

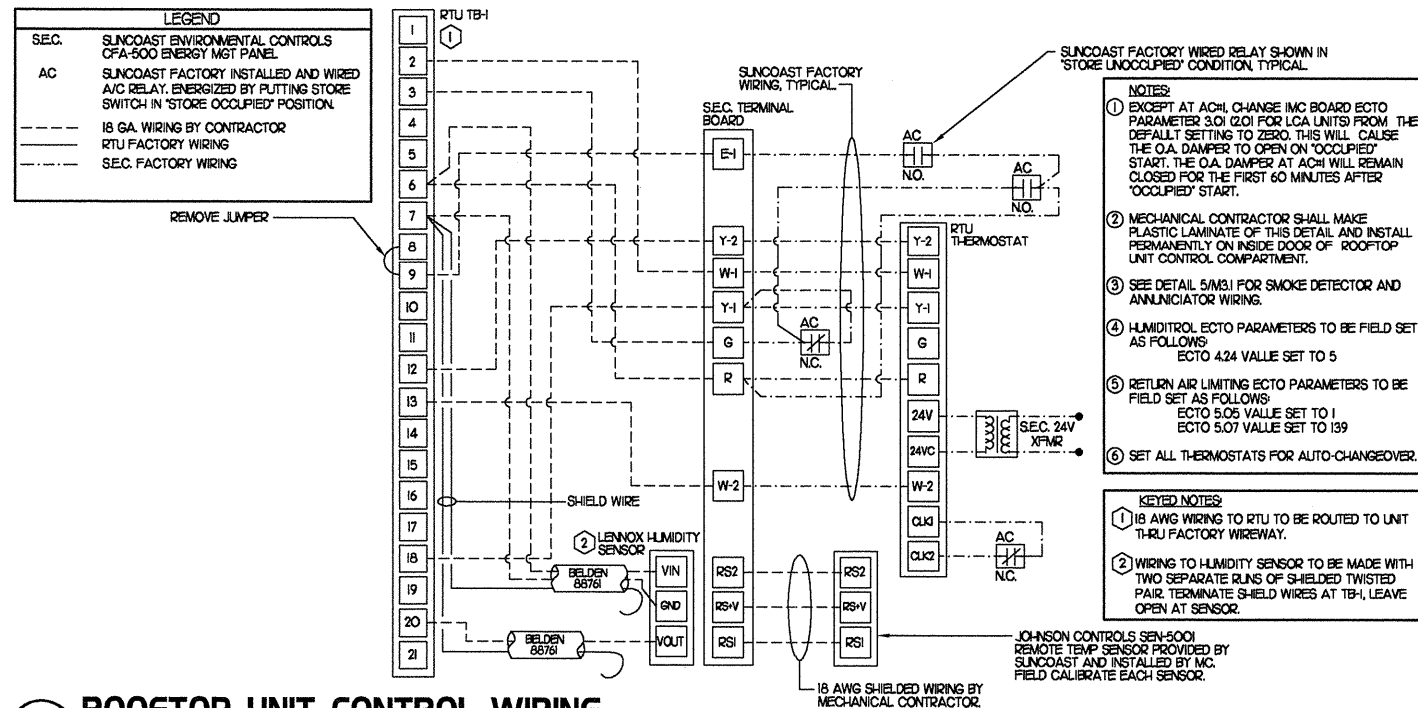
LEGEND			
A-12-400	TYPE - NECK SIZE - CFM	EF#1	EXHAUST FAN #1 (TYP)
	SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP	ACH#1	AIR CONDITIONING UNIT #1 (TYP)
	SPIN-IN HARD ϕ FLEXIBLE ϕ DIFFUSER		RETURN/EXHAUST (TYP)
	REMOTE TEMPERATURE SENSOR		SUPPLY DIFFUSER, SQ FACE (TYP)
	HUMIDITY SENSOR	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

