

**DIVISION 15 SPECIFICATIONS**

**PART I - GENERAL**

**1.01 SCOPE**

- A. IT IS THE RESPONSIBILITY OF CONTRACTOR TO READ ALL SPECIFICATIONS AND CONSULT ALL DRAWINGS WHICH MAY AFFECT THE INSTALLATION AND COORDINATION OF WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN LOCATION OF EQUIPMENT AND MATERIALS AS NECESSARY FOR COORDINATION.
- B. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES.
- C. 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.
- D. 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.
- E. 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, DUCTWORK AND AIR DEVICES SHALL BE INSPECTED AND THOROUGHLY CLEANED, CLEARED OF DEBRIS, AND READY FOR USE AT COMPLETION OF JOB. ALL MISCELLANEOUS TOOLS, SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY CONTRACTOR.
- F. CONTRACTOR SHALL PROVIDE TWO SETS OF 2" MERV 8 OR HIGHER THROW AWAY TYPE FILTERS. A CLEAN SET SHALL BE PROVIDED PRIOR TO TEST AND BALANCE AND AGAIN PRIOR TO OPENING.

**PART II - PRODUCTS**

**2.01 HEATING AND COOLING EQUIPMENT**

- A. FURNISH AND INSTALL R-410A ROOFTOP SINGLE PACKAGE COMBINATION ELECTRIC COOLING AND NATURAL GAS FIRED HEATING UNITS 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 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 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. HEAT EXCHANGERS SHALL HAVE A TEN (10) YEAR WARRANTY. BURNERS SHALL BE IN-SHOT TYPE. THE DRAFT MOTOR SHALL BE MONITORED BY THE CONTROL SYSTEM.

**2.02 DUCTWORK (C15735)**

- A. ACCEPTABLE MANUFACTURERS OF INSULATION SHALL BE: JOHNS MANVILLE, OWENS CORNING OR KNAUF.
- B. ALL DUCTWORK SHALL BE SHEET METAL, UNLESS NOTED OTHERWISE (U.N.O.).
- C. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS, U.N.O.
- 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 INCLUDING DUCT CONNECTION TO AIR DEVICE COLLAR SHALL BE SEALED PER SMACNA SEAL CLASS C WITH U.L. DUCT MASTIC SEALANT APPROVED FOR INTENDED USE. DUCT TAPE IS NOT AN ACCEPTABLE SUBSTITUTE FOR MASTIC UNLESS EQUAL TO HARDCAST FOIL-GRIP 1402 BUTYL RUBBER ADHESIVE TAPE.
- E. DUCT SHALL BE SUPPORTED AT BASE OF DUCT DROPS. CURB DUCT RAILS ARE NOT INTENDED TO AND SHALL NOT SUPPORT THE WEIGHT OF THE DUCT.
- F. ALL DUCT WRAP SHALL BE MINIMUM 2" THICK, 3/4 PCF AND 6 R-VALUE INSTALLED WITH EITHER A VAPOR BARRIER WITH MAXIMUM PERMEANCE 0.05 OR A MINIMUM 2 MIL ALUMINUM REINFORCED FOIL/KRAFT FACING.
- G. ALL DUCT DROPS FROM THE ROOFTOP UNITS SHALL BE EXTERNALLY INSULATED.
- H. SUPPLY AND RETURN AIR DUCTWORK SERVING ALL AREAS SHALL BE EXTERNALLY INSULATED.
- I. ALL AIR CONVEYANCE COMPONENTS SUCH AS, BUT NOT LIMITED TO DUCT, DUCT PLENUMS, GRILLES/DIFFUSERS, BACK PANS, AND BOOTS SHALL BE INSULATED. INSULATION TYPE IS COVERED ELSEWHERE IN THIS SPECIFICATION.
- J. RESTROOM RECTANGULAR EXHAUST AIR DUCTWORK SHALL BE LINED WITH 1" THICK, 1-1/2 PCF INSULATION. RESTROOM ROUND EXHAUST DUCT SHALL BE EXTERNALLY INSULATED PER SECTION 2.02F.
- K. DUCT DROPS 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.
- L. 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.
- M. 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 THERMAFLEX MKE. FLEX DUCT SHALL HAVE A MINIMUM R-VALUE OF 6.
- N. FLEXIBLE DUCT SHALL BE INSTALLED PER THE "ADC FLEXIBLE DUCT PERFORMANCE AND INSTALLATION STANDARDS, 4TH ED" USING FOIL TAPE AND DRAWBAND ON THE INNER CORE AND TAPE OR DRAWBAND ON THE OUTER JACKET.
- O. DUCT TAPE SHALL BE EQUAL TO FASSON 181-B FX, 2-1/2" WIDE.
- P. SINGLE THICKNESS TURNING VANES SHALL BE INSTALLED AT ALL 90 DEGREE ELBOWS WHERE THE CENTERLINE RADIUS (R) IS LESS THAN THE WIDTH OF THE DUCT AND ANY ONE DIMENSION IS GREATER THAN 12".
- Q. 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.

**2.03 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 WHERE PERMITTED BY AHJ.
- 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 BY THE ELECTRICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE AND TURNED OVER TO THE MECHANICAL CONTRACTOR FOR INSTALLATION.
- E. THE REMOTE TEST/RESET ANNUNCIATORS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND INSTALLED 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, TROUBLE LED, ALARM LED, 90DB HORN AND TEST/RESET BUTTON.
- 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 NETWORK THERMOSTAT US32-CFA THERMOSTAT PRE-WIRED IN THE TEMPERATURE CONTROL PANEL. REMOTE TEMPERATURE SENSOR(S) FOR EACH THERMOSTAT IS ALSO PROVIDED. MECHANICAL CONTRACTOR SHALL INSTALL ALL WIRING BETWEEN THE THERMOSTAT, THE REMOTE SENSOR(S) AND THE 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. NO SPLICING OF WIRING WILL BE ACCEPTED. 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. ALL LOW VOLTAGE CONTROL WIRING SHALL BE NO LESS THAN 18 AWG MIN. CONTROL WIRING CONDUCTORS SHALL BE SIZED TO ACCOUNT FOR LOAD AND LENGTH OF RUN TO ALLOW SUFFICIENT VOLTAGE AVAILABLE AT CONTROLLED DEVICE TO OPERATE THE SYSTEM RELIABLY.

**2.04 PIPING**

- A. ALL ABOVE GRADE NATURAL GAS PIPING SHALL BE SCHEDULE 40 STEEL MEETING ASTM A53 WITH SCREWED OR WELDED FITTINGS AND GASKET TYPE UNIONS AND FLANGES. FOR SCREWED PIPING, PIPING SHALL BE JOINED WITH BLACK 150 POUND MALLEABLE IRON SCREWED FITTINGS AS ALLOWED BY LOCAL AUTHORITY. CONTRACTOR SHALL VERIFY THE NEED FOR WELDED PIPING AS REQUIRED BY THE LOCAL GAS CODE AND/OR APPLICABLE LOCAL ORDINANCES AND AMENDMENTS.
- B. ALL BELOW GRADE NATURAL GAS PIPING SHALL BE MEDIUM DENSITY POLYETHYLENE (PE) MEETING ASTM D2513 AS MANUFACTURED BY GASTITE WITH JOINING SYSTEM AS MANUFACTURED BY CON-STAB. TRANSITIONS FROM ABOVE GRADE RIGID PIPING TO PE BELOW GRADE PIPING SHALL BE MADE WITH ANODE-LESS RISER ASSEMBLY AS MANUFACTURED BY CON-STAB.

- C. PROVIDE AND INSTALL A CUT-OFF VALVE, UNION AND FULL SIZE DIRT LEG AT CONNECTION TO EACH GAS-FIRED PIECE OF EQUIPMENT. INSTALL PIPING AT AND AROUND EQUIPMENT SO AS TO NO WAY OBSTRUCT EQUIPMENT ACCESS PANELS AND/OR ACCESS DOORS.
- D. ALL GAS PIPING ABOVE ROOF SHALL BE CLEANED FREE OF RUST AND PAINTED WITH COAT OF ZINC RUST PRIMER AND ONE COAT OF ALUMINUM BASE PAINT. METER AND GAS RISER SHALL BE PRIMED AND PAINTED TO MATCH BUILDING.

- E. NATURAL GAS PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

**PART III - EXECUTION**

**3.01 SCOPE**

- A. FURNISH AND INSTALL SYSTEM IN ACCORDANCE WITH REFERENCED STANDARDS, APPLICABLE CODES, MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED ON DRAWINGS.
- B. 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.
- C. 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.
- D. CONTRACTOR SHALL COMPLETE A/C EQUIPMENT STARTUP DOCUMENTATION PROVIDED BY OWNER AND/OR MANUFACTURER. THIS SHALL INCLUDE RETORQUE OF ALL FIELD AND FACTORY HIGH VOLTAGE CONNECTIONS.

**3.02 LEED PROJECTS**

- A. CONTRACTOR SHALL COMPLETE RECEIPT INSPECTION CHECKLISTS PROVIDED IN THE COMMISSIONING PLAN WITHIN 5 DAYS OF RECEIVING EQUIPMENT ON SITE.
- B. CONTRACTOR SHALL COMPLETE PRE-FUNCTIONAL CHECKLISTS PROVIDED IN THE COMMISSIONING PLAN. CHECKLISTS SHALL BE RETURNED AT LEAST 5 DAYS PRIOR TO SCHEDULING FUNCTIONAL PERFORMANCE TESTING.
- C. CONTRACTOR SHALL PROVIDE A TECHNICIAN TO ASSIST THE THIRD PARTY COMMISSIONING AUTHORITY WITH FUNCTIONAL TESTING. FUNCTIONAL TESTING SHALL OCCUR AFTER ALL CONTROLS HAVE BEEN INSTALLED AND VERIFIED AND AFTER TEST AND BALANCE IS COMPLETE. THE FUNCTIONAL PERFORMANCE TEST PROCEDURES CAN BE FOUND IN THE COMMISSIONING PLAN.
- D. IF THE TOTAL TIME REQUIRED TO CORRECT PROBLEMS DURING TESTING IS GREATER THAN FORTY-FIVE (45) MINUTES (UNLESS EXTENUATING CIRCUMSTANCES EXIST), THE TEST SHALL BE CONSIDERED FAILED AND MUST BE REPEATED IN ITS ENTIRETY.
- E. RE-TESTING: DURING THE COURSE OF THE RETEST, IF AT ANY POINT A MAJOR DEFICIENCY IS DISCOVERED, THE TEST WILL BE STOPPED. REPEAT TESTS UNTIL ACCEPTABLE RESULTS ARE ACHIEVED. IF MORE THAN TWO FUNCTIONAL PERFORMANCE TESTS (ONE INITIAL TEST AND ONE RETEST) FOR ANY TYPE OF EQUIPMENT DUE TO ISSUES THAT THE CONTRACTOR HAD DIRECT OR INDIRECT CONTROL OVER ARE REQUIRED, THE COSTS FOR THE CxA TO WITNESS RETESTING OF SIMILAR TYPES OF EQUIPMENT UNTIL SATISFACTORY RESULTS ARE OBTAINED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

**3.03 TEST & BALANCE**

- A. OWNER SHALL TEST AND BALANCE MECHANICAL SYSTEM IN ACCORDANCE WITH NEBB, NBC 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.
- B. ALL EQUIPMENT TO BE BALANCED MUST HAVE GONE THRU SUCCESSFUL START-UP PROCEDURE BY THE MECHANICAL CONTRACTOR (MC) TO TAB VISIT.
- C. THE FLOOR OF THE RESTAURANT SHALL BE CLEARED OF DEBRIS, STAGED CONSTRUCTION MATERIALS, EQUIPMENT, ETC. WHICH MAY, IN THE OPINION OF THE TAB TECHNICIAN, OBSTRUCT ACCESS TO AIR DISTRIBUTION COMPONENTS IN AND ABOVE THE CEILING.
- D. EQUIPMENT ACCESS PANELS, DUCT AIR DEVICES SUCH AS BALANCING DAMPERS AND ACTUATORS SHALL BE ACCESSIBLE AND CLEAR OF PIPING, CONDUIT, FRAMING, SUPPORTS ETC...
- E. PROVIDE AN 8 FT PORTABLE A-FRAME STYLE LADDER DEDICATED FOR THE TAB TECHNICIAN'S USE DURING THE ENTIRE TAB EFFORT DURATION.

**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 CHEMICAL SYSTEM FURNISHED BY HALTON. THE HOOD SHALL BE FURNISHED PRE-PIPED BY HALTON.
3. THE FIRE SUPPRESSION SYSTEM EXTERNAL TO THE HOODS SHALL BE INSTALLED IN ACCORDANCE WITH HOOD MANUFACTURER'S SHOP DRAWINGS BY AN AUTHORIZED INSTALLER SELECTED AND HIRED BY HALTON. COST FOR INSTALLATION INCLUDED IN PRICE OF HOODS TO CFA.
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, UNLESS OTHERWISE NOTED. 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 UNIFRAX FYREWWRAP. INSULATION ON ACCESS DOORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION RECOMMENDATIONS. UNIFRAX FYREWWRAP PRODUCT USED SHALL MEET LOCAL CODE REQUIREMENTS.
9. SUPPORT ALL HOODS WITH THREADED ROD AT EACH FACTORY SUPPORT POINT. EACH SUPPORT POINT MUST SUPPORT THE HOOD WEIGHT EQUALLY. ATTACH TO STRUCTURE AS DETAILED ON STRUCTURAL DRAWINGS. ATTACH HOOD TO WALL AT 16" INTERVALS ALONG FULL LENGTH OF HOOD ON TOP AND BOTTOM. ATTACHMENT TO WALL REQUIRES FIELD DRILLING OF SUPPORT ANGLE AT BACK OF HOODS. EACH WALL ATTACHMENT POINT MUST OCCUR AT A WALL STUD. ATTACHMENT HARDWARE TO BE #12-24 HEX HEAD SHEET METAL SCREW EQUAL TO TEXTRON SDS EDT265, LENGTH AS REQUIRED TO FULLY PENETRATE THE STUD.

**LEGEND**

A-12-400	TYPE - NECK SIZE - CFM	[EF#]	EXHAUST FAN #1 (TYP.)
	SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP	[AC#1]	AIR CONDITIONING UNIT #1 (TYP.)
	SPIN-IN HARD FLEXIBLE 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 (reverse for elevation views) 1ST NUMBER - HORIZONTAL DIMENSION 2ND NUMBER - VERTICAL DIMENSION		DIRECTION OF THROW ON DIFFUSER
[SW]	AIR DOOR SWITCH		CLOSED AIR PATTERN DEFLECTOR
[EIH]	ELECTRIC INFRARED HEATER	[GIH]	GAS INFRARED HEATER (TYP.)
		B/G	BELOW GRADE
			THERMOSTAT

**ABBREVIATIONS**

EC	ELECTRICAL CONTRACTOR
GC	GENERAL CONTRACTOR
MC	MECHANICAL CONTRACTOR
PC	PLUMBING CONTRACTOR
O.C.	ON CENTER
IRH	INFRARED HEATER
CF	CIRCULATING FAN
TF	TRANSFER FAN
EF	EXHAUST FAN

**GENERAL NOTES**

1. DUCT SIZES SERVING DIFFUSERS AND GRILLES ARE SAME SIZE AS DIFFUSER OR GRILLE NECK UNLESS NOTED OTHERWISE.
2. FLEXIBLE DUCT AND INSULATION NOT SHOWN FOR CLARITY.
3. FOR ALL ROOF EQUIPMENT, PROVIDE A PLASTIC ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. WITH A SELF ADHESIVE BACKING.
4. UNLESS NOTED OTHERWISE, MC TO ADJUST ALL DIFFUSER AIR PATTERN DEFLECTORS TO THROW HORIZONTALLY ALONG THE CEILING.
5. ALL EXHAUST DUCTWORK AND UNFINISHED METAL ON ROOF EXCEPT STAINLESS SHALL BE PREPARED WITH TWO COATS OF SHERWIN WILLIAMS PRO INDUSTRIAL DTM ACRYLIC COATING, SEMI-GLOSS, WHITE. DEGREASE AND PRIME BARE METAL SURFACE WITH ONE COAT OF SHERWIN WILLIAMS PRO INDUSTRIAL PRO-CRYLACRYLIC UNIVERSAL PRIMER, WHITE, PRIOR TO PAINTING.
6. MAINTAIN 18" CLEARANCE FROM GREASE EXHAUST DUCTWORK ABOVE ROOF TO ANY COMBUSTIBLE CONSTRUCTION INCLUDING PARAPET WALLS.

**CANOPY GENERAL NOTES**

1. COORDINATE WORK WITH CONDUIT, STRUCTURE, AND PIPING. FIELD VERIFY CONDITIONS PRIOR TO START OF WORK.
2. COORDINATE LOCATION AND RESPONSIBILITIES FOR UNDERGROUND PIPING AND ASSOCIATED TRENCHING WITH GENERAL CONTRACTOR PRIOR TO START OF WORK.
3. EXPOSED GAS PIPING SHALL BE COVERED WITH A RUST INHIBITING PAINT SUCH AS RUST-OLEUM 5200. PAINT COLOR SHALL MATCH STRUCTURE. ROOF MOUNTED GAS PIPING COLOR SHALL BE YELLOW.
4. CONTROL WIRING FOR HEATERS BY EC. COORDINATE REQUIRED WIRE GAUGE WITH EC. SEE CONTROLS PLAN AND ELECTRICAL DRAWINGS, (TYP.).



**Chick-fil-A**  
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**CHICK-FIL-A**  
**NEW RESTAURANT**  
850 NL ROGERS WELLS BLVD  
GLASGOW, KY 42141

**FSR #05821**

BUILDING TYPE / SIZE: SSAM US BP  
RELEASE: 24.02

PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 16-24-0003  
DATE 09/11/2024

DRAWN BY BRM

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GENERAL NOTES, LEGENDS, SYMBOLS, AND ABBREVIATIONS

SHEET NUMBER

**M-001**

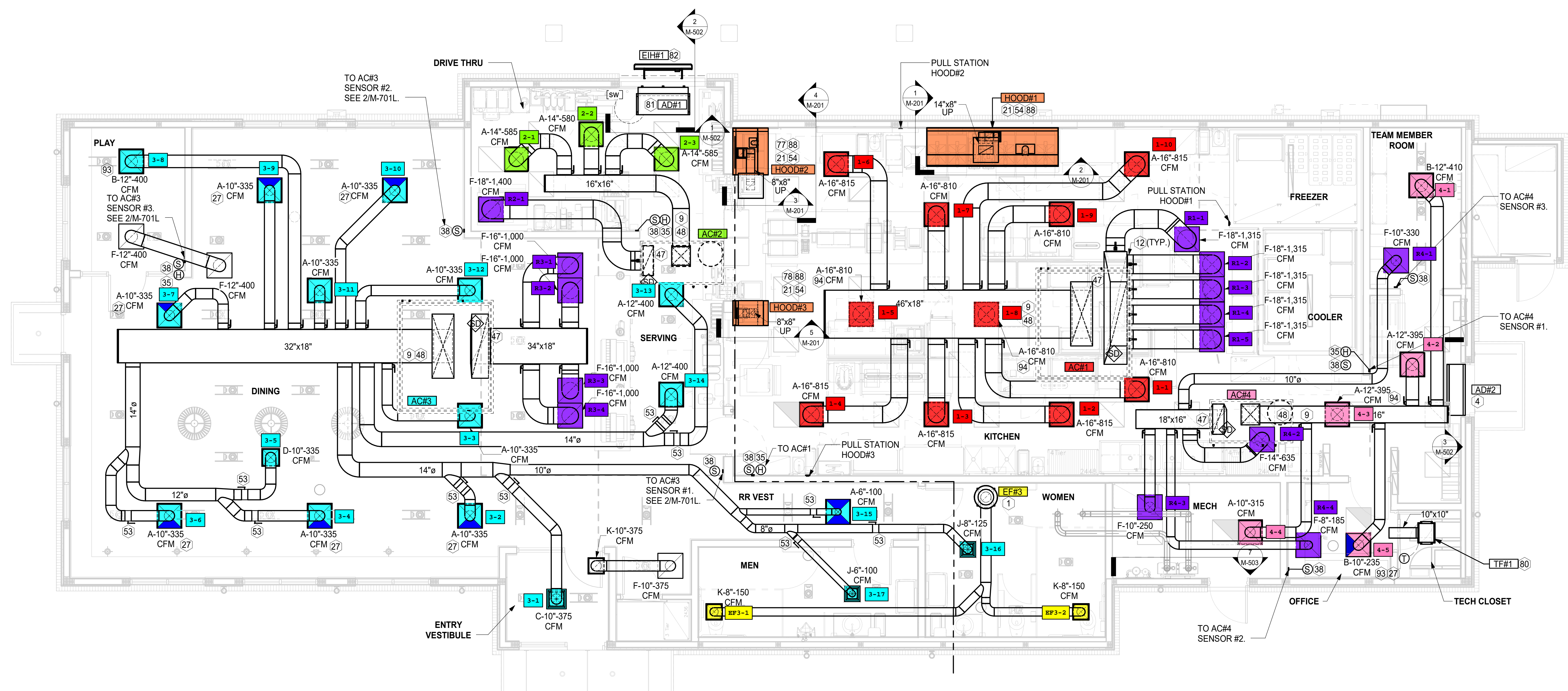
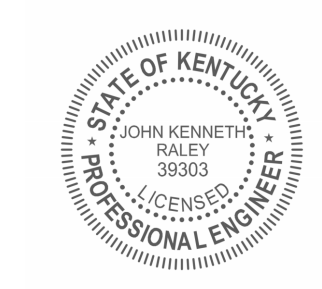


Chick-fil-A

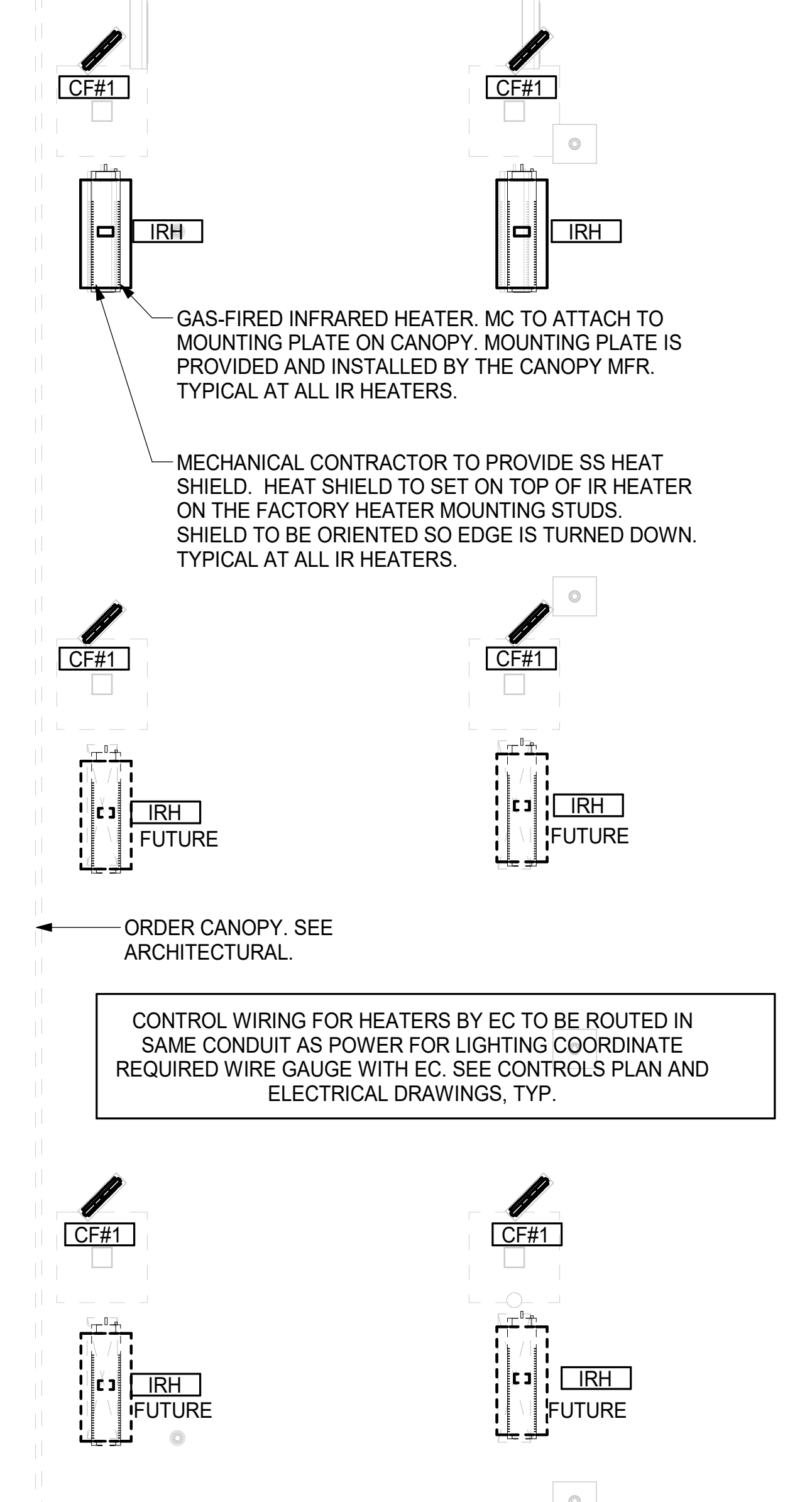
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### 1 EQUIPMENT AND DUCTWORK PLAN 1/4" = 1'-0"



### 2 MECHANICAL FLOOR PLAN - ORDER CANOPY 1/4" = 1'-0"

AIR BALANCE SCHEDULE					
MARK	SUPPLY AIR	RETURN AIR	OUTSIDE AIR	EXHAUST AIR	BUILDING POSITIVE PRESSURE
AC#1	8,125 CFM	6,575 CFM	1,550 CFM	0 CFM	
AC#2	1,750 CFM	1,400 CFM	350 CFM	0 CFM	
AC#3	5,250 CFM	4,000 CFM	1,250 CFM	0 CFM	
AC#4	1,750 CFM	1,400 CFM	350 CFM	0 CFM	
EF#1	0 CFM	0 CFM	0 CFM	1,418 CFM	
EF#2	0 CFM	0 CFM	0 CFM	1,091 CFM	
EF#3	0 CFM	0 CFM	0 CFM	300 CFM	
	16,875 CFM	13,375 CFM	3,500 CFM	2,809 CFM	691 CFM

### KEY NOTES

- 10" UP THRU ROOF.
- AIR CURTAIN MOUNTED OVER DOOR HEADER AT 7'-2" AFF TO BOTTOM OF UNIT. PROVIDE BLOCKING IN WALL BEHIND AIR CURTAIN. USE FACTORY PRE-PUNCHED MOUNTING HOLES ON BACK SIDE OF AIR CURTAIN ONLY. ATTACH AIR CURTAIN TO WALL USING 3/8" LAG BOLTS. LENGTH AS REQUIRED TO FULLY PENETRATE BLOCKING. LOCATE MAGNETIC CONTACT TYPE MICROSWITCH IN DOOR FRAME ON STRIKE SIDE.
- BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY OFFSET OR ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.
- DAMPER HANDLES SHOULD BE INSTALLED SUCH THAT THE DAMPERS ROTATION AXIS IS PERPENDICULAR TO THE FLOOR WITH THE HANDLE FULLY ACCESSIBLE UNDERNEATH THE DUCT IT CONTROLS. (TYPICAL OF ALL DAMPERS AT THE SAME PLENUM.)
- HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-201 FOR LOCATION.
- MECHANICAL CONTRACTOR TO CLOSE THE AIR PATTERN DEFLECTORS ON SHADED SIDE.
- MOUNT HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.
- MOUNT REMOTE SENSOR ON WALL AT 5'-0" AFF U.N.O. AND ROUTE WIRING BACK TO SUNCOAST TEMP CONTROL PANEL. FOR SENSOR SERVING AC#1, COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. SEE DETAIL S/M-501 FOR REQUIRED TRANSITION GEOMETRY. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITHOUT TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITH TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).
- RUSKIN MDRS25 MVD W/LOCKING QUADRANT HANDLE.
- SEE ELEVATIONS ON M-201 FOR CJ FAN DUCTING REQUIREMENT.
- INSTALL LEFT SIDE OF HOOD FLUSH WITH FINISHED EDGE OF PASS-THRU OPENING.
- INSTALL RIGHT SIDE OF HOOD WITH FINISHED EDGE OF PASS-THRU OPENING.
- CEILING MOUNTED RECIRCULATING FAN. DUCT AND DISCHARGE ABOVE CEILING.
- MOUNT AIR DOOR IN CEILING, CENTERED ON DRIVE-THRU/MFA DOOR OPENING. REFER TO WIRING DIAGRAM ON SHEET E-702 FOR MORE INFORMATION.
- ELECTRIC HEATER, MC TO MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
- PULL STATION FOR KITCHEN EXHAUST HOOD MOUNTED 42" TO 48" A.F.F. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT ELEVATIONS. JUNCTION BOX AND CONDUIT PROVIDED BY ELECTRICAL CONTRACTOR. PROVIDE PLASTIC ENGRAVED LABEL - RED WITH 1" HIGH WHITE LETTERING. LABELS SHALL BE AS FOLLOWS: HOOD #1 - "MAIN COOKLINE", HOOD #2 - "PASS THRU - RIGHT", HOOD #3 - "PASS THRU - LEFT".
- MAXIMUM HEATING AND COOLING AIRFLOWS INDICATED. SET MINIMUM AIRFLOW TO 25 CFM.
- TAKE OFF WITH DAMPER AT THE BOTTOM OF DUCTWORK, TYP.

