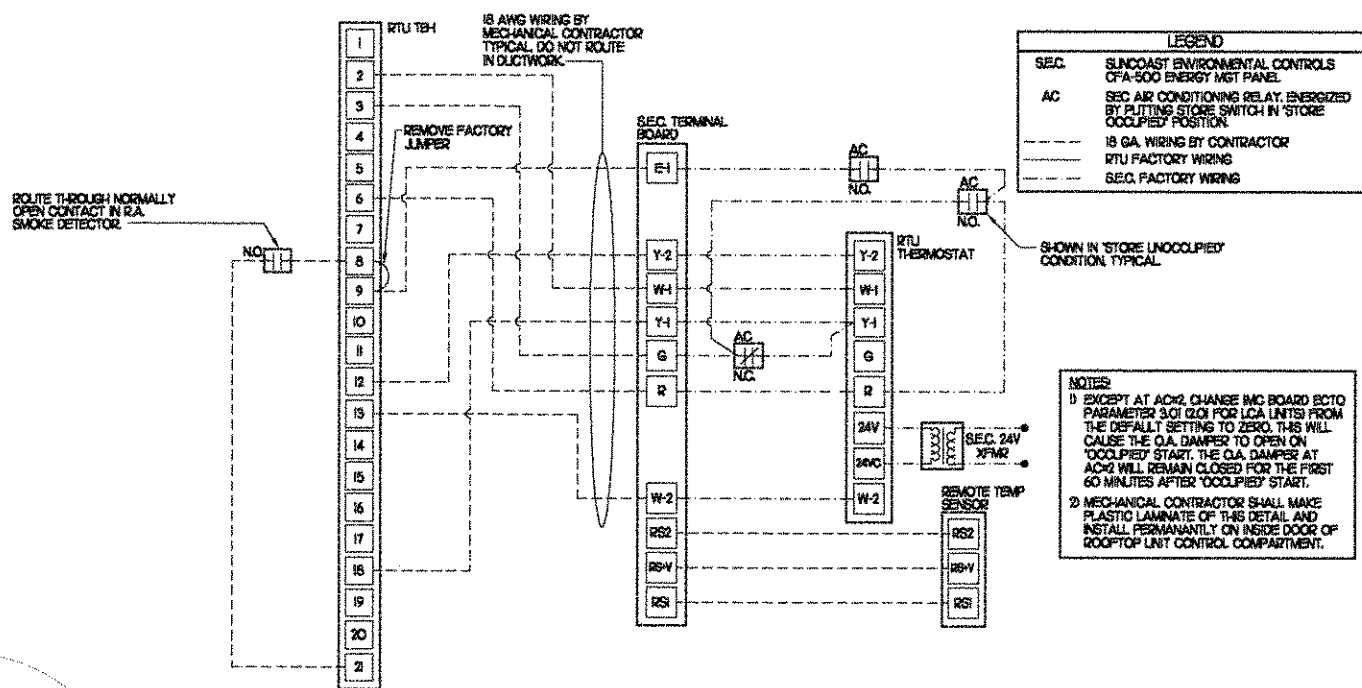


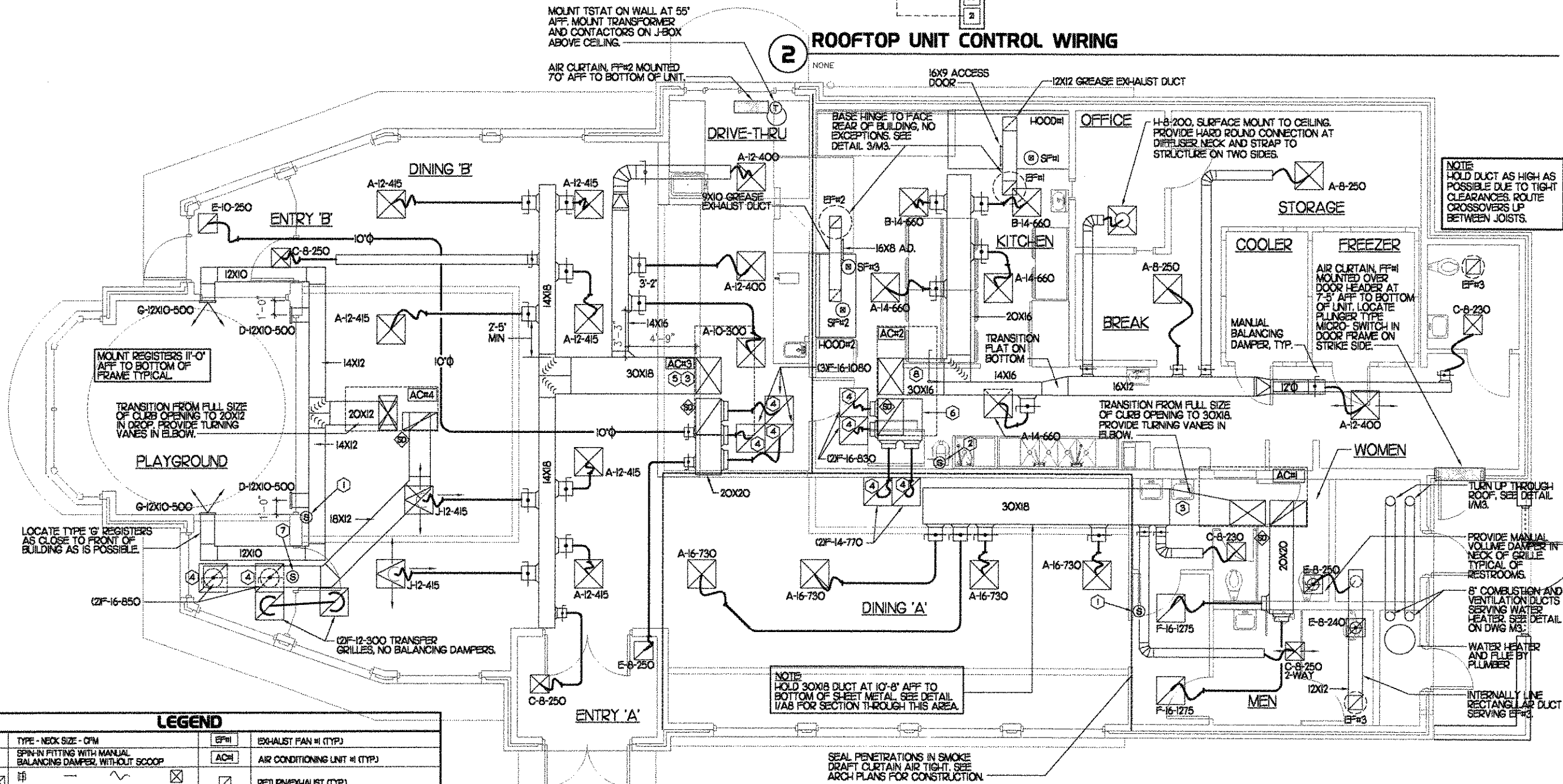
AIR BALANCE SCHEDULE	
AIR TYPE	TOTAL CFM
SUPPLY	14,720
RETURN	11,190
EXHAUST	2,940
OUTSIDE AIR	3,530
BUILDING POSITIVE PRESSURE	590

