

**MECHANICAL FLOOR PLAN**  
1/4" = 1'-0"

**MAKE-UP AIR NOTE**  
MAKE UP AIR IS PROVIDED VIA THE GAS-FIRED ROOFTOP UNITS. THERE IS NO DEDICATED OUTSIDE AIR UNIT. THE KITCHEN EXHAUSTS 3,315 CFM. THE KITCHEN RTU (AC#1) BRINGS IN 1,750 CFM OUTSIDE AIR. THE KITCHEN IS NEGATIVELY BALANCED TO THE REST OF THE BUILDING BY -1,565 CFM. THIS IS MADE UP VIA TRANSFER AIR FROM VARIOUS SOURCES (THRU THE PASS THRU WINDOW, ADDITIONAL RETURN FROM DINING AREA, ETC.). ALL MAKEUP AIR AND HOOD EXHAUST ARE INTERLOCKED VIA THE LOCAL STORE CONTROL PANEL.

**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-501 FOR MORE INFORMATION.

**KEY NOTES**

**SHEET NOTES**

- DUCT SIZES SERVING DIFFUSERS AND GRILLES ARE SAME SIZE AS DIFFUSER OR GRILLE NECK UNLESS NOTED OTHERWISE.
- FLEXIBLE DUCT NOT SHOWN FOR CLARITY. ALL TAKE-OFFS SHALL INCLUDE FLEXIBLE DUCT. SEE DETAIL 1/M-401 FOR FLEXIBLE DUCT INSTALLATION REQUIREMENTS.
- FOR SUPPLY AND RETURN OPENINGS, CUT OPENING AROUND DUCT DROPS 4" TO 8" MINIMUM (EXCEPT WHERE STRUCTURE PREVENTS THIS). SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- AT EACH PIECE OF ROOF EQUIPMENT, PROVIDE A PLASTIC ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. THE LABEL IS TO HAVE A SELF ADHESIVE BACKING.
- UNLESS NOTED OTHERWISE, MC TO ADJUST ALL DIFFUSER AIR PATTERN DEFLECTORS TO THROW HORIZONTALLY ALONG THE CEILING.
- SUPPORT ALL DUCT DROPS AT BASE OF DROP FROM STRUCTURE.

- 10X10 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.
- HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-301 FOR LOCATION.
- MECHANICAL CONTRACTOR TO ADJUST PATTERN DEFLECTORS TO THROW STRAIGHT DOWN.
- MECHANICAL CONTRACTOR TO CLOSE THE AIR PATTERN DEFLECTORS ON SHADED SIDE.
- MOUNT REMOTE 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.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.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. SEE DETAIL 6/M-401 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-301 FOR CJ FAN DUCTING REQUIREMENT.
- TO AC#4, SENSOR #1. SEE 2/M-501.
- TO AC#4, SENSOR #2. SEE 2/M-501.
- TO AC#4, SENSOR #3. SEE 2/M-501.

**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	(S)	SUPPLY DIFFUSER, SQ FACE (TYP.)
(H)	HUMIDITY SENSOR	(H)	PLAN NOTE REFERENCE
(SD)	SMOKE DETECTOR	(M)	MANUAL VOLUME DAMPER
12x18	DUCT SIZE (reverse for elevation views) 1ST NUMBER - HORIZONTAL DIMENSION 2ND NUMBER - VERTICAL DIMENSION	[Symbol]	DIRECTION OF THROW ON DIFFUSER
[Symbol]	AIR DOOR SWITCH	[Symbol]	CLOSED AIR PATTERN DEFLECTOR
EC	ELECTRICAL CONTRACTOR	[Symbol]	GAS INFRARED HEATER (TYP.)
MC	MECHANICAL CONTRACTOR	B/G	BELOW GRADE
EIH	ELECTRIC INFRARED HEATER	(T)	THERMOSTAT

**AIR BALANCE SCHEDULE - LARGE...**

Mark	SUPPLY AIR	RETURN AIR	OUTSIDE AIR	EXHAUST AIR	BUILDING POSITIVE PRESSURE
AC#1	8,750 CFM	7,000 CFM	1,750 CFM	0 CFM	
AC#2	5,250 CFM	4,350 CFM	900 CFM	0 CFM	
AC#3	5,250 CFM	3,650 CFM	1,600 CFM	0 CFM	
AC#4	1,875 CFM	1,375 CFM	500 CFM	0 CFM	
EF#1	0 CFM	0 CFM	0 CFM	1,913 CFM	
EF#2	0 CFM	0 CFM	0 CFM	1,402 CFM	
EF#3	0 CFM	0 CFM	0 CFM	375 CFM	
	21,125 CFM	16,375 CFM	4,750 CFM	3,690 CFM	1,060 CFM



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**CHICK-FIL-A**  
**SHEPHERDSTOWN**  
**CROSSING FSR**  
**219 GETTYSBURG PIKE**  
**MECHANICSBURG, PA 17055**

**FSR#05272**  
BUILDING TYPE / SIZE: P14 SE LRG  
RELEASE: 22.08  
PRINTED FOR: CONSTRUCTION

**REVISION SCHEDULE**

NO.	DATE	DESCRIPTION
2	02/10/2023	CODE COMMENTS
9	10/06/2023	MECHANICAL RFI'S

CONSULTANT PROJECT # 22113.EH.S  
DATE 01/06/2023  
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SHEET MECHANICAL FLOOR PLAN

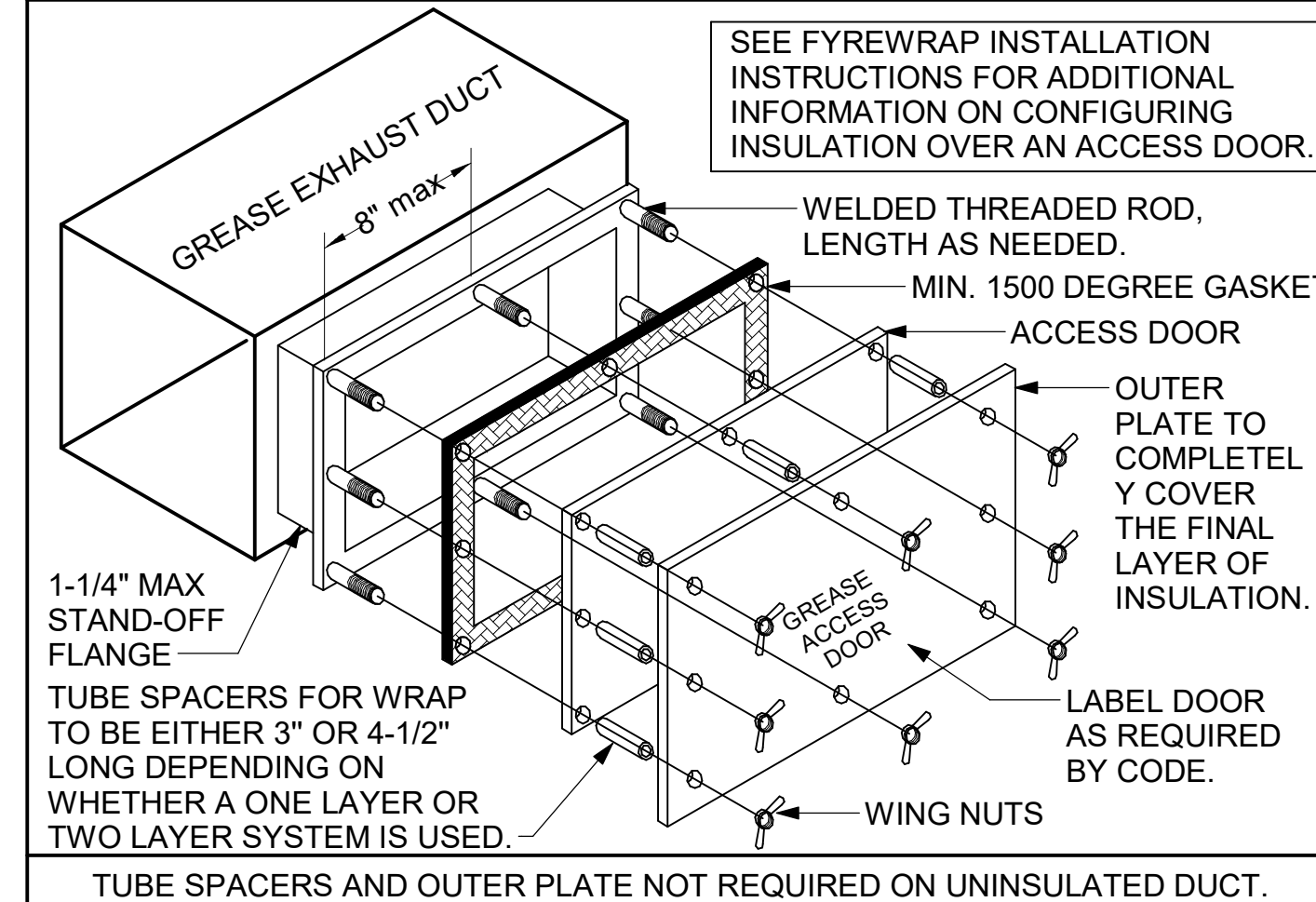
SHEET NUMBER **M-201**

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### GREASE ACCESS DOOR SCHEDULE

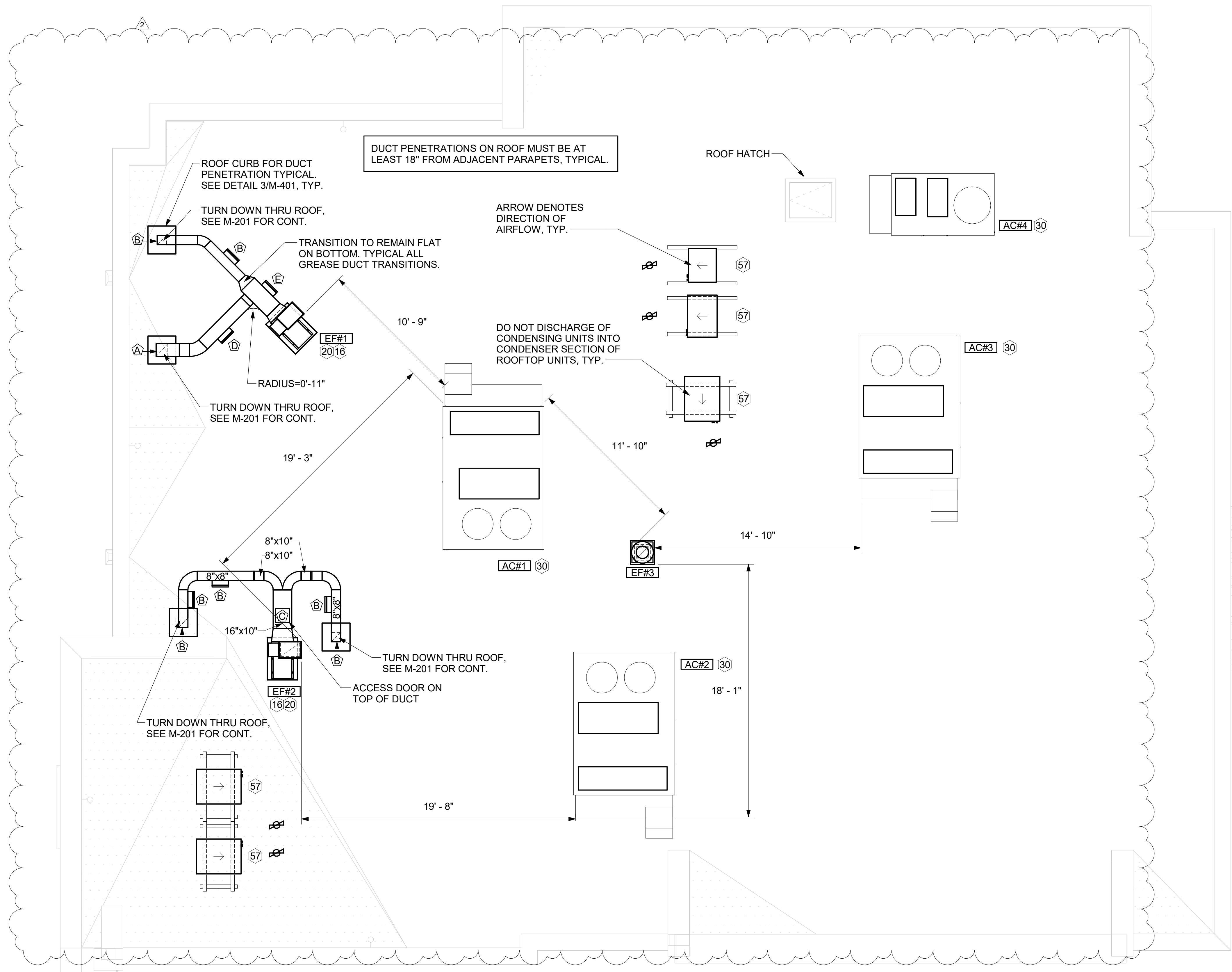
MARK	OPENING SIZE	DOOR SIZE	REMARKS
A	9H X 14W	11H X 16W	1
B	6H X 14W	8H X 16W	1
C	12H X 12W	14H X 14W	1
D	8H X 14W	10H X 16W	1
E	12H X 14W	14H X 16W	1

1. 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 ASSEMBLY SHALL BE WELDED IN PLACE TO THE GREASE EXHAUST DUCT AND THE ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOORS SHALL BE SEALED WITH A MINIMUM 1500 DEGREE GASKET MATERIAL EQUIVALENT TO THAT MANUFACTURED BY BRENTON INDUSTRIES, INC (800) 382-2491.



### SHEET NOTES

- ALL 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 RPIME BARE METAL SURFACE WITH ONE COAT OF SHERWIN WILLIAMS PRO INDUSTRIAL PRO-CRYL ACRYLIC UNIVERSAL PRIMER, WHITE, PRIOR TO PAINTING.
- AT EACH PIECE OF ROOF EQUIPMENT, PROVIDE A PLASTIC ENGRAVED LABEL WITH 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. THE LABEL IS TO HAVE A SELF ADHESIVE BACKING.
- MAINTAIN 18" CLEARANCE FROM GREASE EXHAUST DUCTWORK ABOVE ROOF TO ANY COMBUSTIBLE CONSTRUCTION INCLUDING PARAPET WALLS.



1 MECHANICAL ROOF PLAN - LARGE  
1/4" = 1'-0"

### GAS FIRED ROOFTOP UNIT SCHEDULE - TRANE

MARK	TOTAL COOLING MBH	SENSIBLE COOLING MBH	HEATING INPUT MBH	HEATING OUTPUT MBH	SUPPLY AIRFLOW	OA	HP	# of Fans	ESP	EER	IEER/SEER	VOLTAGE	PHASE	MCA	MOCP	MODEL R-410A	MANUFACTURER	REMARKS
AC#1	279.4	180.8	250	202.5	8,750 CFM	1,750 CFM	3.1 hp	2	0.80 in-wg	9.8	13	208 V	3	125 A	150 A	YSJ300A3S	TRANE	1,3,4,5,6,7,8,9,10,11,12,13,14,16
AC#2	185.4	108.9	250	202.5	5,250 CFM	900 CFM	3.1 hp	2	0.80 in-wg	10.8	14	208 V	3	85 A	110 A	YSJ180A3S	TRANE	1,3,4,5,6,7,8,9,10,11,12,13,14,16
AC#3	185.4	108.9	320	259.2	5,250 CFM	1,600 CFM	3.1 hp	2	0.80 in-wg	10.8	14	208 V	3	85 A	110 A	YSJ180A3S	TRANE	1,3,4,5,6,7,8,9,10,11,12,13,14,16,17
AC#4	59.1	44.2	130	104	1,875 CFM	500 CFM	1 hp	1	0.80 in-wg	13	17.2	208 V	3	33 A	45 A	YHC067E3R	TRANE	2,3,4,5,6,7,8,9,10,11,12,15,16

NOTES

- CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT FOR EQUIPMENT WITH TRANE CORPORATION. CONTACT TRANE TECH SUPPORT AT 866-986-4822 FOR PRICING, ORDERING AND AVAILABILITY OR BY EMAIL CFA@TRANE.COM.
- MECHANICAL CONTRACTOR TO VERIFY TRANE SUBMITTAL WITH CONSTRUCTION DOCUMENTS.

REMARKS

- PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST. PROVIDE FACTORY FAULT DETECTION AND DIAGNOSTICS.
- PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST. PROVIDE FACTORY FAULT DETECTION AND DIAGNOSTICS.
- PROVIDE 14" HIGH ROOF CURB.
- SEE DETAIL 2/M-501 FOR SETTING OF CONTROL PARAMETERS BY MC.
- PROVIDE FACTORY INSTALLED RETURN AIR SMOKE DETECTOR.
- PROVIDE FACTORY INSTALLED NON-FUSED DISCONNECT.
- PROVIDE 2" MERV 8 THROW AWAY FILTERS.
- PROVIDE HINGED PANELS FOR ACCESS TO FILTER(S), FAN BLOWER & MOTOR, COMPRESSOR(S) ACCESS AND CONTROLS.
- PROVIDE FACTORY INSTALLED COIL HAIL GUARD.
- PROVIDE HOT GAS DEHUMIDIFICATION OPTION WITH WALL MOUNTED HUMIDITY SENSOR.
- PROVIDE FACTORY CONFIGURED PHASE LOSS PROTECTION.
- PROVIDE FACTORY INSTALLED CONDENSATE PAN DRAIN OVERFLOW SWITCH.
- PROVIDE WITH 65K SCCR RATING.
- PROVIDE FACTORY INSTALLED 115V, 20 AMP GFI SERVICE OUTLET. SEPARATE 115V CIRCUIT PROVIDED BY ELECTRICAL CONTRACTOR.
- PROVIDE FACTORY INSTALLED AND POWERED 115V GFI SERVICE OUTLET.
- PROVIDE FRESH AIR TEMPERING KIT.
- PROVIDE FACTORY STAINLESS STEEL HEAT EXCHANGER.

### KEY NOTES

- FABRICATE DISCHARGE AIR NOZZLE. VERIFY EXHAUST TERMINATION IS A MINIMUM 10'-0" FROM PARAPETS AND OUTSIDE AIR INTAKES. SEE DETAIL 3/M-401.
- 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. THE MC MAY ADD A VERTICAL RISER AT THE RADIUS ELBOW LOCATED AT THE DUCT CURB AS NEEDED IN ORDER TO CENTER THE DUCT ON THE FAN INLET.
- MECHANICAL CONTRACTOR TO SEE ARCHITECTURAL ROOF PLAN FOR NOTES REGARDING LEVELING FRAMES FOR RTUS. COORDINATE WITH GENERAL CONTRACTOR EXACT LOCATIONS AND SIZE NEEDED.
- 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.



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SHEET MECHANICAL ROOF PLAN

SHEET NUMBER **M-250**



**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.

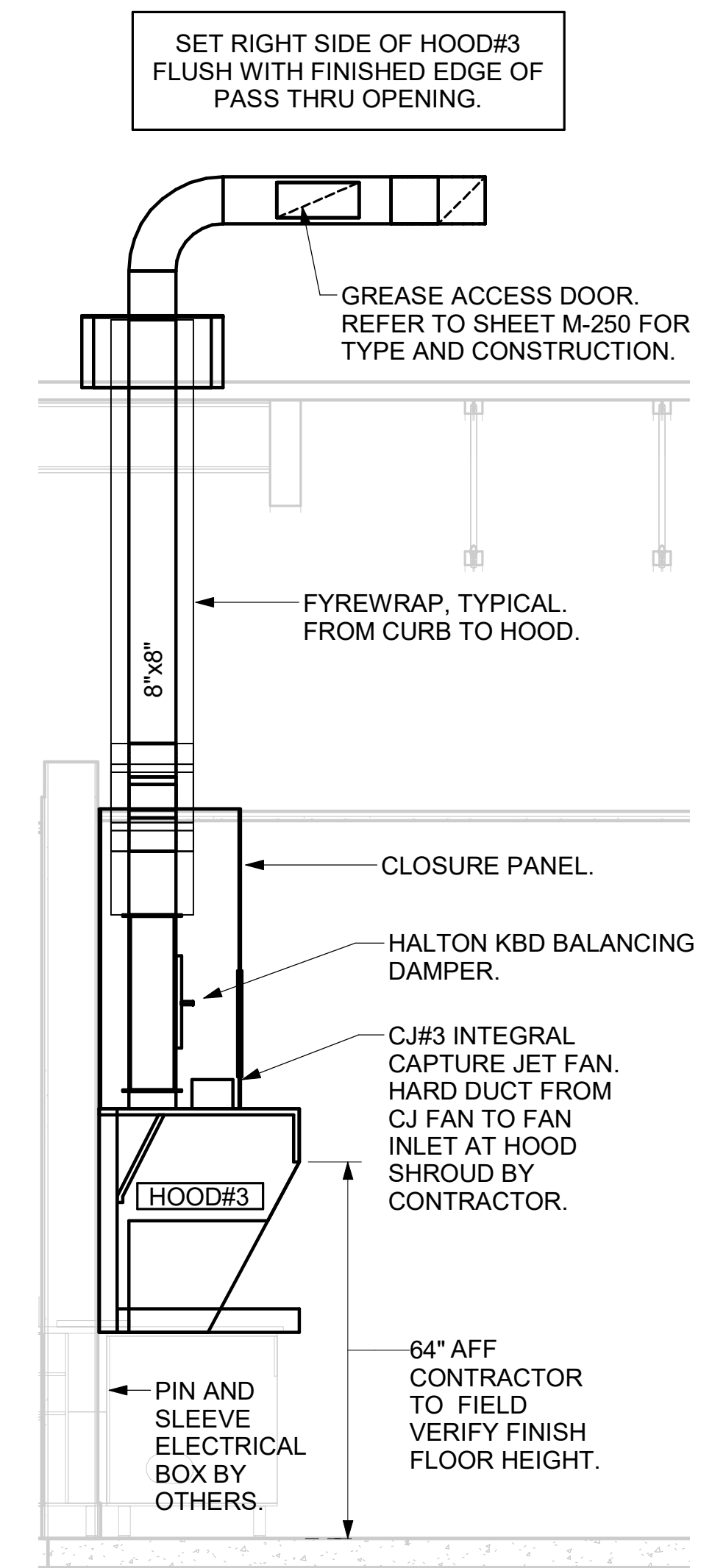
**CLEANOUT DOOR NOTE:**  
 DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS. NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.