**CHICK-FIL-A**  
**NEW RESTAURANT**  
850 NL ROGERS WELLS BLVD  
GLASGOW, KY 42141

**FSR #05821**

BUILDING TYPE / SIZE: SSAM LS BP  
RELEASE: 24.02  
PRINTED FOR:  
**PERMIT**

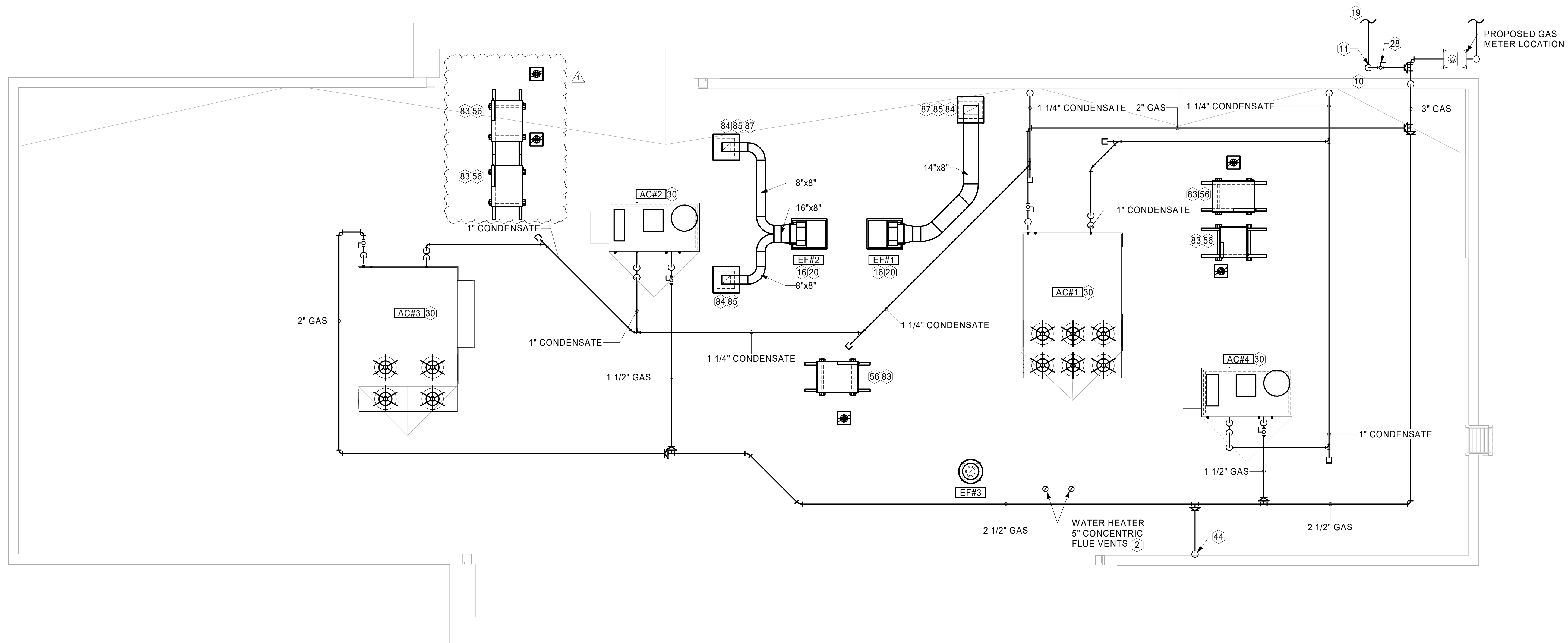
REVISION SCHEDULE		
NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 16-24-60003  
DATE 09/11/2024  
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SHEET  
**EQUIPMENT AND DUCTWORK PLAN - LENNOX**  
SHEET NUMBER

**M-101L**

9/10/2024 11:04:49 AM Autodesk Docs://KY\_06821\_Glasgow FSU\_2024\_5\_FSR#05821\_Glasgow KY\_FSU\_MEC.rvt  
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 30-LS-16-24-6003-M-102L-EQUIPMENT ROOF PLAN - LENNOX



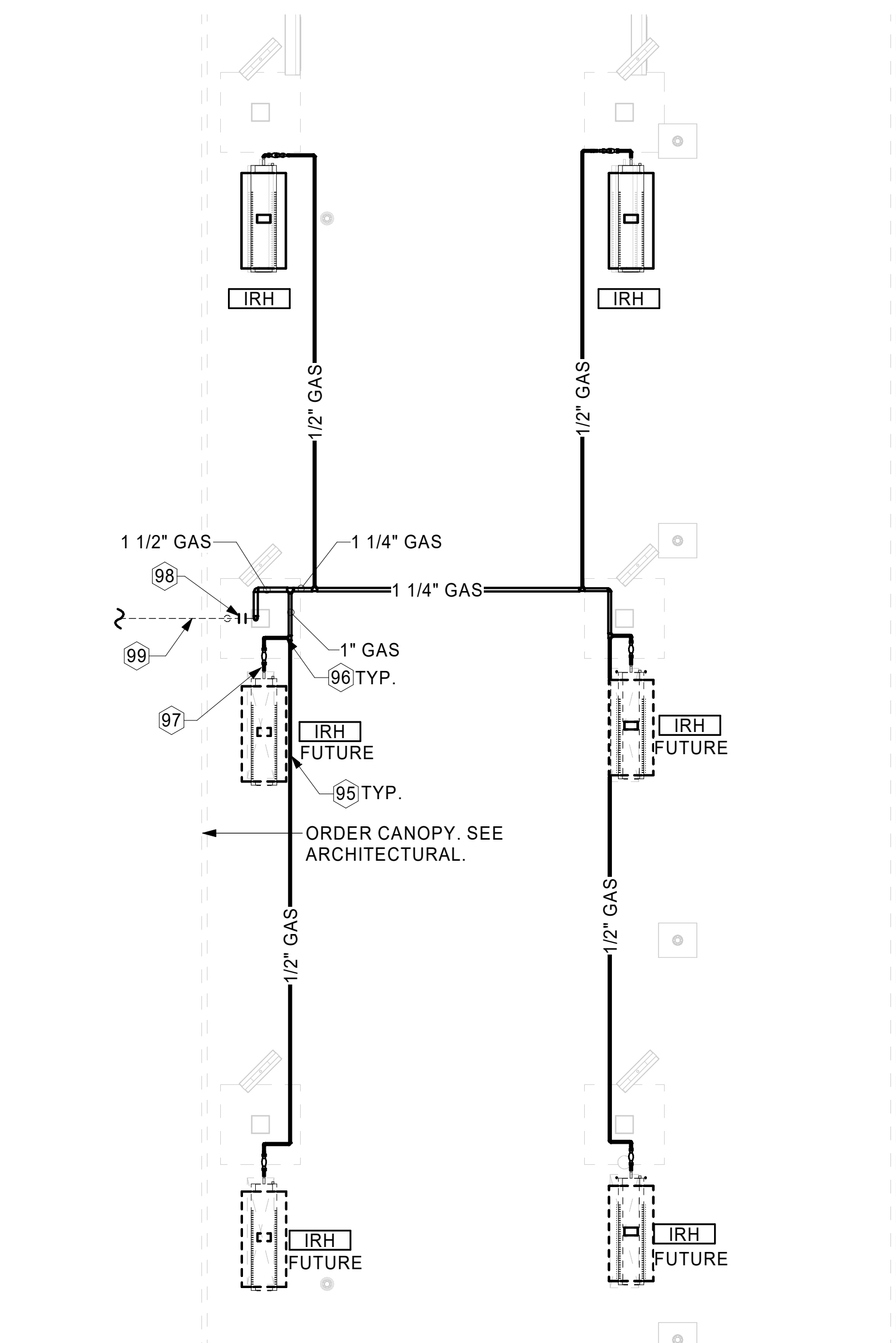
**1 EQUIPMENT ROOF PLAN - LENNOX**  
1/4" = 1'-0"

**KEY NOTES**

- 2 PROVIDE DUCT AS SHOWN. TERMINATE DUCT 24" ABOVE ROOF WITH ALUMINUM WEATHER CAP WITH INTEGRAL BIRD SCREEN. EXHAUST DUCT DISCHARGE SHALL BE LOCATED A MINIMUM OF 10 FT FROM ANY OUTSIDE AIR INTAKE.
- 10 TURN 3" GAS UP WITHIN WALL, THRU PARAPET AND ONTO ROOF.
- 11 ROUTE POLYETHYLENE GAS BELOW GRADE FROM THE METER. FOR TRANSITION FROM POLYETHYLENE PIPING BELOW GRADE TO STEEL AT THE METER, INSTALL ANODELESS RISER WITH INTEGRAL CONSTAB PE-TO-IPS TRANSITION FITTING BY CONTINENTAL INDUSTRIES OR EQUAL BY ELSTER.
- 16 FABRICATE DISCHARGE AIR NOZZLE. VERIFY EXHAUST TERMINATION IS A MINIMUM 10'-0" FROM PARAPETS AND OUTSIDE AIR INTAKES. REFER TO H-1.4 FOR DETAILS.
- 19 1-1/2" GAS BELOW GRADE TO ORDER CANOPY. SEE DETAIL 2 THIS SHEET.
- 20 GREASE EXHAUST DUCT LOCATED ON ROOF SHALL SLOPE 1/4" PER FOOT TOWARDS THE HOOD, THE FAN, OR A COMBINATION OF THE TWO SUCH THAT NO PORTION OF THE RADIUS ELBOW AT THE CURB IS BELOW THE CURB CAP AND SUCH THAT THE FAN BASE SETS DIRECTLY ON THE CURB RAILS. THE BOTTOM OF THE RADIUS ELBOW MAY BE EVEN OR FLUSH WITH THE CURB CAP, BUT NOT BELOW THE CAP. THE DUCT AT THE FAN MUST BE CENTERED ON THE FAN INLET.
- 28 PROVIDE FULL PORT BALL VALVE EQUAL TO APOLLO 50GB SERIES WITH WINGS HANDLE OPTION ABOVE GRADE AT THE METER. PROVIDE BRASS VALVE TAG WITH JACK CHAIN AT VALVE MARKED "SERVICE SHUTOFF FOR CANOPY HEATERS." LOCATE SHUTOFF VALVE TO BE EASILY ACCESSIBLE FROM GROUND LEVEL.
- 30 MECHANICAL CONTRACTOR TO SEE ARCHITECTURAL ROOF PLAN FOR NOTES REGARDING LEVELING FRAMES FOR RTUS. COORDINATE WITH GENERAL CONTRACTOR EXACT LOCATIONS AND SIZE NEEDED.
- 44 1-1/2" GAS DOWN THRU ROOF TO WATER HEATER. SEE DETAIL 3/P-502 FOR MORE INFORMATION ON CONSTRUCTION AND PENETRATION. WHEN CONTRACTOR OPTS TO PROVIDE ALTERNATIVE WATER-HEATER, INCREASE PIPE SIZE AS NEEDED PER CODE.
- 56 GC SHALL PROVIDE EQUIPMENT STANDS AS MANUFACTURED BY AVCOA OR EQUAL. STANDS SHALL BE INSTALLED PRIOR TO ROOF INSULATION SO THAT THE INSULATION IS CONTINUOUS UP TO THE PIPE POSTS. POSTS SHALL BE FLASHED IN ACCORDANCE WITH ROOFING MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE BLOCKING BELOW THE ROOF DECK AS REQUIRED.
- 83 DO NOT DIRECT DISCHARGE OF CONDENSING UNITS INTO CONDENSER SECTION OF ROOFTOP UNITS, TYP.
- 84 ROOF CURB FOR DUCT PENETRATION. REFER TO MH-1.3 AND MH-1.4 FOR DETAILS.
- 85 TURN DOWN THRU ROOF. SEE M-101/LM-101T FOR CONTINUATION.
- 87 DUCT PENETRATIONS ON ROOF MUST BE AT LEAST 18" FROM ADJACENT PARAPETS.
- 95 GAS PIPING TO BE ROUTED ABOVE CANOPY, ON TOP OF STRUCTURAL MEMBERS, EXCEPT WHERE ROUTED DOWN THROUGH PENETRATIONS AS INDICATED.
- 96 GAS PIPING DOWN THROUGH DECK. WEATHERPROOF DECK PENETRATION PER DETAIL 6/M-503, TYPICAL.
- 97 SEE DETAIL 1/M-503 FOR PIPING AT IRH, TYPICAL.
- 98 GAS TRANSITION FITTING TO GAS PIPE STUB-OUT LOCATED IN GAS PIPE COVER AT CANOPY COLUMN. GAS PIPING INSIDE COLUMN AND STUB-OUTS BY CANOPY MFR. PROVIDE FULL PORT BALL VALVE EQUAL TO APOLLO 50GB SERIES WITH WING HANDLE OPTION ABOVE GRADE LOCATED IN GAS PIPE COVER. REFERENCE DETAIL 9/M-503. PROVIDE BRASS VALVE TAG WITH JACK CHAIN AT VALVE MARKED "SERVICE SHUTOFF FOR CANOPY". FOR TRANSITION TO POLYETHYLENE PIPING B/G TO STEEL ABOVE GRADE, INSTALL ANODELESS RISER WITH INTEGRAL CONSTAB PE-TO-IPS TRANSITION FITTING BY CONTINENTAL INDUSTRIES OR EQUAL BY ELSTER.
- 99 1-1/2" GAS B/G TO METER SEE 1/M-102L OR 1/M-102T.

3. GAS LOAD SCHEDULE	
EQUIPMENT	GAS LOAD
AC#1	480,000 BTUS
AC#2	150,000 BTUS
AC#3	480,000 BTUS
AC#4	150,000 BTUS
IRH (2 @ 50,000 BTU EA.)	100,000 BTUS
IRH (FUTURE 4 @ 50,000 BTU EA.)	200,000 BTUS
WATER HEATER	398,000 BTUS
<b>TOTAL BASIS OF DESIGN LOAD</b>	<b>1,758,000 BTUS</b>
<b>TOTAL FUTURE CONNECTED LOAD</b>	<b>1,958,000 BTUS</b>
REMARKS:	1. EQUIVALENT TO 1,958.0 CFH 2. 7" W.C. DELIVERY PRESSURE 3. DEVELOPED LENGTH: 200 FT. (METER TO AC#2) 4. GAS PIPING SIZED FOR FUTURE LOAD

SEISMIC NOTES	
1.	OCCUPANCY CATEGORY II (SEISMIC DESIGN CATEGORY C) A. LIFE SAFETY COMPONENTS (Ip = 1.5) B. HIGH HAZARD COMPONENTS (ALL GAS FIRED COMPONENTS; INDOOR AND OUTDOOR) (Ip = 1.5) C. COMPONENTS AFFECTED BY CONSEQUENTIAL DAMAGE (Ip = 1.0)
2.	SEISMIC DESIGN CATEGORY A. SEISMIC PROTECTION FOR SEISMIC CONCERNS OF ALL MECHANICAL AND ELECTRICAL SYSTEMS SHALL MEET THE MINIMUM REQUIREMENTS OF THE LOCAL BUILDING CODE FOR THE SEISMIC DESIGN CATEGORY AS DESCRIBED IN THE STRUCTURAL DRAWINGS.
3.	CONTRACTOR RESPONSIBILITIES A. SECURE THE SERVICES OF AND COORDINATE WITH THE SEISMIC RESTRAINT MANUFACTURER, INCLUDING ALL SHOP DRAWINGS, EQUIPMENT CUT SHEETS AND OTHER DATA REQUIRED BY THE SEISMIC RESTRAINT MANUFACTURER FOR THEIR SEISMIC DESIGN WORK. B. INSTALL SEISMIC RESTRAINTS EQUIPMENT SPECIFIED BY THE SEISMIC RESTRAINT MANUFACTURER IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS PROVIDED BY THE SEISMIC RESTRAINT MANUFACTURER. C. A REGISTERED PROFESSIONAL ENGINEER HAVING A PE FROM THE SAME STATE AS THE PROJECT, OR STATE OF RESTRAINT MANUFACTURER SHALL STAMP ALL ANALYSIS, OR AS REQUIRED BY LOCAL BUILDING CODES.



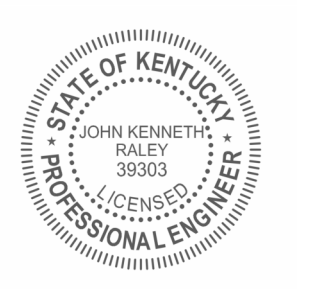
**2 ORDER CANOPY GAS PIPING PLAN**  
1/4" = 1'-0"



**Chick-fil-A**  
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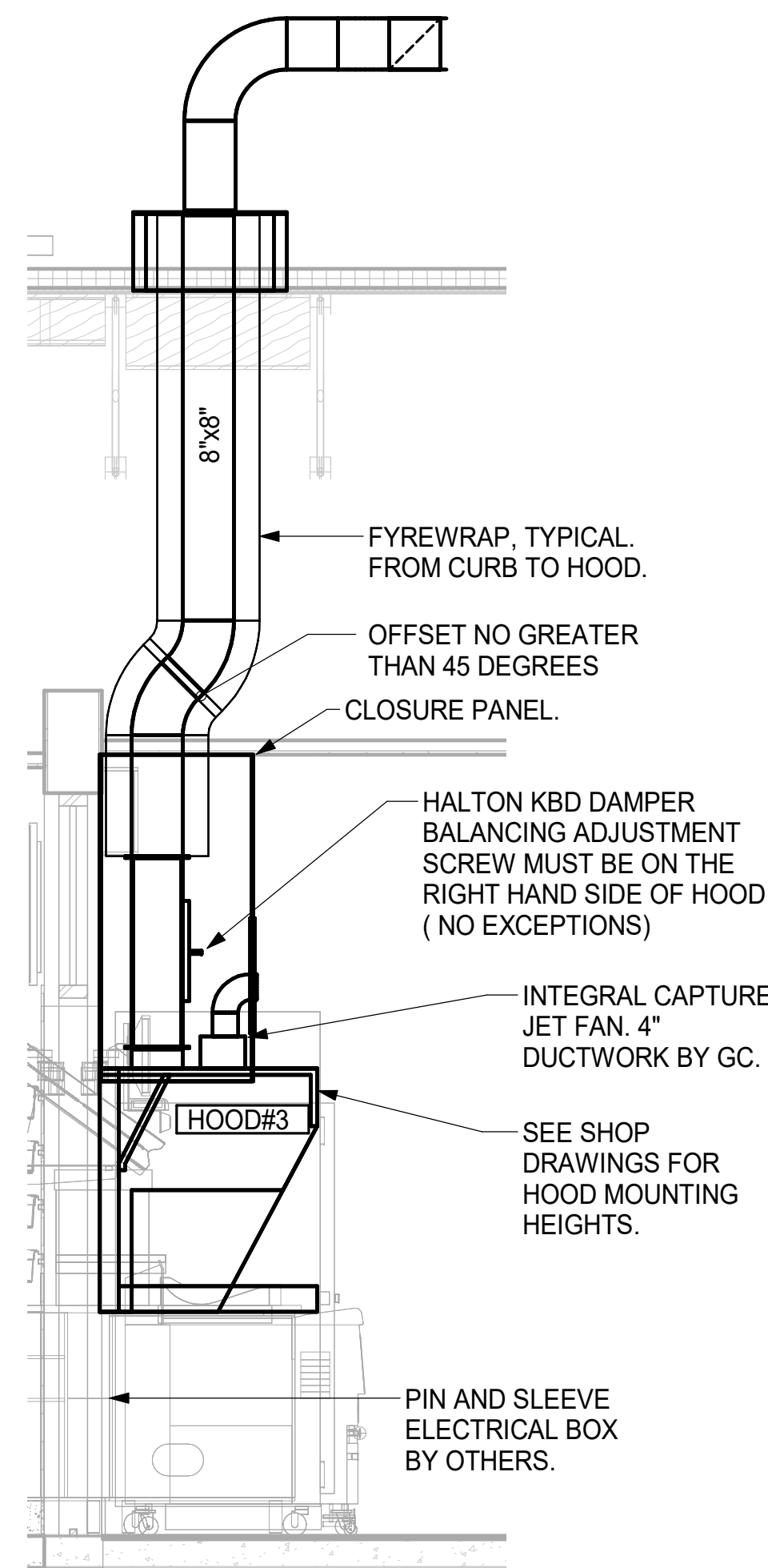
**FSR#05821**  
 BUILDING TYPE / SIZE: SSAM LS BP  
 RELEASE: 24.02  
 PERMIT FOR  
 REVISION SCHEDULE  
 NO. DATE DESCRIPTION  
 1 REV 01

CONSULTANT PROJECT # 16-24-60003  
 DATE 09/11/2024  
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**EQUIPMENT ROOF PLAN - LENNOX**  
 SHEET NUMBER  
**M-102L**

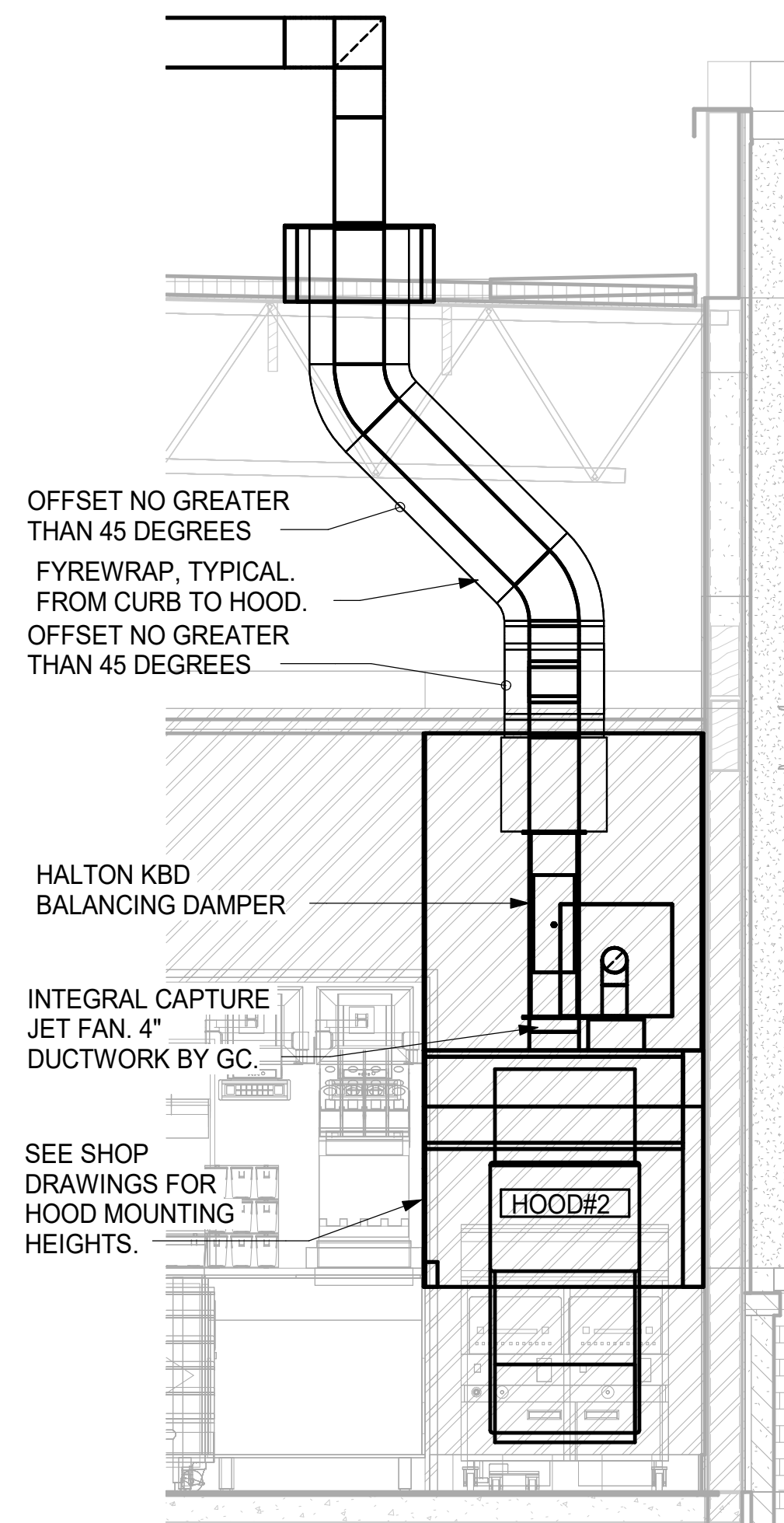
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 30-LS-16-24-60003-M-201-EXHAUST HOOD ELEVATIONS

**GREASE EXHAUST DUCT CLEARANCE NOTE:**  
 CLEARANCES ABOVE CEILING ARE TIGHT. MECHANICAL CONTRACTOR TO FIELD VERIFY EXACT ROUTING AND CLEARANCES PRIOR TO FABRICATING GREASE EXHAUST DUCT.

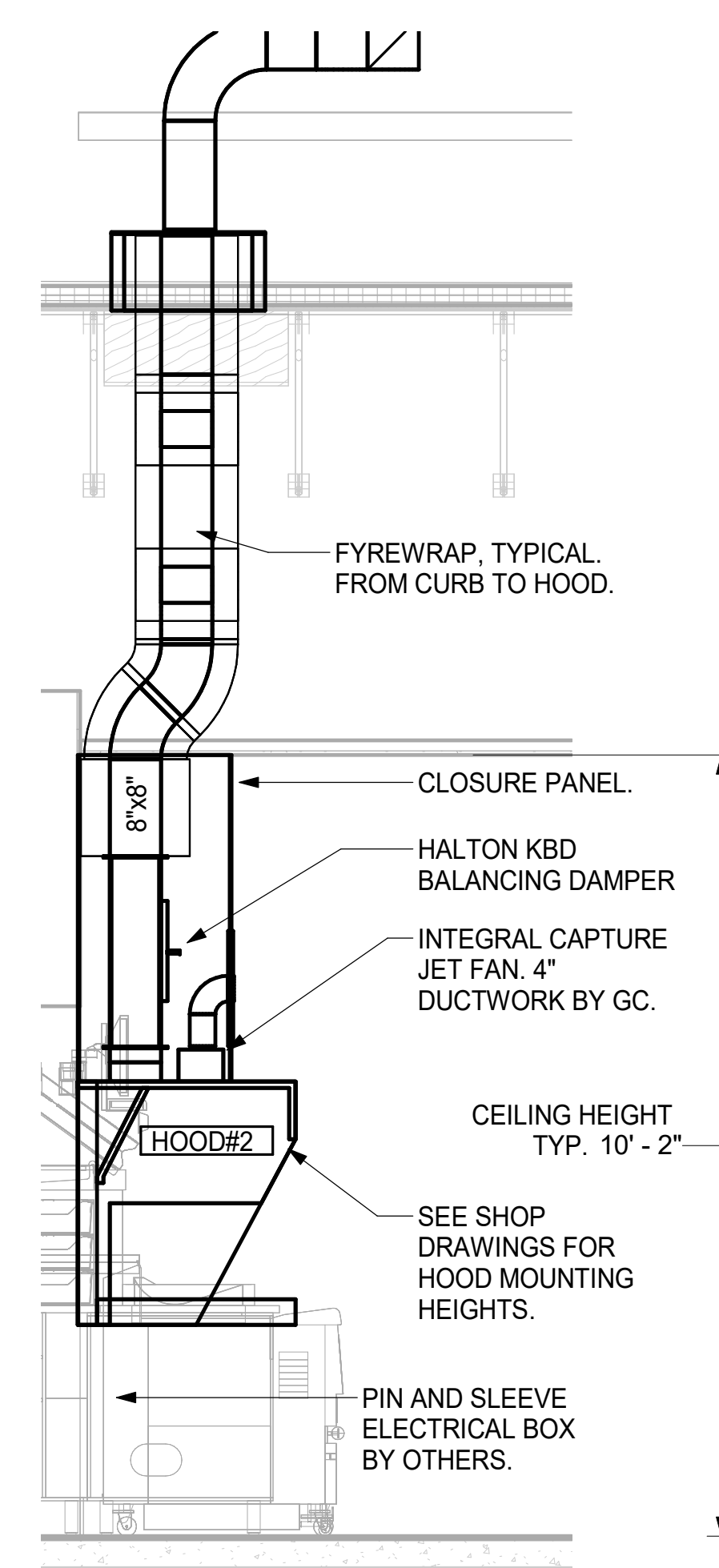
**CLEANOUT DOOR NOTE:**  
 DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS. NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.



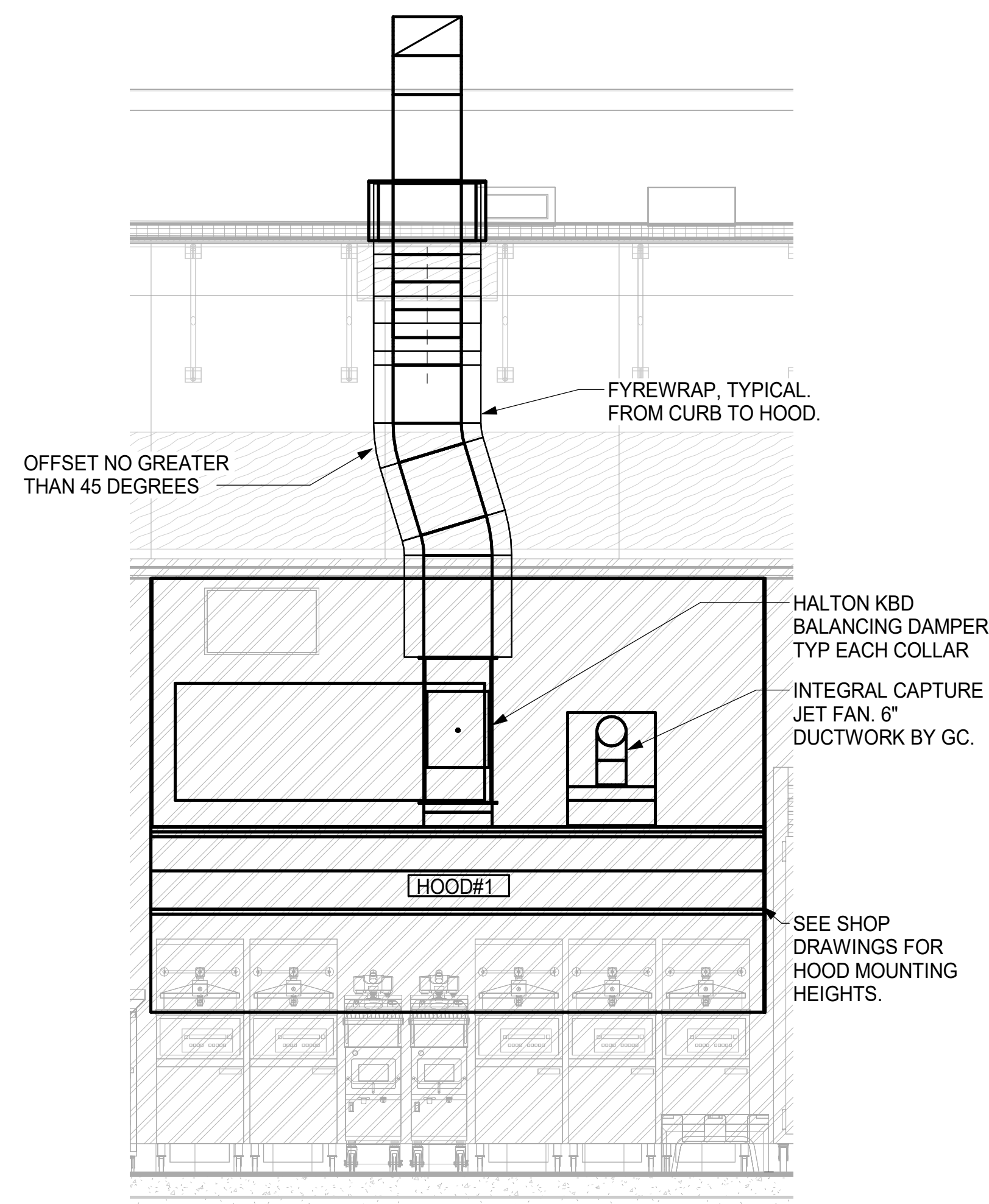
5 HOOD ELEVATION - HOOD#3  
 NOT TO SCALE



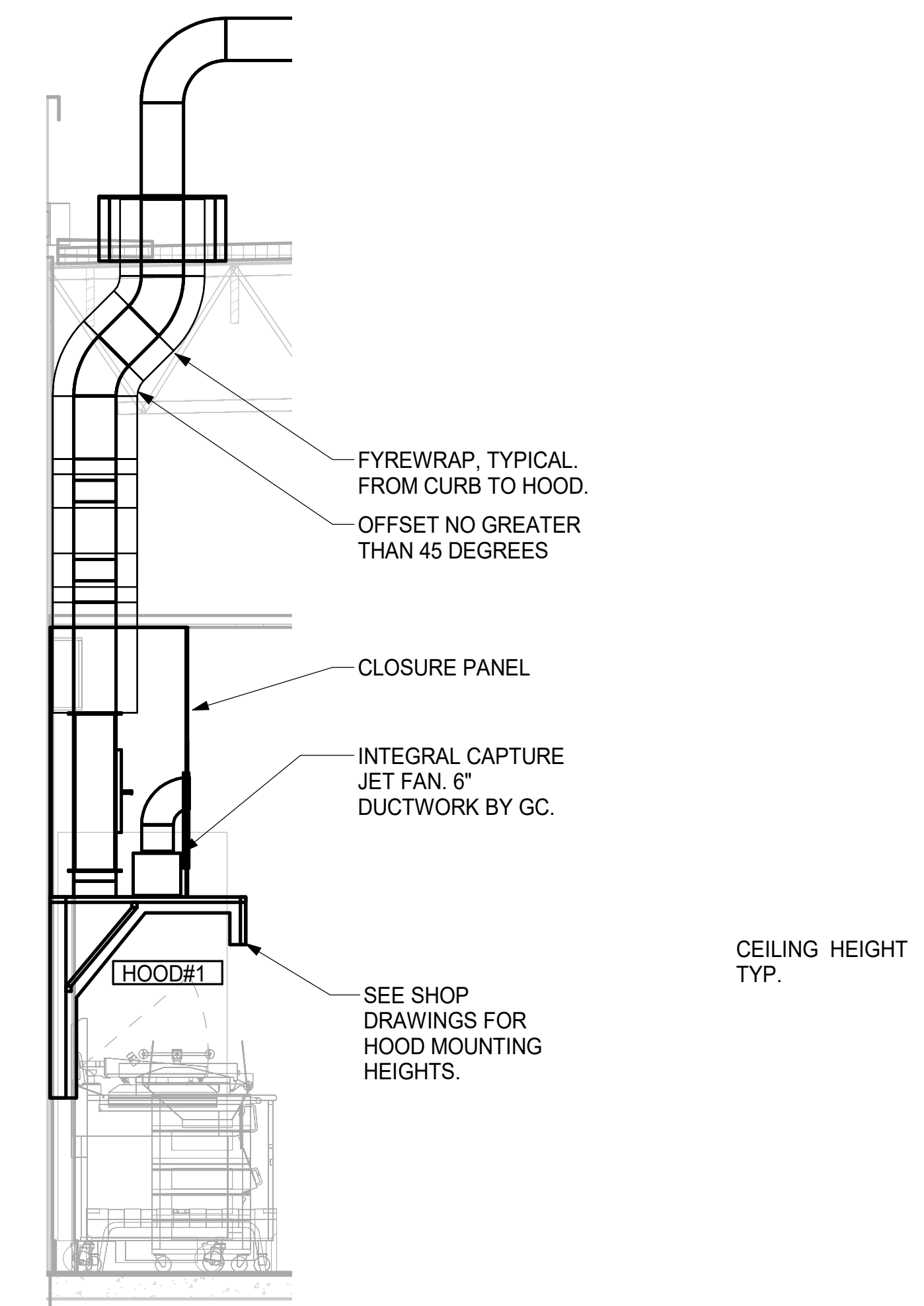
4 HOOD ELEVATION - HOOD#2 - FRONT  
 NOT TO SCALE



3 HOOD ELEVATION - HOOD#2 - SIDE  
 NOT TO SCALE



2 HOOD ELEVATION - HOOD#1 - FRONT  
 NOT TO SCALE



1 HOOD ELEVATION - HOOD#1 - SIDE  
 NOT TO SCALE



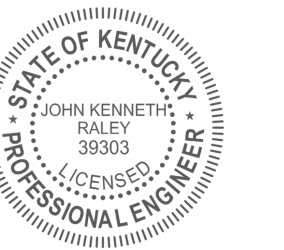
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**CHICK-FIL-A**  
**NEW RESTAURANT**  
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 GLASGOW, KY 42141