LENNOX FRESH AIR TEMPERING SETUP

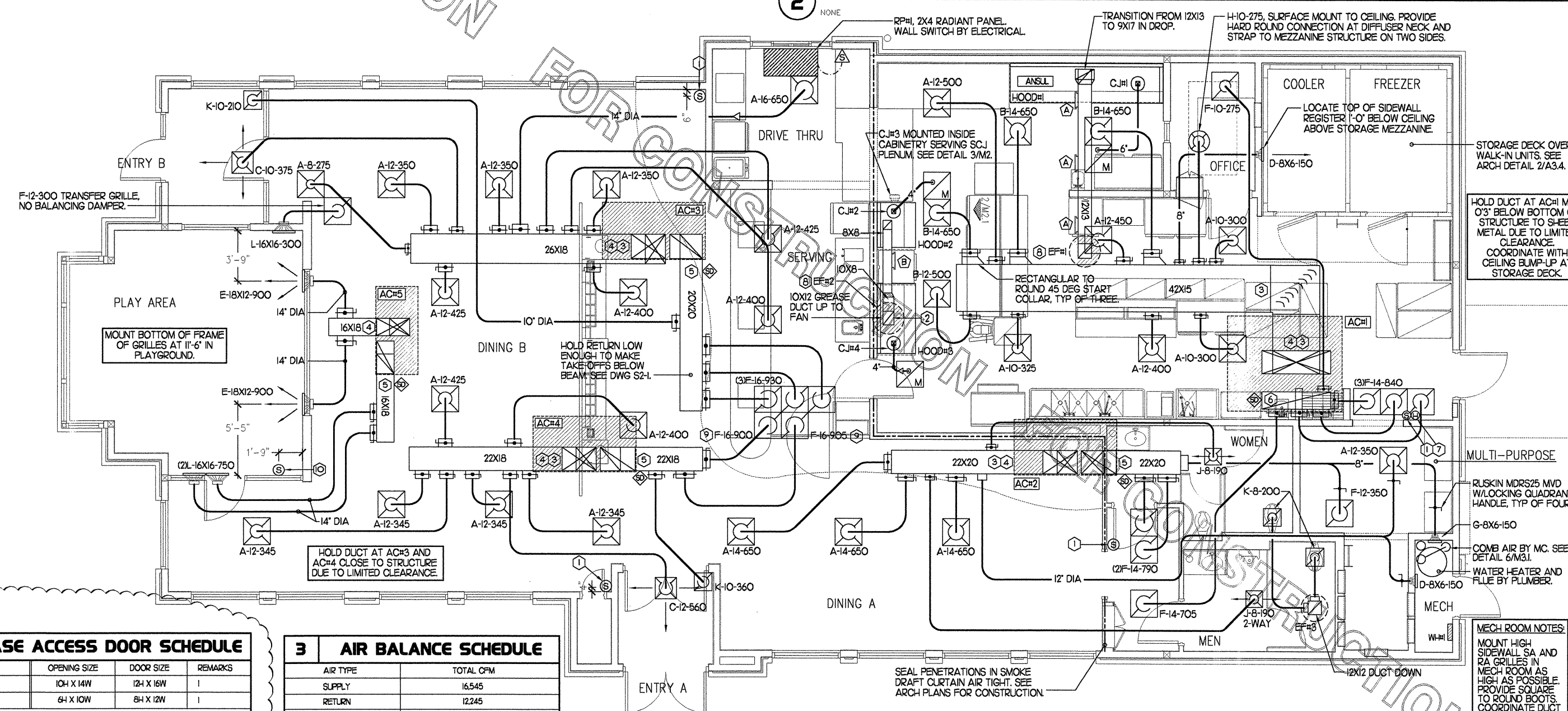
- INSTALL FRESH AIR TEMPERING KIT WIRING HARNESS AS RECOMMENDED BY LENNOX.
- LOCATE SUPPLY AIR TEMPERATURE SENSOR IN SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT OR STRUCTURE WITH RUBBER COATED CLAMPS. DO NOT RUN WIRING INSIDE DUCT WORK. PROTECT ALL WIRING PENETRATIONS WITH RUBBER GROMMETS.
- CHANGE ROOFTOP UNIT ECTO PARAMETER 6.20 TO A VALUE OF 145. THIS WILL PREVENT THE SUPPLY AIR TEMPERATURE FROM DROPPING BELOW 66F DEG DURING HEATING MODE WHEN THERMOSTAT IS NOT ACTIVELY CALLING FOR HEAT. ECTO PARAMETER 6.20 MUST BE CHANGED TO ACTIVATE THE FRESH AIR TEMPERING FEATURE.
- CHANGE ROOFTOP UNIT ECTO PARAMETER 6.21 TO A VALUE OF 21 WHICH WILL MAKE THE DEADBAND VALUE EQUAL 14F.
- CHANGE ROOFTOP UNIT ECTO PARAMETER 6.22 TO A VALUE OF 37 WHICH WILL MAKE THE CYCLE TIME VALUE EQUAL 5 MINUTES.

KEY NOTES

- MOUNT REMOTE SENSOR ON WALL AT 5'-0" AFF AND ROUTE WIRING BACK TO SUNCOAST TEMP CONTROL PANEL.
- 6X8 CONNECTION TO HOOD#3 WITH HALTON KBD EQUALIZER IN RISER. SEE DWG M21 FOR MORE INFORMATION.
- BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. PROVIDE TURNING VANES IN ELBOW.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. NO TURNING VANES IN ELBOW.
- R/A DUCT DROP TO BE FULL SIZE OF CURB CONNECTION. TERMINATE DROP 0'-5" ABOVE CEILING.
- MOUNT LENNOX HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.
- EF#1 AND EF#2 MUST BE LOCATED A MINIMUM OF 10 FT FROM PARAPETS.
- INSULATION ON DUCT DROP THROUGH UPPER CEILING TO STOP AT UPPER CEILING PENETRATION. SAND/DEGREASE GALVANIZED SHEET METAL AND PAINT FLAT WHITE. CEILING TILE AT UPPER CEILING TO BE CUT TO FIT AROUND DUCT DROP.
- MOUNT REMOTE SENSOR FOR PLAYGROUND 10'-4" AFF. ROUTE WIRING BACK TO SUNCOAST TEMP CONTROL PANEL.



2 ROOFTOP UNIT CONTROL WIRING



4 GREASE ACCESS DOOR SCHEDULE

MARK	OPENING SIZE	DOOR SIZE	REMARKS
A	104 X 14W	124 X 16W	1
B	64 X 10W	84 X 12W	1

1) ACCESS DOOR SHALL BE UL 1978 LISTED. REQUIRE NO TOOLS FOR REMOVAL AND BE EQUAL TO DUCTMATE ULTIMATE DOOR II WELD ON TYPE.

3 AIR BALANCE SCHEDULE

AIR TYPE	TOTAL CFM
SUPPLY	16,545
RETURN	12,245
EXHAUST	3,300
OUTSIDE AIR	4,300
BUILDING POSITIVE PRESSURE	1,000

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.

