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5/3/24

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 1920 W. Foxwood Drive
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FSR#04604

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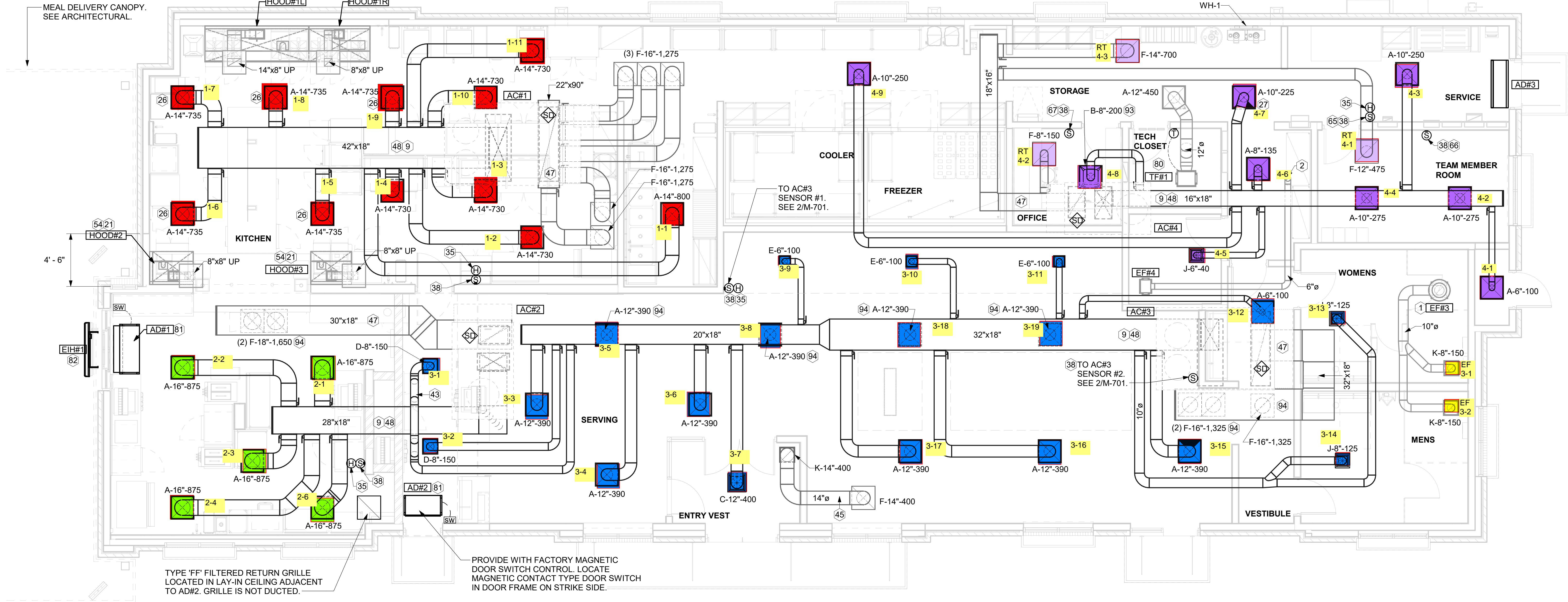
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SHEET
 EQUIPMENT AND DUCTWORK PLAN - TRANE
 SHEET NUMBER

M-101

SEAL PENETRATIONS IN DRAFTSTOPPING CURTAIN AIR-TIGHT. REFER TO ARCH DRAWINGS FOR LOCATION AND CONSTRUCTION OF DRAFTSTOPPING CURTAIN.



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

H.E.S. SYSTEM
 MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-702 FOR MORE INFORMATION.

PROVIDE WITH FACTORY MAGNETIC DOOR SWITCH CONTROL. LOCATE MAGNETIC CONTACT TYPE DOOR SWITCH IN DOOR FRAME ON STRIKE SIDE.

TYPE 'FF' FILTERED RETURN GRILLE LOCATED IN LAY-IN CEILING ADJACENT TO AD#2. GRILLE IS NOT DUCTED.

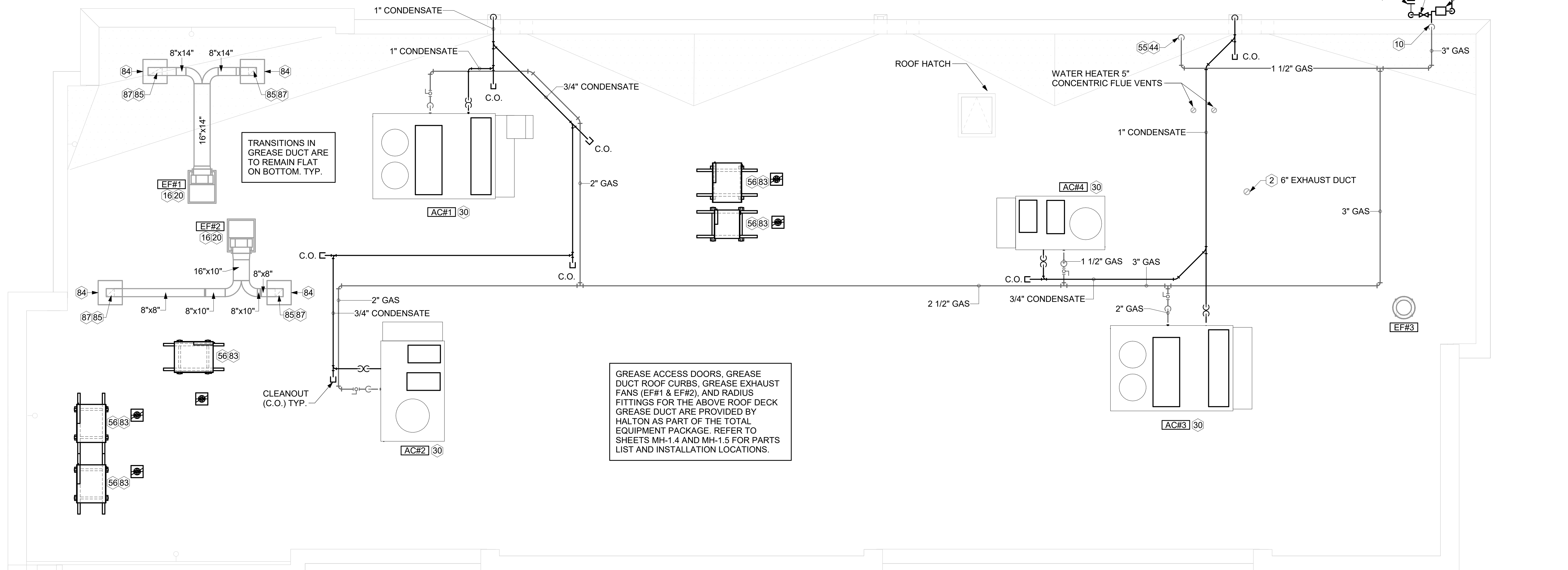
AIR BALANCE SCHEDULE TRANE

Mark	SUPPLY AIR	RETURN AIR	OUTSIDE AIR	EXHAUST AIR	BUILDING POSITIVE PRESSURE
AC#1	8,125	6,375	1,750	0	
AC#2	4,375	3,300	1,075	0	
AC#3	5,250	3,975	1,275	0	
AC#4	1,750	1,325	425	0	
EF#1	0	0	0	1,913	
EF#2	0	0	0	1,402	
EF#3	0	0	0	300	
EF#4	0	0	0	75	
	19,500	14,975	4,525	3,690	835

KEY NOTES

- 10" DIA. DUCT UP THRU ROOF.
- 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.
- BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY OFFSET OR ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.
- HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-201 FOR LOCATION.
- MECHANICAL CONTRACTOR TO ADJUST PATTERN DEFLECTORS TO THROW STRAIGHT DOWN.
- 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.
- ROUTE DUCT WITHIN STRUCTURE.
- TRANSFER AIR DUCT, NO BALANCING DAMPERS AT GRILLES.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. SEE DETAIL 5/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).
- SEE ELEVATIONS ON M-201 FOR CJ FAN DUCTING REQUIREMENT.
- TO AC#4, SENSOR #1. SEE 2/M-701.
- TO AC#4, SENSOR #2. SEE 2/M-701.
- TO AC#4, SENSOR #3. SEE 2/M-701.
- CEILING MOUNTED RECIRCULATING FAN. DUCT AND DISCHARGE TO TYPE 'A' DIFFUSER AS SHOWN.
- MOUNT AIR DOOR IN CEILING. CENTERED ON DRIVE-THRU/MFA DOOR OPENING. REFER TO WIRING DIAGRAM ON SHEET M-702 FOR MORE INFORMATION.
- ELECTRIC HEATER. MC TO MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
- MAXIMUM HEATING AND COOLING AIRFLOWS INDICATED. SET MINIMUM AIRFLOW TO 25 CFM.
- TAKE OFF WITH DAMPER AT THE BOTTOM OF DUCTWORK, TYP.

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 30-LE-04604-M-101-EQUIPMENT AND DUCTWORK PLAN - TRANE



1 EQUIPMENT ROOF PLAN - TRANE
1/4" = 1'-0"

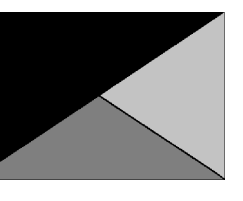
KEY NOTES

- 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 VERIFY EXHAUST TERMINATION IS A MINIMUM 10'-0" FROM PARAPETS AND OUTSIDE AIR INTAKES. REFER TO MH-1.4 AND MH-1.5 FOR DETAILS.
- 19 1-1/2" GAS BELOW GRADE TO ORDER CANOPY, SEE DETAIL 2 SHEET M-103.
- 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."
- 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 2M-502 FOR MORE INFORMATION ON CONSTRUCTION AND PENETRATION.
- 55 SEE ARCHITECTURAL DETAILS FOR ROOFTOP PIPE PENETRATIONS.
- 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 DISCHARGE OF CONDENSING UNITS INTO CONDENSER SECTION OF ROOFTOP UNITS, TYP.
- 84 ROOF CURB FOR DUCT PENETRATION. REFER TO MH-1.4 AND MH-1.5 FOR DETAILS.
- 85 TURN DOWN THRU ROOF. SEE M-101 FOR CONTINUATION.
- 87 DUCT PENETRATIONS ON ROOF MUST BE AT LEAST 18" FROM ADJACENT PARAPETS.

3. GAS LOAD SCHEDULE	
EQUIPMENT	GAS LOAD
AC#1	400,000 BTUS
AC#2	250,000 BTUS
AC#3	400,000 BTUS
AC#4	130,000 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
TOTAL FUTURE CONNECTED LOAD	1,878,000 BTUS
REMARKS:	1. EQUIVALENT TO 1,878.0 CFH 2. 7" W.C. DELIVERY PRESSURE 3. DEVELOPED LENGTH: 200 FT. (METER TO AC#2) 4. GAS PIPING SIZED FOR FUTURE LOAD 5. SIZED PER IFGC TABLE 402.4(2).



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 SHEET
 EQUIPMENT ROOF PLAN - TRANE

SHEET NUMBER
M-102

ROOFTOP UNIT SCHEDULE - TRANE

MARK	TOTAL COOLING MBH	SENSIBLE COOLING MBH	HEATING INPUT MBH	HEATING OUTPUT MBH	SUPPLY (CFM)	OA (CFM)	HP	# OF FANS	ESP (in-wg)	EER	IEER / SEER	VOLTAGE (V)	PHASE	MCA (A)	MOCP (A)	MODEL	MFG	REMARKS
AC#1	278.3	210	400	324.5	8,125	1,750	3	2	0.8	9.8	13	208	3	125	150	YSJ300A3S	TRANE	1,3,4,5,6,8,9,10,11,12,13,14,15,16,17
AC#2	150.9	114.9	250	202.5	4,375	1,075	4.6	1	0.8	10.8	14	208	3	71	90	YSJ150A3S	TRANE	1,3,4,5,6,8,9,10,11,12,13,14,15,16,17
AC#3	184.3	140.4	400	324	5,250	1,275	3	2	0.8	10.8	14	208	3	83	110	YSJ180A3S	TRANE	1,3,4,5,6,8,9,10,11,12,13,14,15,16,17
AC#4	58.1	44.2	130	104	1,750	425	1	1	0.8	13	17.2	208	3	33	45	YHC067E3R	TRANE	2,3,4,5,6,7,8,9,10,12,13,14,15,16,17

NOTES

- MECHANICAL CONTRACTOR TO VERIFY TRANE SUBMITTAL WITH CONSTRUCTION DOCUMENTS. NATIONAL ACCOUNTS - 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-701 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 INSTALLED COIL HAIL GUARD.
- PROVIDE HIGH FAULT SCCR (65K) AND FACTORY CIRCUIT BREAKER.
- HOT GAS DEHUMIDIFICATION OPTION WITH WALL MOUNTED HUMIDITY SENSOR.
- FACTORY INSTALLED BELT TENSIONER.
- FACTORY CONFIGURED PHASE LOSS PROTECTION.
- FACTORY INSTALLED CONDENSATE PAN DRAIN OVERFLOW SWITCH.
- FACTORY FRESH AIR TEMPERING KIT.
- FACTORY STAINLESS STEEL HEAT EXCHANGER.

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#1L	1,204	0.13	80 @ 0.30"	BACKSHELF	14"X8"	107"	37"	38"	HALTON	KVL-2 IC 1	
HOOD#1R	709	0.13	47 @ 0.30"	BACKSHELF	8"X8"	63"	37"	38"	HALTON	KVL-2 IC 1	
HOOD#2	701	0.3	30 @ 0.29"	BACKSHELF	8"X8"	45"	34"	38"	HALTON	KVL-C IC 1	
HOOD#3	701	0.3	30 @ 0.29"	BACKSHELF	8"X8"	42"	34"	38"	HALTON	KVL-C IC 1	

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

- REFER TO HOOD SHOP DRAWINGS FOR HOOD OPTIONS AND CONSTRUCTION. PRELIMINARY HOOD SHOP DRAWINGS ARE INCLUDED FOR REFERENCE ON SHEETS MH-1.1, MH-1.2, AND MH-1.3.

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"	13.4"	9.8"	BRACKET	120	1	0.4	20	WB50-N7-CM	SPACE-RAY	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	0.010	1,625	0.100	OUTDOOR CANOPY	120	1	1.1	20	U-18-TE-HD	TPI	20,21,24
EF#1	1,913	0.750	1,331	0.750	HOOD#1	120	1	0	25	KEFB-14-CFA	HALTON	1,2,3,4,5,6,7,8,9,10,11
EF#2	1,402	0.950	1,199	0.750	HOOD#2 & HOOD#3	115	1	0	25	KEFB-14-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
EF#4	75	0.260	1,550	0.020	RESTROOMS	120	1	0.2	20	SP-A90	GREENHECK	1,22,23
TF#1	450	0.300	1,144	0.127	TECH CLOSET	120	1	2.5	0	SP-A510-VG	GREENHECK	1,17, 18, 19

NOTES

- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED.

REMARKS

- FANS SUPPLIED BY HALTON.
- U.L. 705 LISTED AND LABELED FOR RESTAURANT 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 THERMOSTAT / TEMPERATURE CONTROLLER. SET TO 76°F.
- INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE WITH ON/OFF SWITCH.
- FAN SHALL BE CONTROLLED WITH THE ROOM LIGHTING. ALL WIRING IS BY THE ELECTRICAL CONTRACTOR.
- DIRECT DRIVE CEILING FAN. PROVIDE A DISCONNECT SWITCH, INTEGRAL BACKDRAFT DAMPER, AND MANUFACTURER'S FAN SPEED CONTROLLER.
- FAN SUPPLIED BY TOM BARROW OR POWERS OF ARKANSAS FOR SOUTHWEST REGION.

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	1,197	2,443	10	0.75	31.4	40	208	3	SERVING	CHA-1-36E	POWERED AIRE	1,2,3,4,6
AD#3	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.
- PROVIDE WITH NOZZLE EXTENSION, SEE DETAIL 3/M502.

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	VARITHERM PLAQUE DIFFUSER	OFFICE	10"	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.	SERVING	VARIES	16"x16"	SURFACE	1,3,5,6
E	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	DINING	6"	12"x12"	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 / KITCHEN / MFA	24"x24"	24"x24"	LAY-IN	1,7,8
FF	PRICE MODEL 80FF STEEL FILTER RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND 2" FILTER FRAME.	MFA	24"x24"	24"x24"	LAY-IN	1,7,8
J	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	RESTROOMS	VARIES	10"x10"	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 3/M-501.
- FACTORY INSULATED R-6 BACKPAN.
- PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER.



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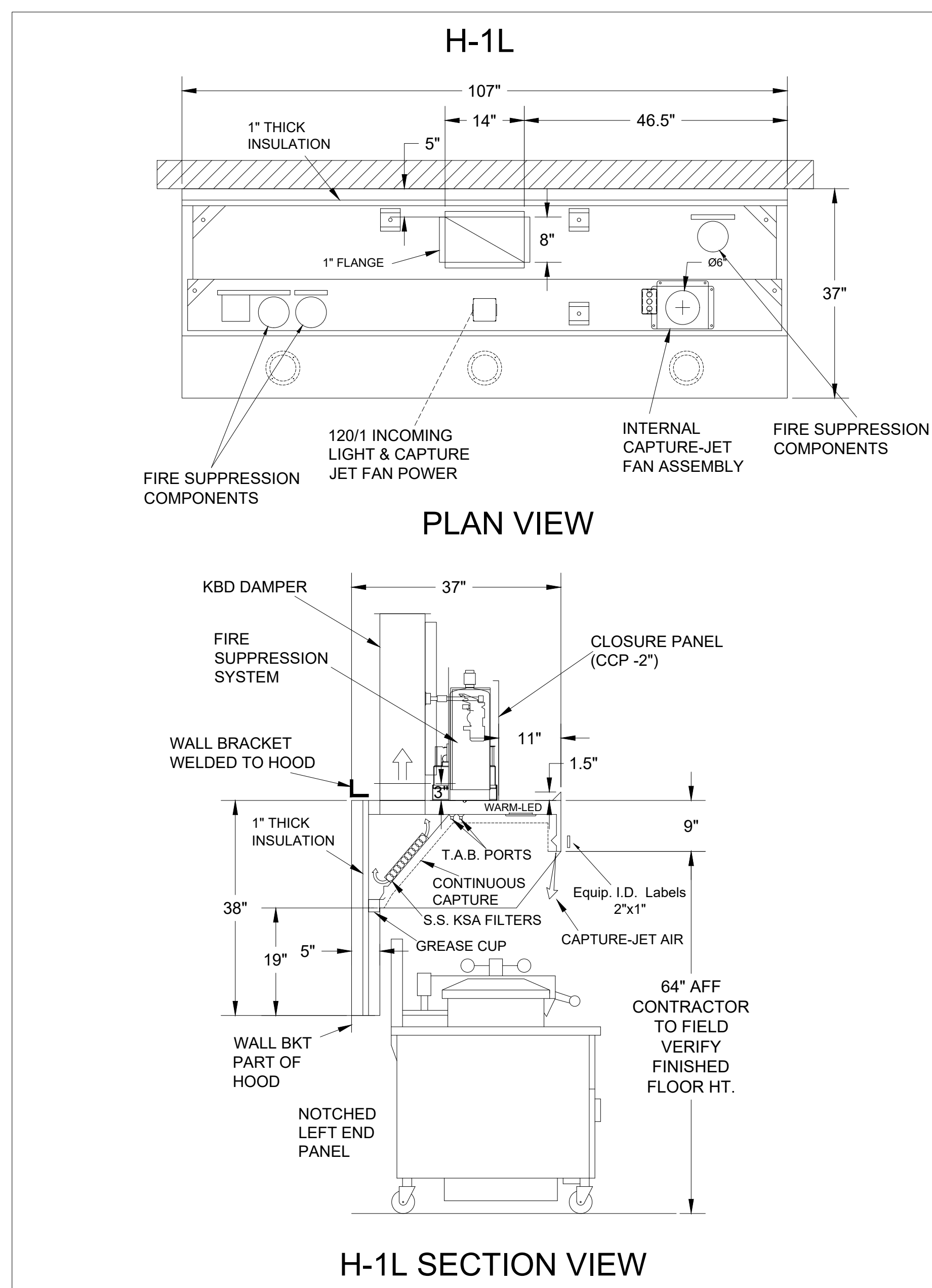
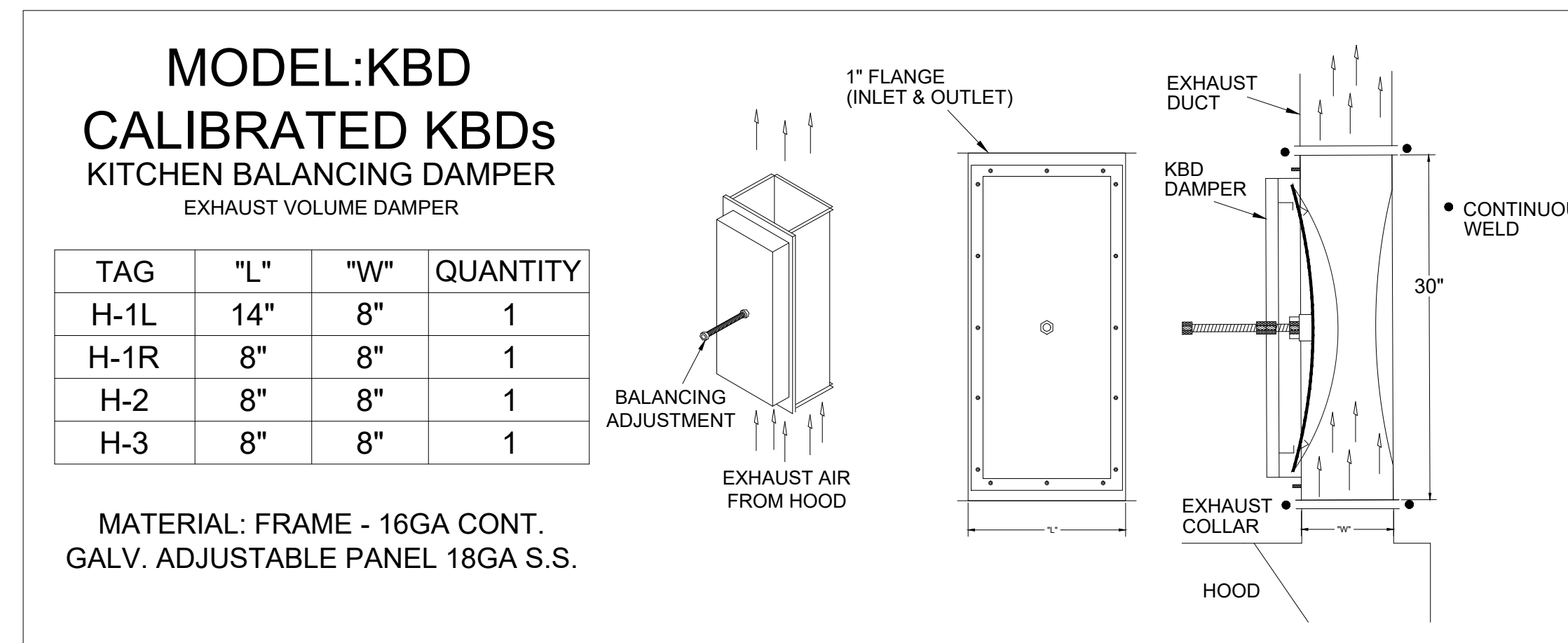
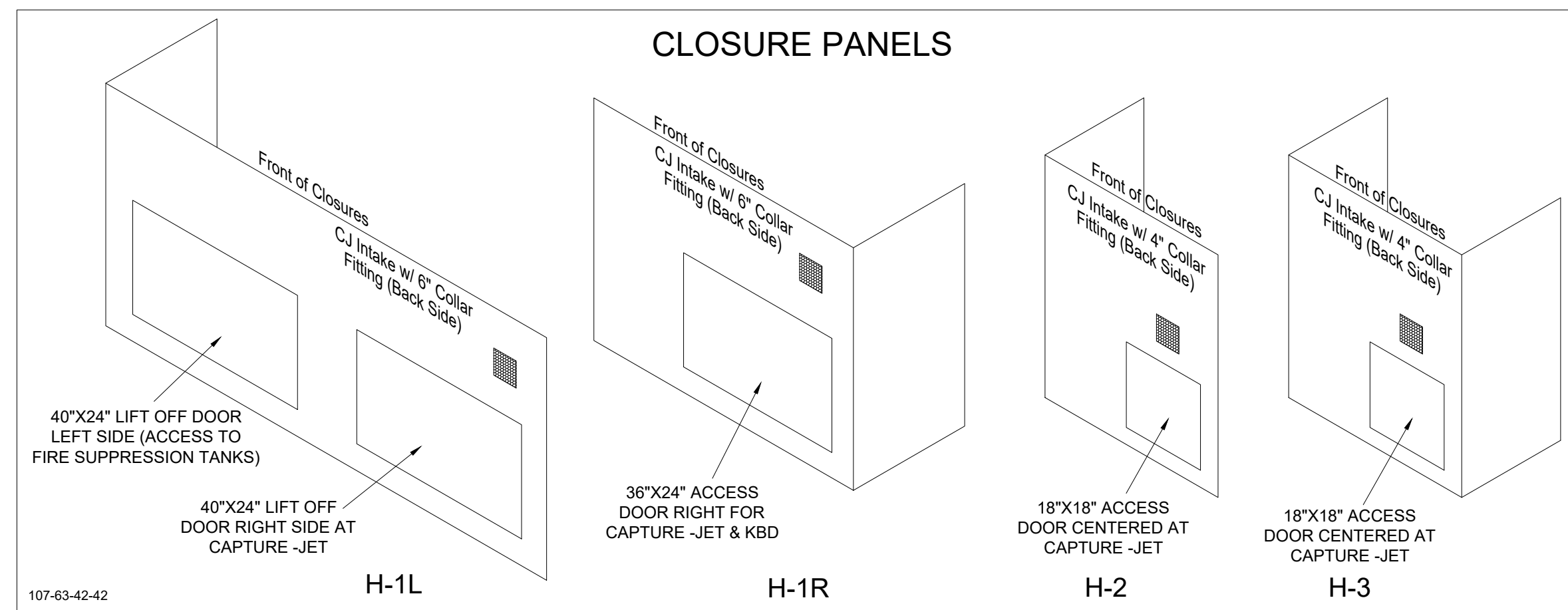
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- TRANE

SHEET NUMBER

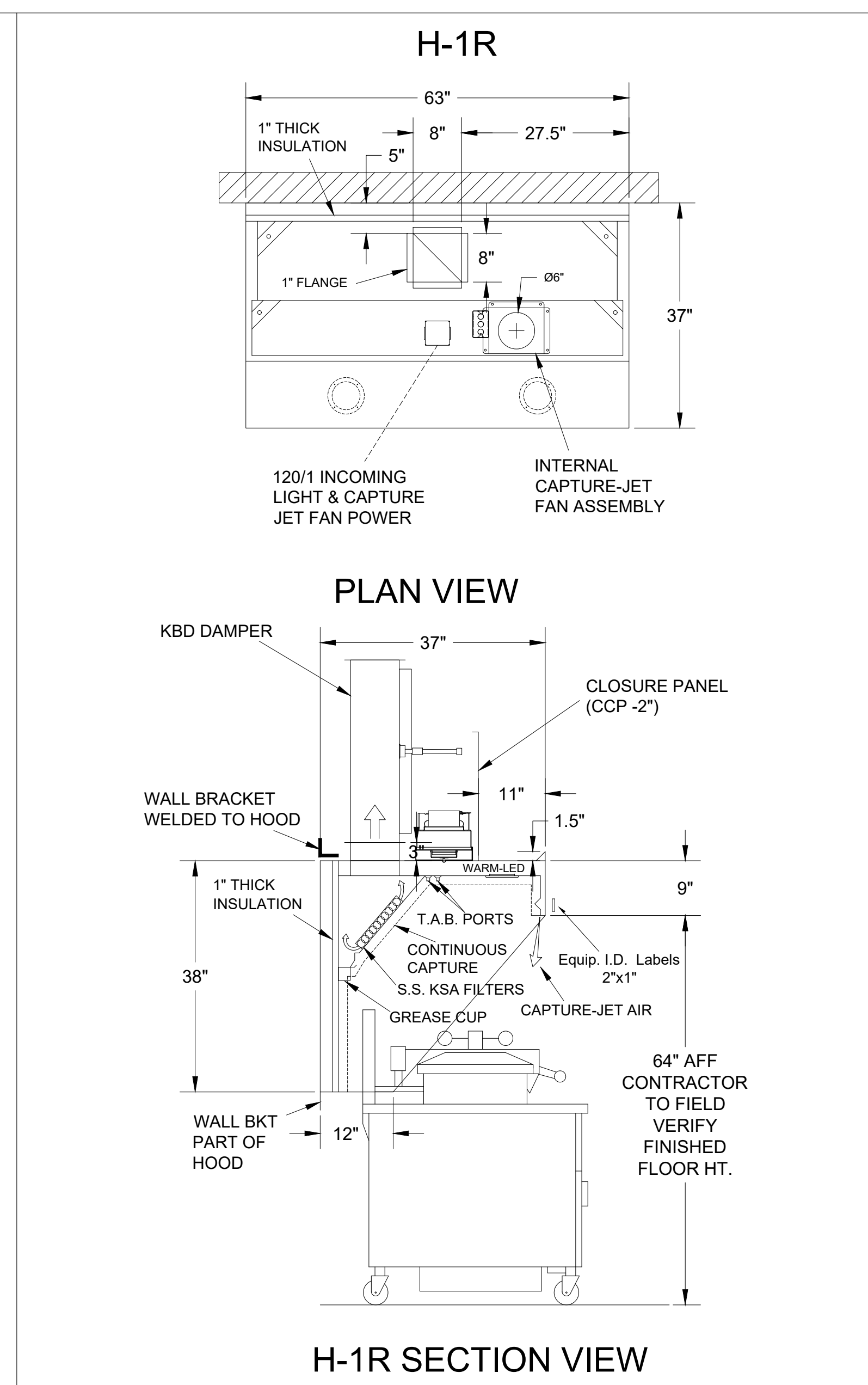
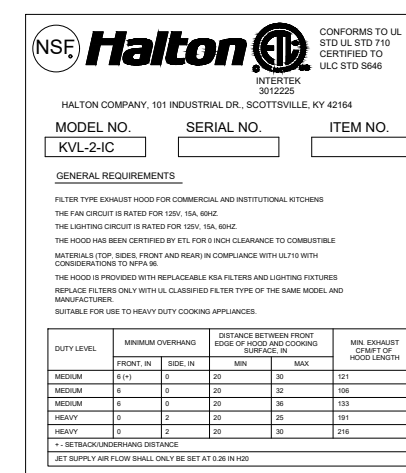
M-601

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30-LE-04604-M-601-EQUIPMENT SCHEDULES - TRANE

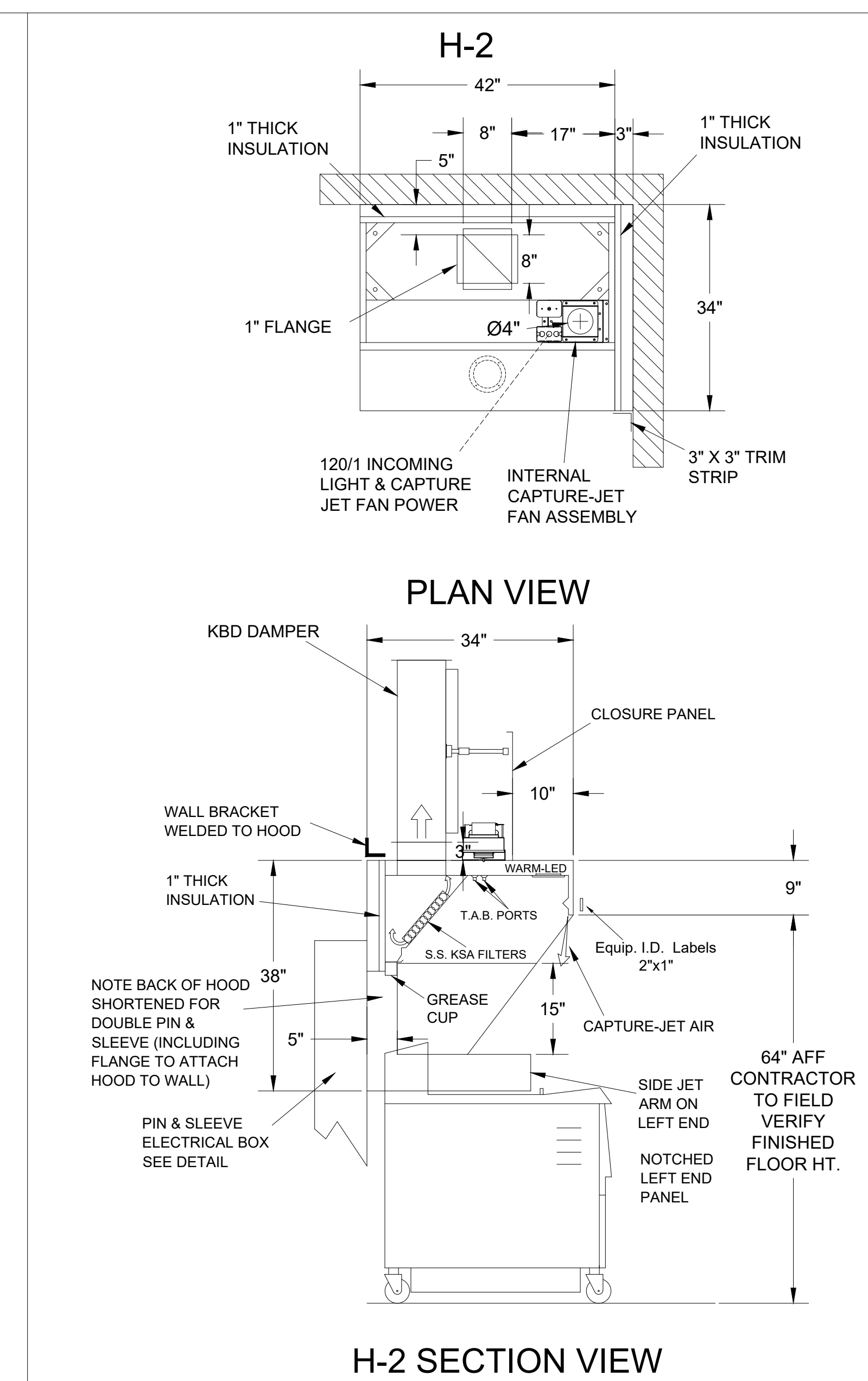
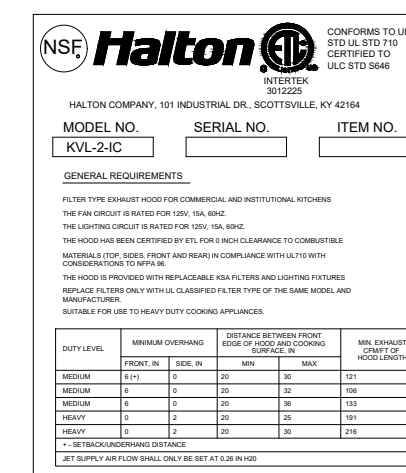
HOOD MODEL	HOOD NUMBER	EXHAUST COLLAR			EXHAUST AIR INFORMATION			CAPTURE AIR INFORMATION		S.S. KSA FILTERS		LED LIGHTS	CEILING CLOSURES			KBD DAMPER	K FACTOR (CFM = K FACTOR * √DP)	MATERIAL
		QTY	LENGTH	WIDTH	CFM	TAB	SP	CFM	SP	FULL	HALF		QTY	CLOSURE HEIGHT	CEILING HEIGHT			
KVL-2-IC	H-1L	1	14"	8"	1204	0.13"	0.22"	80	0.30"	5	-	3	51"	122"	669 LBS	*	3369	ALL 18 GA 430 S.S.
KVL-2-IC	H-1R	1	8"	8"	709	0.13"	0.23"	47	0.30"	3	-	2			394 LBS	*	1971	
KVL-C-IC	H-2	1	8"	8"	701	0.30"	0.39"	30	0.29"	2	-	1			245 LBS	*	1291	
KVL-C-IC	H-3	1	8"	8"	701	0.30"	0.39"	30	0.29"	2	-	1			245 LBS	*	1291	



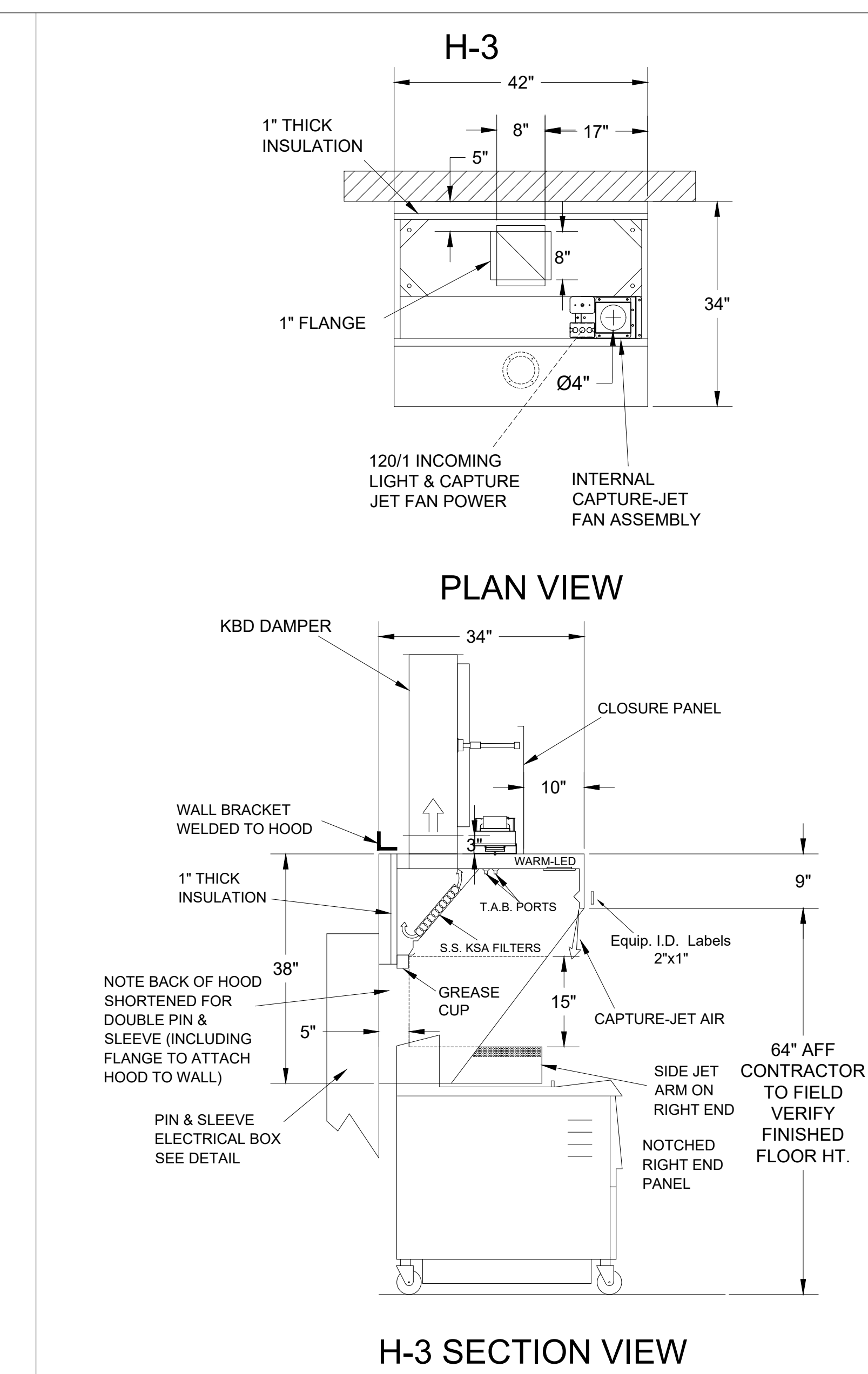
- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- FRONT CLOSURE PANEL WITH 40"x24" LIFT OUT DOOR LEFT SIDE (ACCESS TO FIRE SUPPRESSION)
- 40"x24" LIFT DOOR RIGHT SIDE AT CAPTURE-JET WITH FRONT CJ INTAKE
- CONTINUOUS CAPTURE INTERNAL RIGHT END CUTOUT
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- NOTCHED LEFT END PANEL
- GREASE CUP RIGHT END
- AMEREX WEIGHT = 264 LBS



- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- 36"x24" ACCESS DOOR RIGHT SIDE FOR ACCESS TO CAPTURE-JET WITH FRONT CJ INTAKE & KBD
- CONTINUOUS CAPTURE INTERNAL LEFT END CUTOUT
- 3" 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
- 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
- NOTCHED RIGHT END PANEL
- DOUBLE 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 EXHAUST AIRFLOW MAY BE REQUIRED.