HOOD SCHEDULE - LARGE BLDG											
MARK	EXHAUST CFM	SP @ TAB PORT	CAPTURE JET CFM & S.P.	TYPE	COLLAR SIZE	WIDTH	DEPTH	HEIGHT	MFR	MODEL	REMARKS
HOOD#1L	1,204 CFM	0.13"	80 @ 0.30"	BACKSHELF	14"x8"	107"	37"	38"	HALTON	KVL-2 IC	1
HOOD#1R	709 CFM	0.13"	47 @ 0.30"	BACKSHELF	8"x8"	63"	37"	38"	HALTON	KVL-2 IC	1
HOOD#2	701 CFM	0.30"	30 @ 0.29"	BACKSHELF	8"x8"	45"	34"	38"	HALTON	KVL-C IC	1
HOOD#3	701 CFM	0.30"	30 @ 0.29"	BACKSHELF	8"x8"	42"	34"	38"	HALTON	KVL-C IC	1

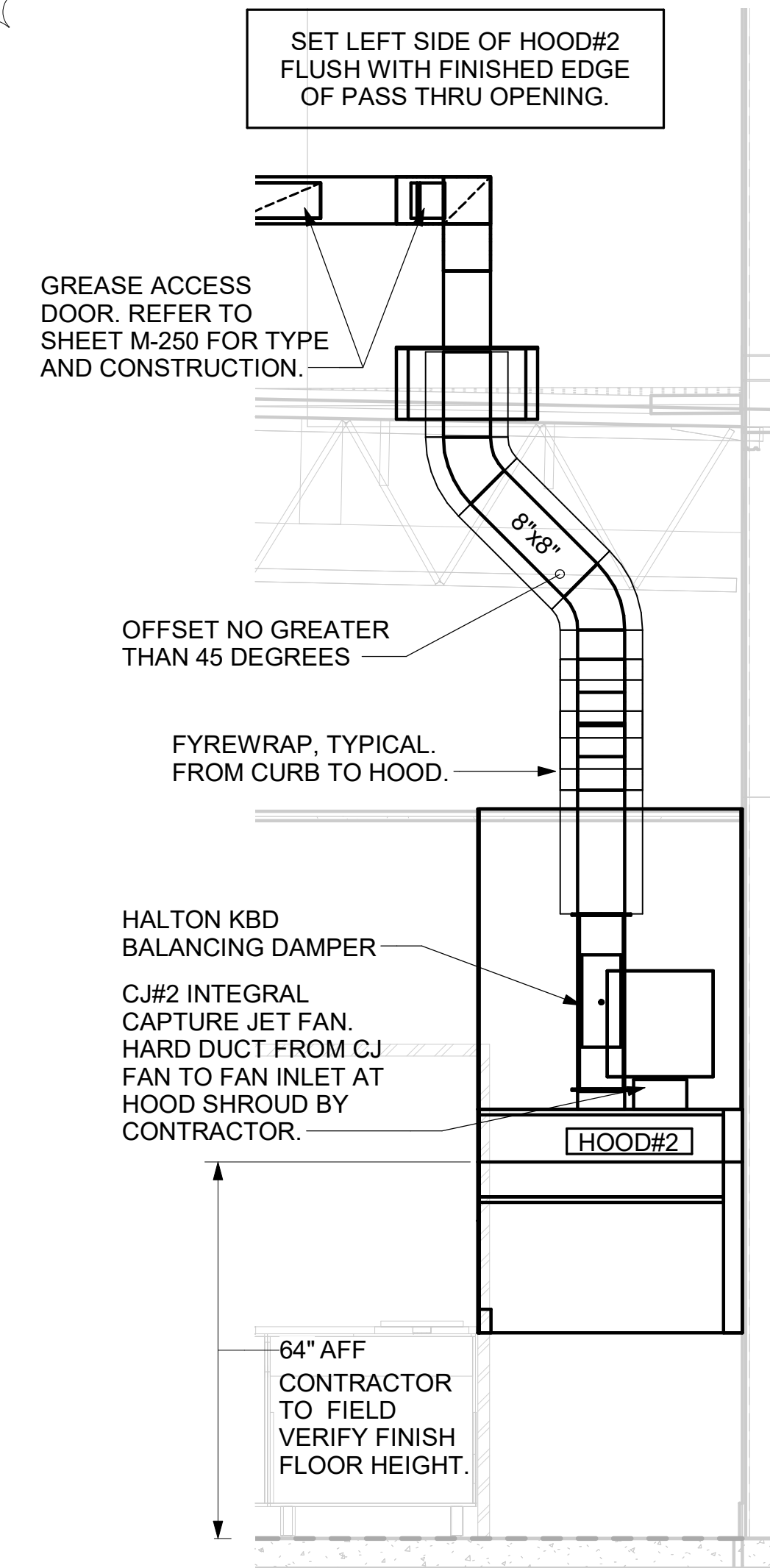
NOTES:  
 DIMENSIONS OF HOODS INCLUDE BACK AND SIDE SPACERS (HEIGHT DOES NOT INCLUDE CLOSURE PANELS).

REMARKS:  
 1. REFER TO HOOD SHOP DRAWINGS FOR HOOD CONSTRUCTION AND OPTIONS. HOOD SHOP DRAWINGS ARE INCLUDED FOR REFERENCE ON SHEETS MH-101 AND MH-102.

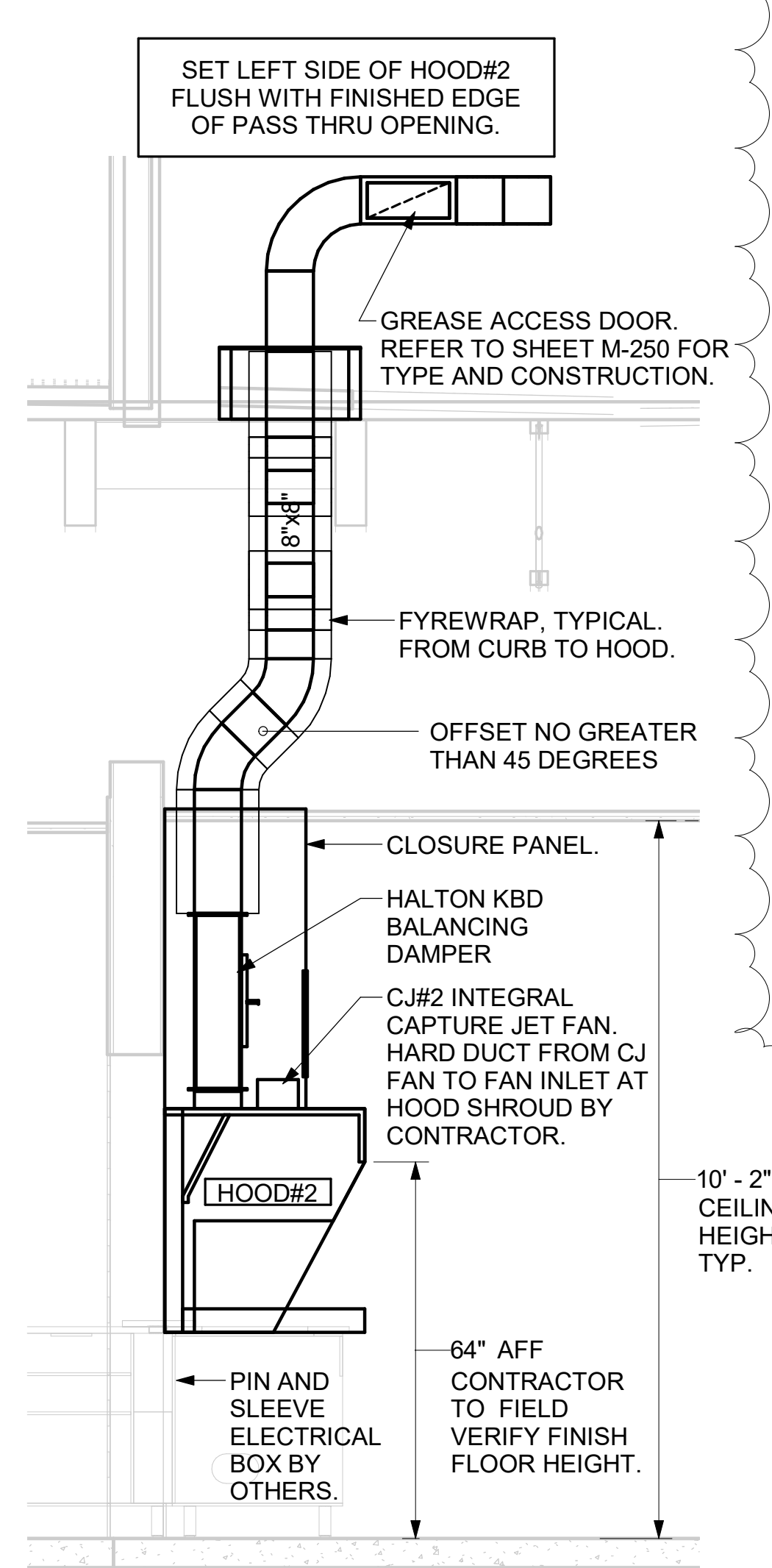
- KITCHEN HOOD SYSTEMS NOTES**
- CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT WITH HALTON CO. FOR THE HOODS. CHICK-FIL-A WILL PURCHASE AND PROVIDE THE HOODS FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.
  - THE FIRE SUPPRESSION SYSTEM SHALL CONSIST OF A COMPLETE WET CHEMICAL SYSTEM FURNISHED BY HALTON. THE HOOD SHALL BE FURNISHED PRE-PIPED BY HALTON.
  - 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.
  - HOOD EXHAUST DUCTWORK SHALL BE 16 GA. BLACK STEEL WITH CONTINUOUS LIQUID TIGHT WELD OF JOINTS & SEAMS.
  - URNS IN GREASE EXHAUST DUCTWORK SHALL BE LONG RADIUS TYPE, WITH A CENTERLINE RADIUS R=3W/2, UNLESS OTHERWISE NOTED. NO MITERED FITTINGS ALLOWED.
  - ALL STAINLESS STEEL CLOSURE PANELS SHALL BE SUPPLIED BY HOOD MANUFACTURER AND INSTALLED BY THE MECHANICAL CONTRACTOR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
  - SLOPE ALL GREASE EXHAUST DUCT BACK TO HOOD AT 1/4" PER FOOT OF RUN.
  - WRAP NEW GREASE DUCT WITH UNIFRAX FyreWRAP. INSULATION ON ACCESS DOORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION RECOMMENDATIONS. UNIFRAX FyreWRAP PRODUCT USED SHALL MEET LOCAL CODE REQUIREMENTS.
  - 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.
  - MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-501 FOR MORE INFORMATION.



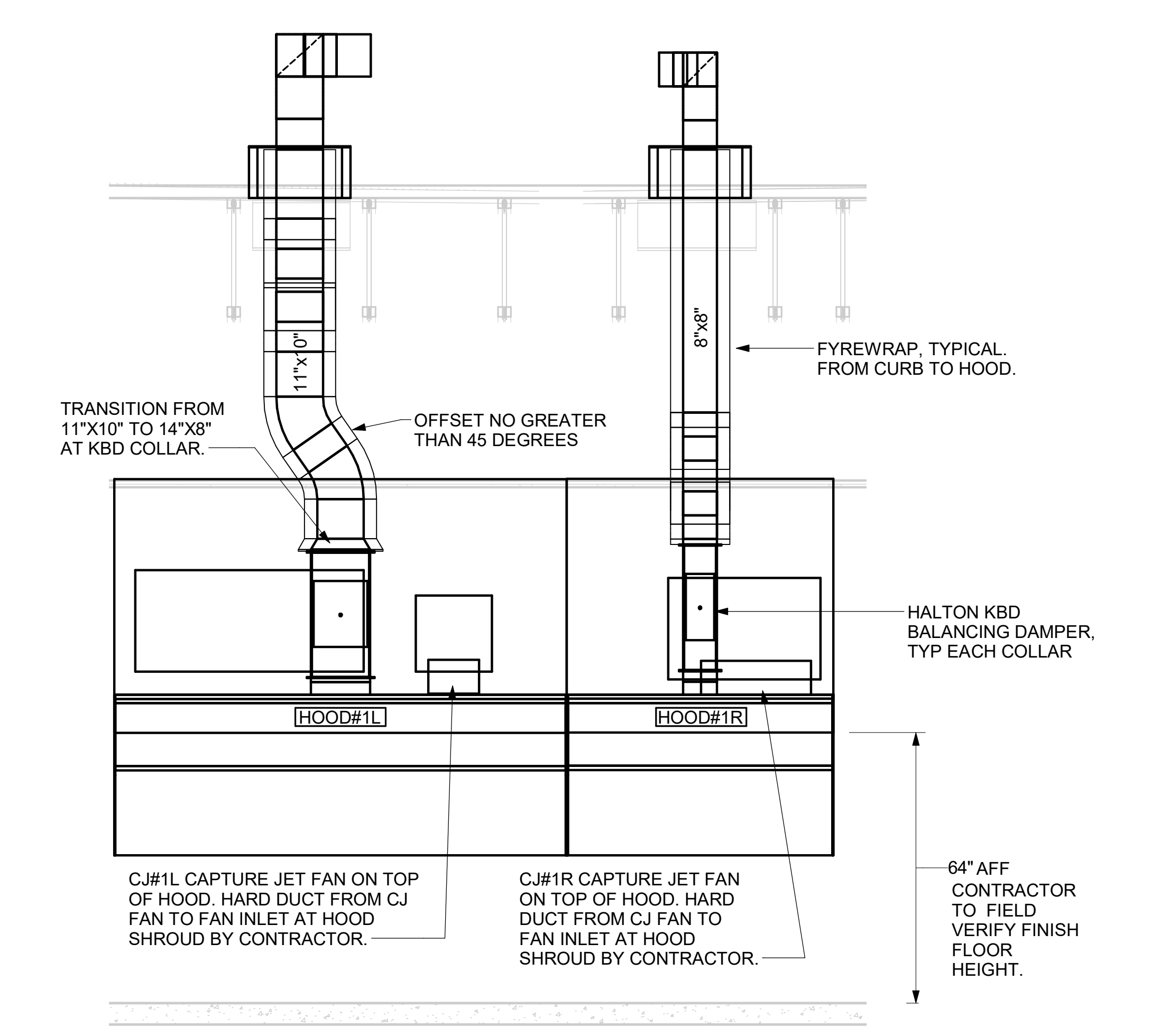
7 HOOD ELEVATION - HOOD#3  
 NOT TO SCALE



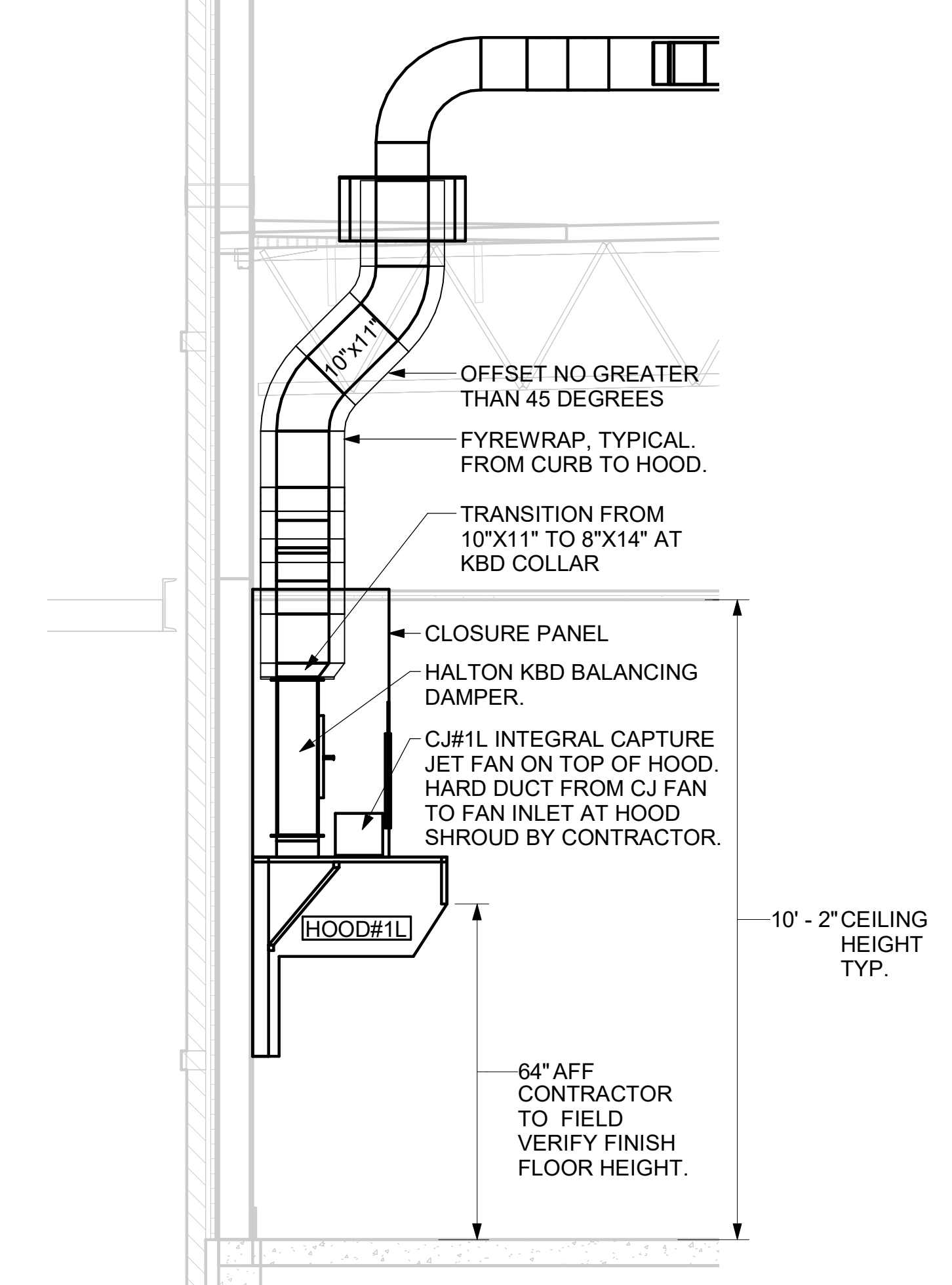
6 HOOD ELEVATION - HOOD#2 - FRONT  
 NOT TO SCALE



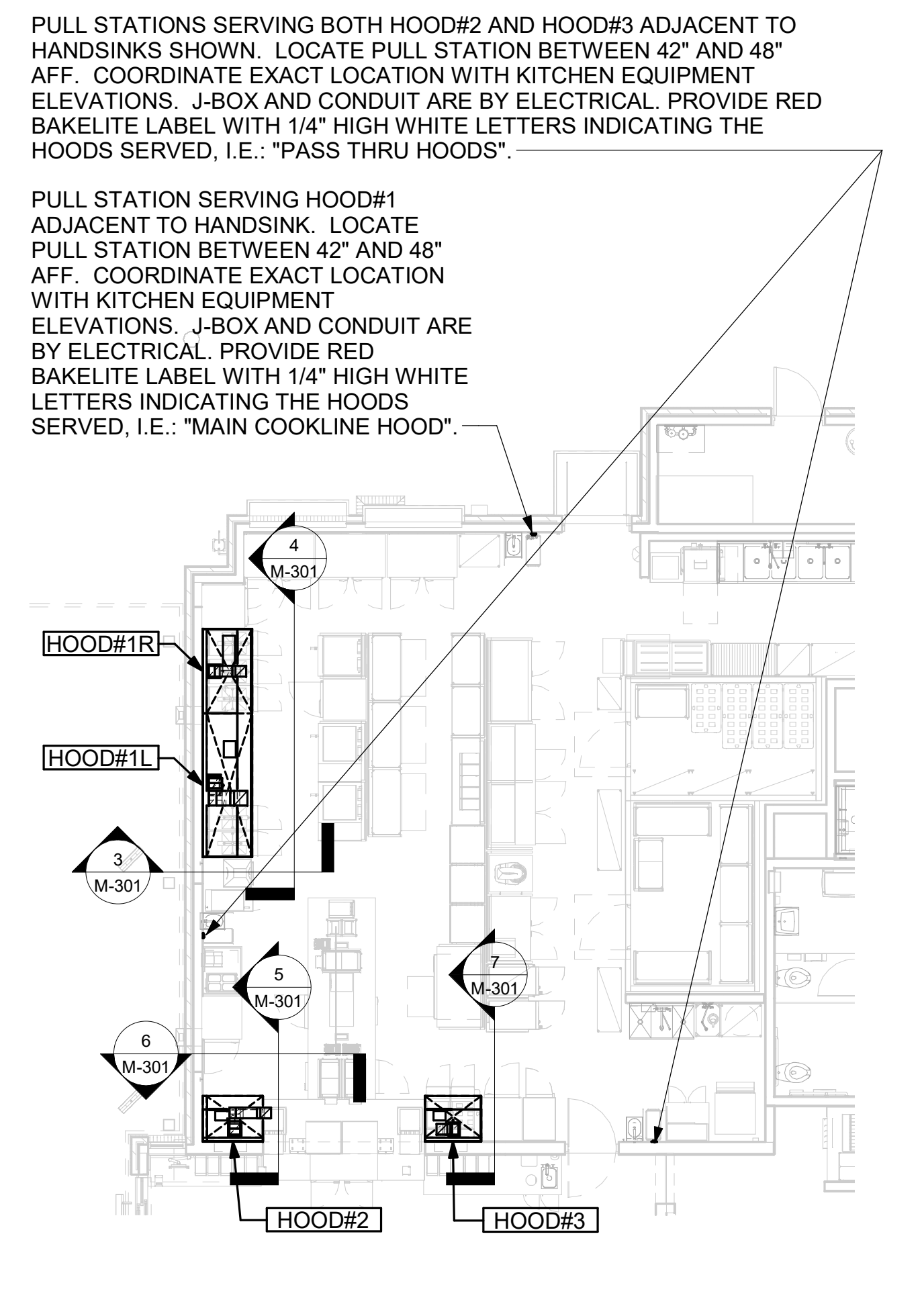
5 HOOD ELEVATION - HOOD#2 - SIDE  
 NOT TO SCALE



4 HOOD ELEVATION - HOOD#1 - FRONT  
 NONE



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



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

NOTE:  
 SEE ARCHITECTURAL PLANS FOR HOOD LOCATIONS.

PULL STATIONS SERVING BOTH HOOD#2 AND HOOD#3 ADJACENT TO HANDSINKS SHOWN. LOCATE PULL STATION BETWEEN 42" AND 48" AFF. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT ELEVATIONS. J-BOX AND CONDUIT ARE BY ELECTRICAL. PROVIDE RED BAKELITE LABEL WITH 1/4" HIGH WHITE LETTERS INDICATING THE HOODS SERVED, I.E.: "PASS THRU HOODS".

PULL STATION SERVING HOOD#1 ADJACENT TO HANDSINK. LOCATE PULL STATION BETWEEN 42" AND 48" AFF. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT ELEVATIONS. J-BOX AND CONDUIT ARE BY ELECTRICAL. PROVIDE RED BAKELITE LABEL WITH 1/4" HIGH WHITE LETTERS INDICATING THE HOODS SERVED, I.E.: "MAIN COOKLINE HOOD".