5200 Buffington Rd.
Atlanta Georgia,
30349-2998

Revisions:

Mark	Date	By
42	8/31/07	BUILDING

COMMENTS

Mark Date By

Mark Date By

Mark Date By

Seal

BENBOR ENGINEERING, LLC
3000 Langford Road
Building 2400
Nenocross, GA 30071
(770) 729-1422 bus
(770) 729-0490 fax
rebennor@bennorEng.com

STORE
Warrenton
FSU S06C

Lee Highway
Warrenton, VA

SHEET TITLE
MECHANICAL
FLOOR PLAN

DWG EDITION 05.9
REVISION 1

Job No. : 6121
Store : 2116
Date : 12/15/06
Drawn By : JAL
Checked By : RDB

Sheet

M-11

FOR CONSTRUCTION

5 KITCHEN HOOD SYSTEMS NOTES

1. 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 MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.
2. THE FIRE SUPPRESSION SYSTEM SHALL CONSIST OF A COMPLETE WET ANSUL SYSTEM FURNISHED BY HALTON. THE HOOD SHALL BE FURNISHED PRE-PIPED BY HALTON.
3. 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.
4. HOOD EXHAUST DUCTWORK SHALL BE 16 GA. BLACK STEEL WITH CONTINUOUS LIQUID TIGHT WELD OF JOINTS & SEAMS.
5. TURNS IN GREASE EXHAUST DUCTWORK SHALL BE LONG RADIUS TYPE, WITH A CENTERLINE RADIUS R-3W/2, NO EXCEPTIONS ALLOWED. NO MITERED FITTINGS ALLOWED.
6. ALL STAINLESS STEEL CLOSURE PANELS SHALL BE SUPPLIED BY HOOD MANUFACTURER AND INSTALLED BY THE MECHANICAL CONTRACTOR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. SLOPE ALL GREASE EXHAUST DUCT BACK TO HOOD AT 1/4" PER FOOT OF RUN.
8. WRAP NEW GREASE DUCT WITH 3M FIRE BARRIER 15A. ACCESS DOORS SHALL BE INSTALLED ACCORDING TO 3M FIRE BARRIER PRODUCTS INSTALLATION MANUAL.
9. SUPPORT HOODS WITH 1/2" THREADED ROD AT FOUR CORNERS. ATTACH TO STRUCTURE WITH STRUT AS DETAILED ON STRUCTURAL DRAWING SS-1.

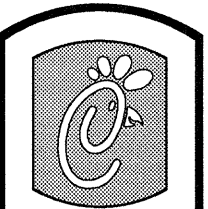
4 HOOD SCHEDULE

MARK	EXHAUST CFM	SP • TAB PORT	CAPTURE JET CFM & S.P.	TYPE	COLLAR SIZE	WIDTH	DEPTH	HEIGHT	MANUFACTURER	MODEL	REMARKS
HOOD#1	1700	0.20"	100 • 0.30"	BACK SHELF	9"X17"	136.5"	34"	48"	HALTON	KVL	1,2,3,4,5,6,7,9,10
HOOD#2	700	0.27"	30 • 0.30"	BACK SHELF	8"X8"	40"	34"	48"	HALTON	KVL	1,2,4,5,8,10,11
HOOD#3	500	0.07"	30 • 0.30"	BACK SHELF	8"X8"	62"	34"	48"	HALTON	KVL	1,2,4,5,10,12,13,14

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 NOTCHED LEFT END SIDE PANEL.
- 8) PROVIDE NOTCHED RIGHT END SIDE PANEL.
- 9) ANSUL CABINET AND COMPONENTS ON LEFT SIDE ABOVE HOOD.
- 10) PROVIDE TOP PLENUM CAPTURE JET FAN, SPEED CONTROLLER AND COLLAR.
- 11) PROVIDE COUNTER MOUNTED SIDE CAPTURE JET PLENUM ASSEMBLY AND FAN ON RIGHT SIDE OF HOOD.
- 12) PROVIDE HALTON KBD EQUALIZER WITH FACTORY INSTALLED 8X6 TRANSITIONS ON LEAVING CONNECTION FLANGE.
- 13) PROVIDE ACCESS PANEL IN FRONT LARGE ENOUGH TO ACCESS KBD EQUALIZER JACK SCREW.
- 14) PROVIDE FULL LEFT END PANEL EXTENDING BELOW TOP OF COOKING SURFACE.



5200 Buffington Rd.
Atlanta Georgia,
30349-2998

Revisions:

Mark	Date	By
△		
△		
△		

Seal

BENOR ENGINEERING, LLC
3000 Longford Road
Building 2400
Norcross, GA 30071
(770) 728-1422 bus
(770) 728-0490 fax
rbenor@benorEng.com