APPROVED FOR FABRICATION: WITH NO CHANGES WITH CHANGES AS NOTED

APPROVED BY: _____ DATE: _____

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

REVISION DESCRIPTION

REV	DATE	BY
1		
2		
3		
4		
5		
6		

PROJECT: CHICK-FIL-A #4604
RAYMORE FSR

LOCATION: RAYMORE, MO
DRAWN BY: SKK
SCALE: NOT TO SCALE

DATE: 07.17.24

DRAWING NO.: U24-564-01
SHEET NO.: H-1.1

DIVISION 23 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 RAIRS 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: 877-544-6879). 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 ANNUCIATOR 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 ANNUCIATORS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE ANNUCIATORS 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. ANNUCIATOR 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 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 NETWORK THERMOSTAT US32-CFA THERMOSTAT PRE-WIRED IN THE TEMPERATURE CONTROL PANEL. REMOTE TEMPERATURE SENSORS 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 WIRINGS 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 GAS TIGHT 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 RE-TORQUE 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) PRIOR 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 FYREWAP. INSULATION ON ACCESS DOORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION RECOMMENDATIONS. UNIFRAX FYREWAP 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.
10. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-702 FOR MORE INFORMATION.

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.

LEGEND

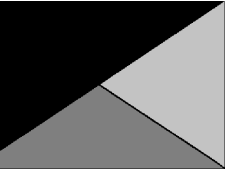
A-12-400	TYPE - NECK SIZE - CFM	[EF#1]	EXHAUST FAN #1 (TYP.)
[Symbol]	SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP	[AC#1]	AIR CONDITIONING UNIT #1 (TYP.)
[Symbol]	SPIN-IN HARD Ø FLEXIBLE Ø DIFFUSER	[Symbol]	RETURN/EXHAUST (TYP.)
[S]	REMOTE TEMPERATURE SENSOR	[X]	SUPPLY DIFFUSER, SQ FACE (TYP.)
[H]	HUMIDITY SENSOR	[1]	PLAN NOTE REFERENCE
[SD]	SMOKE DETECTOR	[Symbol]	MANUAL VOLUME DAMPER
12x18	DUCT SIZE (reverse for elevation views) 1ST NUMBER - HORIZONTAL DIMENSION 2ND NUMBER - VERTICAL DIMENSION	[Symbol]	DIRECTION OF THROW ON DIFFUSER
[SW]	AIR DOOR SWITCH	[GH]	GAS INFRARED HEATER (TYP.)
EIH	ELECTRIC INFRARED HEATER	B/G	BELOW GRADE
		[T]	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



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



Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203



5/3/24

CHICK-FIL-A
Raymore FSU
1920 W. Foxwood Drive
Raymore, MO 64083

FSR#04604

BUILDING TYPE / SIZE:	P14 LE BN	
RELEASE:	23-11	
PRINTED FOR:		
ISSUE FOR CONSTRUCTION		
REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
1	5/03/24	ISSUE FOR CONSTRUCTION/ REVIEW COMMENTS

CONSULTANT PROJECT #	24030.CD.S
DATE	03/07/2024
DRAWN BY	BLM

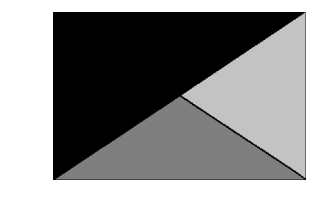
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SHEET
GENERAL NOTES, LEGENDS, SYMBOLS, AND ABBREVIATIONS
SHEET NUMBER

M-001



Chick-fil-A

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5200 Buffington Road
Atlanta, Georgia
30349-2998



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Nashville, Tennessee 37214
Telephone: (615) 255-5203



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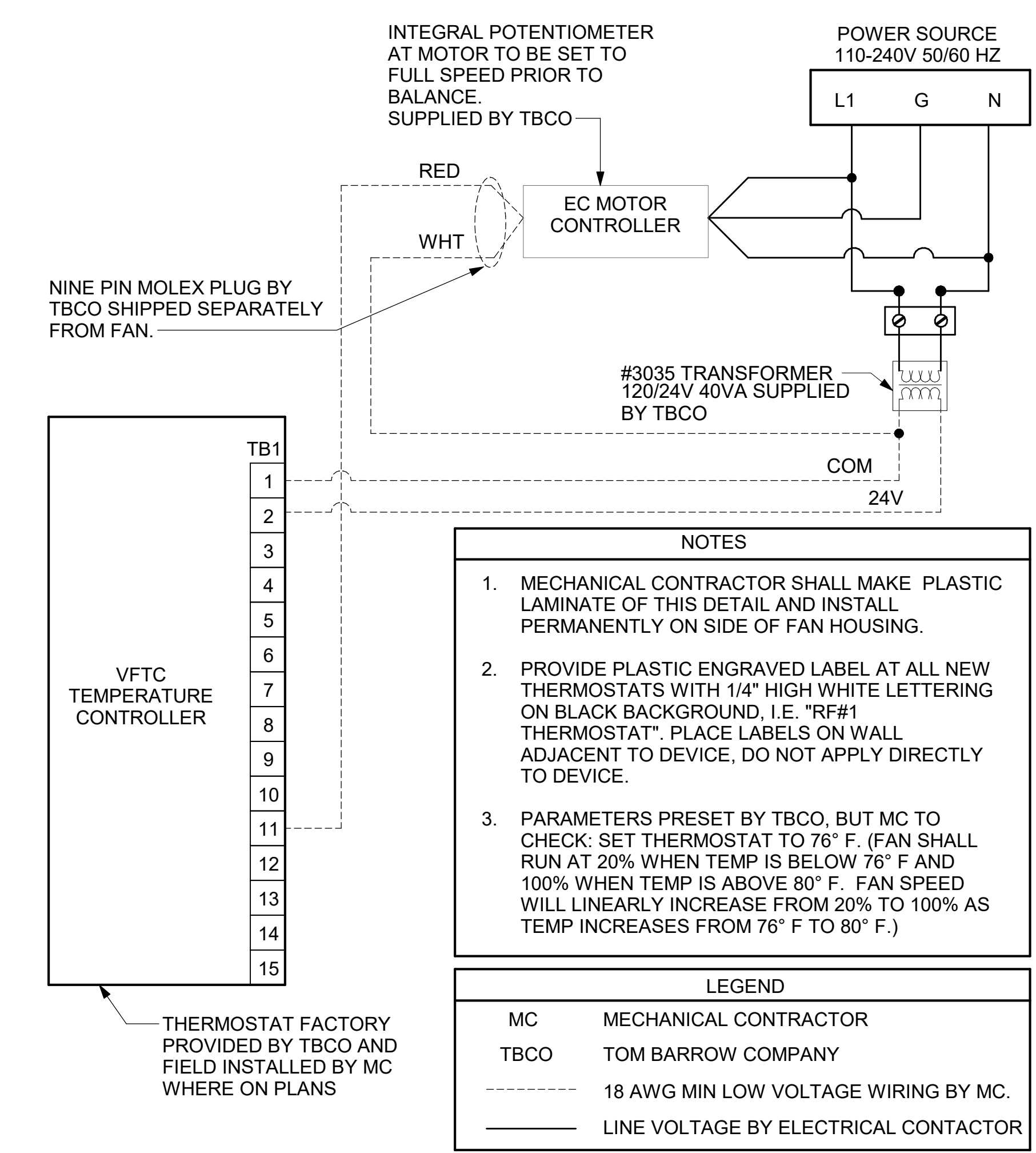
CHICK-FIL-A
Raymore FSU
1920 W. Foxwood Drive
Raymore, MO 64083

FSR#04604

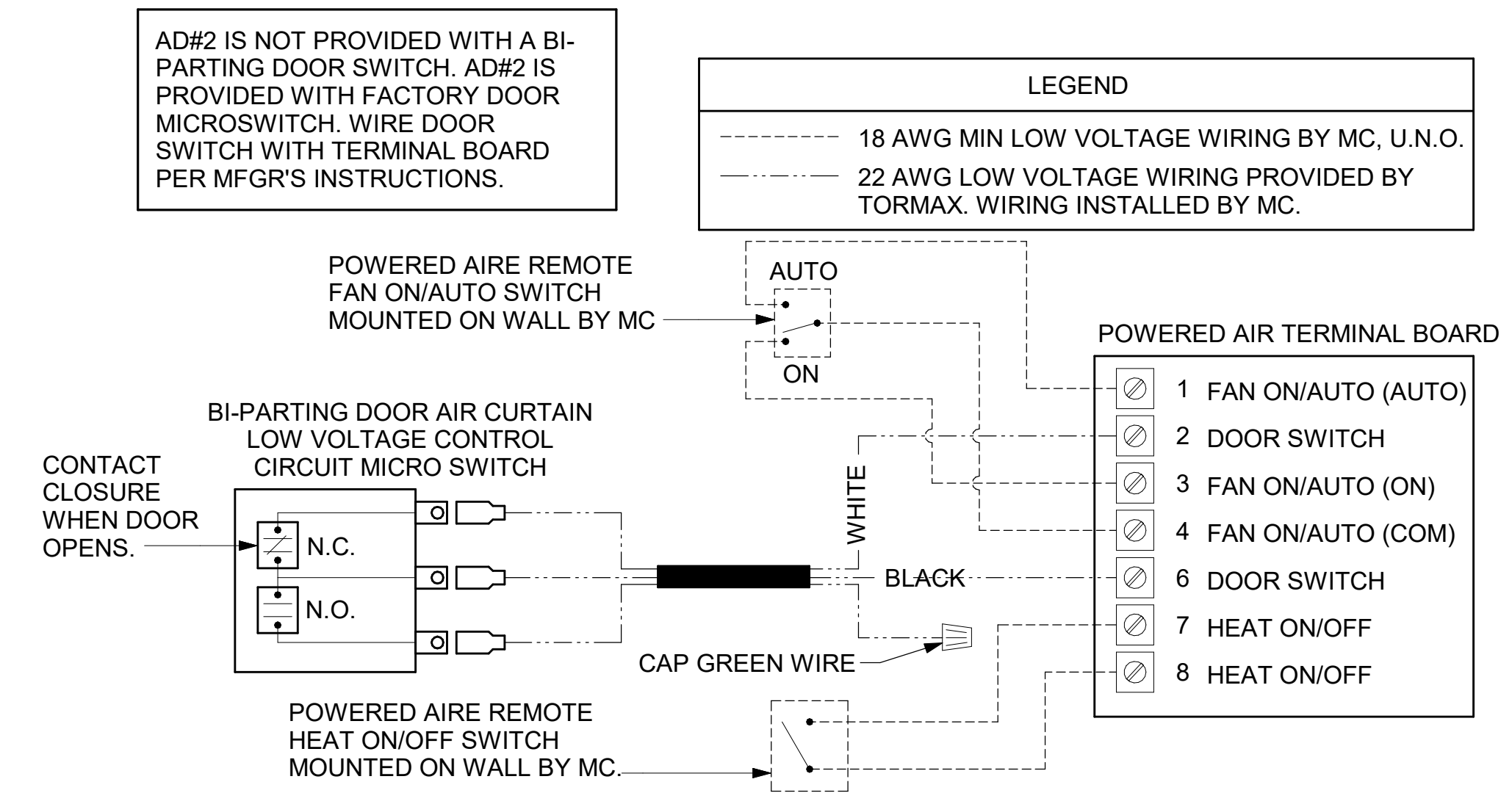
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RELEASE:	23.11	
PRINTED FOR:	ISSUE FOR CONSTRUCTION	
REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
1	5/03/24	ISSUE FOR CONSTRUCTION/ REVIEW COMMENTS

ISSUE FOR CONSTRUCTION

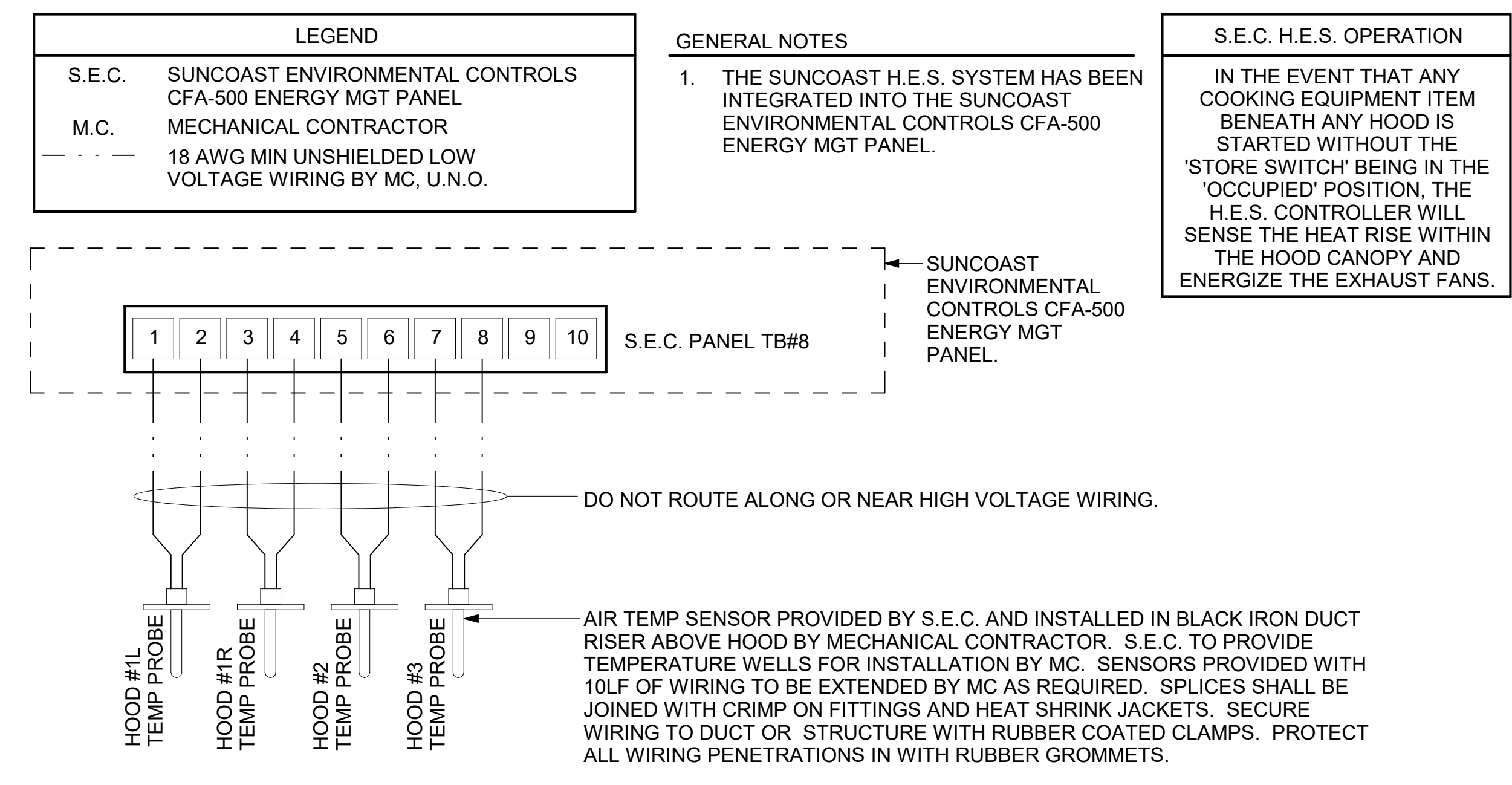
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DATE	03/07/2024
DRAWN BY	BLM
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SHEET	CONTROL WIRING DIAGRAMS
SHEET NUMBER	M-702



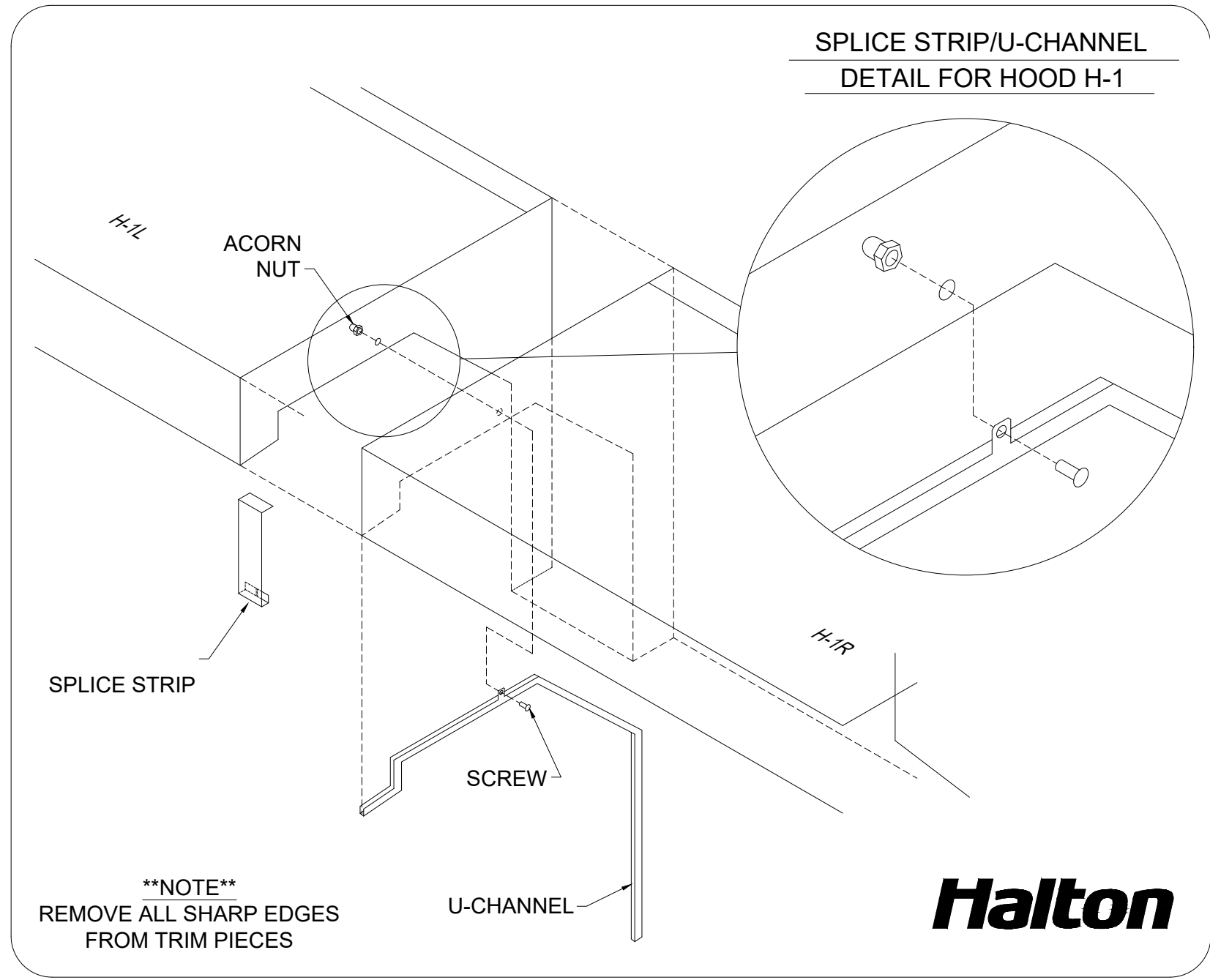
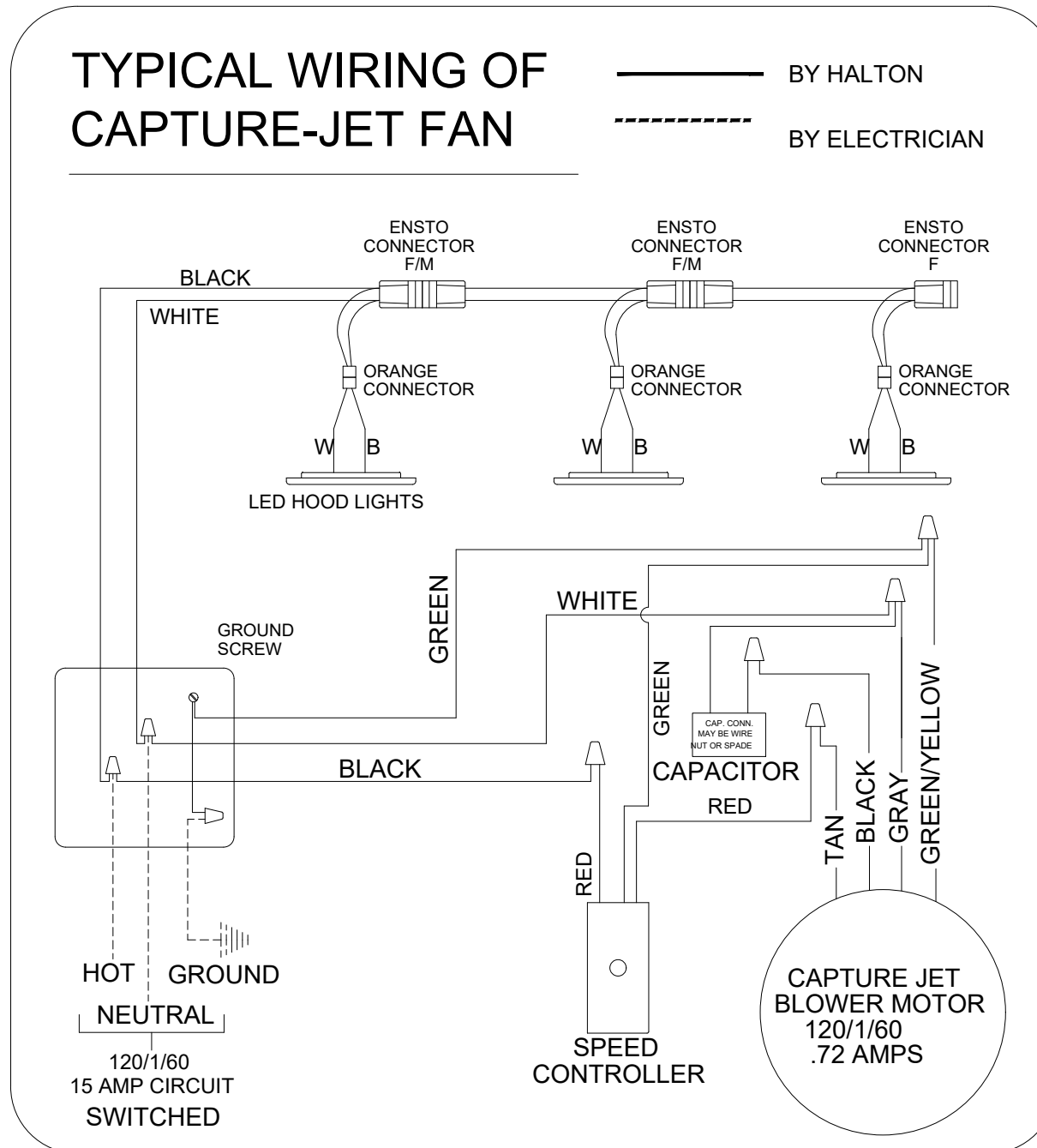
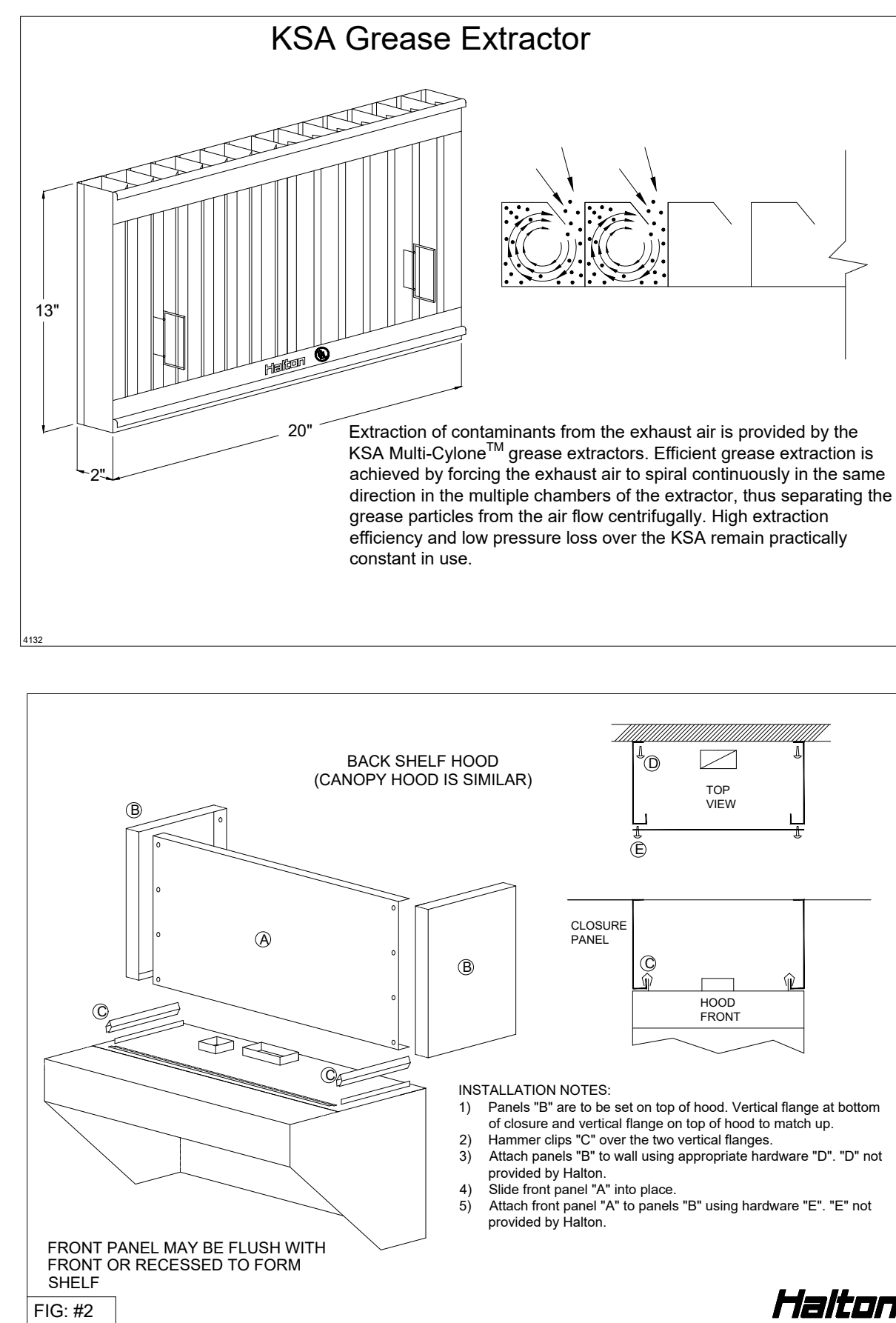
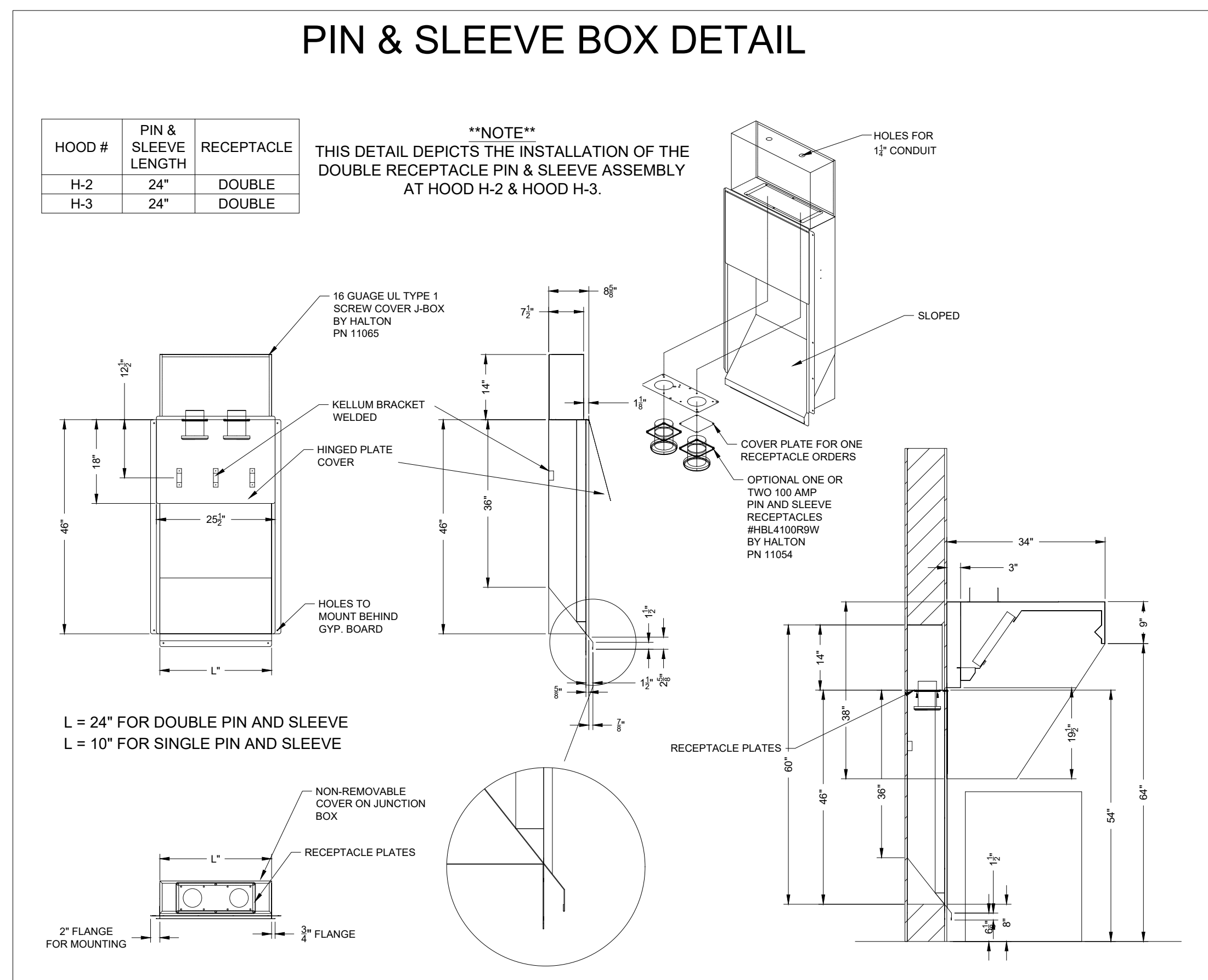
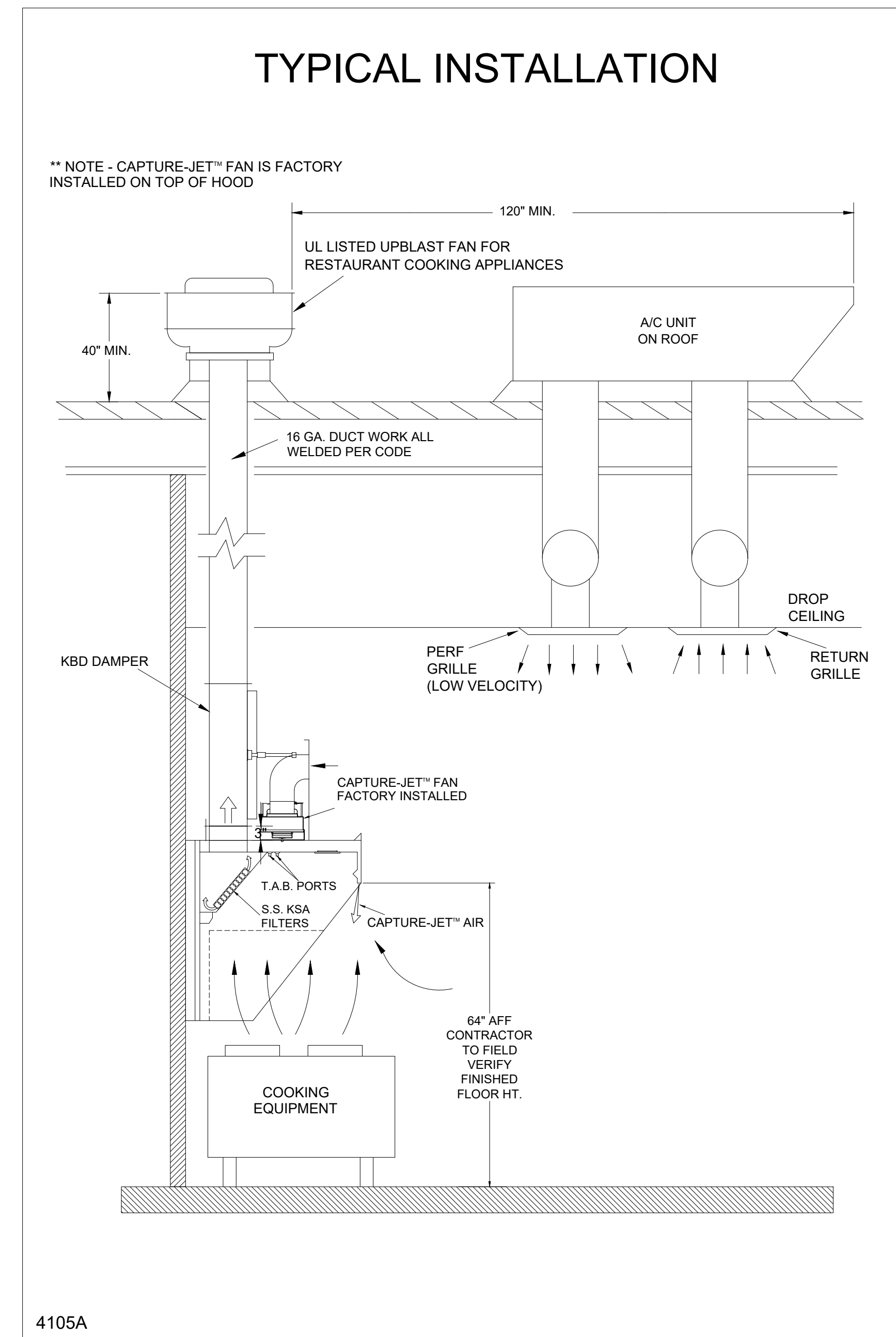
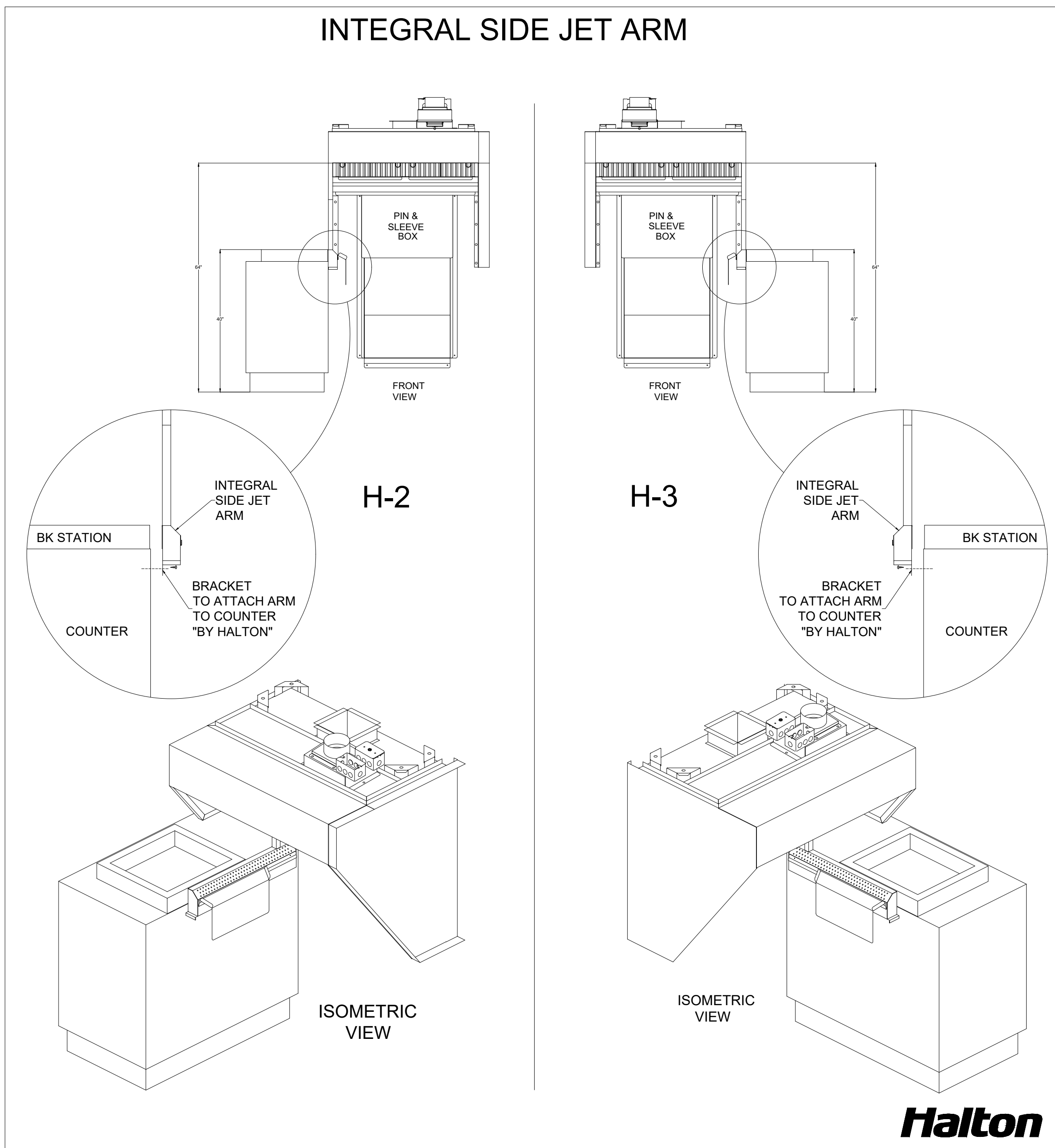
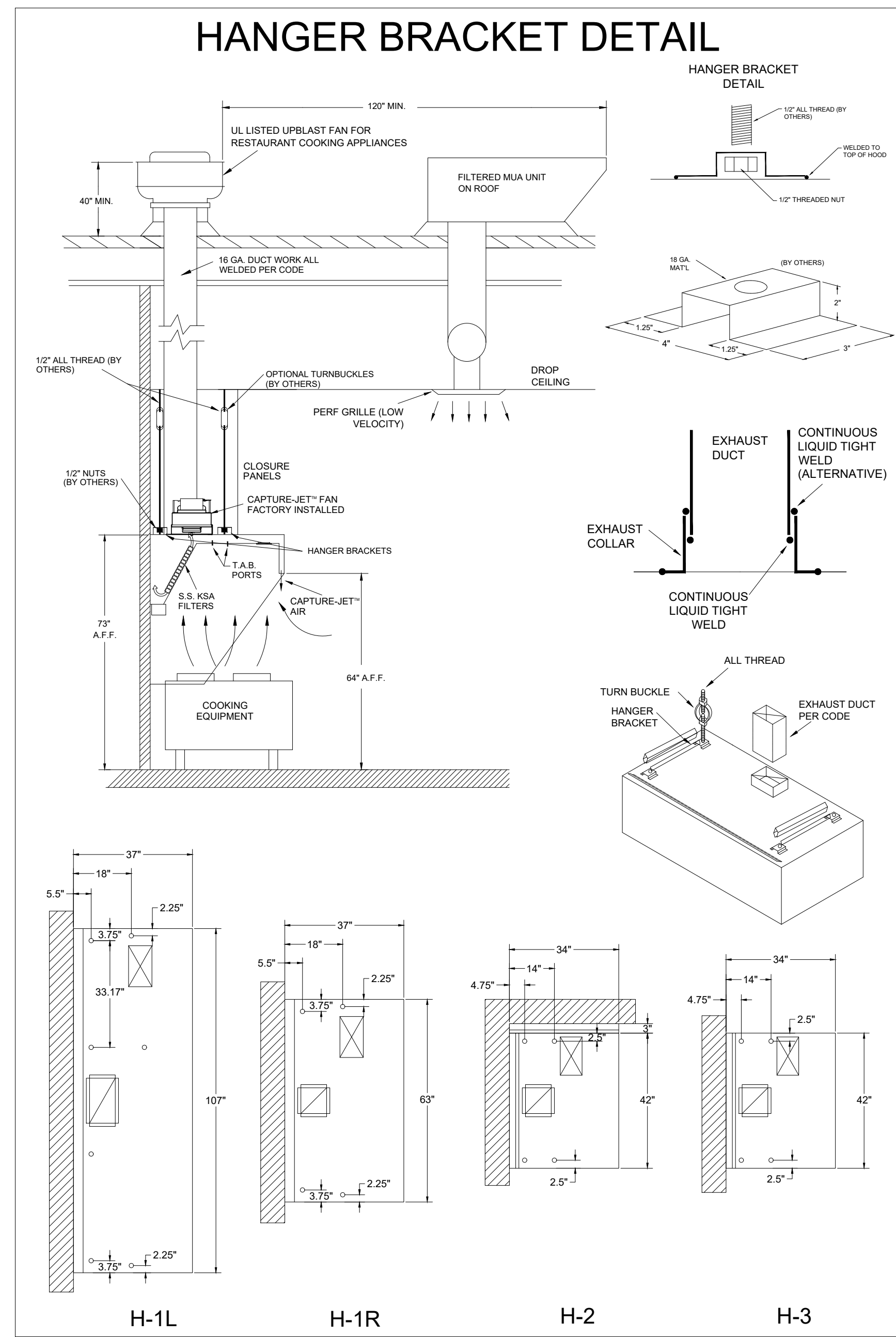
1 TECH CLOSET CONTROL DIAGRAM
NOT TO SCALE



