURE: INDICATE CAPACITIES, RATINGS, GAUGES AND FINISHES OF MATERIALS, AND ELECTRICAL CHARACTERISTICS AND CONNECTION REQUIREMENTS.
2. FILTERS: DATA FOR FILTER MEDIA, FILTER PERFORMANCE DATA, FILTER ASSEMBLY, AND FILTER FRAMES.
3. FANS: PERFORMANCE AND FAN CURVES WITH SPECIFIED OPERATING POINT PLOTTED, POWER, RPM.
4. SOUND POWER LEVEL DATA: FAN OUTLET AND CASING RADIATION AT RATED CAPACITY.
5. ELECTRICAL REQUIREMENTS: POWER SUPPLY WIRING INCLUDING WIRING DIAGRAMS FOR INTERLOCK AND CONTROL WIRING; INDICATE FACTORY INSTALLED AND FIELD INSTALLED WIRING.

C. MANUFACTURER'S INSTALLATION INSTRUCTIONS: SUBMIT.

1.03 CLOSEOUT SUBMITTALS

A. OPERATION AND MAINTENANCE DATA: SUBMIT INSTRUCTIONS FOR LUBRICATION, FILTER REPLACEMENT, MOTOR AND DRIVE REPLACEMENT, SPARE PARTS LISTS, AND WIRING DIAGRAMS.

1.04 WARRANTY

A. FURNISH ONE YEAR MANUFACTURER WARRANTY FOR AIR HANDLING UNITS.

PART 2 PRODUCTS

2.01 AIR HANDLING UNITS

A. MANUFACTURERS:
1. THE TRANE COMPANY.
2. CARRIER CORP.
3. YORK BY JOHNSON CONTROLS.

B. CONFIGURATION: FAN SECTION PLUS ACCESSORIES, INCLUDING:
1. VERTICAL COOLING COIL SECTION.

C. PERFORMANCE BASE: SEA LEVEL PRESSURE OR ALTITUDE.

D. FABRICATION: CONFORM TO AMCA 99 AND ARI 430.

2.02 CASING

A. CHANNEL BASE OF WELDED STEEL. ASSEMBLE SECTIONS WITH GASKETS AND BOLTS.

B. OUTSIDE CASING:
1. GALVANIZED STEEL: 18 GAUGE.

C. INSIDE CASING:
1. GALVANIZED STEEL: 18 GAUGE.

D. INSULATION: FOAM INJECTED BETWEEN INSIDE AND OUTSIDE CASINGS.
1. 'K' FACTOR AT 75 DEGREES F: MAXIMUM 0.26 BTUH INCH/ SQ FT/ DEGREES F.
2. DENSITY: 2 INCH THICK.

E. INSPECTION DOORS: GALVANIZED STEEL FOR FLUSH MOUNTING, WITH GASKET, LATCH, AND HANDLE ASSEMBLY.

F. DRAIN PANS: DOUBLE THICKNESS STAINLESS STEEL WITH INSULATION BETWEEN LAYERS WITH WELDED CORNERS, CROSS BREAK AND PITCH TO DRAIN CONNECTION. FURNISH DRAIN PANS UNDER COOLING COIL SECTION.
I. STRENGTH: FURNISH STRUCTURE TO BRACE CASINGS FOR SUCTION PRESSURE OF 4 INCH WG, WITH MAXIMUM DEFLECTION OF 1 IN 200.

2.03 FANS

A. TYPE: FORWARD CURVED.

B. PERFORMANCE RATINGS: CONFORM TO AMCA 210 AND LABEL WITH AMCA CERTIFIED RATING SEAL.

C. SOUND RATINGS: AMCA 301, TESTED TO AMCA 300 AND LABEL WITH AMCA CERTIFIED SOUND RATING SEAL.

D. BEARINGS: SELF-ALIGNING, GREASE LUBRICATED, BALL OR ROLLER BEARINGS WITH LUBRICATION FITTINGS EXTENDED TO EXTERIOR OF CASING WITH COPPER TUBE AND GREASE FITTING RIGIDLY ATTACHED TO CASING.

E. MOUNTING: LOCATE FAN AND MOTOR INTERNALLY ON WELDED STEEL BASE COATED WITH CORROSION RESISTANT PAINT. FACTORY MOUNT MOTOR ON SLIDE RAILS. FURNISH ACCESS TO MOTOR, DRIVE, AND BEARINGS THROUGH HINGED ACCESS DOORS. MOUNT BASE ON VIBRATION ISOLATORS.

