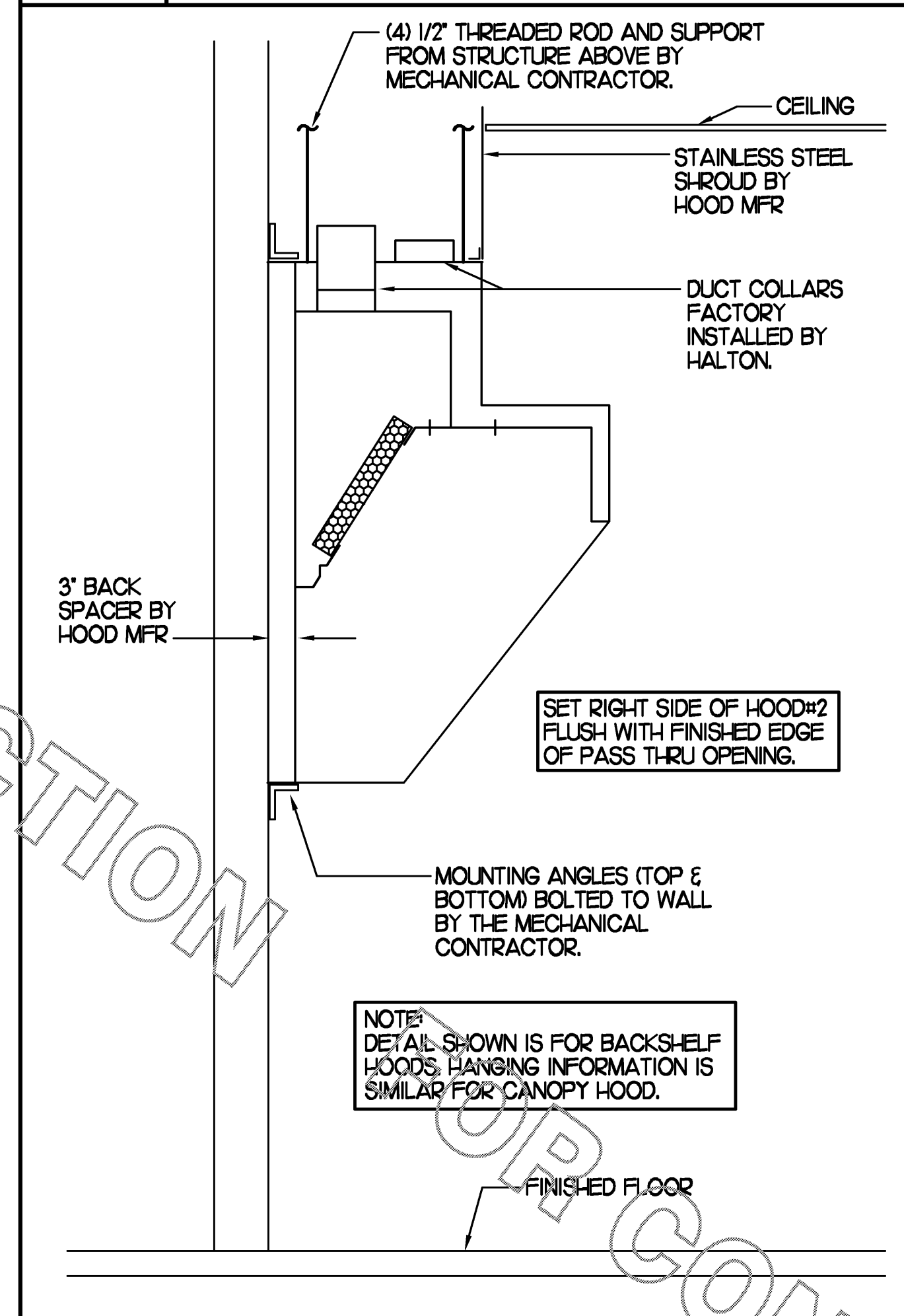




## 6 KITCHEN HOOD SYSTEMS NOTES

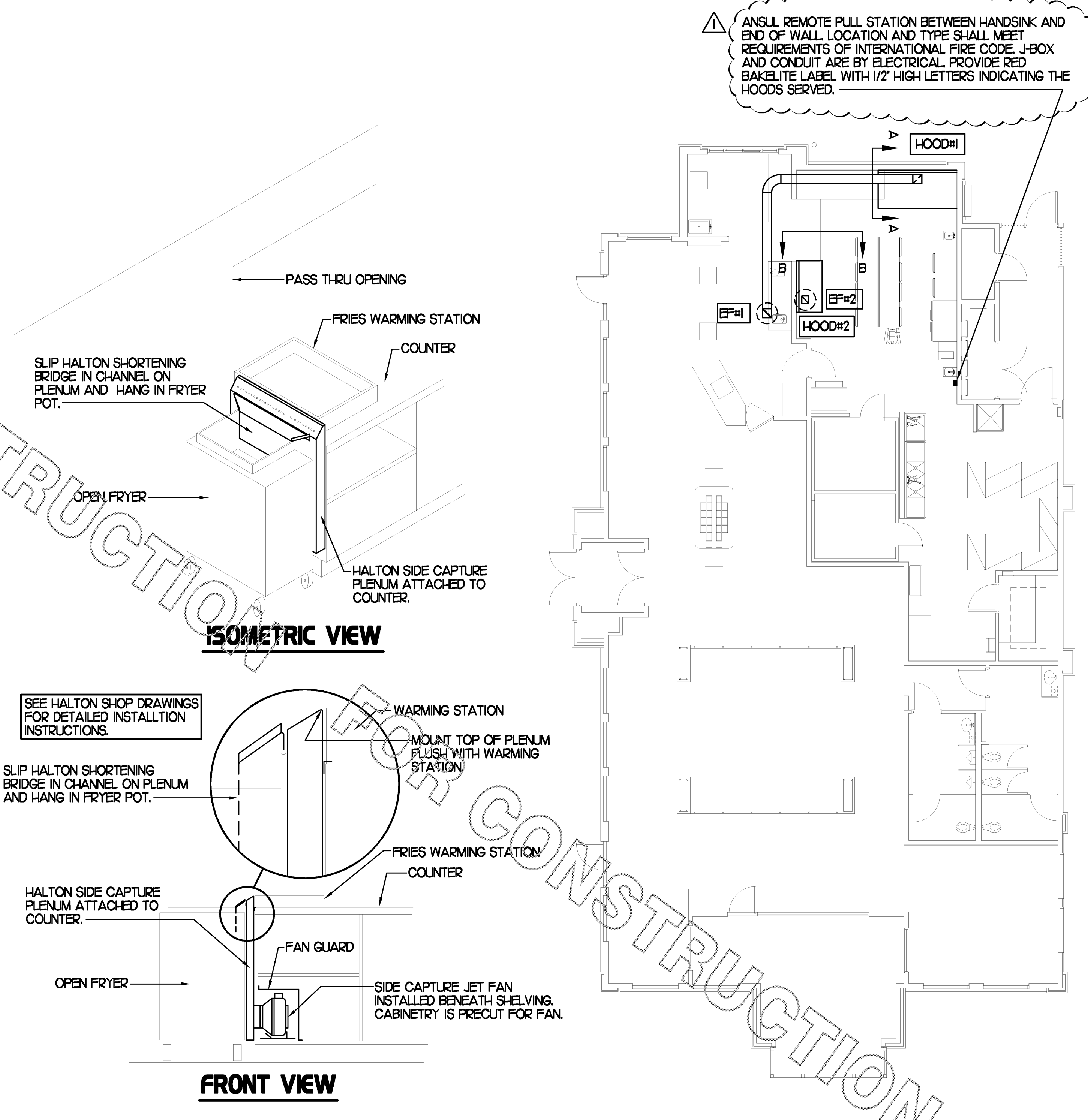
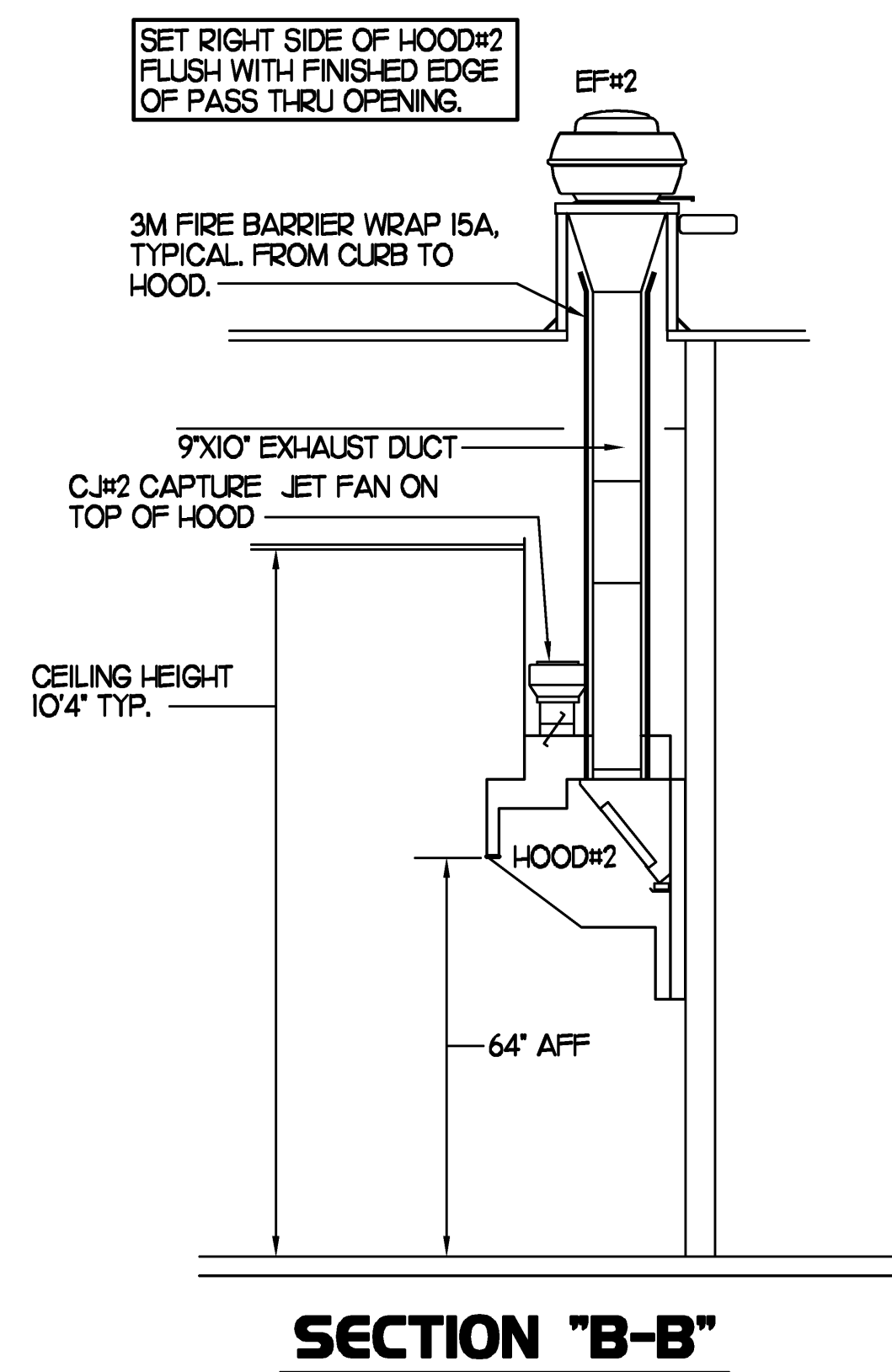
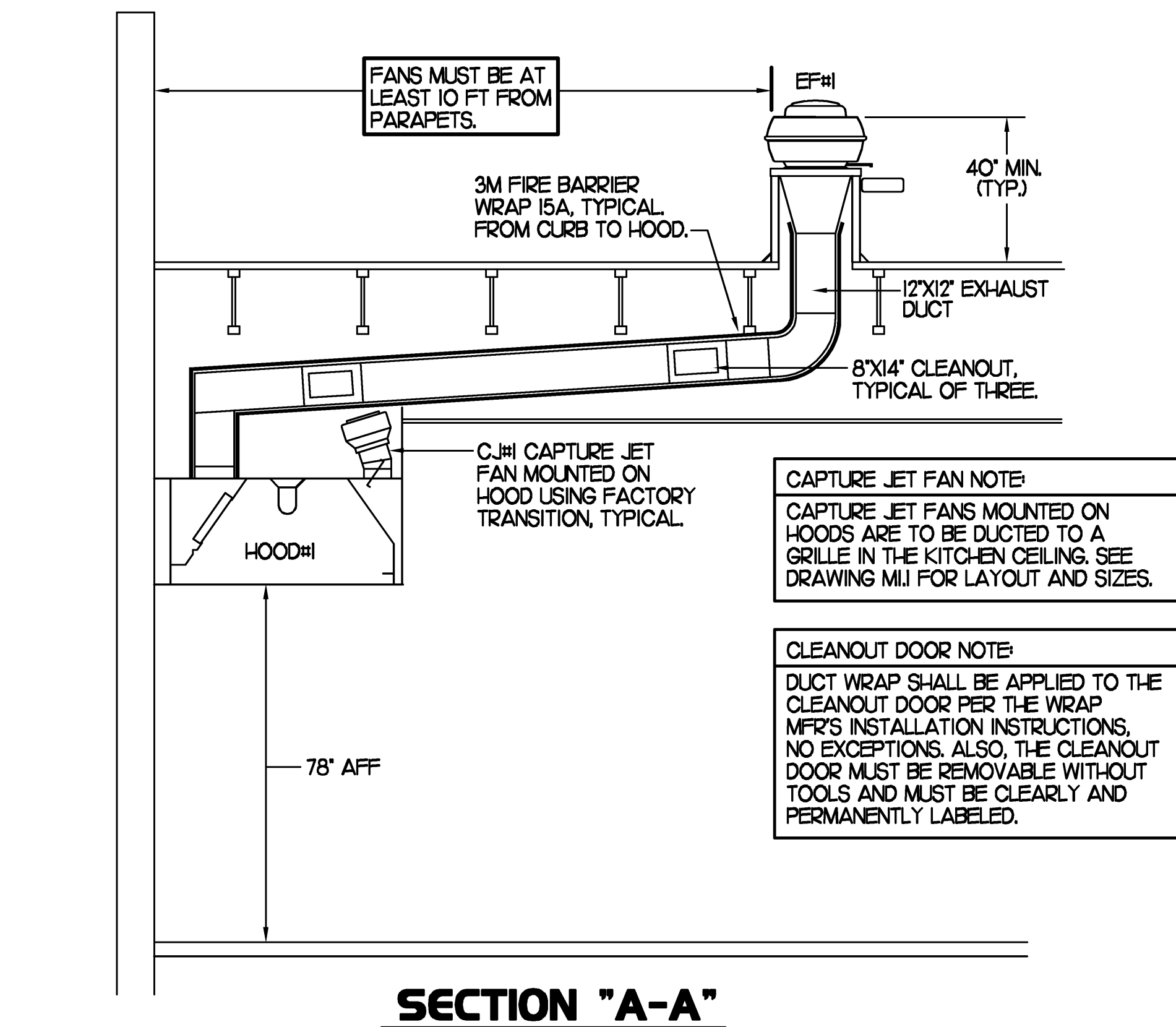
- CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT WITH HALTON CO. FOR THE HOODS. CHICK-FIL-A WILL PURCHASE AND PROVIDE THE HOODS FOR INSTALLATION BY THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.
- REFER TO PART 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 TYPE K AND PROVIDED BY THE GENERAL CONTRACTOR MEETING REQUIREMENTS OF INTERNATIONAL FIRE CODE.
- 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 AS PER NFPA-96.
- 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 SHROUDS 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 WITH 3M FIRE BARRIER 15A. ACCESS DOORS SHALL BE INSTALLED ACCORDING TO 3M FIRE BARRIER PRODUCTS INSTALLATION MANUAL.