2 AIR CURTAIN WIRING DIAGRAM
NOT TO SCALE



3 HOOD FAN/EQUIPMENT INTERLOCK - 3 Hood (4 Collars) - CFA500 Integrated
1/4" = 1'-0"



NSF **Halton** CONFORMS TO UL STD UL STD 710 CERTIFIED TO UL STD 5646

INTERTEK 3012225

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

MODEL NO. SERIAL NO. ITEM NO.

KVL-C-IC

GENERAL REQUIREMENTS:

HALTON HOODS - ETL LISTED PER LATEST 710 STANDARD - BUILT PER NFPA 96 - NSF LISTED

DUTY LEVEL	MINIMUM OVERHANG	EDGE OF HOOD AND COOKING SURFACE, IN	MIN. EXHAUST DUCT OF HOOD LENGTH
	FRONT IN	SIDE IN	MIN
MEDIUM	0	20	31
HEAVY	0	20	31

†. SET SUPPLY AIR FLOW SHALL ONLY BE SET AT 6.33 IN 60

NSF **Halton** CONFORMS TO UL STD UL STD 710 CERTIFIED TO UL STD 5646

INTERTEK 3012225

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

MODEL NO. SERIAL NO. ITEM NO.

KVL-2-IC

GENERAL REQUIREMENTS:

HALTON HOODS - ETL LISTED PER LATEST 710 STANDARD - BUILT PER NFPA 96 - NSF LISTED

DUTY LEVEL	MINIMUM OVERHANG	EDGE OF HOOD AND COOKING SURFACE, IN	MIN. EXHAUST DUCT OF HOOD LENGTH
	FRONT IN	SIDE IN	MIN
MEDIUM	0	20	32
HEAVY	0	20	32

†. SET SUPPLY AIR FLOW SHALL ONLY BE SET AT 6.33 IN 60

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 FOR EXHAUST AIRFLOW MAY BE REQUIRED.

APPROVED FOR FABRICATION WITH NO CHANGES WITH CHANGES AS NOTED

APPROVED BY: _____ DATE: _____

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

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

REV	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			
6			

PROJECT: CHICK-FIL-A #4604 RAYMORE FSR

LOCATION: RAYMORE, MO

DRAWN BY: SKK

DATE: 07.17.24

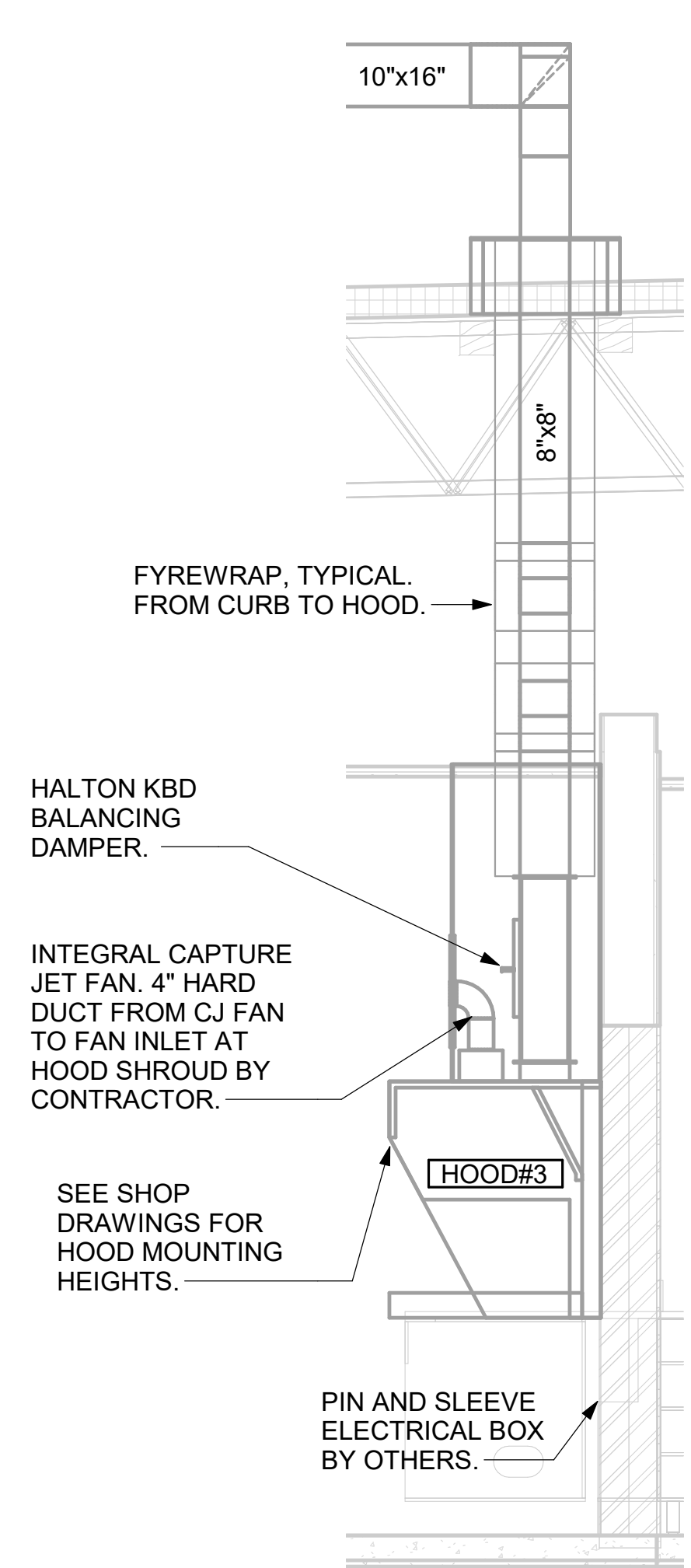
SCALE: NOT TO SCALE

DRAWING NO.: U24-564-02

SHEET NO.: H-1.2

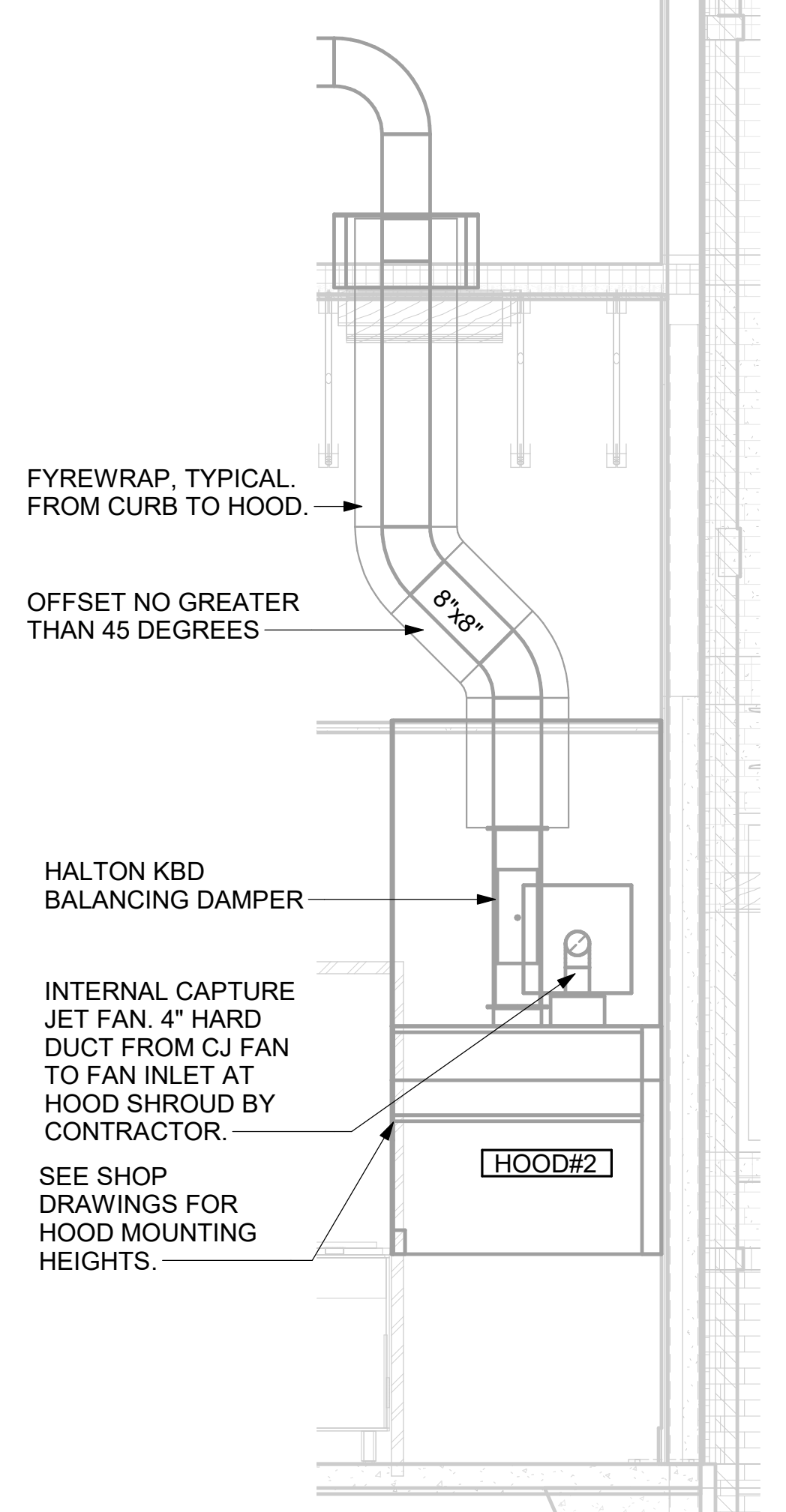
Halton

CRITICAL:
MOUNT RIGHT SIDE OF HOOD#3
FLUSH WITH FINISHED EDGE
OF PASS THRU OPENING.



6 HOOD ELEVATION - HOOD#3
NOT TO SCALE

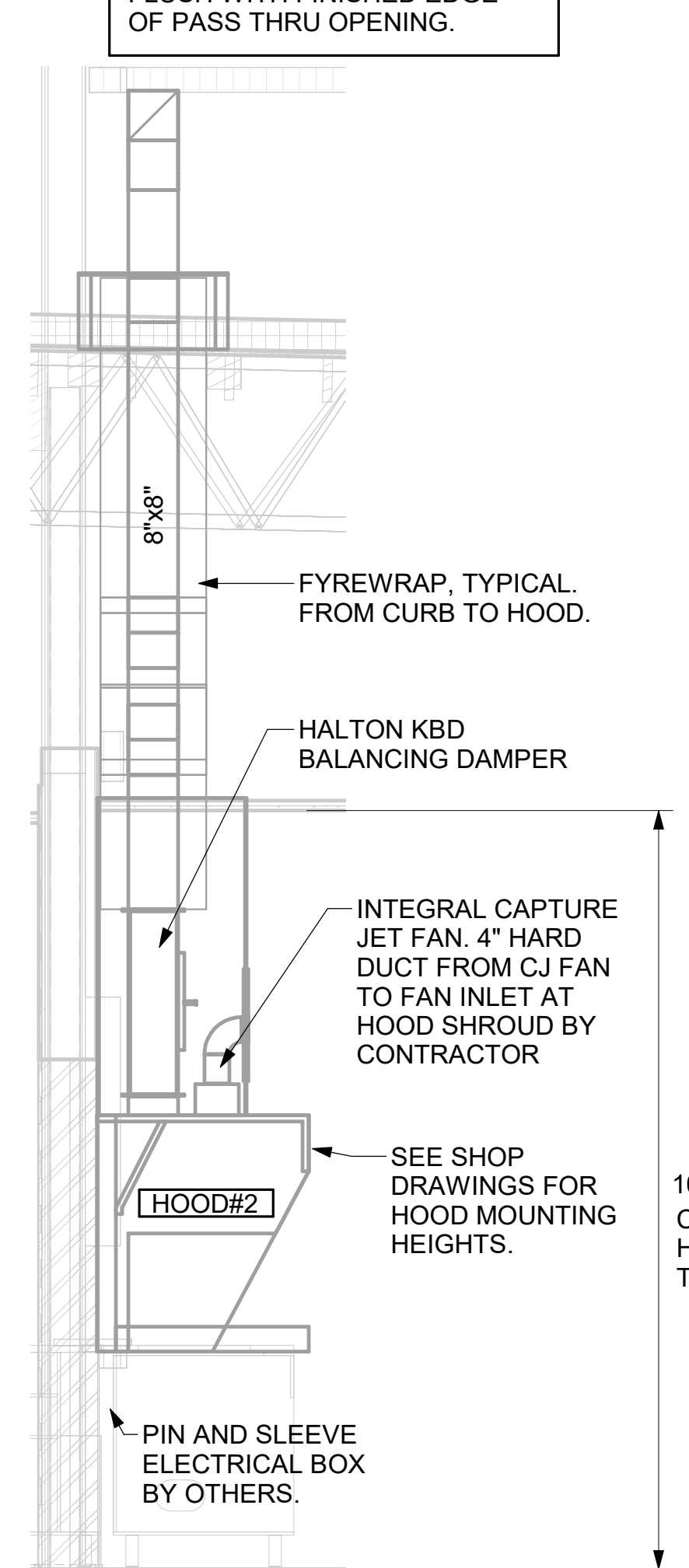
CRITICAL:
MOUNT LEFT SIDE OF HOOD#2
FLUSH WITH FINISHED EDGE
OF PASS THRU OPENING.



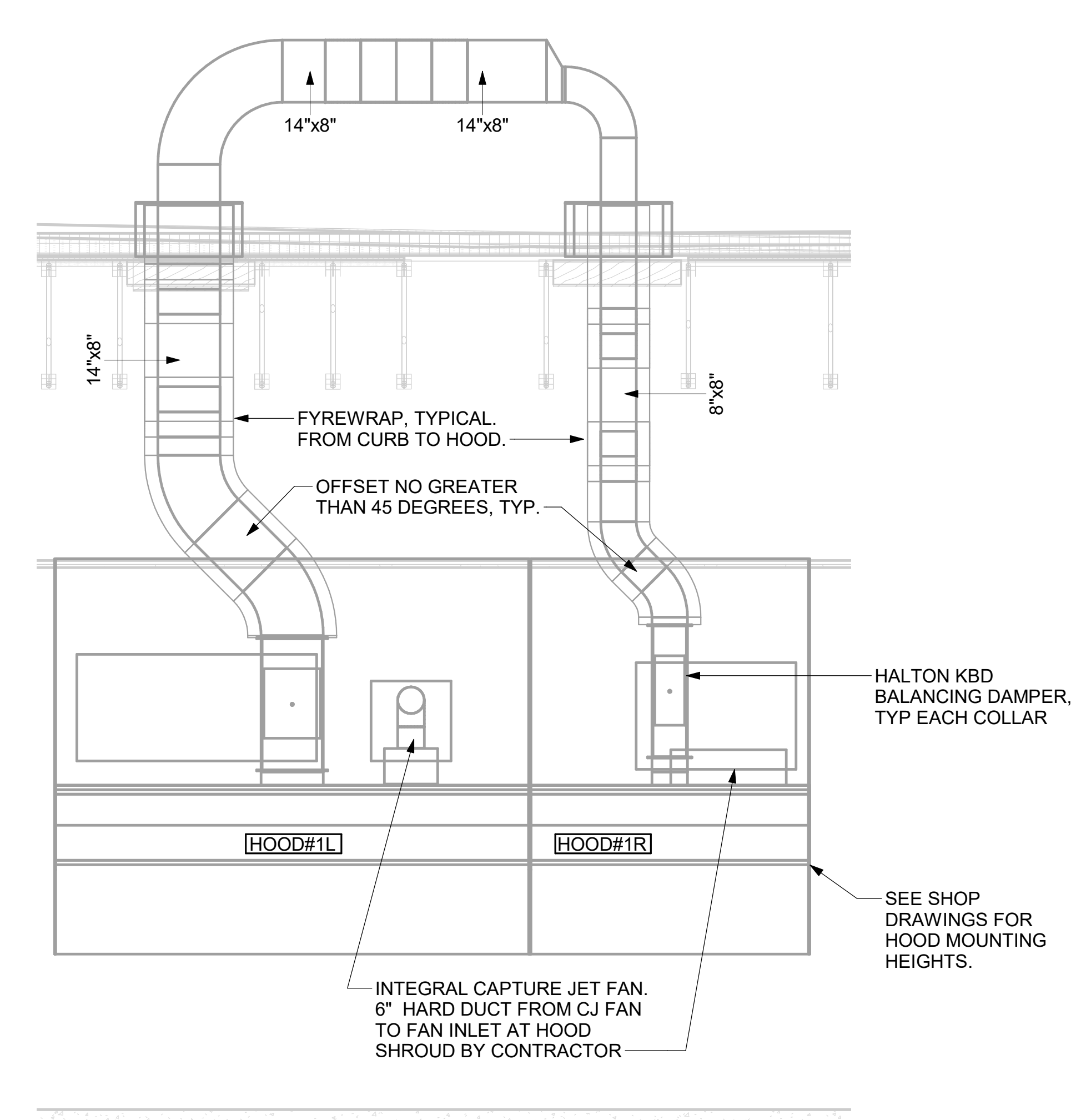
5 HOOD ELEVATION - HOOD#2 - FRONT
NOT TO SCALE

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.

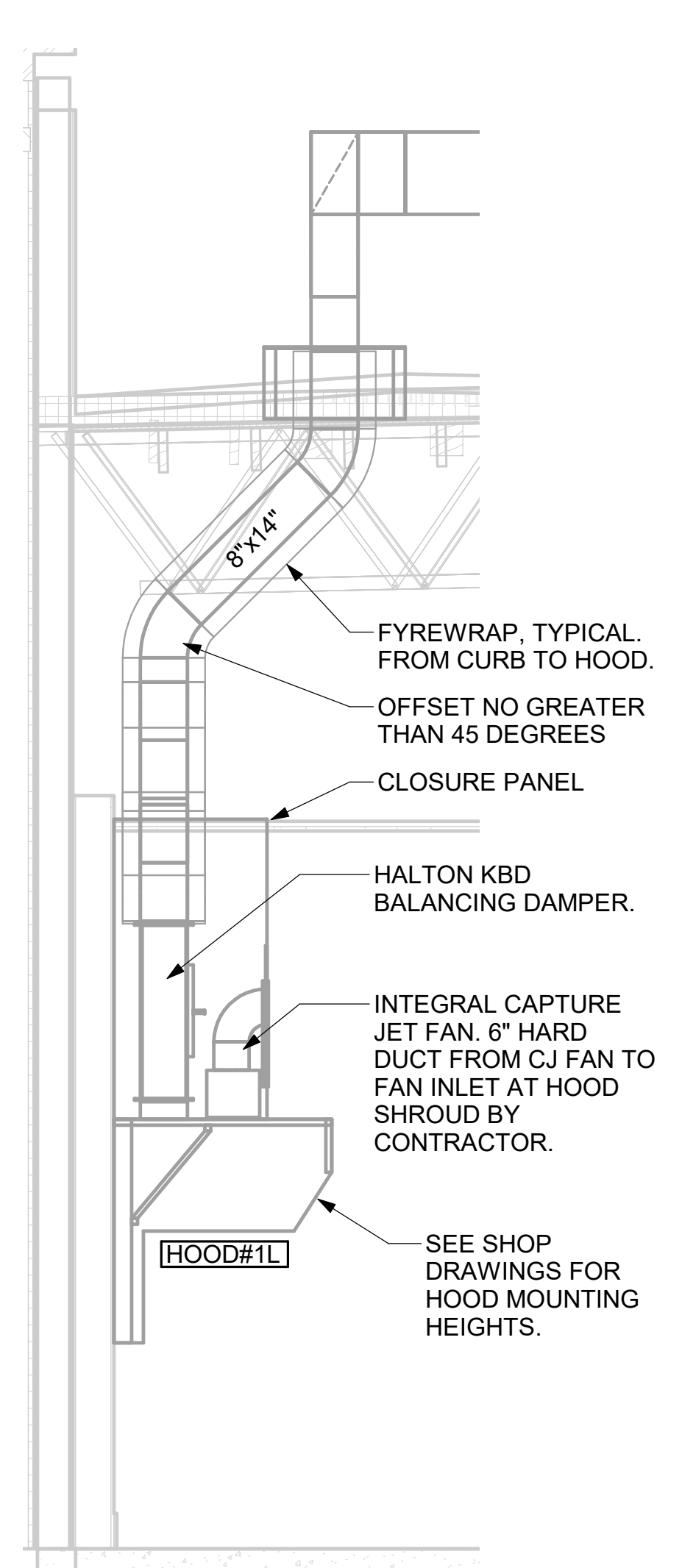
CLEANOUT DOOR NOTE:
DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS. NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.



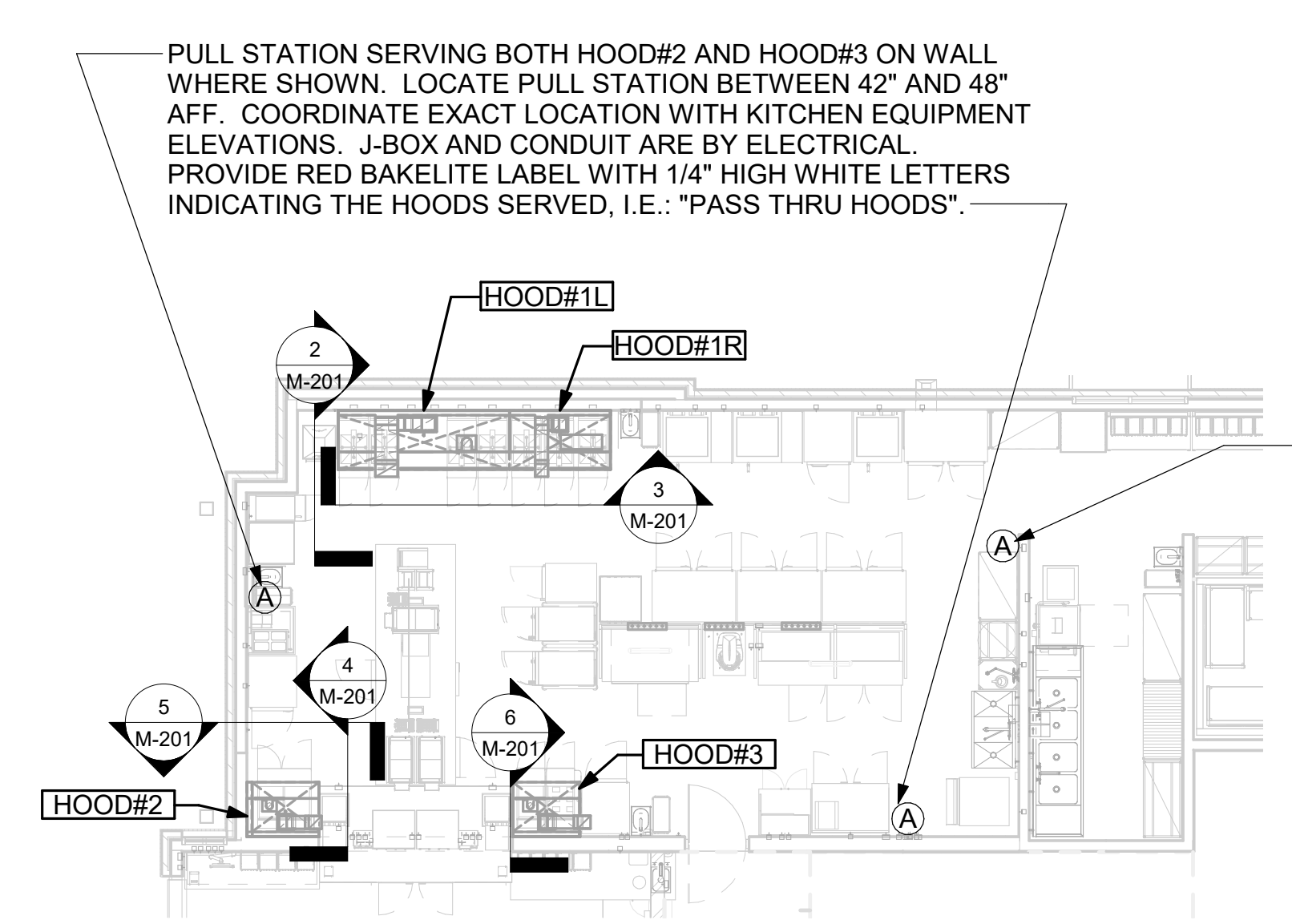
4 HOOD ELEVATION - HOOD#2 - SIDE
NOT TO SCALE



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



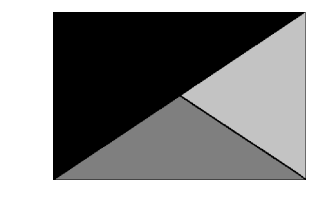
2 HOOD ELEVATION - HOOD#1 - SIDE
NOT TO SCALE



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



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Telephone: (615) 255-5203



5/3/24

CHICK-FIL-A
Raymore FSU
1920 W. Foxwood Drive
Raymore, MO 64083

FSR#04604
BUILDING TYPE / SIZE: P14 LE BN
RELEASE: 23.11
ISSUE FOR CONSTRUCTION
REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	5/03/24	ISSUE FOR CONSTRUCTION/REVIEW COMMENTS

ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 24030.CD.S
DATE 03/07/2024
DRAWN BY BLM
SHEET EXHAUST HOOD ELEVATIONS
SHEET NUMBER

M-201

Autodesk Docs://MO_04604_Raymore (MO) FSU_2024_1_FSR04604_Raymore (MO) FSU_K&A_MEC.rvt
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30-LE-04604-M-201-EXHAUST HOOD ELEVATIONS

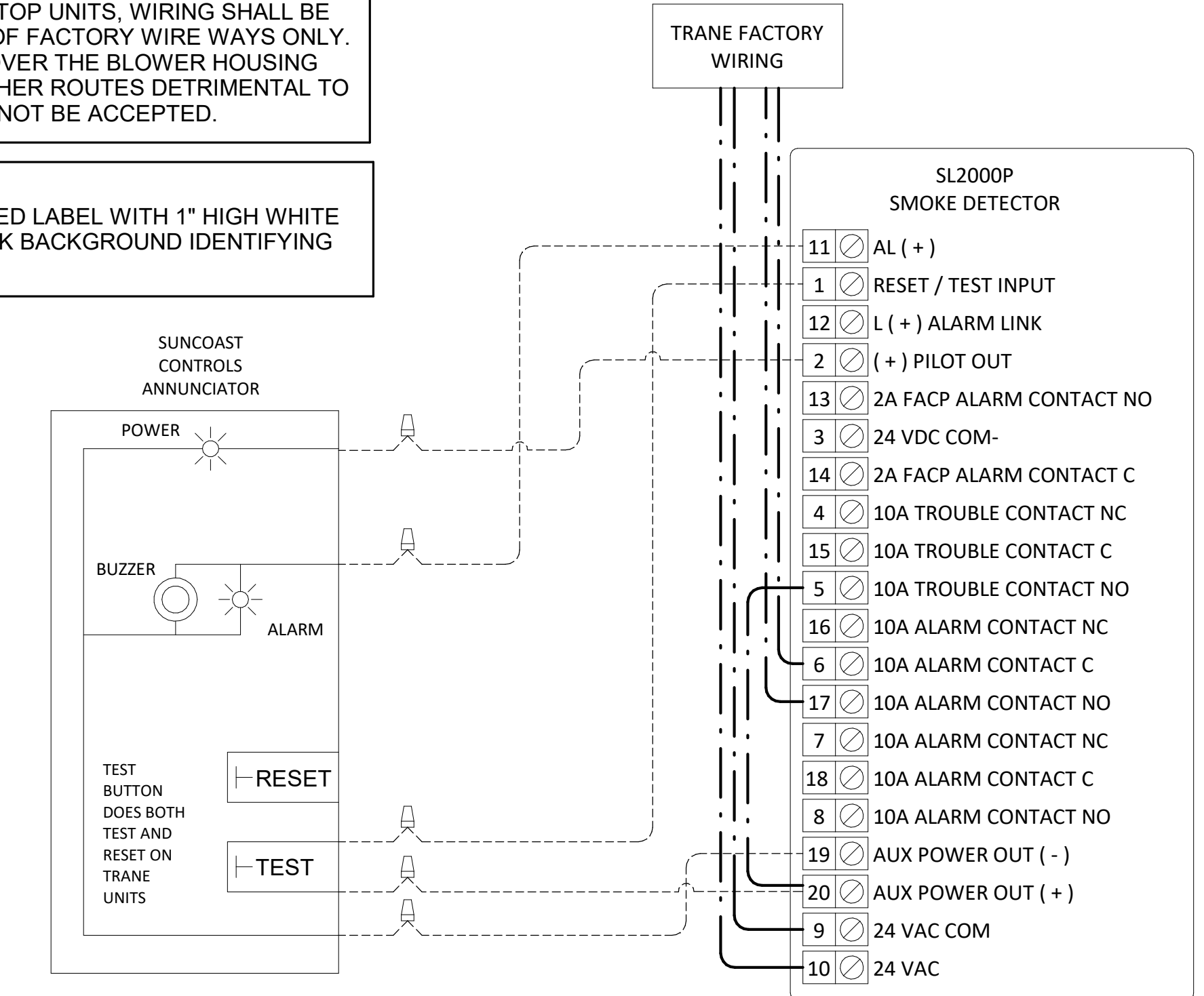
PROVIDE A PROFESSIONALLY LAMINATED COPY OF THESE DETAILS TO BE INSTALLED INSIDE THE ROOFTOP UNIT CONTROL CABINET. USE A SETON CHART FRAME STYLE #68624. TELEPHONE NUMBER 800-243-6624. FOR MOUNTING THE DETAIL, ATTACH THE FRAME TO THE INTERIOR OF THE UNIT IN PLAIN AND EASY VIEW OF THE CONTROLS SECTION.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

FIELD INSTALLED WIRING:
WITHIN THE ROOFTOP UNITS, WIRING SHALL BE ROUTED BY WAY OF FACTORY WIRE WAYS ONLY. WIRING ROUTED OVER THE BLOWER HOUSING OR BY WAY OF OTHER ROUTES DETRIMENTAL TO WIRING LIFE WILL NOT BE ACCEPTED.