STORE
Warrenton
FSU S06C

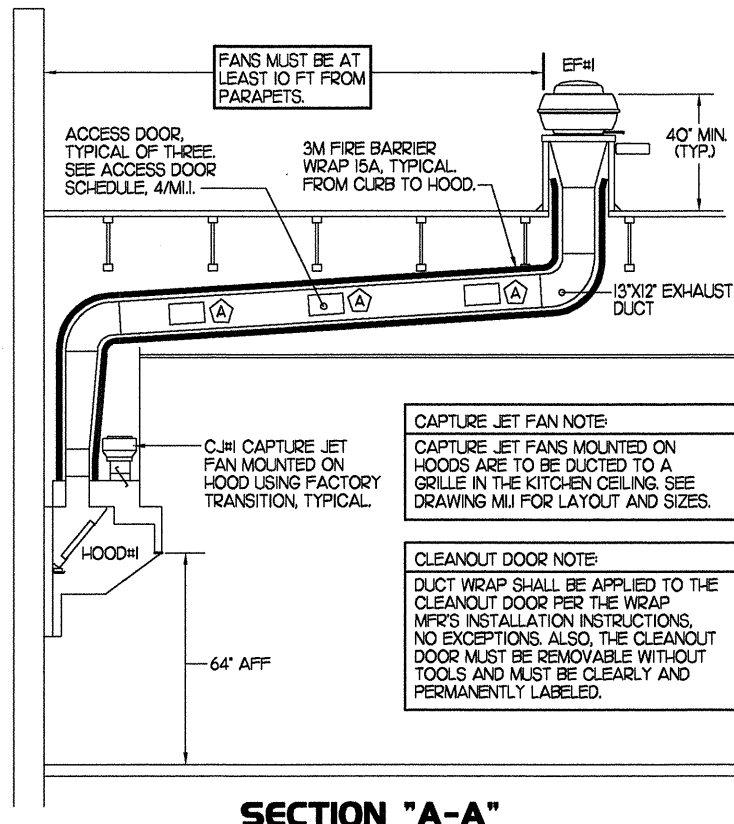
Lee Highway
Warrenton, VA

SHEET TITLE
HOOD DETAILS
& SCHEDULES

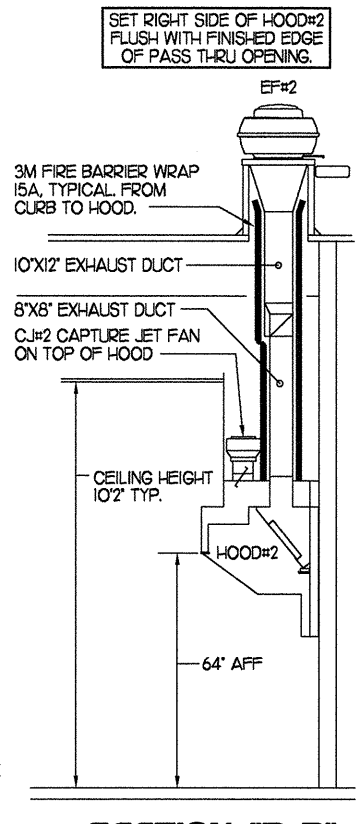
DWG EDITION 05.9
REVISION 1

Job No. : 6121
Store : 2116
Date : 12/15/06
Drawn By : JAL
Checked By: RDB

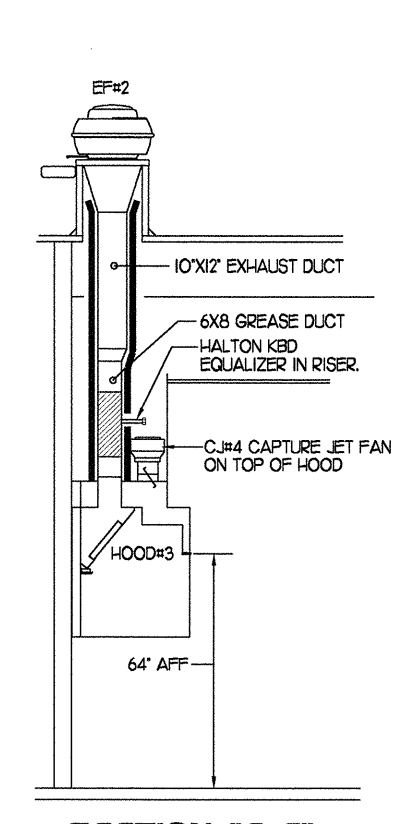
Sheet
M-2.1



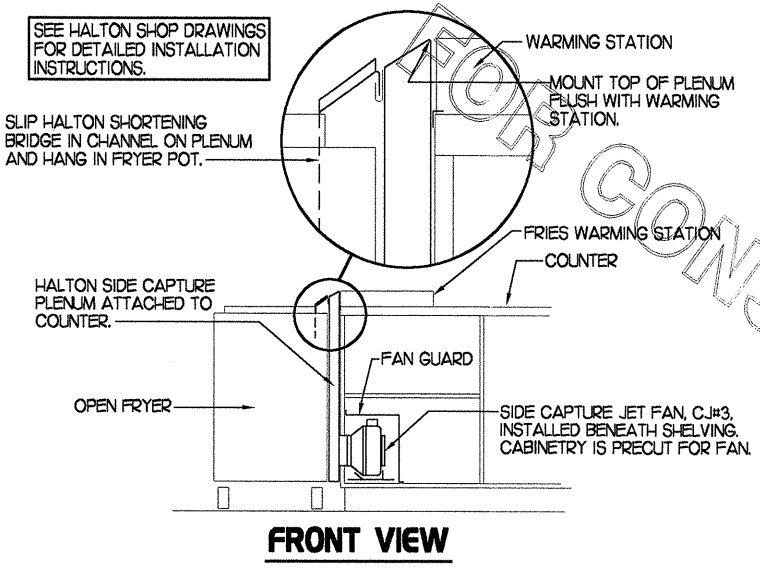
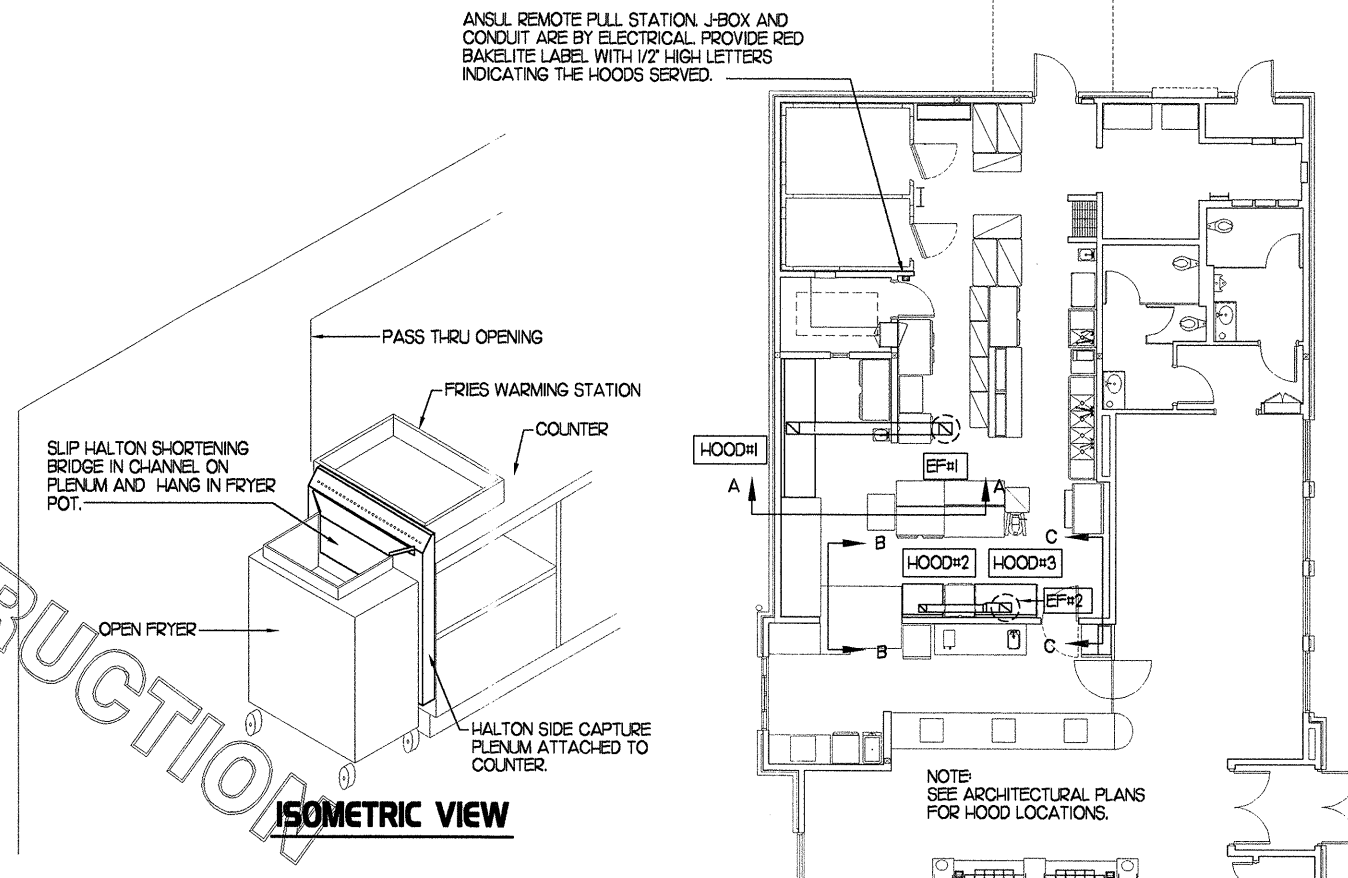
SECTION "A-A"