## 5 SIDE VIEW OF HOOD



## 4 HOOD SCHEDULE

MARK	EXHAUST CFM	SP * TAB PORT	CAPTURE JET CFM & SP.	TYPE	COLLAR SIZE	WIDTH	DEPTH	HEIGHT	MANUFACTURER	MODEL	REMARKS
HOOD#1	1500	23"	102 * 0.72'	CANOPY	12'X12'	105"	51"	24"	HALTON	KVE	1,2,3,4,5,6,7,8,9
HOOD#2	950	23"	48 * 0.30'	BACK SHELF	9'X10"	72"	34"	48"	HALTON	KVL	1,2,4,5,9,10
NOTES	DIMENSIONS OF HOODS INCLUDE BACK AND SIDE SPACERS (HEIGHT DOES NOT INCLUDE CLOSURE PANELS).										
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 3" RIGHT SIDE SPACER. 7) PROVIDE PARTIAL SIDE SKIRT ON LEFT SIDE. 8) PROVIDE BLANK-OFF PLATE FOR SWITCH COVER. 9) PROVIDE TOP PLENUM CAPTURE JET FAN, SPEED CONTROLLER AND COLLAR. 10) PROVIDE COUNTER MOUNTED SIDE CAPTURE JET PLENUM ASSEMBLY AND FAN.										



ANSUL REMOTE PULL STATION BETWEEN HANDSINK AND END OF WALL. LOCATION AND TYPE SHALL MEET REQUIREMENTS OF INTERNATIONAL FIRE CODE. J-BOX AND CONDUIT ARE BY ELECTRICAL. PROVIDE RED BAKELITE LABEL WITH 1/2" HIGH LETTERS INDICATING THE HOODS SERVED.

## 3 HOOD ELEVATIONS

NONE

## 2 HALTON SIDE CAPTURE JET PLENUM

NOT TO SCALE

## 1 HOOD LAYOUT

1/8"=1'-0"

5200 Buffington Rd.  
Atlanta Georgia,  
30349-2998

Revisions:  
 Mark Date By  
 #1 07/13/05 BUILDING DEPARTMENT COMMENTS.  
 Mark Date By  
 Mark Date By

Seal

**BENNER ENGINEERING, LLC**  
 5000 Longford Road  
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 Norcross, GA 30071  
 (770) 729-1422, bus  
 (770) 729-0490, fax  
 rebenner@minneapolis.com