**FSR #05821**

BUILDING TYPE / SIZE: SSAM LS BP  
 RELEASE: 24.02

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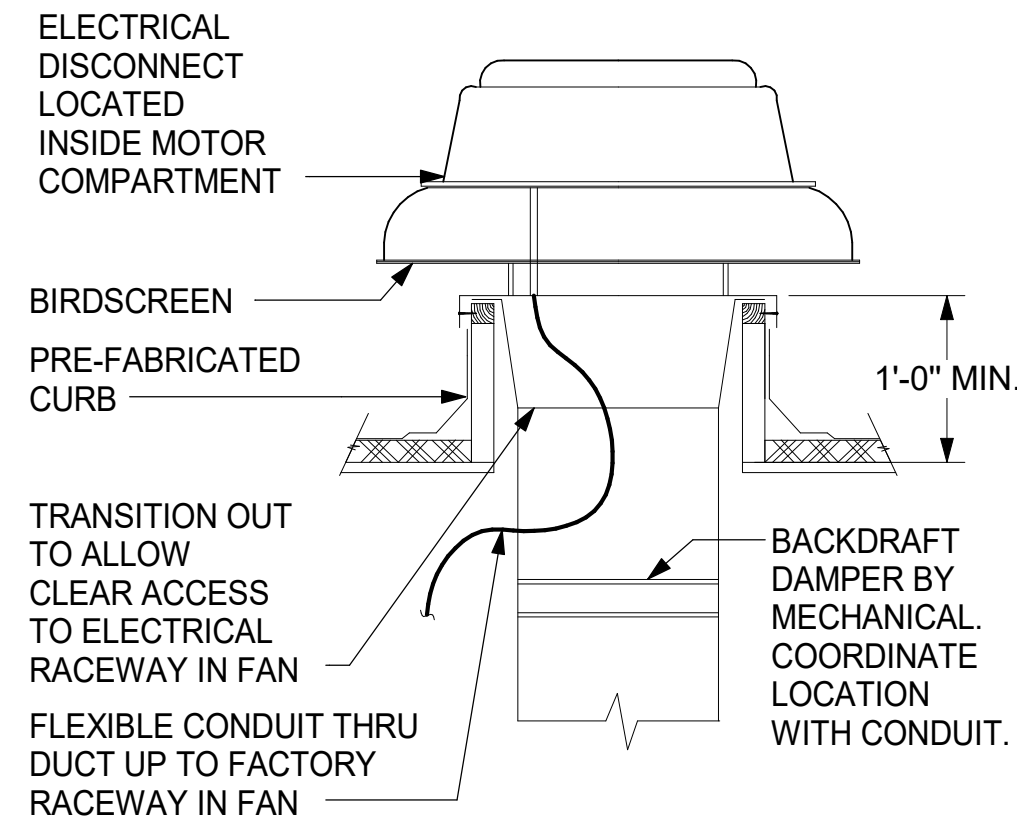
SHEET EXHAUST HOOD ELEVATIONS

SHEET NUMBER

**M-201**

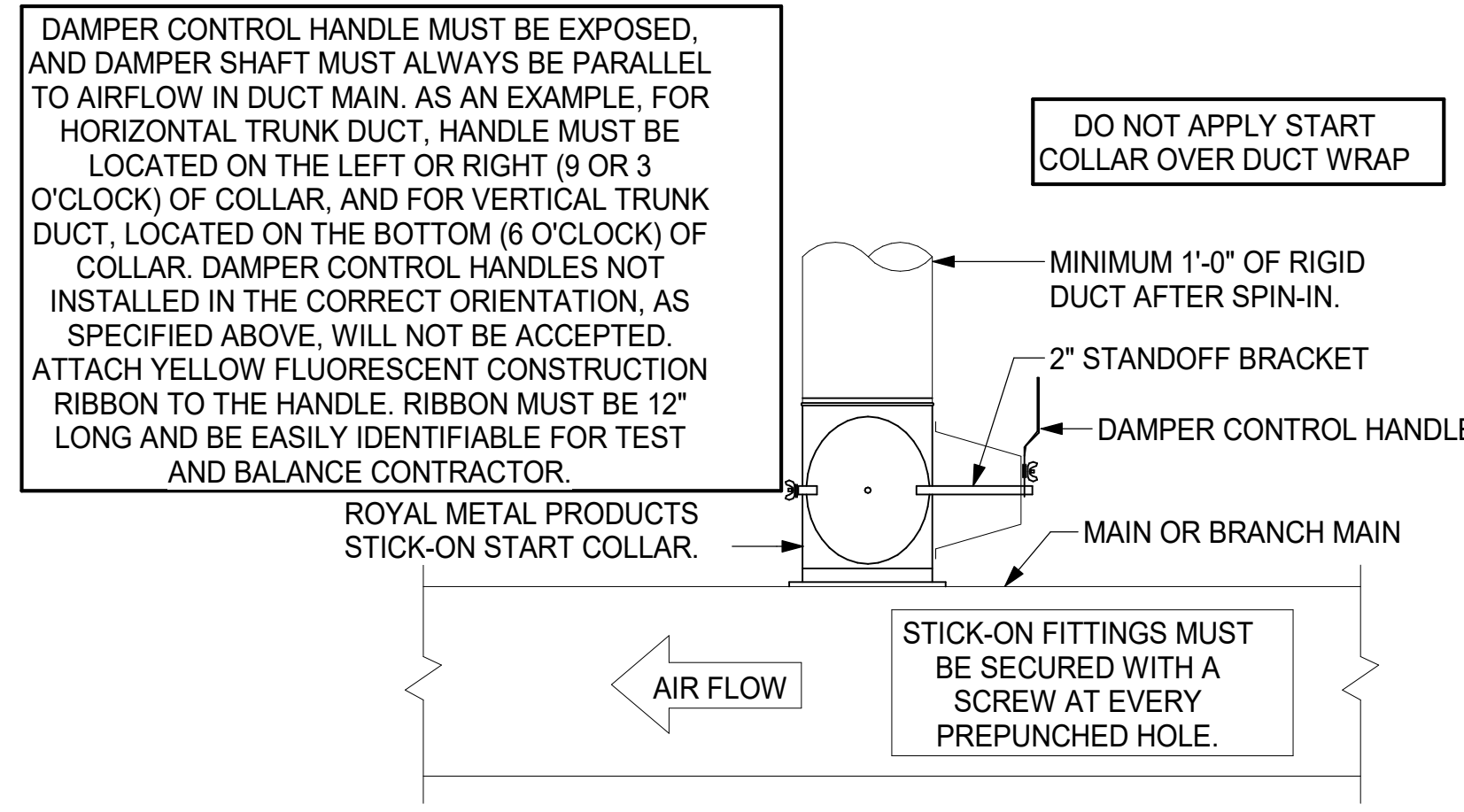
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30-LS-16-24-60003-M-501-DETAILS

SECURE FAN TO CURB WITH SHEET METAL SCREWS (#10 x 1-1/2") 6" O.C. ALL AROUND

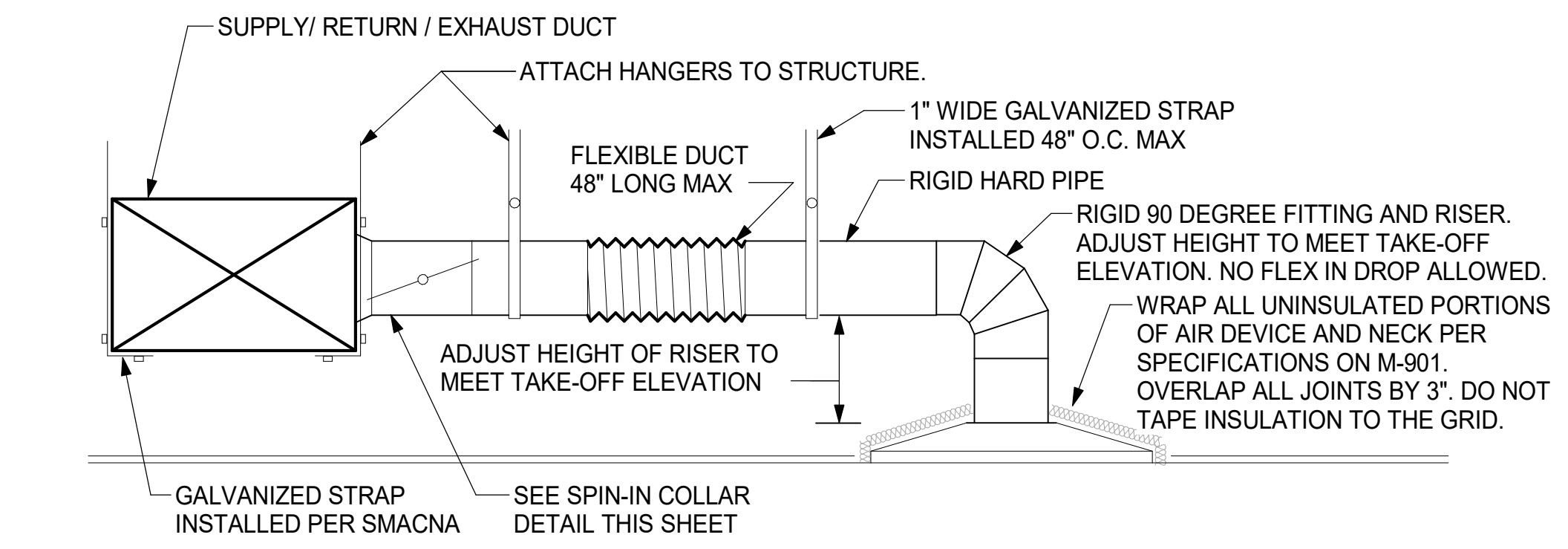


**3 RESTROOM EXHAUST FAN**  
NOT TO SCALE

CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE ROYAL METAL PRODUCTS START COLLARS FOR BOTH WITH AND WITHOUT A MANUAL BALANCING DAMPER. THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE ROYAL METAL PRODUCTS START COLLARS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. ROYAL METAL PRODUCTS START COLLARS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

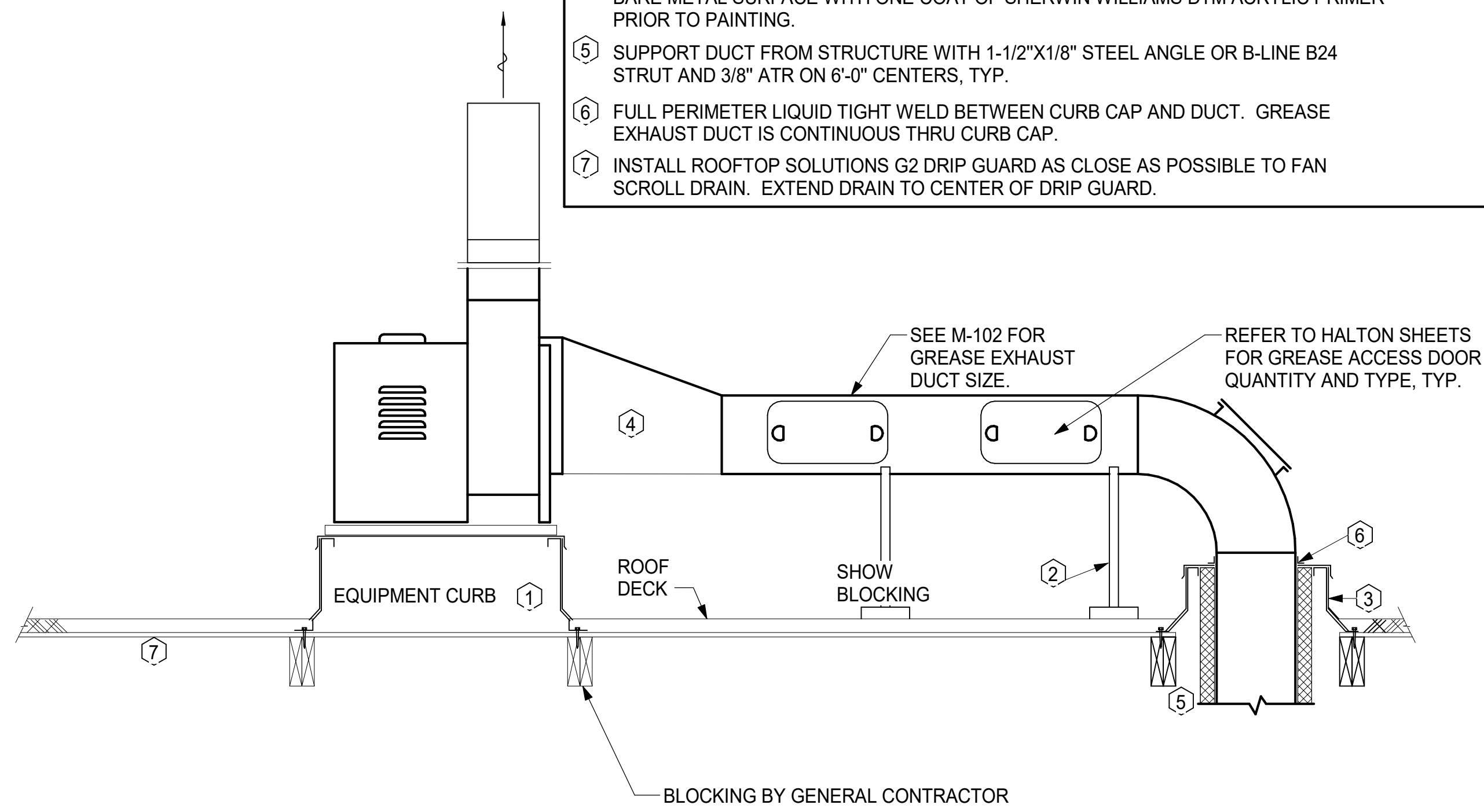


**2 START COLLAR**  
NOT TO SCALE

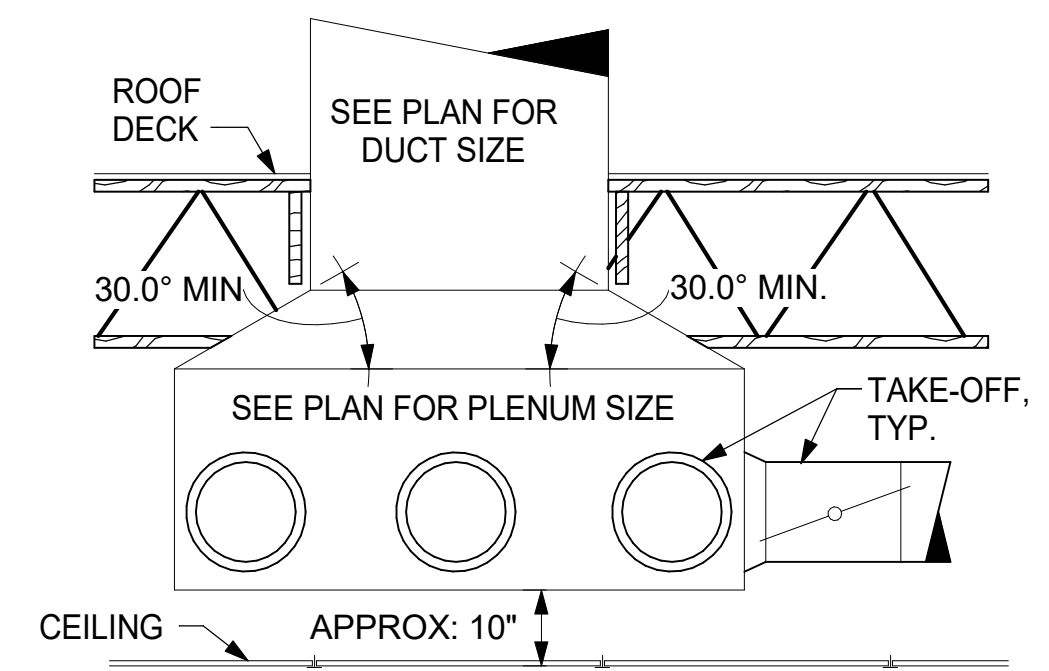


**1 SAG/RAG/GRILLE TAKE-OFF**  
NOT TO SCALE

- KEYED NOTES:**
- 22" EQUIPMENT CURB FURNISHED BY HALTON.
  - DUCT SUPPORT SHALL BE PROVIDED EVERY 8', AND WITHIN 12" OF ANY FITTING OR WELD SEAM. SUPPORTS SHALL BE SECURELY ATTACHED TO THE STRUCTURE AND DESIGNED TO CARRY GRAVITY, WIND, AND SEISMIC LOADS PER CODE.
  - 12" HIGH INSULATED CURB FURNISHED BY HALTON. MECHANICAL CONTRACTOR TO PROVIDE MINIMUM 18 GA STAINLESS STEEL CURB CAP AND FLASHING.
  - ALL DUCTWORK AND UNFINISHED METAL ON ROOF EXCEPT STAINLESS SHALL BE PREPARED WITH TWO COATS OF SHERWIN WILLIAMS B66-200 SERIES DTM WHITE ACRYLIC SEMI-GLOSS INDUSTRIAL MAINTENANCE COATING. DEGREASE AND PRIME BARE METAL SURFACE WITH ONE COAT OF SHERWIN WILLIAMS DTM ACRYLIC PRIMER PRIOR TO PAINTING.
  - SUPPORT DUCT FROM STRUCTURE WITH 1-1/2"x1/8" STEEL ANGLE OR B-LINE B24 STRUT AND 3/8" ATR ON 6'-0" CENTERS, TYP.
  - FULL PERIMETER LIQUID TIGHT WELD BETWEEN CURB CAP AND DUCT. GREASE EXHAUST DUCT IS CONTINUOUS THRU CURB CAP.
  - INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD AS CLOSE AS POSSIBLE TO FAN SCROLL DRAIN. EXTEND DRAIN TO CENTER OF DRIP GUARD.



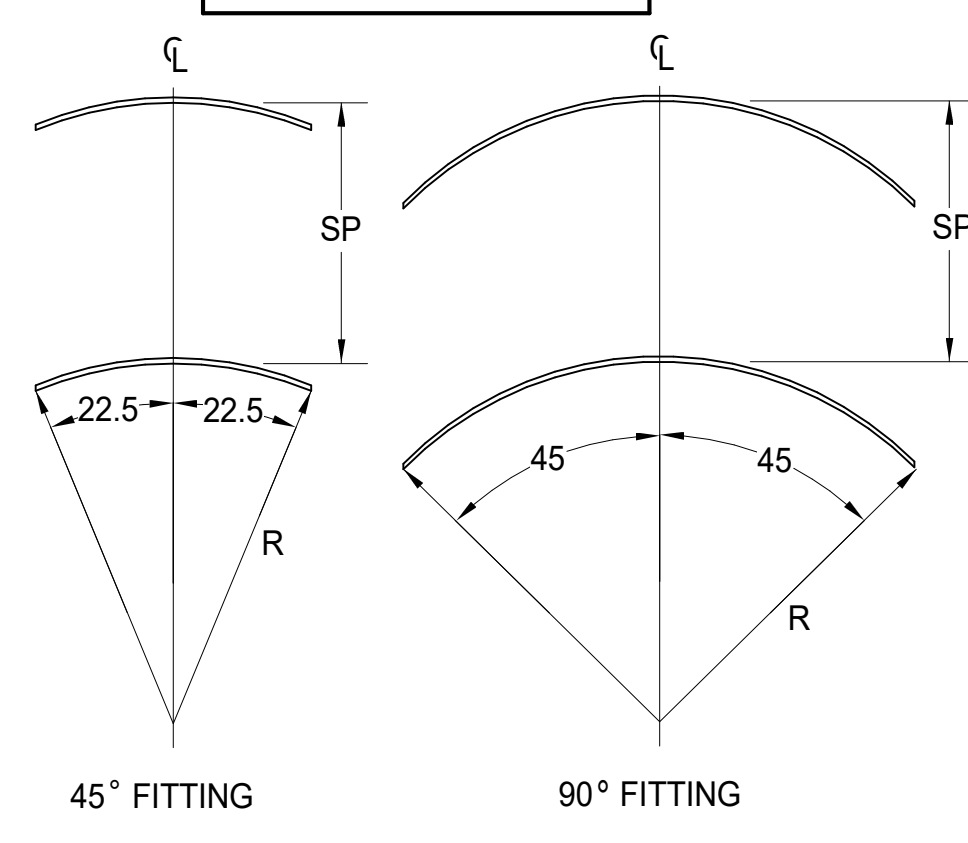
**6 KITCHEN HOOD EXHAUST FAN**  
NOT TO SCALE



**5 RETURN DROP GEOMETRY**  
NOT TO SCALE

TURNING VANE SCHEDULE		
R	SP	GA
2"	1.5"	24

1. NO TRAILING EDGE.  
2. SINGLE THICKNESS CONSTRUCTION.



**4 TURNING VANES**  
NOT TO SCALE

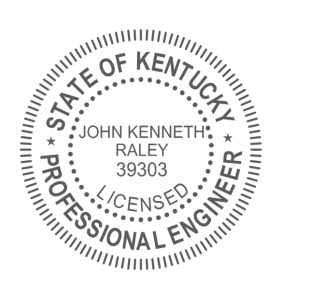


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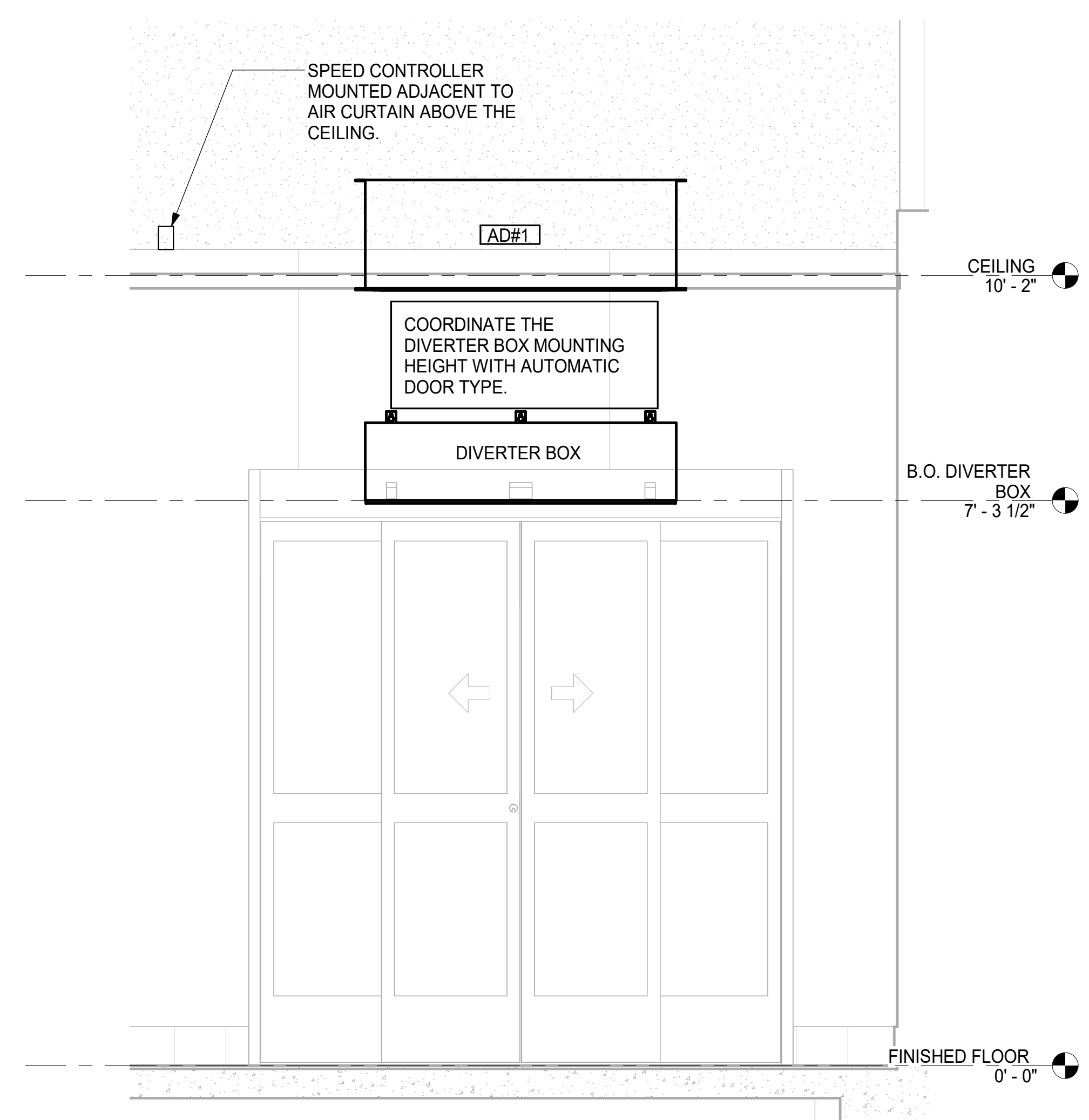
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BUILDING TYPE / SIZE: SSAM LS BP  
RELEASE: 24.02  
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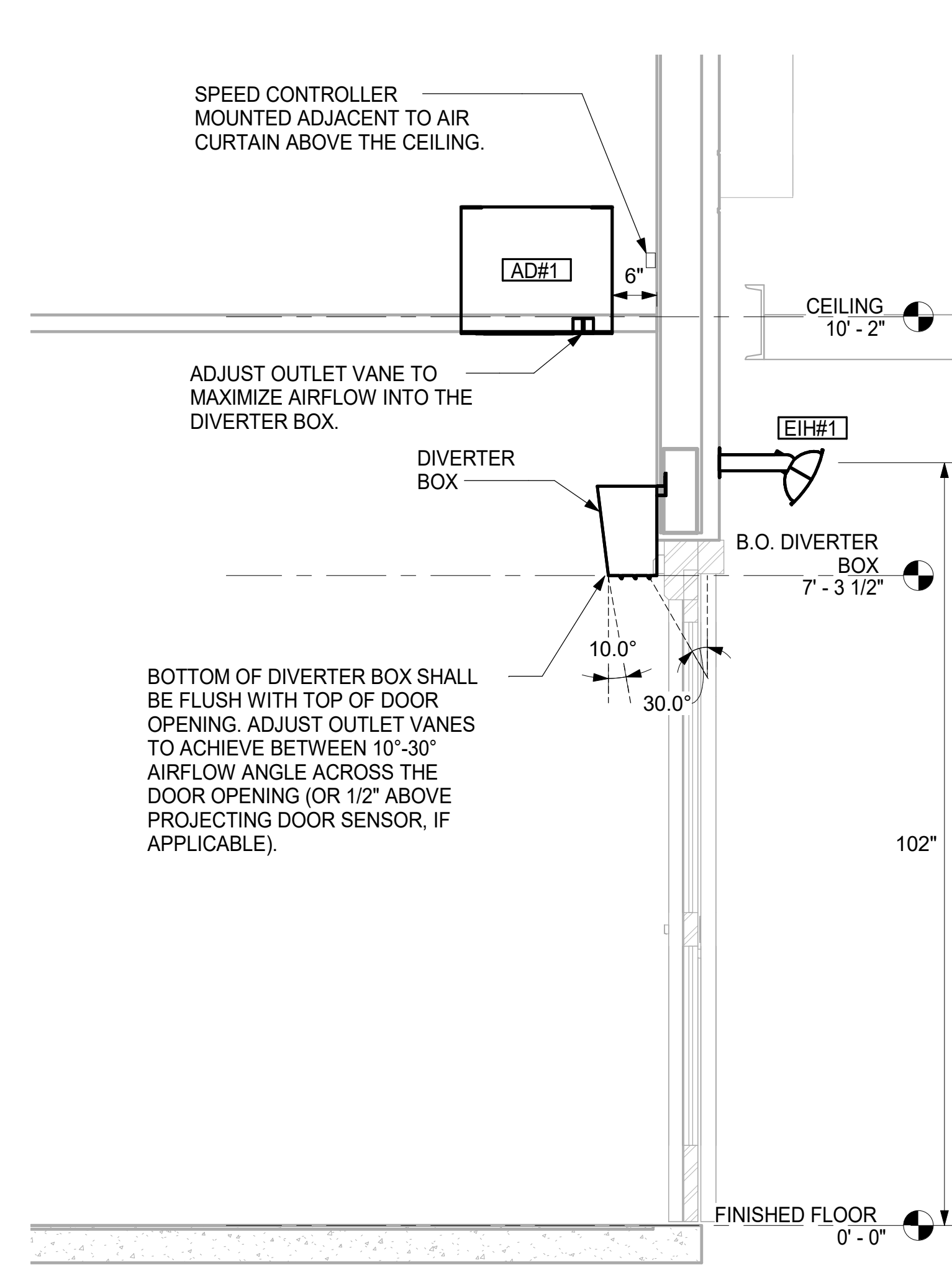
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SHEET  
**DETAILS**

SHEET NUMBER  
**M-501**

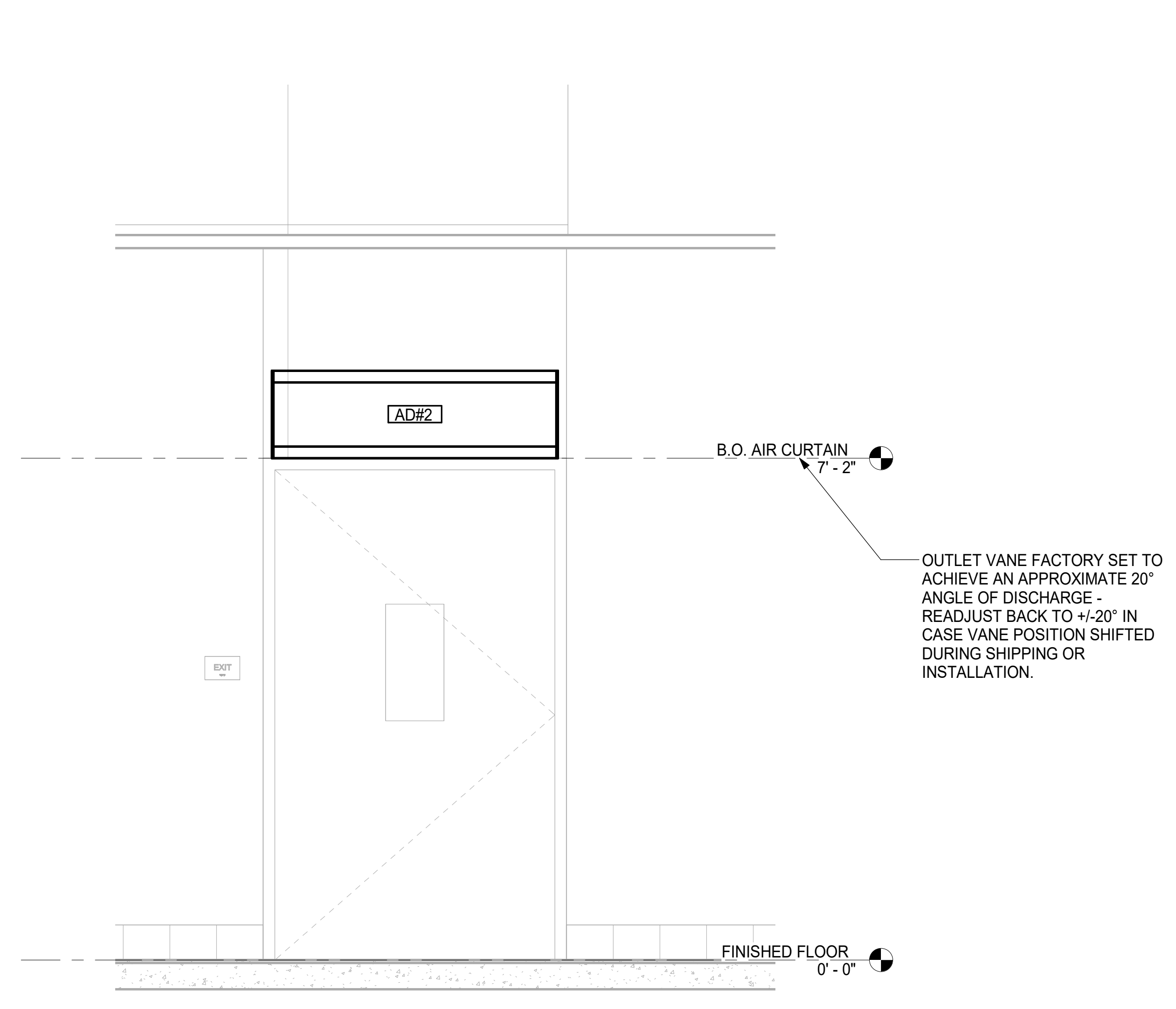
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30-LS-16-24-6003-M-502-DET/ALS



1 AD#1 FRONT VIEW  
3/4" = 1'-0"



2 AD#1 SIDE VIEW  
3/4" = 1'-0"



3 AD#2 FRONT VIEW  
3/4" = 1'-0"



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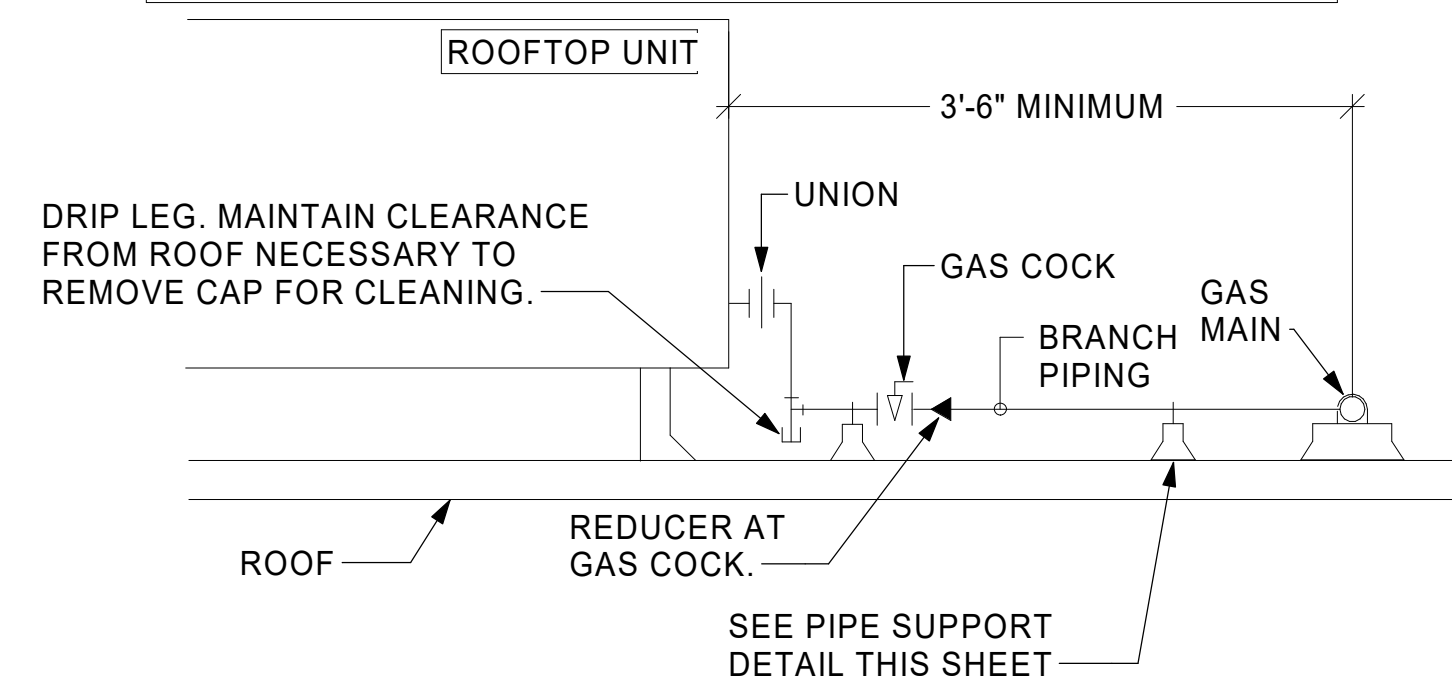
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SHEET  
**DETAILS**

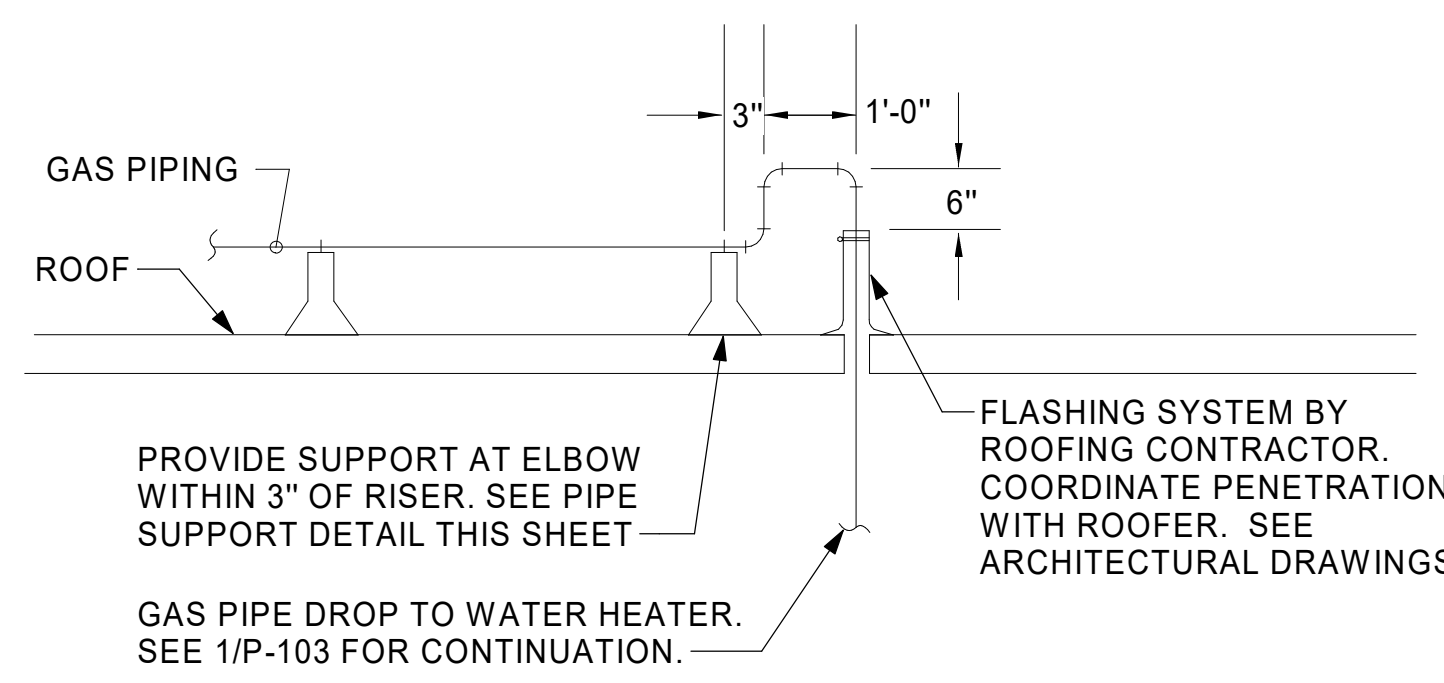
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**M-502**

- NOTES:**
1. INSTALL GAS PIPING SUCH THAT HVAC EQUIPMENT ACCESS PANELS AND/OR DOORS ARE IN NO WAY OBSTRUCTED BY PIPING, VALVES, OR SUPPORTS.
  2. TO AVOID CONFLICT WITH AC UNIT ACCESS DOORS, INSTALL GAS PIPING NO CLOSER THAN 3'-6" FROM AC UNIT. (EXCEPT FOR BRANCH LINE CONNECTED TO AC UNIT.)
  3. ROUTE BRANCH TAKE-OFF DIRECTLY FROM MAIN TO ROOFTOP UNIT AS SHOWN ON PLAN AND DETAILS WITHOUT LATERAL OFFSETS WHICH MAY OBSTRUCT UNIT ACCESS DOORS.