LABELING:
PROVIDE ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON BLACK BACKGROUND IDENTIFYING UNIT SERVED.

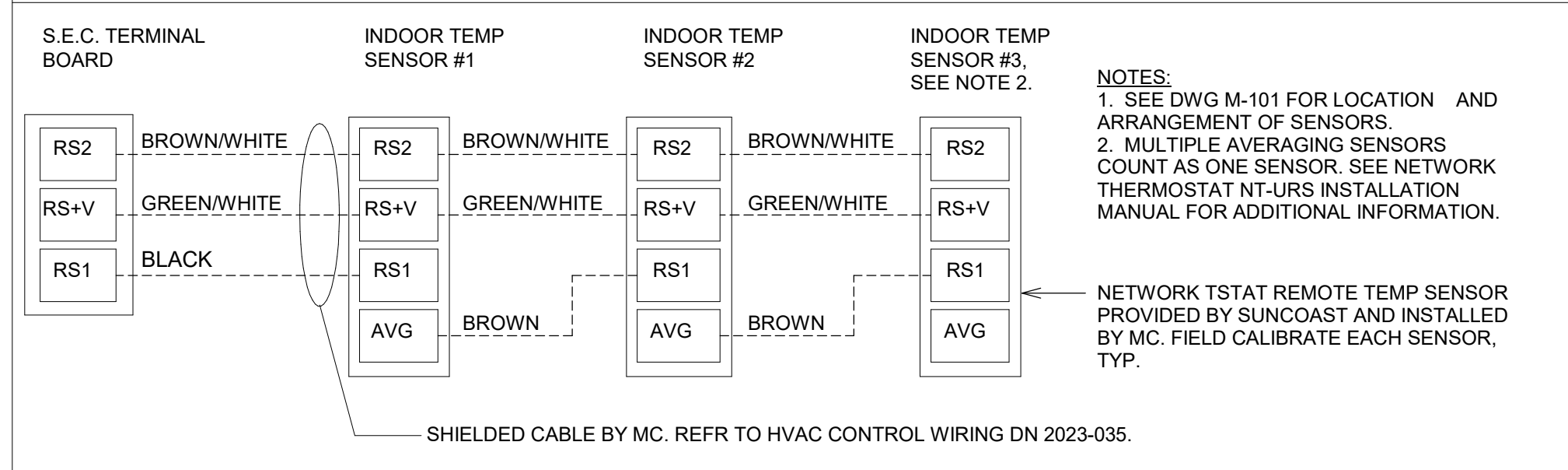
LEGEND

---	18 AWG MIN WIRING BY MECH CONTRACTOR
---	FACTORY ANNUNCIATOR DETECTOR WIRING
---	FACTORY TRANE WIRING



1 SMOKE DETECTOR AND ANNUNCIATOR WIRING DIAGRAM - TRANE
NOT TO SCALE

AVERAGING SENSORS
(WHERE SHOWN ON PLANS)



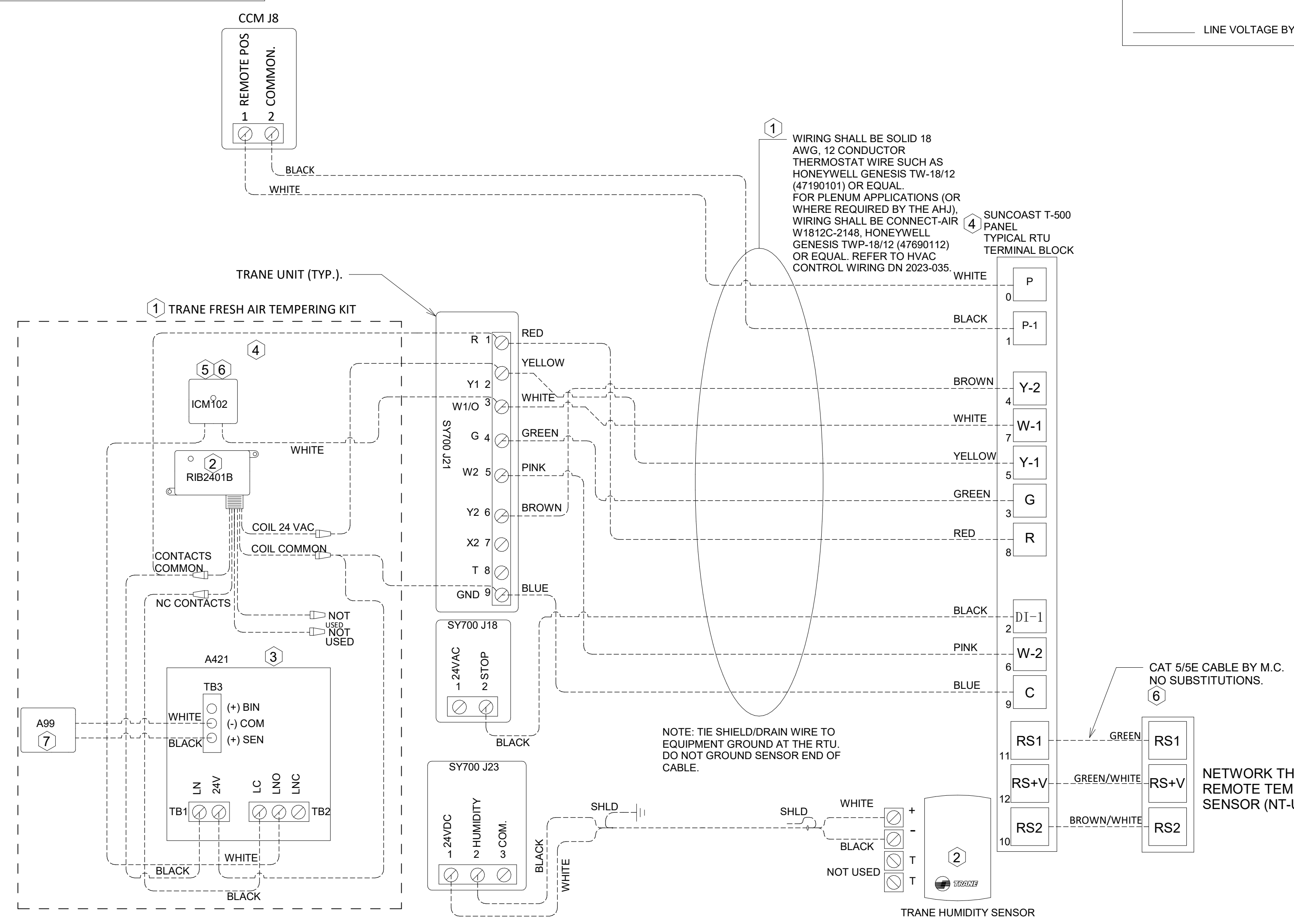
- KEYED NOTES:
1. LOW VOLTAGE WIRING TO RTU TO BE ROUTED TO UNIT THRU FACTORY WIREWAY.
 2. WIRING TO HUMIDITY SENSOR TO BE MADE WITH SINGLE 18/2 SENSOR CABLE W/21P-2003NT ONLY.
 3. NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY MC. SENSOR IS INTENDED TO BE SURFACE MOUNTED AND DOES NOT REQUIRE A SINGLE GANG BOX OR CONDUIT. FIELD CALIBRATE EACH SENSOR. SEAL CABLE PENETRATION AT ALL WALL LOCATIONS.
 4. FACTORY WIRING IN SUNCOAST T-500 PANEL NOT SHOWN FOR CLARITY. SEE SUNCOAST WIRING DIAGRAM FOR ADDITIONAL INFORMATION.
 5. SY700 INTERFACE TO SET RELATIVE HUMIDITY. SET TO 60%.
 6. CAT 5/5E CABLE BY M.C. NO SUBSTITUTIONS. REFER TO HVAC CONTROL WIRING DN 2023-035.

- NOTES:
1. MECHANICAL CONTRACTOR SHALL MAKE PLASTIC LAMINATE OF THIS DETAIL AND INSTALL PERMANENTLY ON INSIDE DOOR OF ROOFTOP UNIT CONTROL COMPARTMENT.
 2. SEE DETAILS THIS SHEET FOR SMOKE DETECTOR AND ANNUNCIATOR WIRING.
 3. SET ALL THERMOSTATS FOR AUTO CHANGEOVER.
 4. PROVIDE PLAC ENGRAV LABEL AT ALL NEW SENSORS WITH 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND, I.E. "AC12 HUMIDITY SENSOR" OR "AC12 TEMP SENSOR". PLAC LABELS ON WALL ADJACENT TO DEVICE. DO NOT APPLY.

LEGEND

S.E.C.	SUNCOAST ENVIRONMENTAL CONTROLS (SUPPLIER OF TEMP/FAN CONTROL PANEL) LOCATED IN THE KITCHEN
1	KEY NOTE REFERENCE
MC	MECHANICAL CONTRACTOR
AC	SUNCOAST RELAY FACTORY INSTALLED AND WIRED IN CFA-500 PANEL. ENERGIZED BY PUTTING STORE SWITCH IN "STORE OCCUPIED" POSITION
AN	SUNCOAST RELAY FACTORY INSTALLED AND WIRED IN CFA-500 PANEL. DENERGIZED WHEN ANSUL FIRE SUPPRESSION SYSTEM IS ACTIVATED. AS NOTED.
---	ALL LOW VOLTAGE CABLING BY MC. ONLY USE CABLE SPECIFIED. NO SUBSTITUTIONS.
---	LOW VOLTAGE WIRING BY S.E.C.
---	LINE VOLTAGE BY ELECTRICIAN OR S.E.C.

- FRESH AIR TEMPERING KEYED NOTES:
1. INSTALL FRESH AIR TEMPERING KIT AS RECOMMENDED BY TRANE.
 2. RIB2401B SPDT RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.
 3. JCI A421 TEMPERATURE CONTROLLER FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR. DIN-MOUNTED IN THE RTU CONTROL CABINET. SET TO 58F. LOCATE TRANE PROVIDED JCI A99 SENSOR IN THE SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT WITH T6901-1 SENSOR DUCT MOUNTING PLATE PROVIDED BY TRANE. DO NOT RUN WIRING INSIDE DUCTWORK.
 4. 18 AWG MIN. LOW VOLTAGE WIRING BY MC.
 5. ICM102 TIME DELAY RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.
 6. SET TIME DELAY RELAY (ICM102) TO 2 MINUTES.
 7. PROVIDE JCI T6901-1 TEMPERATURE ELEMENT HOLDER FOR SUPPLY AIR TEMPERATURE SENSOR (A99).



2 ROOFTOP UNIT CONTROL WIRING - TRANE
NOT TO SCALE



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Telephone: (615) 255-5203



5/3/24

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Raymore FSU
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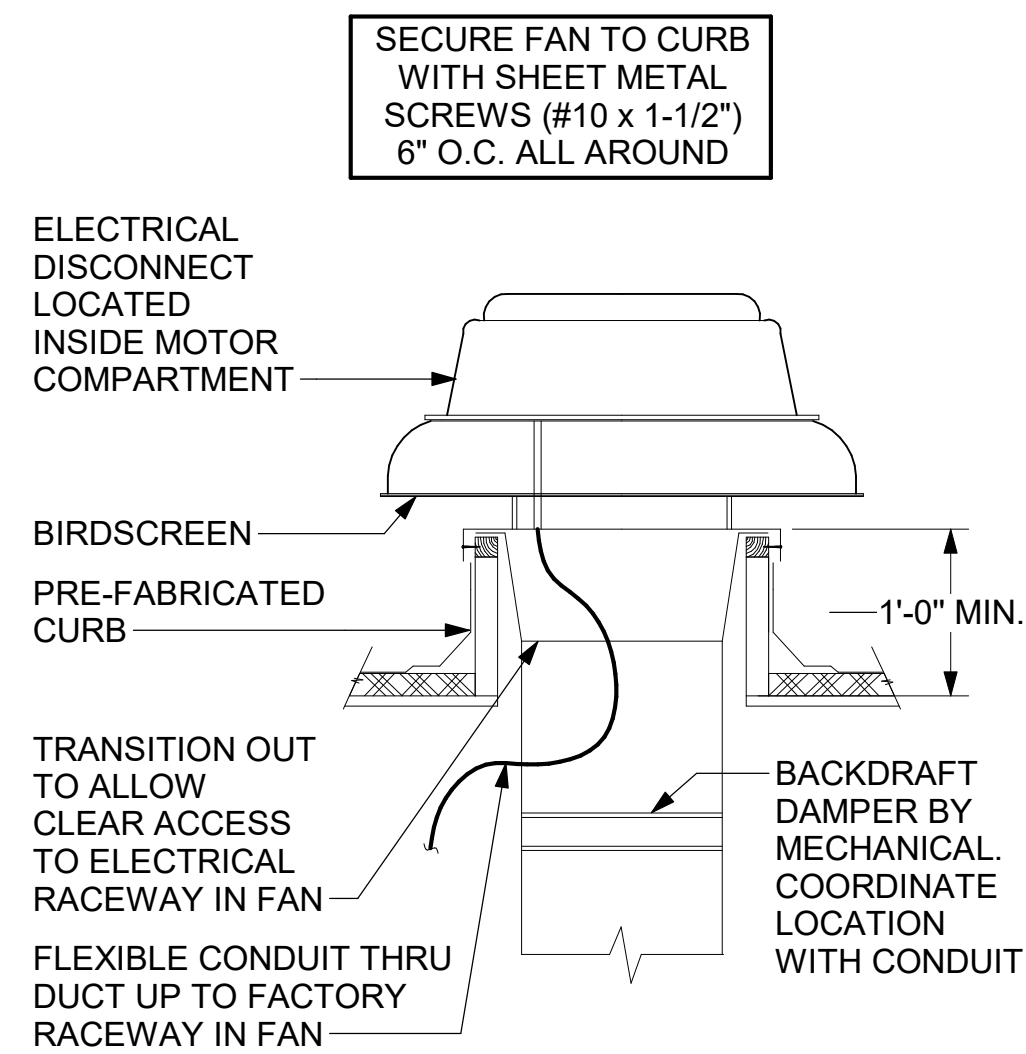
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BUILDING TYPE / SIZE: P14 LE BN
RELEASE: 23.11
PRINTED FOR: ISSUE FOR CONSTRUCTION
REVISION SCHEDULE

NO.	DATE	DESCRIPTION
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ISSUE FOR CONSTRUCTION

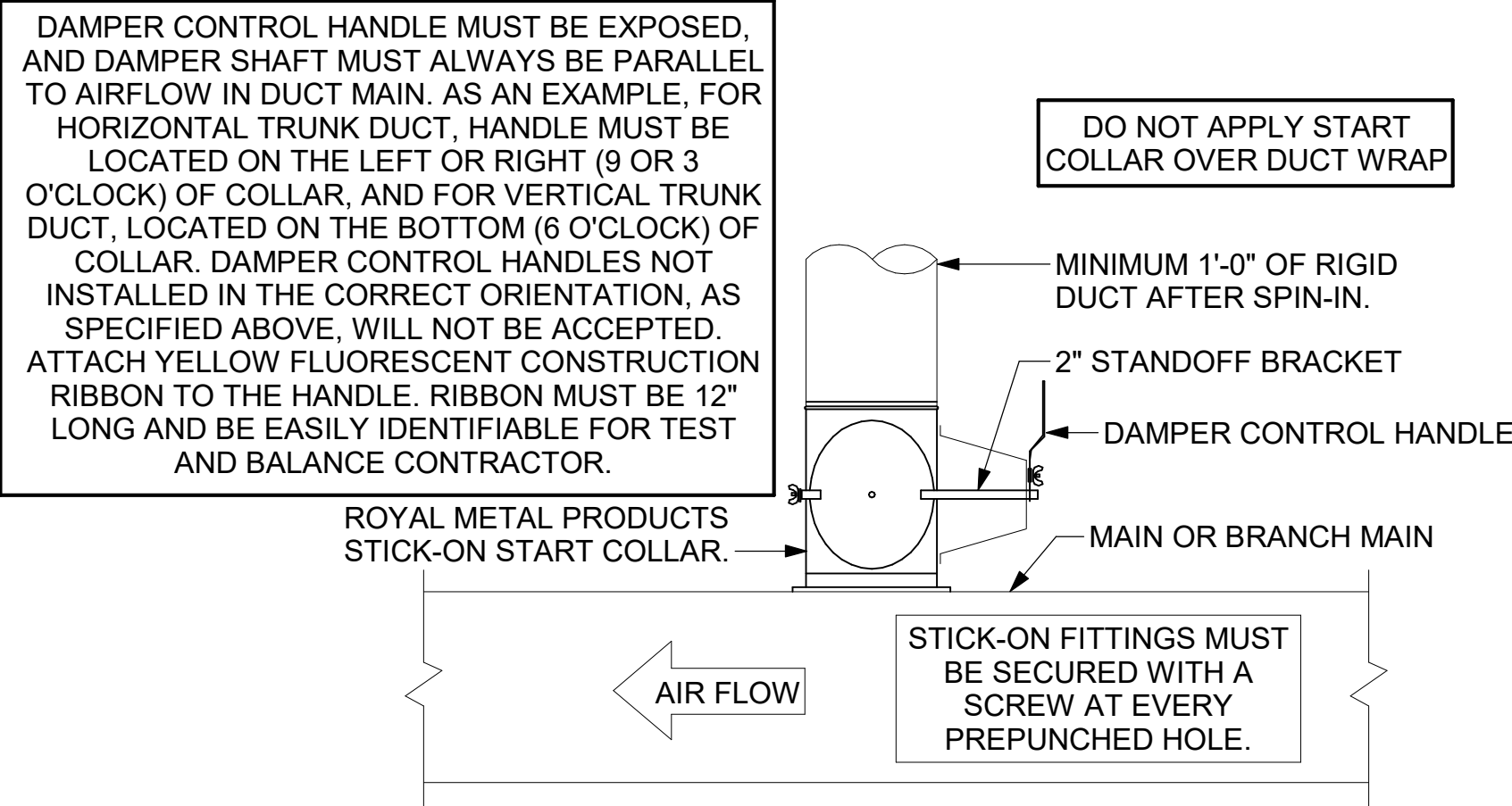
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DATE 03/07/2024
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CONTROL WIRING DIAGRAMS - TRANE
SHEET NUMBER

M-701

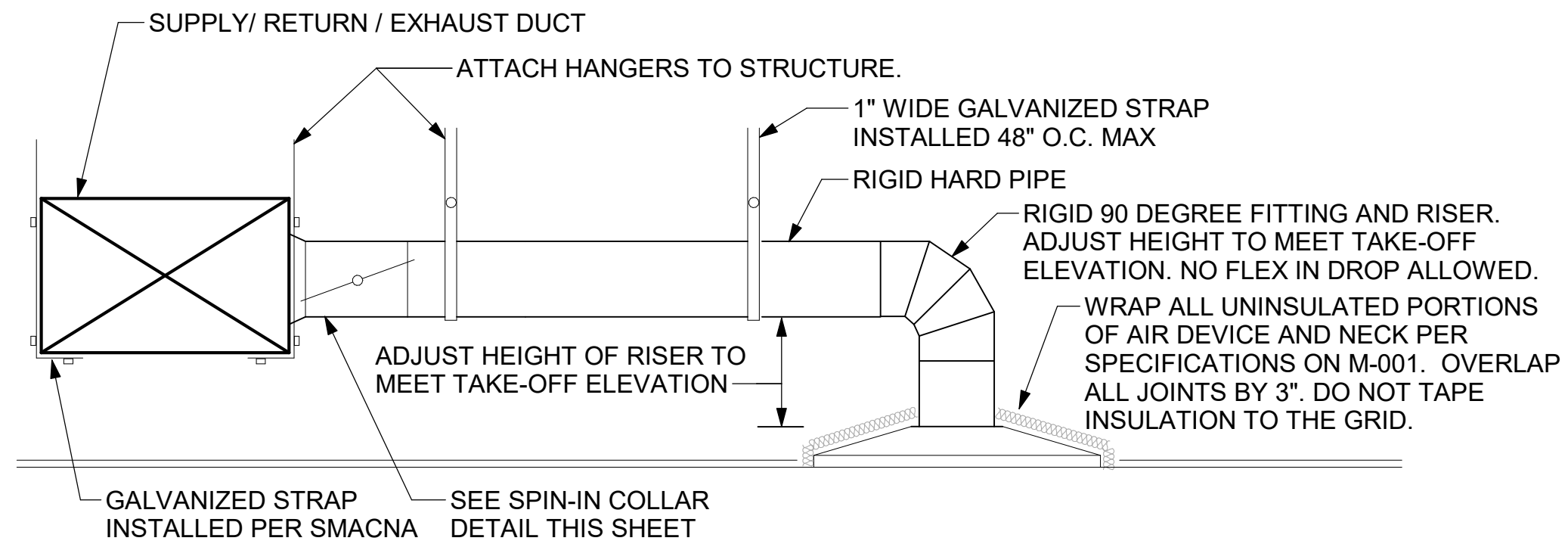


3 RESTROOM EXHAUST FAN
NOT TO SCALE

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.

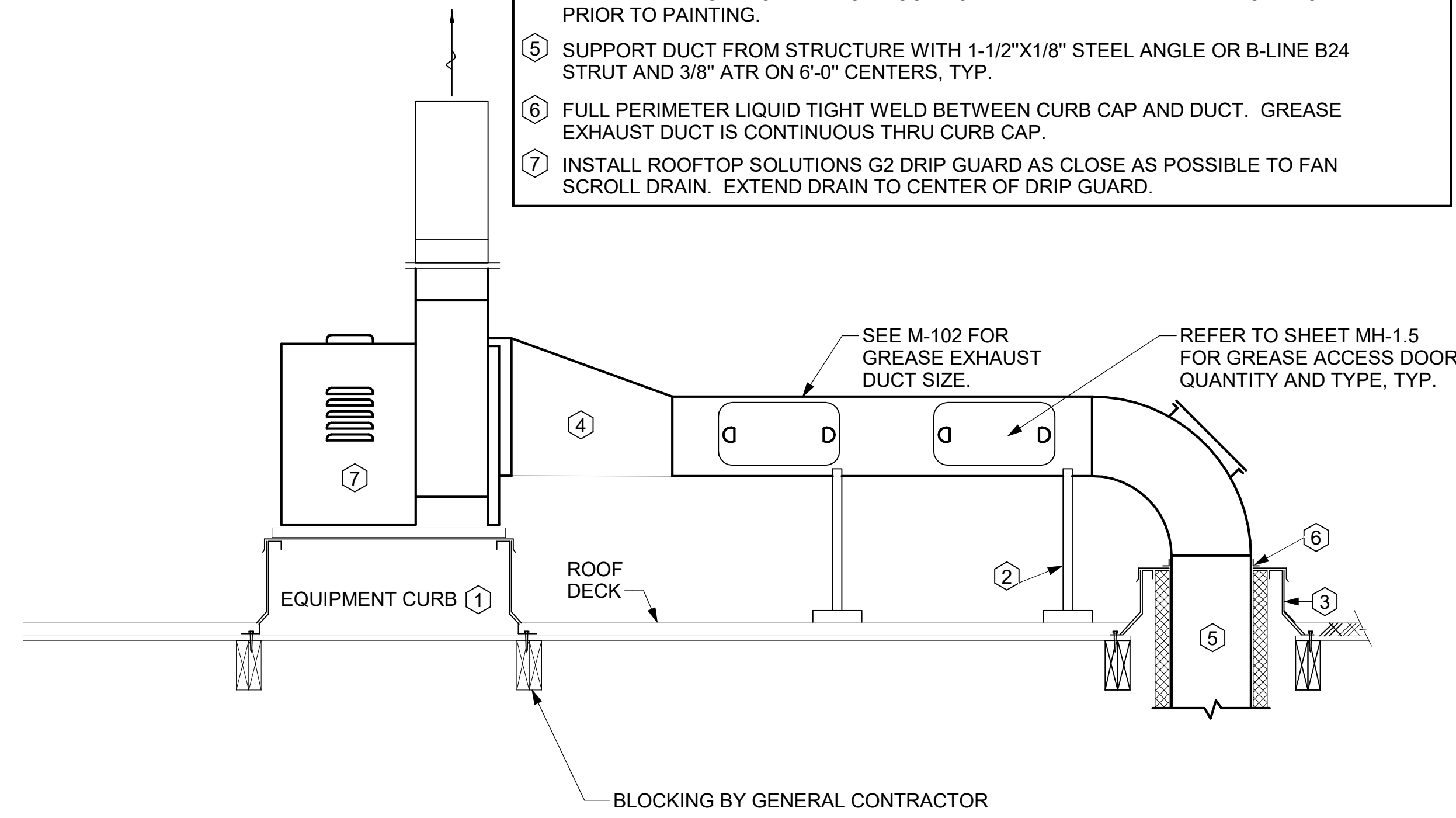


2 START COLLAR
NOT TO SCALE

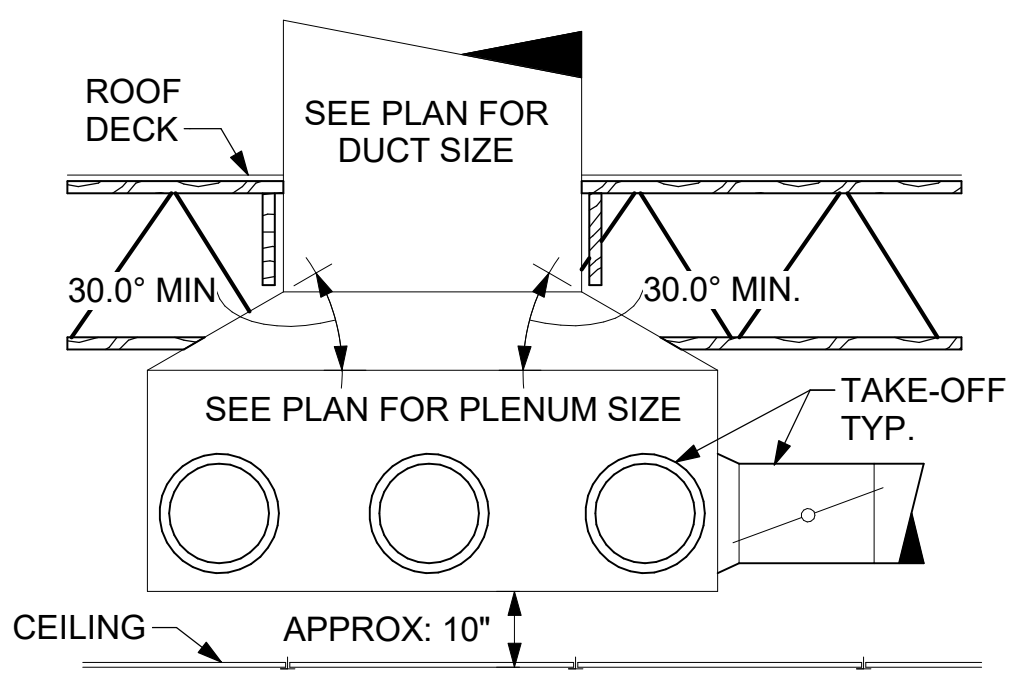


1 SAG/RAG/GRILLE TAKE-OFF
NOT TO SCALE

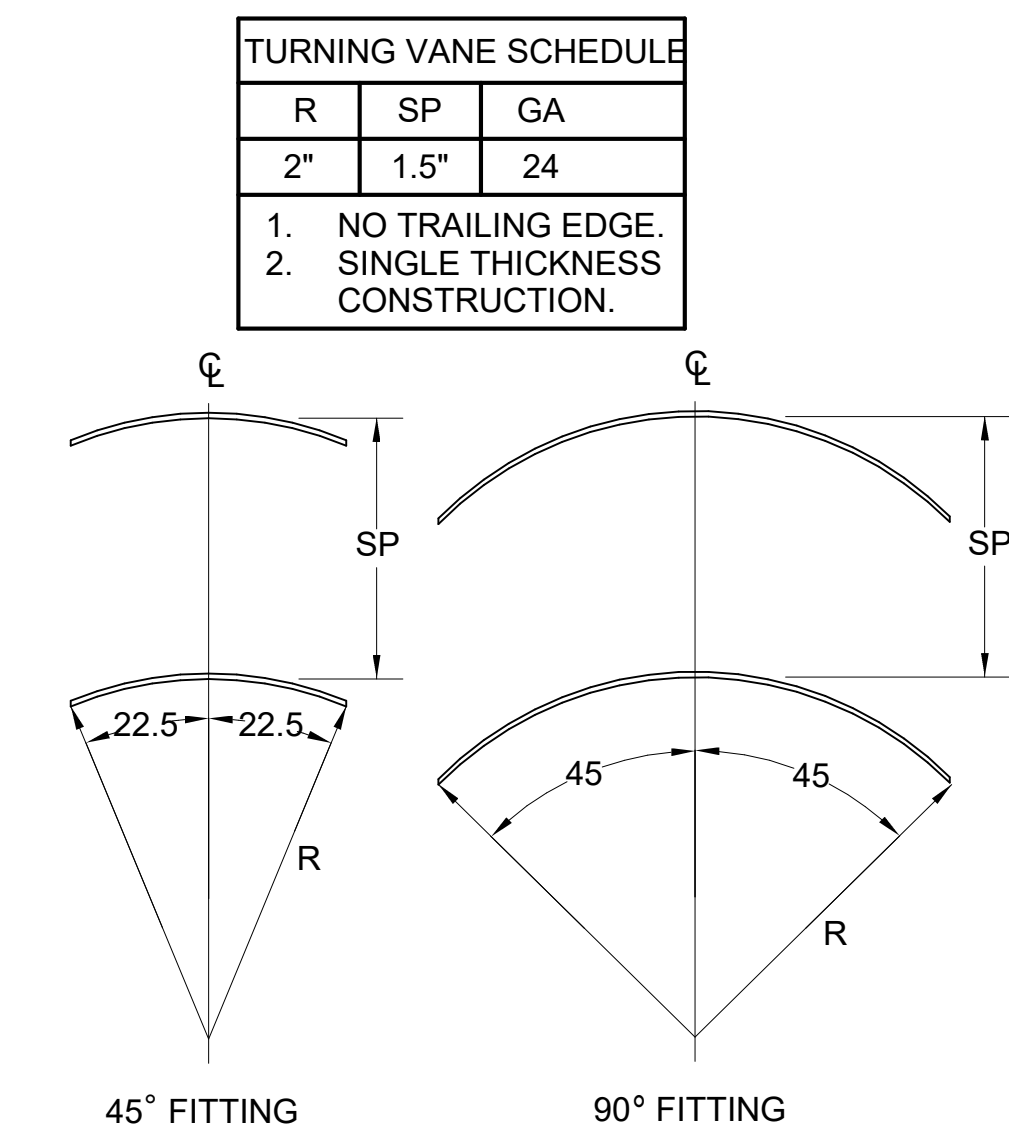
- KEYED NOTES:
- 22" EQUIPMENT CURB FURNISHED BY HALTON.
 - DUCT SUPPORT SHALL BE PROVIDED EVERY 8', AND WITHIN 12" OF ANY FITTING OR WELD SEAM. SUPPORTS SHALL BE SECURELY ATTACHED TO THE STRUCTURE AND DESIGNED TO CARRY GRAVITY, WIND, AND SEISMIC LOADS PER CODE.
 - 12" HIGH INSULATED CURB FURNISHED BY 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

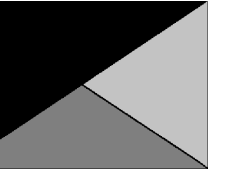


4 TURNING VANES
NOT TO SCALE

Autodesk Docs: /MO_04604_Raymore (MO) FSU_2024_1_FSR04604_Raymore (MO) FSU_K&A_MEC.rvt
5/11/2024 4:19:40 PM
30-LE-04604-M-501-DETAILS



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Atlanta, Georgia
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Nashville, Tennessee 37214
Telephone: (615) 255-5203