2.04 MOTORS

A. FACTORY INSTALL ALL MOTORS ON SLIDE BASE TO PERMIT ADJUSTMENTS OF BELT TENSION.

B. FAN MOTORS SHALL BE HEAVY DUTY, HIGH EFFICIENCY, OPEN DRIP-PROOF, OPERABLE AT SCHEDULED VOLTAGE.

2.05 BEARINGS AND DRIVES

A. BEARINGS: PILLOW BLOCK TYPE, SELF-ALIGNING, GREASE-LUBRICATED L-50 LIFE AT 200,000 HOURS WITH EXTENDED LUBE LINES.

B. SHAFTS: SOLID, HOT ROLLED STEEL, GROUND AND POLISHED, WITH KEY-WAY, AND PROTECTIVELY COATED WITH LUBRICATING OIL.

C. V-BELT DRIVE: CAST IRON OR STEEL SHEAVES, DYNAMICALLY BALANCED, BORED TO FIT SHAFTS, AND KEYED. VARIABLE AND ADJUSTABLE PITCH SHEAVES FOR MOTORS 15 HP AND UNDER SELECTED SO REQUIRED RPM IS OBTAINED WITH SHEAVES SET AT MID-POSITION; MATCHED BELTS, AND DRIVE RATED AS RECOMMENDED BY MANUFACTURER OR MINIMUM 1.5 TIMES NAMEPLATE RATING OF MOTOR.

2.06 COILS

A. STAINLESS STEEL CASING WITH ACCESS TO BOTH SIDES OF COILS. ENCLOSE COILS WITH HEADERS AND RETURN BENDS, FULLY CONTAINED WITHIN CASING. SLIDE COILS INTO CASING THROUGH REMOVABLE SIDE PANEL WITH BLANK OFF SHEETS AND SEALING COLLARS AT CONNECTION PENETRATIONS.

B. AIR COILS: CERTIFY CAPACITIES, PRESSURE DROPS, AND SELECTION PROCEDURES IN ACCORDANCE WITH ARI STANDARD. FABRICATION:
1. TUBES: 5/8 INCH OD SEAMLESS COPPER EXPANDED INTO FINS, BRAZED JOINTS.
2. FINS: ALUMINUM.
3. CASING: DIE FORMED CHANNEL FRAME OF GALVANIZED STEEL.

C. WATER COOLING AND HEATING COILS:
1. HEADERS: STAINLESS STEEL.
2. CONFIGURATION: DRAINABLE, WITH THREADED PLUGS FOR DRAIN AND VENT; THREADED PLUGS IN RETURN BENDS AND IN HEADERS OPPOSITE EACH TUBE.

2.07 FILTERS

A. FILTER BOX: SECTION WITH FILTER GUIDES, ACCESS DOORS FROM BOTH SIDES, FOR SIDE LOADING WITH GASKETS AND BLANK-OFF PLATES.

B. FILTERS: 2-INCH PLEATED, MERV 7.

C. FILTER GAUGES: MAGNAHELIC GAUGE.

PART 3 EXECUTION

3.01 INSTALLATION

A. INSTALL IN ACCORDANCE WITH ARI 430.

B. INSTALL FLOOR MOUNTED UNITS ON CONCRETE HOUSEKEEPING PADS AT LEAST 3-1/2 INCHES HIGH AND 6 INCHES WIDER THAN UNIT.

C. INSULATE COIL HEADERS LOCATED OUTSIDE AIRFLOW AS SPECIFIED FOR PIPING. REFER TO SECTION 15081.

D. INSTALL CONDENSATE PIPING WITH TRAP AND ROUTE FROM DRAIN PAN THROUGH FLOOR SLAB AND SPILL ON GRADE BELOW SLAB.

3.02 INSTALLATION OF CHILLED WATER AND HOT WATER COOLING COILS

A. MAKE CONNECTIONS TO COILS WITH UNIONS.

B. CONNECT WATER SUPPLY TO LEAVING AIRSIDE OF COIL (COUNTER FLOW ARRANGEMENT).

C. LOCATE WATER SUPPLY AT BOTTOM OF SUPPLY HEADER AND RETURN WATER CONNECTION AT TOP.

D. INSTALL WATER COILS TO ALLOW DRAINING AND INSTALL DRAIN CONNECTION AT LOW POINTS.

E. INSTALL VALVES AND PIPING SPECIALTIES IN ACCORDANCE WITH DETAILS AS INDICATED ON DRAWINGS.

F. INSTALL MANUAL AIR VENTS AT HIGH POINTS COMPLETE WITH SHUTOFF VALVE.

3.03 DEMONSTRATION

A. DEMONSTRATE UNIT OPERATION AND MAINTENANCE.

3.04 PROTECTION OF FINISHED WORK

A. DO NOT OPERATE UNITS UNTIL DUCTWORK IS CLEAN, FILTERS ARE IN PLACE, BEARINGS LUBRICATED, AND FAN HAS BEEN TEST RUN UNDER OBSERVATION.

SECTION 23 81 51

KITCHEN HOOD(S):

1.0 KITCHEN VENTILATION HOOD(S) SHALL BE THE TYPE I, FULL COMPENSATING WALL CANOPY GROUP WITH THE CAPABILITY TO REPLACE 90% OF THE EXHAUSTED AIR WITH FRESH OUTSIDE AIR. THE HOOD(S) SHALL BE U.L. LISTED WITHOUT (WITH) FIRE DAMPER FOR 400F, 600F, OR 700F RATED COOKING APPLIANCES. AIR SHALL BE SUPPLIED THROUGH PERFORATED PANELS IN A MANNER THAT DOES NOT INTERFERE WITH THE COOKING OPERATIONS BENEATH THE HOOD(S).