KEY NOTES

- MOUNT REMOTE SENSOR ON WALL AT 5'-0" AFF AND ROUTE WIRING BACK TO SUNCOAST TEMPERATURE CONTROL PANEL.
- MOUNT REMOTE SENSOR ON WALL AT 7'-0" AFF BETWEEN THE ICE MAKER AND VEGETABLE SINK, APPROX 8'-10" FROM FRONT WALL. ROUTE WIRING TO SUNCOAST TEMPERATURE CONTROL PANEL.
- BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 4'-0" FROM THE ELBOW AT THE SUPPLY AIR DROP FROM CURB.
- PROVIDE METALAIR MODEL BDS NECK DAMPER, WHERE SHOWN AT TYPE 'F' RETURN AIR GRILLES IN LIEU OF DAMPER AT SPIN-IN.
- TRANSITION FROM FULL SIZE OF CURB OPENING TO 30X18 IN DROP.
- HOLD 38"X36"X20" DEEP PLENUM CLOSE TO STRUCTURE. ROUTE FROM FULL SIZE OF CURB OPENING TO TOP OF PLENUM.
- MOUNT REMOTE SENSOR FOR PLAYGROUND 9'-6" AFF NEAR THE RETURN AIR GRILLE ON THE WALL, AND ROUTE WIRING BACK TO SUNCOAST TEMPERATURE CONTROL PANEL.
- TRANSITION FROM FULL SIZE OF CURB OPENING TO 30X16 IN DROP. PROVIDE TURNING VANES IN ELBOW.



2 ROOFTOP UNIT CONTROL WIRING



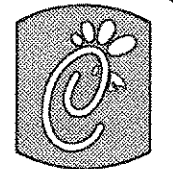
LEGEND			
A-12-400	TYPE - NECK SIZE - CFM	EF#1	EXHAUST FAN #1 (TYP)
	SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP	ACH1	AIR CONDITIONING UNIT #1 (TYP)
	SPIN-IN, HARD, FLEXIBLE, DIFFUSER		RETURN/EXHAUST (TYP)
	REMOTE TEMPERATURE SENSOR		SUPPLY DIFFUSER, SO FACE (TYP)
	PLAN NOTE REFERENCE		SPLITTER DAMPER
	SMOKE DETECTOR		MANUAL VOLUME DAMPER
	DUCT SIZE		DIRECTION OF THROW ON DIFFUSER
12X18	1ST NUMBER - HORIZONTAL DIMENSION 2ND NUMBER - VERTICAL DIMENSION		

1 MECHANICAL FLOOR PLAN

1/4"=1'-0"

SHEET NOTES

- DUCT SIZES SERVING DIFFUSERS AND GRILLES ARE SAME SIZE AS DIFFUSER OR GRILLE NECK UNLESS NOTED OTHERWISE.



Chick-fil-A

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SHEET TITLE
MECHANICAL
FLOOR PLAN

DWG EDITION 02.4

DPreliminary

DB80% Submittal

XFor Construction

Job No. : 2146

Store

Date : 7/03/02

Drawn By : MDS

Checked By : RDB

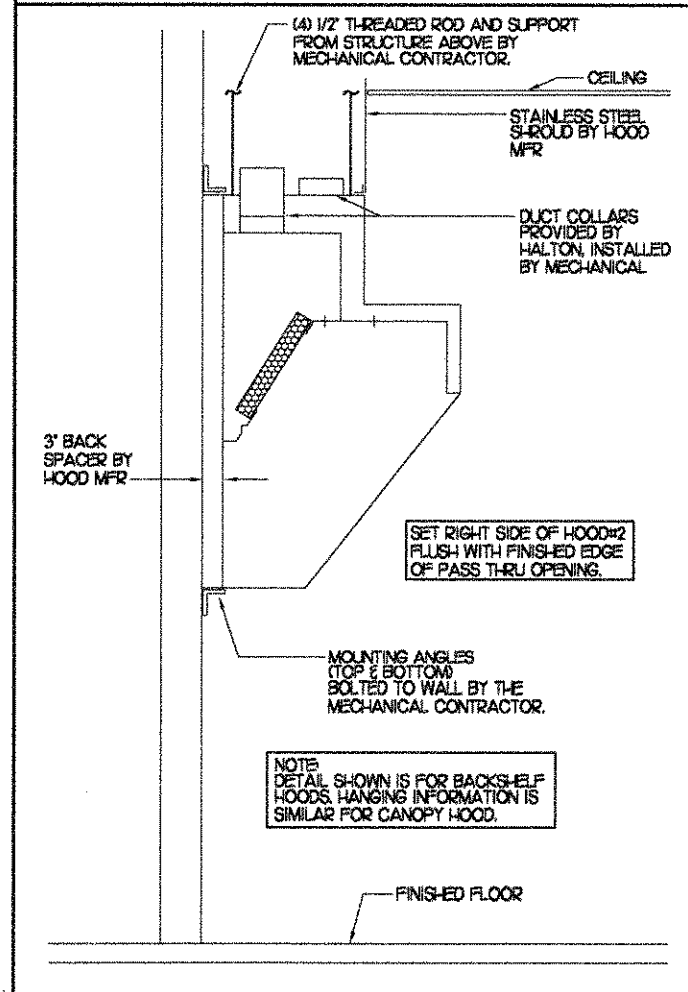
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M-1

KITCHEN HOOD SYSTEMS NOTES

- CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT WITH HALTON CO. FOR THE HOODS. CHICK-FIL-A WILL PURCHASE AND PROVIDE THE HOODS FOR INSTALLATION BY THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.
- REFER TO "PART 2 CONTROLS" OF THE MECHANICAL SPECIFICATIONS FOR DIFFERENTIATION BETWEEN CONTROL AND POWER WIRING RESPONSIBILITIES.
- ANY CONTACTORS OR WIRING REQUIRED FOR SHUT-OFF OF ELECTRIC COOKING EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
- ALL ROOF CURBS SHALL BE SHIMMED LEVEL.
- ROOF CURBS FOR EXHAUST SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE "NATIONAL ROOFING CONTRACTORS ASSOCIATION" GUIDELINES, AND THE ROOFING SUPPLIER'S DETAILS AND GUIDELINES FOR THE SPECIFIC ROOFING MATERIALS USED. ALL CURB INSULATION SHALL BE SUPPLIED AND INSTALLED BY ROOFING CONTRACTOR.
- THE GENERAL CONTRACTOR SHALL PROVIDE ALL ROOF CUT OPENINGS AND OTHER STRUCTURAL REQUIREMENTS FOR THE INSTALLATION OF ALL ROOF EQUIPMENT. REFER TO STRUCTURAL FRAMING PLAN FOR EQUIPMENT LOCATION DIMENSIONS.
- THE FIRE SUPPRESSION SYSTEM SHALL CONSIST OF A COMPLETE WET ANSUL SYSTEM FURNISHED BY HALTON. THE HOOD SHALL BE FURNISHED PRE-PIPED BY HALTON. COMPONENTS AND INSTALLATION SHALL MEET THE REQUIREMENTS OF NFPA-96, NFPA-17A, ALL APPLICABLE STATE AND FEDERAL CODES AND STANDARDS.
- THE R-102 ANSUL FIRE SUPPRESSION SYSTEM EXTERNAL TO THE HOODS SHALL BE INSTALLED IN ACCORDANCE WITH HOOD MANUFACTURER'S SHOP DRAWINGS BY AN AUTHORIZED ANSUL SYSTEM INSTALLER HIRED BY HALTON.
- PORTABLE FIRE EXTINGUISHERS IN THE KITCHEN SHALL BE PROVIDED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH NFPA-10 AND LOCAL REQUIREMENTS.
- OUTLETS OF EXHAUST FANS SHALL BE AT LEAST 40 INCHES ABOVE ROOF LINE.
- EXHAUST FANS SHALL BE LOCATED A MINIMUM OF 10 FEET FROM ANY FRESH AIR INTAKE. MEASUREMENT SHALL BE MADE USING STRETCHED STRING METHOD.
- HOOD EXHAUST DUCTWORK SHALL BE 16 GA. BLACK STEEL WITH CONTINUOUS LIQUID TIGHT WELD OF JOINTS & SEAMS.
- TURNS IN GREASE EXHAUST DUCTWORK SHALL BE LONG RADIUS TYPE, WITH A CENTERLINE RADIUS R-3W/2, NO EXCEPTIONS ALLOWED. NO MITERED FITTINGS ALLOWED.
- HOODS AND ASSOCIATED DUCTWORK SHALL BE INSTALLED PER NFPA 96 AND LOCAL CODES.
- ALL STAINLESS STEEL SHROULDS SHALL BE SUPPLIED BY HOOD MANUFACTURER AND INSTALLED BY THE GENERAL CONTRACTOR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- HOODS, FANS AND ACCESS DOORS SHALL BE LISTED BY UNDERWRITERS INC. AND SHALL MEET REQUIREMENTS OF NFPA-96.
- ACCESS DOORS SHALL BE REMOVABLE WITHOUT USE OF TOOLS AND BE PROVIDED WITH GASKET SEAL.
- SLOPE ALL GREASE EXHAUST DUCT BACK TO HOOD AT 1/4" PER FOOT OF RUN.
- WRAP NEW GREASE DUCT IN TWO LAYERS OF 3M FIREMASTER OR ONE LAYER OF 3M FASTWRAP. ACCESS DOORS SHALL BE INSTALLED ACCORDING TO 3M FIRE BARRIER PRODUCTS INSTALLATION MANUAL FIGURE 2.