5/3/24

CHICK-FIL-A
Raymore FSU

1920 W. Foxwood Drive
Raymore, MO 64083

FSR#04604

BUILDING TYPE / SIZE: P14 LE BN
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DATE 03/07/2024
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SHEET DETAILS

SHEET NUMBER

M-501

VENTILATION SCHEDULE																									
General			Ventilation											Exhaust											
Room #	Room Name	Area A, ft ²	People			Area						Primary			Actual			Area		Exhaust		Toilet		Served by	
			Occupant Density People/1,000 ft ²	Occupants P _z	Outdoor Airflow Rate CFM/Person R _p	Outdoor Airflow CFM P _z x R _p	Outdoor Airflow Rate CFM/ft ² R _a	Outdoor Airflow CFM A _z x R _a	Breathing Zone Outdoor Airflow CFM V _{bz}	Zone Air Distribution Effectiveness E _z	Zone Outdoor Airflow CFM V _{oz}	Primary Zone Airflow CFM V _{pz}	Primary Outdoor Air Fraction Z _p	Actual Outdoor Airflow CFM	Required Exhaust Rate CFM/ft ²	Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust			
1	Kitchen	880	20	18	7.5	135	0.12	106	241	0.8	301	7,325	0.04	1,578	0.70	616	-	-	-	-	-	3,315	AC#1 / ALT AC#1	EF-1 / EF-2	
2	Kitchen (Dish Washing)	128	15	2	7.5	15	0.18	23	38	0.8	48	800	0.06	172	-	-	-	-	-	-	-	-	AC#1 / ALT AC#1	-	
Total Area 1,008						Total V _{bz} 279			Total Supply Airflow 8,125			1,750			Actual Outdoor Airflow										
						Diversity (D) 1.00			Maximum Zp 0.06																
						Uncorrected Outdoor Air Intake (V _{oo}) 279			System Ventilation Efficiency (E _s) 1.00																
						Required Outdoor Air Intake (CFM) 278																			

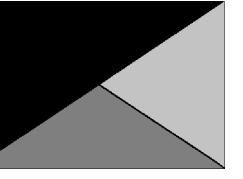
VENTILATION SCHEDULE																									
General			Ventilation											Exhaust											
Room #	Room Name	Area A, ft ²	People			Area						Primary			Actual			Area		Exhaust		Toilet		Served by	
			Occupant Density People/1,000 ft ²	Occupants P _z	Outdoor Airflow Rate CFM/Person R _p	Outdoor Airflow CFM P _z x R _p	Outdoor Airflow Rate CFM/ft ² R _a	Outdoor Airflow CFM A _z x R _a	Breathing Zone Outdoor Airflow CFM V _{bz}	Zone Air Distribution Effectiveness E _z	Zone Outdoor Airflow CFM V _{oz}	Primary Zone Airflow CFM V _{pz}	Primary Outdoor Air Fraction Z _p	Actual Outdoor Airflow CFM	Required Exhaust Rate CFM/ft ²	Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust			
5	Meal Fulfillment Area	460	15	7	7.5	52.5	0.18	83	135	0.8	170	4,375	0.04	1,075	-	-	-	-	-	-	-	-	AC#2 / ALT AC#2	-	
Total Area 460						Total V _{bz} 135			Total Supply Airflow 4,375			1,075			Actual Outdoor Airflow										
						Diversity (D) 1.00			Maximum Zp 0.03																
						Uncorrected Outdoor Air Intake (V _{oo}) 135			System Ventilation Efficiency (E _s) 1.00																
						Required Outdoor Air Intake (CFM) 135																			

VENTILATION SCHEDULE																									
General			Ventilation											Exhaust											
Room #	Room Name	Area A, ft ²	People			Area						Primary			Actual			Area		Exhaust		Toilet		Served by	
			Occupant Density People/1,000 ft ²	Occupants P _z	Outdoor Airflow Rate CFM/Person R _p	Outdoor Airflow CFM P _z x R _p	Outdoor Airflow Rate CFM/ft ² R _a	Outdoor Airflow CFM A _z x R _a	Breathing Zone Outdoor Airflow CFM V _{bz}	Zone Air Distribution Effectiveness E _z	Zone Outdoor Airflow CFM V _{oz}	Primary Zone Airflow CFM V _{pz}	Primary Outdoor Air Fraction Z _p	Actual Outdoor Airflow CFM	Required Exhaust Rate CFM/ft ²	Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust			
1	Dining	1,209	70	85	7.5	637.5	0.18	218	855	0.8	1089	4,000	0.237	971	-	-	-	-	-	-	-	-	AC#3 / ALT AC#3	-	
2	Service	313	15	5	7.5	38	0.18	56	94	0.8	118	500	0.23	121	-	-	-	-	-	-	-	-	AC#3 / ALT AC#3	-	
3	Men's RR	152	-	-	-	-	-	-	-	0.8	-	125	-	30	-	-	Continuous	50	100	150	150	150	AC#3 / ALT AC#3	EF-3	
4	Women's RR	152	-	-	-	-	-	-	-	0.8	-	125	-	30	-	-	Continuous	50	100	150	150	150	AC#3 / ALT AC#3	EF-3	
5	RR Vestibule	134	-	-	-	-	0.06	8	8	0.8	11	100	0.10	24	-	-	-	-	-	-	-	-	AC#3 / ALT AC#3	-	
6	Entry Vestibule	73	-	-	-	-	0.06	4	4	0.8	6	400	0.01	97	-	-	-	-	-	-	-	-	AC#3 / ALT AC#3	-	
Total Area 2,033						Total V _{bz} 961			Total Supply Airflow 5,250			1,275			Actual Outdoor Airflow										
						Diversity (D) 0.82			Maximum Zp 0.267																
						Uncorrected Outdoor Air Intake (V _{oo}) 910			System Ventilation Efficiency (E _s) 0.80																
						Required Outdoor Air Intake (CFM) 1,138																			

VENTILATION SCHEDULE																									
General			Ventilation											Exhaust											
Room #	Room Name	Area A, ft ²	People			Area						Primary			Actual			Area		Exhaust		Toilet		Served by	
			Occupant Density People/1,000 ft ²	Occupants P _z	Outdoor Airflow Rate CFM/Person R _p	Outdoor Airflow CFM P _z x R _p	Outdoor Airflow Rate CFM/ft ² R _a	Outdoor Airflow CFM A _z x R _a	Breathing Zone Outdoor Airflow CFM V _{bz}	Zone Air Distribution Effectiveness E _z	Zone Outdoor Airflow CFM V _{oz}	Primary Zone Airflow CFM V _{pz}	Primary Outdoor Air Fraction Z _p	Actual Outdoor Airflow CFM	Required Exhaust Rate CFM/ft ²	Total Required Exhaust CFM	Exhaust Control/Operation	Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM	Actual Exhaust CFM	Supply	Exhaust			
1	Team Member Room	158	50	8	5	40	0.06	9	49	0.8	62	600	0.10	146	-	-	-	-	-	-	-	-	AC#4 / ALT AC#4	-	
2	Service	157	-	-	-	-	0.12	19	19	0.8	24	185	0.13	45	-	-	-	-	-	-	-	-	AC#4 / ALT AC#4	-	
3	Beverage	166	-	-	-	-	0.12	20	20	0.8	25	275	0.09	67	-	-	-	-	-	-	-	-	AC#4 / ALT AC#4	-	
4	Utility	100	-	-	-	-	0.12	12	12	0.8	15	300	0.05	73	-	-	-	-	-	-	-	-	AC#4 / ALT AC#4	-	
5	Dry Storage	471	-	-	-	-	0.12	57	57	0.8	71	150	0.47	36	-	-	-	-	-	-	-	-	AC#4 / ALT AC#4	-	
6	Office	79	5	1	5	5	0.06	5	10	0.8	13	100	0.12	24	-	-	-	-	-	-	-	-	AC#4 / ALT AC#4	-	
7	Employee RR	62	-	-	-	-	-	-	-	0.8	-	40	-	10	-	-	Intermittent	70	70	75	75	75	AC#4 / ALT AC#4	EF#4	
8	Riser	19	-	-	-	-	0.12	2	2	0.8	3	100	0.03	24	-	-	-	-	-	-	-	-	AC#4 / ALT AC#4	-	
Total Area 1,212						Total V _{bz} 169			Total Supply Airflow 1,750			425			Actual Outdoor Airflow										
						Diversity (D) 1.00			Maximum Zp 0.47																
						Uncorrected Outdoor Air Intake (V _{oo}) 169			System Ventilation Efficiency (E _s) 0.60																
						Required Outdoor Air Intake (CFM) 281																			



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5/3/24

CHICK-FIL-A
Raymore FSU
1920 W. Foxwood Drive
Raymore, MO 64083

FSR#04604

BUILDING TYPE / SIZE:	P14 LE BN	
RELEASE:	23.11	
PRINTED FOR:	ISSUE FOR CONSTRUCTION	
REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
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ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT #	24030.CD.S
DATE	03/07/2024
DRAWN BY	BLM

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SHEET VENTILATION SCHEDULES

SHEET NUMBER **M-602**

Climate Zone (CZ)	Infrared Heaters
8	Yes
7	Yes
6B	Yes
6A	Yes
5C	Yes
5B	Yes
5A	Yes
4C	No*
4B	Yes
4A	Yes
3C	No*
3B	No*
3A	Yes
2B	No*
2A	No
1B	No
1A	No

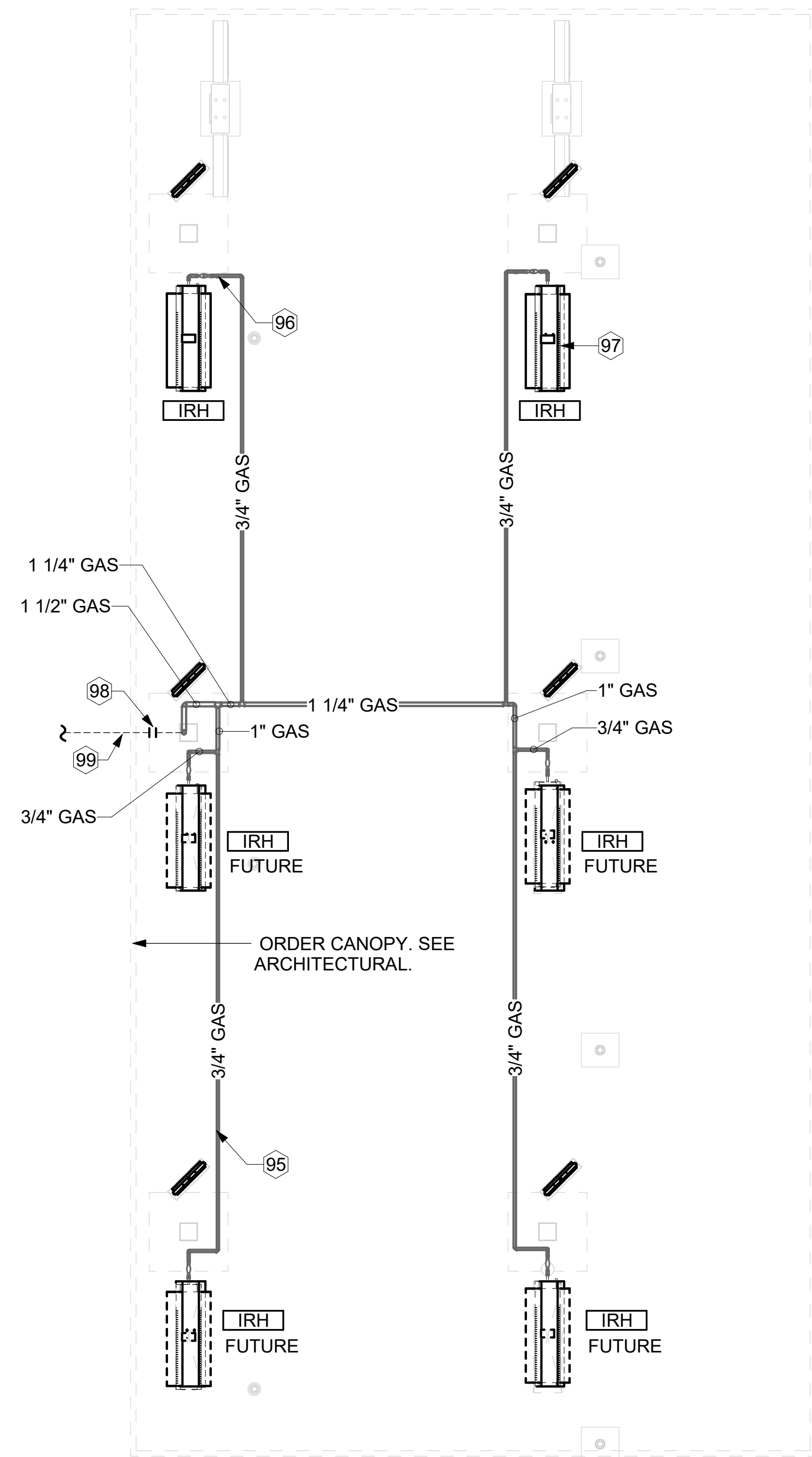
*Infrared heaters may be provided at the discretion of the engineer

CANOPY GENERAL NOTES

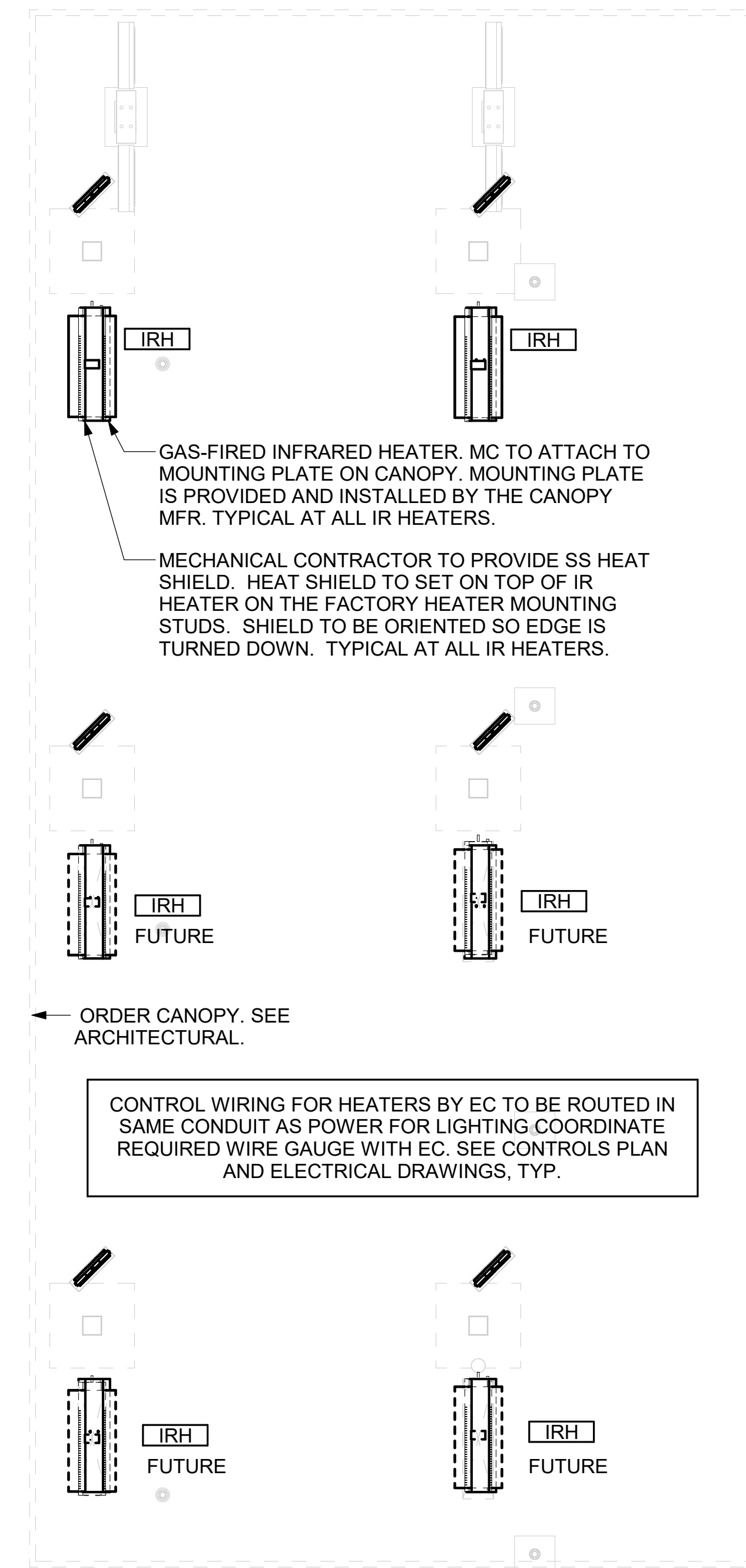
- COORDINATE WORK WITH CONDUIT, STRUCTURE, AND PIPING. FIELD VERIFY CONDITIONS PRIOR TO START OF WORK.
- COORDINATE LOCATION AND RESPONSIBILITIES FOR UNDERGROUND PIPING AND ASSOCIATED TRENCHING WITH GENERAL CONTRACTOR PRIOR TO START OF WORK.
- EXPOSED GAS PIPING SHALL BE COVERED WITH A RUST INHIBITING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

KEY NOTES

- GAS PIPING TO BE ROUTED ABOVE CANOPY, ON TOP OF STRUCTURAL MEMBERS, EXCEPT WHERE ROUTED DOWN THROUGH PENETRATIONS AS INDICATED.
- GAS PIPING DOWN THROUGH DECK. WEATHERPROOF DECK PENETRATION PER DETAIL 6/M-502, TYPICAL.
- SEE DETAIL 1/M-502 FOR PIPING AT IRH, TYPICAL.
- GAS TRANSITION FITTING TO GAS PIPE STUB-OUT. GAS PIPING INSIDE COLUMN AND STUB-OUTS BY CANOPY MFR. JOIN UNDERGROUND POLYETHYLENE GAS PIPING TO TRANSITION FITTING WITH ELSTER PERMASERT COUPLING. CANOPY MFR'S EXPOSED STEEL PIPING BELOW GRADE SHALL BE PROTECTED WITH TWO COATS ASPHALT TUM BASE PAINT AND POLY SLEEVE.
- 1-1/2" GAS B/G TO METER SEE 1/M-102.



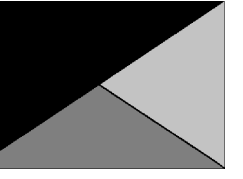
2 ORDER CANOPY GAS PIPING PLAN
1/4" = 1'-0"



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



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5/3/24

CHICK-FIL-A
Raymore FSU

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Raymore, MO 64083

FSR#04604

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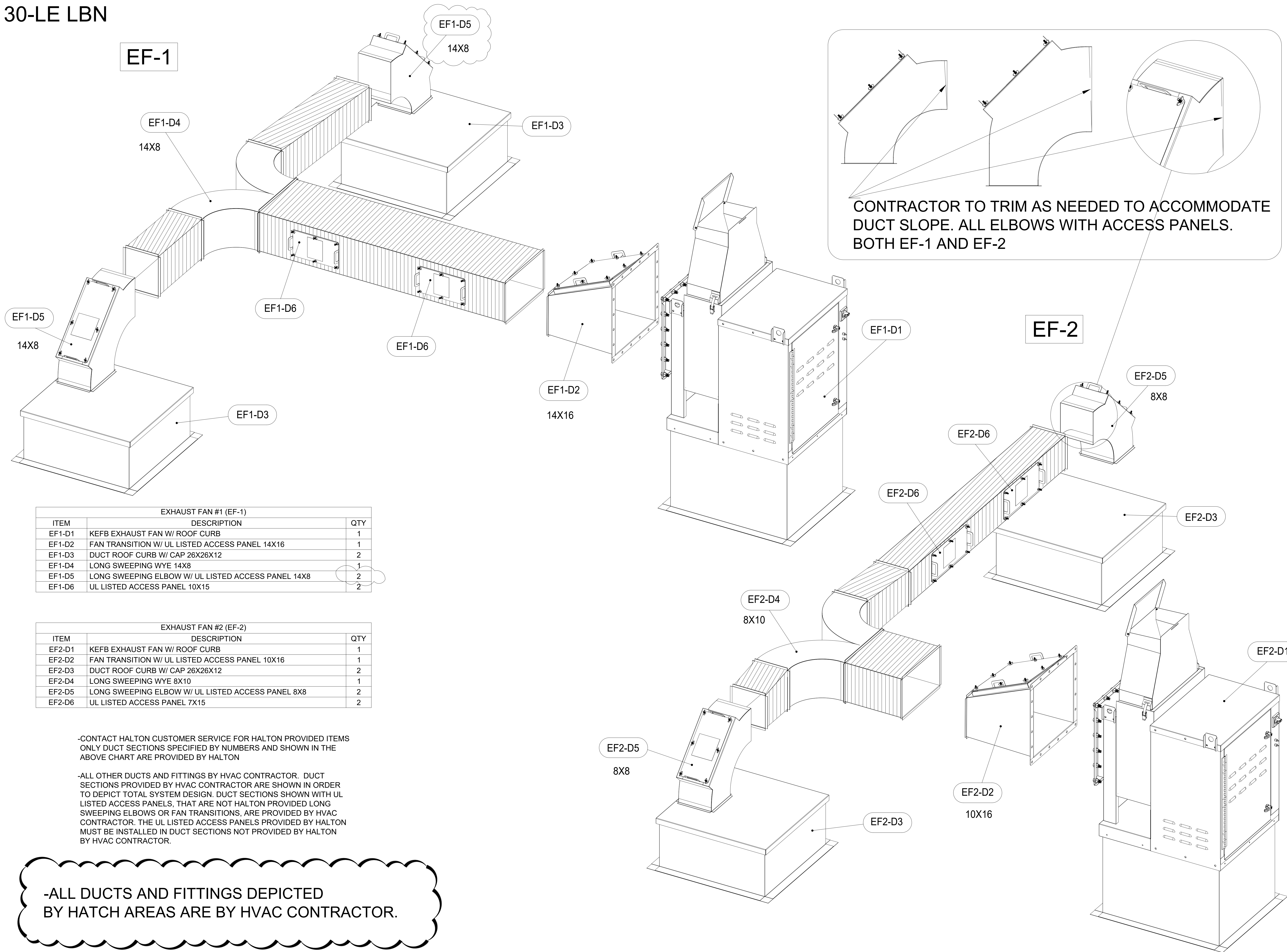
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SHEET CANOPY HVAC PLAN

SHEET NUMBER

M-103

30-LE LBN



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 14X16	1
EF1-D3	DUCT ROOF CURB W/ CAP 26X26X12	2
EF1-D4	LONG SWEEPING WYE 14X8	1
EF1-D5	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 14X8	2
EF1-D6	UL LISTED ACCESS PANEL 10X15	2

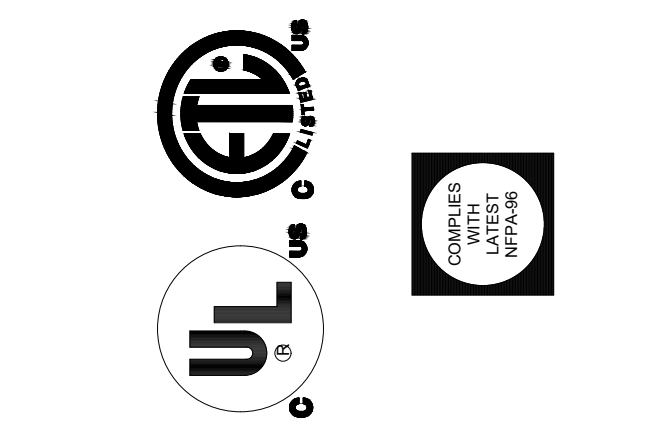
EXHAUST FAN #2 (EF-2)		
ITEM	DESCRIPTION	QTY
EF2-D1	KEFB EXHAUST FAN W/ ROOF CURB	1
EF2-D2	FAN TRANSITION W/ UL LISTED ACCESS PANEL 10X16	1
EF2-D3	DUCT ROOF CURB W/ CAP 26X26X12	2
EF2-D4	LONG SWEEPING WYE 8X10	1
EF2-D5	LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 8X8	2
EF2-D6	UL LISTED ACCESS PANEL 7X15	2

-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. DUCT SECTIONS SHOWN WITH UL LISTED ACCESS PANELS, THAT ARE NOT HALTON PROVIDED LONG SWEEPING ELBOWS OR FAN TRANSITIONS, ARE PROVIDED BY HVAC CONTRACTOR. THE UL LISTED ACCESS PANELS PROVIDED BY HALTON MUST BE INSTALLED IN DUCT SECTIONS NOT PROVIDED BY HALTON BY HVAC CONTRACTOR.

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

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 CHANGES OCCUR, A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.
 REUSE AND RESUBMIT
 APPROVED FOR FABRICATION
 WITH CHANGES AS NOTED
 WITH NO CHANGES
 APPROVED BY: _____ DATE: _____

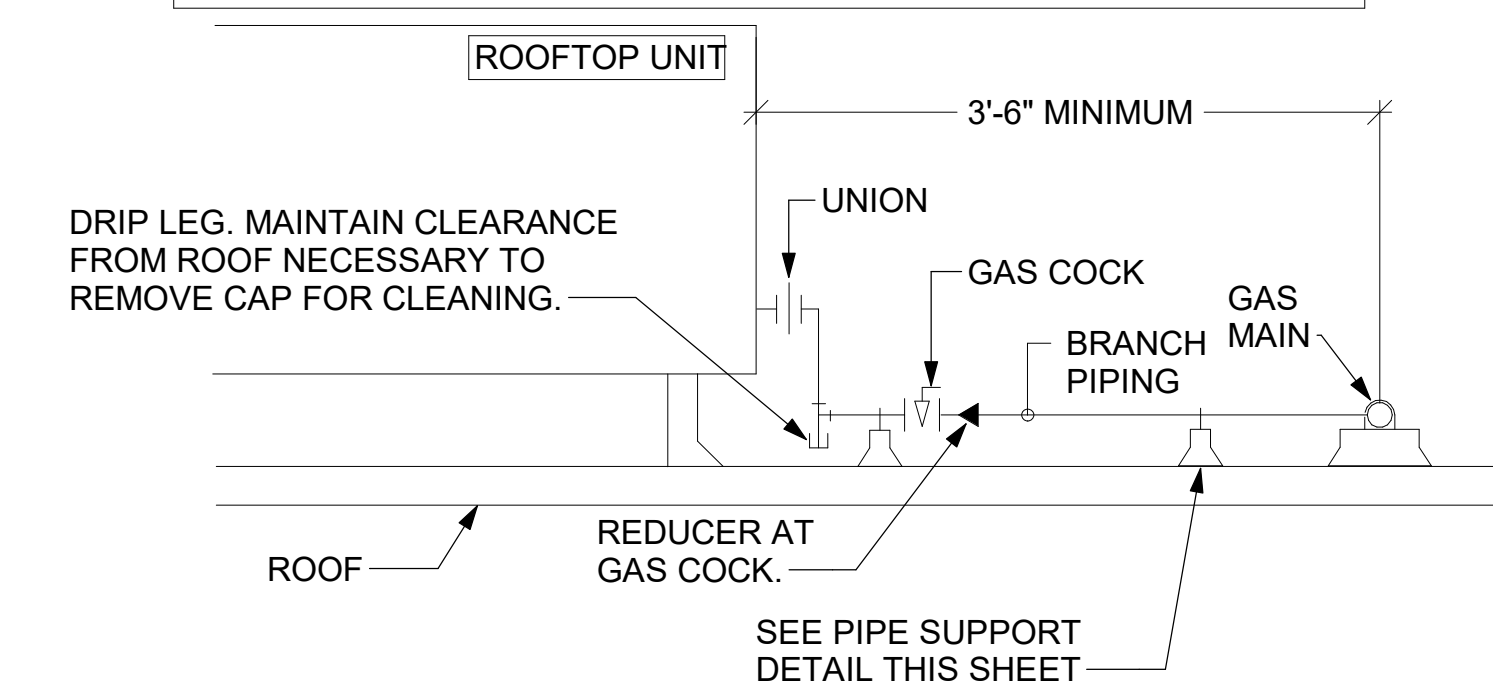


WEBSITE: www.halton.com	DATE: _____
HALTON CO. (USA) 101 INDUSTRIAL DRIVE SCOTTSDALE, KY 42164 1-270-237-5600	BY: _____
MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:	REVISION DESCRIPTION
HALTON CO. (CANADA) 1021 BREVIK PLACE MISSISSAUGA, ON L4W 3R7 1-905-624-0301	1
	2
	3
	4
	5
	6
	7

PROJECT: CHICK-FIL-A #4604
RAYMORE FSR
 LOCATION: RAYMORE, MO
 DRAWN BY: SKK DATE: 07.17.24
 SCALE: NOT TO SCALE
 CONSULTANT:
 DRAWING TITLE: CFA FAN DETAILS
 DRAWING No.: U24-564
 REV. NO.: 0 SHEET NO.: 5 of 5

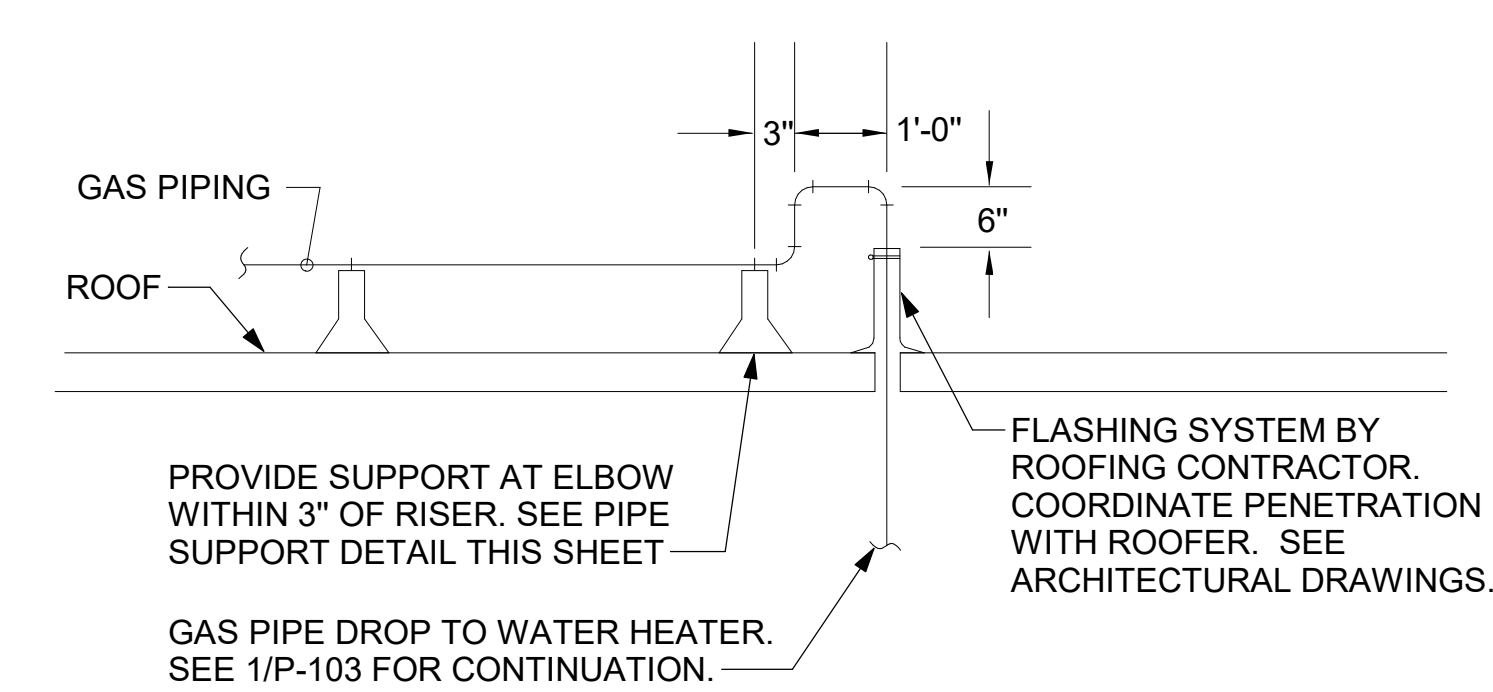


- NOTES:**
1. INSTALL GAS PIPING SUCH THAT HVAC EQUIPMENT ACCESS PANELS AND/OR DOORS ARE IN NO WAY OBSTRUCTED BY PIPING, VALVES, OR SUPPORTS.
 2. TO AVOID CONFLICT WITH AC UNIT ACCESS DOORS, INSTALL GAS PIPING NO CLOSER THAN 3'-6" FROM AC UNIT. (EXCEPT FOR BRANCH LINE CONNECTED TO AC UNIT.)
 3. ROUTE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

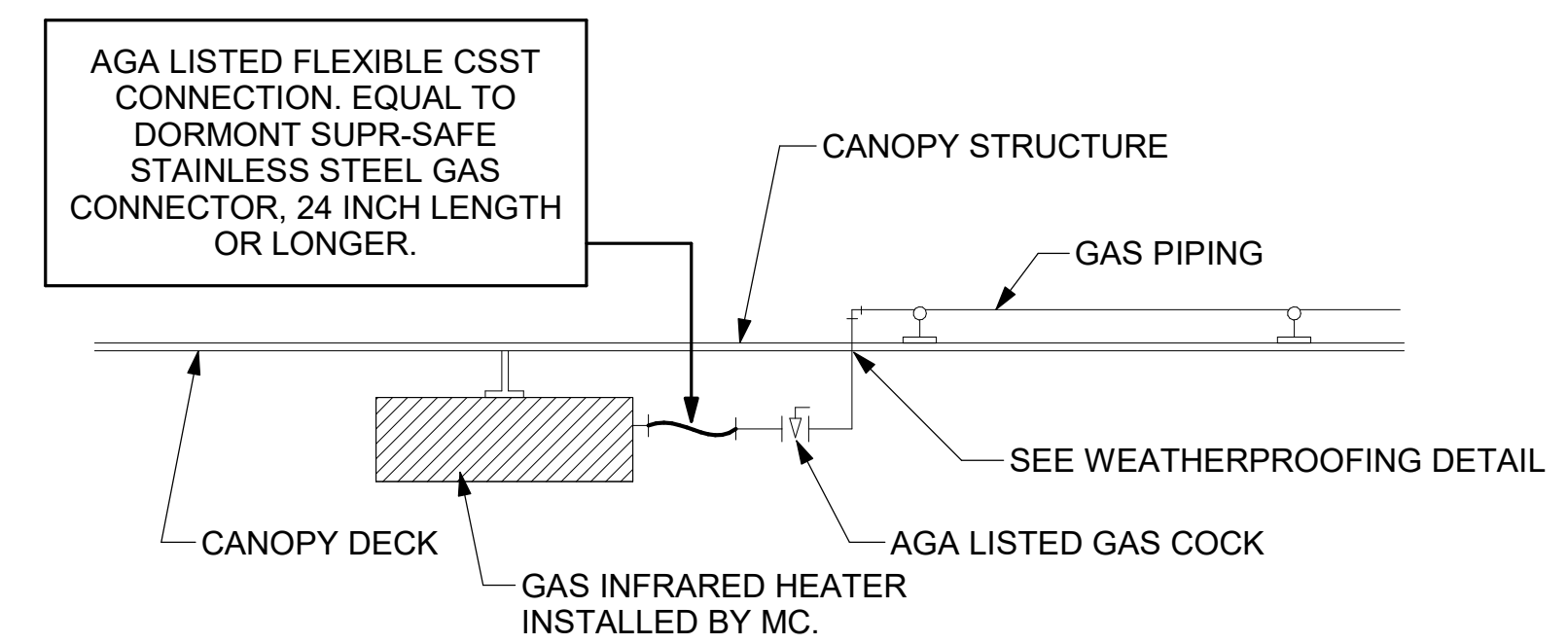


3 GAS PIPING AT RTU
NOT TO SCALE

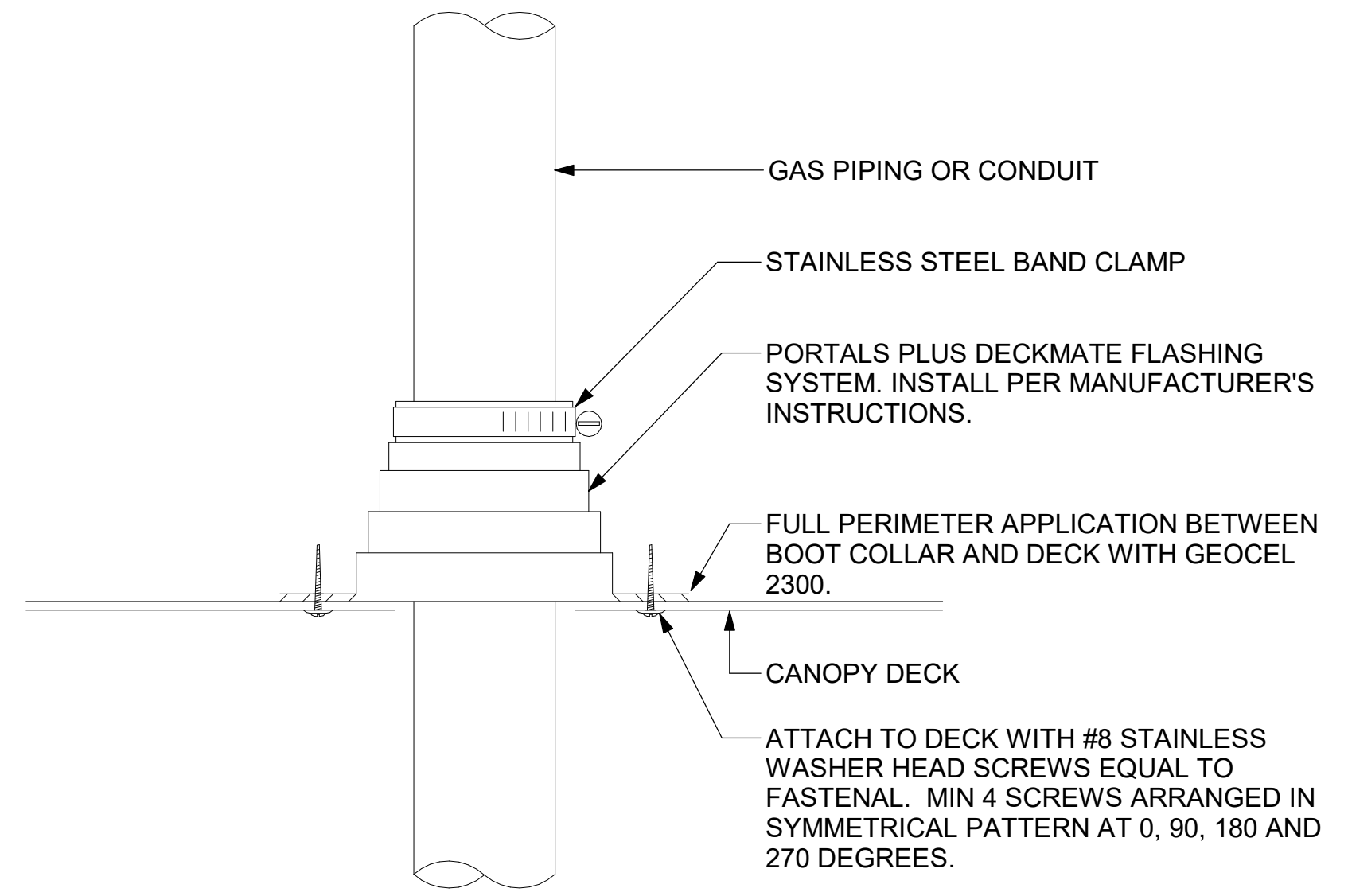
OFFSET PIPING A MINIMUM OF 6" ABOVE TOP EDGE OF FLASHING.