THE HOOD(S) EXTERIOR SHALL BE CONSTRUCTED OF A MINIMUM OF 18 GAUGE STAINLESS STEEL. THE HOOD(S) SHALL BE CONSTRUCTED USING THE STANDING SEAM METHOD FOR OPTIMUM STRENGTH. AN INTEGRAL 3 INCH AIR SPACE IS PROVIDED TO MEET NFPA 96 CLEARANCE REQUIREMENTS AGAINST LIMITED COMBUSTIBLES WALLS. ALL SEAMS, JOINTS AND PENETRATIONS OF THE HOOD ENCLOSURE SHALL BE WELDED AND/OR LIQUID TIGHT. LIGHTER MATERIAL GAUGES, ALTERNATE MATERIAL TYPES AND FINISHES ARE NOT ACCEPTABLE. ALL UNEXPOSED INTERIOR SURFACES SHALL BE CONSTRUCTED OF A MINIMUM 18 GAUGE CORROSION-RESISTANT STEEL INCLUDING, BUT NOT LIMITED TO DUCTS, PLENUM, AND BRACKETS.

VAPORPROOF, U.L. LISTED INCANDESCENT LIGHT FIXTURES SHALL BE PREWIRED TO A JUNCTION BOX SITUATED AT THE TOP OF THE HOOD FOR FIELD CONNECTION. WIRING SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NFPA #70-LATEST EDITION).

THE CANOPY HOOD(S) SHALL BE BUILT IN ACCORDANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) BULLETIN #96, INTERNATIONAL MECHANICAL CODE (IMC), INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO), BUILDING OFFICIALS AND CODE ADMINISTRATORS (BOCA), SOUTHERN BUILDING CODE CONGRESS INTERNATIONAL (SBCCI), AND BEAR THE NATIONAL SANITATION FOUNDATION (NSF) SEAL OF APPROVAL. THE HOOD MANUFACTURER SHALL SUPPLY, ON REQUEST, THE NECESSARY DATA THAT CONFIRMS COMPLIANCE WITH THE CODE AUTHORITIES LISTED ABOVE.

2.0 THE HOOD(S) SHALL CONTAIN A FACTORY ENGINEERED AND PRE-PIPED, UL LISTED AUTOMATIC CHEMICAL, ANSUL R-102 FIRE SUPPRESSION SYSTEM. THE SYSTEM PIPING SHALL BE INSTALLED IN THE HOOD AT THE TIME OF CONSTRUCTION ABOVE THE HOOD OR WITHIN THE SUPPLY PLENUM AND SHALL BE CONCEALED FROM VIEW. ALL EXPOSED PIPING IN THE HOOD SHALL COMPLY WITH THE EXCEPTION OF APPLIANCE DROPS. A CERTIFIED LOCAL ANSUL DISTRIBUTOR SHALL BE SELECTED BY THE FACTORY FOR FINAL SYSTEM HOOK-UP.

THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION AND/OR REMOTE MANUAL ACTUATION. THE SYSTEM SHALL HAVE THE FIRE SUPPRESSION CAPABILITIES TO PROTECT THE DUCT(S), PLENUM(S), FILTER AREA(S) AND COOKING EQUIPMENT. ACCESSORIES SHALL BE AVAILABLE FOR MECHANICAL OR ELECTRICAL GAS LINE SHUT-OFF APPLICATIONS AND A DOUBLE-POLE, DOUBLE-THROW MICROSWITCH FOR ACTIVATION OF A SHUNT TRIP BREAKER (PROVIDED BY OTHERS) FOR ELECTRICAL EQUIPMENT. THE SYSTEM SHALL ALSO INCLUDE THE RELEASE ASSEMBLY, AGENT TANK, DETECTORS, FUSIBLE LINKS, LIQUIDTIGHT FITTINGS, REMOTE MANUAL PULL STATION, AND SCHEDULE 40 BLACK IRON PIPE WITH CHROME SLEEVING FOR EXPOSED AREAS.

THE PRE-PIPE ONLY SYSTEM INCLUDES SCHEDULE 40 BLACK IRON PIPE, DETECTORS, NOZZLES, AND CHROME APPLIANCE DROPS. THE REMAINDER OF THE SYSTEM IS NOT INCLUDED AND IS UNDER SEPARATE CONTRACT BY OTHERS.

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DPW NUMBER
17-C-00037

ISSUE DATE
07-28-2017

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REVISIONS
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SEAL

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SCALE: N.T.S.

MECHANICAL SPECIFICATIONS

SHEET NUMBER
M-7.3
X OF X

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