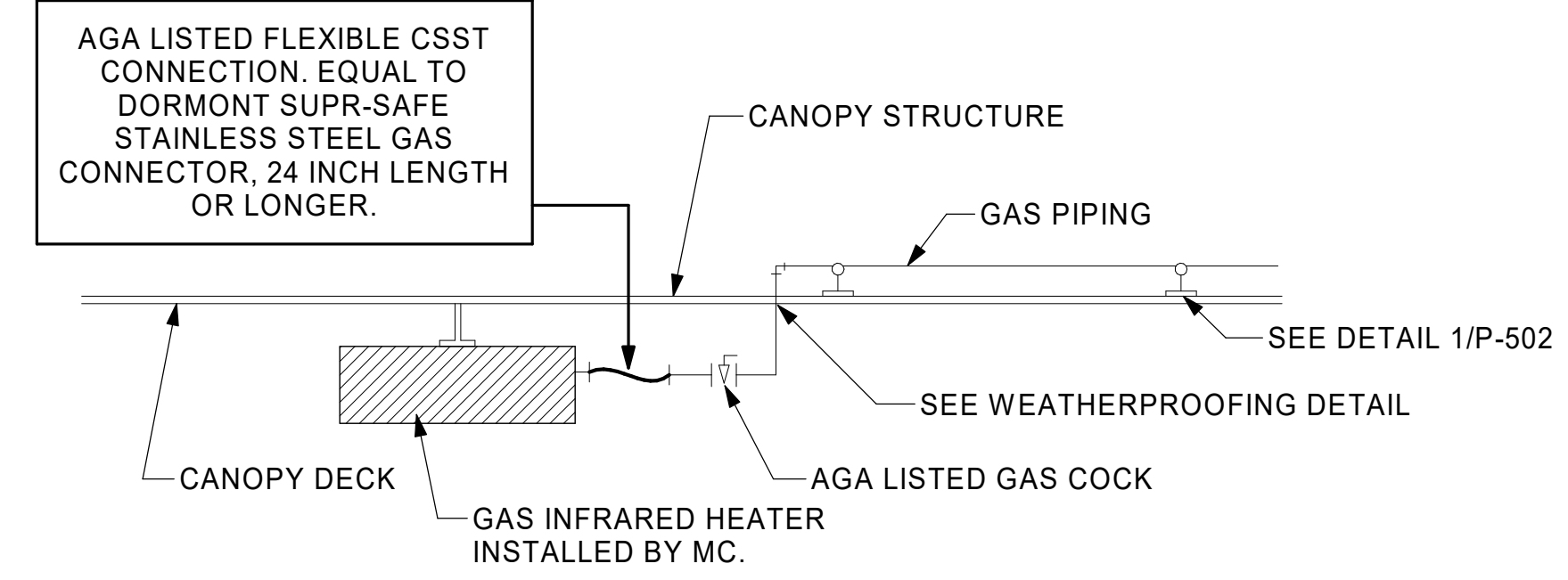


**3 GAS PIPING AT RTU**  
NOT TO SCALE

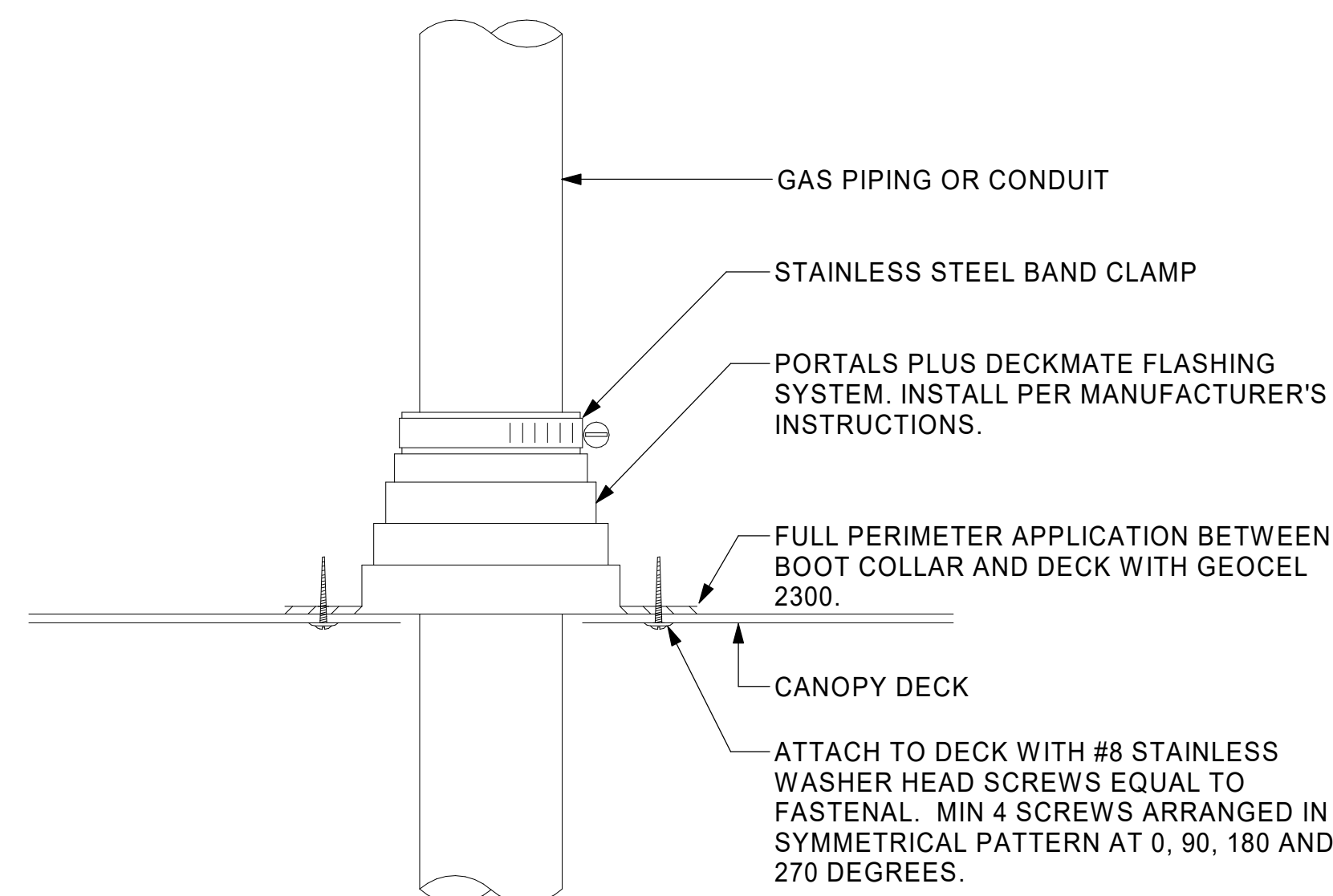
OFFSET PIPING A MINIMUM OF 6" ABOVE TOP EDGE OF FLASHING.



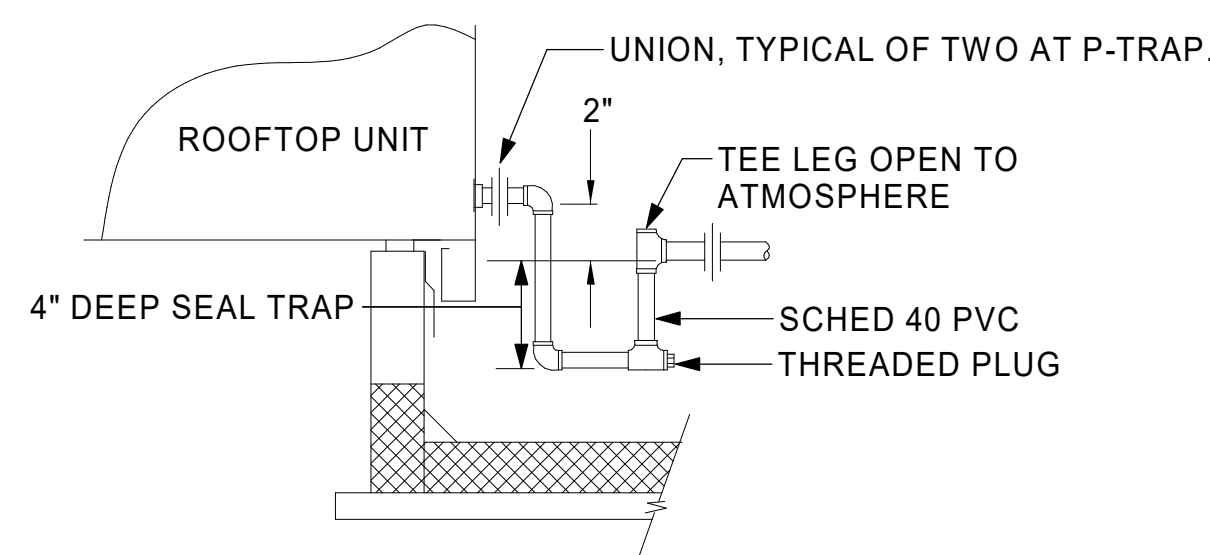
**2 GAS PIPE DROP TO WATER HEATER**  
NOT TO SCALE



**1 GAS CONNECTION AT APPLIANCE**  
NOT TO SCALE

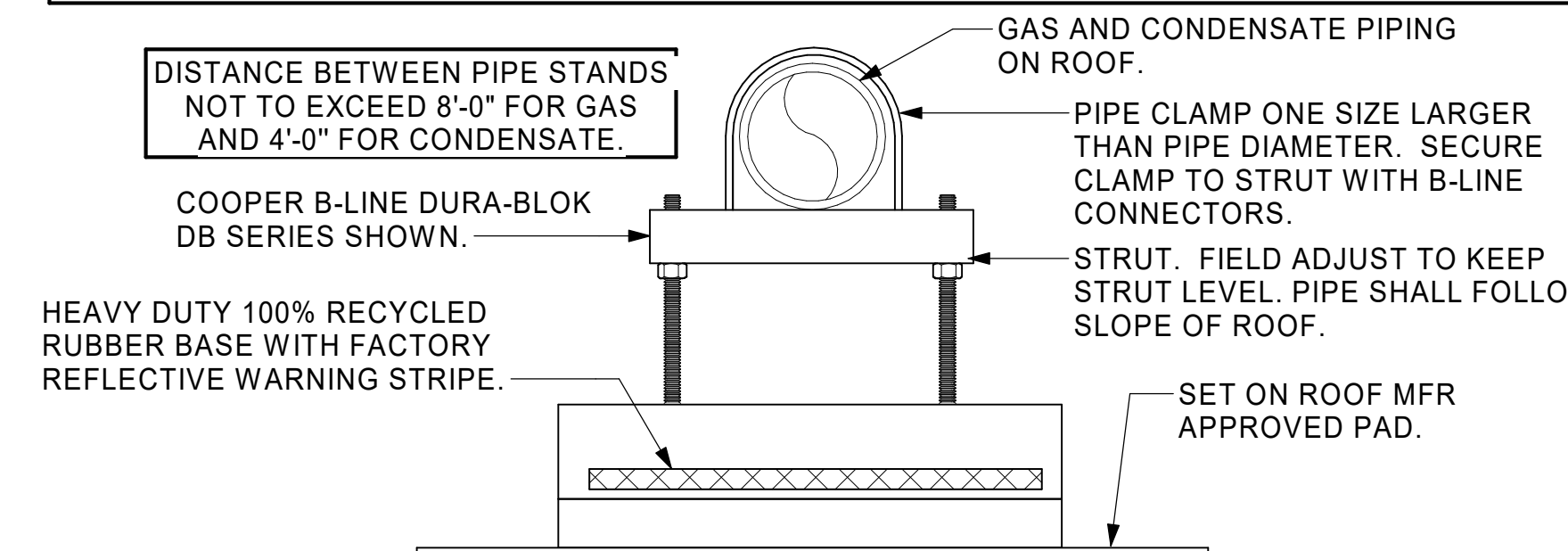


**6 WEATHERPROOFING AT CANOPY PENETRATION**  
NOT TO SCALE

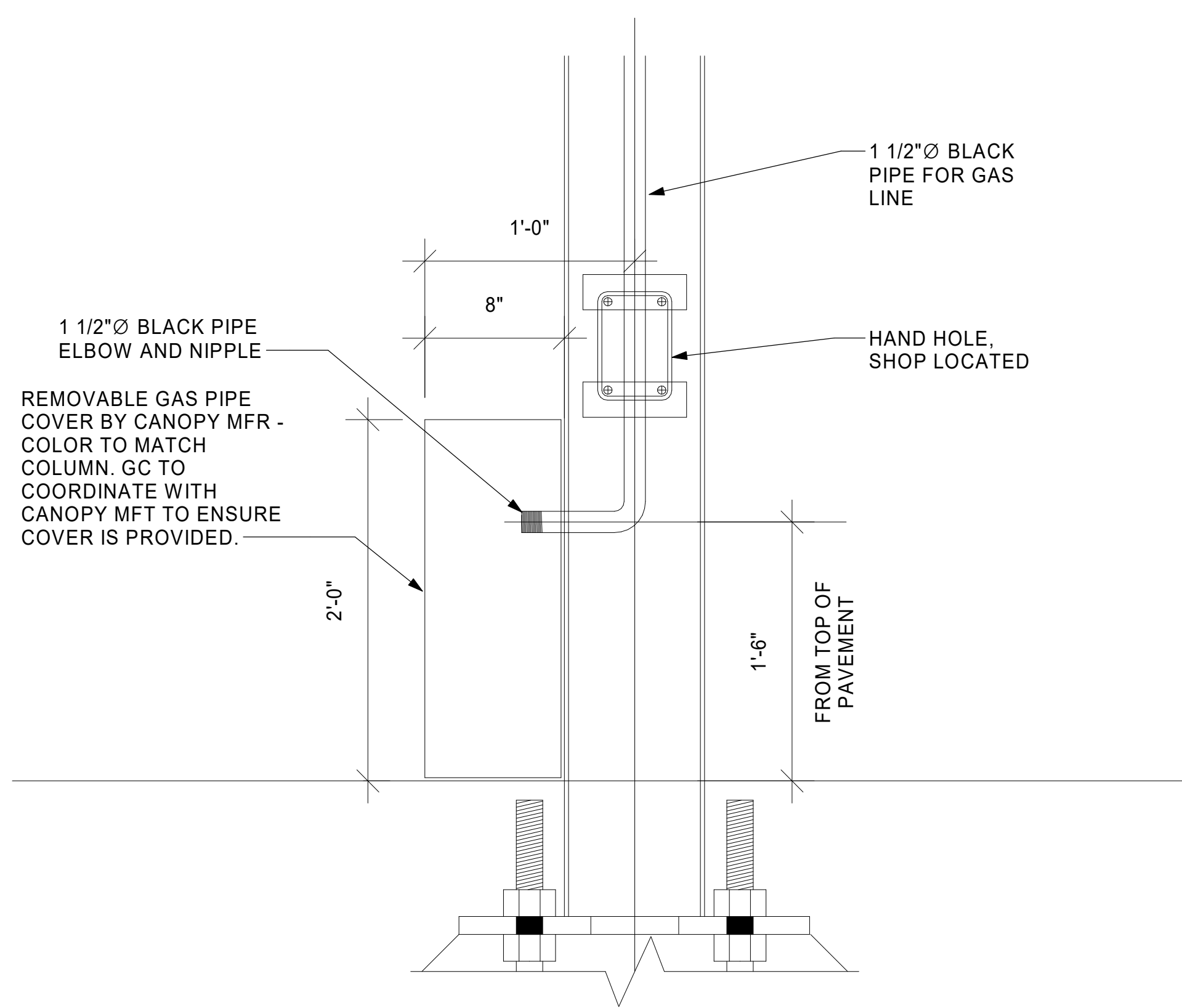


**5 CONDENSATE DRAIN PIPING**  
NOT TO SCALE

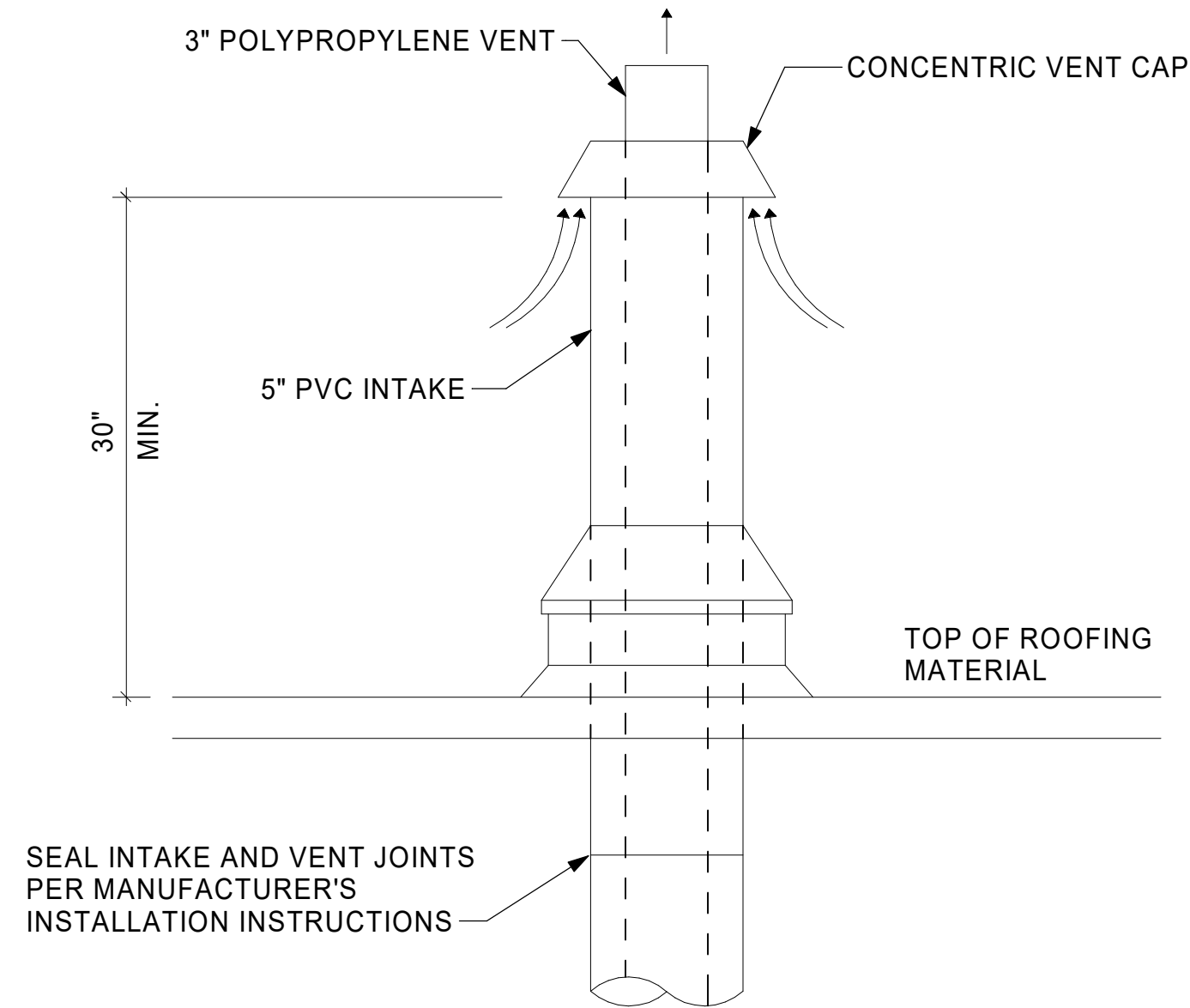
- NOTES:**
1. NON ADJUSTABLE MODEL DB610 PIPE STAND TO BE USED FOR NON-ELEVATED PIPING INSTALLED FLAT ON ROOF DECK.
  2. PROVIDE MODEL DBE 10-8 OR DBE 10-12 OR DBE 10-16 AS NEEDED FOR ELEVATING CONDENSATE PIPING TO MAINTAIN PROPER SLOPE AND FOR GAS PIPING CROSSING OVER CONDENSATE PIPING.
  3. ENSURE GAS AND CONDENSATE PIPING DO NOT OBSTRUCT ROOFTOP EQUIPMENT ACCESS OPENINGS. RE-PIPING OF SYSTEMS DUE TO CONFLICTS WITH EQUIPMENT ACCESS OPENINGS SHALL BE DONE AT PLUMBING CONTRACTOR'S EXPENSE.



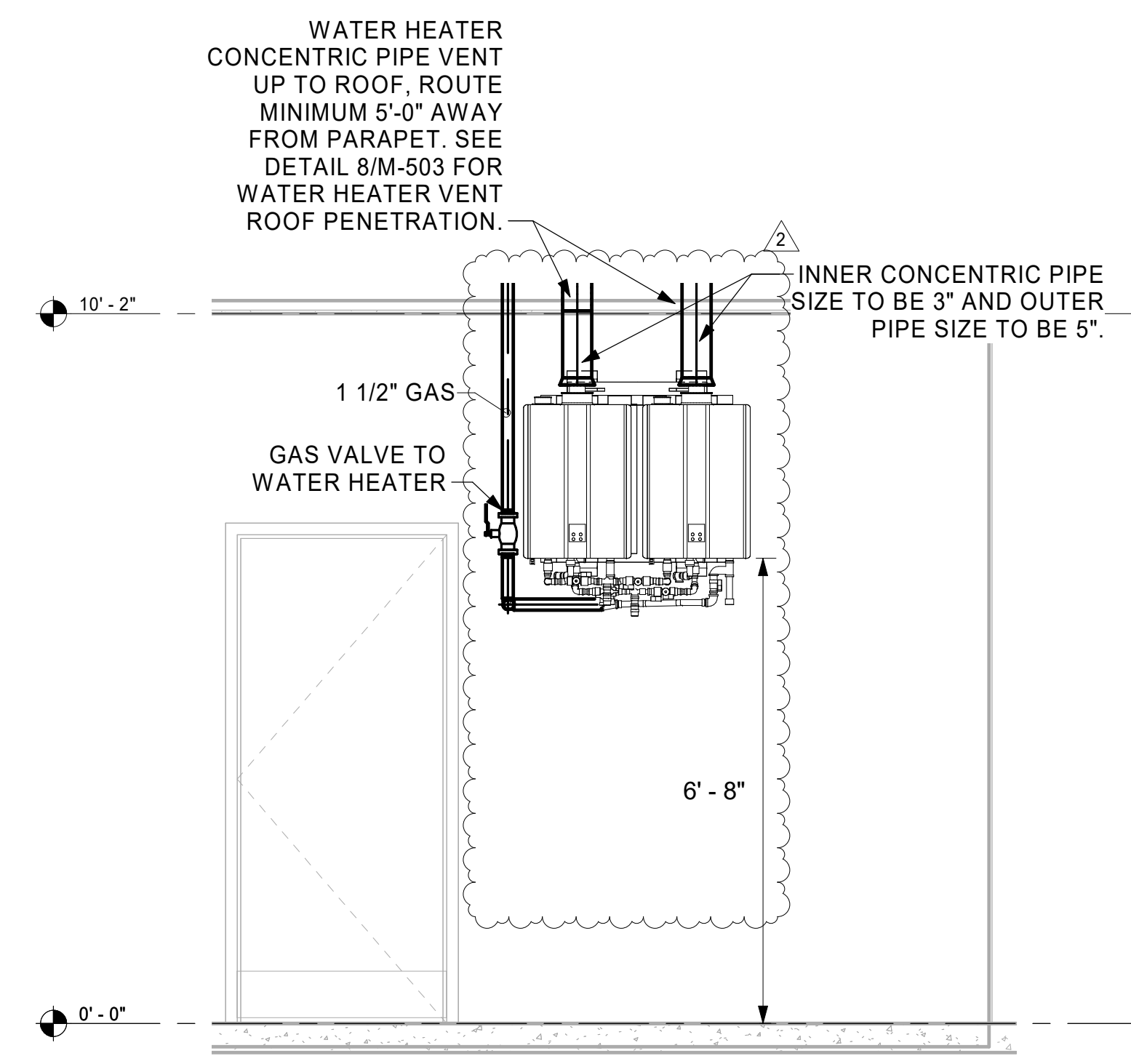
**4 PIPING SUPPORT ON ROOF**  
NOT TO SCALE



**9 COLUMN GAS PIPE COVER DETAIL**  
NOT TO SCALE



**8 WATER HEATER VENT ROOF PENETRATION**  
NOT TO SCALE



**7 WATER HEATER GAS PIPING AND VENTING**  
NOT TO SCALE



**Chick-fil-A**

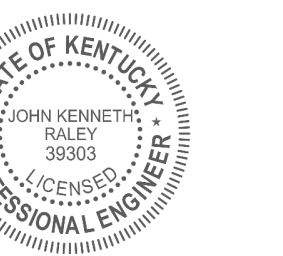
**Chick-fil-A**  
5200 Buffington Road  
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**CHICK-FIL-A**  
**NEW RESTAURANT**  
850 NL ROGERS WELLS BLVD  
GLASGOW, KY 42141

**FSR#05821**

BUILDING TYPE / SIZE: SSAM LS BP

RELEASE: 24.02

PRINTED FOR PERMIT

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
2	02/07/25	REV 02

CONSULTANT PROJECT # 16-24-60003

DATE 09/11/2024

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SHEET DETAILS

SHEET NUMBER

**M-503**

### ROOFTOP UNIT SCHEDULE - LENNOX

MARK	TOTAL COOLING MBH	SENSIBLE COOLING MBH	HEATING INPUT MBH	HEATING OUTPUT MBH	SUPPLY CFM	OA CFM	HP	ESP (in-wg)	EER	IEER	VOLTAGE (V)	PHASE	MCA (A)	MOCP (A)	MODEL	MANUFACTURER	REMARKS
AC#1	285.6	193.90	480	389	8,125	1,550	7.5	0.8	10.3	14.5	208	3	137	150	LGT300S4M	LENNOX	1,3,4,5,6,7,8,9,10,11,12,13,14,15,16
AC#2	61.3	48.20	150	121	1,750	350	1	0.8	12.8	17.1	208	3	28	40	LGT060H4E	LENNOX	2,3,4,5,6,7,8,9,10,11,12,13,14,15
AC#3	211.9	135.20	480	389	5,250	1,250	5	0.8	12	15	208	3	72	80	LGT180H4M	LENNOX	2,3,4,5,6,7,8,9,10,11,12,13,14,15
AC#4	61.3	48.20	150	121	1,750	350	1	0.8	12.8	17.1	208	3	28	40	LGT060H4E	LENNOX	2,3,4,5,6,7,8,9,10,11,12,13,14,15

NOTES

- MECHANICAL CONTRACTOR TO VERIFY LENNOX SUBMITTAL WITH CONSTRUCTION DOCUMENTS. NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS

- DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST.
- DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST.
- 14" HIGH ROOF CURB.
- SEE DETAIL 2/M-701L FOR SETTING OF CONTROL PARAMETERS BY MC.
- FACTORY INSTALLED 115V GFI SERVICE OUTLET. SEPERATE 115V CIRCUIT PROVIDED BY ELECTRICAL CONTRACTOR.
- FACTORY INSTALLED RETURN AIR SMOKE DETECTOR.
- FACTORY INSTALLED NON-FUSED DISCONNECT.
- 2" MERV 8 THROW AWAY FILTERS.
- HINGED PANELS FOR ACCESS TO FILTER(S), FAN BLOWER & MOTOR, COMPRESSOR(S) ACCESS AND CONTROLS.
- FACTORY COIL HAIL GUARD, FIELD INSTALLED.
- FRESH AIR TEMPERING KIT.
- HOT GAS DEHUMIDIFICATION OPTION WITH WALL MOUNTED HUMIDITY SENSOR.
- FACTORY CONFIGURED PHASE LOSS PROTECTION.
- FACTORY INSTALLED CONDENSATE PAN DRAIN OVERFLOW SWITCH.
- FACTORY STAINLESS STEEL HEAT EXHANGER.
- 100K SCOR RATING.