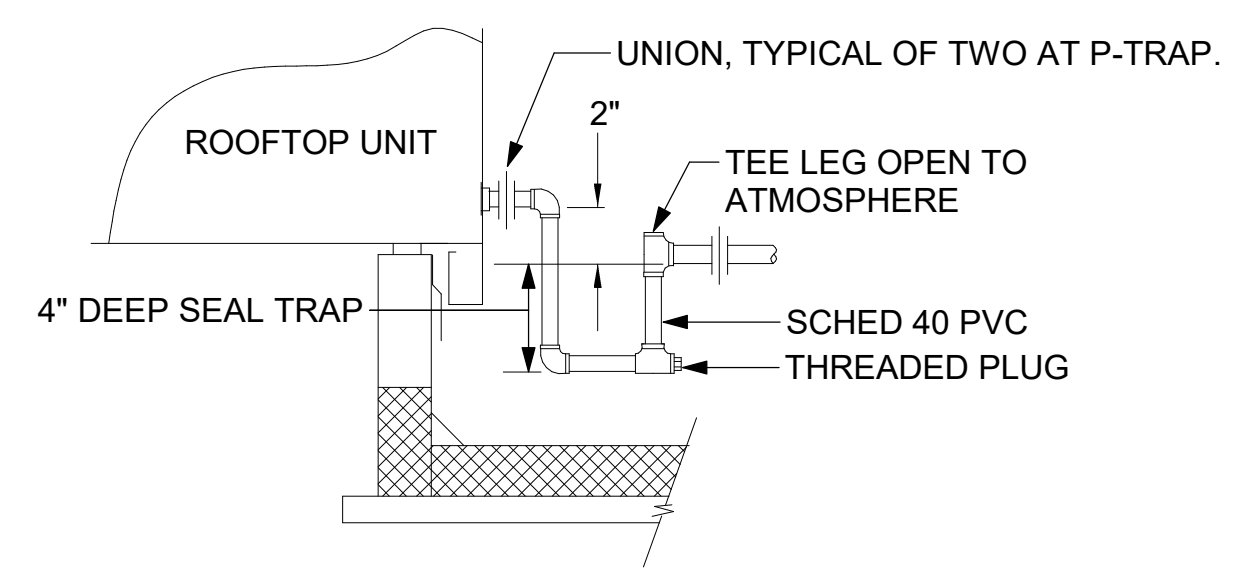
2 GAS PIPE DROP TO WATER HEATER
NOT TO SCALE



1 GAS CONNECTION AT APPLIANCE
NOT TO SCALE

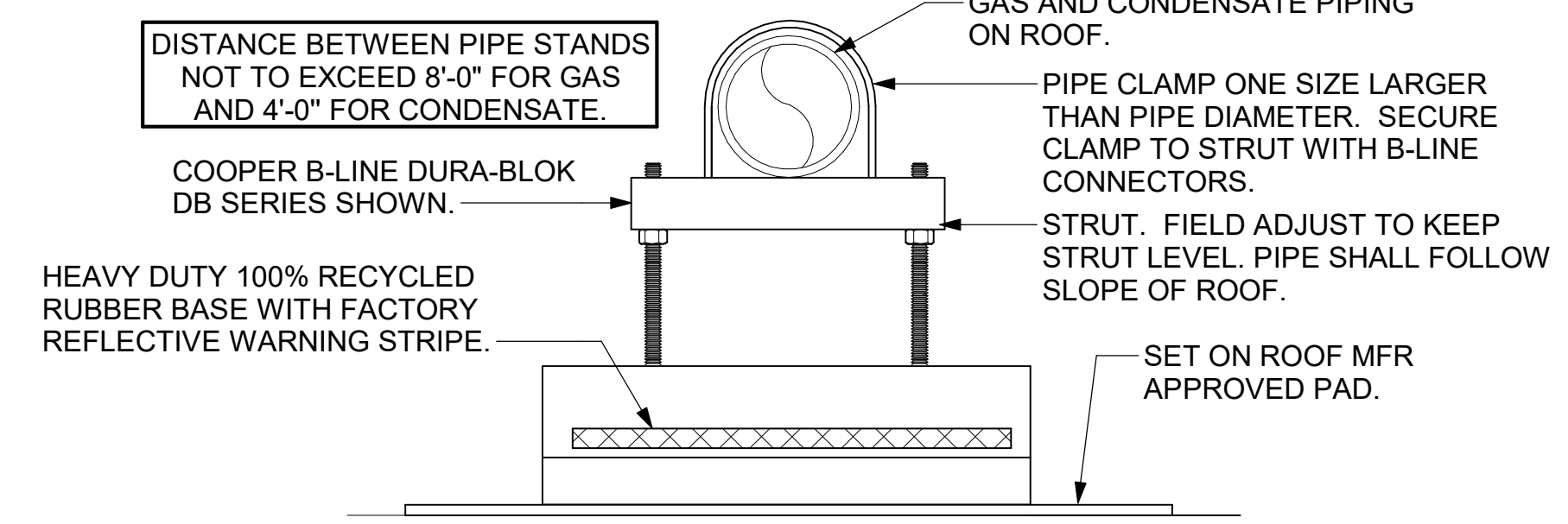


6 WEATHERPROOFING AT CANOPY PENETRATION
NOT TO SCALE

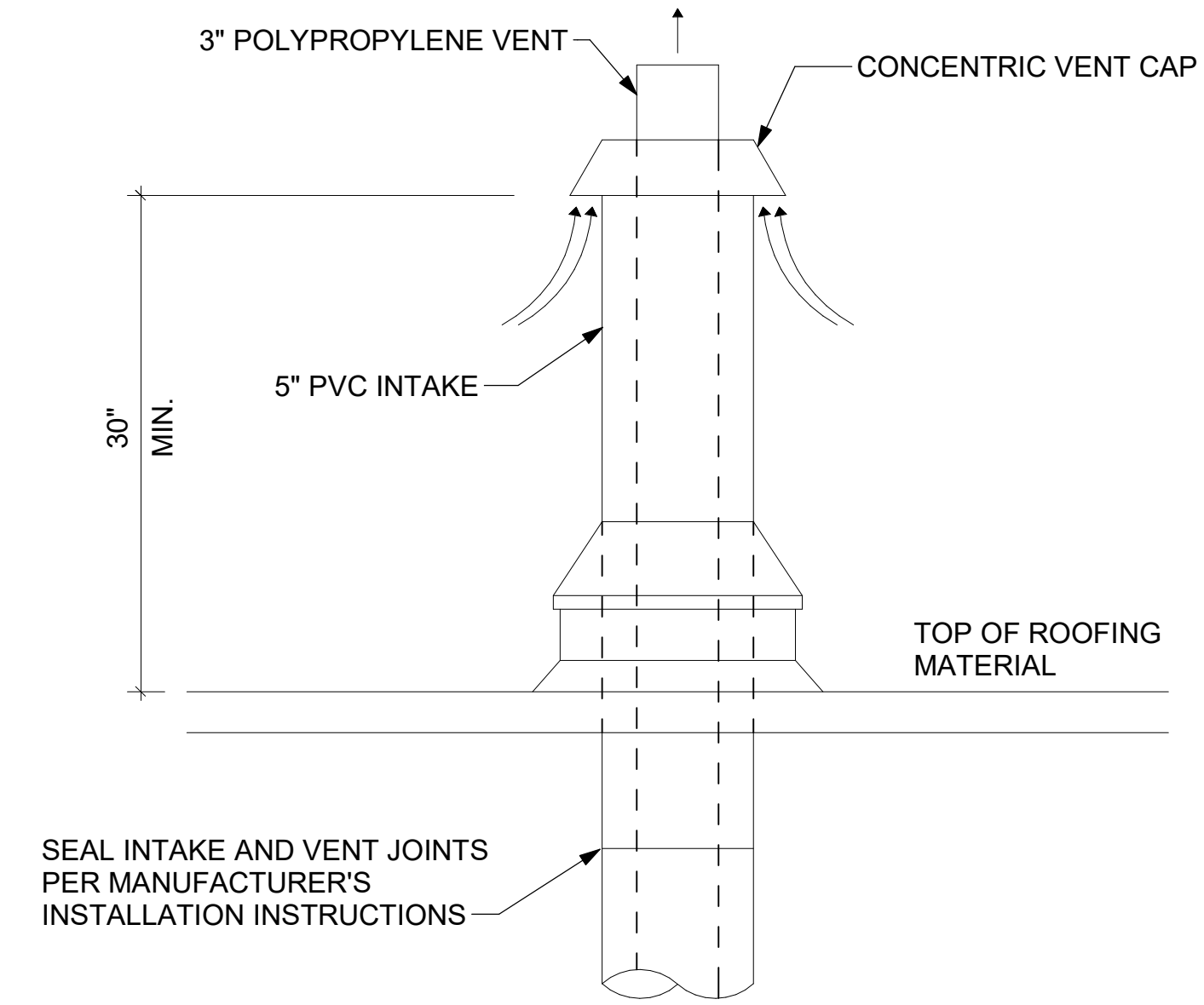


5 CONDENSATE DRAIN PIPING
NOT TO SCALE

- 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.



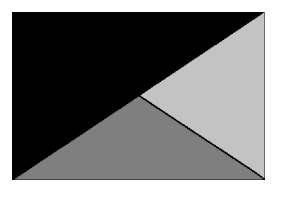
4 PIPING SUPPORT ON ROOF
NOT TO SCALE



7 WATER HEATER VENT ROOF PENETRATION
NOT TO SCALE



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5/3/24

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1920 W. Foxwood Drive
Raymore, MO 64083

FSR#04604
BUILDING TYPE / SIZE: P14 LE BN
RELEASE: 23.11
PRINTED FOR: ISSUE FOR CONSTRUCTION
REVISION SCHEDULE

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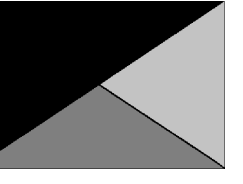
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SHEET
DETAILS

SHEET NUMBER
M-502



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CHICK-FIL-A
Raymore FSU

1920 W. Foxwood Drive
Raymore, MO 64083

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CONSULTANT PROJECT # 24030.CD.S

DATE 03/07/2024

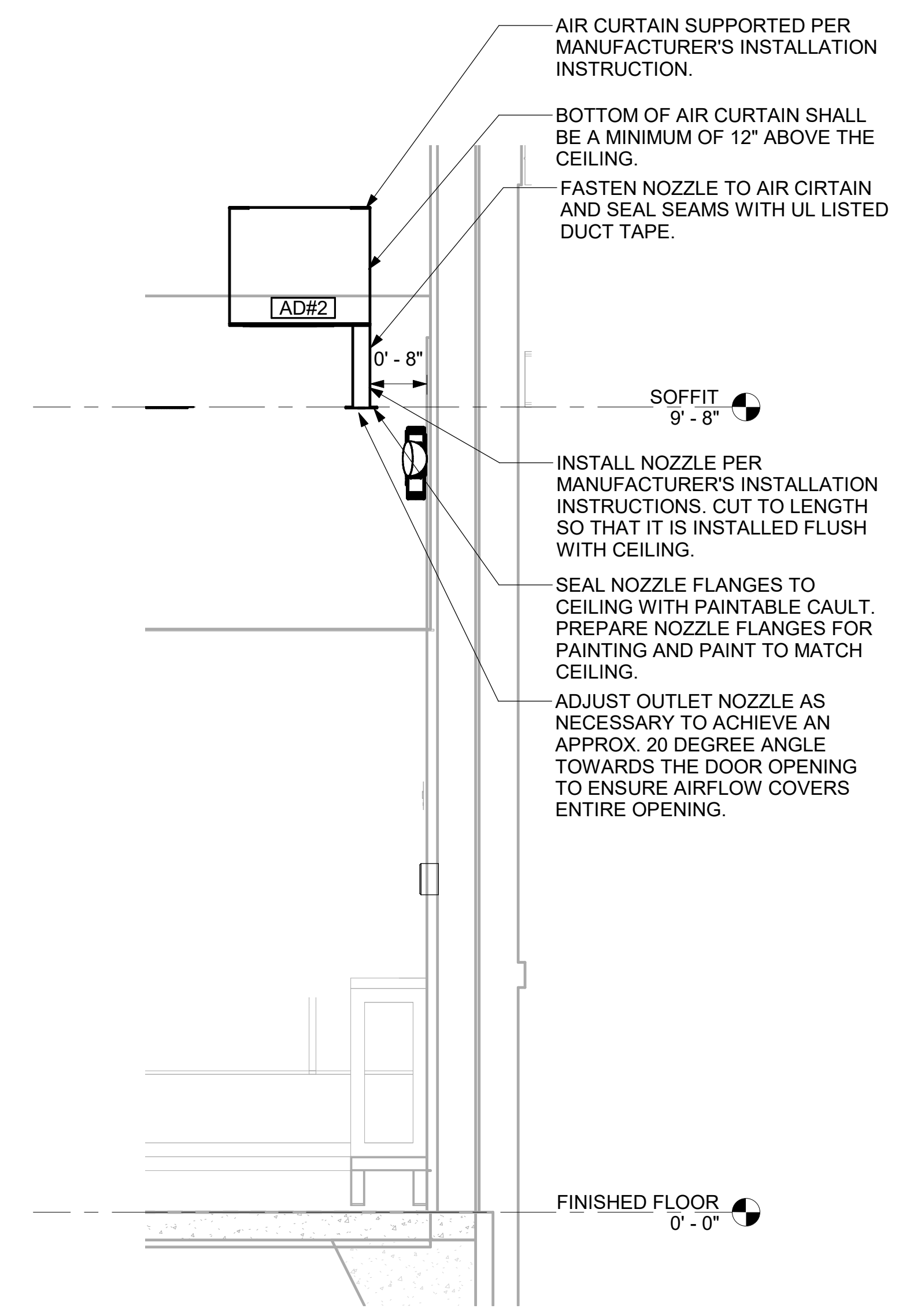
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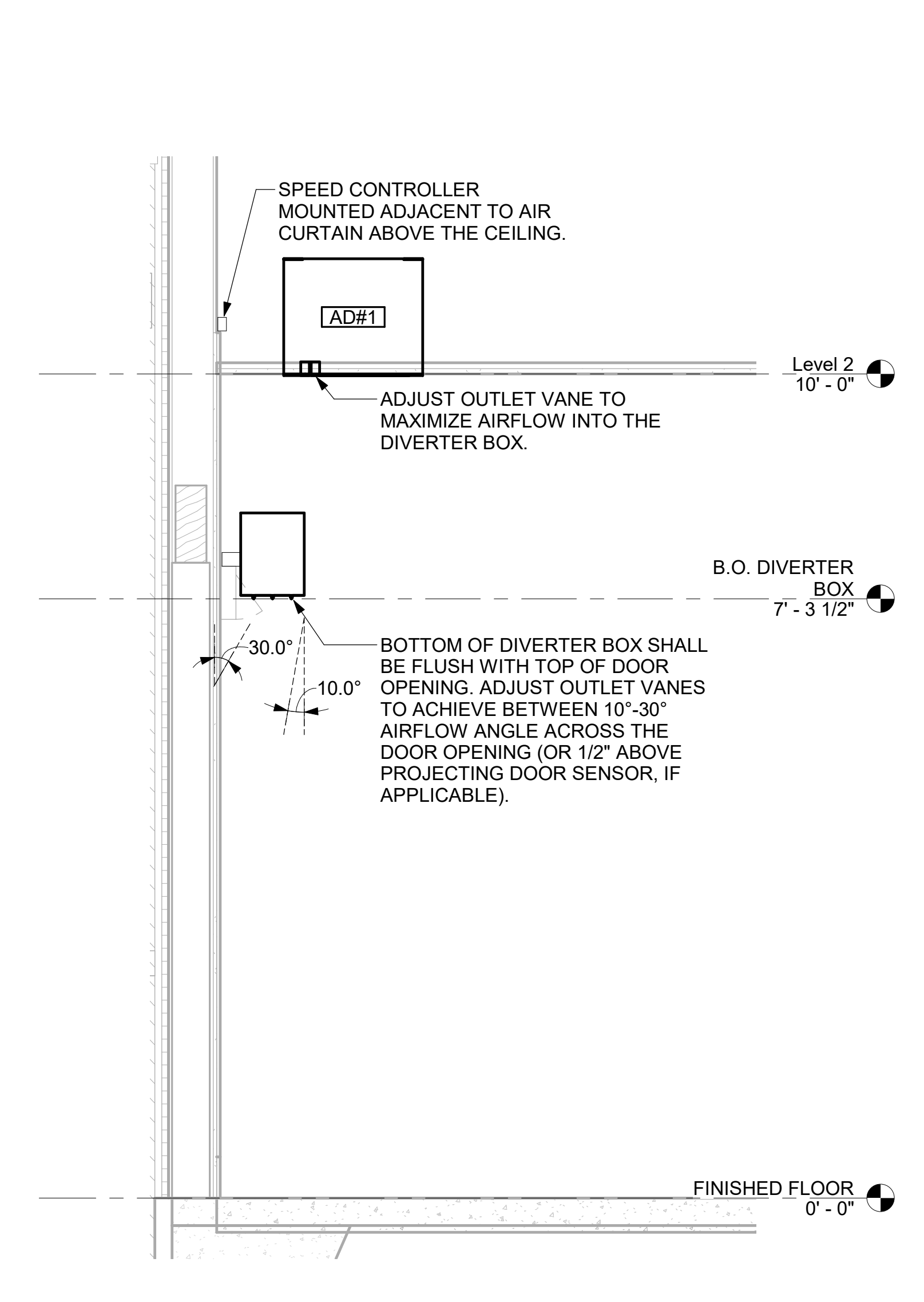
SHEET SECTIONS

SHEET NUMBER

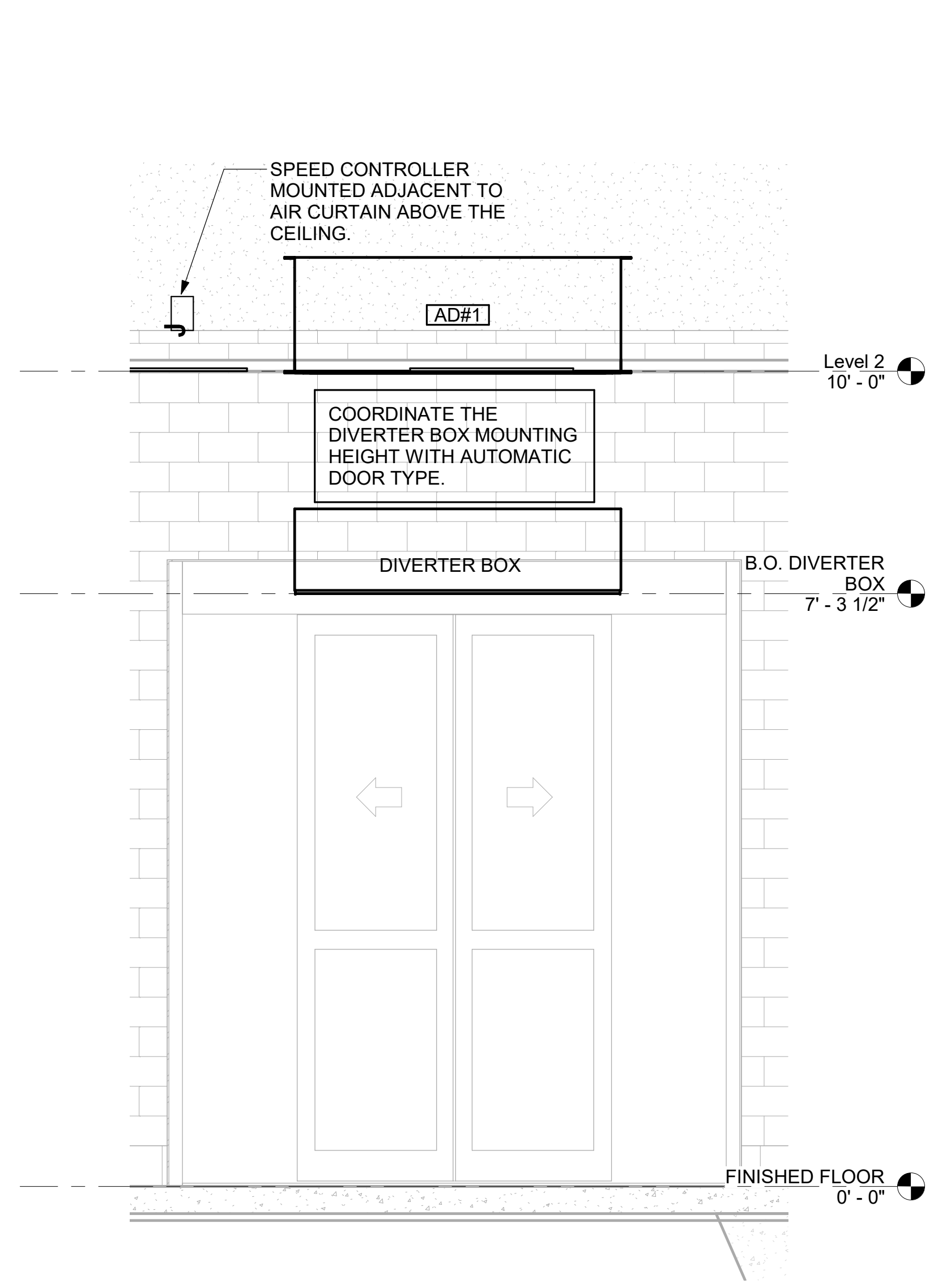
M-301



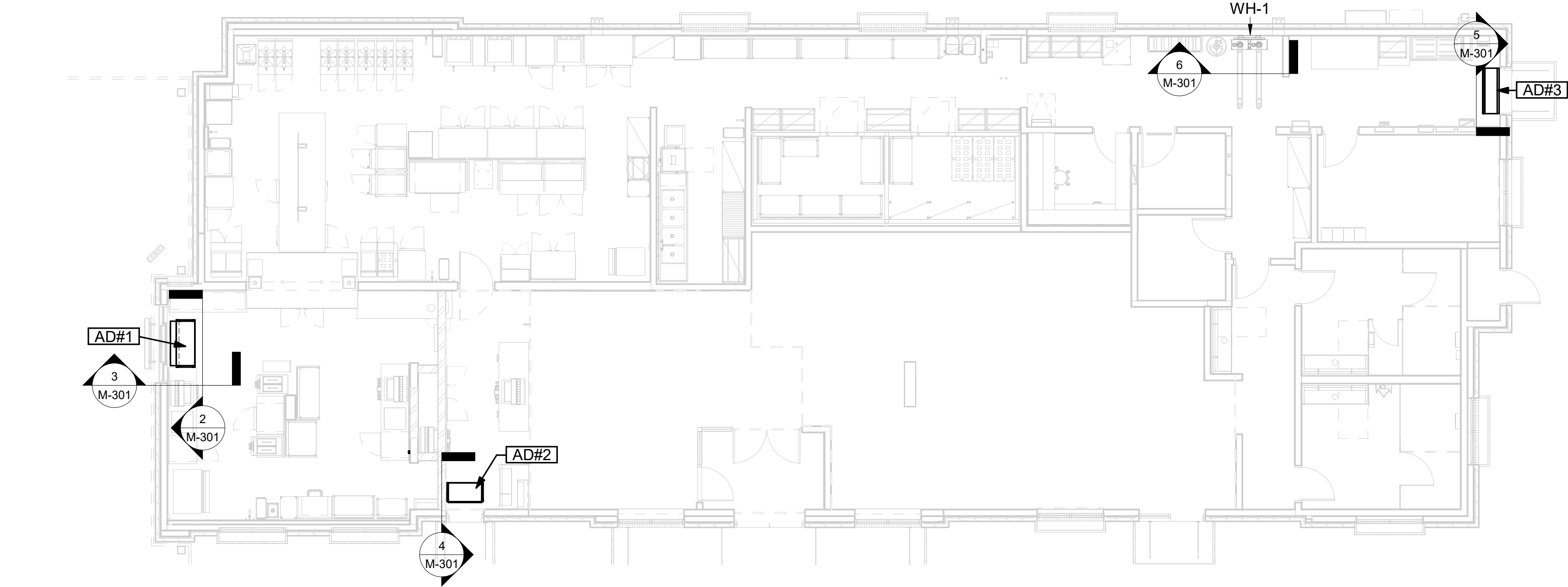
4 AD#2 SIDE VIEW
3/4" = 1'-0"



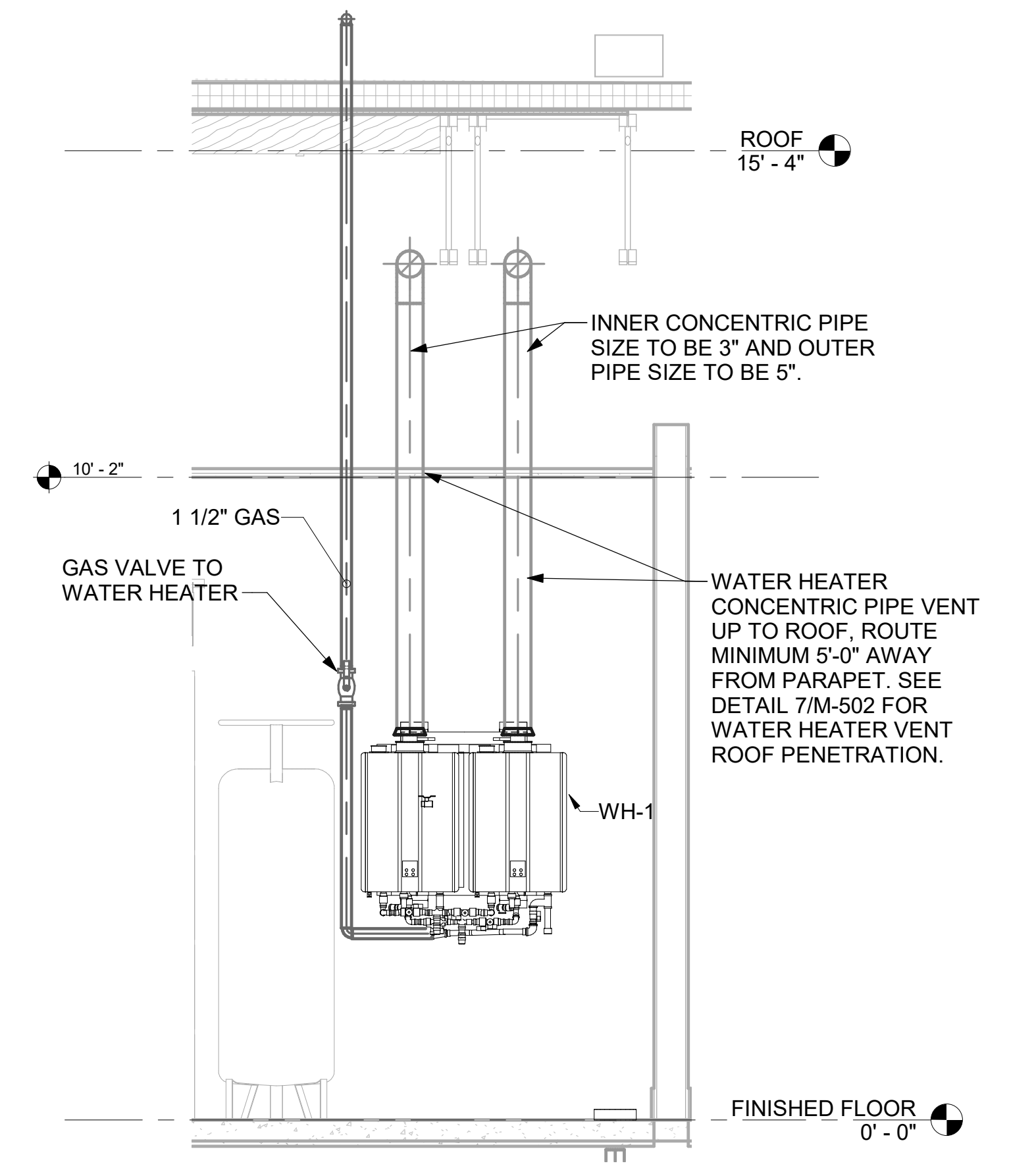
3 AD#1 SIDE VIEW
3/4" = 1'-0"



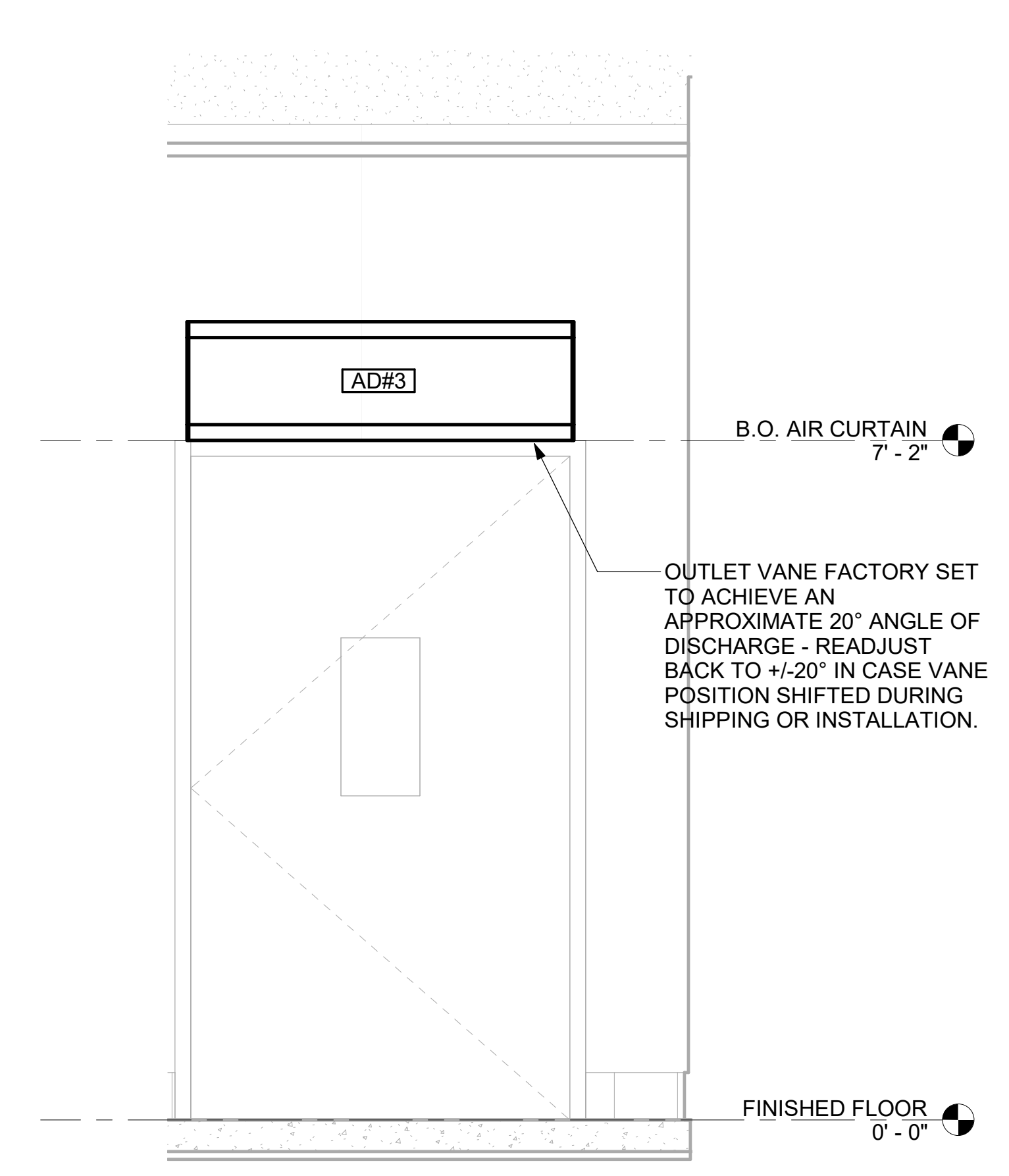
2 AD#1 FRONT VIEW
3/4" = 1'-0"