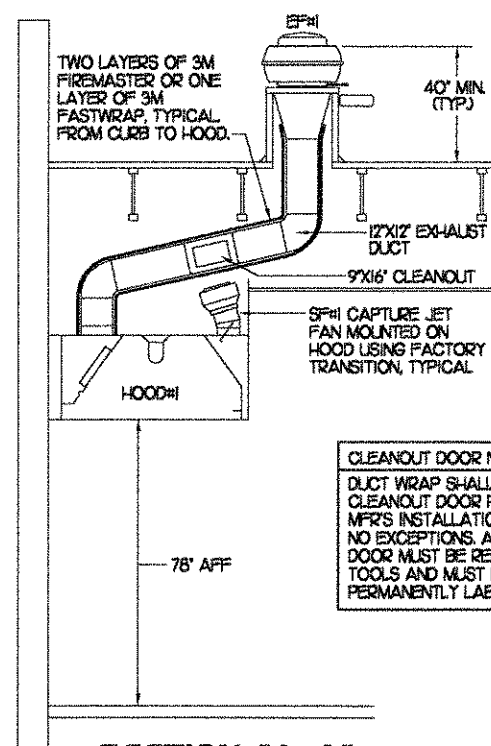
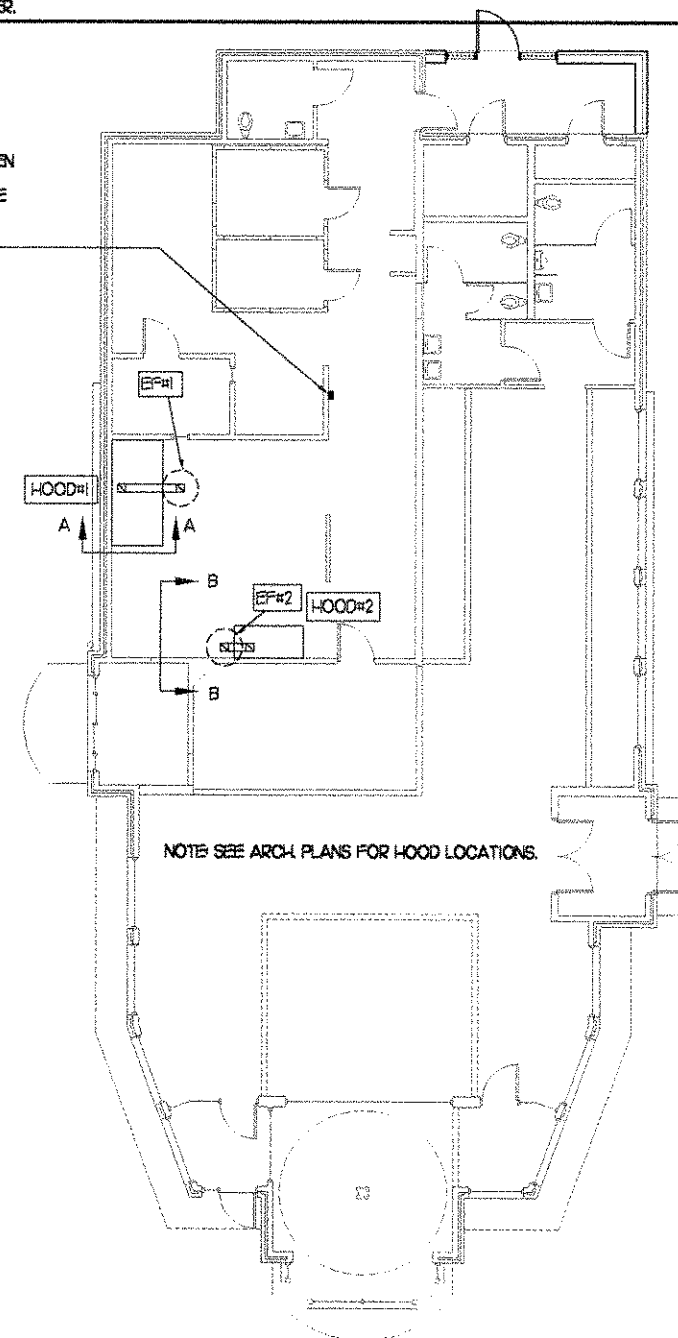
SIDE VIEW OF HOOD