SECTION "B-B"



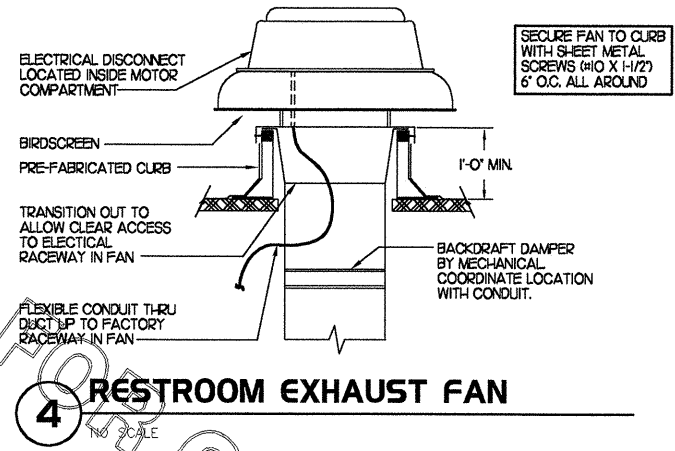
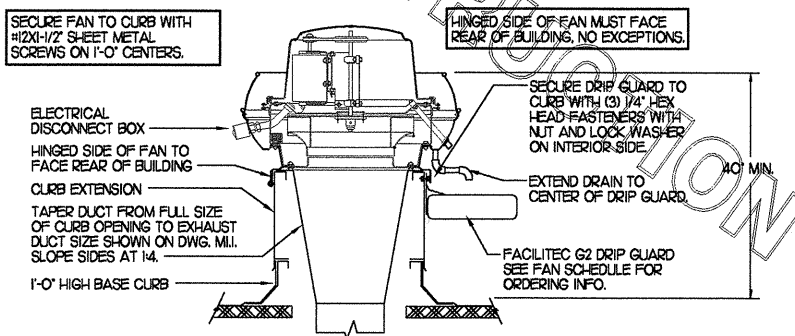
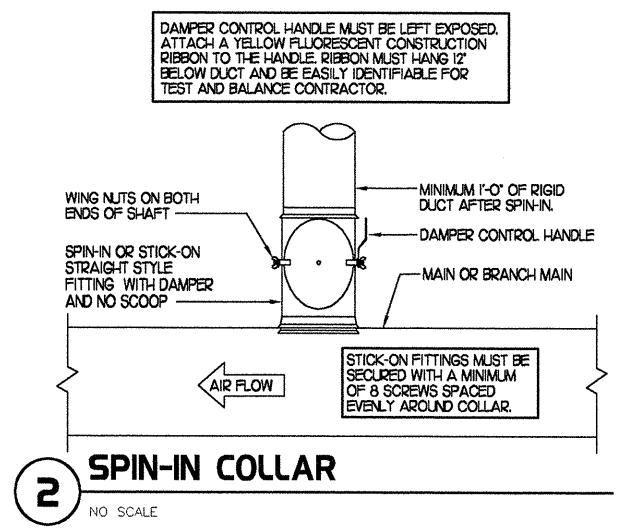
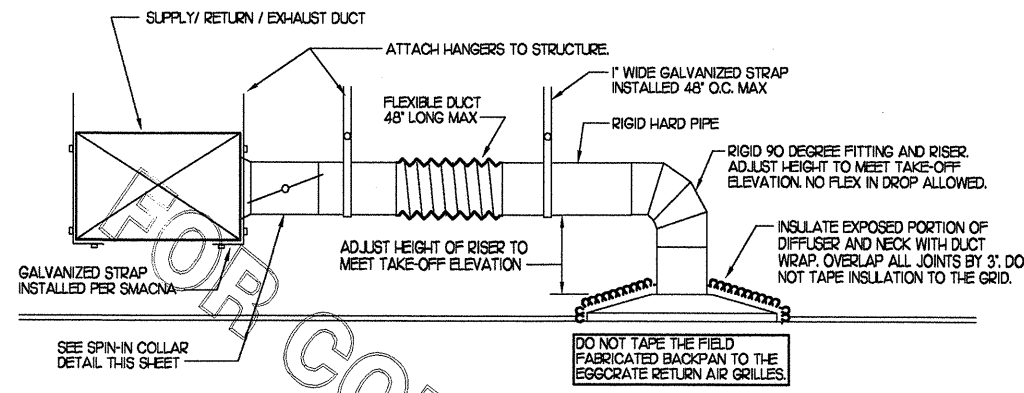
SECTION "C-C"