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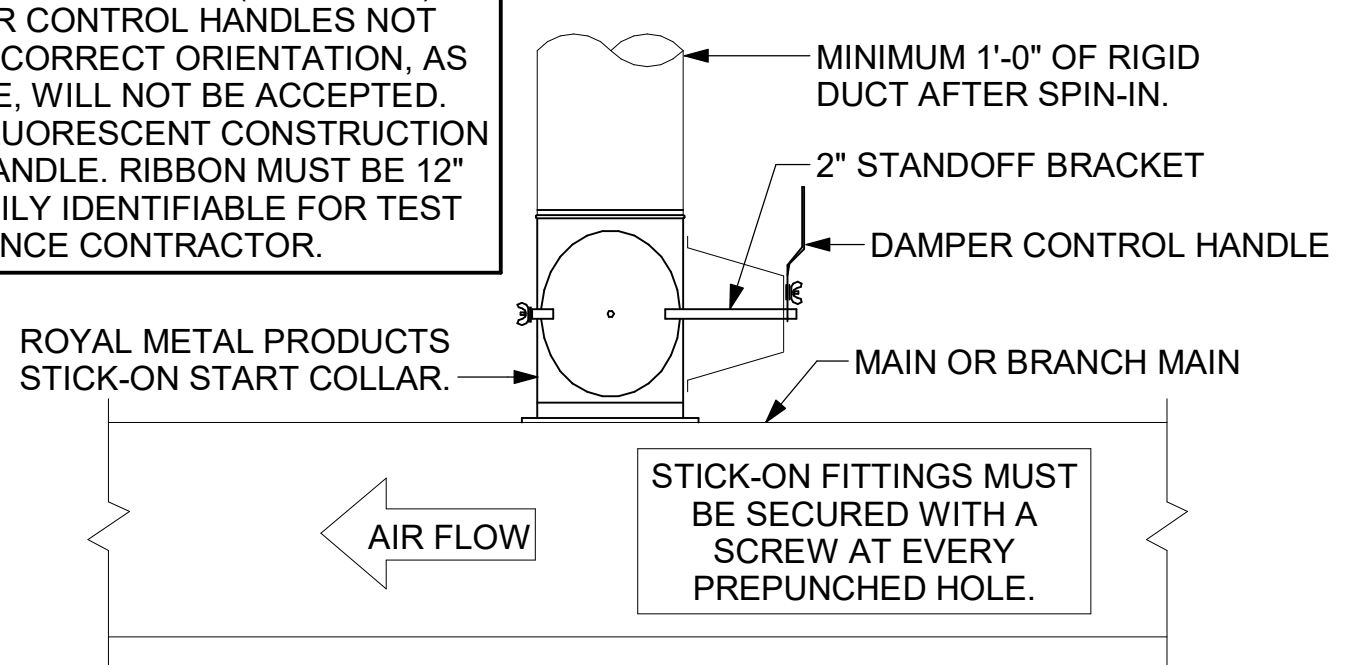
SHEET HOOD DETAILS AND SCHEDULES  
 SHEET NUMBER

**M-301**

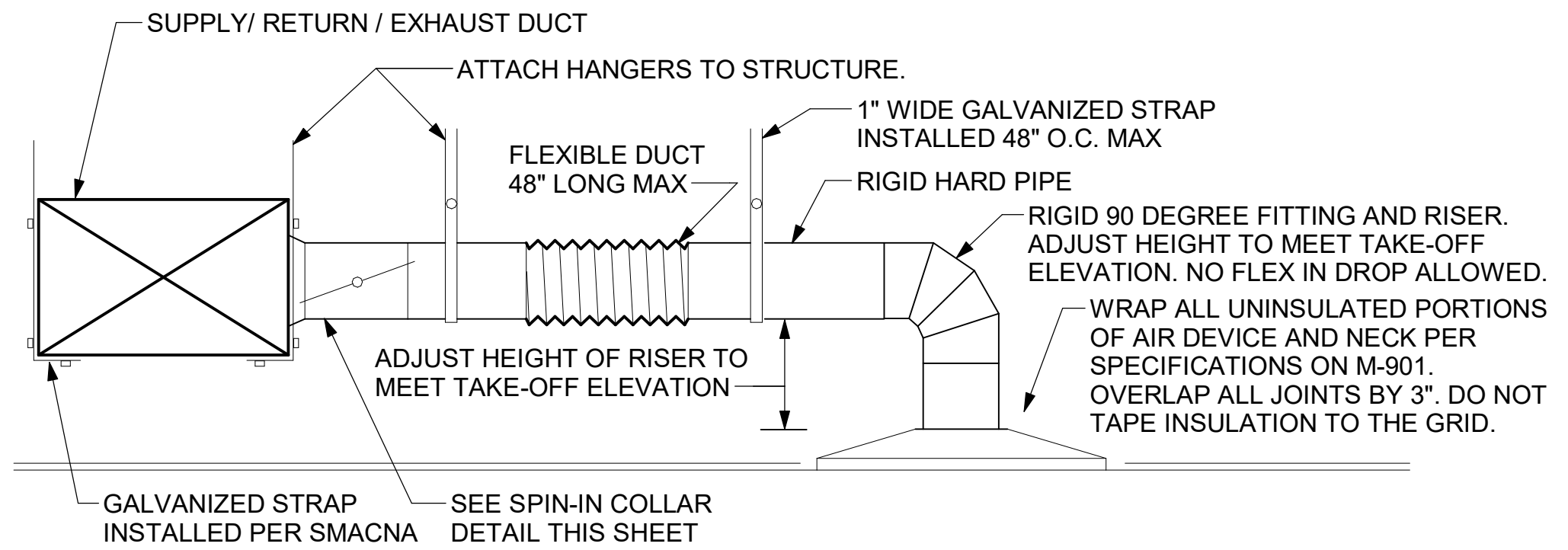
CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE ROYAL METAL PRODUCTS START COLLARS FOR BOTH WITH AND WITHOUT A MANUAL BALANCING DAMPER. THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE ROYAL METAL PRODUCTS START COLLARS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE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

DAMPER CONTROL HANDLE MUST BE EXPOSED, AND DAMPER SHAFT MUST ALWAYS BE PARALLEL TO AIRFLOW IN DUCT MAIN. AS AN EXAMPLE, FOR HORIZONTAL TRUNK DUCT, HANDLE MUST BE LOCATED ON THE LEFT OR RIGHT (9 OR 3 O'CLOCK) OF COLLAR, AND FOR VERTICAL TRUNK DUCT, LOCATED ON THE BOTTOM (6 O'CLOCK) OF COLLAR. DAMPER CONTROL HANDLES NOT INSTALLED IN THE CORRECT ORIENTATION, AS SPECIFIED ABOVE, WILL NOT BE ACCEPTED. ATTACH YELLOW FLUORESCENT CONSTRUCTION RIBBON TO THE HANDLE. RIBBON MUST BE 12" LONG AND BE EASILY IDENTIFIABLE FOR TEST AND BALANCE CONTRACTOR.

DO NOT APPLY START COLLAR OVER DUCT WRAP



2 START COLLAR  
NOT TO SCALE



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

EXHAUST FAN SCHEDULE - LARGE BLDG

MARK	FAN CFM	ESP	RPM	TIP SPEED	HP	AREA SERVED	VOLTAGE	PHASE	MOCPP	MODEL	MANUFACTURER	REMARKS
EF#1	1,913 CFM	0.75 in-wg	1,331 RPM	5,226 FPM	0.75 hp	HOOD#1	120 V	1	25 A	150 CPS	LOREN COOK	1,2,3,4,5,6,7,8,9,10,11,17
EF#2	1,402 CFM	0.95 in-wg	1,199 RPM	4,708 FPM	0.75 hp	HOOD#2 & HOOD#3	120 V	1	25 A	150 CPS	LOREN COOK	1,2,3,4,5,6,7,8,9,10,11,17
EF#3	375 CFM	0.38 in-wg	1,550 RPM	3,091 FPM	0.125 hp	RESTROOMS	120 V	1	20 A	ACED-90C15DH	LOREN COOK	3,11,12,13,14,15,16

NOTES

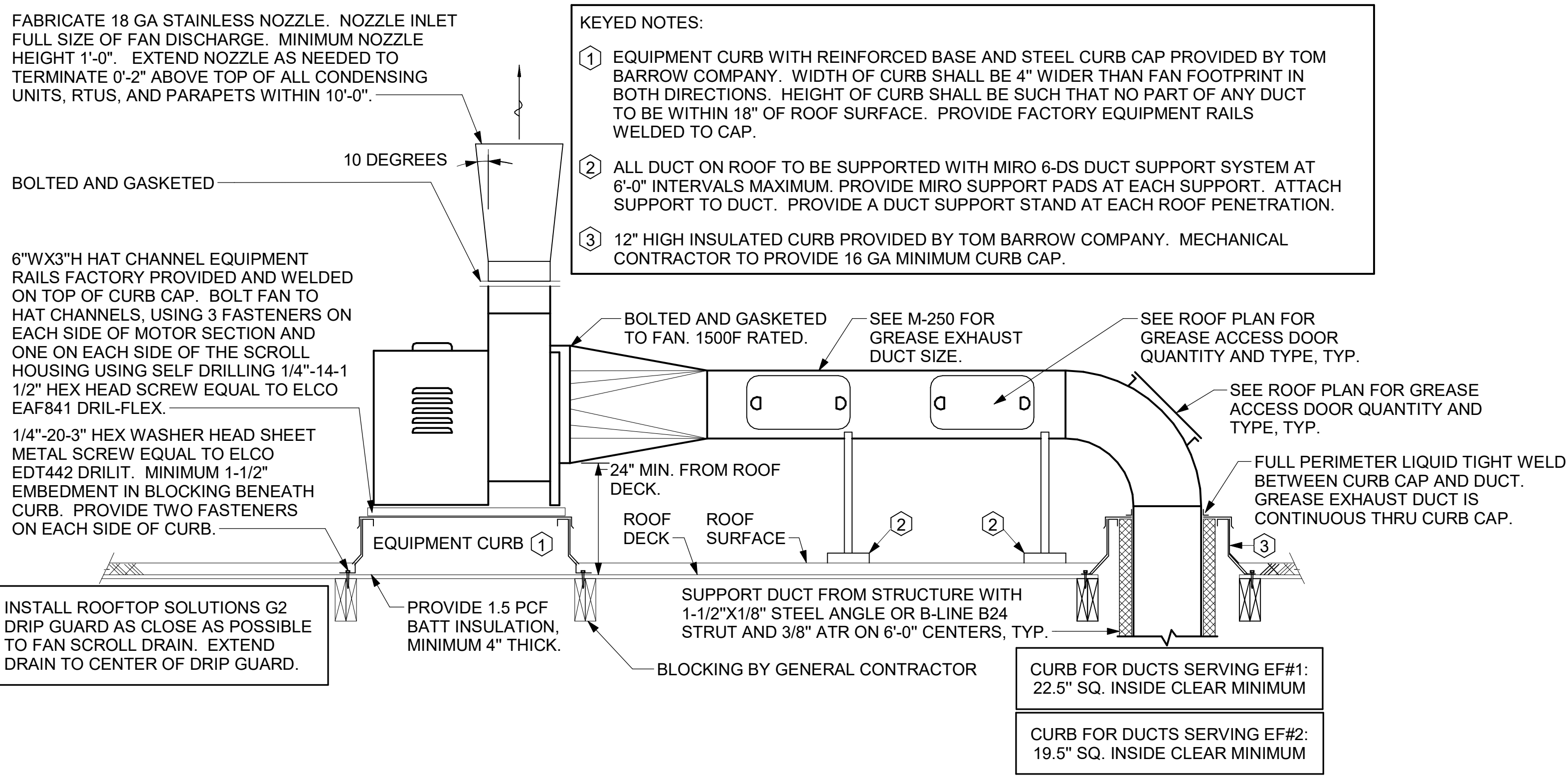
- GREASE EXHAUST FAN RPM BASED ON 80 DEGREE F AIR AT 1000 FEET ABOVE SEA LEVEL.
- GREASE EXHAUST FANS TO BE U.L. 782 LISTED.
- CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE FAN/CURB PACKAGE. THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE FAN/CURB PACKAGE DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. FANS AND CURBS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

REMARKS

- UPBLAST, ARRANGEMENT 10, CCW ROTATION. SEE PLANS TO CONFIRM CONFIGURATION.
- PROVIDE FACTORY ALUMINUM FAN WHEEL.
- PROVIDE FACTORY INSTALLED PREWIRED NON-FUSED DISCONNECT.
- PROVIDE FACTORY STEEL INLET FLANGE AND INLET COMPANION FLANGE.
- PROVIDE AND INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD. MECHANICAL CONTRACTOR TO CONTACT ROOFTOP SOLUTIONS AT 800-913-7034.
- PROVIDE FACTORY WEATHER HOUSING W/ HINGED ACCESS DOOR.
- PROVIDE FACTORY DRAIN CONNECTION.
- PROVIDE FACTORY BOLTED ACCESS DOOR ON SCROLL.
- PROVIDE FACTORY INSTALLED BELT DRIVE WITH ADJUSTABLE MOTOR SHEAVE AND SPARE BELT.
- PROVIDE FACTORY STEEL OUTLET COMPANION FLANGE.
- INTEGRAL THERMAL OVERLOAD WITH AUTOMATIC RESET.
- PROVIDE BIRDSCREEN.
- BACKDRAFT DAMPER IN DUCT BY MECHANICAL CONTRACTOR AS SHOWN ON 4/M401.
- STARTER BY ELECTRICAL CONTRACTOR. INTERLOCK WITH LIGHTS BY ELECTRICAL CONTRACTOR.
- PROVIDE 12" HIGH CURB.
- PROVIDE FACTORY INSTALLED AND WIRED SPEED CONTROLLER.
- UTILITY SET FAN CURB AND ASSOCIATED EXHAUST DUCT CURB PROVIDED BY TOM BARROW COMPANY.

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.

- KEYED NOTES:
- EQUIPMENT CURB WITH REINFORCED BASE AND STEEL CURB CAP PROVIDED BY TOM BARROW COMPANY. WIDTH OF CURB SHALL BE 4" WIDER THAN FAN FOOTPRINT IN BOTH DIRECTIONS. HEIGHT OF CURB SHALL BE SUCH THAT NO PART OF ANY DUCT TO BE WITHIN 18" OF ROOF SURFACE. PROVIDE FACTORY EQUIPMENT RAILS WELDED TO CAP.
  - ALL DUCT ON ROOF TO BE SUPPORTED WITH MIRO 6-DS DUCT SUPPORT SYSTEM AT 6'-0" INTERVALS MAXIMUM. PROVIDE MIRO SUPPORT PADS AT EACH SUPPORT. ATTACH SUPPORT TO DUCT. PROVIDE A DUCT SUPPORT STAND AT EACH ROOF PENETRATION.
  - 12" HIGH INSULATED CURB PROVIDED BY TOM BARROW COMPANY. MECHANICAL CONTRACTOR TO PROVIDE 16 GA MINIMUM CURB CAP.



3 KITCHEN HOOD EXHAUST FAN - UTILITY SET - WOOD FRAMING  
NOT TO SCALE

AIR DOOR SCHEDULE - LARGE BLDG

MARK	CFM	VELOCITY	HEATING CAP	HP	AREA SERVED	MODEL	MANUFACTURER	REMARKS
AD#1	1,765 CFM	2,670 FPM	10 kW	3/4 HP	DRIVE THRU	CHA-1-48E	Powered Aire	1,2,3,5
AD#2	1,197 CFM	2,443 FPM	10 kW	3/4 HP	DRIVE-THRU	CHA-1-36E	Powered Aire	1,2,3,5
AD#3	1,197 CFM	2,443 FPM	N/A	3/4 HP	DRIVE-THRU	CHA-1-36	Powered Aire	1,2,4
AD#4	3,867 CFM	4,218 FPM	N/A	3/4 HP	REAR DOOR	RBT-1-48	Powered Aire	4

NOTES

- CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE AIR DOORS. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE AIR DOORS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010, FOR PRICING AND AVAILABILITY. AIR DOORS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

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 DETAIL, AIR CURTAIN WIRING DIAGRAM.
- 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.

AIR DEVICE SCHEDULE - LARGE BLDG

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.	VARIES	VARIES	24"x24"	LAY-IN	1,7
B	VARITHERM PLAQUE DIFFUSER	OFFICE	12"	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.	VARIES	VARIES	24"x24"	LAY-IN	1,7
J	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	RESTROOMS	10"x10"	15"x15"	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

- CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE AIR DEVICES. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE AIR DEVICES DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010, FOR PRICING AND AVAILABILITY. AIR DEVICES NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

REMARKS

- STANDARD OFF WHITE FINISH.
- PROVIDE MODEL VCS3 NECK DAMPER.
- SEE DRAWING M-201 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-401.
- FACTORY INSULATED R-6 BACKPAN.
- PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER.

RECIRCULATING FAN SCHEDULE

MARK	CFM	ESP	RPM	HP	Area Served	MODEL	MANUFACTURER	REMARKS
RF-1	450 CFM	0.3	1144	58 W	TECH CLOSET	GCVF-700	LOREN COOK	1,2,3

NOTES

- CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARROW COMPANY FOR THE FANS PACKAGE. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE FANS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010, FOR PRICING AND AVAILABILITY. FANS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.

REMARKS

- PROVIDE NEMA 1 PREWIRED DISCONNECT.
- INTEGRAL POTENTIOMETER ON FAN MOTOR, SET TO FULL SPEED.
- PROVIDE THERMOSTAT / TEMPERATURE CONTROLLER, SET TO 76°F.

ELECTRIC HEATER SCHEDULE

MARK	HEATING INPUT	FRAME LENGTH	FRAME WIDTH	FRAME DEPTH	MOUNTING TYPE	VOLTAGE	PHASE	MOCPP	MODEL	PART NUMBER	MFR
EI#1	6 kW	56"	8.5"	3.5"	WALL BRACKET	208 V	1	40 A	6000W	BH0420035	BROMIC

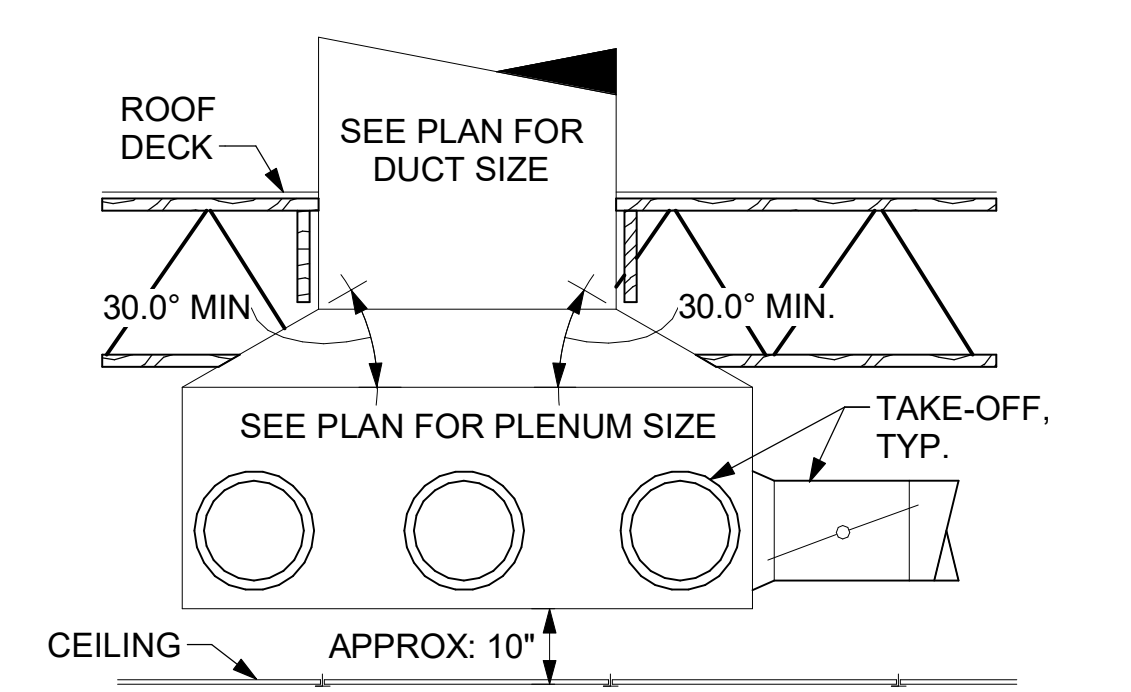
NOTES

- CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH BROMIC HEATING USA FOR THE BROMIC ELECTRIC HEATER. THE MECHANICAL CONTRACTOR SHALL PURCHASE HEATERS DIRECTLY FROM BROMIC HEATING USA. CONTACT MR. BLAKE RUSSIE AT 858-381-4850, FOR PRICING AND AVAILABILITY. BROMIC HEATERS NOT PURCHASED THRU BROMIC HEATING USA WILL NOT BE ACCEPTED.

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.

4 RESTROOM EXHAUST FAN  
NOT TO SCALE

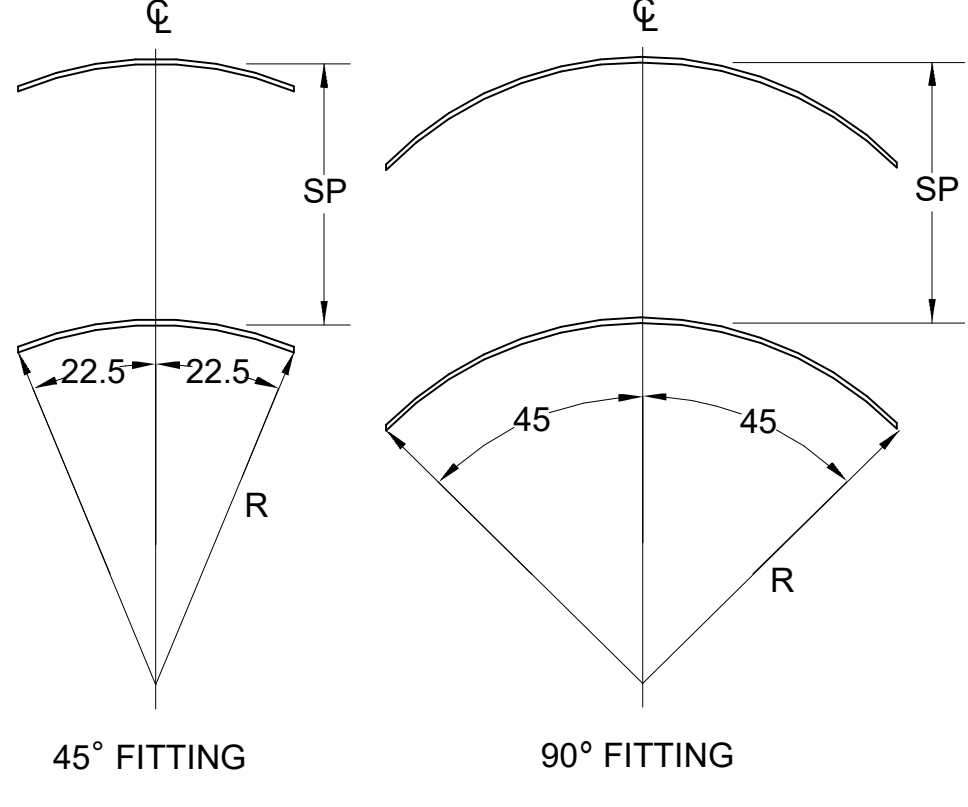


6 RETURN DROP GEOMETRY  
NOT TO SCALE

TURNING VANE SCHEDULE

R	SP	GA
2"	1.5"	24

- NO TRAILING EDGE.
- SINGLE THICKNESS CONSTRUCTION.