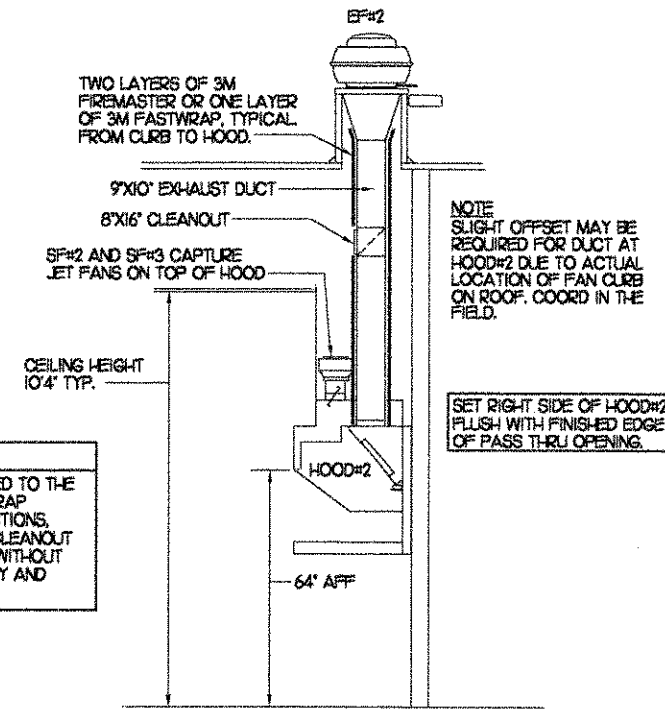
HOOD SCHEDULE

MARK	EXHAUST CFM	SP * TAB PORT	CAPTURE JET CFM & SP.	TYPE	COLLAR SIZE	LENGTH	HEIGHT	DEPTH	MANUFACTURER	MODEL	REMARKS
HOOD#1	1500	23"	102 * 0.72"	CANOPY	12X12"	102"	24"	48"	HALTON	KVE	1,345,6,7,8
HOOD#2	950	23"	48 * 0.30"	BACK SHELF	9X10"	72"	48"	31"	HALTON	KVL	1,2,4,5,8,9
REMARKS	1) STAINLESS STEEL CONSTRUCTION. 2) PROVIDE FULL HEIGHT SS CLOSURE PANEL WITH ACCESS PANEL IN FRONT LARGE ENOUGH TO REMOVE CAPTURE JET FAN. 3) PROVIDE FULL HEIGHT SS CLOSURE PANEL WITH ACCESS PANEL IN FRONT LARGE ENOUGH TO SERVICE ANSUL COMPONENTS. 4) PROVIDE PRE-PIPED ANSUL R-102 WET FIRE EXTINGUISHING SYSTEM. 5) PROVIDE 3" BACK SPACER. 6) PROVIDE PARTIAL CLOSURE PANEL ON LEFT SIDE. 7) PROVIDE BLANK-OFF PLATE FOR SWITCH COVER. 8) PROVIDE TOP PLENUM CAPTURE JET FAN, SPEED CONTROLLER AND COLLAR. 9) PROVIDE SIDE CAPTURE JET ASSEMBLY, FAN AND SPEED CONTROLLER.										

ANSUL REMOTE PULL STATION BETWEEN HANDSINK AND SHELVEYS. J-BOX AND CONDUIT ARE BY ELECTRICAL. PROVIDE RED BAKELITE LABEL WITH 1/2" HIGH LETTERS INDICATING THE HOODS SERVED.



SECTION "A-A"



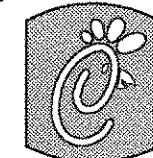
SECTION "B-B"

2 HOOD ELEVATIONS

1/8"=1'-0"

1 HOOD LAYOUT

1/8"=1'-0"



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SHEET TITLE
HOOD DETAILS
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XFor Construction

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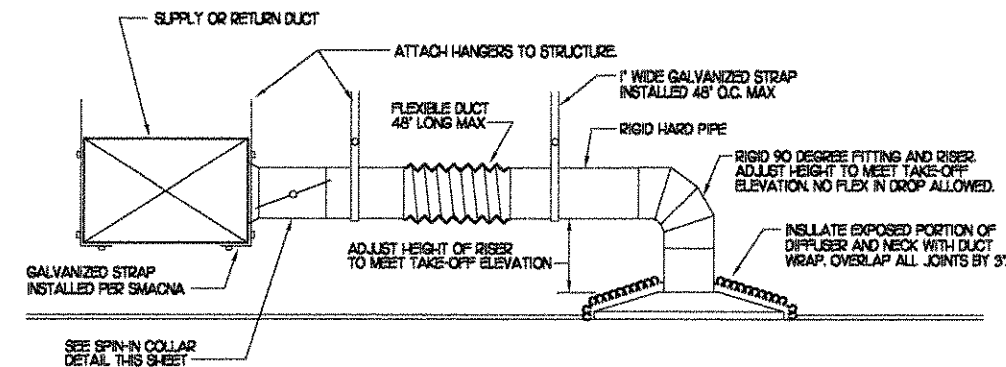
Date 7/03/02

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Checked By : RDB

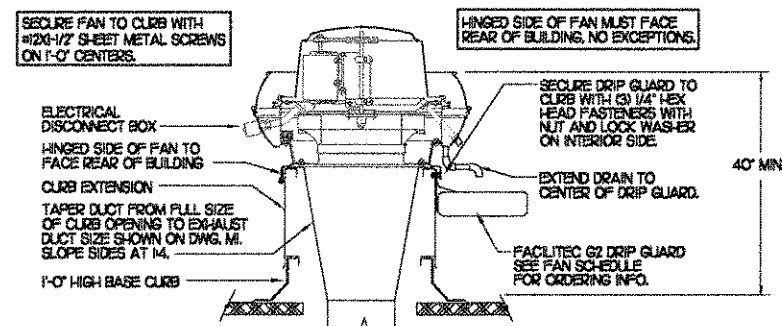
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M-2



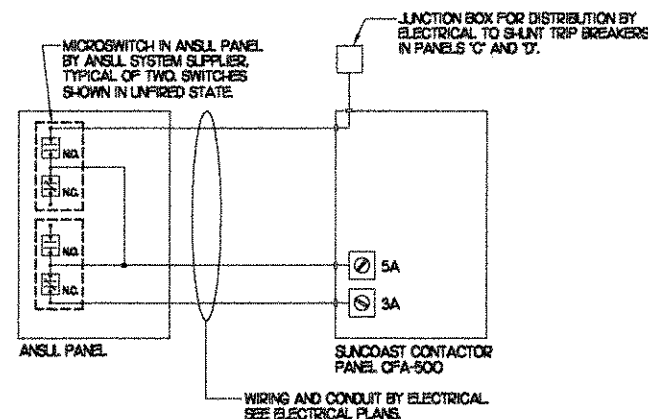
1 SAG/RAG TAKE-OFF

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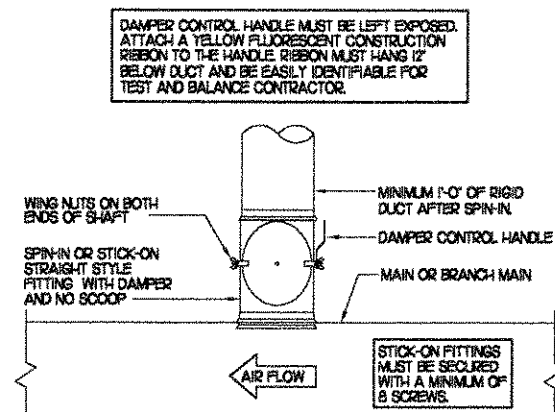
3 KITCHEN HOOD EXHAUST FAN

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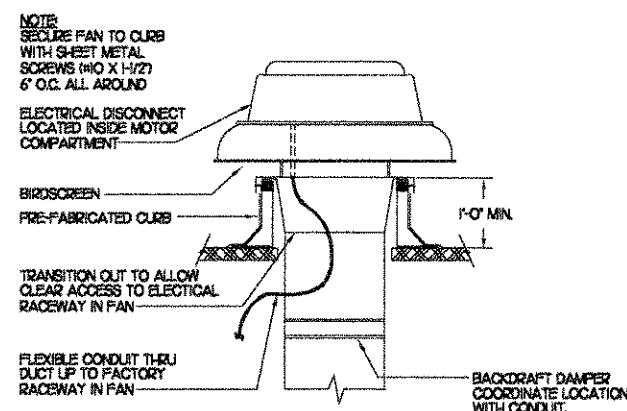
5 ANSUL WIRING DIAGRAM