**MECHANICAL ENGINEERS**

STORE  
 Chick-fil-A  
 FSU 3A

Northlake Mall  
 Northlake Centre Pkwy  
 Charlotte  
 North Carolina

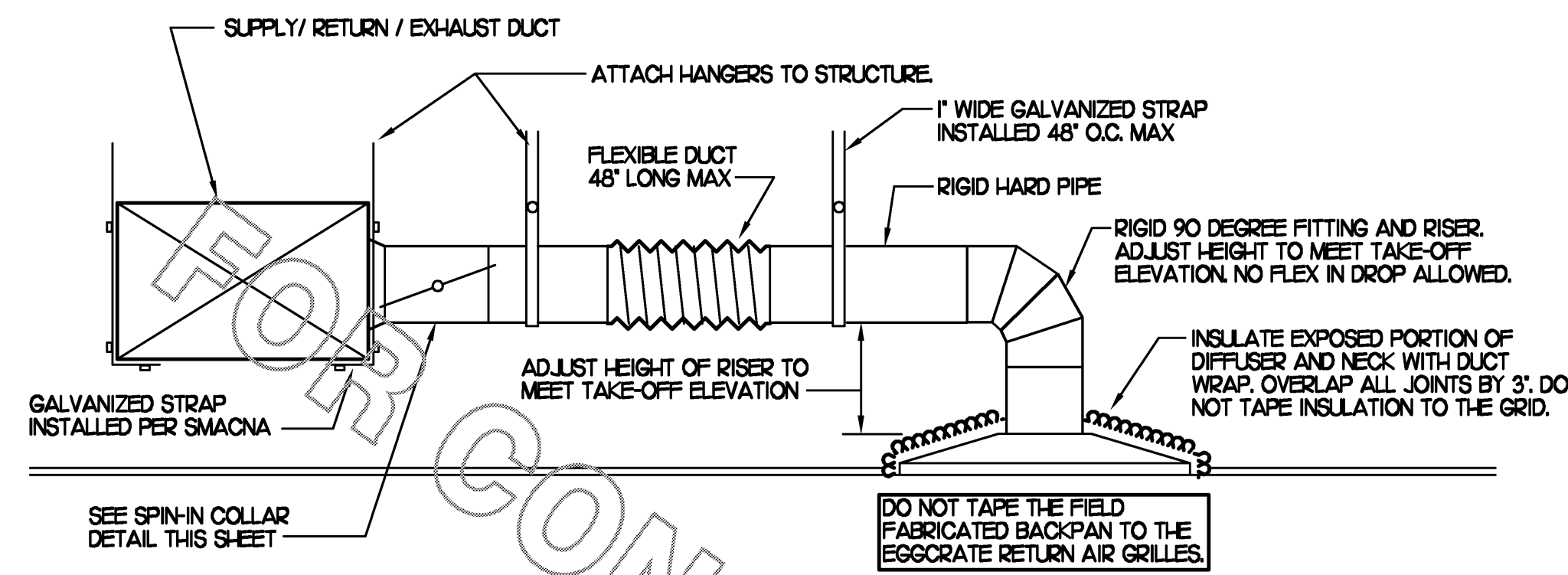
SHEET TITLE  
 HOOD DETAILS  
 & SCHEDULES

DWG EDITION 03.8-1  
 REVISION 1

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 Store : 1890  
 Date : 7-14-05  
 Drawn By : RWW  
 Checked By : RDB

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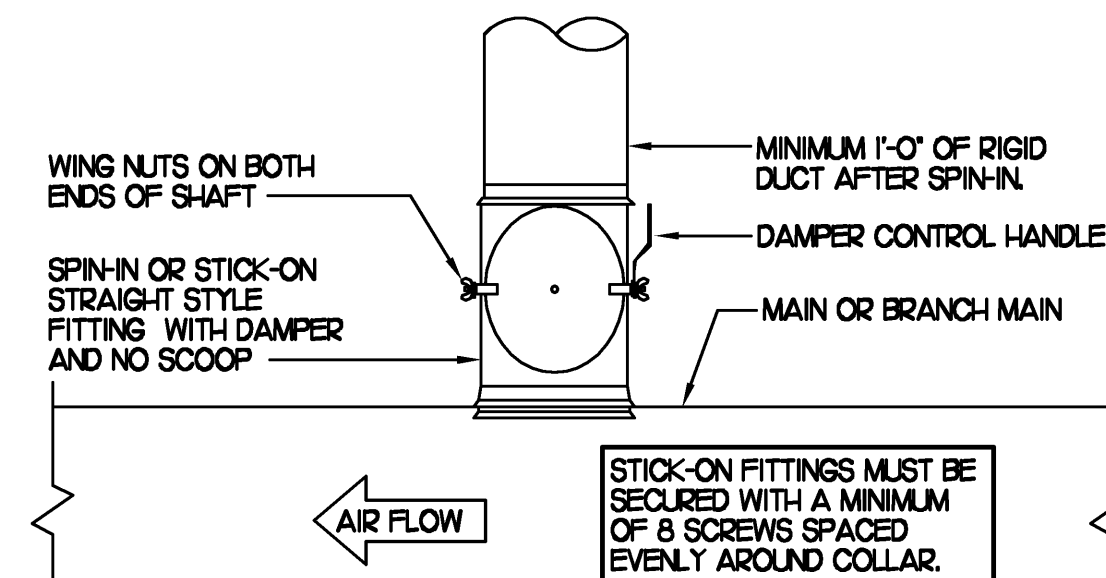
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**1 SAG/RAG/GRILLE TAKE-OFF**

NO SCALE

DAMPER CONTROL HANDLE MUST BE LEFT EXPOSED. ATTACH A YELLOW FLUORESCENT CONSTRUCTION RIBBON TO THE HANDLE. RIBBON MUST HANG 12" BELOW DUCT AND BE EASILY IDENTIFIABLE FOR TEST AND BALANCE CONTRACTOR.