5 TURNING VANES  
1/4" = 1'-0"



Chick-fil-A

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02/01/23

CHICK-FIL-A  
SHEPHERDSTOWN  
CROSSING FSR  
219 GETTYSBURG PIKE  
MECHANICSBURG, PA 17055

FSR#05272

BUILDING TYPE / SIZE: P14 SE LRG  
RELEASE: 22.08  
PRINTED FOR: CONSTRUCTION

REVISION SCHEDULE

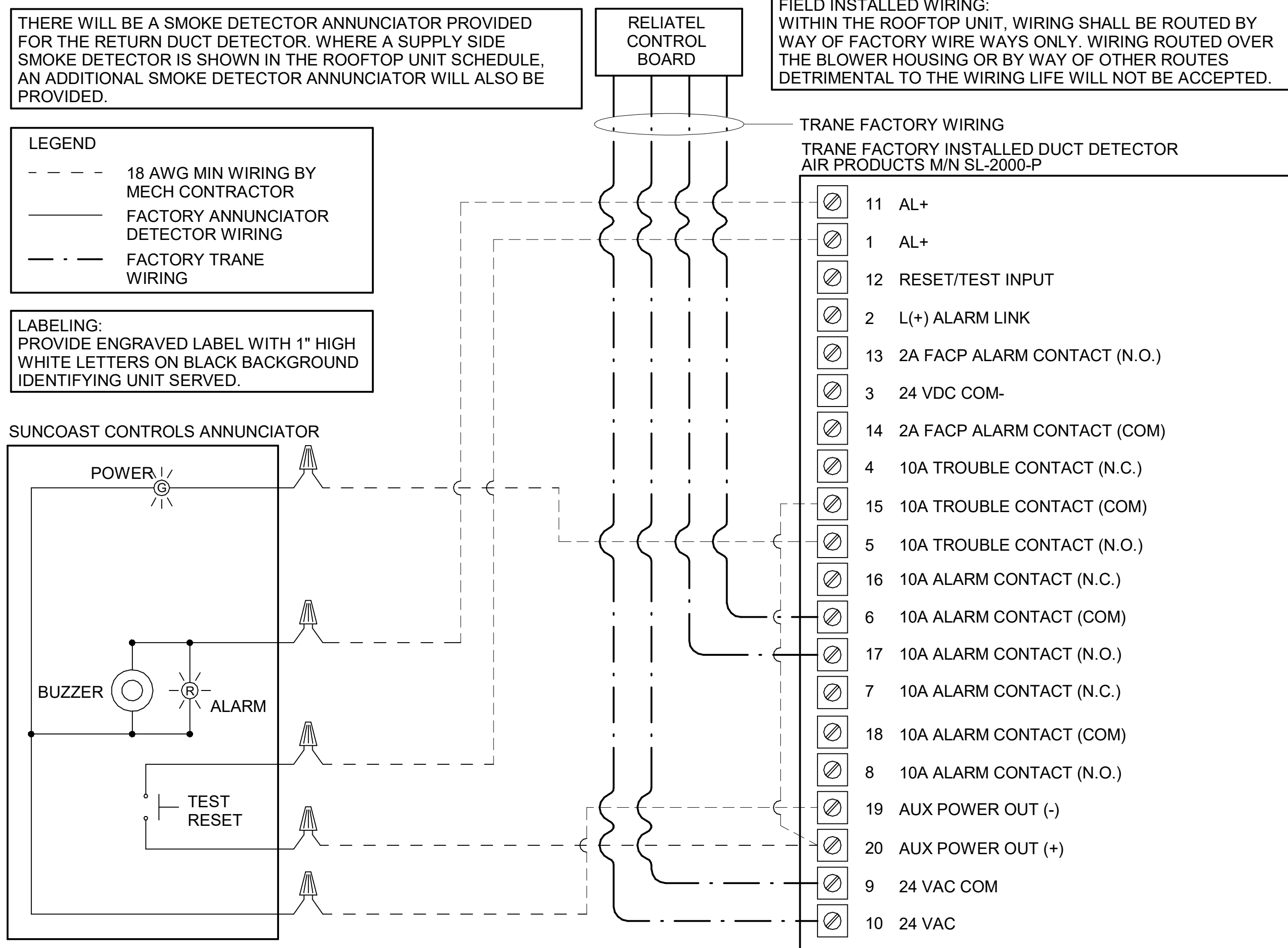
NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 22113.EH.S  
DATE 01/06/2023  
DRAWN BY BLM

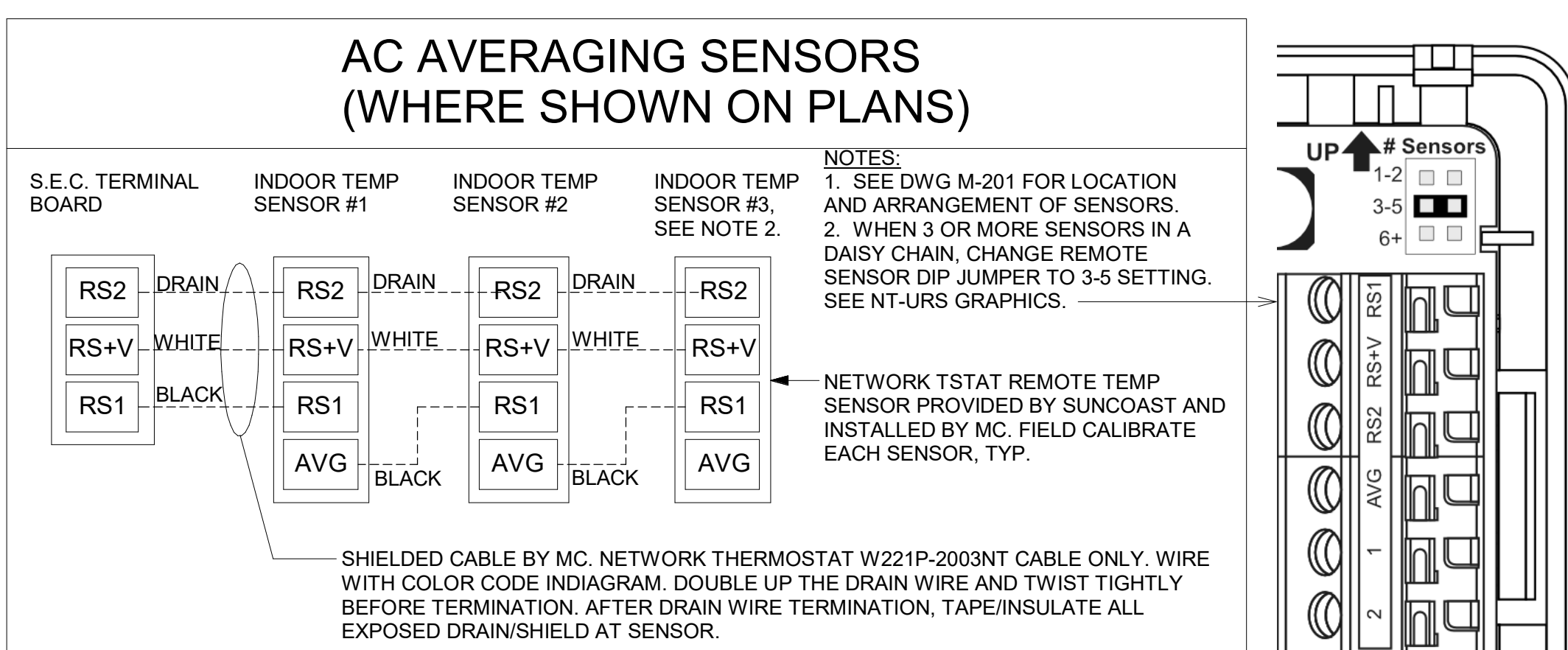
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SHEET HVAC DETAILS AND SCHEDULES  
SHEET NUMBER

M-401

Autodesk Docs://PA\_05272\_Shepherdstown Crossing\_2022.9\_FSR#05272\_Shepherdstown Crossing\_MEC.rvt  
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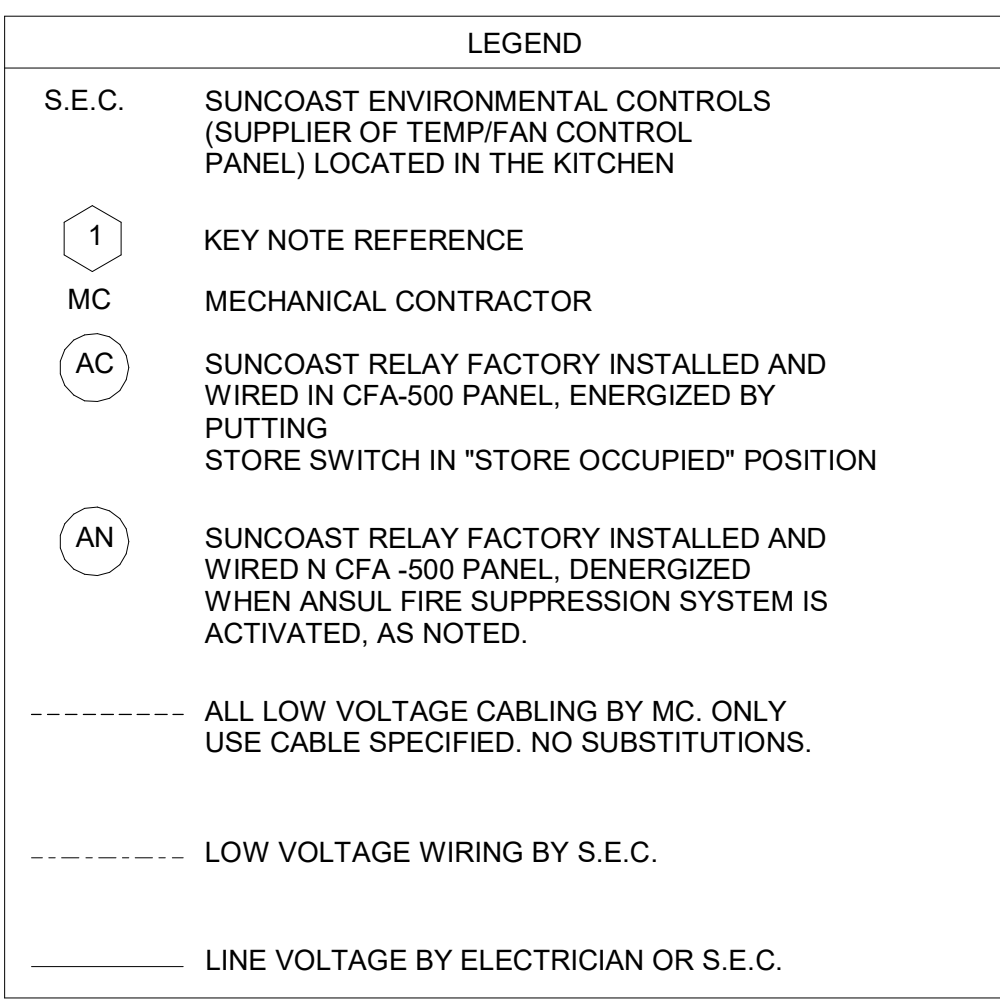
2 SMOKE DETECTOR AND ANNUNCIATOR WIRING DIAGRAM  
NOT TO SCALE



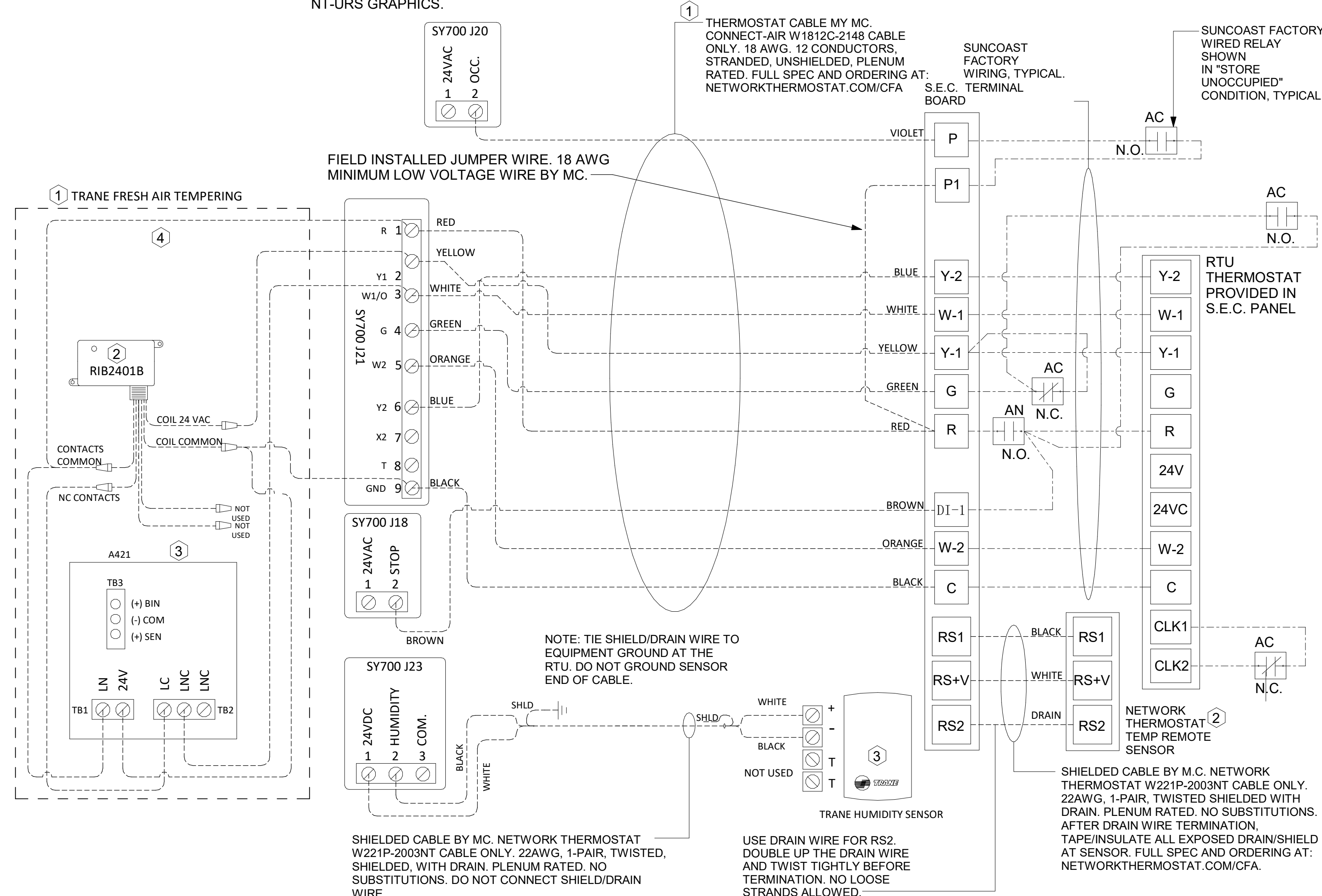
PROVIDE A PROFESSIONAL LAMINATED COPY OF THESE DETAILS TO BE INSTALLED INSIDE THE ROOFTOP UNIT CONTROL CABINET. USE A SETON CHART FRAME STYLE #66024. TELEPHONE NUMBER 800-243-8624. FOR MOUNTING THE DETAIL, ATTACHED THE FRAME TO THE INTERIOR OF THE UNIT IN PLAIN AND EASY VIEW OF THE CONTROLS SECTION. CONTACT ENGINEER OF RECORD FOR A REPRODUCIBLE COPY OF THE DETAIL.

- KEYED NOTES:
- 1 LOW VOLTAGE WIRING TO RTU TO BE ROUTED TO UNIT THRU FACTORY WIREWAY. LEAVE 4FT SERVICE LOOP AT RTU FOR TERMINATION AND FUTURE CONTROLS. DO NOT CUT OFF EXTRA CONDUCTORS.
  - 2 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.
  - 3 THE RH SETPOINT IS ESTABLISHED BY ADJUSTING THE R41 POTENTIOMETER (LABELED 'DEHUMID SP') ON THE RTOM MODULE. SET TO 60%.

- 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. "AC#2 HUMIDITY SENSOR" OR "AC#2 TEMP SENSOR". PLACE LABELS ON WALL ADJACENT TO DEVICE. DO NOT APPLY DIRECTLY TO DEVICE.

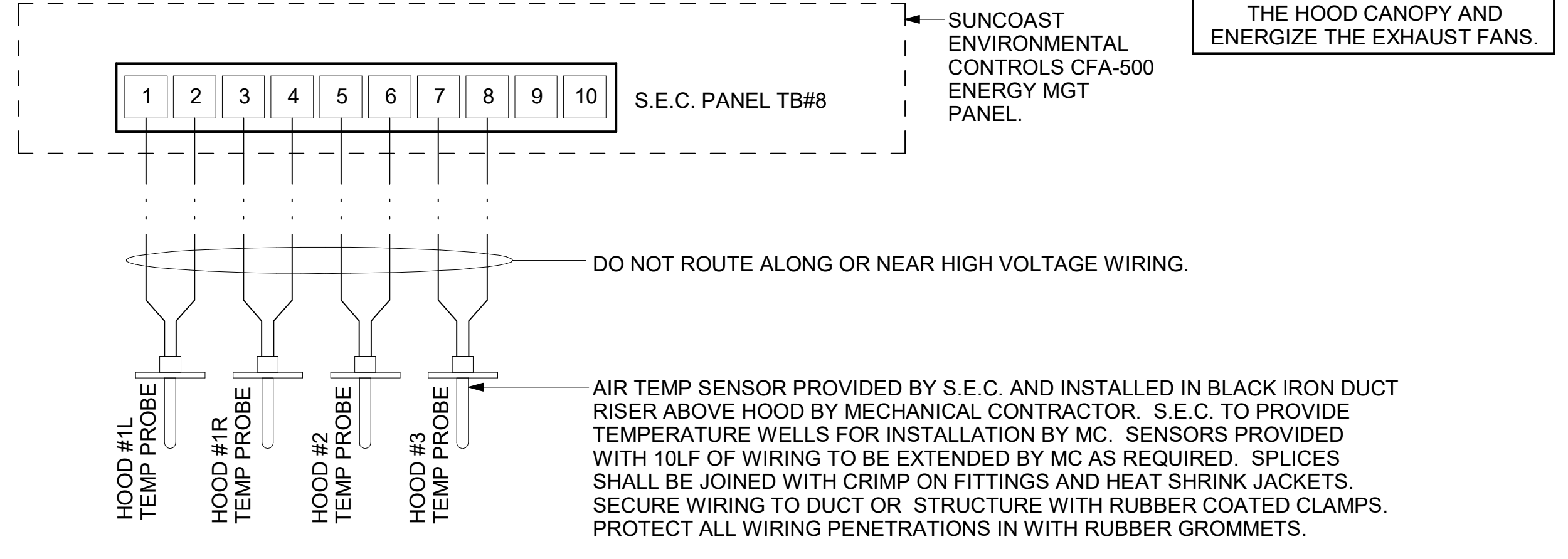


- FRESH AIR TEMPERING KEYED NOTES:
- 1 INSTALL FRESH AIR TEMPERING KIT AS RECOMMENDED BY TRANE.
  - 2 RIB2401B SPDT RELAY PROVIDED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.
  - 3 JCI A421 TEMPERATURE CONTROLLER PROVIDED BY TRANE AND INSTALLED BY CONTRACTOR. DIN-MOUNTED IN THE RTU CONTROL CABINET. SET TO 58F. LOCATE TRANE PROVIDED A99 SENSOR IN THE SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT WITH TE6001-1 SENSOR DUCT MOUNTING PLATE PROVIDED BY TRANE; DO NOT RUN WIRING INSIDE DUCTWORK.
  - 4 18 AWG MIN. LOW VOLTAGE WIRING BY MC.

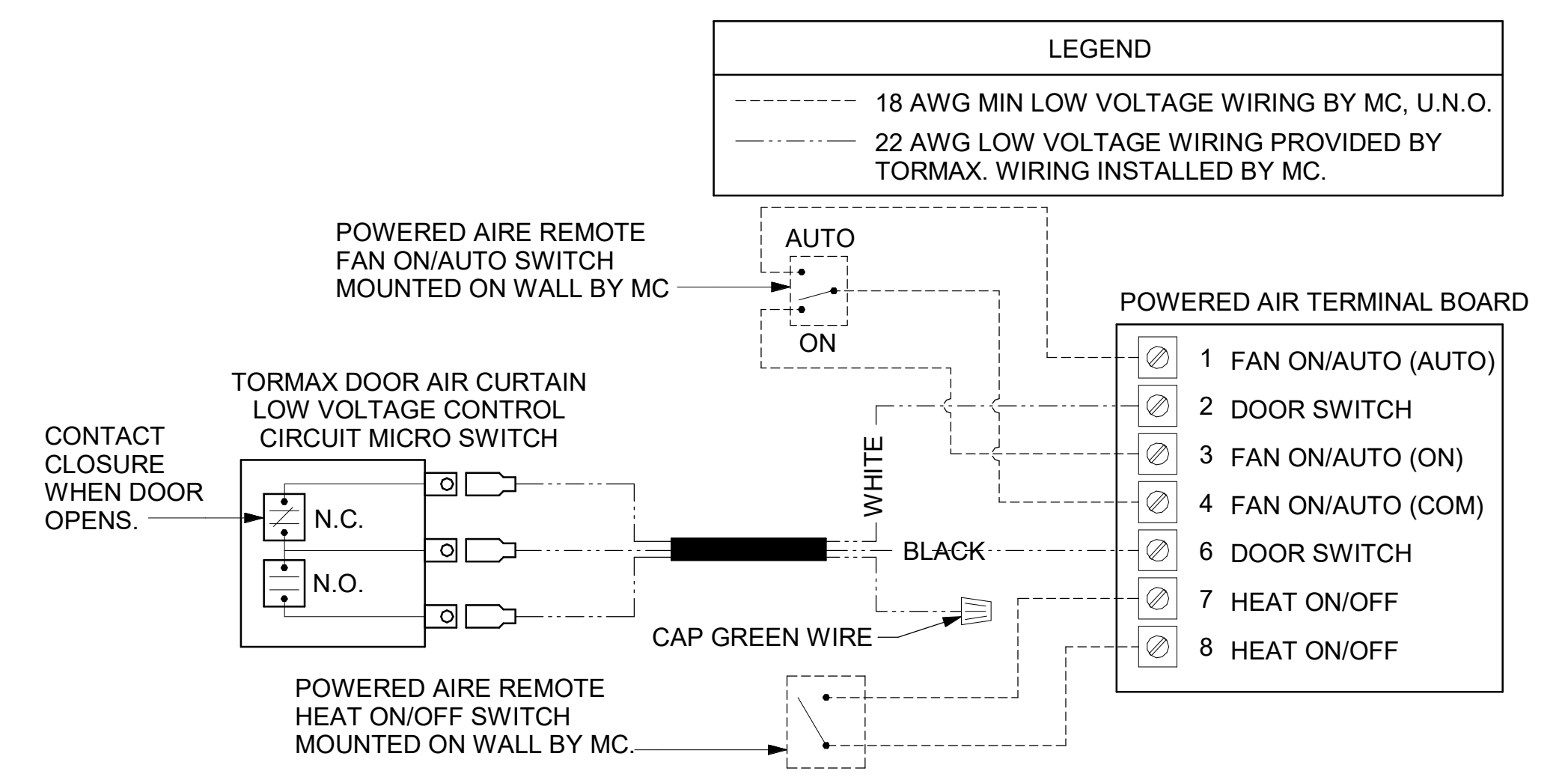


1 ROOFTOP UNIT CONTROL WIRING - TRANE  
NOT TO SCALE

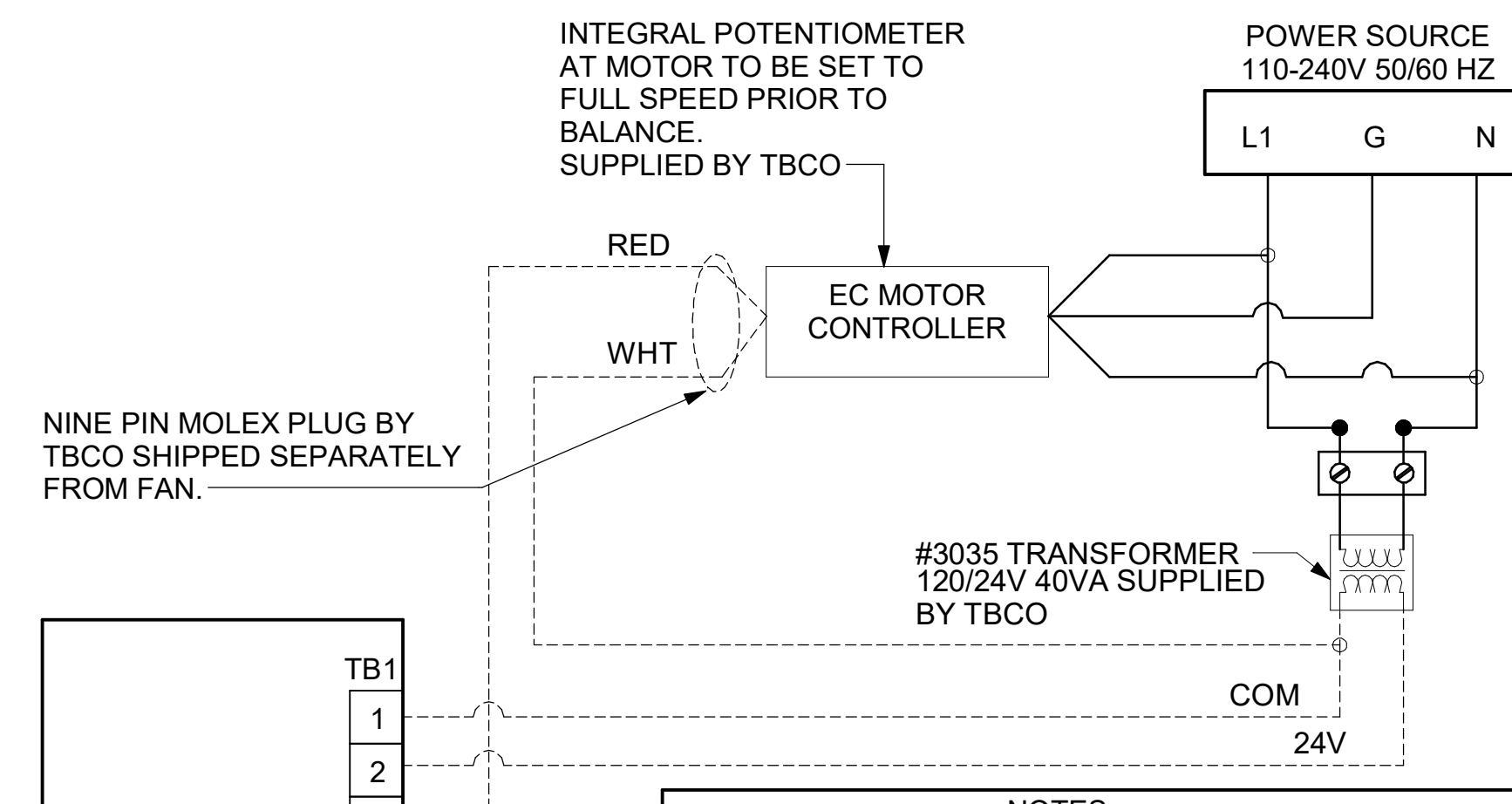
- LEGEND
- S.E.C. SUNCOAST ENVIRONMENTAL CONTROLS
  - CFA-500 ENERGY MGT PANEL
  - M.C. MECHANICAL CONTRACTOR
  - 18 AWG MIN UNSHIELDED LOW VOLTAGE WIRING BY MC, U.N.O.
- GENERAL NOTES
1. THE SUNCOAST H.E.S. SYSTEM HAS BEEN INTEGRATED INTO THE SUNCOAST ENVIRONMENTAL CONTROLS CFA-500 ENERGY MGT PANEL.
- S.E.C. H.E.S. OPERATION
- IN THE EVENT THAT ANY COOKING EQUIPMENT ITEM BENEATH ANY HOOD IS STARTED WITHOUT THE 'STORE SWITCH' BEING IN THE 'OCCUPIED' POSITION, THE H.E.S. CONTROLLER WILL SENSE THE HEAT RISE WITHIN THE HOOD CANOPY AND ENERGIZE THE EXHAUST FANS.