### HOOD SCHEDULE

MARK	EXHAUST CFM	SP @ TAB PORT (in-wg)	CAPTURE JET CFM & S.P.	TYPE	COLLAR SIZE	WIDTH	DEPTH	HEIGHT	MANUFACTURER	MODEL	REMARKS
HOOD#1	1,418	0.12	95 @ 0.30"	BACKSHELF	14"X8"	126"	37"	38"	HALTON	KVL-2-IC	1,2,3,4,5,7,8,9,12,16,21,23
HOOD#2	701	0.3	30 @ 0.29"	BACKSHELF	8"X8"	42"	34"	38"	HALTON	KVL-C-IC	1,2,3,6,7,8,9,13,15,16,18,21
HOOD#3	390	0.37	18 @ 0.30"	BACKSHELF	8"X8"	24"	34"	38"	HALTON	KVL-D-IC	1,2,3,4,6,7,8,9,13,17,21

NOTES

DIMENSIONS OF HOODS INCLUDE BACK AND SIDE SPACERS (HEIGHT DOES NOT INCLUDE CLOSURE PANELS). NATIONAL ACCOUNTS - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS

- STAINLESS STEEL CONSTRUCTION.
- PROVIDE FULL HEIGHT SS CLOSURE PANEL WITH ACCESS PANEL IN FRONT LARGE ENOUGH TO REMOVE CAPTURE JET FAN, FIRE SUPPRESSION COMPONENTS, AND/OR TO ACCESS KBD EQUALIZER JACK SCREW.
- PRE-PIPED FIRE SUPPRESSION SYSTEM.
- FIRE SUPPRESSION CABINET AND COMPONENTS ABOVE HOOD.
- 3" ZERO CLEARANCE TO COMBUSTIBLE BACK SPACER.
- 3" ZERO CLEARANCE TO COMBUSTIBLE CUSTOM BACK SPACER TO ACCOMMODATE PIN AND SLEEVE ELECTRICAL BOX.
- EQUIPMENT I.D. LABELS LOCATED ON FRONT LEADING EDGE OF HOOD.
- FACTORY WALL MOUNTING ANGLE AT TOP OF HOOD.
- INTEGRAL CAPTURE JET FAN.
- NOT USED.
- NOT USED.
- NOT USED.
- PIN AND SLEEVE ELECTRICAL BOX (DOUBLE CONNECTION). SEE ARCHITECTURAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- NOT USED.
- 3" ZERO CLEARANCE TO COMBUSTIBLE RIGHT SIDE SPACER.
- NOTCHED LEFT END SIDE PANEL.
- NOTCHED RIGHT END SIDE PANEL.
- 3"X3" HORIZONTAL AND VERTICAL TRIM ANGLE FOR RIGHT SIDE OF HOOD TO FINISH OFF GAP AT WALL.
- FULL LEFT END SIDE PANEL.
- FULL RIGHT END SIDE PANEL.
- HALTON KBD EQUALIZER.
- CONTINUOUS CAPTURE INTERNAL LEFT END CUTOUT.
- CONTINUOUS CAPTURE INTERNAL RIGHT END CUTOUT.

### HEATER SCHEDULE

MARK	HEATING INPUT		FRAME LENGTH	FRAME WIDTH	FRAME DEPTH	MOUNTING TYPE	VOLTAGE (V)	PHASE	FLA (A)	MOCP (A)	MODEL	MANUFACTURER	REMARKS
	ELECTRIC (KW)	GAS (MBH)											
EIH#1	6.00	0.0	56"	8.5"	3.5"	WALL BRACKET	208	1	28.9	40	BH0420035	BROMIC	1, 2, 3, 4
IRH	0.00	50.0	48"	13.37"	9.5"	BRACKET	120	1	0.4	20	WB50	SPACE-RAY	1, 5, 6, 7

NOTES

- NATIONAL ACCOUNT NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.
- CONFIRM HEATER QUANTITY WITH CANOPY SHOP DRAWINGS.

REMARKS

- STAINLESS STEEL LENS WITH BLACK EMISSIVE COATING.
- PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND.
- PROVIDE BLACK HEATER WITH HIGH TEMPERATURE COATING, AND MANUFACTURER MOUNTING BRACKETS.
- PROVIDE BROMIC WALL MOUNTED ELECTRIC HEATER MODEL: BH0420033 FOR 220-240V SITES.
- STEEL BURNER WITH CERAMIC BURNER TILES.
- PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. MOUNT TO CANOPY DECK, FACING FORWARD, 12" Laterally FROM THE LONG SIDE OF THE HEATER.
- STAINLESS STEEL HEAT SHIELDS.

### FAN SCHEDULE

MARK	FAN CFM	ESP (in-wg)	MOTOR RPM	HP	AREA SERVED	VOLTAGE (V)	PHASE	FLA (A)	MOCP (A)	MODEL	MANUFACTURER	REMARKS
CF#1	1,900	0.01	1,625	0.1	OUTDOOR CANOPY	120	1	1.1	20	U-18-TE-HD	TPI	20,21,22
EF#1	1,418	0.75	1,340	0.75	HOOD#1	120	1	0	25	KEFB-14-CFA	HALTON	1,2,3,4,5,6,7,8,9,10,11
EF#2	1,091	0.95	2,000	0.75	HOOD#2 & HOOD#3	120	1	0	25	KEFB-11-CFA	HALTON	1,2,3,4,5,6,7,8,9,10,11
EF#3	300	0.375	1,550	0.125	RESTROOMS	120	1	2.2	20	XRED-095-VG	ACCUREX	1,3,11,12,13,14,15,16
TF#1	450	0.3	1,144	0.127	TECH CLOSET	120	1	2.5	0	SP-A510-VG	GREENHECK	1,17,18,19

NOTES

- GREASE EXHAUST FAN RPM BASED ON 80 DEGREE F AIR AT 1000 FEET ABOVE SEA LEVEL.

REMARKS

- FANS SUPPLIED BY HALTON.
- U.L. 705 LISTED AND LABELED FOR RESTUARANT APPLICATIONS.
- FACTORY INSTALLED PREWIRED DISCONNECT SWITCH.
- 19" HIGH ROOF CURB.
- INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD. MECHANICAL CONTRACTOR TO CONTACT ROOFTOP SOLUTIONS AT 800-913-7034.
- FACTORY WEATHER HOUSING W/ HINGED ACCESS DOOR.
- FACTORY DRAIN CONNECTION.
- FACTORY BOLTED ACCESS DOOR ON SCROLL.
- FACTORY INSTALLED BELT DRIVE WITH ADJUSTABLE MOTOR SHEAVE, SPARE BELT, AND BELT TENSIONER.
- FACTORY INSTALLED OUTLET WITH QUICK RELEASE, HINGED ACCESS, AND GRAVITY BACKDRAFT DAMPER.
- INTEGRAL THERMAL OVERLOAD.
- BIRDSCREEN.
- BACKDRAFT DAMPER IN DUCT BY MECHANICAL CONTRACTOR AS SHOWN ON 3/M-501.
- STARTER BY ELECTRICAL CONTRACTOR. INTERLOCK WITH LIGHTS BY ELECTRICAL CONTRACTOR.
- 12" HIGH CURB.
- FACTORY INSTALLED AND WIRED SPEED CONTROLLER.
- PROVIDE NEMA 1 PREWIRED DISCONNECT.
- INTEGRAL POTENTIOMETER ON FAN MOTOR. SET TO FULL SPEED.
- PROVIDE THERMOSTAT / TEMPERATURE CONTROLLER, SET TO 76°F.
- INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE WITH ON/OFF SWITCH.
- FAN SUPPLIED BY TOM BARROW OR POWERS OF ARKANSAS FOR THE SOUTHWEST REGION.

### AIR DEVICE SCHEDULE

MARK	DESCRIPTION	LOCATION	NECK SIZE	FACE SIZE	FRAME TYPE	REMARKS
A	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	DINING / KITCHEN	VARIES	24"x24"	LAY-IN	1, 7
B	PRICE MODEL VPD	OFFICE/PLAY	VARIES	24"x24"	LAY-IN	1, 7, 8
C	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	ENTRY	14"x14"	16"x16"	BEVELLED	1, 3, 5, 6
D	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	DINING	VARIES	16"x16"	SURFACE	1, 3, 5, 6
F	PRICE MODEL 80 EGGCRATE RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND ROUND NECK.	DINING / OFFICE / KITCHEN	VARIES	24"x24"	LAY-IN	1, 7
J	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	RESTROOMS	14"x14"	16"x16"	BEVELLED	1, 2, 3, 5, 6
K	PRICE MODEL APDDR ALUMINUM PERFORATED FACE RETURN AIR GRILLE.	RESTROOMS / ENTRY	14"x14"	16"x16"	SURFACE	1, 4, 5, 6

NOTES

- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004

REMARKS

- STANDARD OFF WHITE FINISH.
- PROVIDE MODEL VCS3 NECK DAMPER.
- SEE DRAWING M-101 FOR THROW.
- PROVIDE MODEL VCR7 NECK DAMPER ON GRILLES IN RESTROOMS SERVING EXHAUST FAN.
- PROVIDE BACKPAN. MC TO SEAL JOINTS WITH MASTIC AND INSULATE EXTERNALLY.
- FIELD INSULATE BACKPAN AS SHOWN ON DETAIL 1/M-501.
- FACTORY INSULATED R-6 BACKPAN.
- PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER.

### AIR DOOR SCHEDULE

MARK	CFM	VELOCITY (FPM)	HEATING (KW)	MOTOR HP	MCA (A)	MOCP (A)	VOLTAGE (V)	PHASE	AREA SERVED	MODEL	MANUFACTURER	REMARKS
AD#1	1,543	2,338	10	0.75	31.4	40	208	3	DRIVE THRU	CHA-1-48E	POWERED AIRE	1,2,3,5
AD#2	3,867	4,218	0	0.75	3.6	20	208	1	REAR DOOR	RBT-1-48	POWERED AIRE	4

NOTES

- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004

REMARKS

- FACTORY PROVIDED, WIRED, AND UNIT MOUNTED SPEED CONTROLLER ABOVE CEILING.
- FACTORY WIRED DISCONNECT.
- FACTORY PROVIDED, FIELD INSTALLED BY MC, REMOTE WALL SWITCHES FOR HEATING ON/OFF AND FAN ON/AUTO SWITCH. SEE DETAILS ON M502.
- FACTORY PROVIDED MAGNETIC DOOR CONTACT WITH FACTORY INSTALLED LOW VOLTAGE CONTROLS LOCATED IN AIR DOOR CABINET.
- PROVIDE WITH A DIVERTER BOX. PROVIDE WITH MOUNTING BRACKETS PER MANUFACTURER'S RECOMMENDATIONS.



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NEW RESTAURANT  
850 NL ROGERS WELLS BLVD  
GLASGOW, KY 42141

**FSR #05821**  
BUILDING TYPE / SIZE: SSAM LS BP  
RELEASE: 24.02  
PRINTED FOR:  
PERMIT

REVISION SCHEDULE  
NO. DATE DESCRIPTION

CONSULTANT PROJECT # 16-24-60003  
DATE 09/11/2024  
DRAWN BY BRM  
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SHEET HVAC EQUIPMENT SCHEDULES - LENNOX  
SHEET NUMBER

**M-601L**

### VENTILATION SCHEDULE

General			Ventilation													Exhaust					Served by	
Room #	Room Name	Area Az ft2	People			Area						Primary Zone Air Fraction Zp	Actual Outdoor Airflow CFM	Area			Toilet		Actual Exhaust CFM	Supply	Exhaust	
			Occupant Density People/1,000 ft2	Occupants Pz	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/ft2 Ra	Outdoor Airflow CFM Az x Ra	Breathing Zone Outdoor Airflow CFM Vbz	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow CFM Voz			Primary Zone Airflow CFM Vpz	Required Exhaust Rate CFM/ft2	Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture				Required Fixture Exhaust CFM
1	Kitchen	1,080	20	22	7.5	165	0.12	130	295	0.8	369	8,125	0.05	1,550	1	756	-	-	-	2,509	ACR1(L) / ACR1(T)	EF-1 / EF-2
<b>Total Area 1,080</b>						<b>Total Vbz 295</b>			<b>Total Supply Airflow 8,125</b>			<b>1,550 Actual Outdoor Airflow</b>										
						Diversity (D) 0.91			Maximum Zp 0.05													
						Uncorrected Outdoor Air Intake (Vou) 283			System Ventilation Efficiency (Ev) 1.00													
						Required Outdoor Air Intake (CFM) 282																

### VENTILATION SCHEDULE

General			Ventilation													Exhaust					Served by	
Room #	Room Name	Area Az ft2	People			Area						Primary Zone Air Fraction Zp	Actual Outdoor Airflow CFM	Area			Toilet		Actual Exhaust CFM	Supply	Exhaust	
			Occupant Density People/1,000 ft2	Occupants Pz	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/ft2 Ra	Outdoor Airflow CFM Az x Ra	Breathing Zone Outdoor Airflow CFM Vbz	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow CFM Voz			Primary Zone Airflow CFM Vpz	Required Exhaust Rate CFM/ft2	Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture				Required Fixture Exhaust CFM
1	Drive-thru	243	15	4	7.5	30	0.18	44	74	0.8	93	1,750	0.05	350	-	-	-	-	-	-	ACR2(L) / ALT...	-
<b>Total Area 243</b>						<b>Total Vbz 74</b>			<b>Total Supply Airflow 1,750</b>			<b>350 Actual Outdoor Airflow</b>										
						Diversity (D) 1.00			Maximum Zp 0.05													
						Uncorrected Outdoor Air Intake (Vou) 74			System Ventilation Efficiency (Ev) 1.00													
						Required Outdoor Air Intake (CFM) 73																

### VENTILATION SCHEDULE

General			Ventilation													Exhaust					Served by	
Room #	Room Name	Area Az ft2	People			Area						Primary Zone Air Fraction Zp	Actual Outdoor Airflow CFM	Area			Toilet		Actual Exhaust CFM	Supply	Exhaust	
			Occupant Density People/1,000 ft2	Occupants Pz	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/ft2 Ra	Outdoor Airflow CFM Az x Ra	Breathing Zone Outdoor Airflow CFM Vbz	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow CFM Voz			Primary Zone Airflow CFM Vpz	Required Exhaust Rate CFM/ft2	Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture				Required Fixture Exhaust CFM
1	Dining	1,214	70	85	7.5	637.5	0.18	219	856	0.8	1071	3,350	0.319	798	-	-	-	-	-	-	ACR3(L) / ACR3(T)	-
2	Serving	190	15	3	7.5	23	0.18	34	57	0.8	71	800	0.09	190	-	-	-	-	-	-	ACR3(L) / ACR3(T)	-
3	Men's RR	132	-	-	-	-	-	-	-	0.8	-	100	-	24	-	-	Continuous	50	100	150	ACR3(L) / ACR3(T)	EF-3
4	Women's RR	182	-	-	-	-	-	-	-	0.8	-	125	-	30	-	-	Continuous	50	100	150	ACR3(L) / ACR3(T)	EF-3
5	Corridor	103	-	-	-	-	0.06	6	6	0.8	8	100	0.08	24	-	-	-	-	-	-	ACR3(L) / ACR3(T)	-
6	Play Area	218	-	-	-	-	0.3	65	65	0.8	82	400	0.20	95	-	-	-	-	-	-	ACR3(L) / ACR3(T)	-
7	Entry Vestibule	65	-	-	-	-	0.06	4	4	0.8	5	375	0.01	89	-	-	-	-	-	-	ACR3(L) / ACR3(T)	-
<b>Total Area 2,104</b>						<b>Total Vbz 988</b>			<b>Total Supply Airflow 5,250</b>			<b>1,250 Actual Outdoor Airflow</b>										
						Diversity (D) 0.93			Maximum Zp 0.319													
						Uncorrected Outdoor Air Intake (Vou) 966			System Ventilation Efficiency (Ev) 0.80													
						Required Outdoor Air Intake (CFM) 1,207																

### VENTILATION SCHEDULE

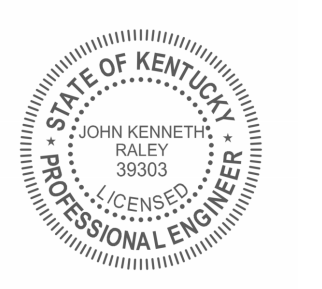
General			Ventilation													Exhaust					Served by	
Room #	Room Name	Area Az ft2	People			Area						Primary Zone Air Fraction Zp	Actual Outdoor Airflow CFM	Area			Toilet		Actual Exhaust CFM	Supply	Exhaust	
			Occupant Density People/1,000 ft2	Occupants Pz	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/ft2 Ra	Outdoor Airflow CFM Az x Ra	Breathing Zone Outdoor Airflow CFM Vbz	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow CFM Voz			Primary Zone Airflow CFM Vpz	Required Exhaust Rate CFM/ft2	Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture				Required Fixture Exhaust CFM
1	Team Member Room	96	50	5	5	25	0.06	6	31	0.8	39	410	0.09	82	-	-	-	-	-	-	ACR4(L) / ACR4(T)	-
2	Electrical Room	32	-	-	-	-	0.12	4	4	0.8	5	570	0.01	114	-	-	-	-	-	-	ACR4(L) / ACR4(T)	-
3	Office	57	5	1	5	5	0.06	3	8	0.8	11	235	0.04	47	-	-	-	-	-	-	ACR4(L) / ACR4(T)	-
4	Mechanical Room	41	-	-	-	-	0.12	5	5	0.8	7	315	0.02	63	-	-	-	-	-	-	ACR4(L) / ACR4(T)	-
5	Dry Storage	132	-	-	-	-	0.12	16	16	0.8	20	220	0.09	44	-	-	-	-	-	-	ACR4(L) / ACR4(T)	-
<b>Total Area 358</b>						<b>Total Vbz 64</b>			<b>Total Supply Airflow 1,750</b>			<b>350 Actual Outdoor Airflow</b>										
						Diversity (D) 1.00			Maximum Zp 0.09													
						Uncorrected Outdoor Air Intake (Vou) 64			System Ventilation Efficiency (Ev) 1.00													
						Required Outdoor Air Intake (CFM) 63																



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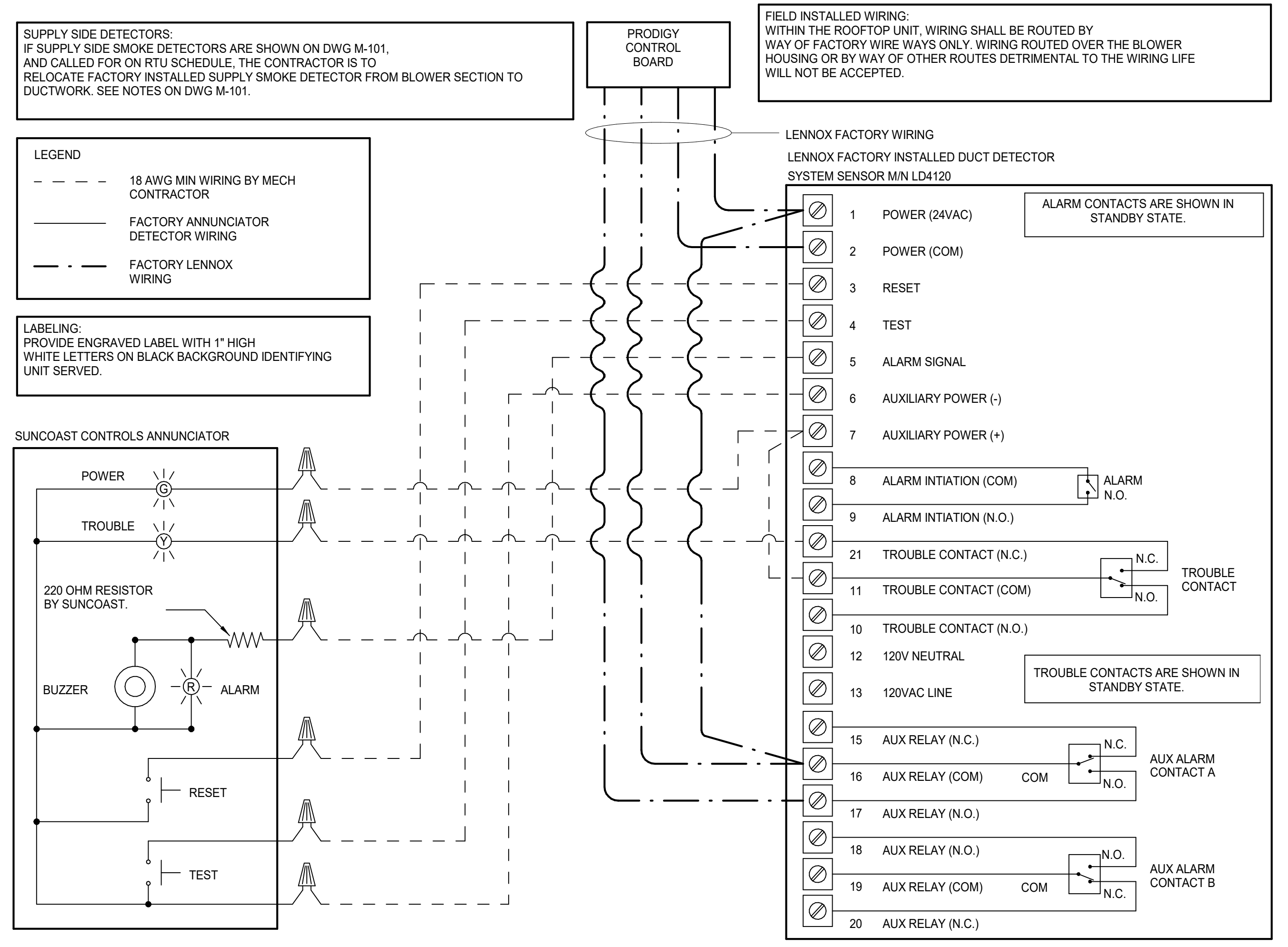


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GLASGOW, KY 42141

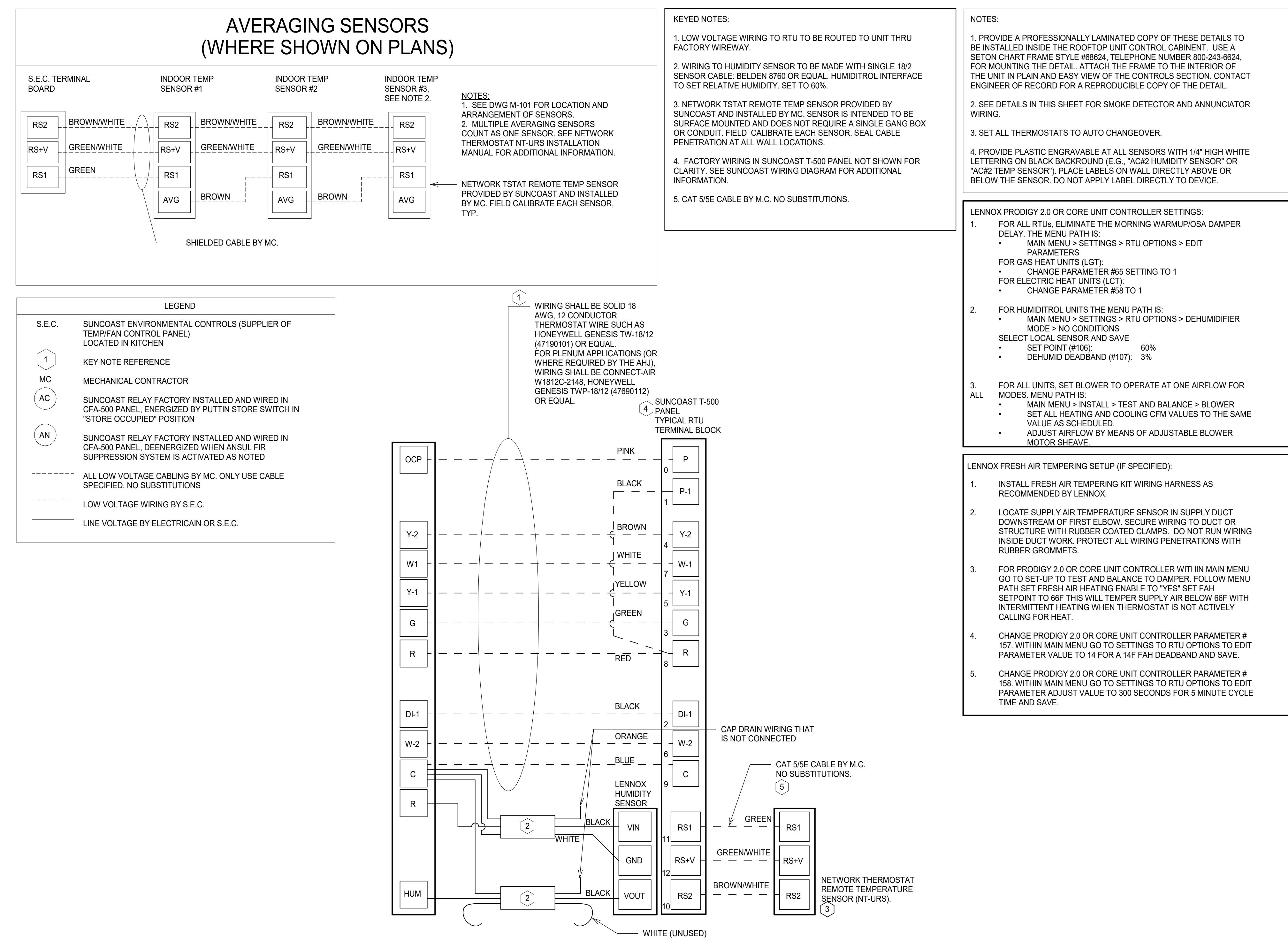
**FSR #05821**  
BUILDING TYPE / SIZE: SSAM LS BP  
RELEASE: 24.02  
PRINTED FOR:  
PERMIT  
REVISION SCHEDULE  
NO. DATE DESCRIPTION

CONSULTANT PROJECT # 16-24-60003  
DATE 09/11/2024  
DRAWN BY BRM  
Information contained on this drawing and in all digital files produced for above named project may not be reproduced in any manner without express written or verbal consent from the project architect.  
SHEET  
BP-VENTILATION SCHEDULES  
SHEET NUMBER  
**M-602**

PROVIDE A PROFESSIONALLY LAMINATED COPY OF THESE DETAILS TO BE INSTALLED INSIDE THE ROOFTOP UNIT CONTROL CABINET. USE A SETON CHART FRAME STYLE #68624, TELEPHONE NUMBER 800-243-6624, FOR MOUNTING THE DETAIL. ATTACH THE FRAME TO THE INTERIOR OF THE UNIT IN PLAIN AND EASY VIEW OF THE CONTROLS SECTION. CONTACT ENGINEER OF RECORD FOR A REPRODUCIBLE COPY OF THE DETAIL.



1 ROOFTOP UNIT CONTROL WIRING DIAGRAM - LENNOX  
NOT TO SCALE



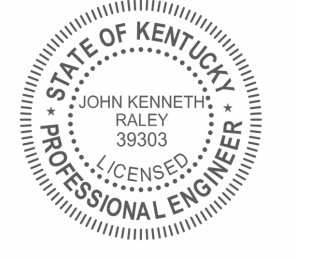
2 ROOFTOP UNIT CONTROL WIRING DIAGRAM - LENNOX  
NOT TO SCALE



**Chick-fil-A**  
5200 Buffington Road  
Atlanta, Georgia  
30349-2998



HFA-AE, L.T.D.  
1705 S. Walton Blvd., Suite 3  
Birmingham, Alabama 35212  
www.hfa-sc.com



**CHICK-FIL-A**  
NEW RESTAURANT  
850 NL ROGERS WELLS BLVD  
GLASGOW, KY 42141

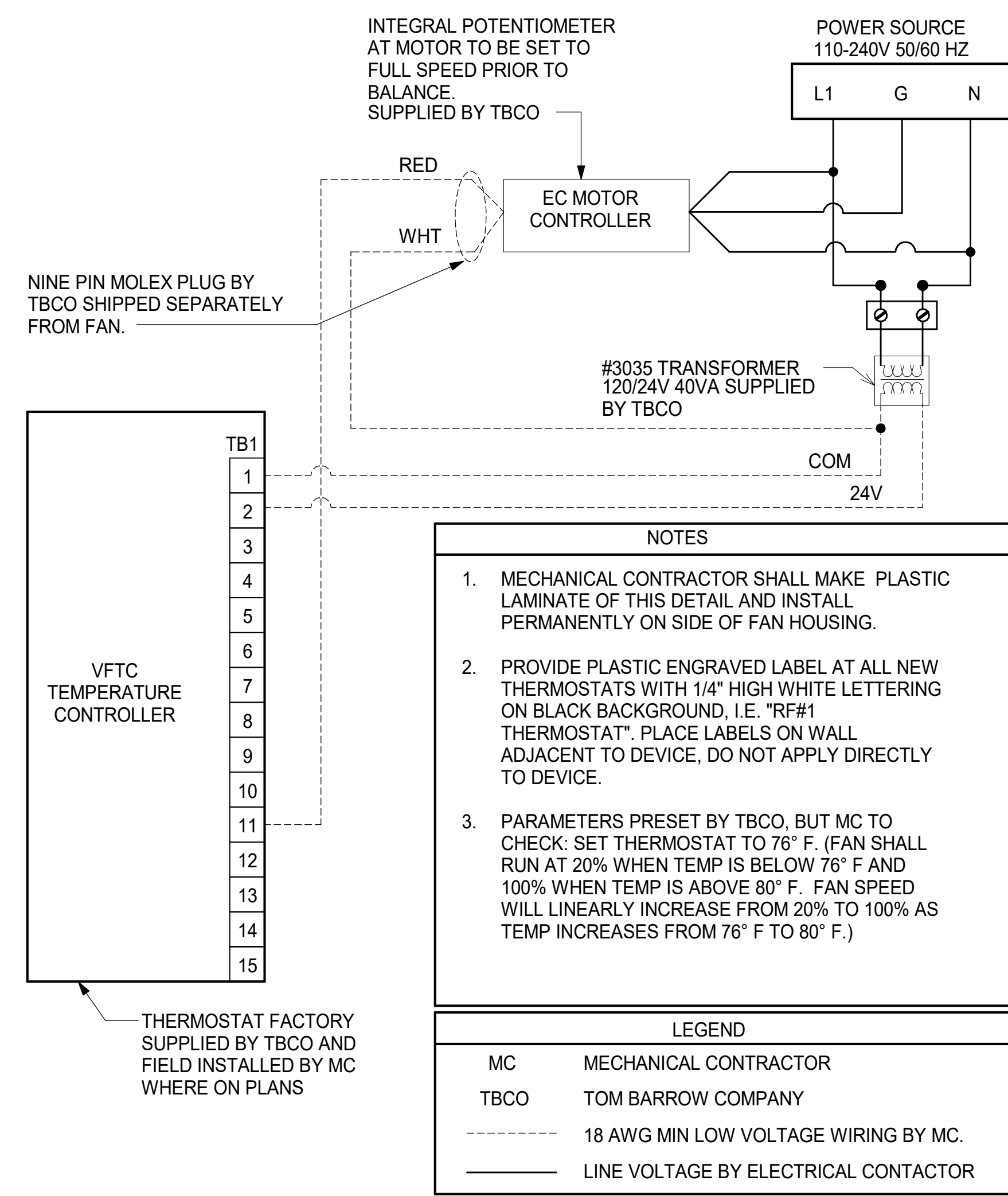
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BUILDING TYPE / SIZE: SSAM LS BP  
RELEASE: 09/11/2024  
PRINTED FOR: PERMIT

REVISION SCHEDULE	NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 16-24-60003  
DATE 09/11/2024  
DRAWN BY BRM  
Information contained on this drawing and in all digital files produced for above named project may not be reproduced in any manner without express written or verbal consent from the project representative.  
SHEET  
**CONTROL WIRING DIAGRAMS - LENNOX**  
SHEET NUMBER

**M-701L**

9/10/2024 11:05:07 AM Autodesk Docs://KY\_06821\_Glasgow FSU\_2024\_5\_FSR/05821\_Glasgow KY\_FSU\_MEC.rvt  
30-LS-16-24-60003-M-701L-CONTROL WIRING DIAGRAMS - LENNOX



**1 TECH CLOSET CONTROL DIAGRAM**  
 NOT TO SCALE



**Chick-fil-A**  
 5200 Buffington Road  
 Atlanta, Georgia  
 30349-2998



**HFA**  
 HFA-AE, L.L.C.  
 (479)273.7780  
 1705 S. Walton Blvd., Suite 3  
 Knoxville, Arkansas 72712  
 www.hfa-ae.com



**CHICK-FIL-A**  
**NEW RESTAURANT**  
 850 NL ROGERS WELLS BLVD  
 GLASGOW, KY 42141

**FSR #05821**  
 BUILDING TYPE / SIZE: SSAM LS BP  
 RELEASE: 24.02  
 PRINTED FOR  
**PERMIT**

**REVISION SCHEDULE**

NO.	DATE	DESCRIPTION
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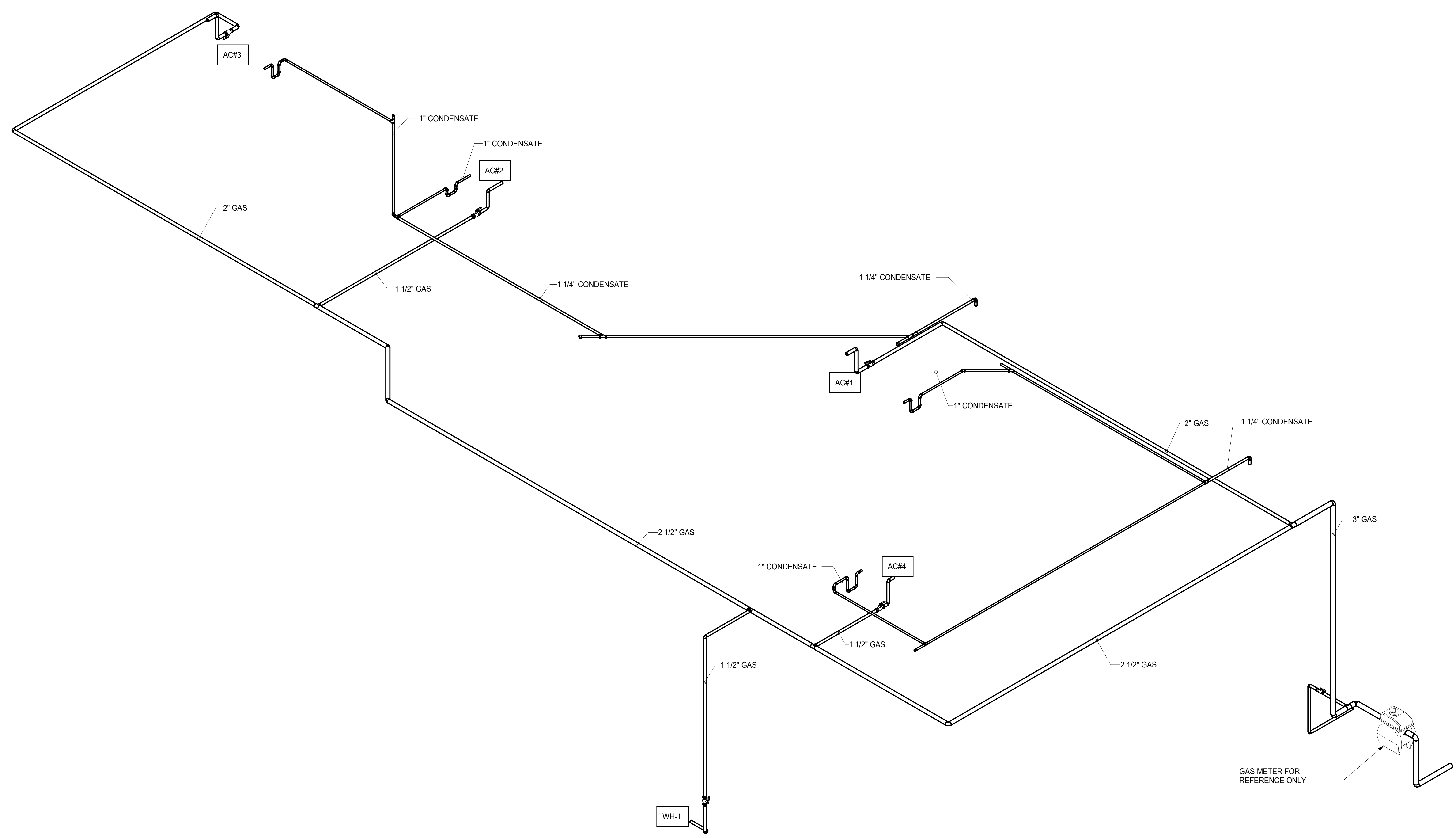
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 DATE 09/11/2024  
 DRAWN BY BRM

Information contained on this drawing and all digital files produced for above named project may not be reproduced in any manner without express written or verbal consent from authorized project representative.