**2 SPIN-IN COLLAR**

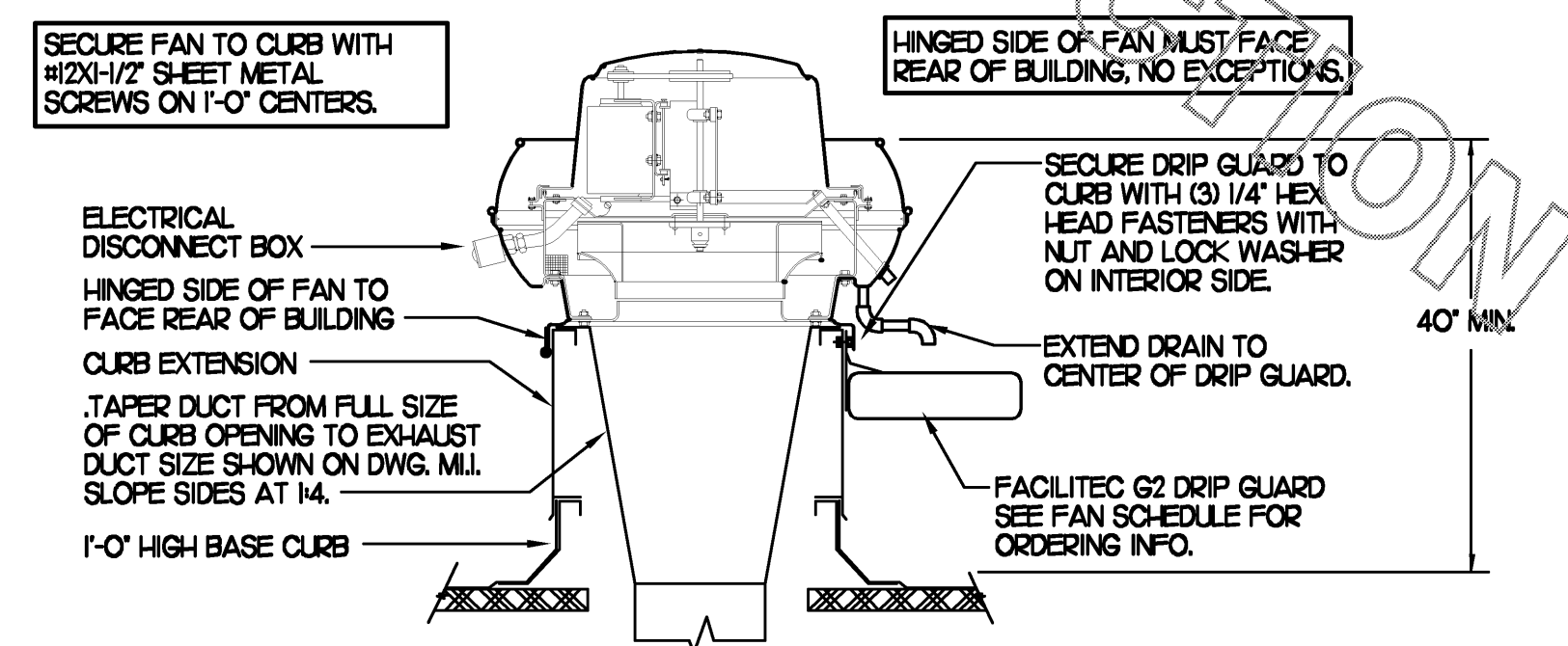
NO SCALE

MARK	GAS FIRED ROOFTOP UNIT SCHEDULE											
	COOLING CAPACITY (MBH)			HEATING CAPACITY (MBH)		FAN SECTION (CFM)			MODEL	MANUFACTURER	REMARKS	
	TOTAL	SENS	EAT DBWB	INPUT	OUTPUT	SUPPLY	O.A.	HP	ESP			
AC#1	145.6	99.0	80/67	235.0	188.0	4,400	1200	5	.70	LGCS052EH	LENNOX	13,5,6,7,8,9,10,11,12,13,14
AC#2	125.0	93.9	81,9/66,7	235.0	188.0	3,500	1200	3	.65	LGA12042EH	LENNOX	2,3,5,6,7,8,9,10,11,12,13
AC#3	141.5	100.9	81,3/66,4	235.0	188.0	3,800	1200	3	.70	LGCS052EH	LENNOX	13,5,6,7,8,9,10,11,12,13,14
AC#4	60.7	46.9	78,3/64,6	125.0	100.0	1,800	900	1.5	.65	LGA06042EH	LENNOX	3,4,5,6,7,8,9,10,11,12,13

NOTES: COOLING CAPACITIES ARE GROSS, BASED ON OUTDOOR 95°F DB

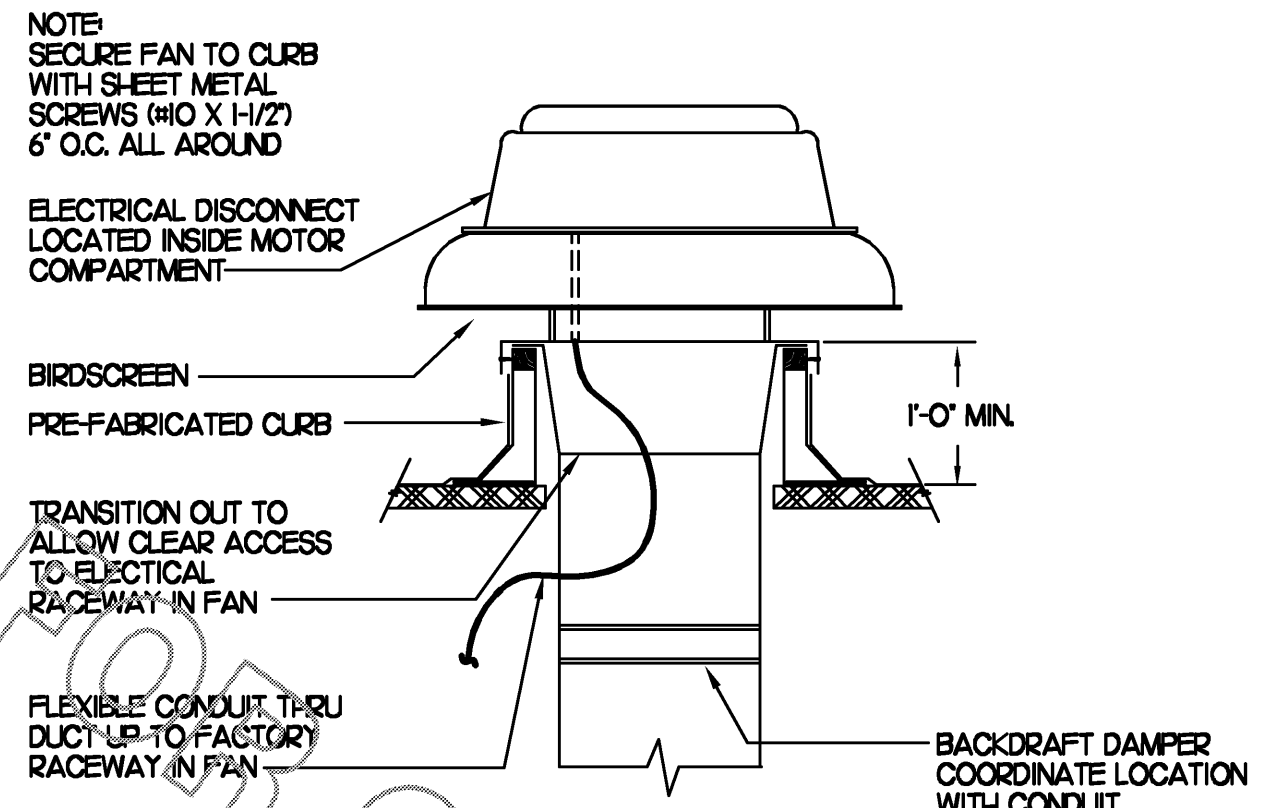
REMARKS:

- 1) PROVIDE DIFFERENTIAL ENTHALPHY ECONOMIZER WITH POWER EXHAUST.
- 2) PROVIDE DIFFERENTIAL ENTHALPHY ECONOMIZER WITH BAROMETRIC EXHAUST.
- 3) PROVIDE 14" HIGH ROOF CURB.
- 4) PROVIDE 0-100% MOTORIZED OUTSIDE AIR DAMPER ASSEMBLY.
- 5) SEE DETAIL 2/MJ FOR SETTING OF ECTO PARAMETERS BY MC.
- 6) PROVIDE FACTORY INSTALLED 115V GFI SERVICE OUTLET.
- 7) SEE ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS PRIOR TO ORDERING EQUIPMENT.
- 8) PROVIDE FACTORY INSTALLED RETURN SIDE SMOKE DETECTOR.
- 9) PROVIDE FACTORY INSTALLED NON-FUSED DISCONNECT.
- 10) PROVIDE COIL HAIL GUARD ON FL, TX AND OK PROJECTS.
- 11) PROVIDE 2" FABR 30/30 THROW AWAY FILTERS.
- 12) PROVIDE HINGED PANELS FOR FILTER ACCESS, FAN MOTOR ACCESS, COMPRESSOR ACCESS AND CONTROL COMPARTMENT ACCESS.
- 13) ADJUST GAS MANIFOLD PRESSURE AT LOCATIONS WHERE ELEVATION EXCEEDS 2000' ABOVE SEA LEVEL AS RECOMMENDED BY MANUFACTURER.
- 14) PROVIDE HUMIDITROL OPTION WITH FACTORY WALL MOUNTED HUMIDITY SENSOR (STATES OF CA AND AZ EXCLUDED).