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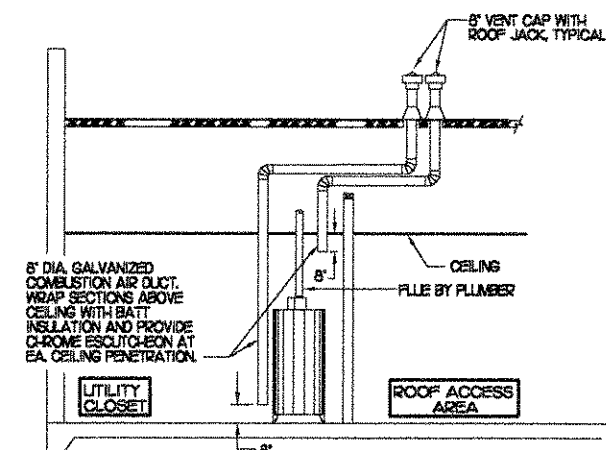
2 SPIN-IN COLLAR

NO SCALE



4 RESTROOM EXHAUST FAN

NO SCALE



6 WATER HEATER VENT/C.A. ROUTING

NO SCALE

GAS FIRED ROOFTOP UNIT SCHEDULE

MARK	COOLING CAPACITY (MBH)		HEATING CAPACITY (MBH)		FAN SECTION (CFM)			MODEL	MANUFACTURER	REMARKS
	TOTAL	SENS	INPUT	OUTPUT	SUPPLY	O.A.	HP ESP			
ACH	126	845	235.0	188.0	3,400	850	2	LSA204H	LENNOX	23,45,67,8,9,10,11,12,13
ACH2	146.2	1023	235.0	188.0	4,400	1,200	3	LSG250SH	LENNOX	13,45,67,8,9,10,11,12,13
ACH3	174	1061	235.0	188.0	4,920	1,800	5	LSG305SH	LENNOX	13,45,67,8,9,10,11,12,13
ACH4	682	461	125.0	98.75	2,000	500	1.5	LSA060H	LENNOX	23,45,67,8,9,10,11,12,13
NOTES	COOLING CAPACITIES ARE GROSS, BASED ON INDOOR EDB 80F, INDOOR EWB 67F, OUTDOOR EDB 95F									
REMARKS	1) PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST. 2) PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST. 3) PROVIDE 14\"/>									

EXHAUST FAN SCHEDULE

MARK	CFM	ESP	SPM	TP SPEED (RPM)	HP	AREA SERVED	MODEL	MANUFACTURER	REMARKS
EFH	1500	0.65	1200	105	3/4	HOODH	NERD-HQA	JENN	12,3,4,6,10
EFH2	950	0.60	950	91	3/4	HOODH2	NERD-HQA	JENN	12,3,4,6,10
EFH3	490	.375	1088	58	1/4	RESTROOMS	REDIC256	JENN	25,7,8,9,10
NOTES	GREASE EXHAUST FAN RPM BASED ON 78 DEGREE F AIR AT SEA LEVEL.								
REMARKS	1) PROVIDE FACTORY 1\"/>								

AIR DEVICE SCHEDULE

MARK	DESCRIPTION	LOCATION	SIZE	CEILING TYPE	REMARKS
A	METALAIR MODEL 7600AL-6 ALUMINUM SUPPLY AIR DIFFUSER WITH AIR PATTERN CONTROLLERS	DINING AREA KITCHEN	24X24	LAY-IN	1
B	METALAIR MODEL 7600AL-6 ALUMINUM SUPPLY AIR DIFFUSER WITH AIR PATTERN CONTROLLERS REMOVED	KITCHEN	24X24	LAY-IN	1
C	METALAIR MODEL 7000H ALUMINUM SUPPLY AIR DIFFUSER WITH AIR PATTERN CONTROLLERS	VESTIBULES RESTROOMS	16X16	GYPSUM	1,3,5
D	METALAIR MODEL H4004D DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY REGISTER WITH OBD, FRONT BLADE PARALLEL TO LONG SIDE	PLAYGROUND	12X10	NA	1
E	METALAIR MODEL 7000H ALUMINUM RETURN AIR GRILLE	VESTIBULES RESTROOMS	16X16	GYPSUM	1,4,5
F	METALAIR MODEL C05 ALUMINUM ESCORATE RETURN AIR GRILLE WITH 1/2\"/>	DINING/KITCHEN PLAYGROUND	24X24	LAY-IN	1,2,5
G	METALAIR MODEL H4004D DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY REGISTER WITH OBD, FRONT BLADE PARALLEL TO SHORT SIDE	PLAYGROUND	12X10	NA	1
H	METALAIR MODEL 900 ROUND, STEP DOWN ALUMINUM SURFACE MOUNT SUPPLY DIFFUSER	OFFICE	8	LAY-IN	1,6
J	METALAIR MODEL 7600AL-6 ALUMINUM SUPPLY AIR DIFFUSER WITH 3-WAY THROW AIR PATTERN CONTROLLERS	FRONT DINING	24X24	LAY-IN	1
K	METALAIR MODEL 7600AL-6 ALUMINUM SUPPLY AIR DIFFUSER WITH 1-WAY THROW AIR PATTERN CONTROLLERS	FRONT DINING	24X24	LAY-IN	1
REMARKS	1) STANDARD OFF WHITE FINISH. 2) PROVIDE MODEL B05 NECK DAMPER. 3) DIFFUSER IN MENS RR SHALL BE 2-WAY THROW. 4) PROVIDE MODEL R50 NECK DAMPER ON UNITS IN RESTROOMS. 5) PROVIDE MODEL TR SQUARE TO ROUND NECK TRANSITION. 6) PROVIDE 900D NECK DAMPER, ADJUSTABLE THRU DIFFUSER FACE.				

AIR DOOR SCHEDULE

MARK	CFM	VELOCITY	HEATING CAP	HP	AREA SERVED	MODEL	MANUFACTURER	REMARKS
FFH1	1752	3500	NA	3/4	REAR DOOR	STR-H-42A	BERNER	13
FFH2	691	1777	7200 W	1/5	DRIVE THRU	MAX-H-30EB-CFA	BERNER	23
REMARKS	1) FACTORY PROVIDED PLUNGER TYPE MICRO-SWITCH. 2) FACTORY PROVIDED LOW VOLTAGE HEAT/ON/OFF WALL MOUNT THERMOSTAT, TRANSFORMER AND CONTACTORS. 3) CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH BERNER AIR DOORS. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE FANS DIRECTLY FROM BERNER. CONTACT BERNER AT 800-245-4455, FOR PRICING AND AVAILABILITY.							



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Delran, N.J.