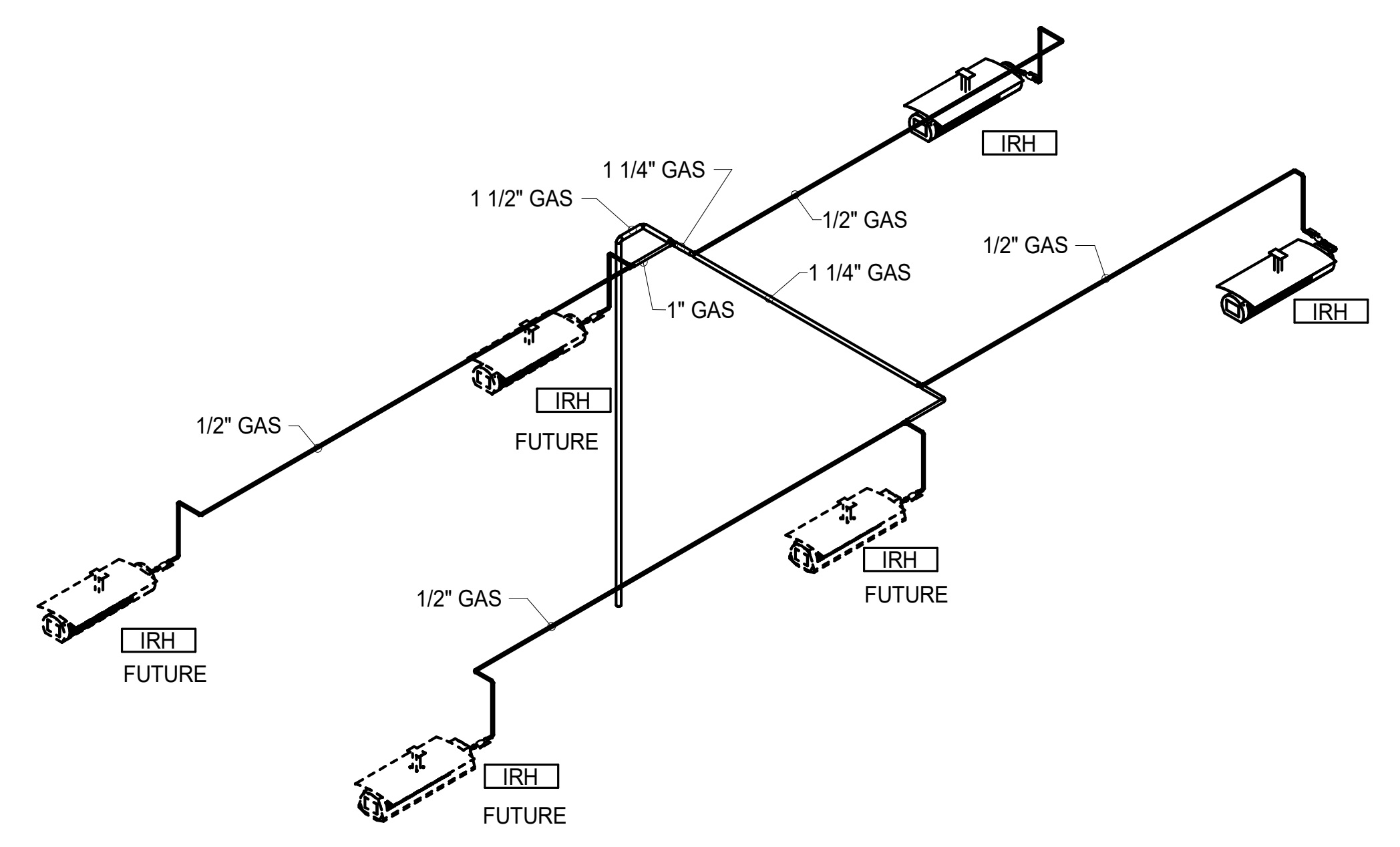
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1 GAS AND CONDENSATE ISOMETRIC - LENNOX



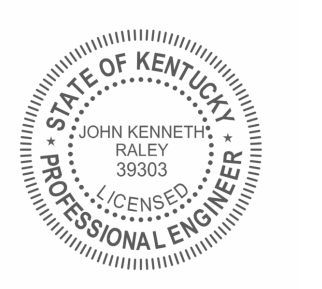
2 ORDER CANOPY GAS PIPING ISOMETRIC



**Chick-fil-A**  
 5200 Buffington Road  
 Atlanta, Georgia  
 30349-2998



HFA-AE, L.T.D.  
 (479)273.7780  
 1705 S. Walton Blvd., Suite 3  
 Knoxville, Arkansas 72712  
 www.hfa-sc.com

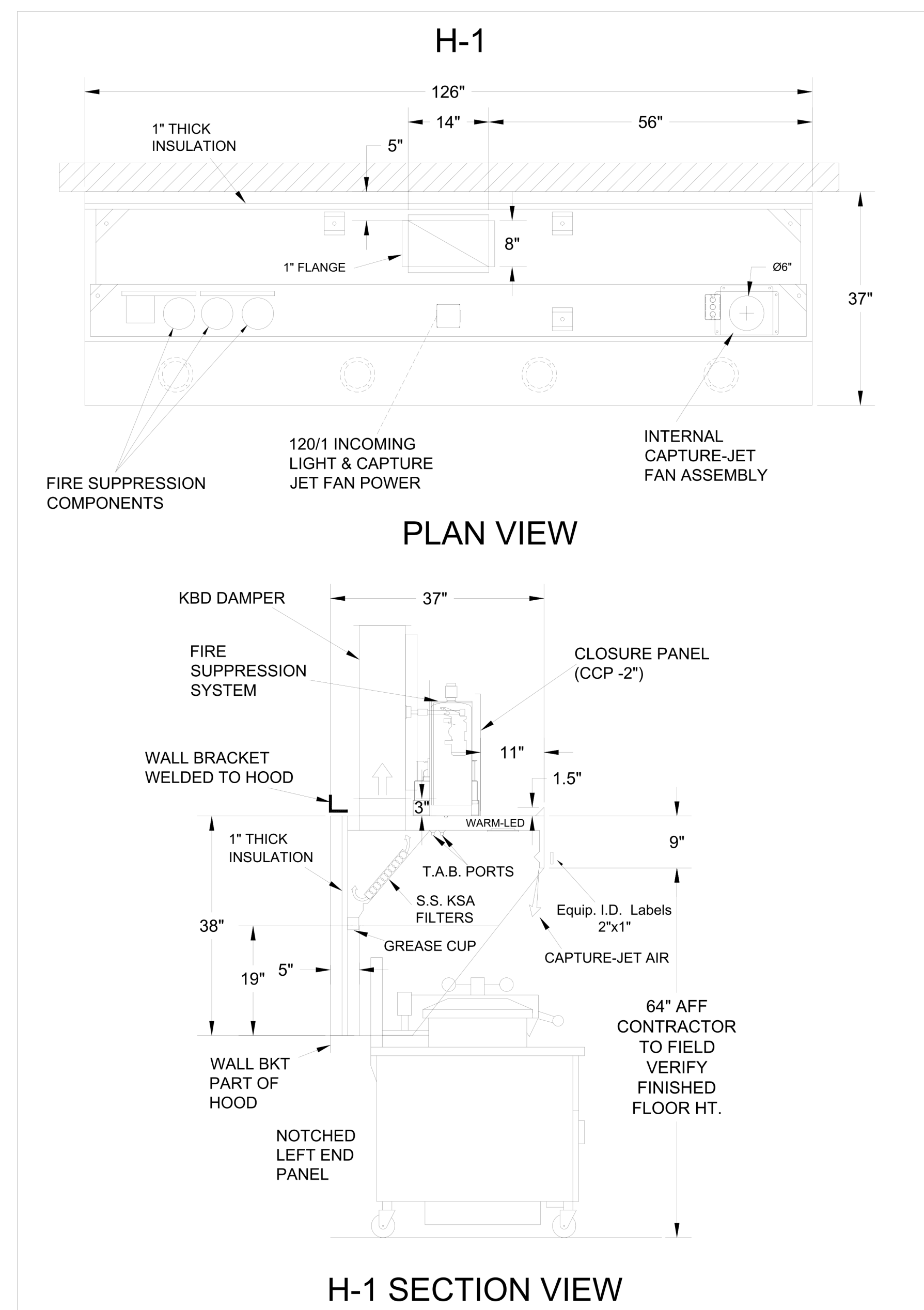
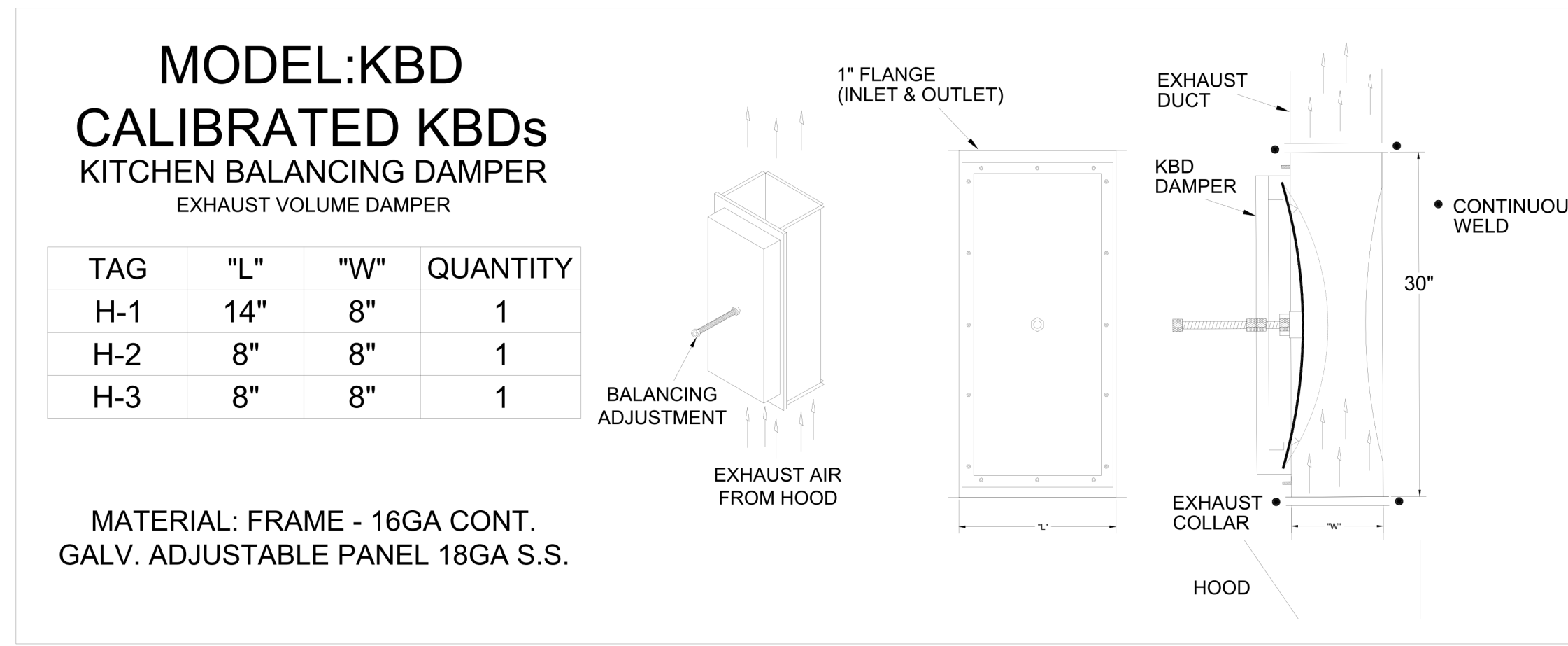
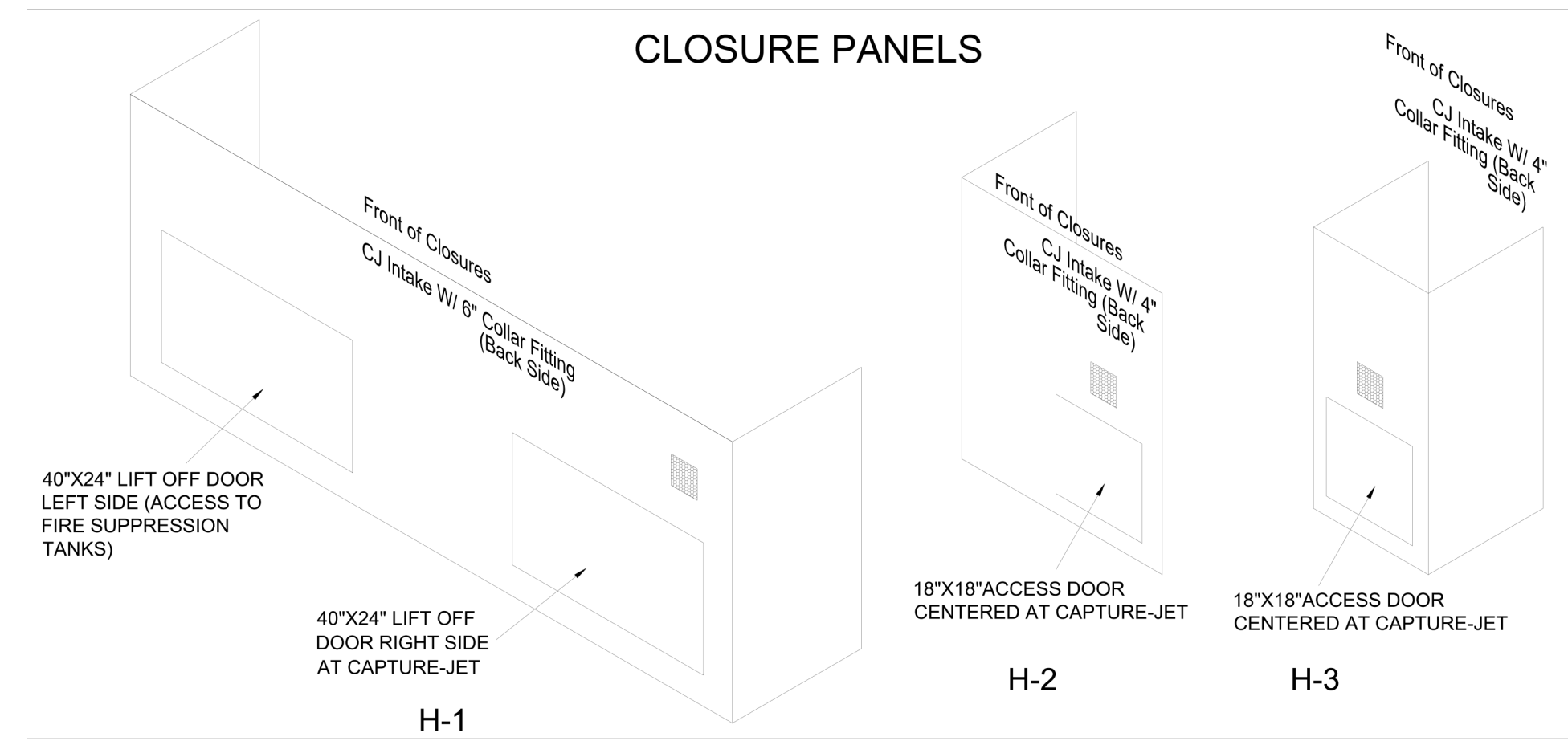


**CHICK-FIL-A**  
**NEW RESTAURANT**  
 850 NL ROGERS WELLS BLVD  
 GLASGOW, KY 42141

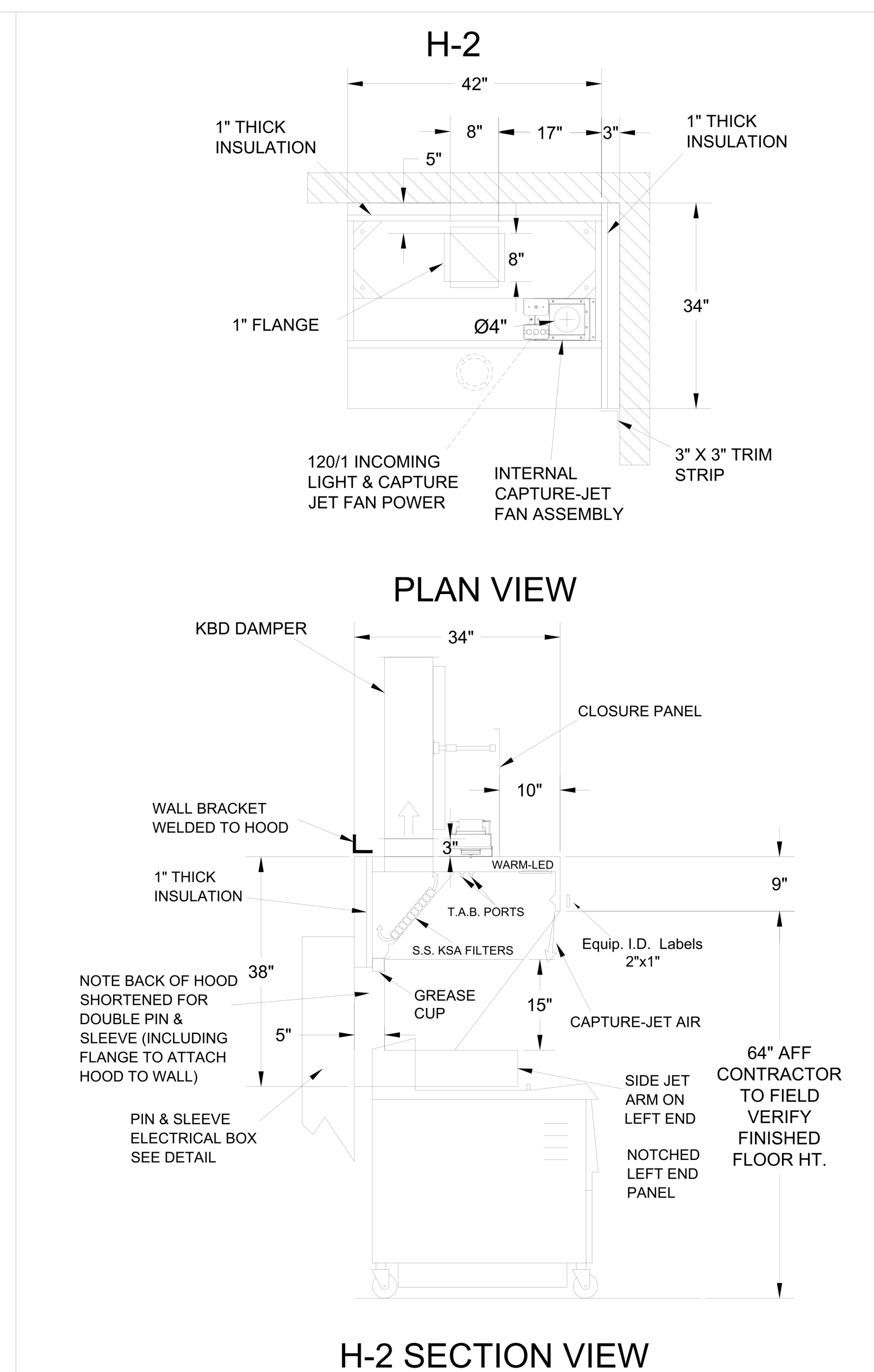
**FSR #05821**  
 BUILDING TYPE / SIZE: SSAM LS BP  
 RELEASE: 24.02  
 PRINTED FOR  
**PERMIT**  
 REVISION SCHEDULE  
 NO. DATE DESCRIPTION

CONSULTANT PROJECT # 16-24-60003  
 DATE 09/11/2024  
 DRAWN BY BRM  
 Information contained on this drawing and in all digital files produced for above named project may not be reproduced in any manner without express written or verbal consent from the project engineer/draftsman.  
**GAS AND CONDENSATE ISOMETRIC - LENNOX**  
 SHEET NUMBER  
**M-901L**

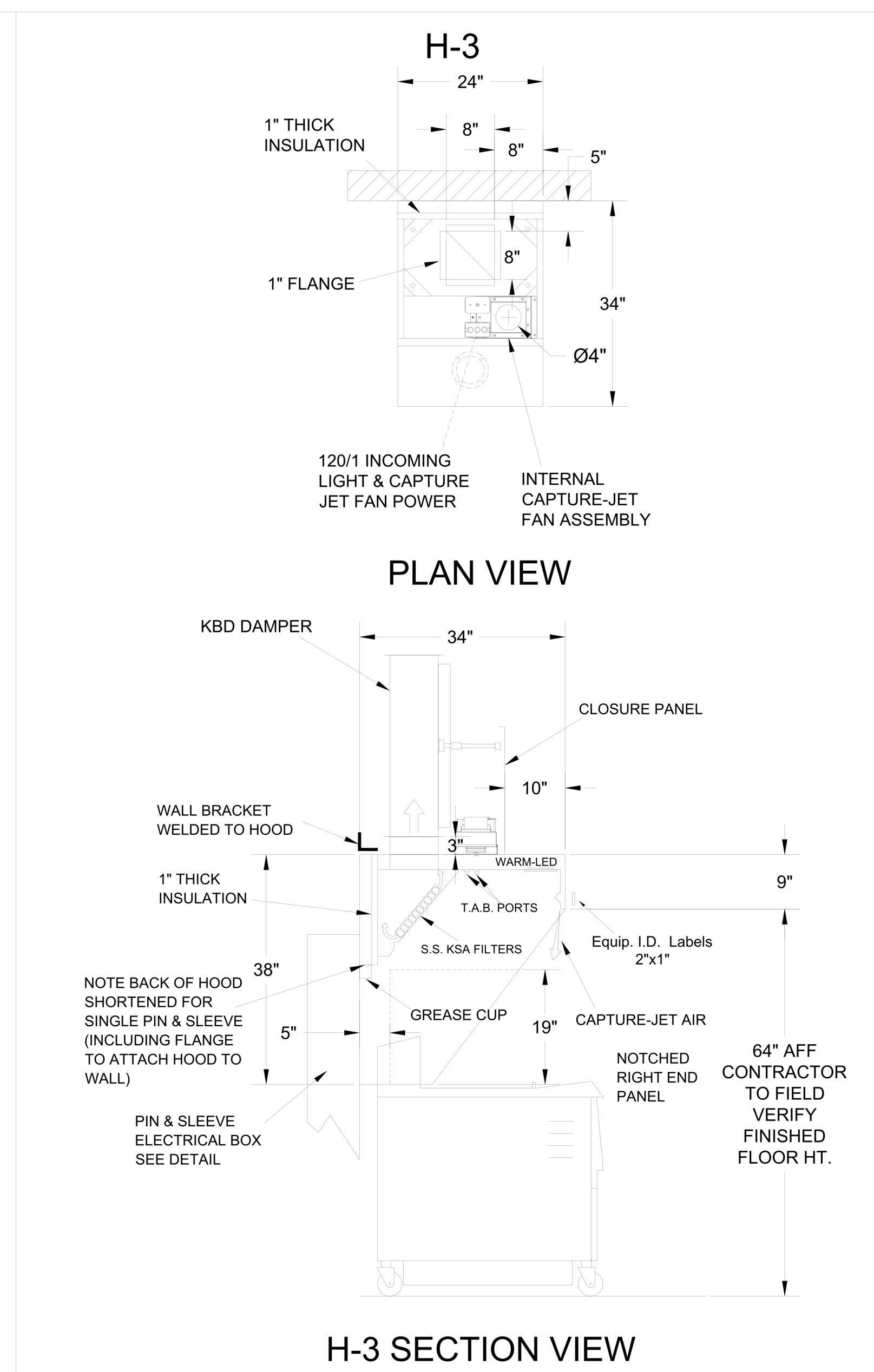
HOOD MODEL	HOOD NUMBER	EXHAUST COLLAR			EXHAUST AIR INFORMATION			CAPTURE AIR INFORMATION		S.S. KSA FILTERS		LED LIGHTS		CEILING CLOSURES			KBD DAMPER	K FACTOR (CFM = K FACTOR * √DP)	MATERIAL
		QTY	LENGTH	WIDTH	CFM	TAB	SP	CFM	SP	FULL	HALF	QTY	LED LIGHTS	QTY	CLOSURE HEIGHT	CEILING HEIGHT			
KVL-2-IC	H-1	1	14"	8"	1418	0.12"	0.24"	95	0.30"	6	-	4	3	51"	122"	788 LBS	*	4106	ALL 18 GA 430 S.S.
KVL-C-IC	H-2	1	8"	8"	701	0.30"	0.39"	30	0.29"	2	-	1	2			245 LBS	*	1291	
KVL-D-IC	H-3	1	8"	8"	390	0.37"	0.42"	18	0.30"	1	-	1	3			150 LBS	*	646	



- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- FRONT CLOSURE PANEL WITH 40"x24" LIFT OUT DOOR LEFT SIDE (ACCESS TO FIRE SUPPRESSION)
- 40"x24" LIFT DOOR RIGHT SIDE AT CAPTURE-JET WITH FRONT CJ INTAKE
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- NOTCHED LEFT END PANEL
- GREASE CUP RIGHT END
- ANSUL WEIGHT = 284 LBS
- AMEREX WEIGHT = 257 LBS



- CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF
- 18"x18" ACCESS DOOR CENTERED AT CAPTURE-JET WITH FRONT CJ INTAKE
- NOTCHED LEFT END PANEL
- DOUBLE RECEPTACLE PIN & SLEEVE
- 3"x3" TRIM STRIP FOR STANDOFF ON RIGHT END
- 3" SIDE & REAR STAND-OFF TO HAVE 1" THICK INSULATION
- GREASE CUP RIGHT END



- CEILING CLOSURE RECESSED 10" FROM FRONT TO CREATE SHELF
- 18"x18" ACCESS DOOR CENTERED AT CAPTURE-JET WITH FRONT CJ INTAKE
- SIDE-JET PLENUM SUPPLIED BY HALTON. INSTALLED BY OTHERS (DETAIL "A", SHEET 2)
- NOTCHED RIGHT END PANEL
- CUSTOM 10" SINGLE RECEPTACLE PIN & SLEEVE
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- GREASE CUP RIGHT END



THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFY THE FOLLOWING:

1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.
2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.

NOTE TO APPROVER: ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR. A RECALCULATION OF EXHAUST AIRFLOW MAY BE REQUIRED.

APPROVED FOR FABRICATION:  WITH NO CHANGES  WITH CHANGES AS NOTED

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

WEBSITE: [www.halton.com](http://www.halton.com)