**3 KITCHEN HOOD EXHAUST FAN**

NO SCALE



**4 RESTROOM EXHAUST FAN**

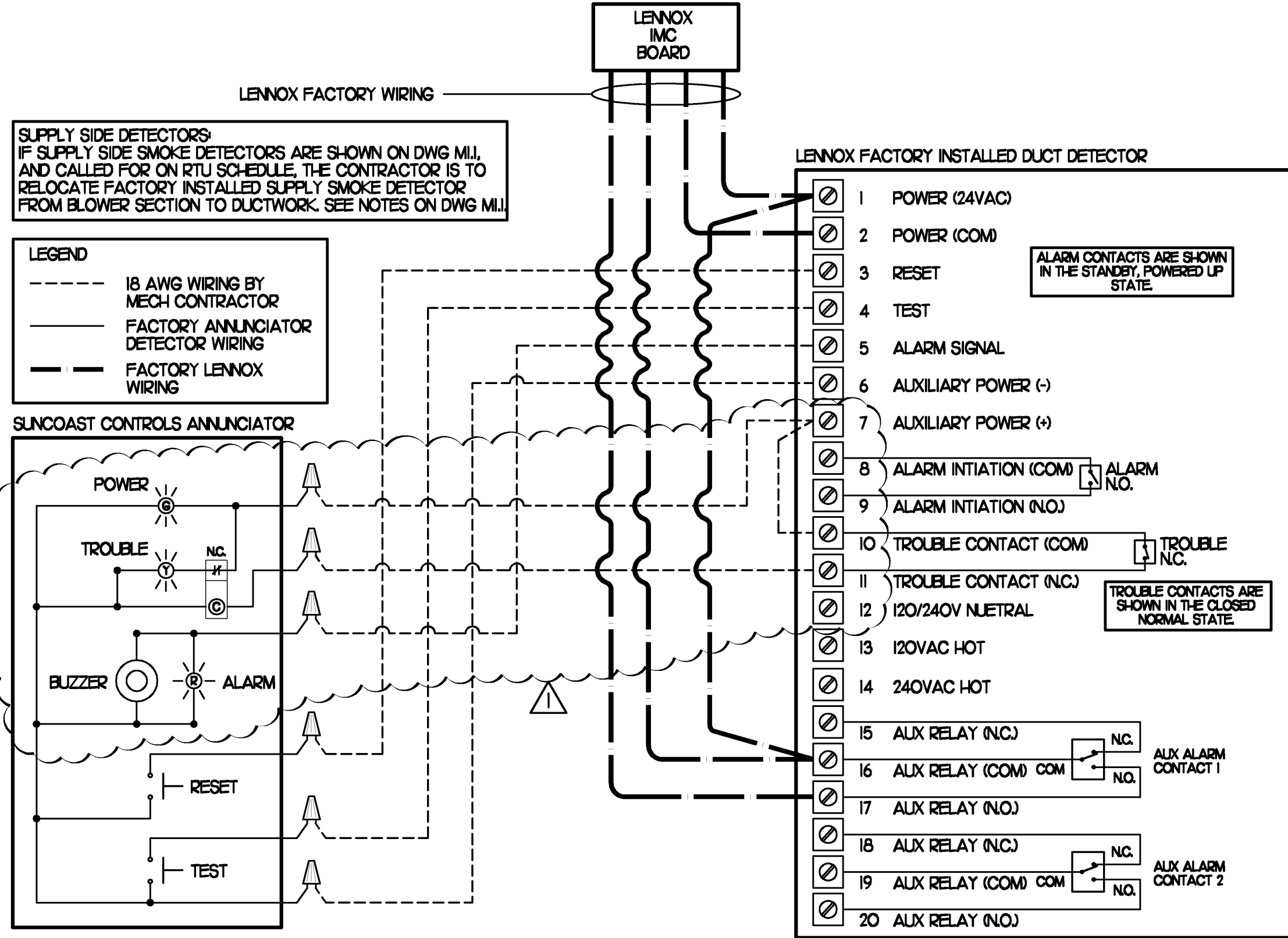
NO SCALE

MARK	EXHAUST FAN SCHEDULE									
	CFM	ESP	RPM	TIP SPEED (FPS)	HP	AREA SERVED	MODEL	MANUFACTURER	REMARKS	
EF#1	1,500	0.75	1200	105	3/4	HOOD#1	NERTD-140A	JENN	1,2,3,4,10	
EF#2	950	0.60	950	91	3/4	HOOD#2	NERTD-140A	JENN	1,2,3,4,10	
EF#3	500	.375	1083	58	1/4	RESTROOMS	RED10ZES	JENN	2,5,6,7,8,9,10	

NOTES: GREASE EXHAUST FAN RPM BASED ON 78 DEGREE F AIR AT SEA LEVEL.

REMARKS:

- 1) PROVIDE FACTORY 1'-0" BASE CURB AND EXTENSION.
- 2) PROVIDE FACTORY NON-FUSED DISCONNECT.
- 3) PROVIDE FACTORY INSTALLED HINGED BASE KIT.
- 4) PROVIDE AND INSTALL FACILETEC G2 DRIP GUARD. DRIP GUARD SHALL BE ORDERED AND INSTALLED BY THE MECHANICAL CONTRACTOR. THE COST OF THE DRIP GUARD IS BILLED TO CFA DIRECTLY BY FACILETEC. THE MECHANICAL CONTRACTOR IS TO CONTACT FACILETEC AT 800-284-8273 FOR ORDERING AND SHIPPING ARRANGEMENTS.
- 5) PROVIDE BIRDSCREEN.
- 6) STARTER BY ELECTRICAL CONTRACTOR. INTERLOCK WITH LIGHTS BY ELECTRICAL CONTRACTOR.
- 7) PROVIDE 12" HIGH CURB.
- 8) PROVIDE FACTORY INSTALLED SPEED CONTROLLER.
- 9) MECHANICAL CONTRACTOR TO PROVIDE DUCT MOUNTED BACKDRAFT DAMPER. SEE DETAIL 4/M3L.
- 10) CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH JENN. THE FAN/CURB PACKAGE MUST BE PURCHASED BY THE MECHANICAL CONTRACTOR THROUGH SUNLOW ASSOCIATES IN ATLANTA, GA. TELEPHONE 800-678-6569. FANS AND CURBS NOT PURCHASED THROUGH SUNLOW WILL NOT BE ACCEPTED.