2 HALTON SIDE CAPTURE JET PLENUM
NOT TO SCALE

1 HOOD LAYOUT
1/8"=1'-0"

3 HOOD ELEVATIONS
NONE



10 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
AC#1	18.9	133.2	480.0	384.0	5,150	1,650	5	.70	L6C1804ZEH	LENNOX	1,3,5,6,8,9,10,11,2,14
AC#2	102.8	71.6	240.0	192.0	2,830	750	2	.65	L6A1024ZEH	LENNOX	2,3,5,8,9,10,11,2,14,15
AC#3	128.0	90.8	240.0	192.0	4,000	1,000	3	.65	L6A1204ZEH	LENNOX	1,3,5,7,8,9,10,11,2,14,15
AC#4	94.5	69.9	240.0	192.0	2,765	600	2	.65	L6A0904ZEH	LENNOX	2,3,5,8,9,10,11,2,14,15
AC#5	63.9	47.3	125.0	100.0	1,800	300	1.5	.65	L6A0604ZEH	LENNOX	3,4,5,7,8,9,10,11,2,14,15

NOTES:
 * COOLING CAPACITIES ARE GROSS, BASED ON INDOOR: 75°FDB/62°FWB, OUTDOOR: 95°FDB/75.2°FWB
 * CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT FOR EQUIPMENT WITH LENNOX CORPORATION. CONTACT RENEE COOK WITH LENNOX NATIONAL ACCOUNTS AT 972-497-5160 (OR BY FAX AT 972-497-5260) FOR PRICING, ORDERING AND AVAILABILITY.

REMARKS:
 1) PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST.
 2) PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST.
 3) PROVIDE 14" HIGH ROOF CURB.
 4) PROVIDE 0-100% MOTORIZED OUTSIDE AIR DAMPER ASSEMBLY.
 5) SEE DETAIL 21M1 FOR SETTINGS OF EC/O PARAMETERS BY MC.
 6) PROVIDE FACTORY INSTALLED AND LIT POWERED 15V GFI SERVICE OUTLET.
 7) PROVIDE FACTORY INSTALLED 15V GFI SERVICE OUTLET.
 8) PROVIDE FACTORY INSTALLED RETURN SIDE SMOKE DETECTOR.
 9) PROVIDE FACTORY INSTALLED NON-FUSED DISCONNECT.
 10) PROVIDE 2" MERV 7 THROW AWAY FILTERS.
 11) PROVIDE HINGED PANELS FOR FILTER ACCESS, FAN MOTOR ACCESS, COMPRESSOR ACCESS AND CONTROL COMPARTMENT ACCESS.
 12) ADJUST GAS MANIFOLD PRESSURE AT LOCATIONS WHERE ELEVATION EXCEEDS 2000' ABOVE SEA LEVEL AS RECOMMENDED BY MANUFACTURER.
 13) PROVIDE HUMIDITROL OPTION WITH FACTORY WALL MOUNTED HUMIDITY SENSOR (STATES OF CA AND AZ EXCLUDED).
 14) PROVIDE FRESH AIR TEMPERING KIT.
 15) PROVIDE FACTORY COIL HAIL GUARD, FIELD INSTALLED.

9 EXHAUST FAN SCHEDULE										
MARK	CFM	ESP	RPM	TIP SPEED (FPS)	HP	AREA SERVED	MODEL	MANUFACTURER	REMARKS	
EF#1	1,700	3/4	1,574	101	3/4	HOOD#1	NERTD-140A	JENN	1,2,3,4,10	
EF#2	1,200	3/4	1,286	83	3/4	HOOD#2 & HOOD#3	NERTD-140A	JENN	1,2,3,4,10	
EF#3	400	1/4	1,125	50	1/10	RESTROOMS	REDBIOS+	JENN	2,5,6,7,8,9,10	