5 HOOD FAN/EQUIPMENT INTERLOCK  
NOT TO SCALE



3 AIR CURTAIN WIRING DIAGRAM  
NOT TO SCALE

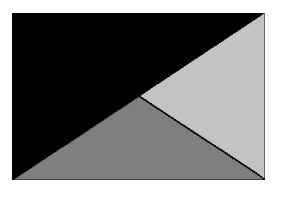


- NOTES
1. MECHANICAL CONTRACTOR SHALL MAKE PLASTIC LAMINATE OF THIS DETAIL AND INSTALL PERMANENTLY ON SIDE OF FAN HOUSING.
  2. PROVIDE PLASTIC ENGRAVED LABEL AT ALL NEW THERMOSTATS WITH 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND. I.E. "RF#1 THERMOSTAT". PLACE LABELS ON WALL ADJACENT TO DEVICE. DO NOT APPLY DIRECTLY TO DEVICE.
  3. PARAMETERS PRESET BY TBCO, BUT MC TO CHECK. SET THERMOSTAT TO 76° F. (FAN SHALL RUN AT 20% WHEN TEMP IS BELOW 76° F AND 100% WHEN TEMP IS ABOVE 80° F. FAN SPEED WILL LINEARLY INCREASE FROM 20% TO 100% AS TEMP INCREASES FROM 76° F TO 80° F.)
- LEGEND
- MC MECHANICAL CONTRACTOR
  - TBCO TOM BARROW COMPANY
  - 18 AWG MIN LOW VOLTAGE WIRING BY MC.
  - LINE VOLTAGE BY ELECTRICAL CONTRACTOR

4 TECH CLOSET CONTROL DIAGRAM  
NOT TO SCALE



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02/01/23

CHICK-FIL-A  
SHEPHERDSTOWN  
CROSSING FSR  
219 GETTYSBURG PIKE  
MECHANICSBURG, PA 17055

FSR#05272

BUILDING TYPE / SIZE: P14 SE LRG  
RELEASE: 22.08  
PRINTED FOR: CONSTRUCTION

NO.	DATE	DESCRIPTION

DRAWN BY: BLM

CONSULTANT PROJECT #: 22113.EH.S  
DATE: 01/06/2023

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SHEET: HVAC CONTROLS

SHEET NUMBER

M-501

1. SECTION C15000 - MECHANICAL 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 HIS WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN LOCATION OF EQUIPMENT AND MATERIALS AS NECESSARY TO SECURE COORDINATION.
- B. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES, INCLUDING BUT NOT LIMITED TO THE LATEST APPROVED EDITIONS OF NFPA-96, NFPA-90A, NFPA-54, SMACNA, ASHRAE 90.1 AND ASHRAE 62.
- 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 AND 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 (C15730)

- 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 FULLY HERMETIC SCROLL TYPE WITH INTERNAL VIBRATION ISOLATORS. COMPRESSORS SHALL BE PROVIDED WITH A MINIMUM FIVE (5) YEAR FULL WARRANTY.
- D. THE UNIT HEAT EXCHANGERS SHALL BE STEEL WITH ALUMINIZED STEEL COATING. HEATING CONTROLS SHALL CONSIST OF REDUNDANT GAS VALVES, INTERMITTENT PILOT WITH ELECTRONIC SPARK OR HOT PLATE IGNITION SYSTEM, COMBUSTION/EXHAUST FAN PROTECTED BY CENTRIFUGAL SWITCHES, HEAT LIMIT SWITCHES, TIME-DELAY RELAY, FLAME, AND PILOT SENSORS. ALL UNITS SHALL BE CAPABLE OF TWO STAGES OF HEAT. HEAT EXCHANGES SHALL HAVE A TEN (10) YEAR WARRANTY. BURNERS SHALL BE ALUMINIZED IN-SHOT TYPE. THE DRAFT MOTOR SHALL BE MONITORED BY THE CONTROL SYSTEM.
- E. CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT FOR ROOFTOP UNITS. PRICING FOR THE EQUIPMENT HAS BEEN ESTABLISHED IN ADVANCE. CONTACT NATIONAL ACCOUNTS LISTED ON THIS SHEET FOR PRICING, ORDERING AND AVAILABILITY.

2.02 DUCTWORK (C15735) (SEE DWG M-301 FOR ADDITIONAL GREASE DUCT SYSTEM REQ.)

- A. ACCEPTABLE MANUFACTURERS OF INSULATION ARE 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 INSULATION SHALL MEET MINIMUM R-VALUE REQUIRED BY ASHRAE 90.1 LATEST EDITION. ALL DUCT WRAP SHALL BE MINIMUM 2" THICK, 3/4 PCF AND 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. TRUNK DUCTS SHALL BE ISOLATED FROM UNIT VIBRATION WITH THE USE OF NFPA AND U.L. APPROVED FLEXIBLE CONNECTORS INSTALLED AT THE TOP OF BOTH SUPPLY AND RETURN DROPS.
- 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. SEE TAKE-OFF DETAIL ON DRAWING M-401.
- 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.
- 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 90 DEGREE TURNS IN SUPPLY DUCTWORK WHERE ANY ONE DIMENSION IS GREATER THAN 12".
- Q. RADIUS ELBOWS MAY BE SUBSTITUTED FOR 90 DEGREE ELBOWS AT THE DISCRETION OF THE CONTRACTOR. CENTERLINE RADIUS EQUAL TO; R=W PER FIGURE NO. 4-2 IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
- R. 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 (C15735)

- A. SYSTEMS SHALL BE COMPLETE WITH CONNECTIONS TO CFA-500 TEMPERATURE CONTROL PANEL AS MANUFACTURED BY SUNCOAST ENVIRONMENTAL CONTROLS (S.E.C.) (PH: 577-544-8679). THE PANEL IS PROVIDED AND MOUNTED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING TERMINATIONS ARE BY THE MECHANICAL CONTRACTOR.
- B. THE SMOKE DETECTORS SHALL BE FACTORY INSTALLED AND WIRED BY THE ROOFTOP UNIT MANUFACTURER.
- C. A FACTORY INSTALLED SMOKE DETECTOR IN THE RETURN AIR SECTION OF EACH AIR CONDITIONING UNIT SHALL STOP THE INDOOR FAN AND CLOSE THE OUTSIDE AIR DAMPER IN THE EVENT OF EXCESSIVE TEMPERATURE OR SMOKE. SMOKE DETECTOR SHALL BE LOCATED PRIOR TO ANY EXHAUST FROM THE BUILDING OR MIXING WITH FRESH AIR MAKE-UP. UPON DETECTION, THE SYSTEM SHALL NOT RESTART UNTIL THE DEVICE IS MANUALLY RESET. DEVICES SHALL BE LOCATED WHERE THEY CAN BE EASILY ACCESSED AND WHERE CLEAR OF FILTERS.
- D. CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH SUNCOAST ENVIRONMENTAL CONTROLS FOR THE SMOKE DETECTOR TEST/RESET ANNUNCIATOR STATIONS. THE TEST/RESET STATIONS WILL BE PURCHASED 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. ROOFTOP UNITS - 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. A REMOTE TEMPERATURE SENSOR FOR EACH THERMOSTAT IS ALSO PROVIDED. MECHANICAL CONTRACTOR SHALL INSTALL ALL WIRING BETWEEN THE THERMOSTAT, THE REMOTE SENSOR 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.

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.
- F. THE MC SHALL BE AVAILABLE DURING THE ENTIRE DURATION OF THE TAB EFFORT AND HAVE ON-SITE THE RESOURCES AND TOOLS TO MAKE CORRECTIONS AS NEEDED UNDER THE DIRECTION OF THE TAB TECHNICIAN.

NATIONAL ACCOUNTS

1. LOREN COOK FAN AND CURB PACKAGE - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE FAN/CURB PACKAGE DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. FANS AND CURBS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
2. PRICE AIR DEVICES - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE AIR DEVICES DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. AIR DEVICES NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
3. AIR DOORS - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE AIR DOORS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. AIR DOORS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
4. SUNCOAST ENVIRONMENTAL CONTROLS - THE CFA 500 PANEL AND THE TEST/RESET STATIONS WILL BE PURCHASED AND PROVIDED BY THE ELECTRICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE. SEE PART II PARAGRAPH 3A, 3D, AND 3E OF THE MECHANICAL SPECIFICATIONS FOR MORE INFORMATION.
5. HALTON 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.
6. ROYAL METAL PRODUCTS START COLLARS - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE START COLLARS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. START COLLARS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
7. SCHWANK INFRARED HEATER PACKAGE - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE HEATER PACKAGE DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. HEATERS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
8. BROMIC ELECTRIC HEATER - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE HEATER DIRECTLY FROM BROMIC HEATING USA. CONTACT MR. BLAKE RUSSIE AT 858-381-4850 FOR PRICING AND AVAILABILITY. HEATERS NOT PURCHASED THRU BROMIC HEATING USA WILL NOT BE ACCEPTED.
9. TRANE EQUIPMENT - CONTACT MR. SCOTT ROWLEY AT 630-200-7155 FOR PRICING, ORDERING AND AVAILABILITY. TRANE EQUIPMENT NOT PURCHASED THRU TRANE NATIONAL ACCOUNTS WILL NOT BE ACCEPTED.

VENTILATION CALCULATIONS					
ZONE	PEOPLE OUTDOOR AIR RATE (Rp)	ZONE POPULATION (Pz)	AREA OUTDOOR AIR RATE (Ra)	ZONE FLOOR AREA (Az)	OUTDOOR AIRFLOW RATE REQ'D (Vbz)
CORRIDOR (ENTRYWAYS)	--	--	0.06	211	13
SALES (SERVING AREA)	7.5	12	0.12	767	182
DINING (CAFETERIA, FAST FOOD)	7.5	136	0.18	1364	1266
OFFICE	5	1	0.06	68	9
STORAGE	--	--	0.12	231	28
TEAM MEMBER (RECEPTION)	5	5	0.06	171	35
KITCHEN	7.5	24	0.12	1221	327
ZONE 1 - KITCHEN = 327 CFM. 327 CFM (Vbz) / 0.8 = 409 CFM (Voz) AC#1 PROVIDES 1,750 CFM OUTSIDE AIR TO ZONE 1. ZONE 2 - SALES (SERVING AREA) = 182 CFM. 182 CFM (Vbz) / 0.8 = 228 CFM (Voz) AC#2 PROVIDES 900 CFM OUTSIDE AIR TO ZONE 2. ZONE 3 - DINING + CORRIDORS = 1,279 CFM. 1,279 CFM (Vbz) / 0.8 = 1,599 CFM (Voz) AC#3 PROVIDES 1,600 CFM OUTSIDE AIR TO ZONE 3. ZONE 4 - TEAM MEMBER (RECEPTION) + STORAGE + OFFICE = 72 CFM. 72 CFM (Vbz) / 0.8 = 90 CFM (Voz) AC#4 PROVIDES 500 CFM OUTSIDE AIR TO ZONE 4. KITCHEN IS 1,221 SQUARE FEET. AT 0.70 CFM EXHAUST REQUIRED PER SQ. FT. KITCHEN IS REQUIRED TO EXHAUST 855 CFM. KITCHEN EXHAUSTS 3,315 CFM. CALCULATIONS ARE BASED ON TABLE 403.3.3.1, 2018 INTERNATIONAL MECHANICAL CODE. (FOR OA RATE: Vbz = RpPz + RaAz    FOR ZONE OA RATE: Voz = Vbz/0.8)					

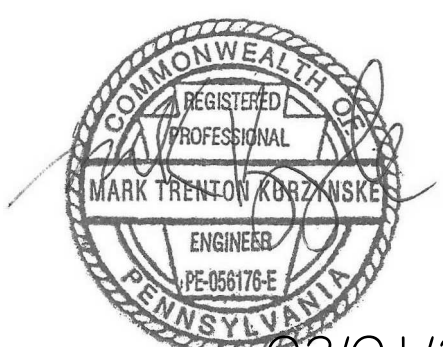


Chick-fil-A

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



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



02/01/23

CHICK-FIL-A  
SHEPHERDSTOWN  
CROSSING FSR  
219 GETTYSBURG PIKE  
MECHANICSBURG, PA 17055

FSR#05272

BUILDING TYPE / SIZE: P14 SE LRG  
RELEASE: 22.08  
PRINTED FOR: CONSTRUCTION

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

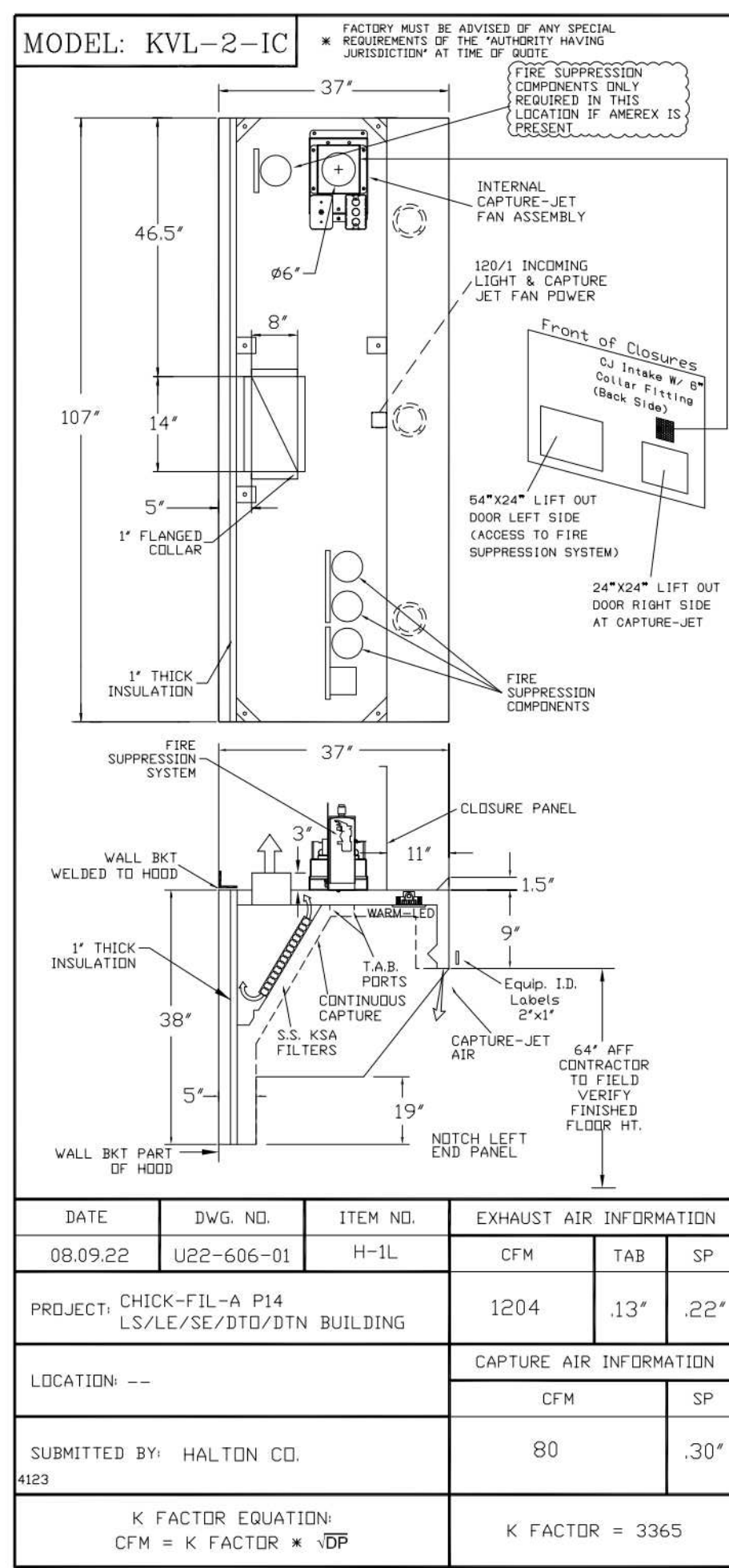
SHEET: MECHANICAL SPECIFICATIONS

CONSULTANT PROJECT # 22113.EH.S  
DATE 01/06/2023  
DRAWN BY BLM

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SHEET: MECHANICAL SPECIFICATIONS  
SHEET NUMBER

M-901

Autodesk Docs://PA\_05272\_Shepherdstown Crossing\_2022.9\_FSR/05272\_Shepherdstown Crossing\_MEC.rvt  
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30-SE-05272-M-901-MECHANICAL SPECIFICATIONS



**MODEL: KVL-2-1C**

STANDARD FEATURES

- S.S. FILTERS (KSA) 5
- 1/2 S.S. FILTERS (KSA) 1
- CAPTURE-JET \*
- STAND-OFF \*
- L.E.D. LIGHTS 3

OPTIONS

- REMOTE SWITCH PANEL \*
- FIRE PROTECTION \*
- ETL LISTED W/DO EXHAUST DAMPER \*
- CEILING CLOSURE 2
- STD. BACKSPASH 2
- INSULATED BACKSPASH \*
- KBD DAMPER \*

MATERIAL

EXPOSED SURFACES 18 GA. S.S.

COMMENTS: CLOSURE HEIGHT = 51" (TWO SIDES) CEILING HEIGHT = 122" FROM FRONT TO CREATE SHELF FRONT CLOSURE PANEL WITH 64"x24" LIFT OUT DOOR LEFT SIDE (ACCESS TO FIRE SUPPRESSION) 24"x24" LIFT OUT DOOR RIGHT SIDE AT CAPTURE-JET CONTINUOUS CAPTURE INTERNAL RIGHT END OUTLET NOTCHED LEFT END PANEL

EQUIPMENT COVERED (2) FRYERS

FIRE SUPPRESSION WEIGHT = ANSUL 69 LBS / AMEREX 26 LBS HOOD WEIGHT = 969 LBS

DATE: 08.09.22 DWG. NO.: U22-606-01 ITEM NO.: H-1L EXHAUST AIR INFORMATION: CFM 1204 TAB SP .22

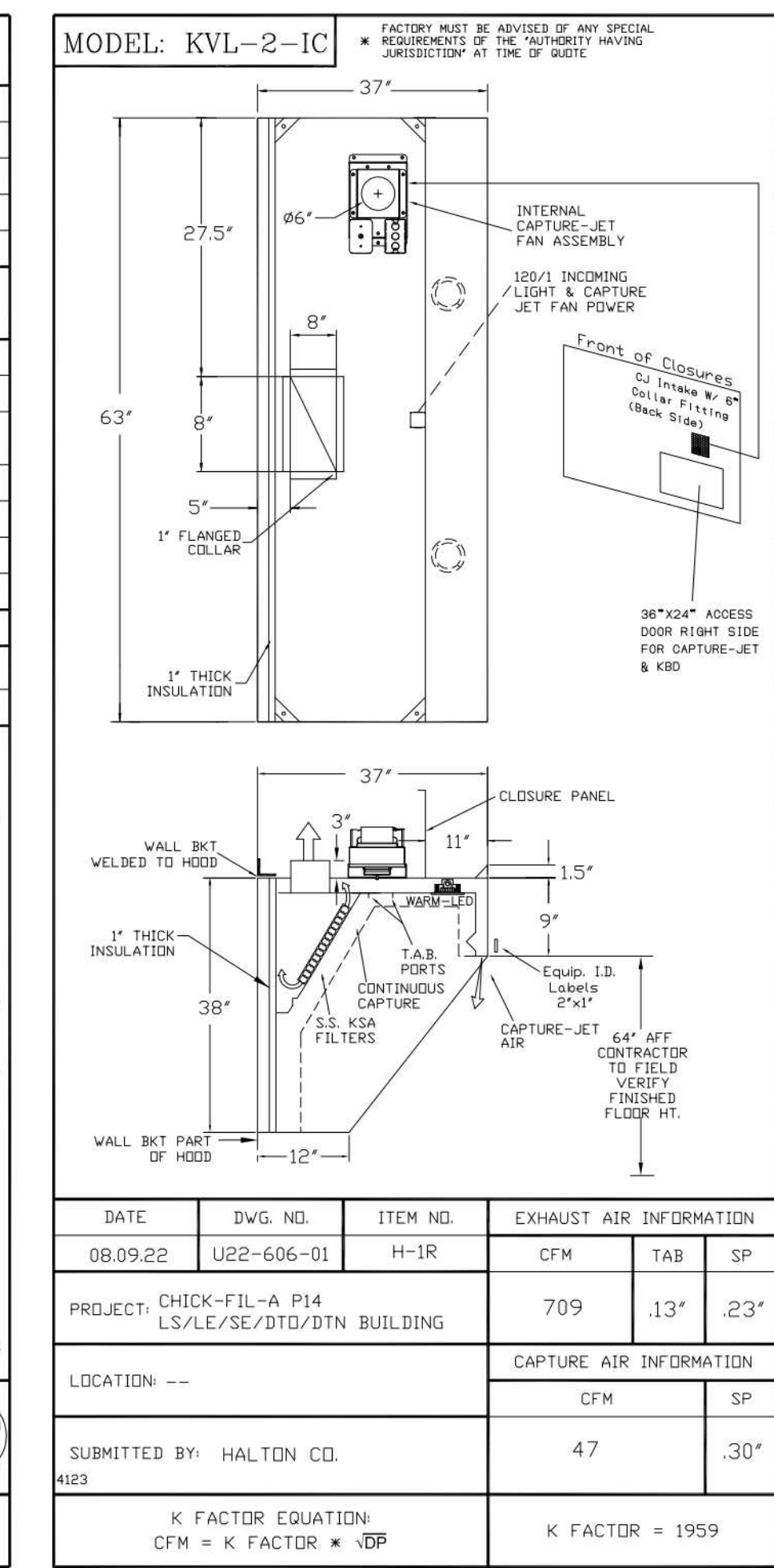
PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING

LOCATION: --- CAPTURE AIR INFORMATION: CFM 80 SP .30

SUBMITTED BY: HALTON CO. 4123

K FACTOR EQUATION: CFM = K FACTOR \* VDP

K FACTOR = 3365



**MODEL: KVL-2-1C**

STANDARD FEATURES

- S.S. FILTERS (KSA) 3
- 1/2 S.S. FILTERS (KSA) 1
- CAPTURE-JET \*
- STAND-OFF \*
- L.E.D. LIGHTS 2

OPTIONS

- REMOTE SWITCH PANEL \*
- FIRE PROTECTION \*
- ETL LISTED W/DO EXHAUST DAMPER \*
- CEILING CLOSURE 2
- STD. BACKSPASH 2
- INSULATED BACKSPASH \*
- KBD DAMPER \*

MATERIAL

EXPOSED SURFACES 18 GA. S.S.