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

HALTON CO. (CANADA)  
1021 BREVIK PLACE  
MISSISSAUGA, ON L4W 3R7  
1-905-624-0301

HALTON CO. (USA)  
101 INDUSTRIAL DRIVE  
SCOTTSDALE, KY 42164  
1-270-237-5600

REV.	DESCRIPTION	DATE
1	PAPERSPACE LAYOUT	07.24.24
2	REVISED QTY OF ANSUL TANKS	08.08.24
3		
4		
5		
6		
7		

PROJECT: CHICK-FIL-A SSAM NAME

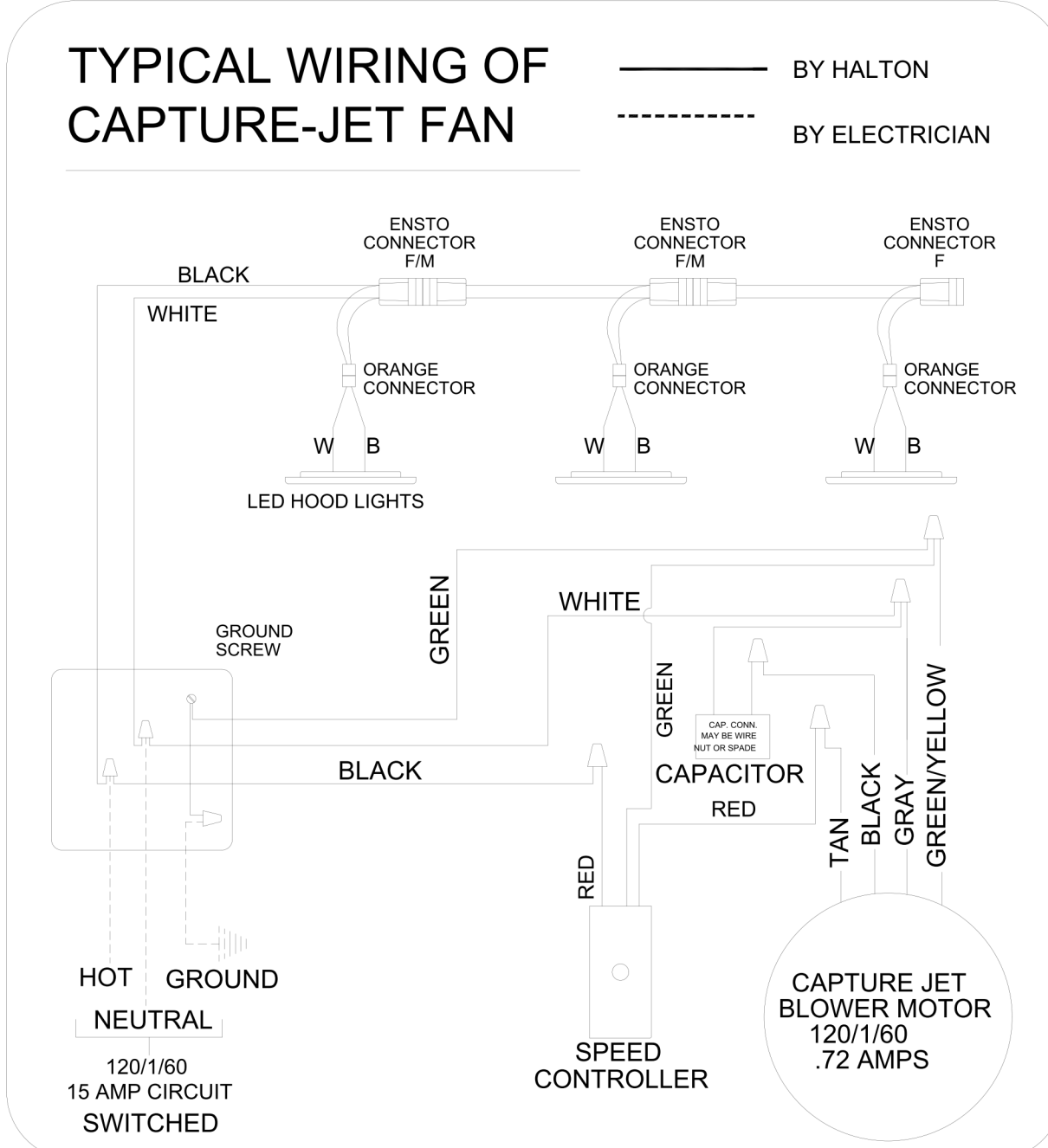
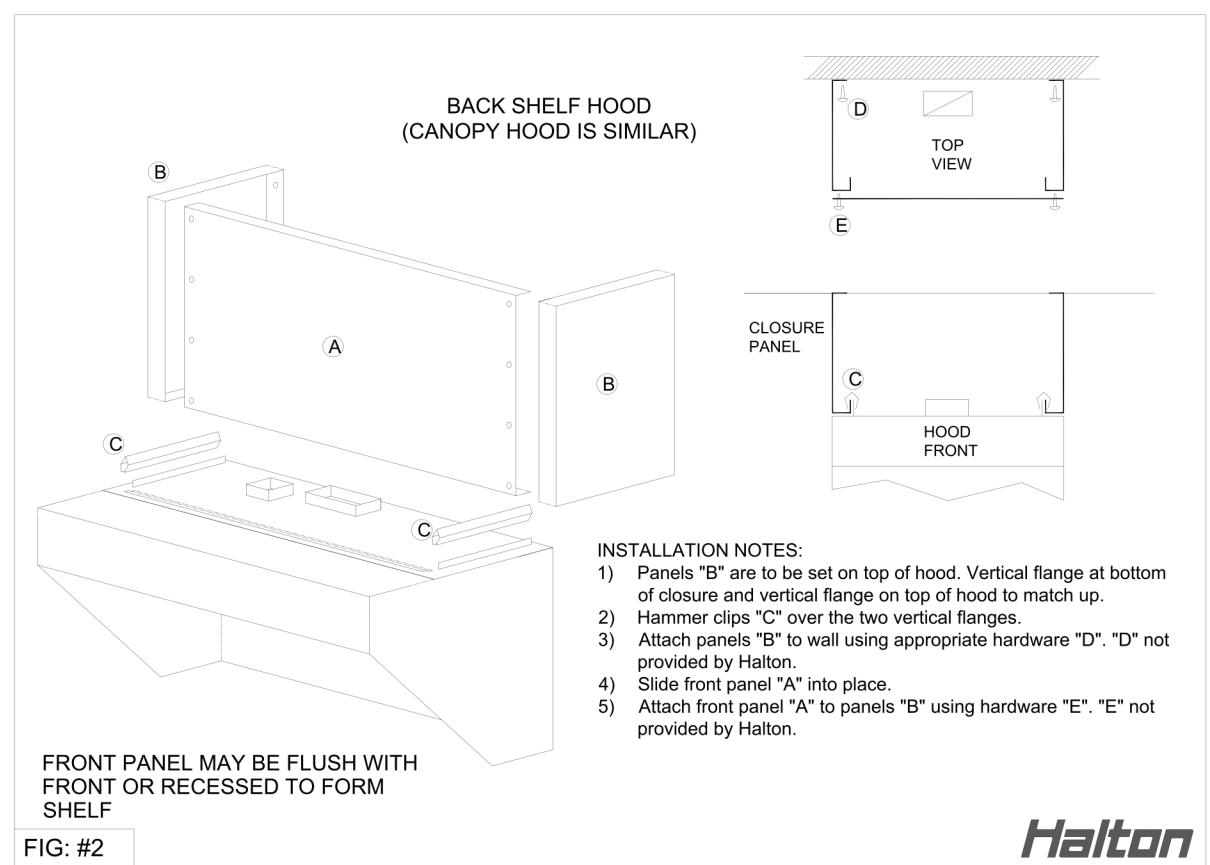
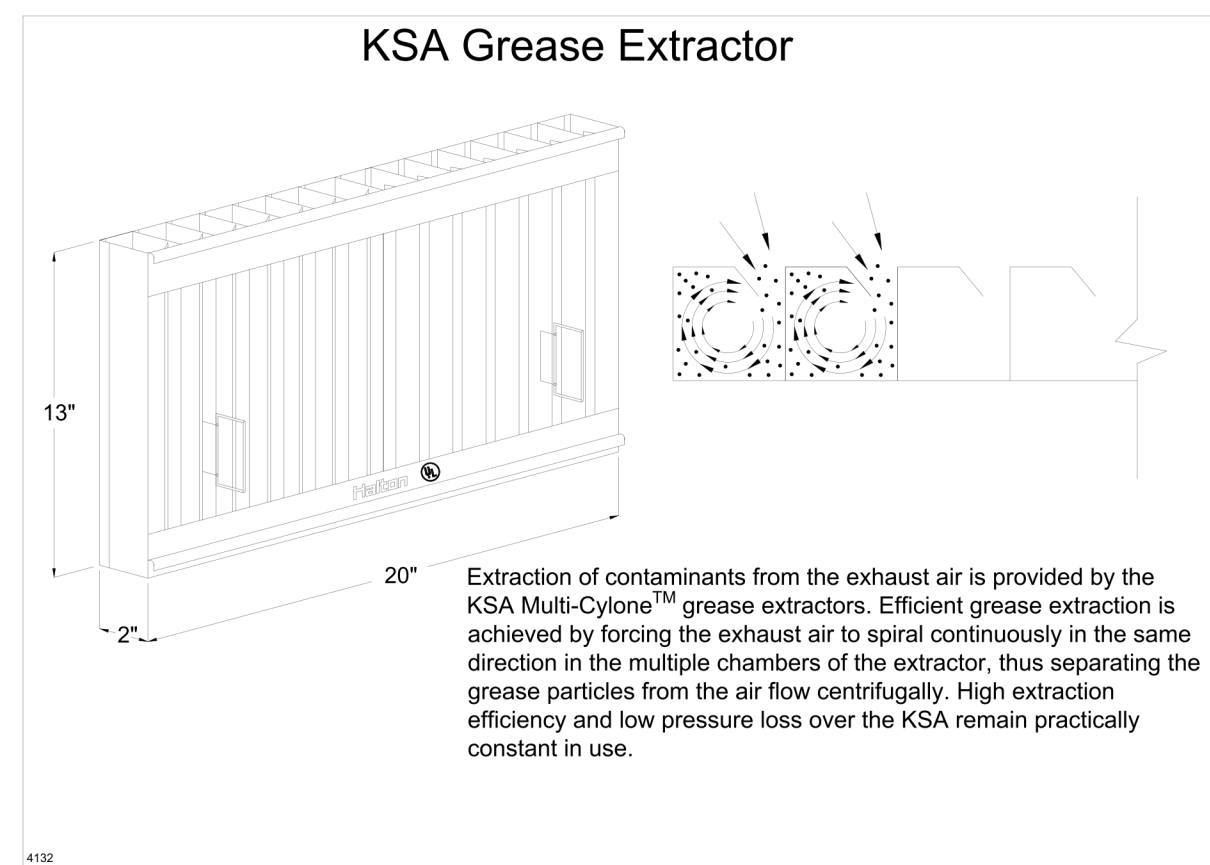
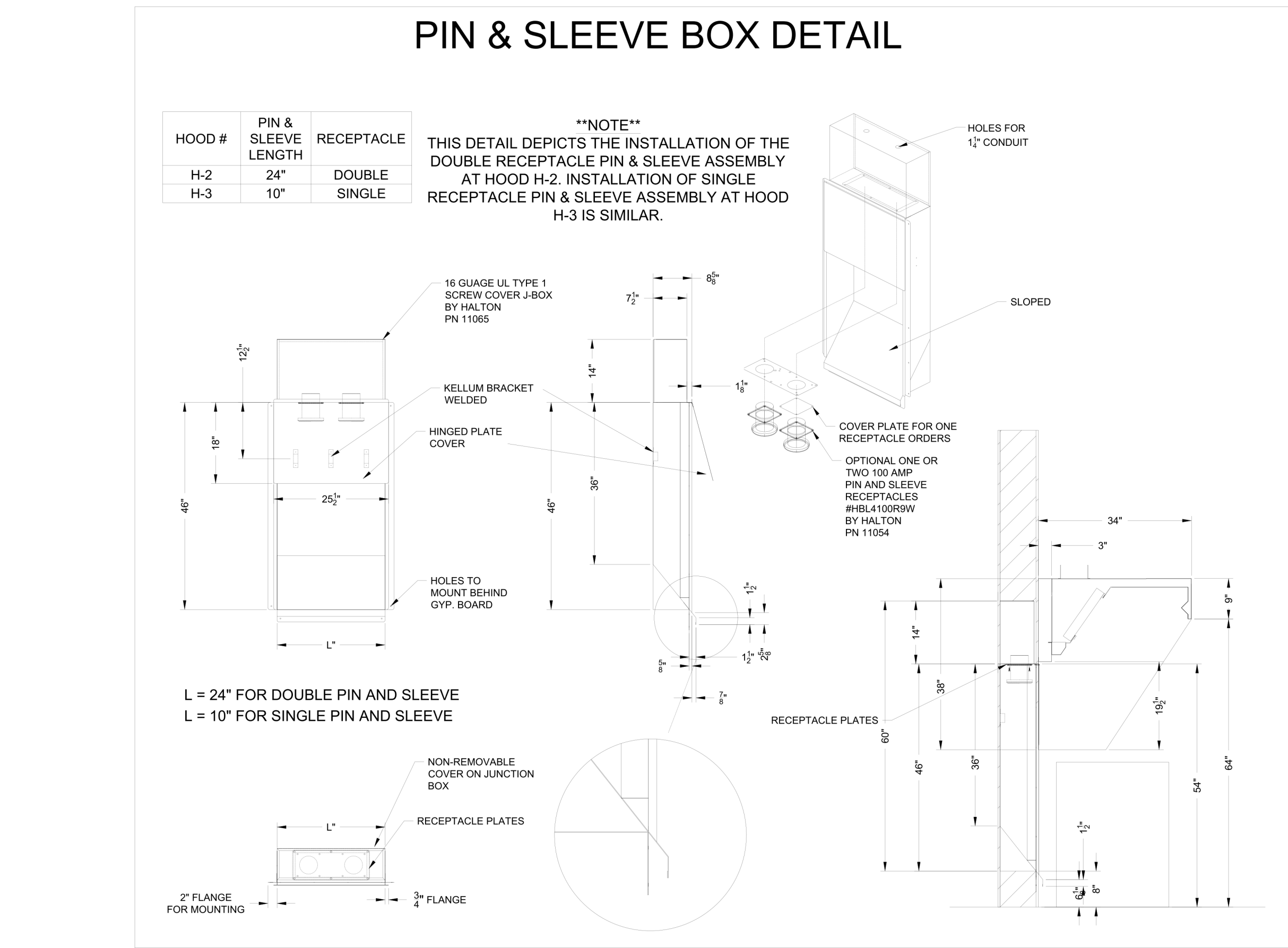
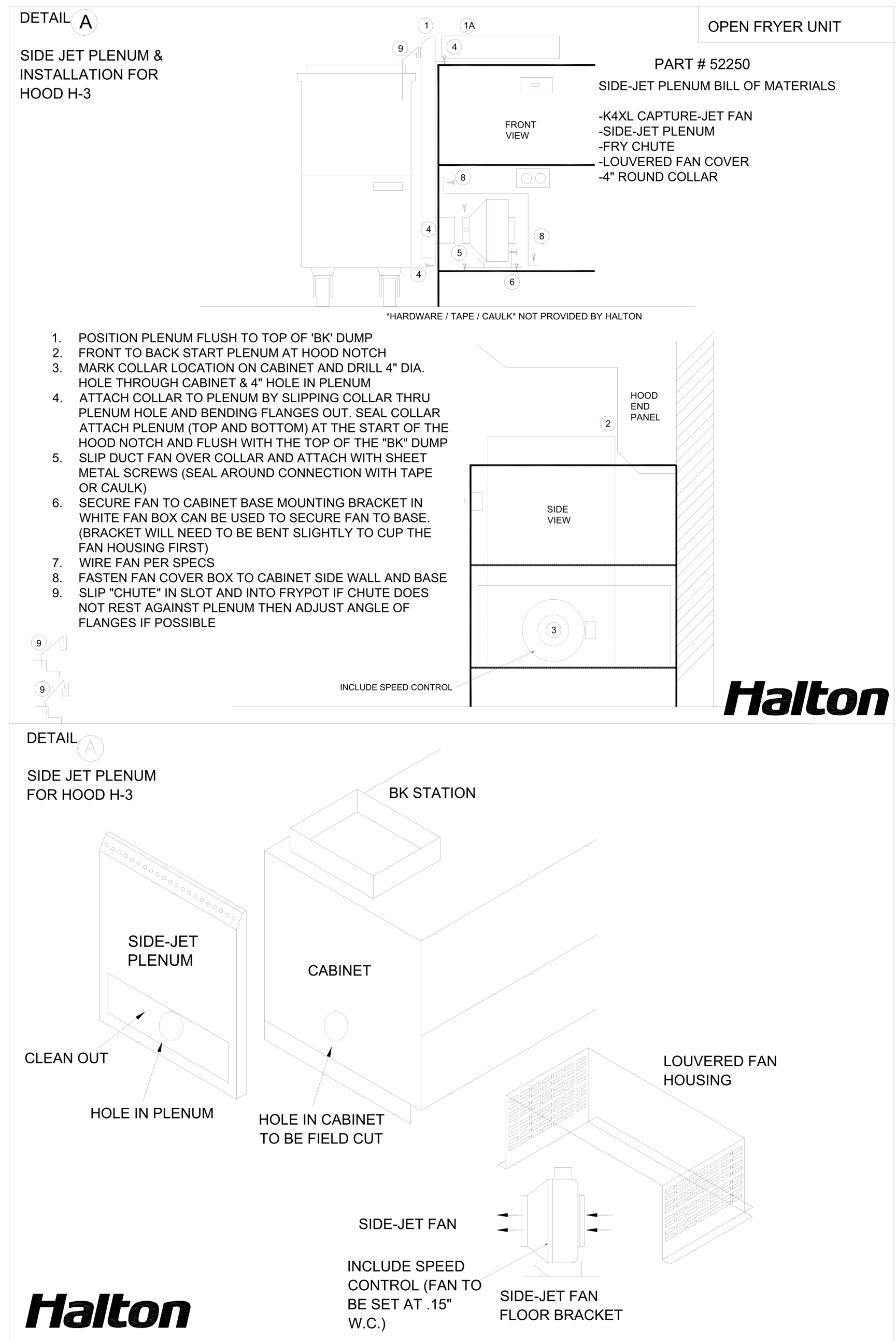
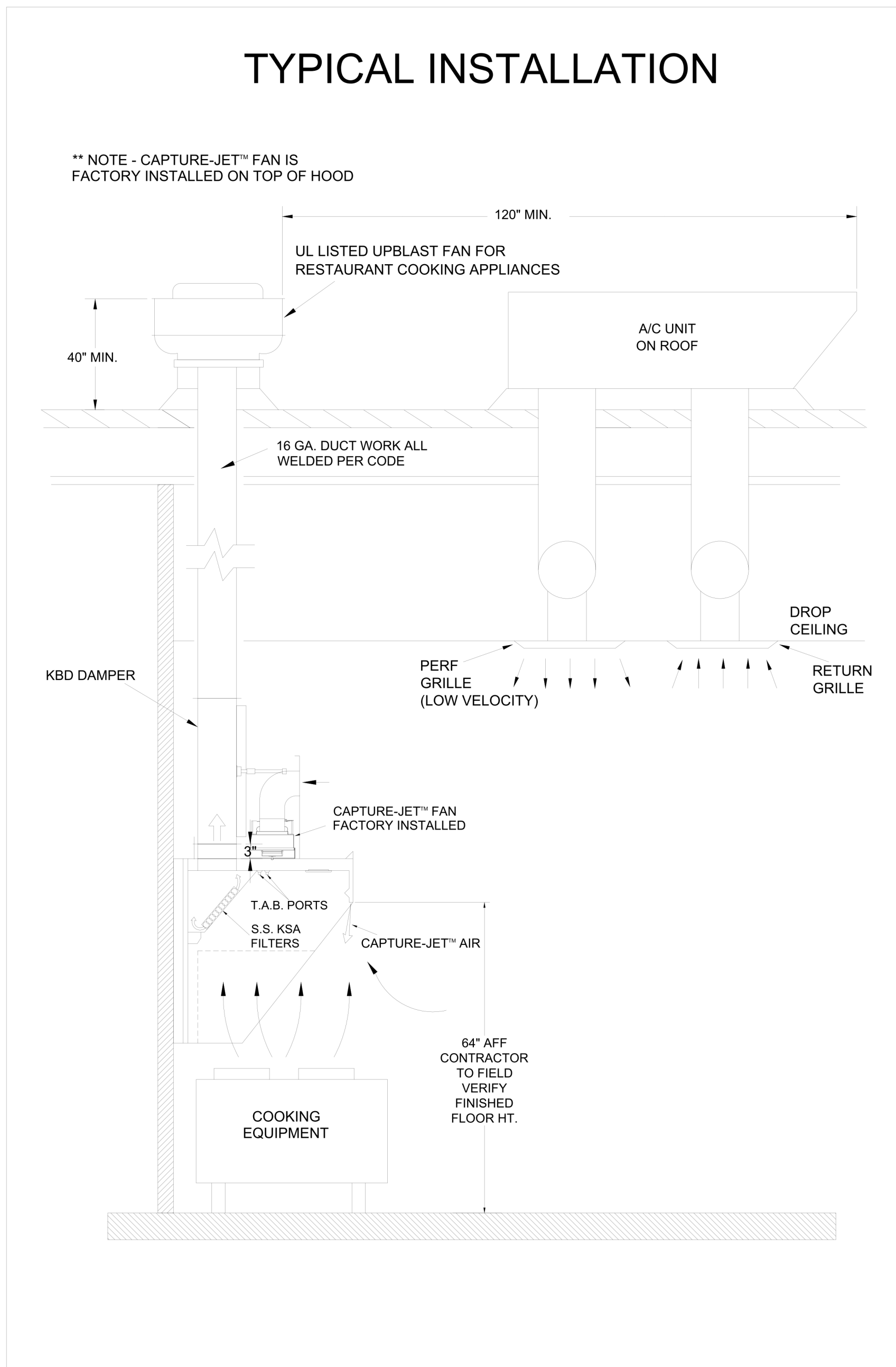
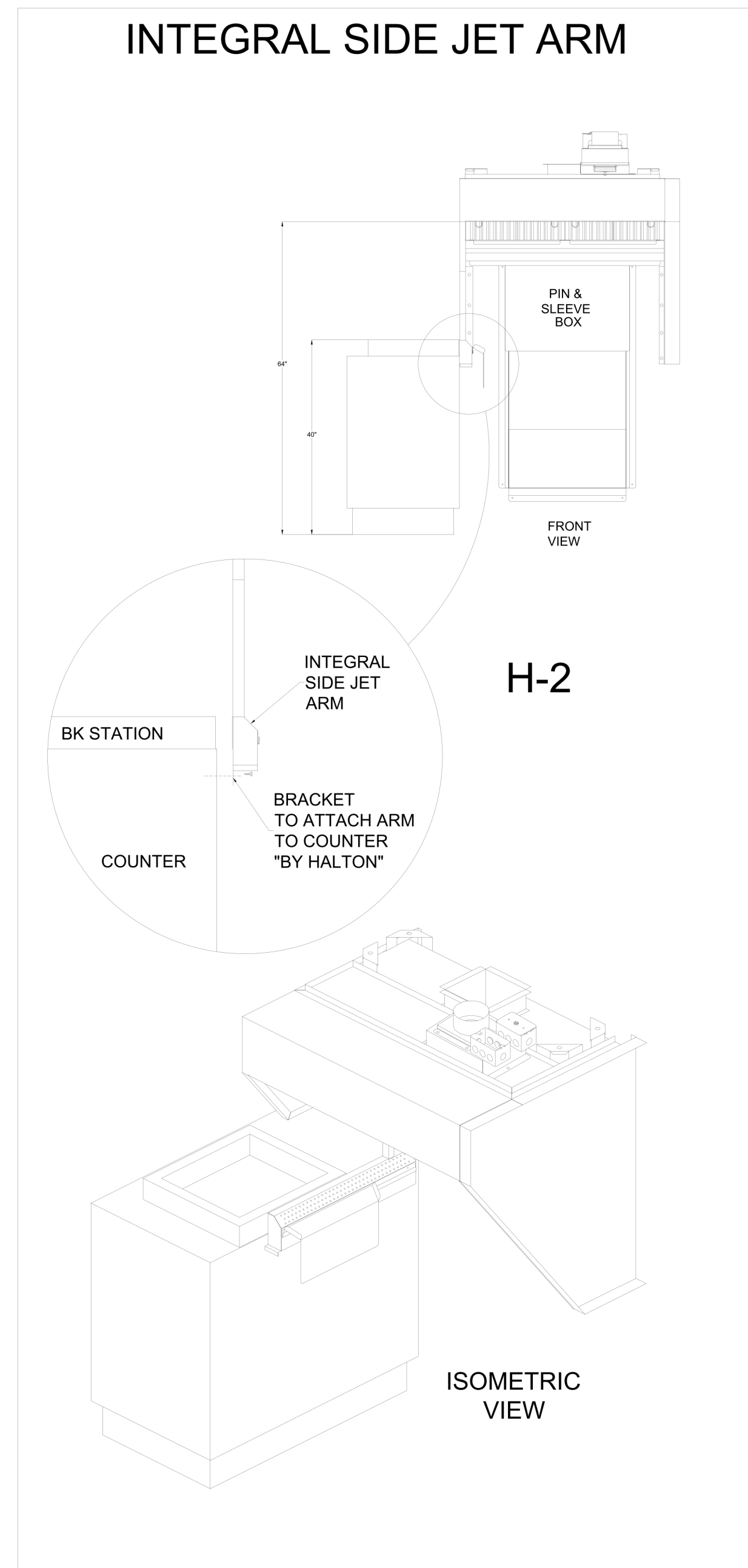
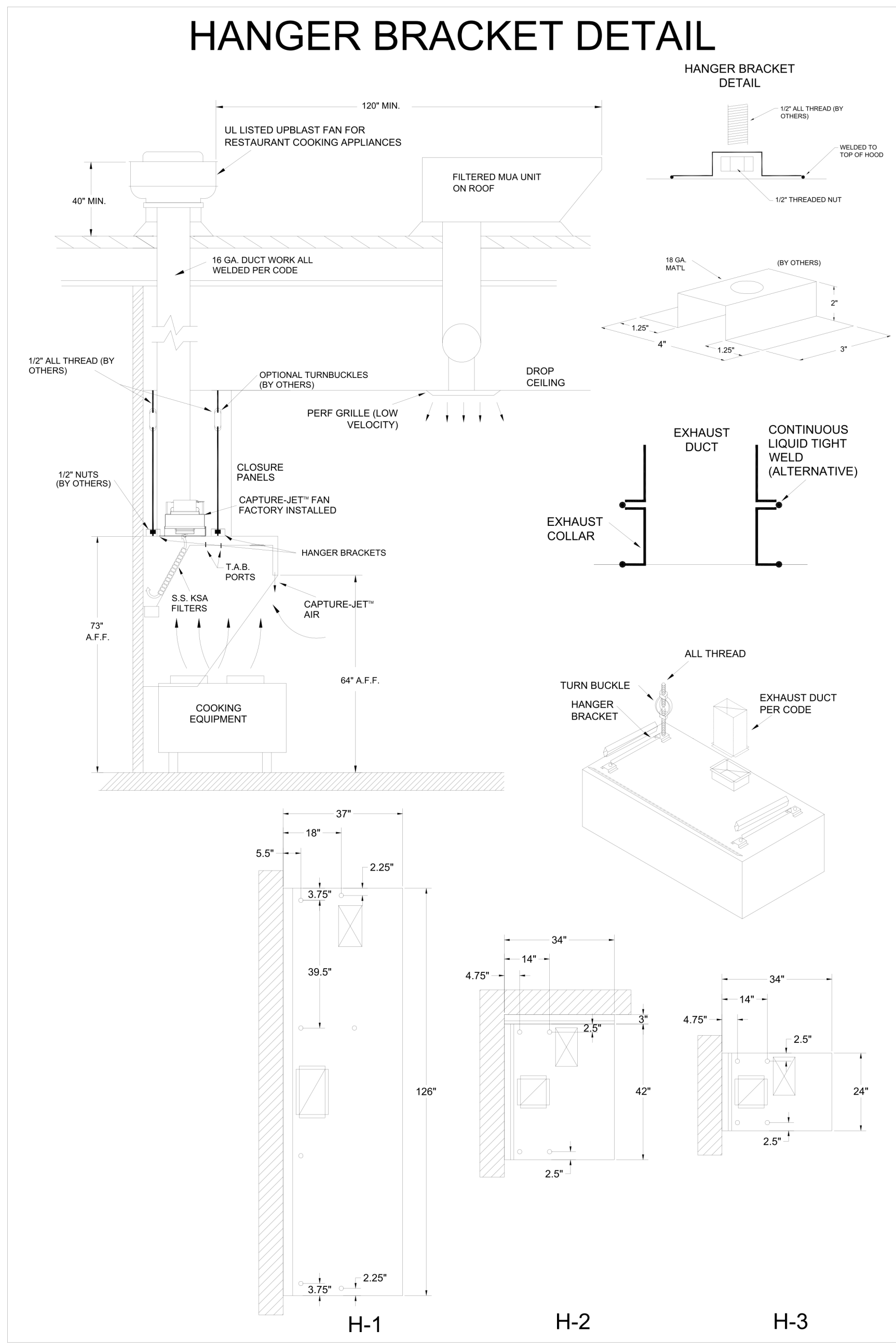
LOCATION: -- DATE: 02.01.24

DRAWN BY: SKK

SCALE: NOT TO SCALE

DRAWING NO.: U24-089-01

SHEET NO.: H-1.1



**NSF Halton** INTERTEK 3012225

CONFORMS TO UL STD. UL STD 710 CERTIFIED TO ULCC STD 5646

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

MODEL NO. **KVL-D-1C** SERIAL NO. \_\_\_\_\_ ITEM NO. \_\_\_\_\_

**GENERAL REQUIREMENTS**

FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS

THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ

THE LIGHTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ

THE HOOD HAS BEEN CERTIFIED BY ETL FOR 9 INCH CLEARANCE TO COMBUSTIBLE MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATIONS TO NFPA 96.

THE HOOD HAS BEEN CERTIFIED BY ETL FOR 9 INCH CLEARANCE TO COMBUSTIBLE MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATIONS TO NFPA 96.

THE HOOD IS PROVIDED WITH REPLACEABLE KSA FILTERS AND LIGHTING FIXTURES

REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER.

SUITABLE FOR USE TO MEDIUM DUTY COOKING APPLIANCES.

DUTY LEVEL	MINIMUM OVERHANG		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN		MIN. EXHAUST CHUTE OR HOOD LENGTH
	FRONT, IN	SIDE, IN	MIN	MAX	
MEDIUM	0	0	20	48	150

.JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.30 IN HOOD

**NSF Halton** INTERTEK 3012225

CONFORMS TO UL STD. UL STD 710 CERTIFIED TO ULCC STD 5646

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

MODEL NO. **KVL-C-1C** SERIAL NO. \_\_\_\_\_ ITEM NO. \_\_\_\_\_

**GENERAL REQUIREMENTS**

FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS

THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ

THE LIGHTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ

THE HOOD HAS BEEN CERTIFIED BY ETL FOR 9 INCH CLEARANCE TO COMBUSTIBLE MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATIONS TO NFPA 96.

THE HOOD HAS BEEN CERTIFIED BY ETL FOR 9 INCH CLEARANCE TO COMBUSTIBLE MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATIONS TO NFPA 96.

THE HOOD IS PROVIDED WITH REPLACEABLE KSA FILTERS AND LIGHTING FIXTURES

REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER.

SUITABLE FOR USE TO MEDIUM DUTY COOKING APPLIANCES.

DUTY LEVEL	MINIMUM OVERHANG		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN		MIN. EXHAUST CHUTE OR HOOD LENGTH
	FRONT, IN	SIDE, IN	MIN	MAX	
MEDIUM	0	0	21	31	138

.JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.26 IN HOOD

**NSF Halton** INTERTEK 3012225

CONFORMS TO UL STD. UL STD 710 CERTIFIED TO ULCC STD 5646

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164

MODEL NO. **KVL-2-1C** SERIAL NO. \_\_\_\_\_ ITEM NO. \_\_\_\_\_

**GENERAL REQUIREMENTS**

FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS

THE FAN CIRCUIT IS RATED FOR 120V, 15A, 60HZ

THE LIGHTING CIRCUIT IS RATED FOR 120V, 15A, 60HZ

THE HOOD HAS BEEN CERTIFIED BY ETL FOR 9 INCH CLEARANCE TO COMBUSTIBLE MATERIALS (TOP, SIDES, FRONT AND REAR) IN COMPLIANCE WITH UL710 WITH CONSIDERATIONS TO NFPA 96.

THE HOOD IS PROVIDED WITH REPLACEABLE KSA FILTERS AND LIGHTING FIXTURES

REPLACE FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER.

SUITABLE FOR USE TO HEAVY DUTY COOKING APPLIANCES.

DUTY LEVEL	MINIMUM OVERHANG		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN		MIN. EXHAUST CHUTE OR HOOD LENGTH
	FRONT, IN	SIDE, IN	MIN	MAX	
MEDIUM	6	0	20	30	121
MEDIUM	6	0	20	32	138
MEDIUM	6	0	20	36	153
HEAVY	0	2	20	25	191
HEAVY	0	2	20	30	216

.SETBACK UNDERHANG DISTANCE

.JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.26 IN HOOD

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFY THE FOLLOWING:

- ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.
- THE LOCATION AND TYPE OF COOKING EQUIPMENT.

NOTE TO APPROVER: ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIR FLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR. A RECALCULATION EXHAUST AIR FLOW MAY BE REQUIRED.

APPROVED FOR FABRICATION: \_\_\_\_\_ WITH NO CHANGES \_\_\_\_\_ WITH CHANGES AS NOTED

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

WEBSITE: [www.halton.com](http://www.halton.com)