1 VARIOUS SECTIONS
1/8" = 1'-0"

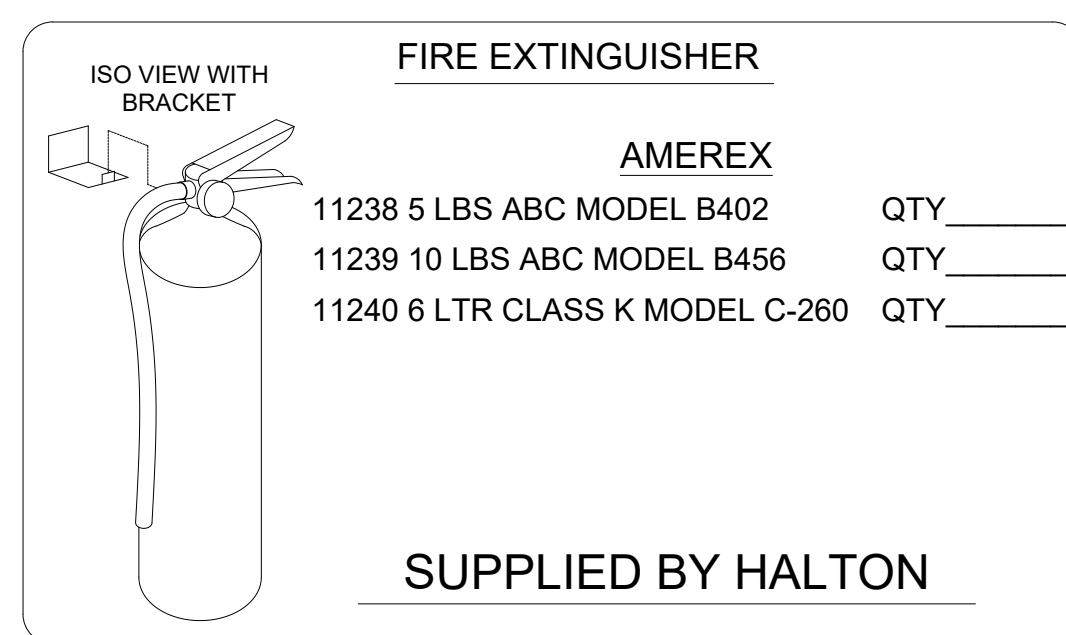
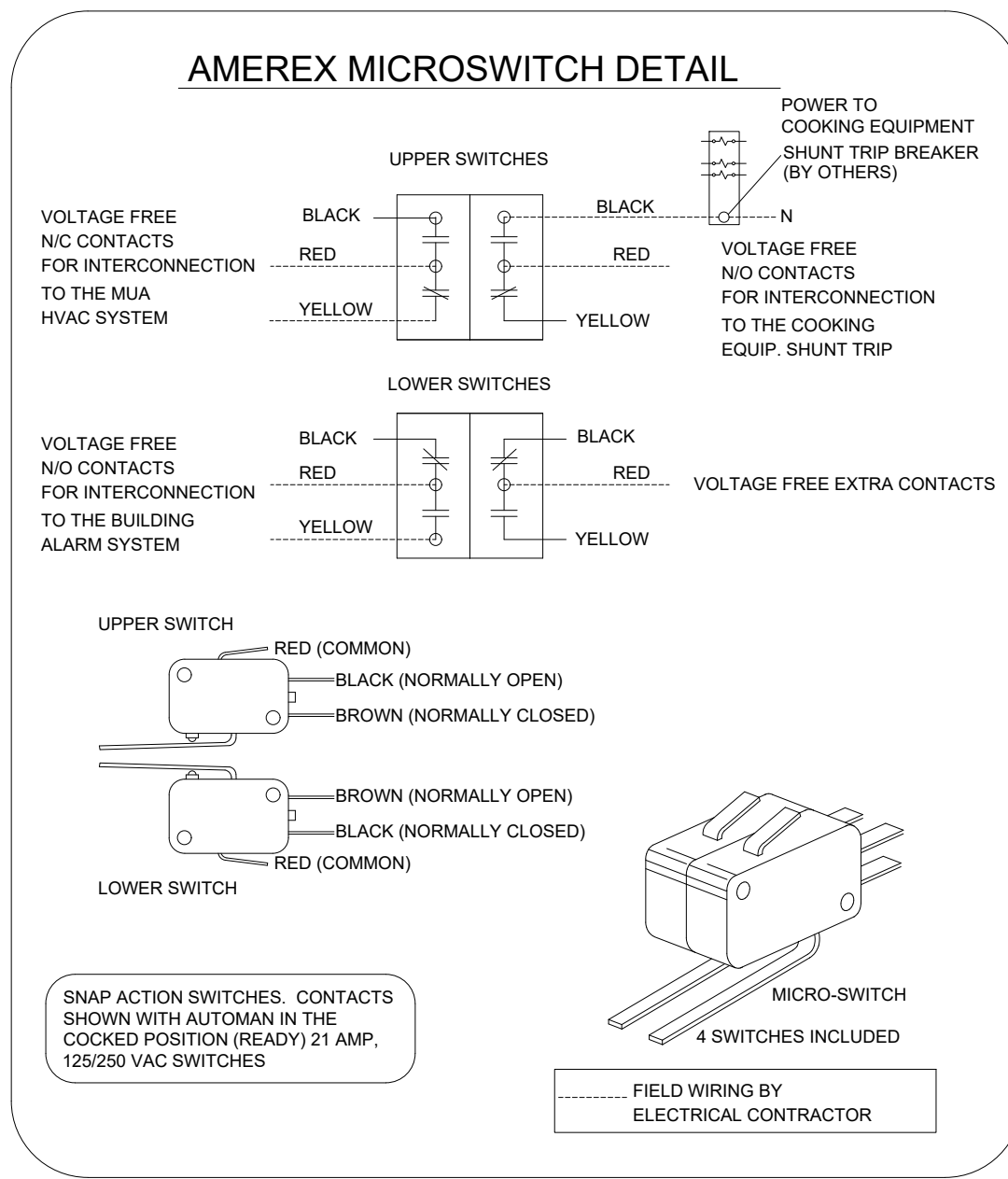


6 WATER HEATER GAS PIPING AND VENTING
NOT TO SCALE



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

Autodesk Docs://MO_04604_Raymore (MO) FSU_2024.1_FSR04604_Raymore (MO) FSU_K&A_MEC.rvt
5/1/2024 4:19:30 PM
30-LE-04604-M-301-SECTIONS



1/2" BLACK IRON SUPPLY LINE REQ'D FROM TANK TO FIRST BRANCH LINE FOR 475 TANKS ONLY!

****SHOP NOTE****
 PROVIDE A QUANTITY OF TWO REMOTE PULL STATIONS FOR FIRE SYSTEM FOR HOODS H-2 & H-3. ONE PULL STATION REQUIRED FOR HOOD H-1L/R. PROVIDE A TOTAL OF THREE PULL STATIONS!!

AMEREX

FUSIBLE LINK RATINGS

ITEM	TEMP
OPEN FRYERS	450°
2 BURNER / FLAT TOP	450°
PRESSURE FRYERS	450°
GRILL	450°
EXHAUST COLLARS	450°

AMEREX FIRE SYSTEM NOTES
 (2) KP375 & (1) KP250 TANK SYSTEM MOUNTED ON TOP OF (H-1L)
 MAXIMUM FLOW POINTS = 29

AMEREX FIRE SYSTEM NOTES
 (1) KP475 TANK SYSTEM REMOTE MOUNTED
 MAXIMUM FLOW POINTS = 14

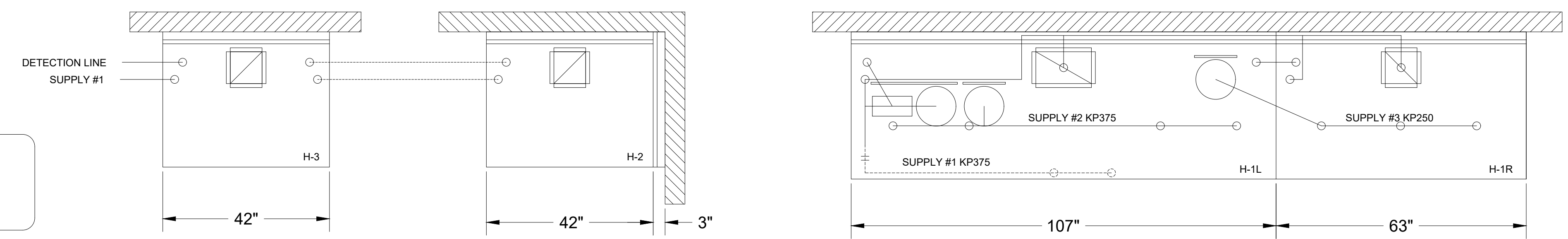
ITEM	QTY	DESCRIPTION	FLOW PTS (TOTAL)
16416	4	DUCT NOZZLES	4
11982	4	PLENUM NOZZLES	4
11982 Y-FITTING	4	APPLIANCE NOZZLES	8
14178	2	APPLIANCE NOZZLES	4
11984	7	APPLIANCE NOZZLES	3.5
TOTAL FLOW POINTS			23.5
ITEM	QTY	DESCRIPTION	
12508-P001	10	DETECTORS BRACKET ASSEMBLY	
26948	1	KP250 AGENT CYLINDER	
13334	2	KP375 AGENT CYLINDER	
17379	1	KP475 AGENT CYLINDER	
18001	1	MECHANICAL RELEASE MODULE WITH ENCLOSURE WITH DOUBLE POLE MICRO SWITCH	
11977	1	MECHANICAL RELEASE MODULE WITHOUT ENCLOSURE WITH DOUBLE POLE MICRO SWITCH	
21481	3	REMOTE MANUAL PULL STATION	

AMEREX FIRE SYSTEM
 UL LISTED PER STD LATEST STD 300

- FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICABLE CODES
- ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN. MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY AMEREX INSTALLER
- REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS

****PROTECTS HOODS H-2 & H-3****

REMOTE MOUNTED:
 (1) SYSTEM ENCLOSURE W/
 (1) MECHANICAL RELEASE MODULE
 (1) KP475 AGENT CYLINDER (4.75 GALLON TANK)



AMEREX FIRE SYSTEM
 A) (1) KP475 TANKS - 14 FLOW POINTS (REMOTE MOUNTED) (FOR HOOD H-2 & H-3)
 B) 3/8" BLACK IRON PIPING WITH 3/8" S.S. APPLIANCE DROPS

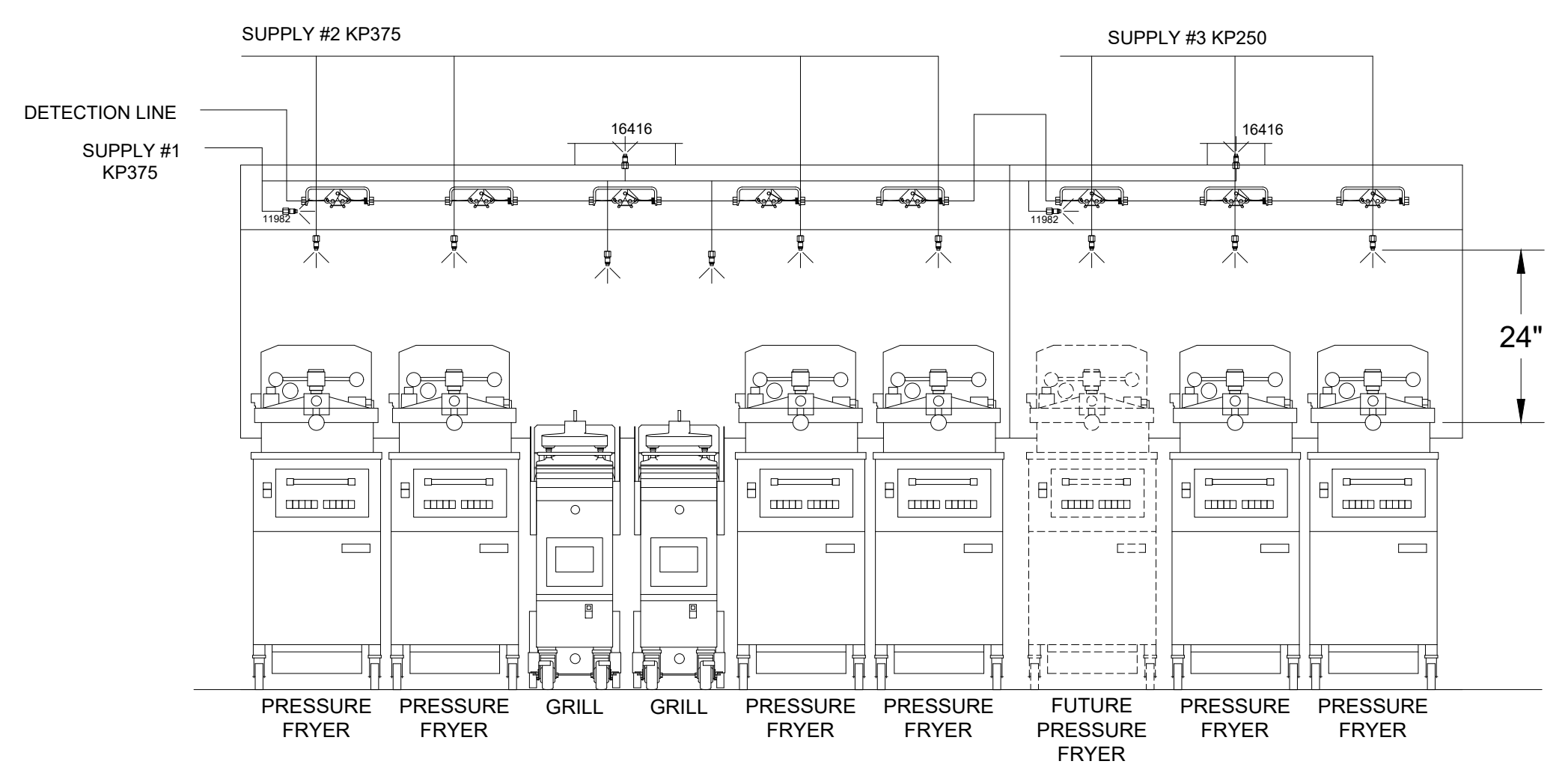
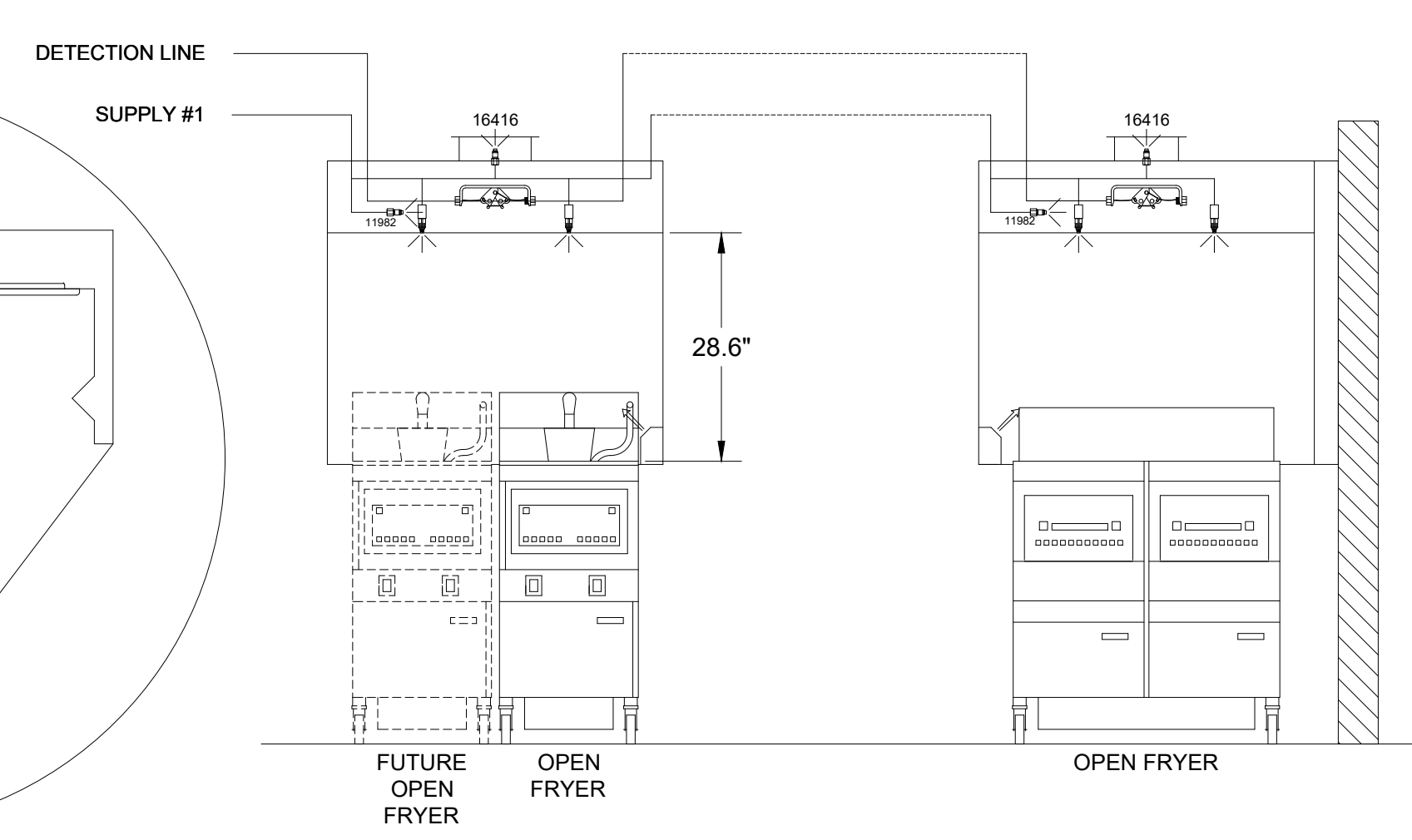
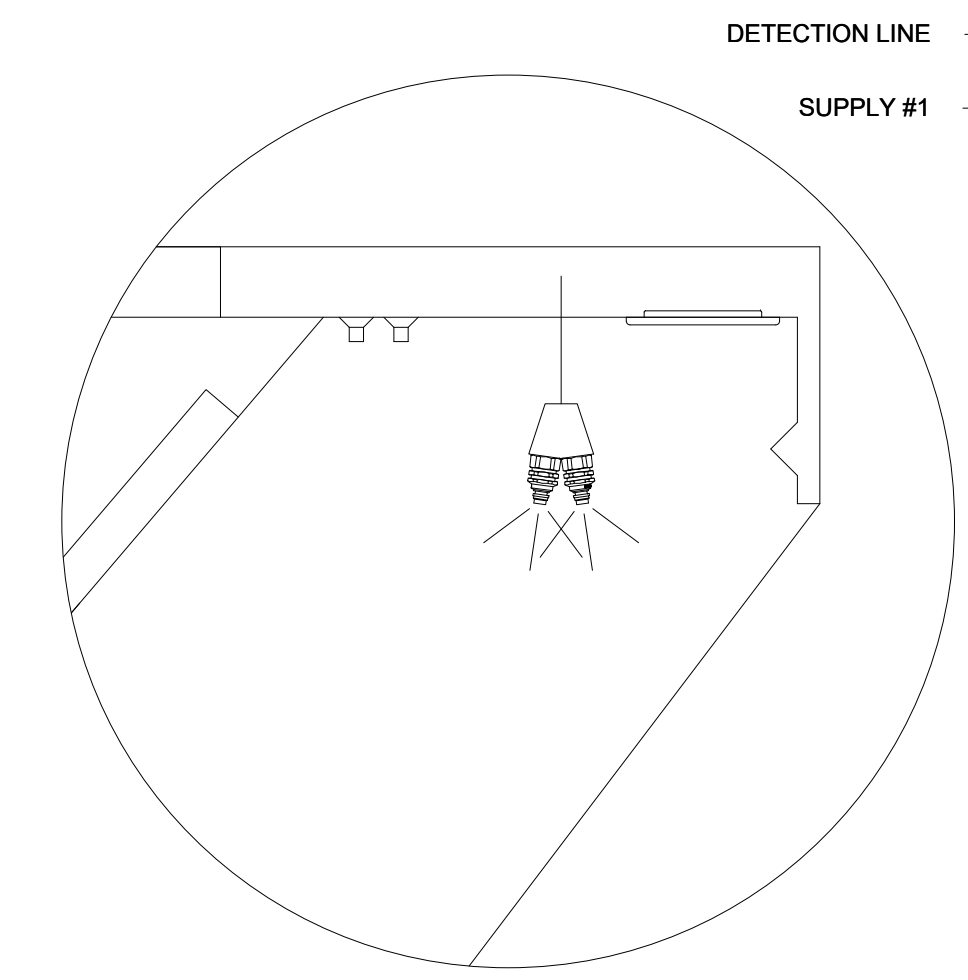
(1) SYSTEM ENCLOSURE
 (1) MECHANICAL RELEASE MODULE
 (2) EXTRA MICRO SWITCH ASSEMBLIES (MOUNTED IN MECHANICAL REL. MODULE)
 (1) KP475 AGENT CYLINDERS (4.75 GALLON TANK)

NOZZLE	ID	QTY	DESCRIPTION
16416	0R-0G	1 EA.	DUCT NOZZLES
11982	2R-0G	1 PER 10'	PLENUM NOZZLES
11982 Y-FITTING	2R-0G	1 FITTING WITH 2 NOZZLES PER FRYER	ALL OPEN FRYERS
11984	4R-0G	1 PER FRYER	ALL PRESSURE FRYERS
14178	0R-1G	1 PER GRILL	ALL GRILLS

AMEREX FIRE SYSTEM
 A) (2) KP375 TANKS & (1) KP250 TANK - 29 FLOW POINTS (MOUNTED ON HOOD H-1L FOR HOODS H-1L & H-1R)
 B) 1/2" & 3/8" BLACK IRON PIPING WITH 3/8" S.S. APPLIANCE DROPS

(1) MECHANICAL RELEASE MODULE
 (2) EXTRA MICRO SWITCH ASSEMBLIES (MOUNTED IN MECHANICAL REL. MODULE)
 (1) 2.51 GALLON TANK
 (2) 3.75 GALLON TANKS

PRESSURE FRYER AND GRILL NOZZLES WITH SWIVELS ONLY



AMEREX FIRE SYSTEM LAYOUT

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 RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

APPROVED FOR FABRICATION WITH NO CHANGES WITH CHANGES AS NOTED

APPROVED BY _____ DATE _____

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

REVISION DESCRIPTION

REV	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		

PROJECT: CHICK-FIL-A #4604
 RAYMORE FSR

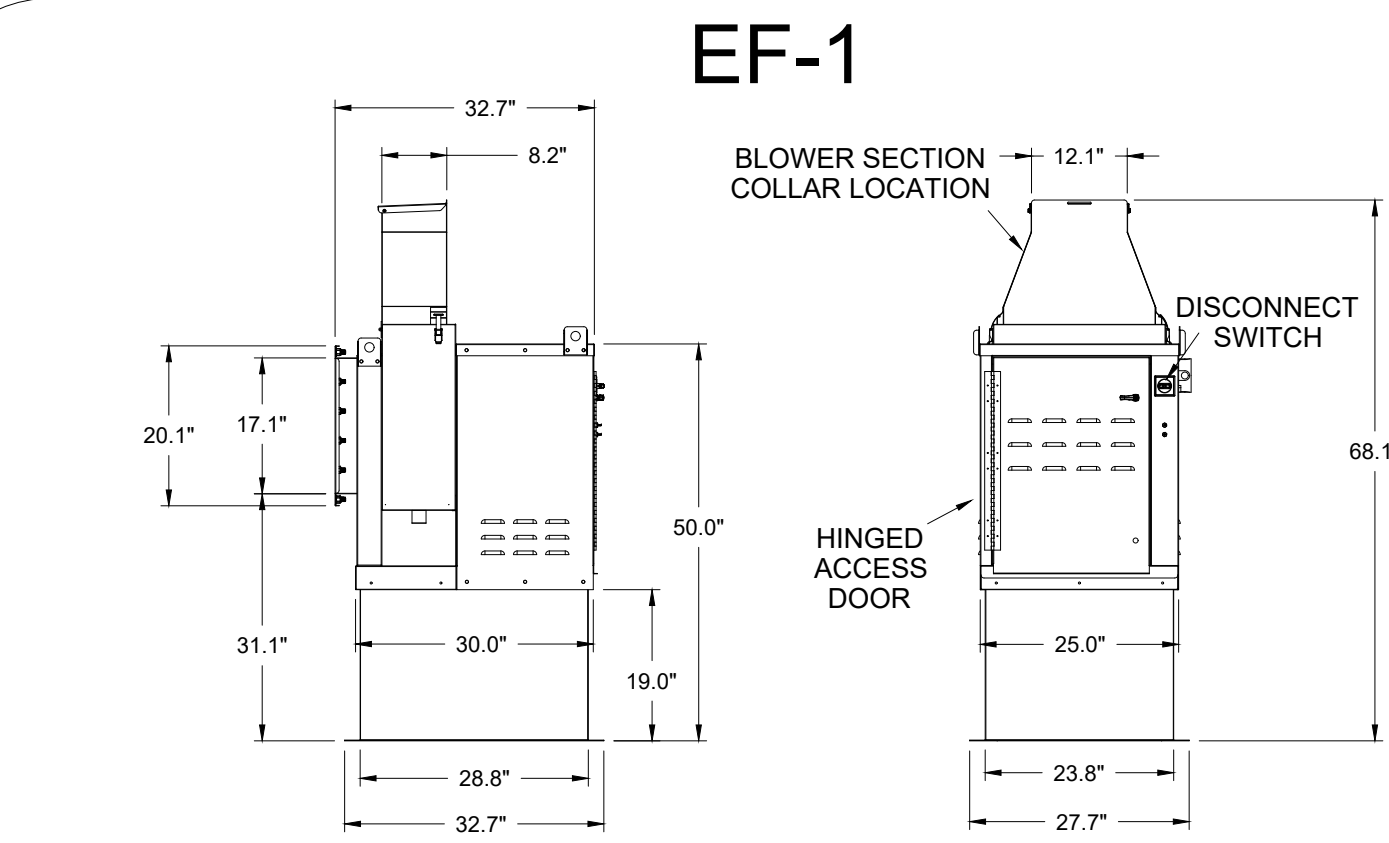
LOCATION: RAYMORE, MO
 DRAWN BY: SKK
 SCALE: NOT TO SCALE

DATE: 07.17.24

DRAWING No.: **U24-564-03**

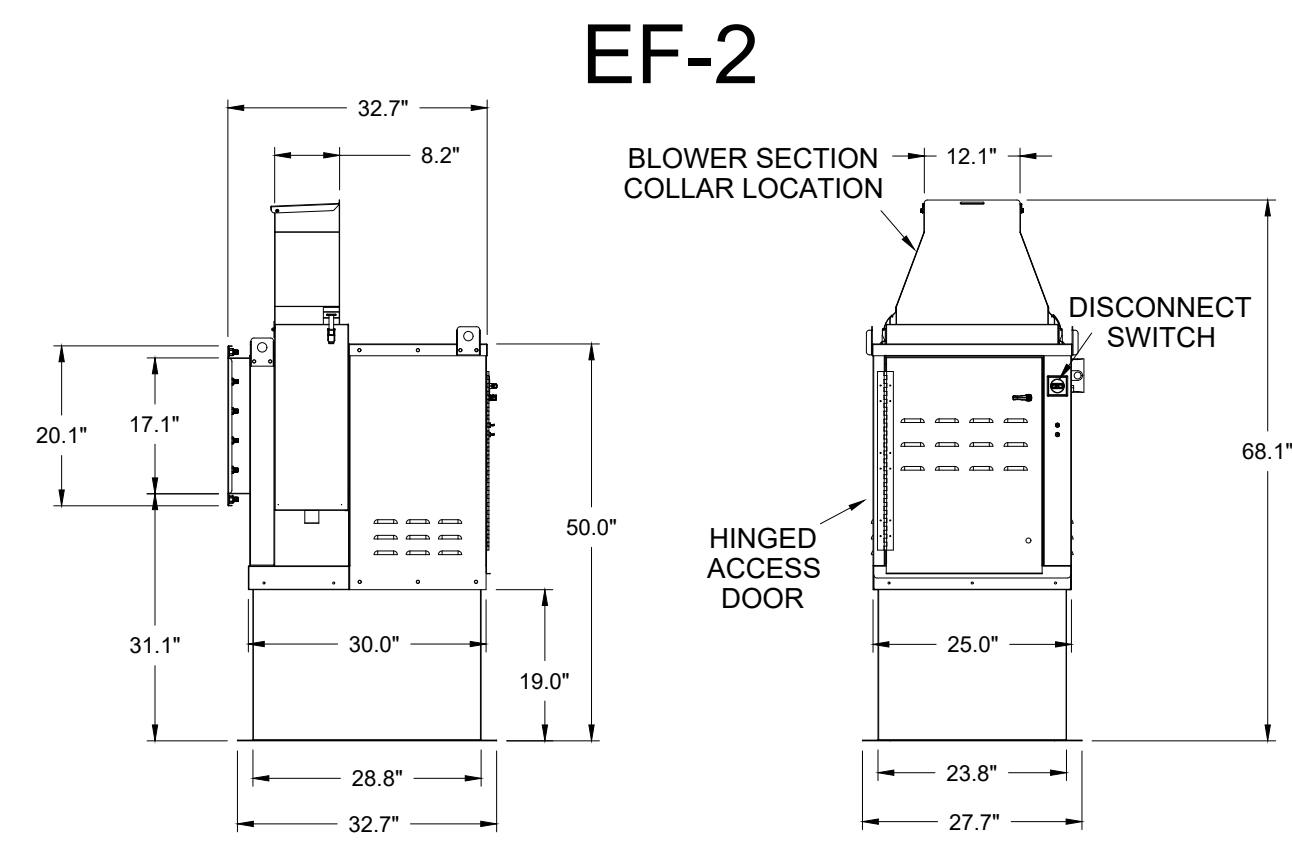
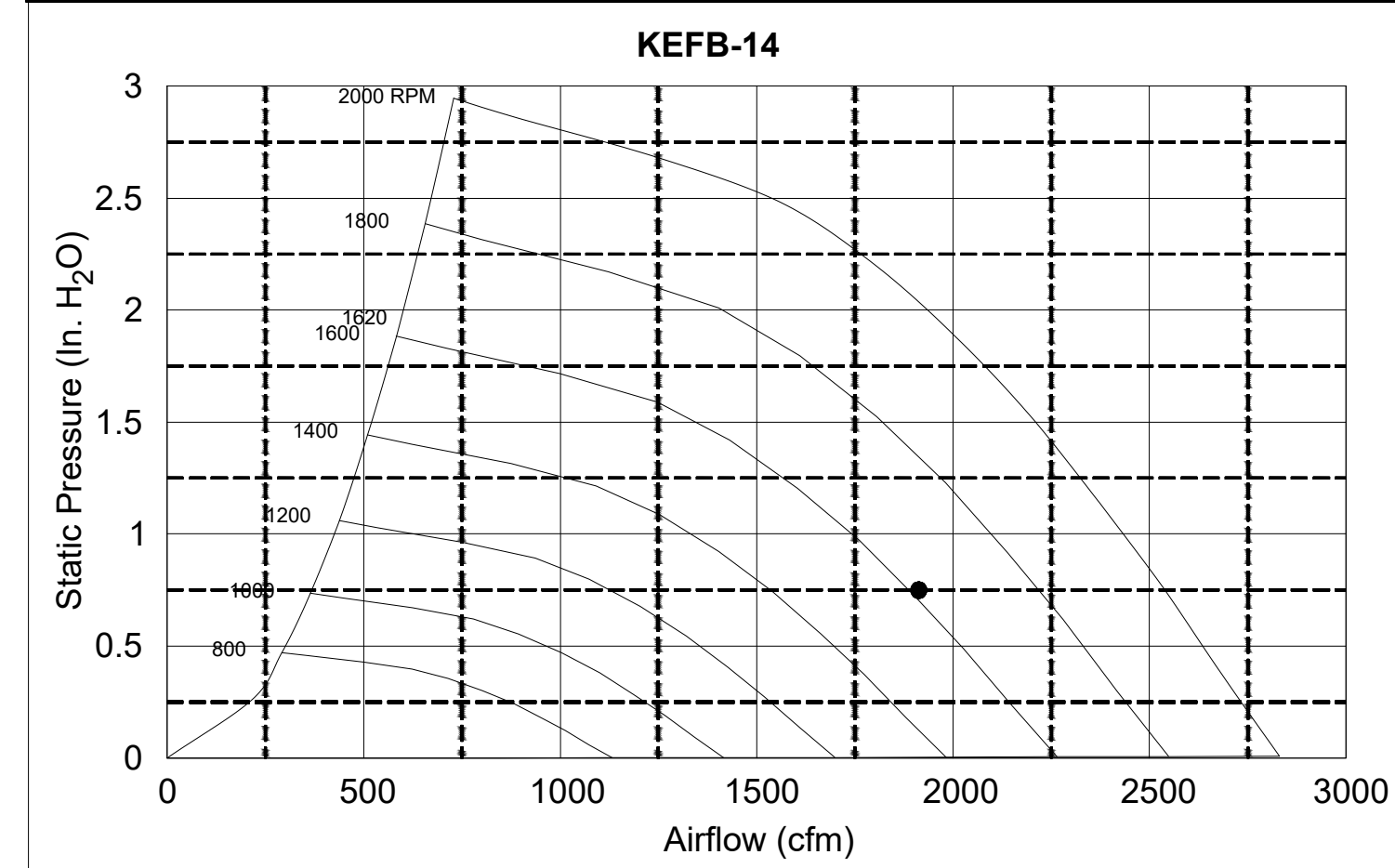
SHEET NO.: **H-1.3**

Halton



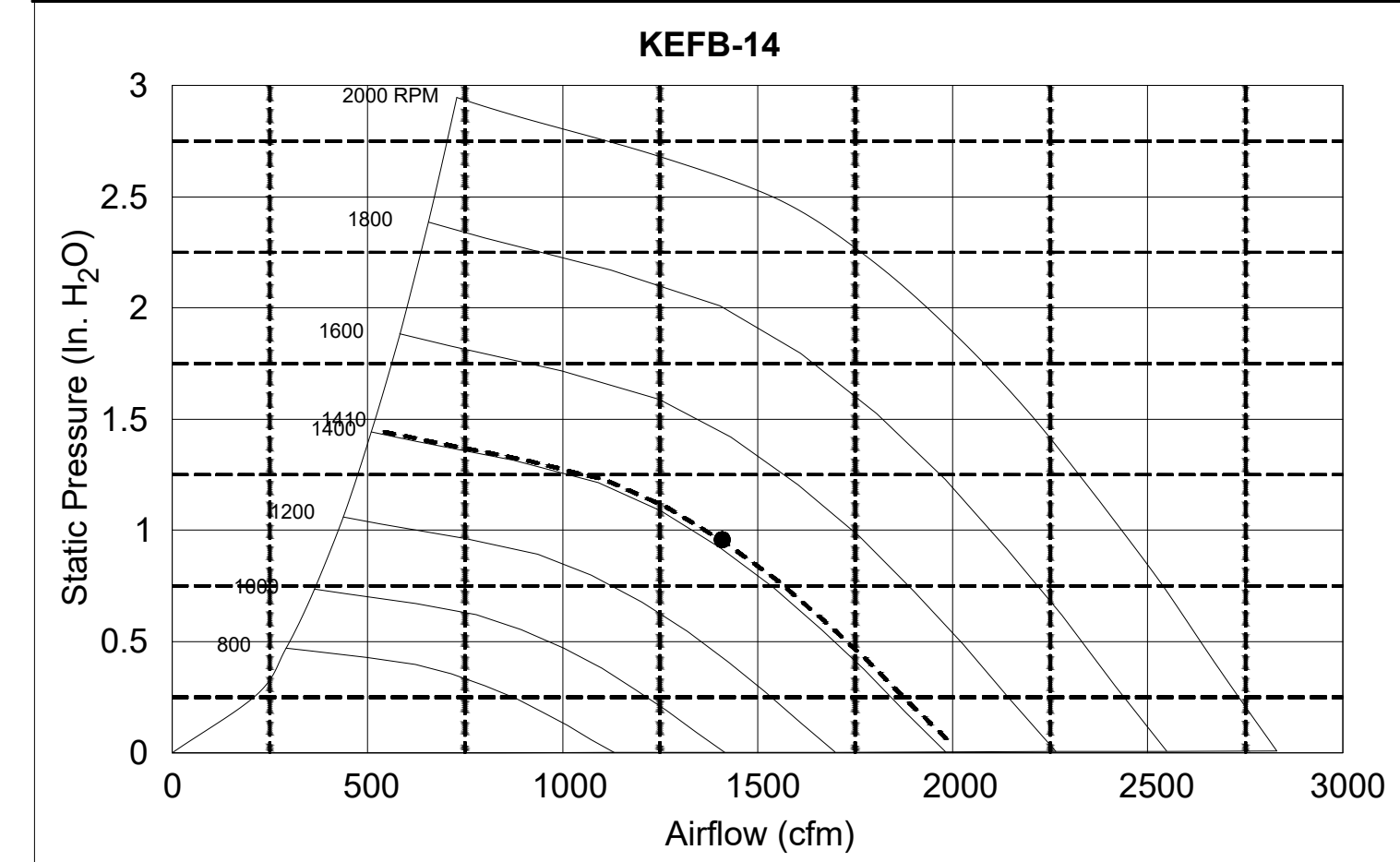
Halton KEFB Exhaust Fan

Job Name	Chick-8-A	Location	EF-1	Item No	KEFB-14	Qty	Fan RPM	1,620	Volts/Ph/Amps	115/1/80
Date	1/26/2023	Model	KEFB-14	Fan BHP	0.55	Motor HP	0.75			
Airflow, cfm	1,913	Static Pressure, in WC	0.75		85.3	TAB Port, in WC	4.8			