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

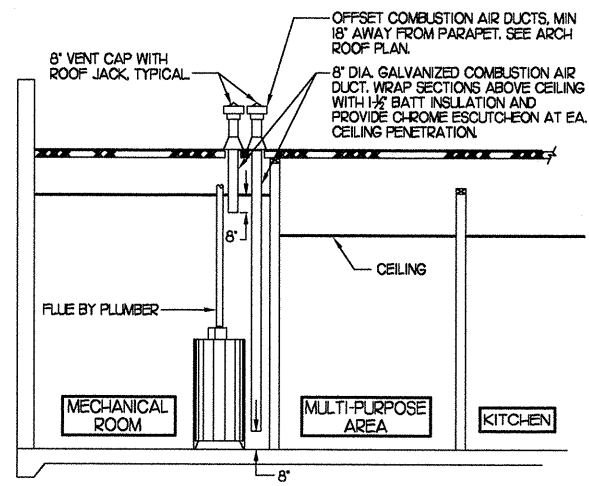
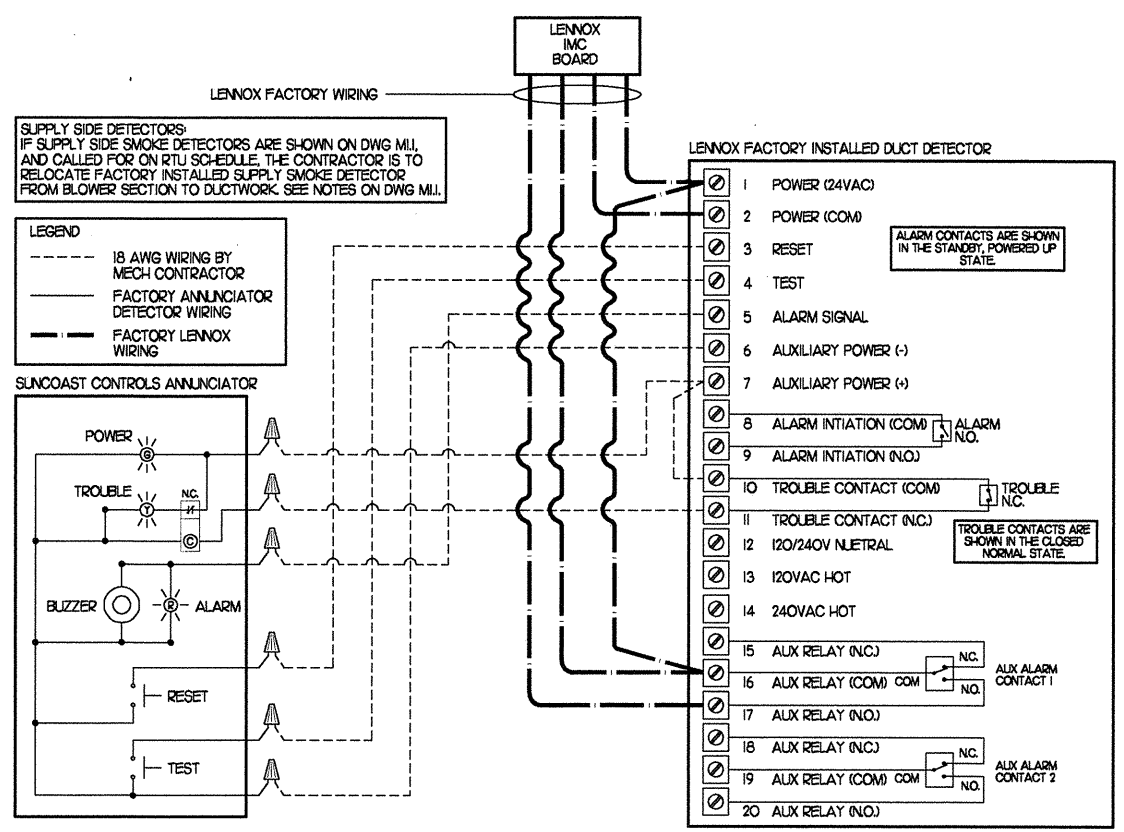
REMARKS:
 1) PROVIDE FACTORY 1'-0" BASE CURB AND EXTENSION.
 2) PROVIDE FACTORY NON-FUSED DISCONNECT.
 3) PROVIDE FACTORY INSTALLED HINGED BASE KIT.
 4) PROVIDE AND INSTALL FACILITEC G2 DRIP GUARD. THE MECHANICAL CONTRACTOR IS TO CONTACT FACILITEC AT 800-284-8273 FOR PURCHASING AND SHIPPING ARRANGEMENTS.
 5) PROVIDE BIRDSCREEN.
 6) BACKDRAFT DAMPER IN DUCT BY MECHANICAL CONTRACTOR AS SHOWN ON 4/M-3.1.
 7) STARTER BY ELECTRICAL CONTRACTOR. INTERLOCK WITH LIGHTS BY ELECTRICAL CONTRACTOR.
 8) PROVIDE 12" HIGH CURB.
 9) PROVIDE FACTORY INSTALLED AND WIRED SPEED CONTROLLER.
 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.

11 ELECTRIC WALL HEATER SCHEDULE							
MARK	KW	FRAME SIZE WIDTH	HEIGHT	CFM	MOUNTING TYPE	MODEL	MANUFACTURER
WH#1	15	48"	2'	175	SURFACE	HF3324TD4P	MARKEL

REMARKS:
 1) AUTOMATIC FAN DELAY SWITCH AND INTEGRAL DISCONNECT.
 2) INTEGRAL TAMPERPROOF THERMOSTAT SET AT 65 DEG. F.
 3) CAPACITY SHOWN IS FOR 208V SERVICE.
 4) CONFIRM ELECTRICAL CHARACTERISTICS PRIOR TO ORDERING EQUIPMENT.
 5) POWDER COATED 18 GA. STEEL GRILLE WITH ALUMINUM FRAME.
 6) AUTOMATIC RESET THERMAL LIMIT SWITCH.
 7) TUBULAR STEEL ELEMENT WITH STEEL PINS.

8 AIR DEVICE SCHEDULE						
MARK	DESCRIPTION	LOCATION	NECK SIZE	FACE SIZE	FRAME TYPE	REMARKS
A	TITUS MODEL PSS-AA ALUMINUM SUPPLY AIR DIFFUSER WITH AIR PATTERN CONTROLLER.	DINING AREA KITCHEN	SEE PLAN	24X24	LAY-IN	1,7
B	TITUS MODEL PAR-AA ALUMINUM RETURN AIR GRILLE USED AS A SUPPLY DIFFUSER.	KITCHEN	SEE PLAN	24X24	LAY-IN	1,7
C	TITUS MODEL MCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	ENTRY 'A' ENTRY 'B'	14X14	19X9	SURFACE	1,5,7
D	TITUS MODEL 272FS DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY GRILLE FRONT BLADE PARALLEL TO SHORT SIDE.	MECHANICAL ROOM MEZZANINE	8X6	10X8	SURFACE	1,7
E	TITUS MODEL 272FL DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY GRILLE FRONT BLADE PARALLEL TO LONG SIDE.	PLAYGROUND	18X12	20X14	SURFACE	1,7
F	DONCO MODEL CDFP EGGRATE RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BACKPAN AND ROUND NECK.	DINING/OFFICE KITCHEN	SEE PLAN	24X24	LAY-IN	1,7
G	TITUS MODEL 56FL ALUMINUM SIDEWALL RETURN GRILLE, FRONT BLADE PARALLEL TO LONG SIDE.	MECHANICAL ROOM	8X6	10X8	SURFACE	1,7
H	TITUS MODEL TMR-AA ALUMINUM CONCENTRIC ROUND CONE SUPPLY DIFFUSER.	OFFICE	10	18	LAY-IN	1,6,7
J	TITUS MODEL MCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	RESTROOMS	10X10	15X15	SURFACE	1,2,3,5,7
L	TITUS MODEL PAR STEEL PERFORATED FACE RETURN AIR GRILLE WITH OBD.	RESTROOMS ENTRY 'A' & 'B'	14X14	16X16	SURFACE	1,4,7
L	TITUS MODEL 56FL ZERO DEGREE DEFLECTION ALUMINUM SIDEWALL RETURN GRILLE FRONT BLADE PARALLEL TO LONG SIDE.	PLAYGROUND	16X16	18X18	SURFACE	1,7
M	TITUS MODEL PAR-AA ALUMINUM RETURN AIR GRILLE	KITCHEN	6	24X24	LAY-IN	1,7