SHEET TITLE
HVAC DETAILS
& SCHEDULES

DWG EDITION 02.4

□ Preliminary
□ 80% Submittal
✗ For Construction

Job No. 2146

Store

Date 7/03/02

Drawn By MDS

Checked By: RDB

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M-3

MECHANICAL SPECIFICATIONS

PART I GENERAL

1. FURNISH ALL MATERIALS, LABOR, TOOLS, TRANSPORTATION AND INCIDENTALS TO COMPLETE IN EVERY DETAIL, AND LEAVE IN WORKING ORDER ALL ITEMS CALLED FOR HEREIN OR SHOWN ON THE ACCOMPANYING DRAWINGS.
2. IT IS THE RESPONSIBILITY OF CONTRACTOR TO READ ALL SPECIFICATIONS AND CONSULT ALL DRAWINGS WHICH MAY AFFECT THE INSTALLATION AND COORDINATION OF HIS WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN LOCATION OF EQUIPMENT AND MATERIALS AS NECESSARY TO SECURE COORDINATION.
3. LAYOUT SHOWN IN DRAWINGS IS BASED ON A PARTICULAR MAKE OF EQUIPMENT. CONTRACTOR SHALL PROVIDE SIX SUBMITTAL SETS OF SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO STARTING WORK. IF ANOTHER MAKE OF EQUIPMENT IS DESIRED, THESE SUBMITTALS SHALL ALSO SHOW ALL REQUIRED MODIFICATIONS AND CHANGES, INCLUDING THOSE INVOLVING OTHER TRADES, AND COST THEREOF SHALL BE INCLUDED IN HIS BID. CONTRACTOR MUST RECEIVE APPROVED SUBMITTAL COPY, SIGNED BY ENGINEER BEFORE PROCEEDING WITH ANY MODIFICATIONS. WORK INSTALLED USING UNAPPROVED SUBSTITUTIONS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
4. CONTRACTOR SHALL VISIT THE SITE AND FULLY INFORM HIMSELF CONCERNING ALL CONDITIONS AFFECTING SCOPE OF WORK. FAILURE TO DO SO SHALL NOT RELIEVE CONTRACTOR OF ANY RESPONSIBILITY IN THE PERFORMANCE OF HIS WORK. ALL WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY IN ACCORDANCE WITH THE BEST PRACTICES OF THE TRADE BY CRAFTSMEN SKILLED IN THIS PARTICULAR WORK. CONTRACTOR SHALL FILE ALL DRAWINGS, PAY ALL FEES AND OBTAIN ALL PERMITS AND CERTIFICATES OF INSPECTION RELATIVE TO THIS WORK.
5. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES, INCLUDING BUT NOT LIMITED TO THE LATEST APPROVED EDITIONS OF NFPA-96, NFPA-90A, NFPA-54, SMACNA, ASHRAE 90.1 AND ASHRAE 62-89.
6. SYSTEM LAYOUT IS SCHEMATIC AND EXACT LOCATIONS SHALL BE DETERMINED BY STRUCTURAL CONDITIONS, COORDINATION WITH OTHER TRADES, COORDINATION WITH FINISHES AND OTHER CONDITIONS. STRUCTURAL SUPPORTS SHALL NOT BE CUT OR ALTERED TO ASSURE FIT OF HVAC SYSTEM. TEN FOOT CLEARANCE SHALL BE MAINTAINED BETWEEN OUTSIDE AIR INTAKES AND EXHAUST FANS AND PLUMBING VENT TERMINALS.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEFECTS, REPAIRS AND REPLACEMENTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER FINAL PAYMENT IS APPROVED. CONTRACTOR SHALL HONOR FACTORY WARRANTIES ON ALL EQUIPMENT PROVIDED AS PART OF THIS SYSTEM.
8. UPON COMPLETION OF PROJECT, ALL SYSTEM EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITION WITH ALL DAMAGE RESTORED TO CONDITION ACCEPTABLE TO THE OWNER'S REPRESENTATIVE. ALL EQUIPMENT, COMPONENTS AND DUCTWORK SHALL BE INSPECTED AND THOROUGHLY CLEANED, READY FOR USE. AT COMPLETION OF JOB, ALL MISCELLANEOUS TOOLS, SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY CONTRACTOR.
9. IF HVAC EQUIPMENT IS USED FOR TEMPORARY HEATING, ETC., THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY FOR CLEANING COILS, ETC. FINAL PERMANENT CONNECTIONS OF SERVICES TO UNITS SHALL BE COMPLETE PRIOR TO ANY START-UP OF EQUIPMENT. PROVIDE NEW FILTERS AT WORK COMPLETION.
10. CONTRACTOR SHALL SUBMIT THREE (3) SETS OF INSTRUCTION BOOKS INCLUDING INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS, PAMPHLETS OR BROCHURES AND ALL EQUIPMENT WARRANTIES OBTAINED FROM EACH MANUFACTURER OF EQUIPMENT TO OWNER'S REPRESENTATIVE.
11. DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED FOR EXACT SIZES OR LOCATIONS. THEY ARE NOT INTENDED TO DISCLOSE ABSOLUTE OR UNCONDITIONAL KNOWLEDGE OF ACTUAL FIELD CONDITIONS.

PART II PRODUCTS

I. HEATING AND COOLING EQUIPMENT

- A. FURNISH AND INSTALL ROOFTOP SINGLE PACKAGE COMBINATION ELECTRIC COOLING AND NATURAL GAS FIRED HEATING UNITS BY LENNOX AS SHOWN ON DRAWINGS. EQUIPMENT SHALL BE ARI CERTIFIED AND A.G.A. AND U.L. LISTED.
- B. UNIT SHALL BE FACTORY ASSEMBLED, TESTED AND HAVE COMPLETE REFRIGERANT R-22 CHARGE, READY TO OPERATE. ALL TUBING JOINTS SHALL BE BRAZED. COILS SHALL BE MINIMUM OF 3-ROWS DEEP.
- C. INDOOR FAN SHALL BE STATICALLY AND DYNAMICALLY BALANCED, DOUBLE INLET, FORWARD CURVED BELT DRIVEN BLOWER CAPABLE OF DELIVERING DESIGN CFM. FAN SHALL BE QUIET IN OPERATION AND INTERNALLY VIBRATION ISOLATED.
- D. FILTERS SHALL BE THROW AWAY TYPE, F8R 30/30 2" OR EQUAL. A CLEAN SET OF REPLACEMENT FILTERS SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR AFTER SUCCESSFUL START-UP OF EQUIPMENT AND AGAIN PRIOR TO OPENING.
- E. ACCESSORIES SHALL INCLUDE LOW AND HIGH PRESSURE SAFETIES, CRANK CASE HEATER, OVERCURRENT AND OVERTEMPERATURE SAFETY, COMPRESSOR VIBRATION ISOLATORS, FILTER DRIERS, REFRIGERANT SERVICE VALVES, COIL HAIL GUARDS (FL, TX, OK ONLY), CONVENIENCE OUTLETS FACTORY INSTALLED ON SCHEDULED UNITS, UNIT MOUNTED NON-FUSED DISCONNECTS, LOW AMBIENT OPERATION DOWN TO 30 DEGREES F AND EVAPORATOR FREEZE STAT.
- F. COMPRESSORS SHALL BE FULLY HERMETIC SCROLL TYPE WITH INTERNAL VIBRATION ISOLATORS. COMPRESSORS SHALL BE PROVIDED WITH A MINIMUM FIVE (5) YEAR FULL WARRANTY.
- G. UNIT SHALL BE DOWN DISCHARGE AS INDICATED ON THE DRAWINGS.
- H. UNITS SHALL BE PROVIDED WITH FACTORY INSTALLED DIFFERENTIAL ENTHALPY ECONOMIZERS WITH POWER OR BAROMETRIC EXHAUST AS SCHEDULED.
- I. THE UNIT HEAT EXCHANGERS SHALL BE STEEL WITH ALUMINIZED STEEL COATING. HEATING CONTROLS SHALL CONSIST OF REDUNDANT GAS VALVES, INTERMITTENT PILOT WITH ELECTRONIC SPARK OR HOT PLATE IGNITION SYSTEM, COMBUSTION EXHAUST FAN PROTECTED BY CENTRIFUGAL SWITCHES, HEAT LIMIT SWITCHES, TIME-DELAY RELAY, FLAME, AND PILOT SENSORS. ALL UNITS SHALL BE CAPABLE OF TWO STAGES OF HEAT. HEAT EXCHANGES SHALL HAVE A TEN (10) YEAR WARRANTY. BURNERS SHALL BE ALUMINIZED IN-SHOT TYPE. THE DRAFT MOTOR SHALL BE MONITORED BY THE CONTROL SYSTEM.
- J. CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT FOR EQUIPMENT WITH LENNOX CORPORATION. PRICING FOR THE EQUIPMENT HAS BEEN ESTABLISHED IN ADVANCE. CONTACT LENNOX NATIONAL ACCOUNTS AT 972-497-6785 FOR PRICING, ORDERING AND AVAILABILITY.