COMMENTS: CLOSURE HEIGHT = 51" (TWO SIDES) CEILING HEIGHT = 122" FROM FRONT TO CREATE SHELF FRONT CLOSURE PANEL WITH 64"x24" LIFT OUT DOOR LEFT SIDE (ACCESS TO FIRE SUPPRESSION) 24"x24" LIFT OUT DOOR RIGHT SIDE FOR ACCESS TO CAPTURE-JET W/ FRONT C/J INTAKE & KBD CONTINUOUS CAPTURE INTERNAL LEFT END OUTLET 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION EQUIPMENT COVERED (3) FRYERS

EQUIPMENT COVERED (2) FRYERS

FIRE SUPPRESSION WEIGHT = ANSUL 69 LBS / AMEREX 26 LBS HOOD WEIGHT = 994 LBS

DATE: 08.09.22 DWG. NO.: U22-606-01 ITEM NO.: H-1R EXHAUST AIR INFORMATION: CFM 709 TAB SP .13 .23

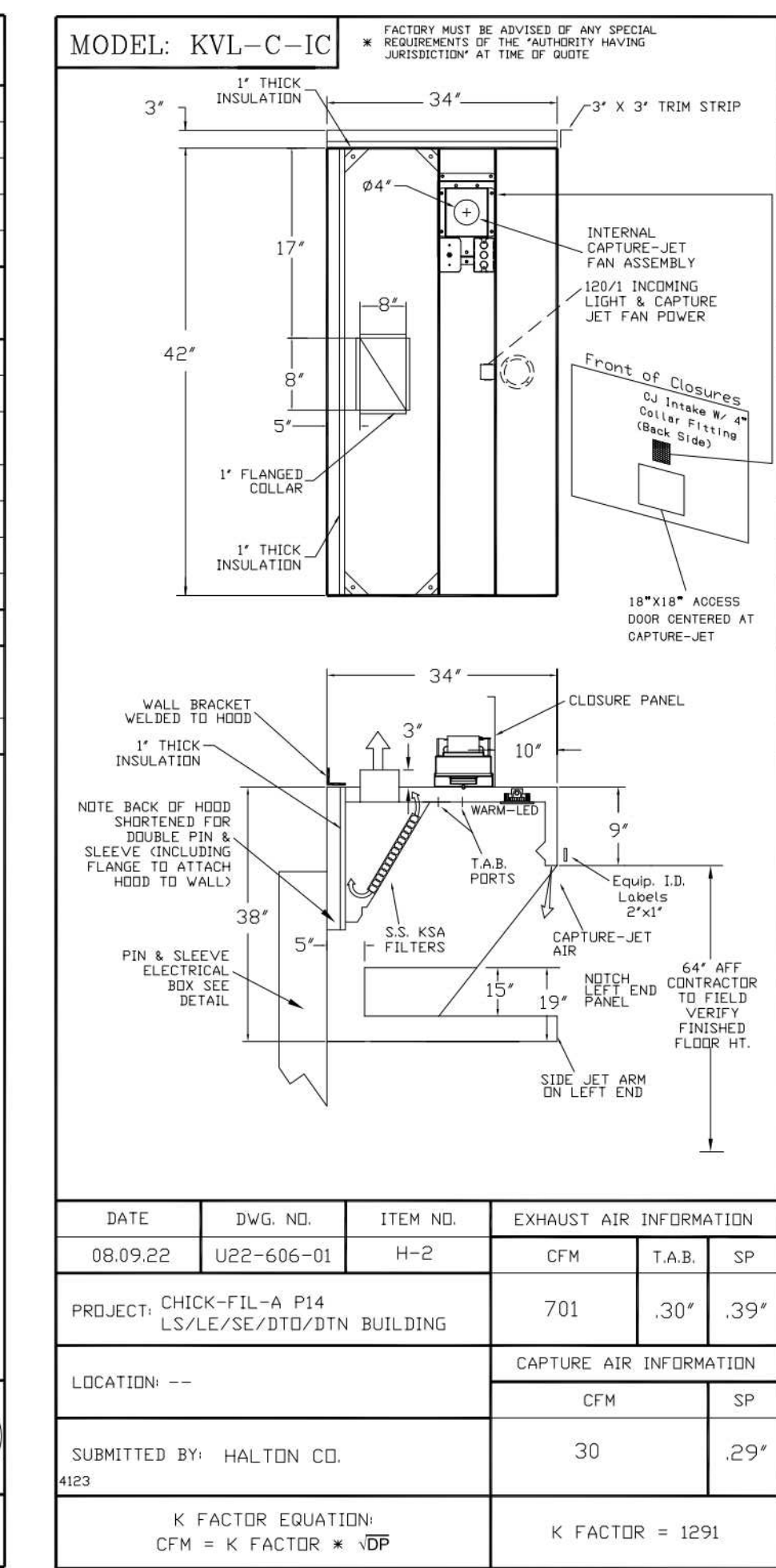
PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING

LOCATION: --- CAPTURE AIR INFORMATION: CFM 47 SP .30

SUBMITTED BY: HALTON CO. 4123

K FACTOR EQUATION: CFM = K FACTOR \* VDP

K FACTOR = 1959



**MODEL: KVL-C-1C**

STANDARD FEATURES

- S.S. FILTERS (KSA) 2
- CAPTURE-JET \*
- STAND-OFF \*
- L.E.D. LIGHTS 1

OPTIONS

- REMOTE SWITCH PANEL \*
- FIRE PROTECTION \*
- ETL LISTED W/DO EXHAUST DAMPER \*
- CEILING CLOSURE 2
- STD. BACKSPASH 2
- INSULATED BACKSPASH \*
- KBD DAMPER \*

MATERIAL

EXPOSED SURFACES 18 GA. S.S.

COMMENTS: CLOSURE HEIGHT = 51" (TWO SIDES) CEILING HEIGHT = 122" FROM FRONT TO CREATE SHELF FRONT CLOSURE PANEL WITH 64"x24" LIFT OUT DOOR LEFT SIDE FOR ACCESS TO CAPTURE-JET W/ FRONT C/J INTAKE NOTCH LEFT END PANEL DOUBLE RECEPTACLE PIN & SLEEVE 3" X 3" TRIM STRIP FOR STAND-OFF ON RIGHT END 3" SIDE & REAR STAND-OFF TO HAVE 1" THICK INSULATION EQUIPMENT COVERED (2) FRYERS

EQUIPMENT COVERED (2) FRYERS

FIRE SUPPRESSION WEIGHT = ANSUL 69 LBS / AMEREX 26 LBS HOOD WEIGHT = 262 LBS

DATE: 08.09.22 DWG. NO.: U22-606-01 ITEM NO.: H-2 EXHAUST AIR INFORMATION: CFM 701 TAB SP .30 .39

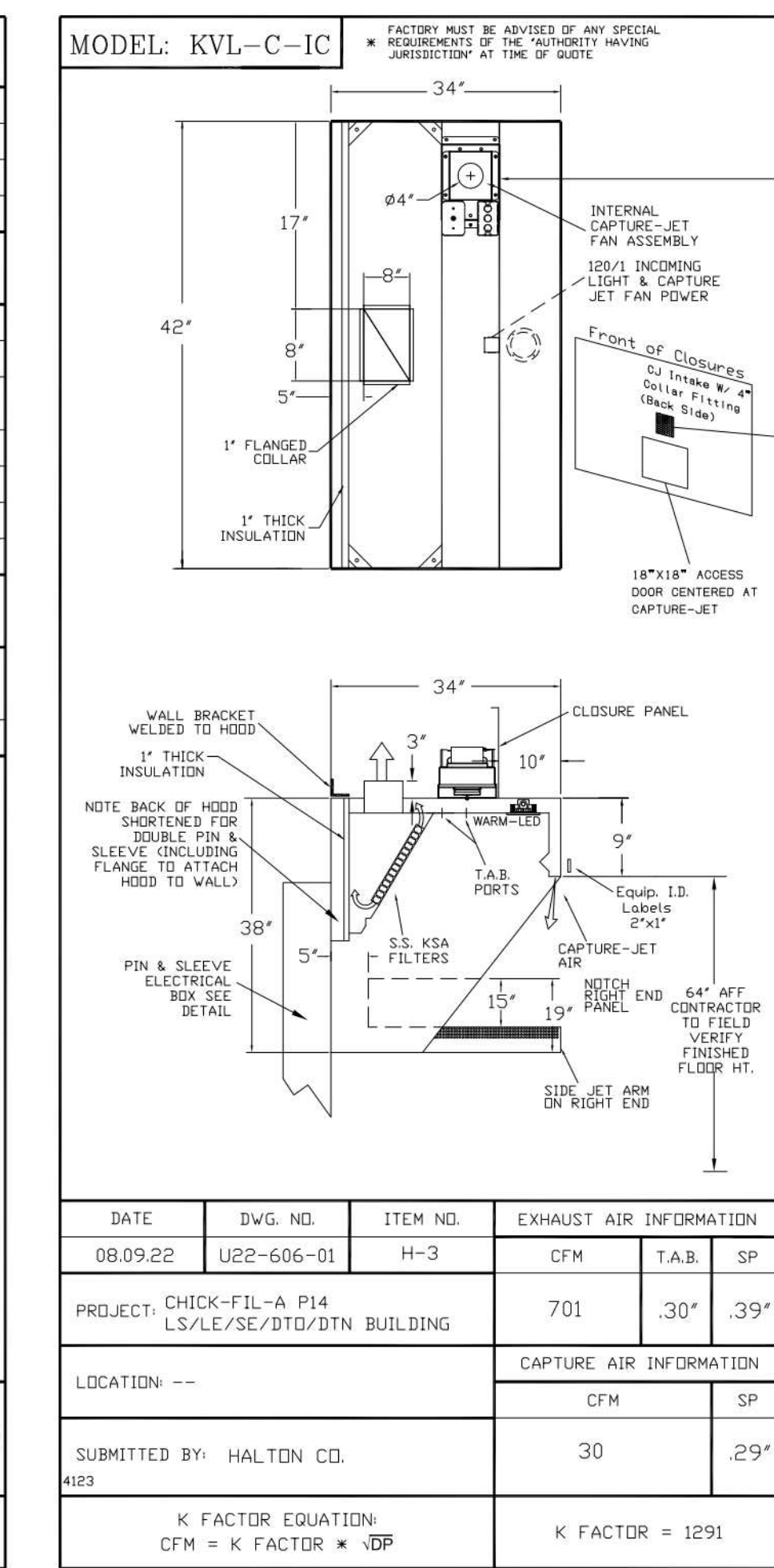
PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING

LOCATION: --- CAPTURE AIR INFORMATION: CFM 30 SP .29

SUBMITTED BY: HALTON CO. 4123

K FACTOR EQUATION: CFM = K FACTOR \* VDP

K FACTOR = 1291



**MODEL: KVL-C-1C**

STANDARD FEATURES

- S.S. FILTERS (KSA) 2
- CAPTURE-JET \*
- STAND-OFF \*
- L.E.D. LIGHTS 1

OPTIONS

- REMOTE SWITCH PANEL \*
- FIRE PROTECTION \*
- ETL LISTED W/DO EXHAUST DAMPER \*
- CEILING CLOSURE 2
- STD. BACKSPASH 2
- INSULATED BACKSPASH \*
- KBD DAMPER \*

MATERIAL

EXPOSED SURFACES 18 GA. S.S.

COMMENTS: CLOSURE HEIGHT = 51" (TWO SIDES) CEILING HEIGHT = 122" FROM FRONT TO CREATE SHELF FRONT CLOSURE PANEL WITH 64"x24" LIFT OUT DOOR LEFT SIDE FOR ACCESS TO CAPTURE-JET W/ FRONT C/J INTAKE NOTCH RIGHT END PANEL DOUBLE RECEPTACLE PIN & SLEEVE 3" REAR SIDE STAND-OFF TO HAVE 1" THICK INSULATION EQUIPMENT COVERED (2) FRYERS