**5 SMOKE DETECTOR AND ANNUNCIATOR WIRING DIAGRAM**

NO SCALE

MARK	AIR DEVICE SCHEDULE					
	DESCRIPTION	LOCATION	NECK SIZE	FACE SIZE	CEILING TYPE	REMARKS
A	TITUS MODEL PSS-AA ALUMINUM SUPPLY AIR DIFFUSER WITH AIR PATTERN CONTROLLER.	DINING AREA KITCHEN	SEE PLAN	24X24	LAY-IN	1
B	TITUS MODEL PAR-AA ALUMINUM RETURN AIR GRILLE USED AS A SUPPLY DIFFUSER.	KITCHEN	SEE PLAN	24X24	LAY-IN	1
C	TITUS MODEL 50F ALUMINUM EGGCRATE RETURN AIR GRILLE.	OFFICE	10X10	12X2	LAY-IN	1,5
D	TITUS MODEL 272FS DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY REGISTER. FRONT BLADE PARALLEL TO SHORT SIDE.	MECHANICAL ROOM	6X4	8X6	NA	1
E	TITUS MODEL TMR-AA ALUMINUM CONCENTRIC ROUND CONE SUPPLY DIFFUSER.	OFFICE	10	18	LAY-IN	1,6
F	TITUS MODEL 50F ALUMINUM EGGCRATE RETURN AIR GRILLE.	DINING/KITCHEN PLAYGROUND	24X24	24X24	LAY-IN	1,5
G	TITUS MODEL 56FL ALUMINUM SIDEWALL RETURN GRILLE. FRONT BLADE PARALLEL TO LONG SIDE.	MECHANICAL ROOM	6X4	8X6	NA	1
H	TITUS MODEL MOD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	RESTROOMS ENTRY 'A'	8X8	13X3	GYPJLM	1,2,3,7
J	TITUS MODEL 50F ALUMINUM EGGCRATE RETURN AIR GRILLE WITH OED.	RESTROOMS ENTRY 'A'	12X12	14X4	GYPJLM	1,4,5
K	TITUS MODEL 272FL DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY REGISTER. FRONT BLADE PARALLEL TO LONG SIDE.	PLAYGROUND	18X12	20X4	NA	1

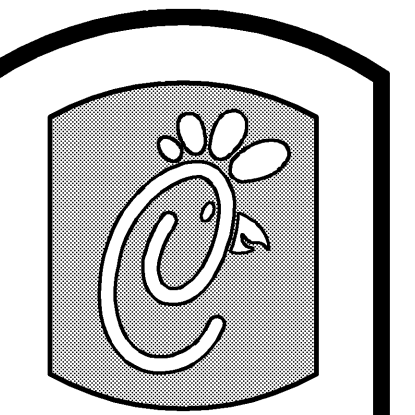
REMARKS:

- 1) STANDARD OFF WHITE FINISH.
- 2) PROVIDE MODEL AC-85 NECK DAMPER.
- 3) DIFFUSER IN RESTROOMS SHALL BE 2-WAY THROW.
- 4) PROVIDE MODEL AG-85 NECK DAMPER ON GRILLES IN RESTROOMS AND ENTRY VESTIBULE.
- 5) FIELD FABRICATE 8" DEEP BACKPAN SEAL JOINTS WITH MASTIC AND INSULATE EXTERNALLY. DO NOT TAPE BACKPAN TO THE GRILLE. IF MASTIC IS POSSIBLE TO LIFT BACKPAN OFF GRILLE.
- 6) PROVIDE AG-100 NECK DAMPER. ADJUSTABLE THRU DIFFUSER FACE.
- 7) FIELD FABRICATE 8" DEEP BACKPAN SEAL JOINTS WITH MASTIC AND INSULATE EXTERNALLY.

MARK	AIR DOOR SCHEDULE									
	CFM	VELOCITY	HEATING CAP	HP	AREA SERVED	MODEL	MANUFACTURER	REMARKS		
FF#1	3,384	4,000	NA	3/4	REAR DOOR	BC1-H42	POWERED-AIRE	1,4		
FF#2	750	3,050	7.2 KW	1/5	DRIVE THRU	MP1-30E	POWERED-AIRE	2,3,4		

REMARKS:

- 1) FACTORY PROVIDED PLUNGER TYPE MICRO-SWITCH.
- 2) FACTORY PROVIDED REMOTE MOUNTED HEAT/ON/AUTO CONTROLS.
- 3) FACTORY PROVIDED, UNIT MOUNTED SPEED CONTROLLER.
- 4) CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH POWERED-AIRE. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE FANS DIRECTLY FROM THE NATIONAL ACCOUNT REP, TOM BARROW COMPANY. CONTACT MR. TOM BARROW SR AT 404-351-1010, FOR PRICING AND AVAILABILITY.



5200 Buffington Rd.  
Atlanta Georgia,  
30349-2998

Revisions:  
Mark Date By  
07/13/05  
BUILDING DEPARTMENT

COMMENTS:  
Mark Date By

Mark Date By

Seal

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Norcross, GA 30071  
(770) 729-1422 bus  
(770) 729-0490 fax  
rebenner@rennorpe.com

PROJECT  
Chick-fil-A  
FSU 3A  
Northlake Mall  
Northlake Centre Pkwy  
Charlotte  
North Carolina

SHEET TITLE  
HVAC DETAILS  
& SCHEDULES

DWG EDITION 03.8-1  
REVISION 1

Job No. : 5039  
Store : 1890  
Date : 7-14-05  
Drawn By : RWW  
Checked By : RDB

Sheet  
**M-3.I**

# I. 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. IF ANY CHANGES ARE DESIRED, CONTRACTOR SHALL PROVIDE SIX SUBMITTAL SETS OF SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO STARTING WORK. THE SUBMITTALS SHALL ALSO SHOW ALL REQUIRED MODIFICATIONS AND CHANGES, INCLUDING THOSE INVOLVING OTHER TRADES, AND COST THEREOF SHALL BE SUBMITTED TO THE OWNER.
4. CONTRACTOR MUST RECEIVE PRIOR APPROVAL, SIGNED BY ENGINEER BEFORE PROCEEDING WITH ANY MODIFICATIONS. WORK INSTALLED USING UNAPPROVED LAYOUT OR SUBSTITUTIONS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
5. 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.
6. CONTRACTOR SHALL FILE ALL DRAWINGS, PAY ALL FEES AND OBTAIN ALL PERMITS AND CERTIFICATES OF INSPECTION RELATIVE TO THIS WORK.
7. 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.
8. 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.
9. 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.
10. UPON COMPLETION OF PROJECT, ALL SYSTEM EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITION WITH ALL DAMAGE RESTORED TO CONDITION ACCEPTABLE TO THE OWNERS 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.
11. 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.
12. 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, FARR 30/30 Z' 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 ENTHALPHY ECONOMIZERS WITH POWER OR BAROMETRIC EXHAUST AS SCHEDULED. PLAYGROUND UNIT SHALL BE EQUIPPED WITH 0-100% MOTORIZED O.A. DAMPER ASSEMBLY.
    - 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 972-497-5307 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 A.M.C.A. 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.