REMARKS:
 1) STANDARD OFF WHITE FINISH.
 2) PROVIDE MODEL AG-85 NECK DAMPER.
 3) SEE DRAWING M11 FOR THROW.
 4) PROVIDE MODEL AG-75 NECK DAMPER ON GRILLES IN RESTROOMS.
 5) FIELD FABRICATE 3" DEEP BACKPAN SEAL JOINTS WITH MASTIC AND INSULATE EXTERNALLY.
 6) PROVIDE AG-75 NECK DAMPER ADJUSTABLE THRU DIFFUSER FACE.
 7) CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE AIR DEVICES. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE AIR DEVICES DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-35-HO10. FOR PRICING AND AVAILABILITY. AIR DEVICES NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.



7 RADIANT CEILING PANEL SCHEDULE						
MARK	WATTAGE	FRAME SIZE	BTU	MOUNTING TYPE	MODEL	MANUFACTURER
RP#1	750	24" X 48"	2560	T-SHAR	CP SERIES	MARKEL

REMARKS:
 1) MANUAL SWITCH ON WALL BY ELECTRICAL.
 2) COORDINATE ELECTRICAL CHARACTERISTICS WITH ELECTRICAL PLANS PRIOR TO ORDERING.
 3) MECHANICAL TO PROVIDE PLASTIC ENGRAVED LABEL ON WALL SWITCH WITH 1/2" HIGH WHITE LETTERING ON A BLUE BACKGROUND INDICATING 'RADIANT PANEL - RP#1'.

5200 Buffington Rd.
Atlanta Georgia,
30349-2998

Revisions:
 Mark Date By
 △
 Mark Date By
 △
 Mark Date By
 △

Seal

BENKOR ENGINEERING, LLC
 3000 Langford Road
Building 2400
Norcross, GA 30071
 (770) 728-1422 bus
 (770) 728-0490 fax
 rbenkor@benkorEng.com

STORE
Warrenton
FSU S06C

Lee Highway
Warrenton, VA

SHEET TITLE
HVAC DETAILS
& SCHEDULES

DWG EDITION 05.9
REVISION 1

Job No. : 6121
 Store : 2116
 Date : 12/15/06
 Drawn By : JAL
 Checked By : RDB
 Sheet

M-3.1

I. MECHANICAL SPECIFICATIONS

PART I GENERAL

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. CONTRACTOR SHALL PROVIDE FARR 30/30 2" OR EQUAL THROW AWAY TYPE FILTERS. A CLEAN SET SHALL BE PROVIDED PRIOR TO UNIT STARTUP AND AGAIN PRIOR TO OPENING.

PART II PRODUCTS

1. 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. 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 WHERE SCHEDULED, CONVENIENCE OUTLETS FACTORY INSTALLED ON SCHEDULED UNITS, UNIT MOUNTED NON-FUSED DISCONNECTS, LOW AMBIENT OPERATION DOWN TO 30 DEGREES F AND EVAPORATOR FREEZE STAT.
 - C. COMPRESSORS SHALL BE FULLY HERMETIC SCROLL TYPE WITH INTERNAL VIBRATION ISOLATORS. COMPRESSORS SHALL BE PROVIDED WITH A MINIMUM FIVE (5) YEAR FULL WARRANTY.
 - D. 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.
 - E. CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT FOR EQUIPMENT WITH LENNOX CORPORATION. PRICING FOR THE EQUIPMENT HAS BEEN ESTABLISHED IN ADVANCE. CONTACT EMILY MURRAY WITH LENNOX NATIONAL ACCOUNTS AT 972-497-6261 (OR BY FAX AT 972-497-5260) FOR PRICING, ORDERING AND AVAILABILITY.

2. 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, 1/2 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 M3.1.
- 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.

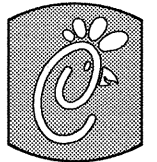
3. CONTROLS

- 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. 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 #L4029E 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 WOMENS 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 ENVIRONMENT 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.

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.



5200 Buffington Rd.
Atlanta Georgia,
30349-2998

Revisions:

Mark Date By

△

Mark Date By

△

Mark Date By

△

Seal

BENMOR ENGINEERING, LLC
3000 Lenoir Road
Building 2100
Norcross, GA 30071
(770) 729-1422 bus
(770) 729-0490 fax
rbenmor@benmor-eng.com



STORE
Warrenton
FSU 506C

Lee Highway
Warrenton, VA

SHEET TITLE
MECHANICAL
SPECIFICATIONS

DWG EDITION 05.9
REVISION 1

Job No. : 6121
Store : 2116
Date : 12/15/06
Drawn By : JAL
Checked By : RDB

Sheet

M-4.1