2. GENERAL EXHAUST AND KITCHEN HOOD FANS

- A. FANS SHALL BE JENN MODELS, UP BLAST OR DOWN BLAST, CENTRIFUGAL OR PROPELLER, AS INDICATED ON DRAWINGS AND SHALL BE LOCATED WHERE SHOWN ON DRAWINGS. ALL FANS SHALL BE U.L. LISTED FOR INTENDED USE AND SHALL BEAR THE AMCA SEAL. MANUFACTURERS OTHER THAN THE JENN MODELS SPECIFIED ARE NOT ACCEPTABLE.

3. ROOF CURBS

- A. EQUIPMENT MANUFACTURER SHALL PROVIDE ALL ROOF CURBS FOR ROOF MOUNTED EQUIPMENT.
- B. ROOF CURBS FOR ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ROOFING CONTRACTORS ASSOCIATION GUIDELINES, AND THE ROOFING SUPPLIER'S DETAILS AND GUIDELINES FOR THE SPECIFIC ROOFING MATERIALS USED.
- C. CURB CONSTRUCTION AND HEIGHT FOR THE HOOD FANS SHALL CONFORM TO THE REQUIREMENTS OF NFPA 96.
- D. THE RESTROOM EXHAUST FAN CURB SHALL BE 1'-0" HIGH MINIMUM.
- E. ALL CURBS SHALL HAVE PERIMETER INSULATION PROVIDED AND INSTALLED BY THE ROOFING INSTALLER.
- F. THE ROOFTOP EQUIPMENT CURBS SHALL HAVE A 2" THICK ACOUSTICAL INSULATION BLANKET APPLIED BETWEEN THE ROOF AND EQUIPMENT BY THE MECHANICAL CONTRACTOR.

4. DUCTWORK, INSULATION & INSTALLATION (SEE DWG M2 FOR GREASE DUCT)

- A. ACCEPTABLE MANUFACTURERS OF INSULATION ARE MANVILLE, OWENS CORNING OR KNAUF.
- B. ALL DUCTWORK, EXCEPT GREASE DUCT, SHALL BE SHEET METAL.
- C. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS.
- D. CONSTRUCTION OF DUCTWORK SHALL MEET SMACNA 1" W.C. PRESSURE CLASS STANDARD AND RECOMMENDATIONS. SMACNA SHALL BE FOLLOWED WITH RESPECT TO GAGE THICKNESS, JOINTS, REINFORCING, CONSTRUCTION, INSTALLATION AND SUPPORT FOR PRESSURE CLASS STATED. ALL TRANSVERSE JOINTS IN RECTANGULAR AND ROUND DUCT SHALL BE SEALED PER SMACNA SEAL CLASS C WITH U.L. DUCT MASTIC SEALANT APPROVED FOR INTENDED USE. STANDARD DUCT TAPE IS NOT ACCEPTABLE.
- E. ALL DUCT INSULATION SHALL MEET MINIMUM R-VALUE REQUIRED BY ASHRAE 90.1 LATEST EDITION. ALL DUCT WRAP SHALL BE MINIMUM 2" THICK, 3/4 PCF AND 5.6 R-VALUE INSTALLED WITH EITHER A VAPOR BARRIER WITH MAXIMUM PERMEANCE 0.05 OR A MINIMUM 2 MIL ALUMINUM REINFORCED FOIL/KRAFT FACING. ALL DUCT LINER SHALL BE MINIMUM 1-1/2" THICK, 1-1/2 PCF AND 6.0 R-VALUE.
- F. ALL DUCT DROPS FROM THE ROOFTOP UNITS SHALL BE EXTERNALLY INSULATED.
- G. SUPPLY AND RETURN AIR DUCTWORK SERVING THE PLAYGROUND, KITCHEN, SERVING AND DINING AREAS SHALL BE EXTERNALLY INSULATED.
- H. RESTROOM RECTANGULAR EXHAUST AIR DUCTWORK SHALL BE LINED.
- I. TRUNK DUCTS SHALL BE ISOLATED FROM UNIT VIBRATION WITH THE USE OF NFPA AND U.L. APPROVED FLEXIBLE CONNECTORS INSTALLED AT THE TOP OF BOTH SUPPLY AND RETURN DROPS.
- J. INSULATED FLEXIBLE DUCT MAY BE UTILIZED FOR RUNOUTS TO GRILLES AND DIFFUSERS ONLY IN THE HORIZONTAL POSITION AND IN MAXIMUM LENGTHS OF 4'-0", NO EXCEPTIONS. SEE SAG/RAG TAKE-OFF DETAIL ON DRAWING M3.
- K. CONSTRUCTION OF FLEXIBLE DUCTWORK SHALL INCLUDE SPIRAL METAL HELIX BONDED TO A POLYESTER CORE, FIBERGLASS INSULATION WITH POLYETHYLENE OR MYLAR VAPOR BARRIER. ALL COMPONENTS SHALL HAVE APPROPRIATE U.L. APPROVAL AND SHALL BE EQUIVALENT TO FLEXMASTER TYPE 3M.
- L. SINGLE THICKNESS TURNING VANES SHALL BE INSTALLED AT 90 DEGREE TURNS IN SUPPLY DUCTWORK WHERE ANY ONE DIMENSION IS GREATER THAN 12".
- M. RADIUSSED ELBOWS MAY BE SUBSTITUTED FOR 90 DEGREE ELBOWS AT THE DISCRETION OF THE CONTRACTOR. CENTERLINE RADII EQUAL TO, 3W/2 PER FIGURE NO. 2-2 IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

5. AIR DEVICES

- A. AIR DEVICES SHALL BE BY METALAIR, NO SUBSTITUTIONS ALLOWED. COORDINATE FRAME TYPE WITH REFLECTED CEILING PLAN PRIOR TO ORDERING. FURNISH AND INSTALL ACCESS DOORS IN GYPSUM CEILINGS AND WALLS FOR DAMPER ACCESS. PAINT ACCESS DOOR TO MATCH CEILING FINISH.
- B. MANUAL VOLUME BALANCING DAMPERS SHALL BE SPIN-IN OR STICK-ON TYPES WITH BELLED MOUTH AND MUST HAVE WING NUTS EXTERNALLY LOCATED AT BOTH ENDS OF DAMPER SHAFT.

6. PAINTING

- A. ALL EQUIPMENT LOCATED OUTDOORS SHALL HAVE ANY SCRATCHES TOUCHED UP WITH PAINT OF THE SAME TYPE AND COLOR AS ORIGINAL.