### 4. DUCTWORK, INSULATION & INSTALLATION (SEE DWG M21 FOR GREASE DUCT)

- A. ACCEPTABLE MANUFACTURERS OF INSULATION ARE MANVILLE, OWENS CORNING OR KNAUF.
  - B. ALL DUCTWORK 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.
  - 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 WITH 1" THICK, 1-1/2 PCF INSULATION.
  - 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 TAKE-OFF DETAIL ON DRAWING M31.
  - 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. FLEXIBLE DUCT SHALL BE INSTALLED USING DRAWBANDS AND FOIL TAPE ON THE INNER CORE AND OUTER INSULATION.
  - M. SINGLE THICKNESS TURNING VANES SHALL BE INSTALLED AT 90 DEGREE TURNS IN SUPPLY DUCTWORK WHERE ANY ONE DIMENSION IS GREATER THAN 12".
  - N. RADIUS ELBOWS MAY BE SUBSTITUTED FOR 90 DEGREE ELBOWS AT THE DISCRETION OF THE CONTRACTOR. CENTERLINE RADIUS EQUAL TO 3W/2 PER FIGURE NO. 2-2 IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
  - O. EXTERNAL INSULATION ON BOTTOM OF DUCTS 24" OR WIDER SHALL BE SUPPORTED WITH STICK PINS ON 18" CENTERS. STICK PIN WASHERS SHALL BE COVERED WITH DUCT TAPE OR MASTIC.
- ### 5. AIR DEVICES
- A. AIR DEVICES SHALL BE BY TITUS, ACCEPTABLE EQUIVALENTS ARE KRUEGER AND METALAIR. 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 STRAIGHT TAKE-OFF STYLE 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 MOUNTED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING TERMINATIONS ARE BY THE MECHANICAL CONTRACTOR.
  - B. THE SMOKE DETECTORS SHALL BE FACTORY INSTALLED AND WIRED BY THE ROOFTOP UNIT MANUFACTURER.
  - C. A FACTORY INSTALLED SMOKE DETECTOR IN THE RETURN AIR SECTION OF EACH AIR CONDITIONING UNIT SHALL 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.
  - D. CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH SUNCOAST ENVIRONMENTAL CONTROLS FOR THE SMOKE DETECTOR TEST/RESET ANNUNCIATOR STATIONS. THE TEST/RESET STATIONS WILL BE PURCHASED AND PROVIDED BY THE MECHANICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE.

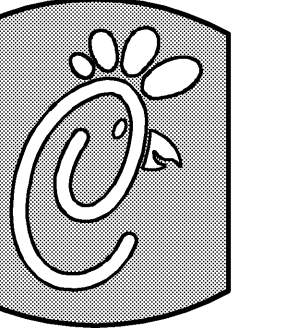
- E. THE REMOTE TEST/RESET ANNUNCIATORS SHALL BE PROVIDED, INSTALLED AND WIRED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE ANNUNCIATORS AND ALL WIRING FROM EACH DEVICE TO THE RTU. ELECTRICAL WILL PROVIDE A JUNCTION BOX IN THE WALL WITH 1/2" CONDUIT STUBBED UP ABOVE THE CEILING FOR EACH REMOTE TEST STATION AS SHOWN ON THE ELECTRICAL PLANS. ANNUNCIATOR SHALL BE SUNCOAST CONTROLS REMOTE TEST/RESET STATION WITH POWER LED, ALARM LED, 90DB HORN AND TEST/RESET BUTTON.
- F. PROVIDE AN EMERGENCY SHUTDOWN TOGGLE SWITCH IN A SINGLE GANG BOX FOR EACH EACH ROOFTOP UNIT, PUTTING THE SWITCH IN THE ON POSITION WILL CAUSE IMMEDIATE SHUTDOWN OF THE ROOFTOP UNIT. THE SWITCH SHALL SEND RTU 24V CONTROL POWER TO TERMINAL #21 ON THE RTU TB-1. SEE DETAIL 2/MJI FOR SCHEMATIC SHOWING THE WIRING REQUIREMENTS. ALL WIRING SHALL BE 18 AWG. EACH TOGGLE SWITCH SHALL BE LABELED BY RTU# AND THE ON AND OFF POSITIONS SHALL BE LABELED 'SHUT DOWN' AND 'NORMAL' RESPECTIVELY. PROVIDE A SINGLE LABEL OVER BANK OF SWITCHES INDICATING HVAC EMERGENCY SHUTDOWN. ALL LABELS SHALL BE ENGRAVED PLASTIC WITH WHITE LETTERS ON A RED BACKGROUND.
- 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 SUNCOAST CFA-500 CONTROL PANEL. WIRING, RELAYS AND SWITCHES FOR CONTROL OF ALL FANS ARE BY ELECTRICAL CONTRACTOR.
- G. THERMOSTATS ARE PROVIDED AND INTEGRATED INTO THE TEMPERATURE CONTROL PANEL BY SUNCOAST ENVIRONMENTAL CONTROLS. SUNCOAST WILL PROVIDE A JOHNSON CONTROLS REMOTE TEMPERATURE SENSOR MODEL SEN-500-1 FOR EACH THERMOSTAT. MECHANICAL CONTRACTOR SHALL INSTALL ALL WIRING BETWEEN THERMOSTAT, SENSOR AND ROOFTOP UNIT.
- 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.

### B. 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 THE 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 SUNCOAST CFA-500 CONTROL PANEL STORE SWITCH HAS BEEN PUT INTO THE 'STORE OPEN' POSITION.
- 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 NBI OR 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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Mark Date By

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Mark Date By

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PROJECT  
Chick-fil-A  
FSU 3A

Northlake Mall  
Northlake Centre Pkwy  
Charlotte  
North Carolina

SHEET TITLE  
MECHANICAL  
SPECIFICATIONS

DWG EDITION 03.8-1  
REVISION 1

Job No. : 5039

Store : 1890

Date : 7-14-05

Drawn By : RWW

Checked By : RDB

Sheet

**M-4.I**