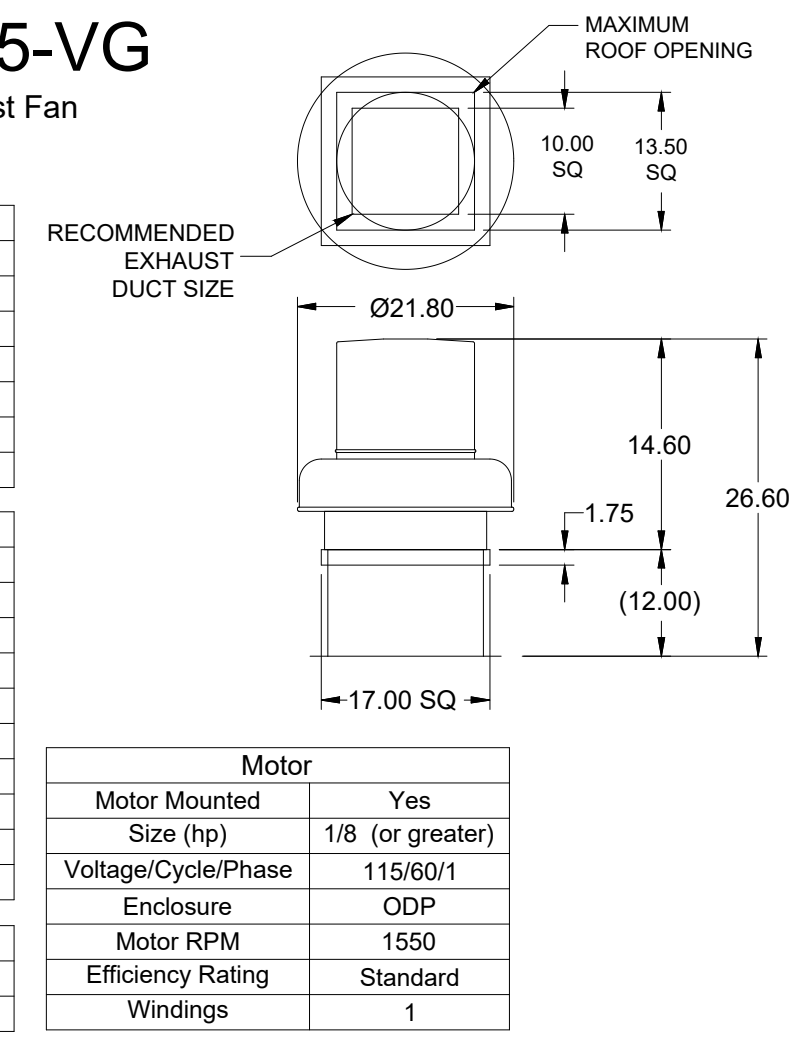
Halton KEFB Exhaust Fan

Job Name	Chick-8-A	Location	EF-2	Item No	KEFB-14	Qty	Fan RPM	1,410	Volts/Ph/Amps	115/1/80
Date	1/26/2023	Model	KEFB-14	Fan BHP	0.38	Motor HP	0.75			
Airflow, cfm	1,402	Static Pressure, in WC	0.95		81.6	TAB Port, in WC	2.1			

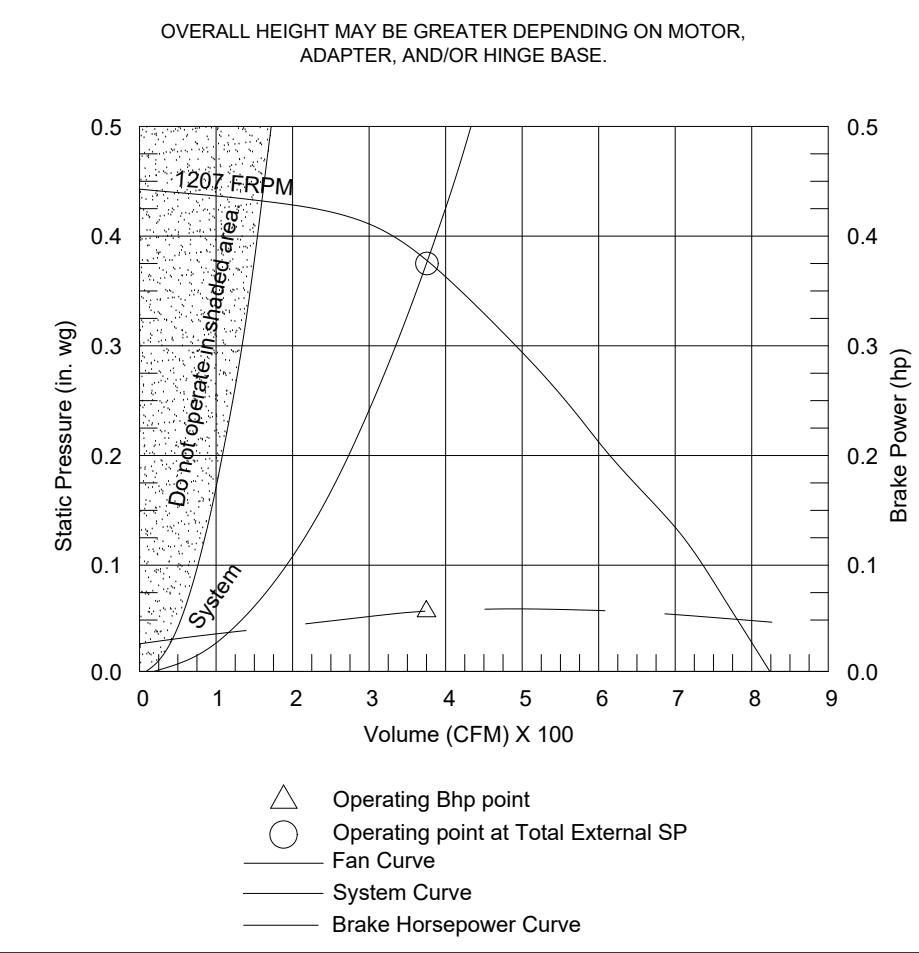


Model: XRED-095-VG
Direct Drive Centrifugal Roof Exhaust Fan

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	28
Weight w/ Acc's (lb)	35
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 ³)	0.075
Tip Speed (ft/min)	3,437
Static Eff. (%)	41
Misc Fan Data	
Fan Eff. Index (FEI)	-
Outlet Velocity (ft/min)	323

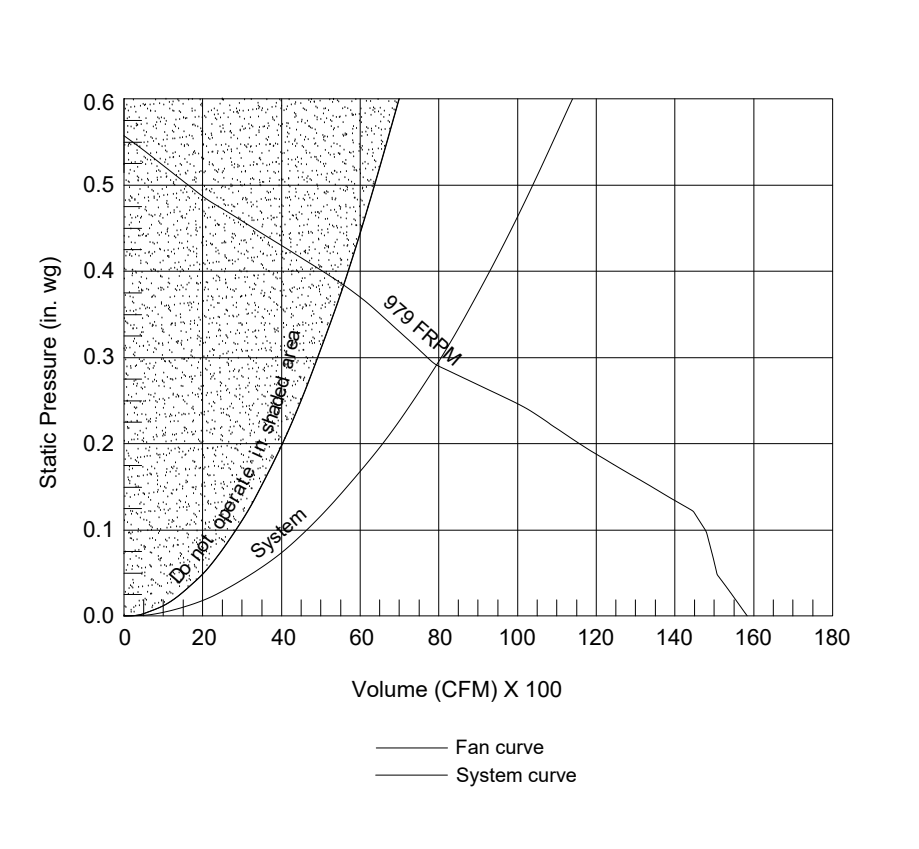
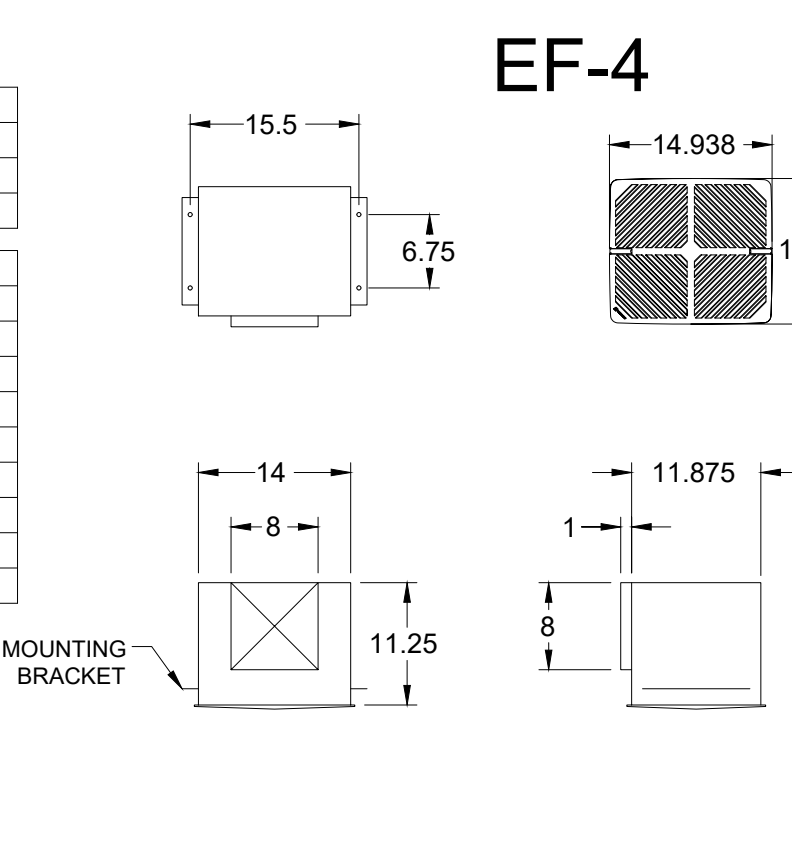


EF-3



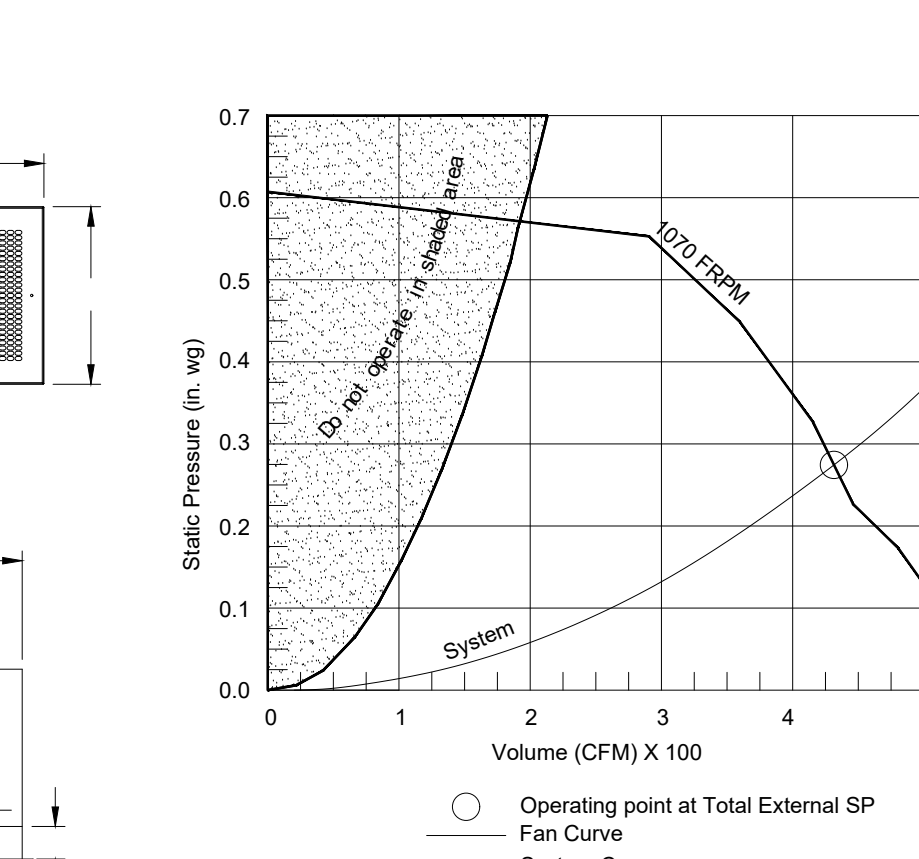
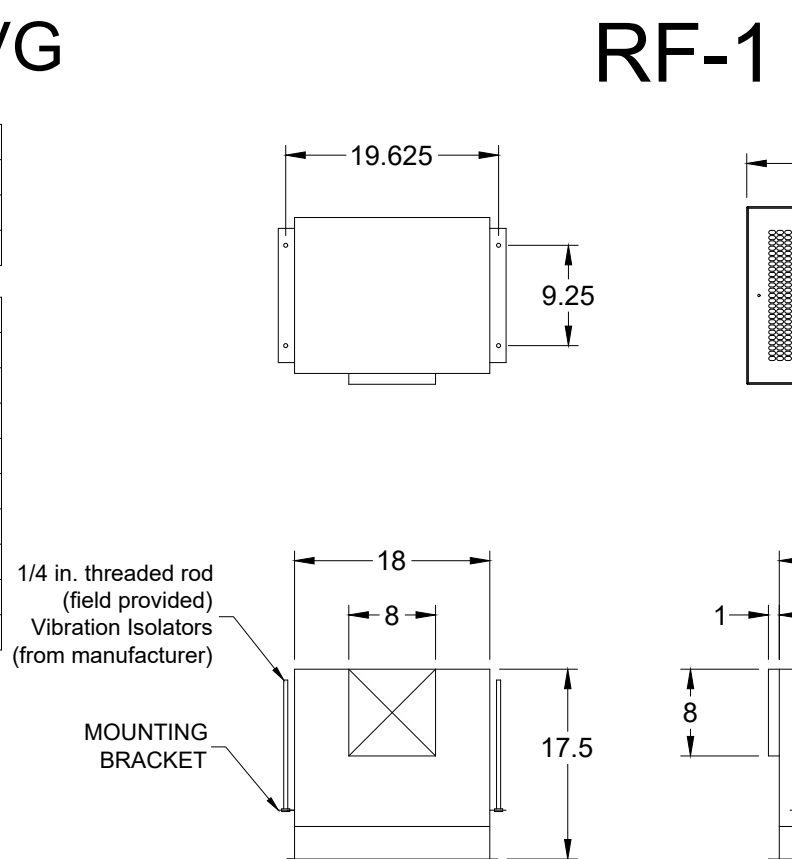
Model: SP-A390-VG

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	24
Weight w/ Acc's (lb)	24
Performance	
Requested Volume (CFM)	75
Actual Volume (CFM)	79
Total External SP (in. wg)	0.291
Fan RPM	979
*FLA (A)	1.5
Elevation (ft)	807
Airstream Temp (F)	70
Air Density (lb/ft ³)	0.073
Sones	2.5
Motor	
Motor Mounted	Yes
** Input Watts (W)	14
Voltage/Cycle/Phase	115/60/1
Enclosure	TENV
Control Input Voltage	4



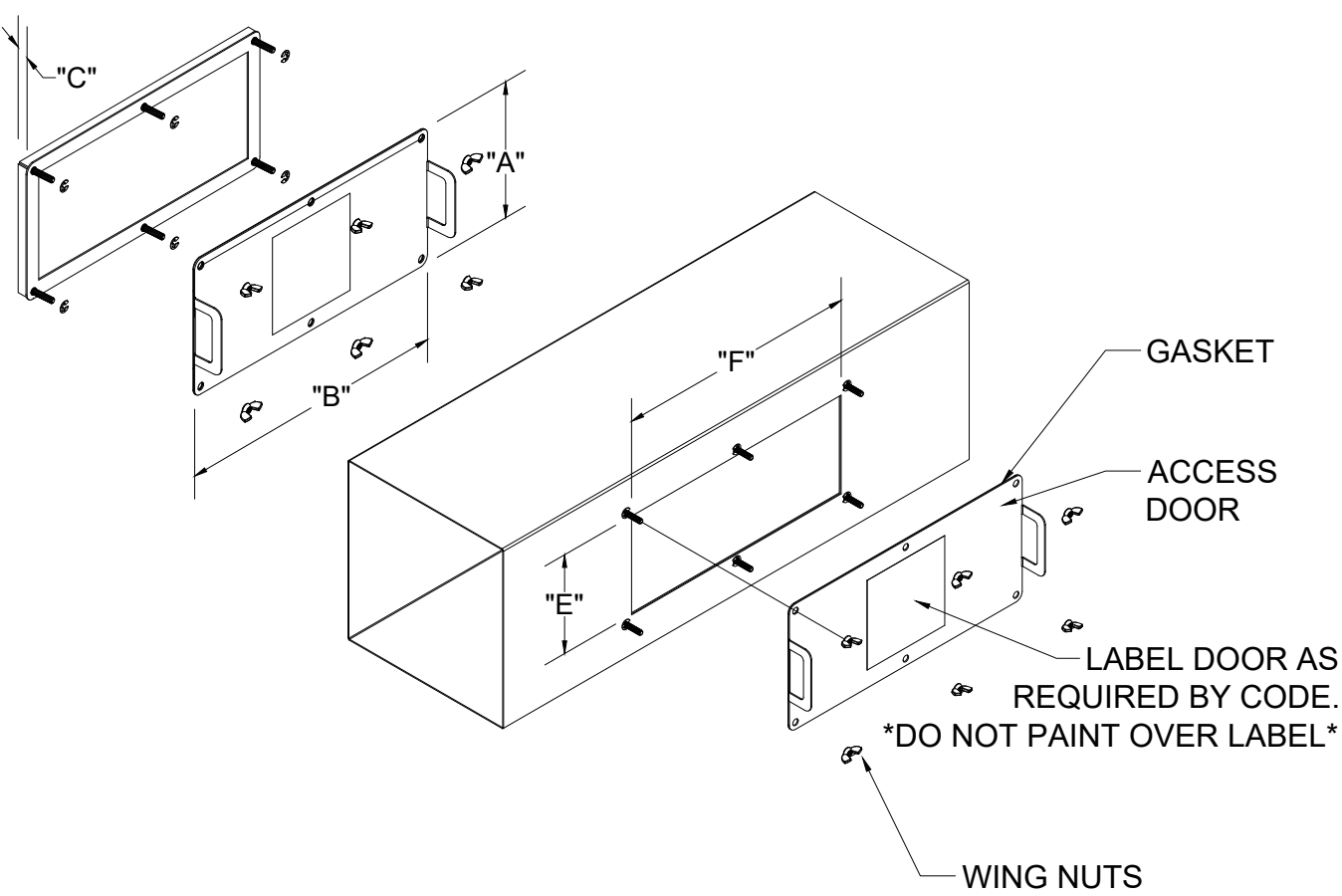
Model: SP-A510-VG

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 ³)	0.075
Sones	4.5
Motor	
Motor Mounted	Yes
** Input Watts (W)	224
Voltage/Cycle/Phase	115/60/1
Enclosure	ODP

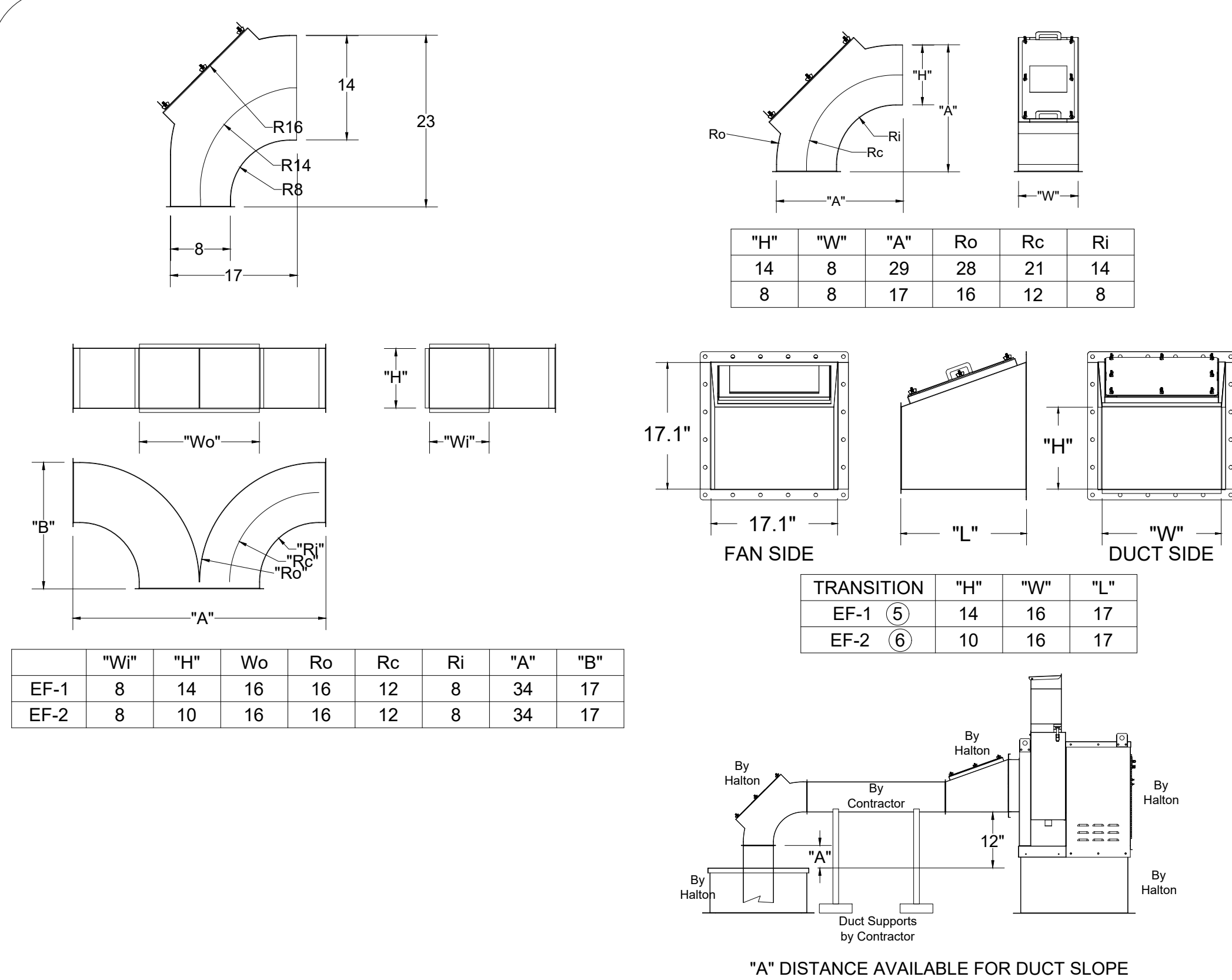


MODEL	DOOR SIZE		OPTIONAL FLANGE	OPENING SIZE	
	"A"	"B"		"C"	"E"
KAP0715	7	15	FLAT	5.5	13.5
KAP1015	10	15	1/2"	7	12

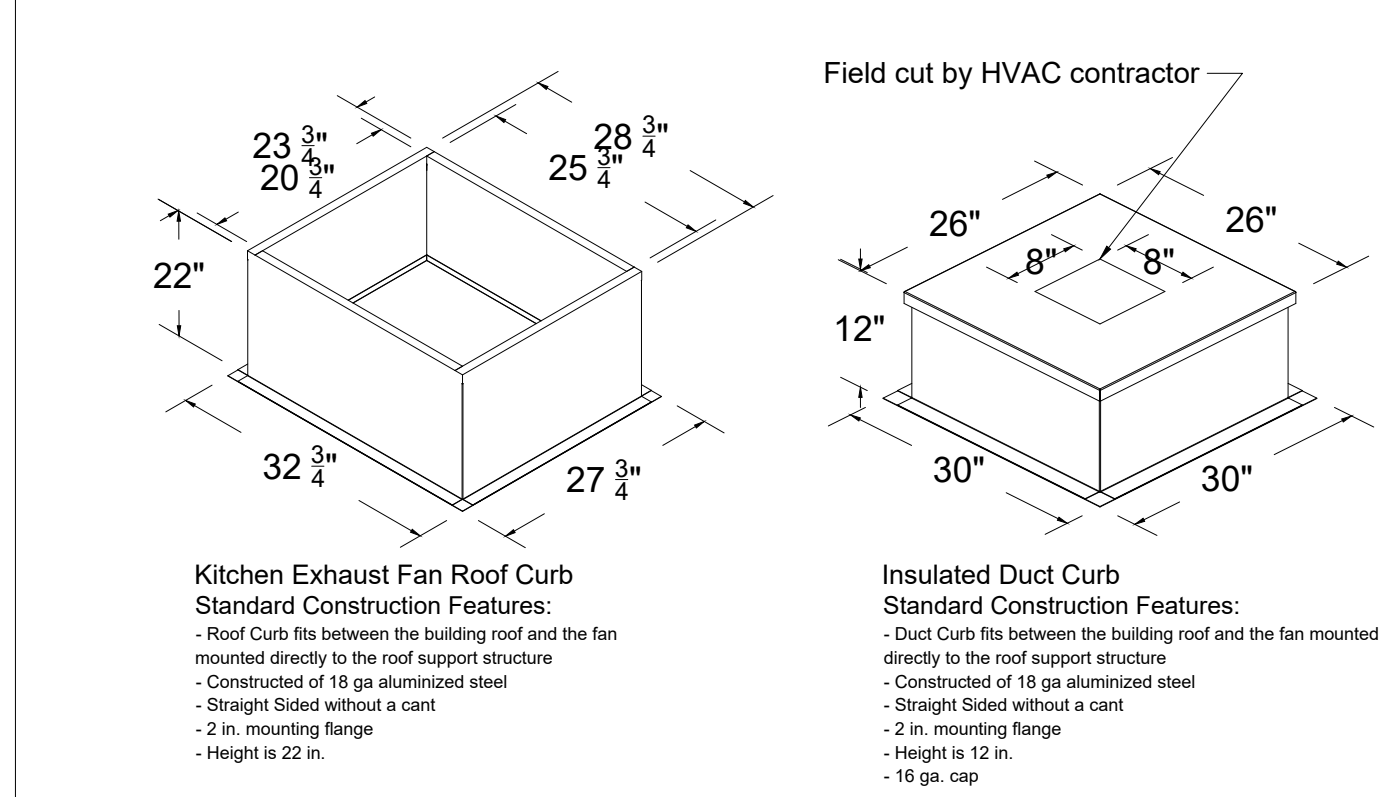
ACCESS DOORS SHALL BE U.L. 1978 LISTED OR FIELD FABRICATED, REQUIRE NO TOOLS FOR REMOVAL AND MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE IMC. ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOORS SHALL BE SEALED WITH A MINIMUM 1500 DEGREE GASKET MATERIAL.



INSTALL PER MANUFACTURER'S INSTRUCTIONS



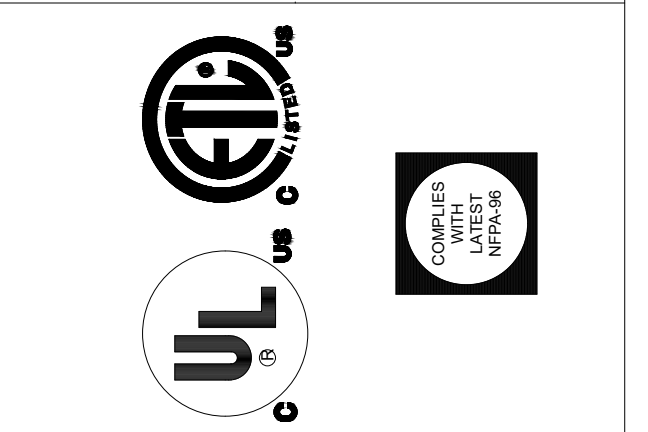
Halton Kitchen Exhaust Fan Curb Insulated Duct Curb



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

GENERAL		INSULATION		HINGE	
TAG	QTY	SECURITY BASES	INSULATION LINER	INSULATION RIVULET	HINGE BASE
EF-3	1	NO	NO	1	R4.3

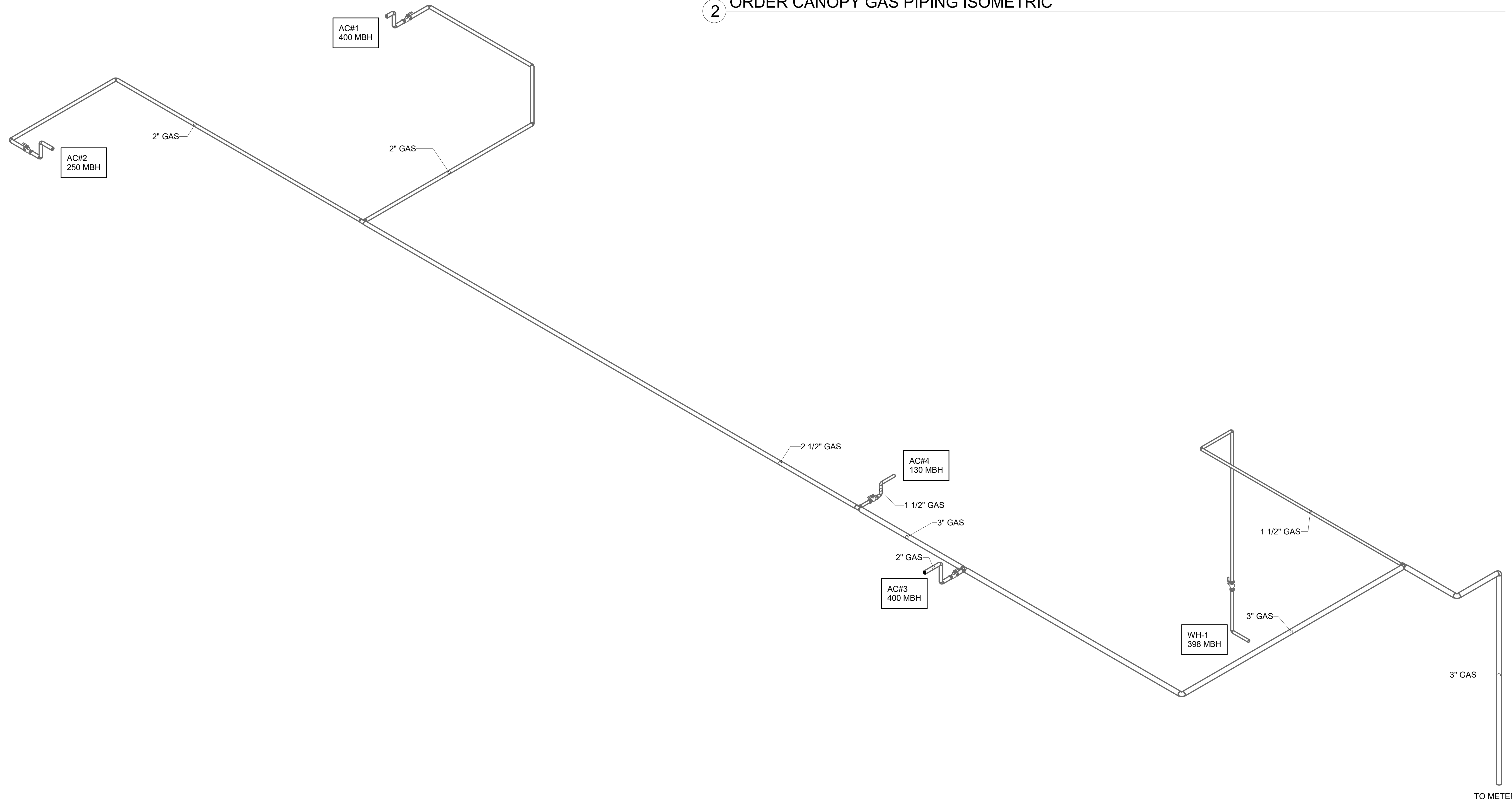
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2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.
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 REVISE AND RESUBMIT
 APPROVED FOR FABRICATION
 WITH NO CHANGES
 WITH CHANGES AS NOTED
APPROVED BY: _____ DATE: _____



MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:
WEBSITE: www.halton.com
HALTON CO. (USA)
101 INDUSTRIAL DRIVE
SCOTTSVILLE, KY 40264
1-270-237-5800
DATE: _____ BY: _____
REVISION DESCRIPTION: _____

PROJECT: CHICK-FIL-A #4604 RAYMORE FSR
LOCATION: RAYMORE, MO
DRAWN BY: SKK DATE: 07.17.24
SCALE: NOT TO SCALE
CONSULTANT: Halton
DRAWING TITLE: CFA FAN DETAILS
DRAWING No.: U24-564
REV. NO.: 0 SHEET NO.: 4 of 5

Autodesk Docs://MO_04604_Raymore (MO) FSU_2024.1_FSR#04604_Raymore (MO) FSU_K&A_MEC.rvt
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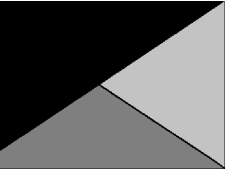


1 GAS PIPING ISOMETRIC - TRANE

2 ORDER CANOPY GAS PIPING ISOMETRIC



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



Kurzynske & Associates
 2705 Lebanon Pike - Suite One
 Nashville, Tennessee 37214
 Telephone: (615) 255-5203



5/3/24

CHICK-FIL-A
Raymore FSU
 1920 W. Foxwood Drive
 Raymore, MO 64083

FSR#04604
 BUILDING TYPE / SIZE: P14 LE BN
 RELEASE: 23.11

PRINTED FOR:
 ISSUE FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	5/03/24	ISSUE FOR CONSTRUCTION/ REVIEW COMMENTS

ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 24030.CD.S
 DATE 03/07/2024
 DRAWN BY BLM

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 SHEET
 GAS PIPING ISOMETRIC - TRANE

SHEET NUMBER

M-901