7. CONTROLS

- A. SYSTEMS SHALL BE COMPLETE WITH CONNECTIONS TO CFA-500 TEMPERATURE CONTROL PANEL AS MANUFACTURED BY SUNCOAST ENVIRONMENTAL CONTROLS (S.E.C.) (PH: 877-544-6679). THE PANEL IS PROVIDED AND INSTALLED BY ELECTRICAL.
- B. INSTALL A SMOKE DETECTOR IN THE RETURN AIR DUCT OF EACH AIR CONDITIONING UNIT HANDLING 2000 CFM OR MORE TO STOP THE INDOOR FAN AND CLOSE THE OUTSIDE AIR DAMPER IN THE EVENT OF EXCESSIVE TEMPERATURE OR SMOKE. SMOKE DETECTOR SHALL BE LOCATED PRIOR TO ANY EXHAUST FROM THE BUILDING OR MIXING WITH FRESH AIR MAKE-UP. UPON DETECTION, THE SYSTEM SHALL NOT RESTART UNTIL THE DEVICE IS MANUALLY RESET. DEVICES SHALL BE LOCATED WHERE THEY CAN BE EASILY ACCESSED AND WHERE CLEAR OF FILTERS.

- C. CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH SUNCOAST ENVIRONMENTAL CONTROLS FOR THE DETECTORS AND TEST/RESET STATIONS. THE SMOKE DETECTORS AND TEST/RESET STATIONS WILL BE PURCHASED AND PROVIDED BY THE MECHANICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE.

- D. THE SMOKE DETECTORS AND REMOTE TEST/RESET STATIONS SHALL BE INSTALLED AND WIRED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE DEVICES AND ALL WIRING FROM EACH DEVICE TO BOTH THE RTU AND THE REMOTE TEST/RESET STATION. THE SMOKE DETECTOR SHALL BE POWERED FROM THE RTU CONTROL TRANSFORMER. ELECTRICAL WILL PROVIDE A JUNCTION BOX IN THE WALL WITH 1/2" CONDUIT STUBBED UP ABOVE THE CEILING FOR EACH REMOTE TEST STATION AS SHOWN ON THE ELECTRICAL PLANS. SMOKE DETECTORS SHALL BE AIR PRODUCTS AND CONTROLS RW SERIES IONIZATION TYPE 24V, MODEL RW-024-N. PROVIDE SEC. REMOTE TEST/RESET STATION MODEL AP-1 WITH POWER LED, ALARM LED, 90DB HORN AND TEST/RESET BUTTON.

- E. WHERE REQUIRED BY LOCAL CODE, INSTALL A FIRESTAT IN THE RETURN AIR DUCT OF EACH PIECE OF AIR CONDITIONING EQUIPMENT HANDLING 2000 CFM OR MORE TO STOP THE INDOOR FAN AND CLOSE THE OUTSIDE AIR DAMPER WHEN HEAT WITHIN THE DUCT IS IN EXCESS OF 135 DEGREES FAHRENHEIT. FIRESTAT SHALL BE EQUIVALENT TO HONEYWELL MODEL H402RE HIGH LIMIT CONTROLLER. FIRESTATS SHALL BE PROVIDED AND MOUNTED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE DEVICE AND ALL WIRING FROM THE DEVICE TO THE RTU. SHUTDOWN OF UNIT AND INDOOR FAN SHALL BE IMMEDIATE WITH NO DELAY.

- F. THE RESTROOM FAN SHALL BE INTERLOCKED TO THE LIGHTS SERVING THE MEN AND WOMEN'S RESTROOMS. THE HOOD FANS SHALL BE CONTROLLED VIA THE SEC PANEL. WIRING, RELAYS AND SWITCHES FOR CONTROL OF ALL FANS ARE BY ELECTRICAL CONTRACTOR.

- G. THE ROOFTOP UNIT THERMOSTATS ARE INTEGRATED INTO THE TEMPERATURE CONTROL PANEL AND ARE BY SEC. THE REMOTE TEMPERATURE SENSORS ARE PROVIDED BY SEC, AND ARE INSTALLED AND WIRED TO THE PANEL BY THE MECHANICAL CONTRACTOR. WIRING FROM THE ROOFTOP UNIT CONTROLS SECTION TO THE TEMPERATURE CONTROL PANEL SHALL BE BY THE MECHANICAL CONTRACTOR.

- H. MECHANICAL CONTRACTOR SHALL INSTALL CONTROL WIRING IN 1/2" CONDUIT WHERE REQUIRED BY CODE. WHERE NOT REQUIRED TO BE IN CONDUIT, ALL WIRING SHALL BE RUN PARALLEL TO STRUCTURAL MEMBERS OR PERPENDICULAR WITH NO DIAGONAL ROUTING. ALL WIRING SHALL BE SECURED TO THE FRAMING TO PREVENT SAGGING IN RUNS. WIRING TO ROOFTOP UNITS SHALL BE ROUTED THROUGH THE FACTORY THRU-BASE FITTING IN THE UNIT BASE. ALL WIRING ABOVE THE ROOF SHALL BE INSTALLED IN EXTERIOR GRADE FLEXIBLE CONDUIT. ALL CONTROL WIRING AND CONTROL WIRING CONDUIT SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LATEST EDITION OF NEC.

8. SEQUENCE OF OPERATION

- A. WHEN STORE IS OPEN, THE EXHAUST FANS AND ROOFTOP UNITS SHALL OPERATE THRU CONTROL OF THE SWITCHES AND SENSORS SHOWN ON THE MECHANICAL AND ELECTRICAL PLANS. THE ROOFTOP UNIT INDOOR FANS SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPERS SHALL REMAIN OPEN.
- B. WHEN STORE IS CLOSED, THE EXHAUST FANS SHALL BE SWITCHED OFF AND THE THERMOSTATS SHALL BEGIN NIGHT SET-BACK MODE. OUTSIDE AIR DAMPERS AT THE ROOFTOP UNITS SHALL REMAIN CLOSED AT ALL AT ALL TIMES DURING NIGHT SET-BACK MODE.
- C. HOOD EXHAUST FANS SHALL NOT BE CAPABLE OF OPERATION UNLESS SEC PANEL HAS BEEN PUT INTO 'STORE OPEN' MODE.
- D. ACTUATION OF ANSUL SYSTEM SHALL STOP ALL ROOFTOP UNITS, CLOSE THE O.A. DAMPERS AND MAINTAIN OPERATION OF THE GREASE HOOD EXHAUST FANS.
- E. RESTROOM EXHAUST FAN SHALL ENERGIZE UPON OPERATION OF LIGHTS IN RESTROOMS.

PART III EXECUTION

- A. FURNISH AND INSTALL SYSTEM IN ACCORDANCE WITH REFERENCED STANDARDS, APPLICABLE CODES, MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED ON DRAWINGS.
- B. OWNER SHALL TEST AND BALANCE MECHANICAL SYSTEM IN ACCORDANCE WITH AABC STANDARDS TO ASSURE CONFORMANCE WITH DESIGN. G.C. WILL MAKE MECHANICAL CONTRACTOR AVAILABLE DURING TEST AND BALANCE TO ASSIST TESTING AGENCY AND TO MAKE CORRECTIONS IMMEDIATELY NECESSARY. CONTRACTOR SHALL CORRECT ITEMS ON WRITTEN TEST AND BALANCE REPORT.
- C. CONTRACTOR SHALL INSTRUCT THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT THROUGH DEMONSTRATION AND EXPLANATION OF OPERATING & MAINTENANCE MANUALS.
- D. CONTRACTOR SHALL PROVIDE A "SAMPLE MAINTENANCE PROPOSAL" TO THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT.



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Revisions:

Mark	Date	By
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△		

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SHEET TITLE
MECHANICAL
SPECIFICATIONS

DWG. EDITION 02.4

□ Preliminary
□ 80% Submittal
✗ For Construction

Job No. : 2146
Store :
Date : 7/03/02
Drawn By : MDS
Checked By : RDB
Sheet

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