HALTON CO. (USA)  
101 INDUSTRIAL DRIVE  
SCOTTSVILLE, KY 42164  
1-270-237-5600

BY: SKK DATE: 07.24.24  
SKK DATE: 08.08.24

REVISION DESCRIPTION

REV.	DESCRIPTION
1	PAPERSPACE LAYOUT
2	NO CHANGE
3	
4	
5	
6	
7	

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

HALTON CO. (CANADA)  
1021 BREVIK PLACE  
MISSISSAUGA, ON L4W 3R7  
1-905-624-0301

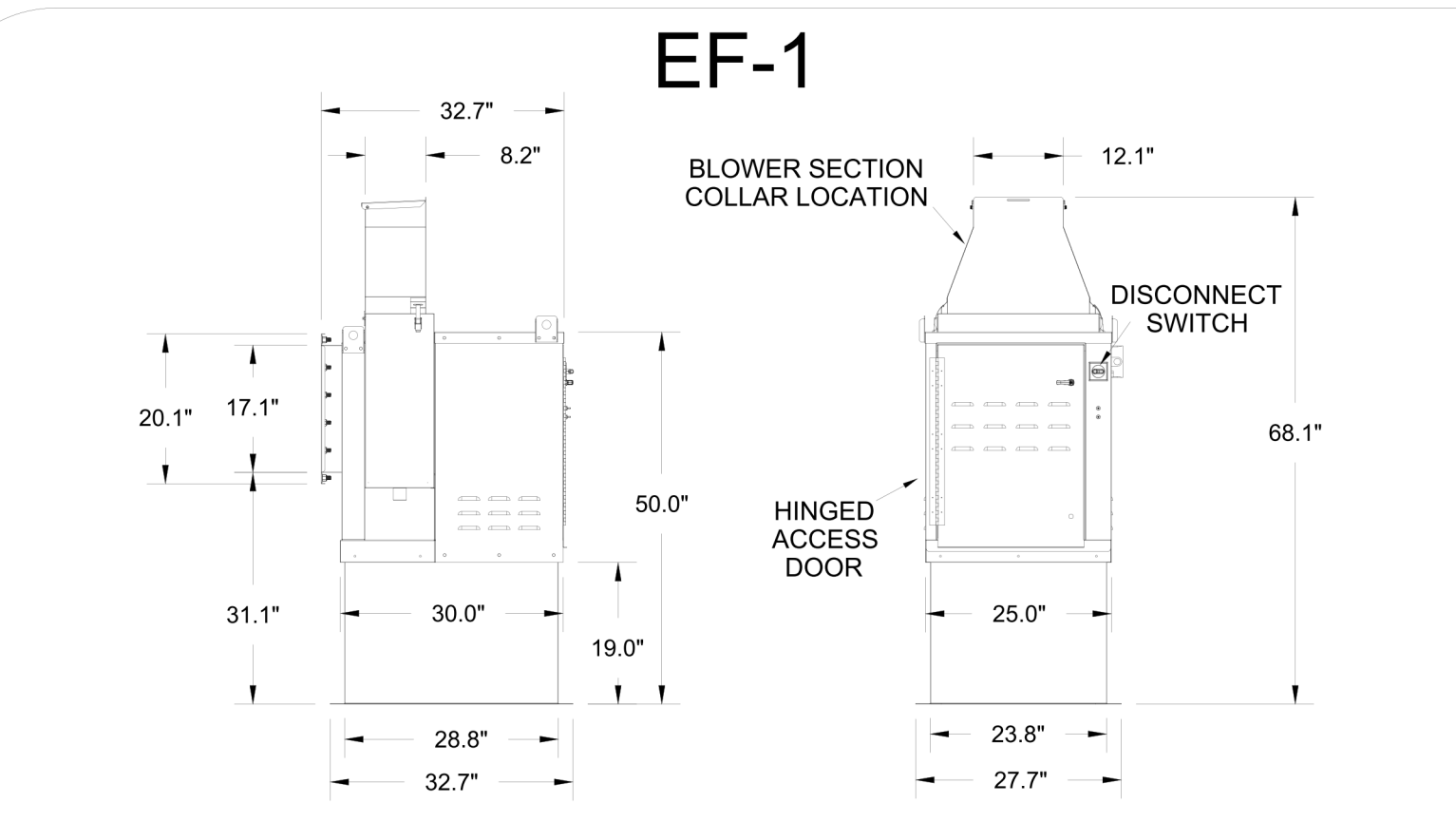
PROJECT: CHICK-FIL-A SSAM NAME

LOCATION: -- SKK DATE: 02.01.24  
DRAWN BY: SKK DATE: 02.01.24  
SCALE: NOT TO SCALE

DRAWING NO.: U24-089-02  
SHEET NO.: H-1.2

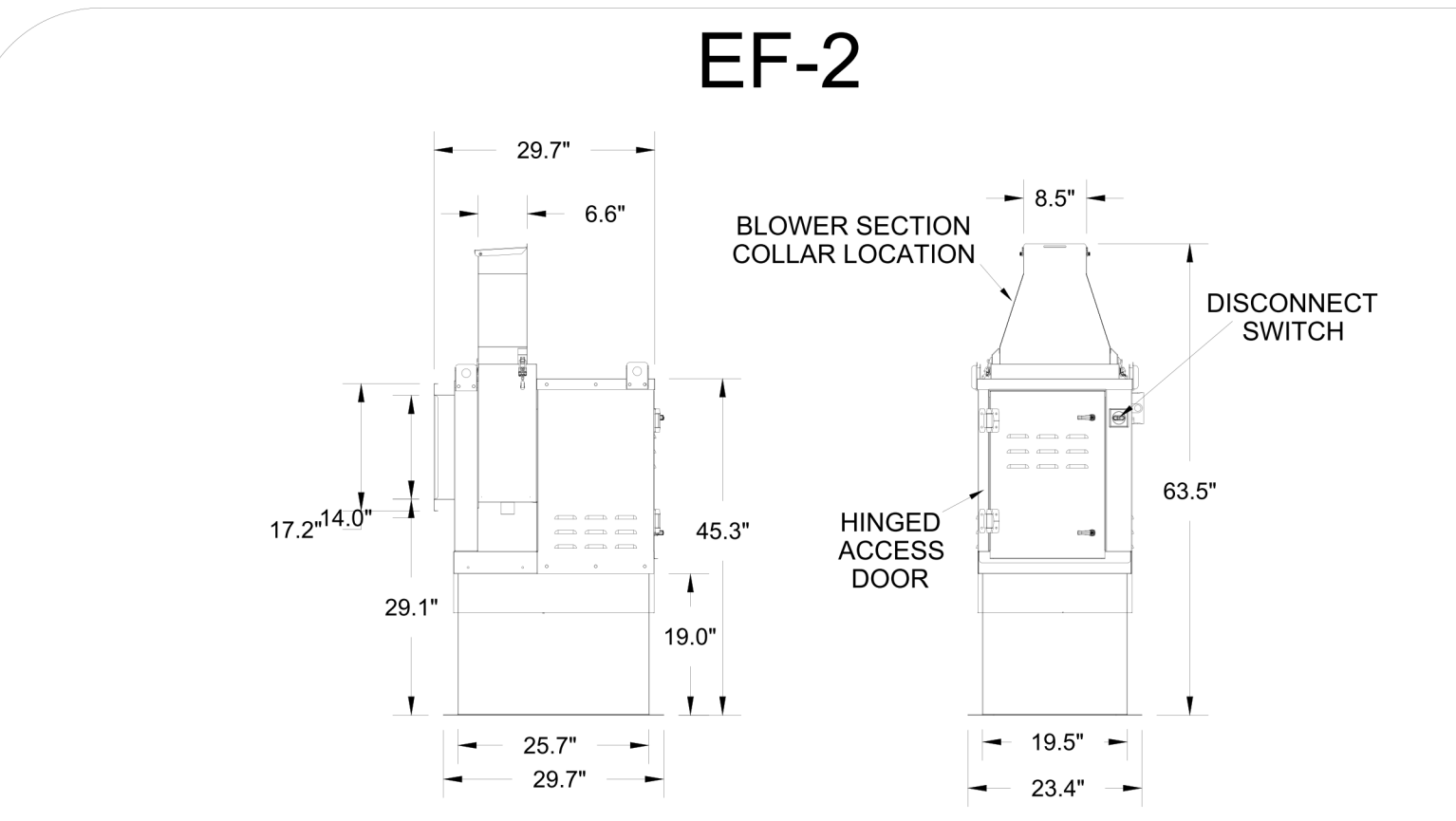
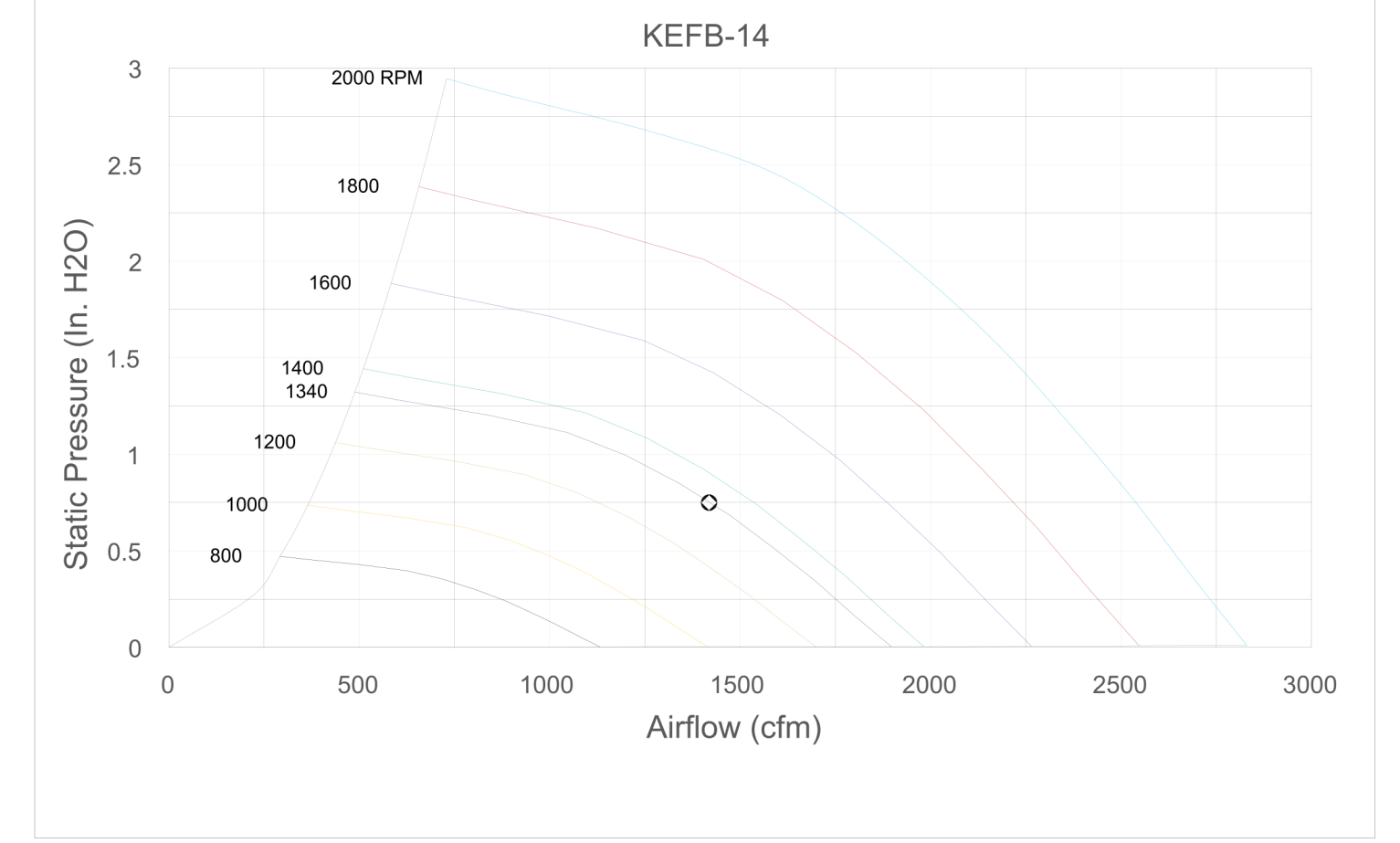
**Halton**





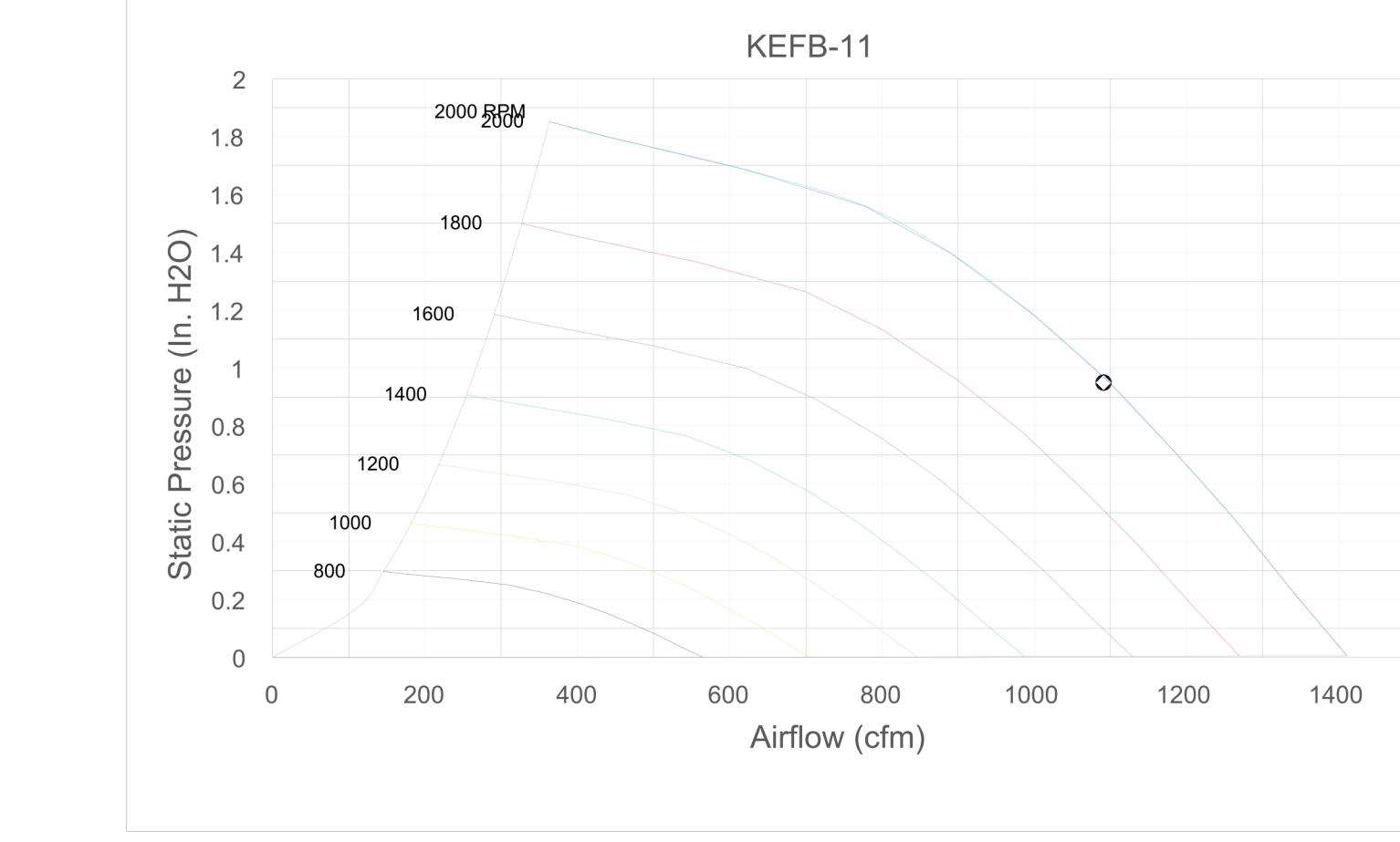
**Halton KEFB Exhaust Fan**

Job Name	Chick-Fil-A SSAM	Item No	EF-1	Qty	1	Volts/Ph/Amps	115/1/60
Location	EF-1	Model	KEFB-14	Fan RPM	1,340	Motor HP	0.5
Date	2/6/2024	Airflow, cfm	1,418	Fan BHP	0.32	TAB Port, in WC	2.2
Model		Static Pressure, in WC	0.75	dB	90.5		



**Halton KEFB Exhaust Fan**

Job Name	Chick-Fil-A SSAM	Item No	EF-2	Qty	1	Volts/Ph/Amps	115/1/60
Location	EF-2	Model	KEFB-11	Fan RPM	2,000	Motor HP	0.5
Date	2/6/2024	Airflow, cfm	1,091	Fan BHP	0.33	TAB Port, in WC	3.6
Model		Static Pressure, in WC	0.95	dB	92.2		



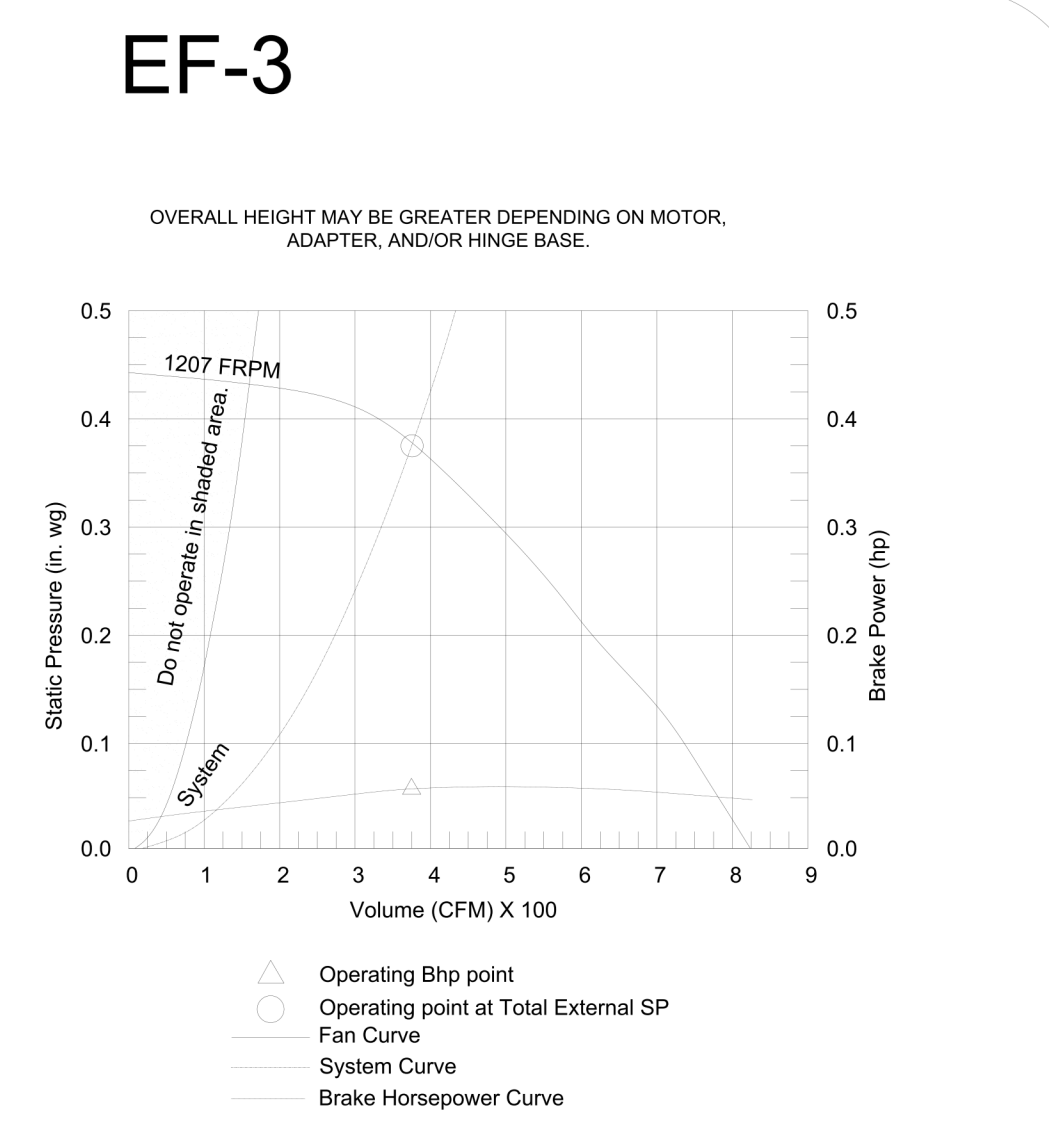
**Model: XRED-095-VG**  
Direct Drive Centrifugal Roof Exhaust Fan

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	28
Weight w/ Acc's (lb)	35
Weight w/ Acc's and Curb (lb)	49
Standard Curb Cap Size (in.)	17 x 17
Optional Damper (in.)	10 x 10
Roof Opening (in.)	13.5 x 13.5

Performance	
Requested Volume (CFM)	375
Actual Volume (CFM)	375
Total External SP (in. wg)	0.375
Fan RPM	1207
Operating Power (hp)	0.05
Elevation (ft)	23
Airstream Temp. (F)	70
Air Density (lb/ft <sup>3</sup> )	0.075
Tip Speed (ft/min)	3,437
Static Eff. (%)	41

Motor	
Motor Mounted	Yes
Size (hp)	1/8 (or greater)
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP
Motor RPM	1550
Efficiency Rating	Standard
Windings	1

Misc Fan Data:  
Fan Eff. Index (FEI) -  
Outlet Velocity (ft/min) 323

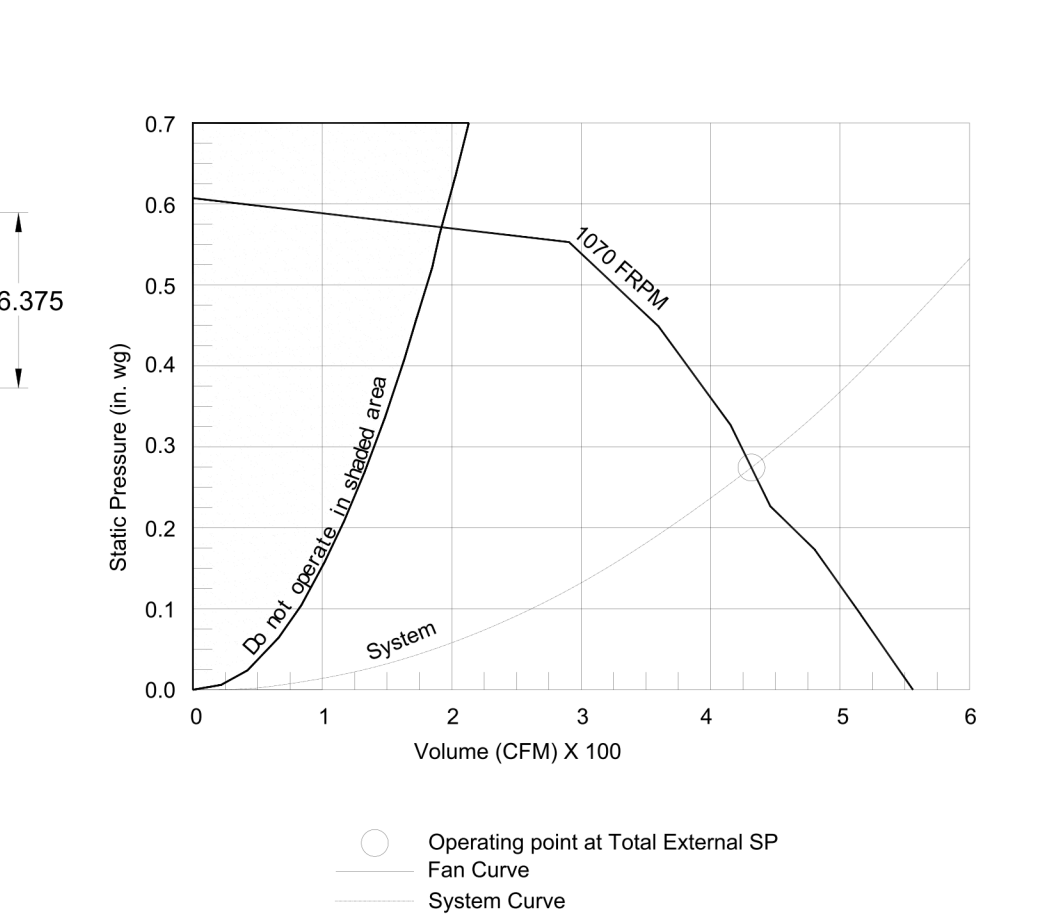


**Model: SP-A510-VG**

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	31
Weight w/ Acc's (lb)	40

Performance	
Requested Volume (CFM)	450
Actual Volume (CFM)	431
Total External SP (in. wg)	0.275
Fan RPM	1070
* FLA (A)	3.3
Elevation (ft)	23
Airstream Temp. (F)	70
Air Density (lb/ft <sup>3</sup> )	0.075
Sones	4.5

Motor	
Motor Mounted	Yes
** Input Watts (W)	224
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP



**GREASE ACCESS DOOR SCHEDULE**

MODEL	"A"	"B"	"C"	"E"	"F"
KAP0715	7	15	FLAT	5.5	13.5
KAP1015	10	15	1/2"	7	12

ACCESS DOORS SHALL BE U.L. 1978 LISTED OR FIELD FABRICATED, REQUIRE NO TOOLS FOR REMOVAL AND MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE IMC. ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOORS SHALL BE SEALED WITH A MINIMUM 1500 DEGREE GASKET MATERIAL

INSTALL PER MANUFACTURER'S INSTRUCTIONS

**Halton Kitchen Exhaust Fan Curb Insulated Duct Curb**

**Standard Construction Features:**

- Roof Curb fits between the building roof and the fan mounted directly to the roof support structure
- Constructed of 18 ga aluminumized steel
- Straight Sided without a cant
- 2 in. mounting flange
- Height is 22 in.

**Field cut by HVAC contractor**

**Standard Construction Features:**

- Duct Curb fits between the building roof and the fan mounted directly to the roof support structure
- Constructed of 18 ga aluminumized steel
- Straight Sided without a cant
- 2 in. mounting flange
- Height is 12 in.
- 18 ga. cap

**Model: GPI**  
For Model: XRED-090-VG  
Curb & Damper Tray

ACCESSORIES			
MATERIAL	SECURITY BARS	INSULATION LINER	INSULATION R VALUE
GALVANIZED	NO	NO	1 R4.3

GENERAL							
TAG	QTY	MODEL	SIZING METHOD	UNDERSIZING (in.)	WEIGHT (lb)	SHIPPED ASSEMBLED	UNION LABEL PREFERENCE
EF-3	1	GPI-17	NOMINAL	1.5	14	YES	NO

DIMENSIONS										
CURB HEIGHT (in.)	NOMINAL WIDTH (in.)	NOMINAL LENGTH (in.)	ACTUAL OUTSIDE WIDTH (in.)	ACTUAL OUTSIDE LENGTH (in.)	ACTUAL INSIDE WIDTH (in.)	ACTUAL INSIDE LENGTH (in.)	FLANGE WIDTH (in.)	FLANGE LENGTH (in.)	HINGE BASE WIDTH (in.)	HINGE BASE LENGTH (in.)
12	17	17	15.5	15.5	12	12	19.5	16		

\*MAY NOT BE APPLICABLE

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFY THE FOLLOWING:

- ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.
- THE LOCATION AND TYPE OF COOKING EQUIPMENT.

NOTE TO APPROVER: ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR. A RE-CALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

APPROVED FOR FABRICATION:  WITH NO CHANGES  WITH CHANGES AS NOTED

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

PROJECT: CHICK-FIL-A SSAM NAME: \_\_\_\_\_

LOCATION: -- SKK DATE: 02.01.24

DRAWN BY: SKK

SCALE: NOT TO SCALE

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

WEBSITE: www.halton.com

HALTON CO. (USA)  
101 INDUSTRIAL DRIVE  
SCOTTSDALE, KY 42164  
1-270-237-5600

HALTON CO. (CANADA)  
1021 BREVIK PLACE  
MISSISSAUGA, ON L4W 3R7  
1-905-624-0301

REV.	DESCRIPTION	DATE
1	PAPERSPACE LAYOUT	07.24.24
2	NO CHANGE	08.08.24
3	REVISED TO MATCH OTHER PROTOS	09.06.24
4		
5		
6		
7		

REVISION DESCRIPTION

BY: SKK DATE: 07.24.24

SKK 08.08.24

SKK 09.06.24

DRAWING NO.: U24-089-04

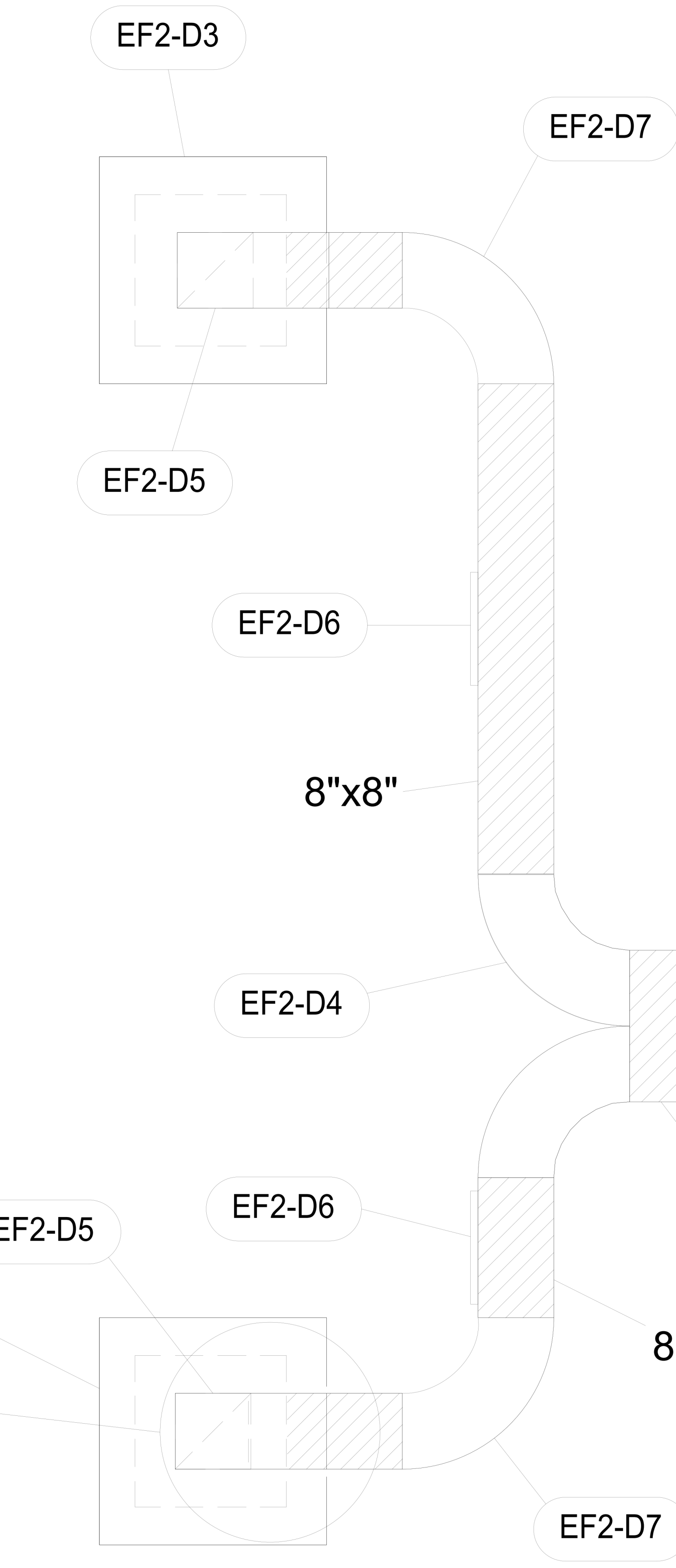
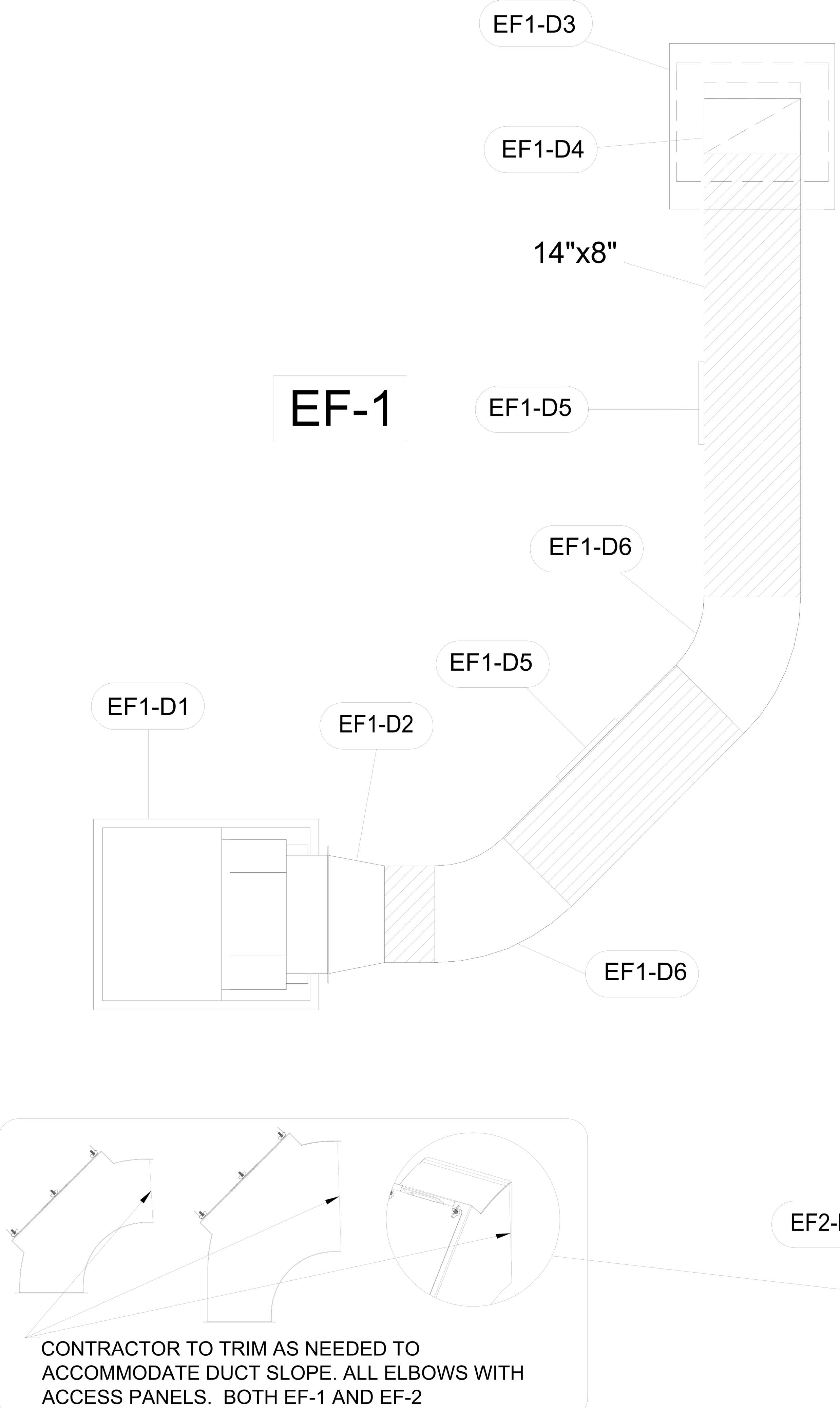
SHEET NO.: H-1.4

EXHAUST FAN #1 (EF-1)		
ITEM	DESCRIPTION	QTY
EF1-D1	KEFB EXHAUST FAN W/ ROOF CURB	1
EF1-D2	FAN TRANSITION W/ UL LISTED ACCESS PANEL 14X8	1
EF1-D3	DUCT ROOF CURB W/ CAP 26X26X12	1
EF1-D4	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 14X8	1
EF1-D5	UL LISTED ACCESS PANEL 7X15	2
EF1-D6	LONG SWEEPING ELBOW 45° 14X8	2

ALL DUCTS AND FITTINGS  
DEPICTED BY HATCH AREAS  
ARE BY HVAC CONTRACTOR.

-CONTACT HALTON CUSTOMER SERVICE FOR HALTON PROVIDED ITEMS ONLY DUCT SECTIONS SPECIFIED BY NUMBERS AND SHOWN IN THE ABOVE CHART ARE PROVIDED BY HALTON

-ALL OTHER DUCTS AND FITTINGS BY HVAC CONTRACTOR. DUCT SECTIONS PROVIDED BY HVAC CONTRACTOR ARE SHOWN IN ORDER TO DEPICT TOTAL SYSTEM DESIGN. THE UL LISTED ACCESS PANELS PROVIDED BY HALTON MUST BE INSTALLED IN DUCT SECTIONS NOT PROVIDED BY HALTON BY HVAC CONTRACTOR.



TRANSITION	"H"	"W"	"L"
EF-1	5	8	14
EF-2	6	8	16

"H"	"W"	"A"	Ro	Rc	Ri
14	8	29	28	21	14
8	8	17	16	12	8

"W"	"H"	W0	Ro	Rc	Ri	"A"	"B"
8	8	16	16	12	8	34	17

"H"	"W"	"A"	Ro	Rc	Ri
8	8	17	16	12	8

ELBOW	"A"
EF-1	14X8
EF-2	8X8

CONTRACTOR TO TRIM AS NEEDED TO ACCOMMODATE DUCT SLOPE. ALL ELBOWS WITH ACCESS PANELS. BOTH EF-1 AND EF-2

SSAM-LS

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- THE LOCATION AND TYPE OF COOKING EQUIPMENT.

NOTE TO APPROVER:  
ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR. A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

REVISE AND RESUBMIT  WITH NO CHANGES  WITH CHANGES AS NOTED

APPROVED FOR FABRICATION

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

UL LISTED  
NSF  
ETL

WEBSITE: [www.halton.com](http://www.halton.com)  
**HALTON CO. (USA)**  
 101 INDUSTRIAL DRIVE  
 SCOTTSDALE, KY 42164  
 1-270-237-5600

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:  
**HALTON CO. (CANADA)**  
 1021 BREVIK PLACE  
 MISSISSAUGA, ON L4W 3R7  
 1-905-624-0301

REV.	DESCRIPTION	DATE
1	ADDED THIS SHEET	09.06.24
2		
3		
4		
5		
6		
7		

PROJECT: CHICK-FIL-A SSAM  
 NAME: \_\_\_\_\_  
 LOCATION: PROTO SSAM-LS  
 DRAWN BY: SKK DATE: 09.06.24  
 SCALE: NOT TO SCALE

**Halton**

DRAWING No.: U24-089-05  
 SHEET NO.: H-1.5