EQUIPMENT COVERED (2) FRYERS

FIRE SUPPRESSION WEIGHT = ANSUL 69 LBS / AMEREX 26 LBS HOOD WEIGHT = 245 LBS

DATE: 08.09.22 DWG. NO.: U22-606-01 ITEM NO.: H-3 EXHAUST AIR INFORMATION: CFM 701 TAB SP .30 .39

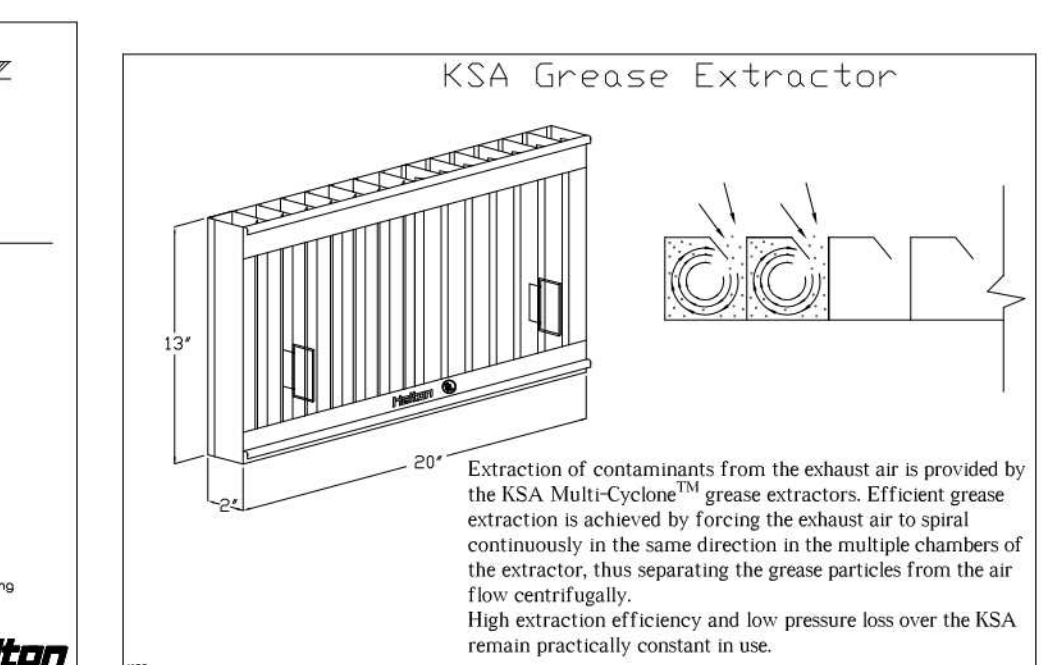
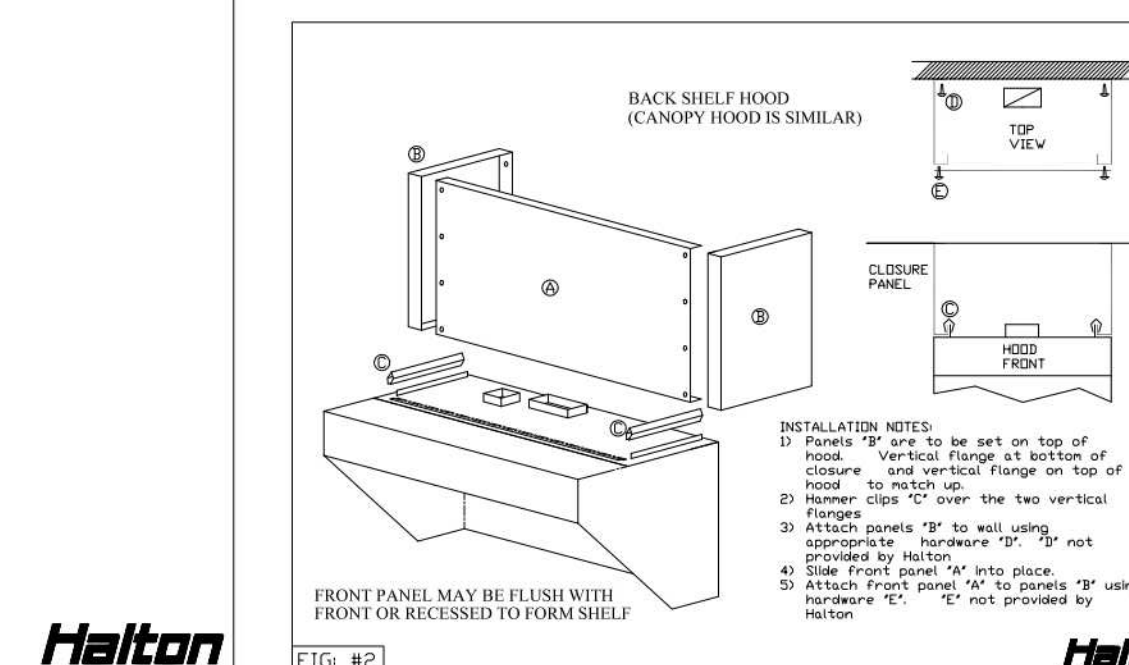
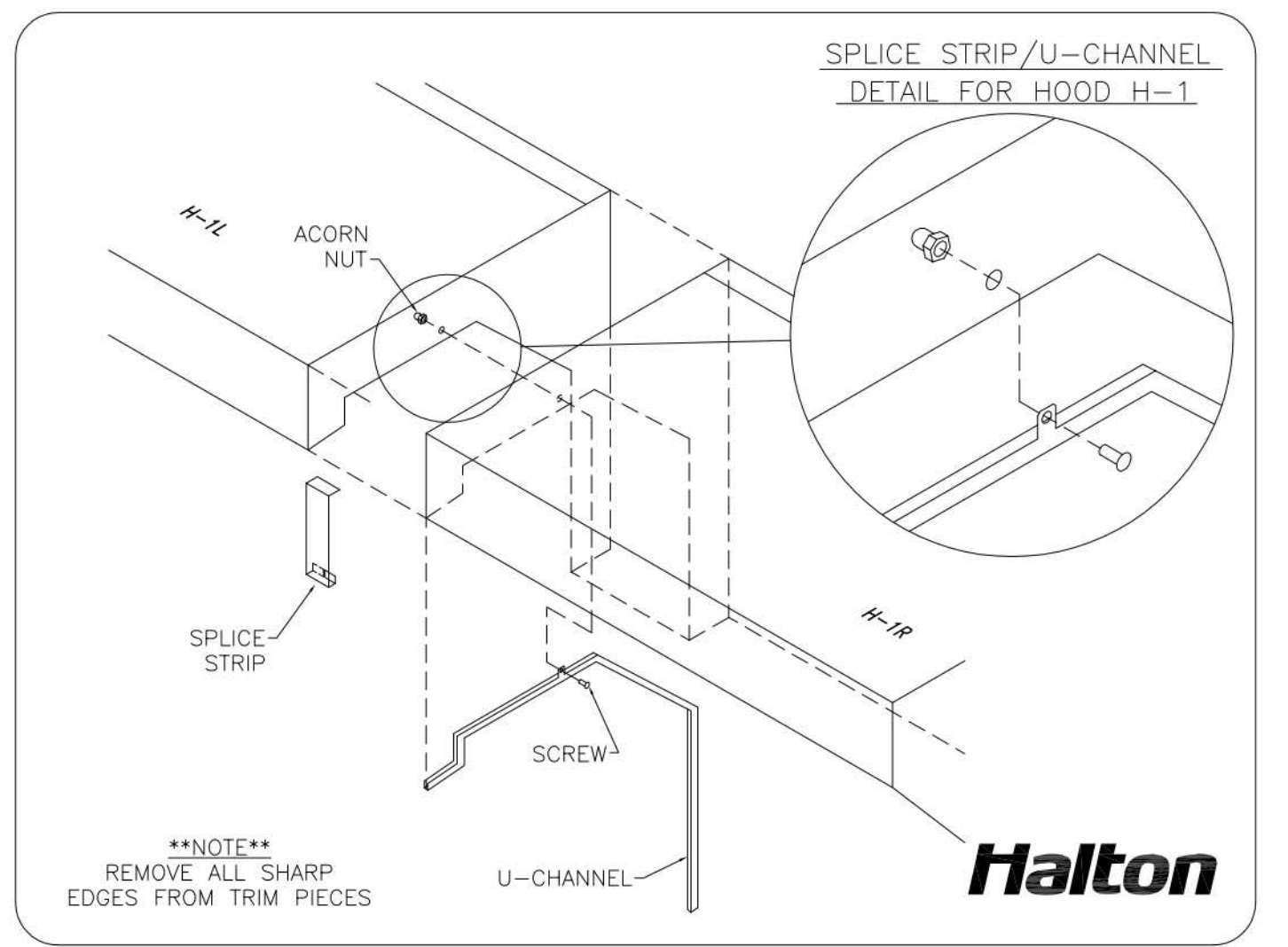
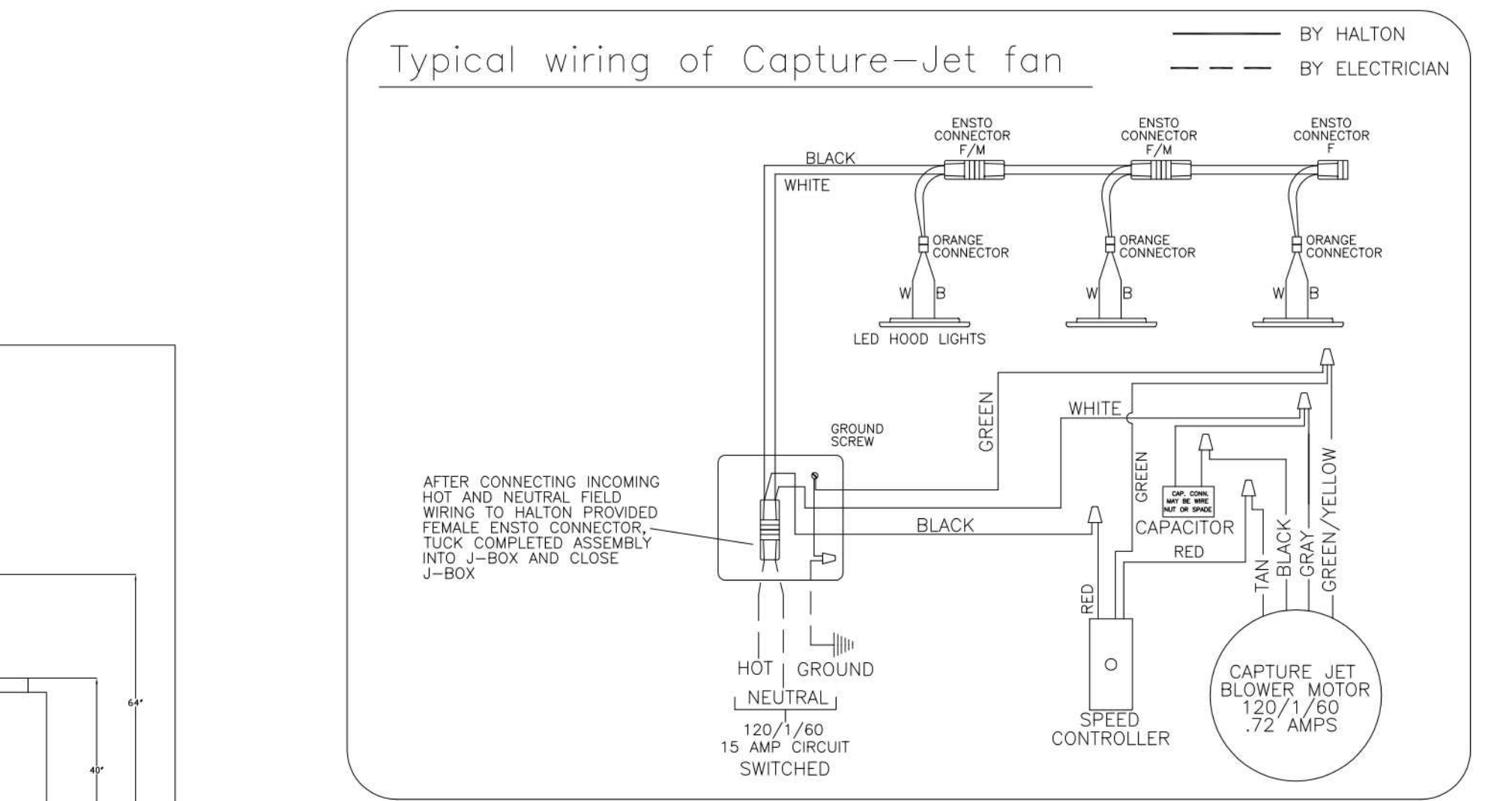
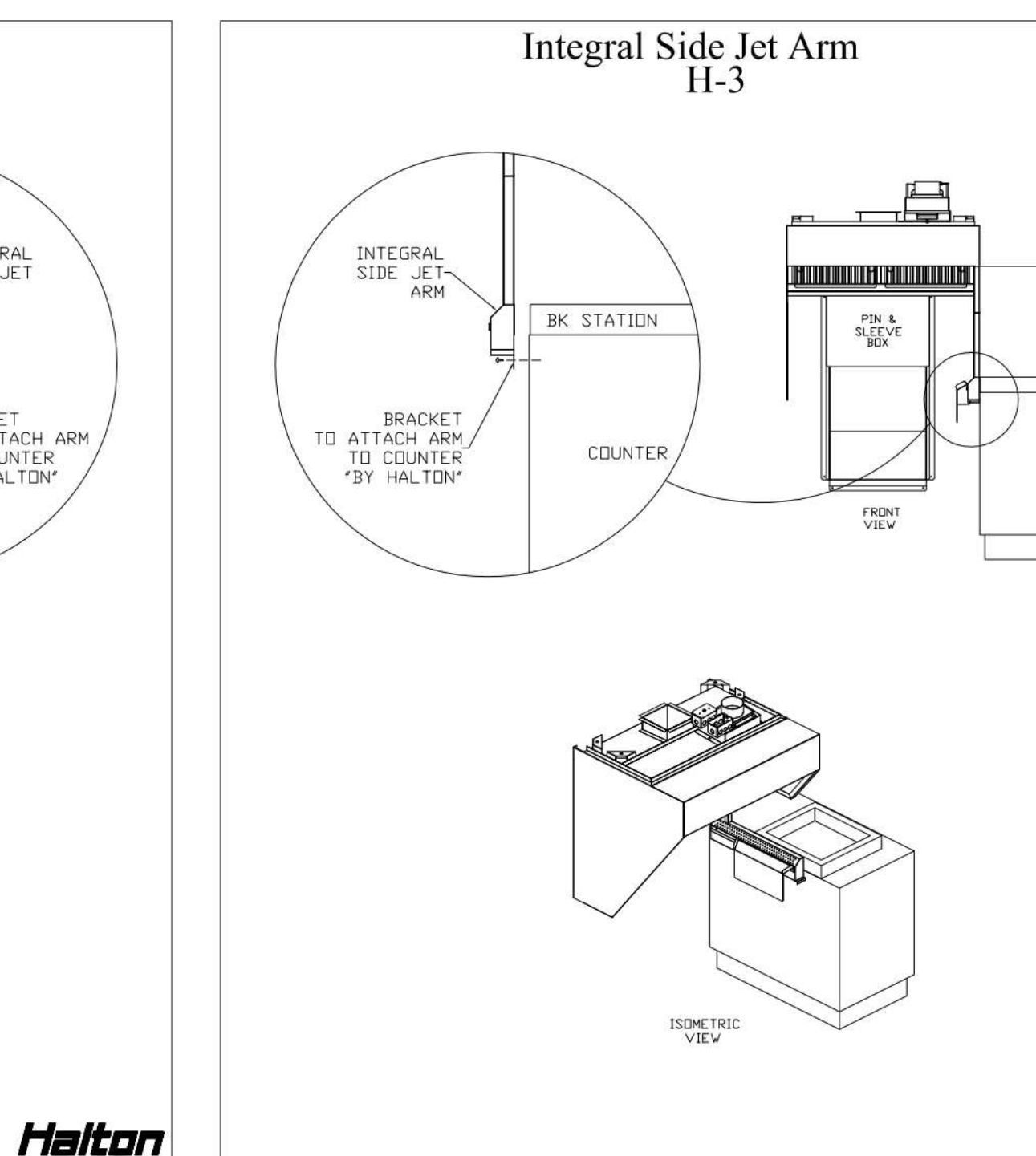
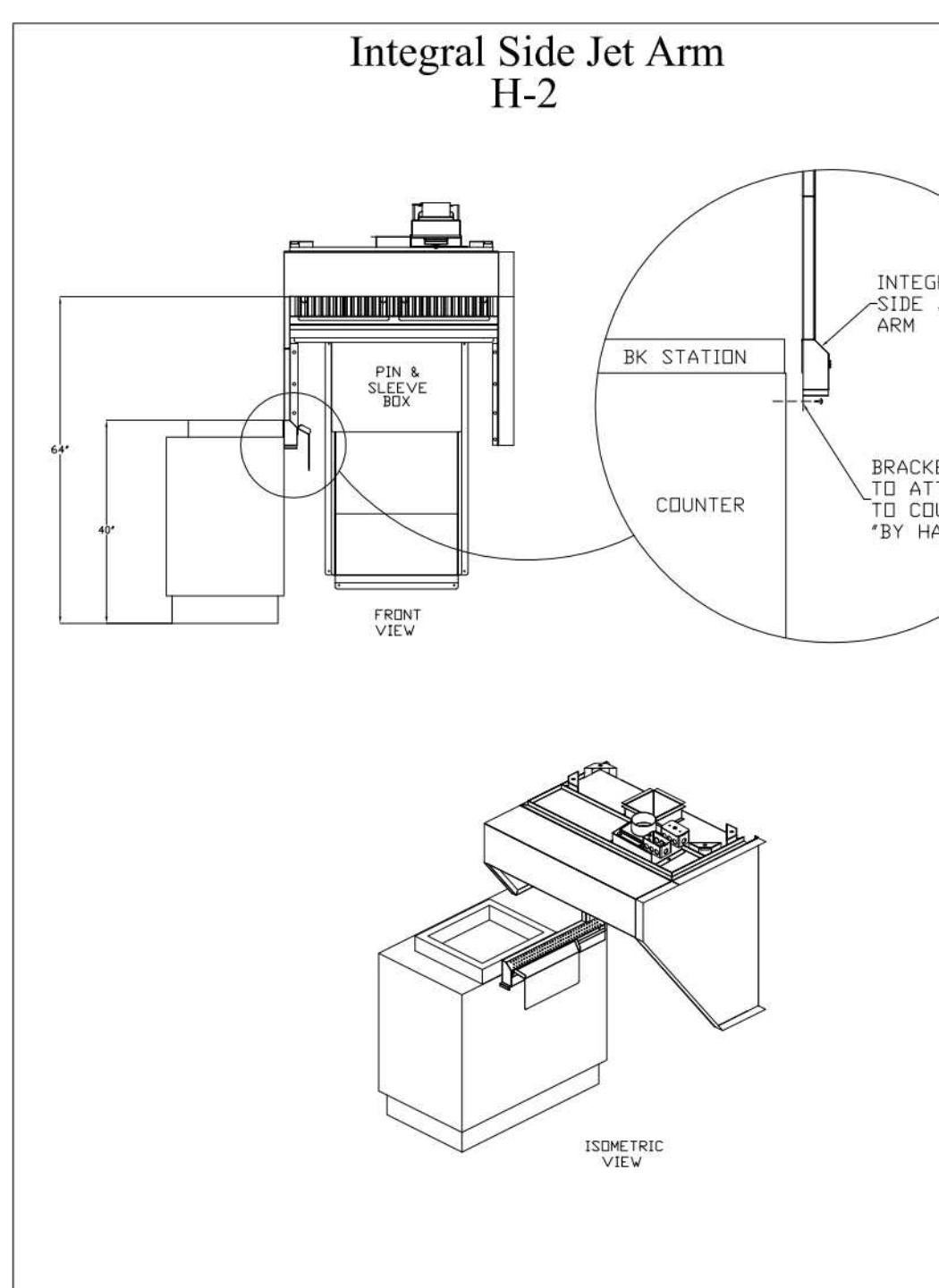
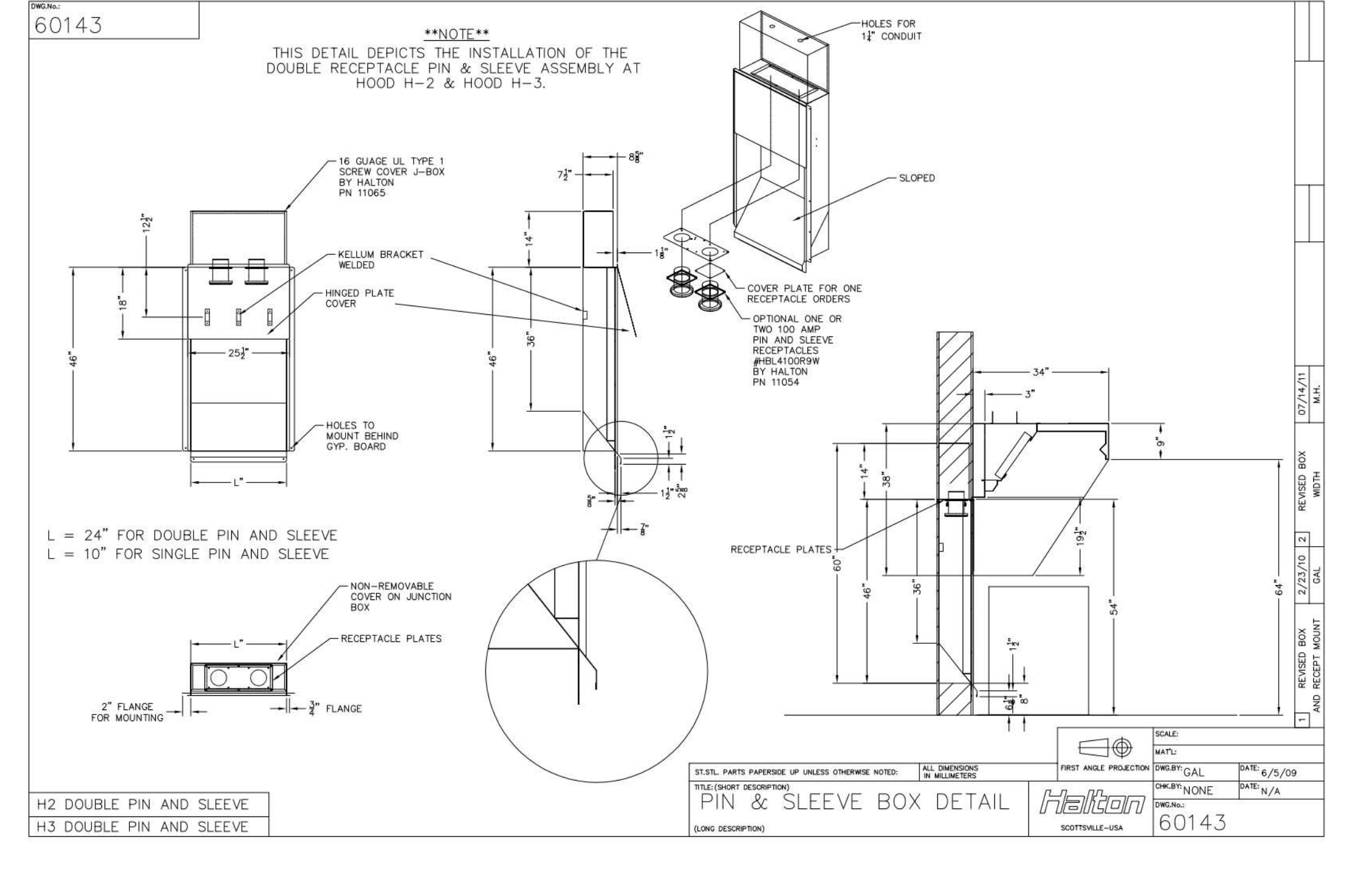
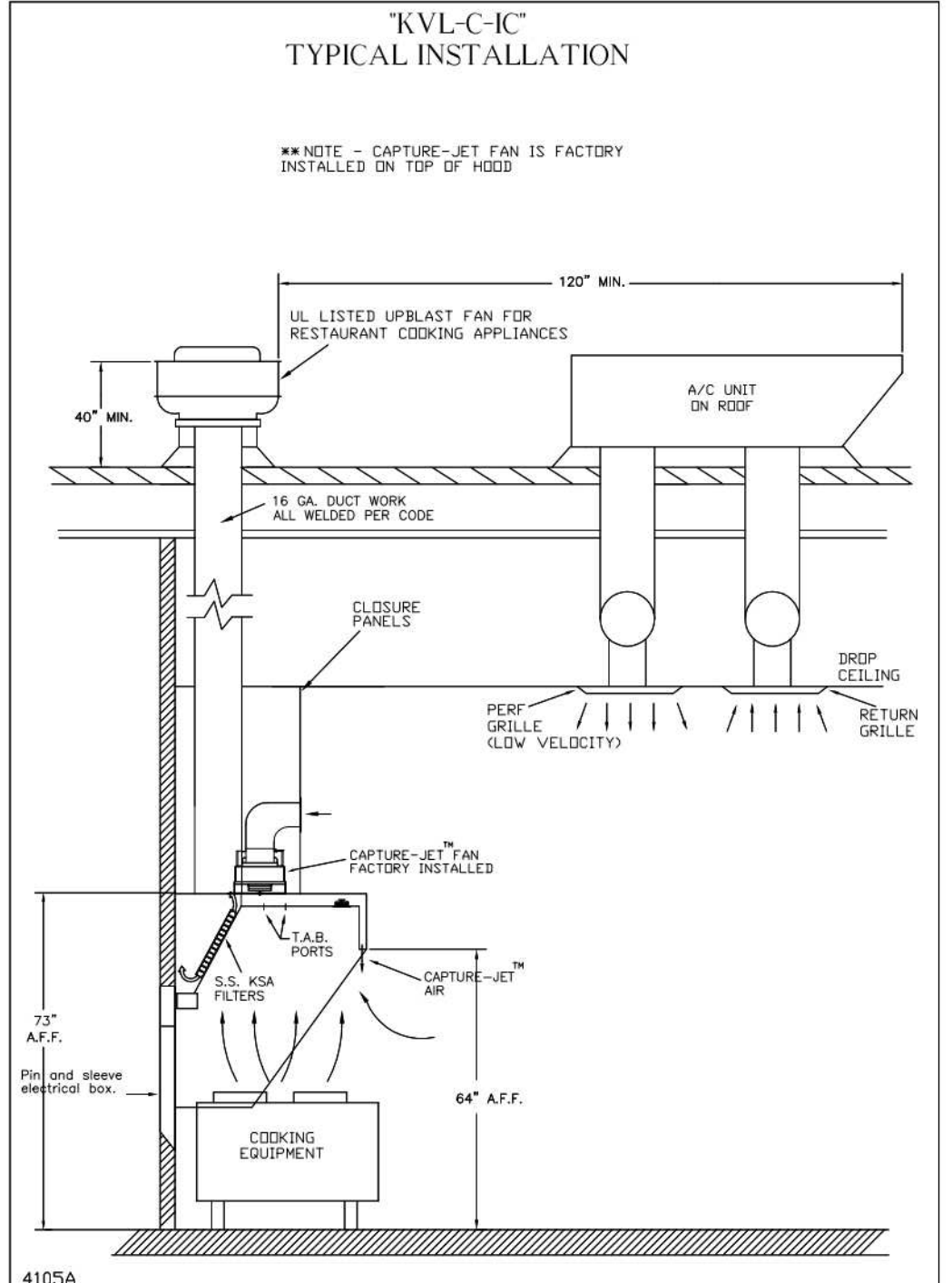
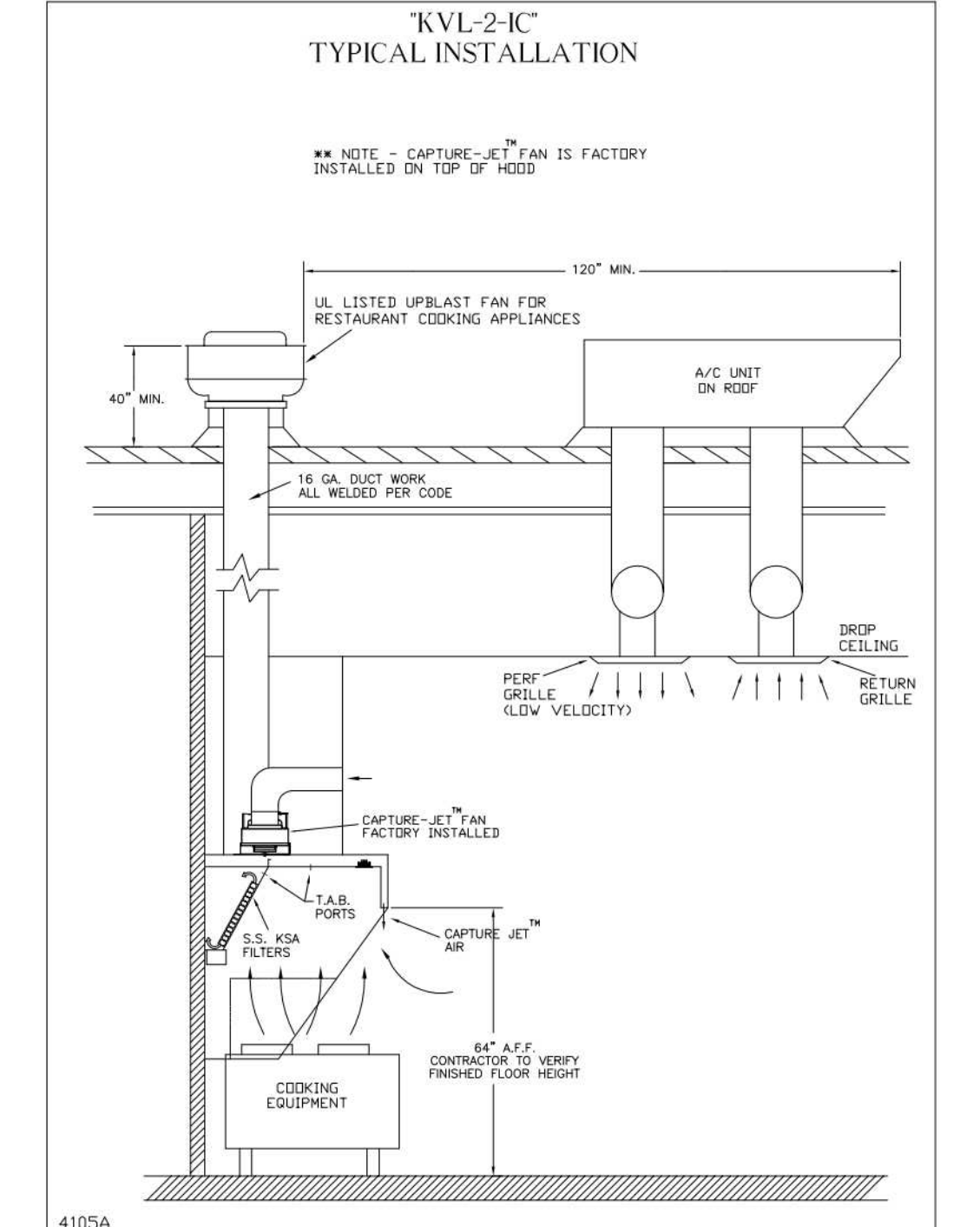
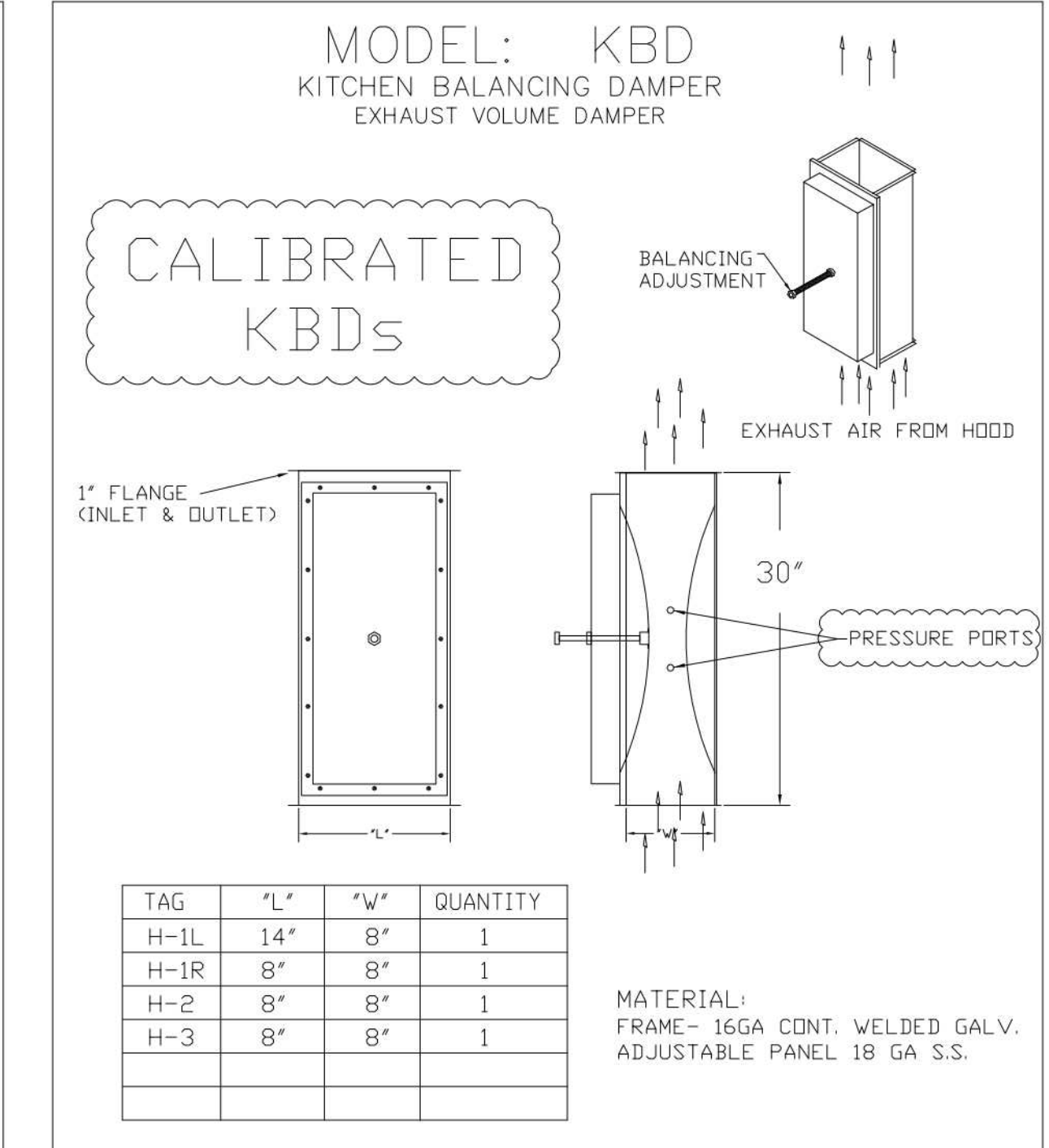
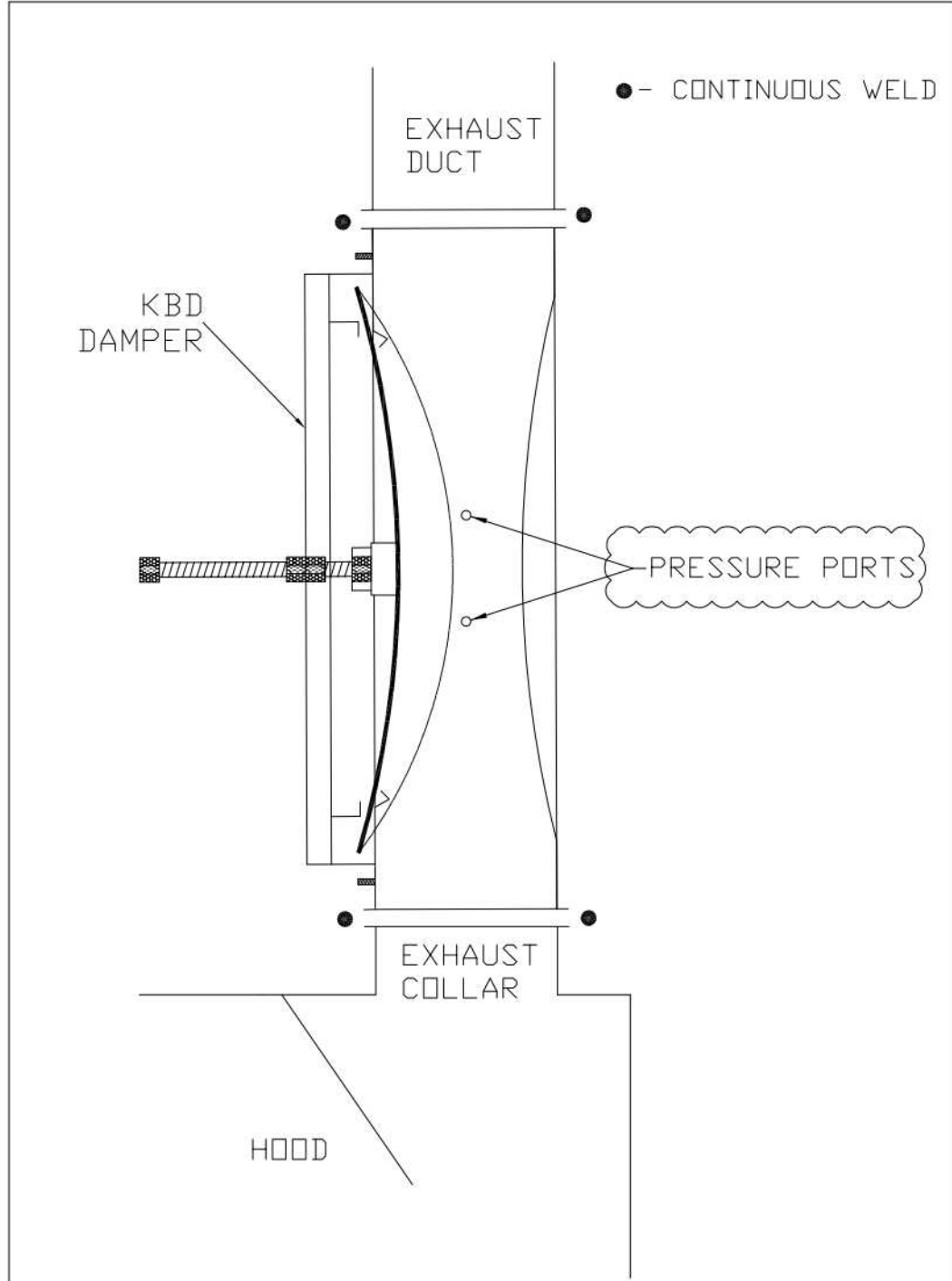
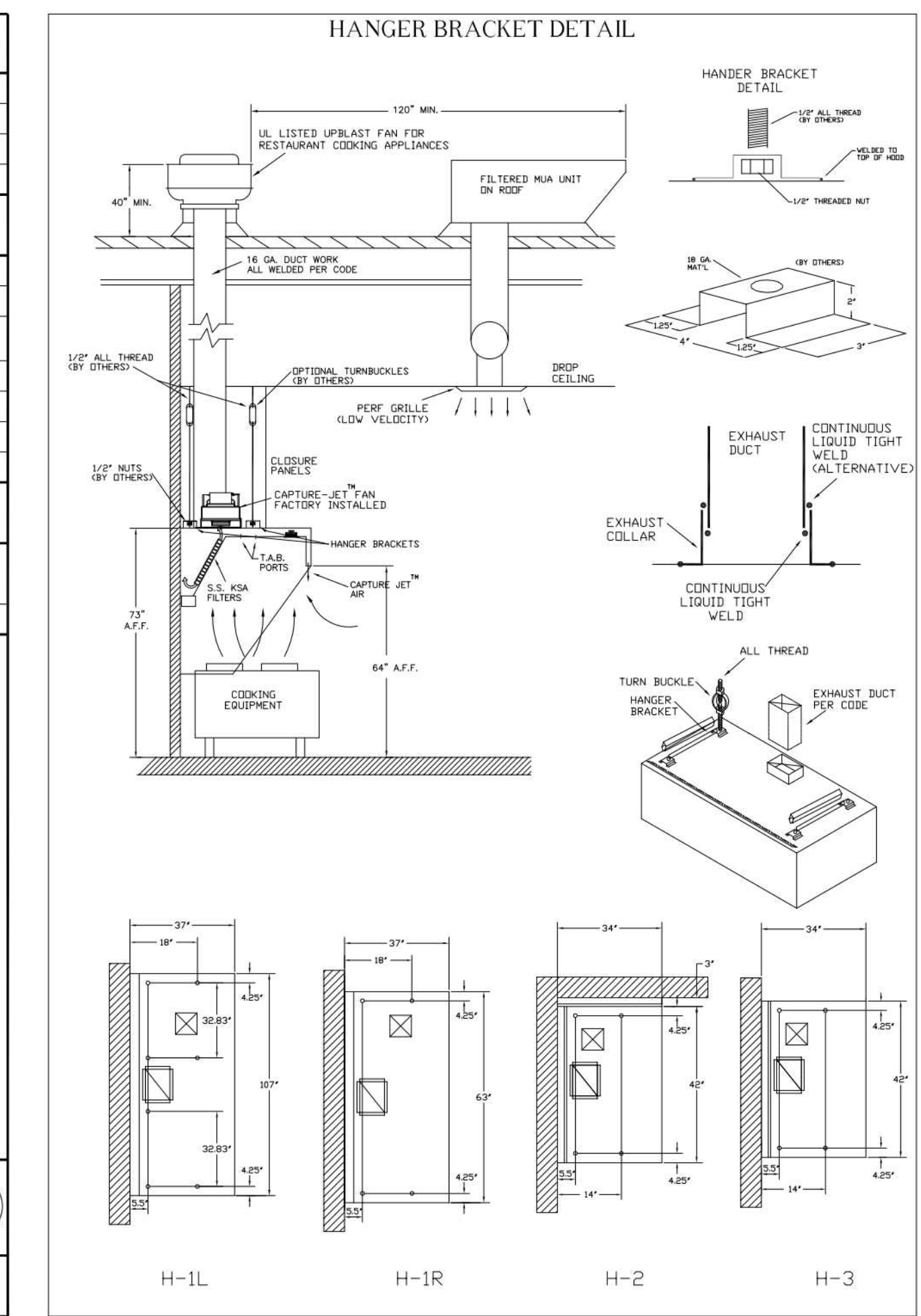
PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING

LOCATION: --- CAPTURE AIR INFORMATION: CFM 30 SP .29

SUBMITTED BY: HALTON CO. 4123

K FACTOR EQUATION: CFM = K FACTOR \* VDP

K FACTOR = 1291



**HALTON HOODS**

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

DUTY LEVEL	MINIMUM OVERHANG	MINIMUM DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE (IN)	MIN. SPACING BETWEEN HOOD LAMEN
MEDIUM	6"	0"	30"
HEAVY	6"	0"	30"
HEAVY	6"	0"	30"

LET SUPPLY AIR FLOW SHALL ONLY BE SET AT 50% IN HED

**NSE Halton**

CONFORMS TO UL LISTED TO UL STD 710 CERTIFIED TO UL STD 5846

INTERTEK

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42664

MODEL NO. SERIAL NO. ITEM NO.

**KVL-2-1C**

GENERAL REQUIREMENTS

EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS

THE HOOD IS BUILT TO MEET THE REQUIREMENTS OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 96.

THE HOOD IS PROVIDED WITH REMOVABLE KSA FILTERS AND LIGHTING FIXTURES. REDUCE COOKING ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND SUITABLE FOR USE TO HEAVY DUTY COOKING APPLIANCES.

DATE: 08.09.22

SCALE: NTS

Halton Dwg: U22-606-01

**Halton**

CARE FOR INDOOR AIR

WEBSITE: WWW.HALTON.COM

HALTON CO. (USA)  
101 INDUSTRIAL DRIVE  
SCOTTSVILLE, KY 42164  
1-270-237-9600

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

PROJECT: CHICK-FIL-A P14 LS/LE/SE/DTO/DTN BUILDING

LOCATION: ---

DATE: 08.09.22

SCALE: NTS

Halton Dwg: U22-606-01

**Halton**

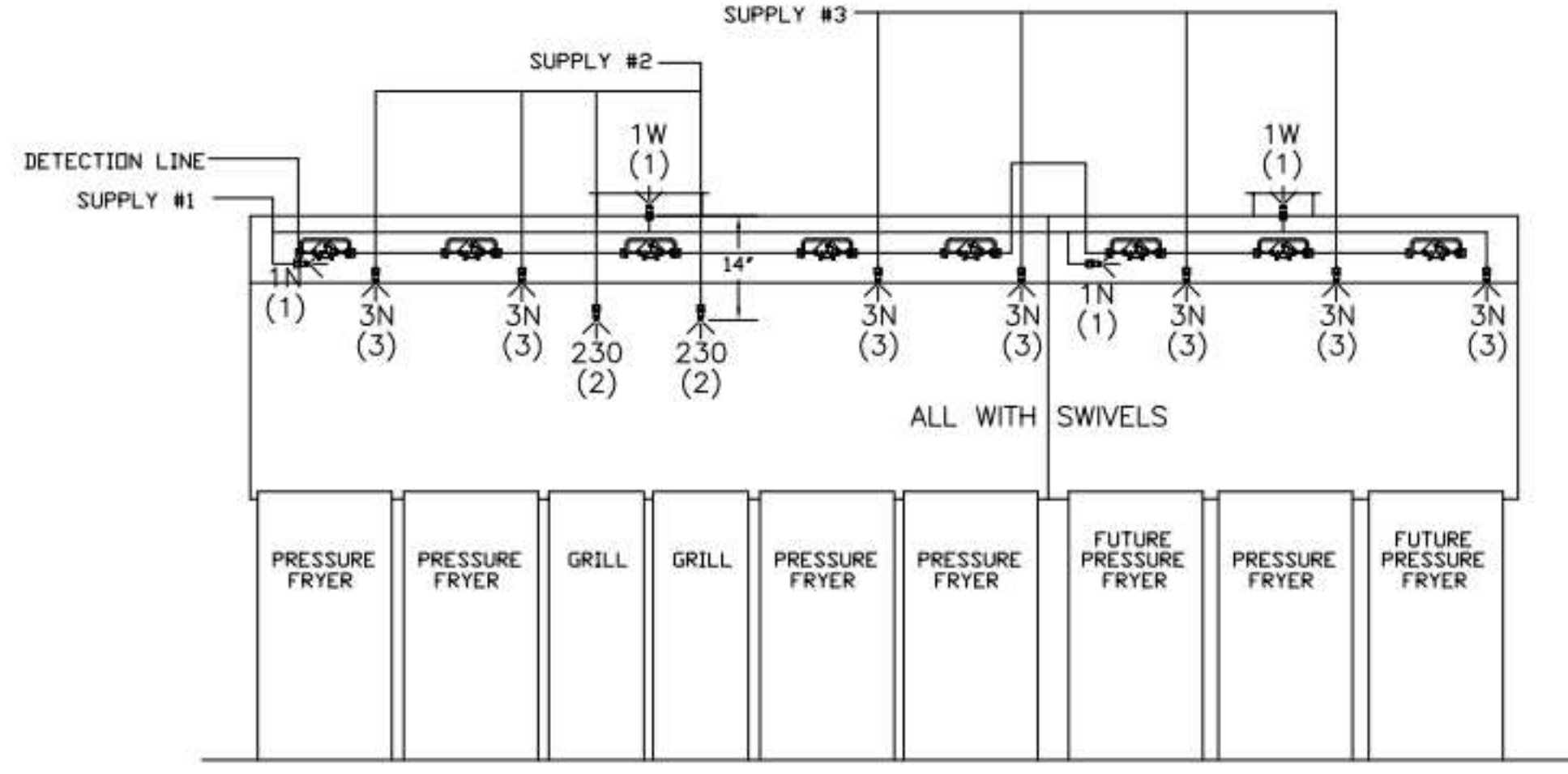
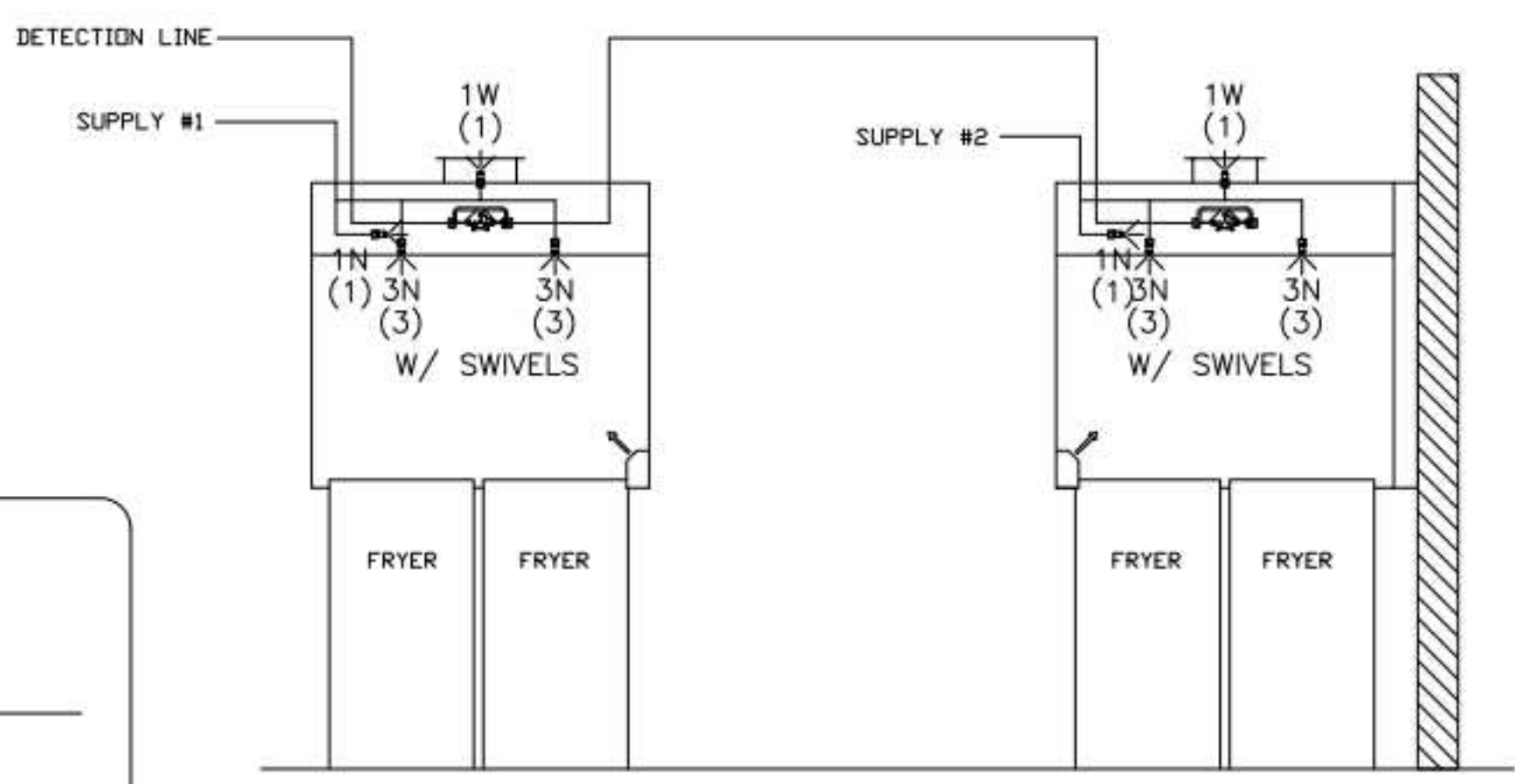
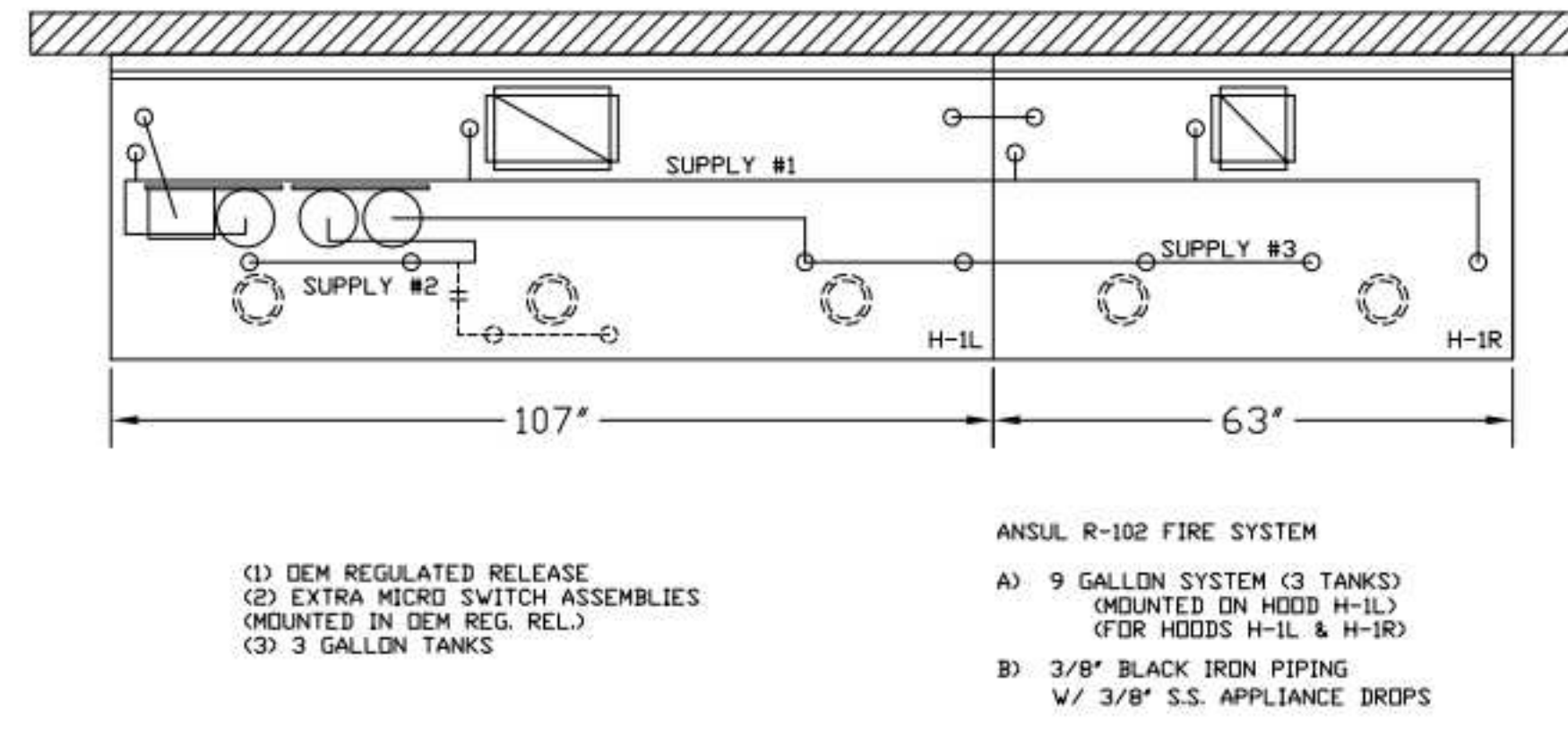
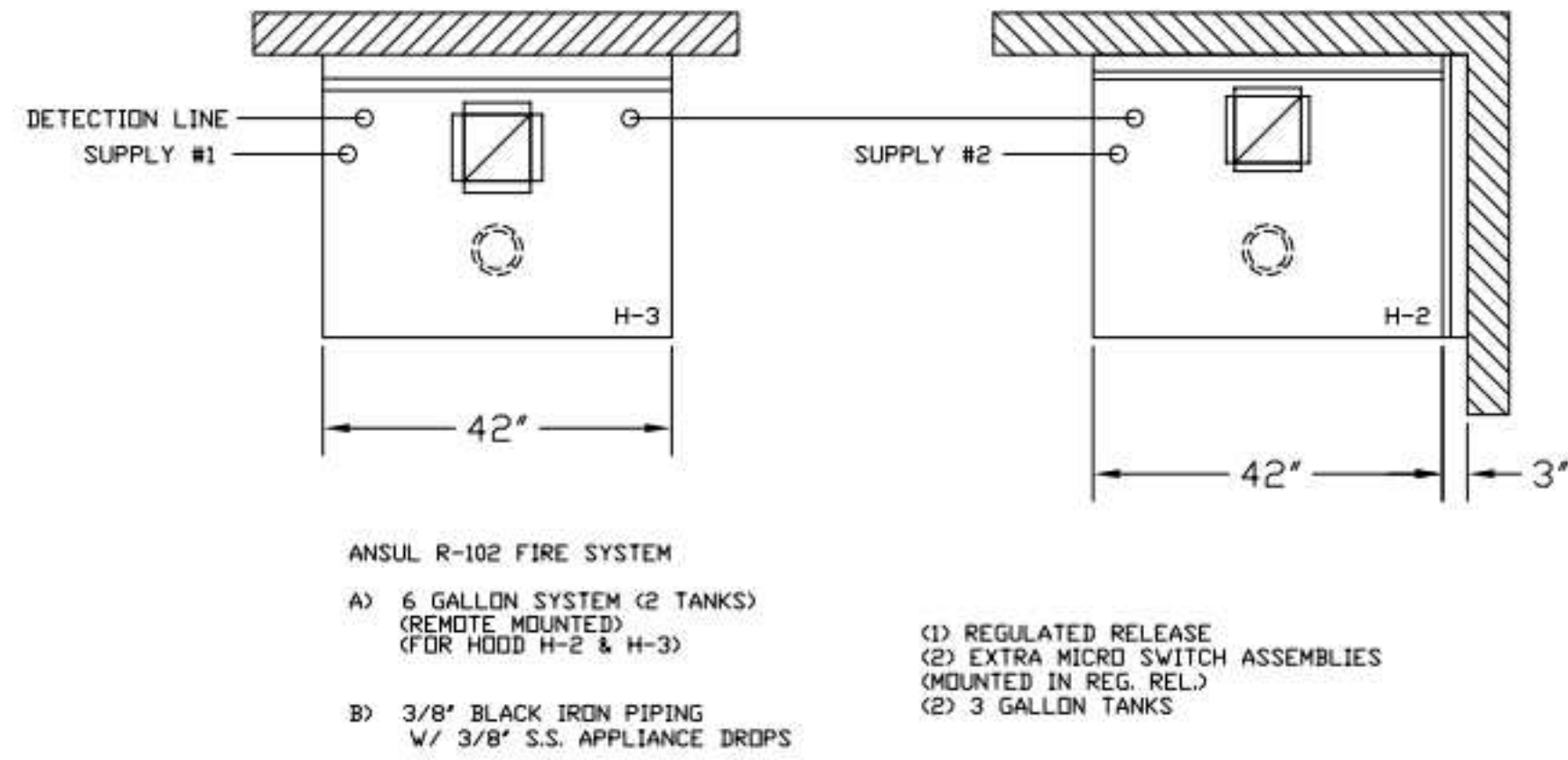
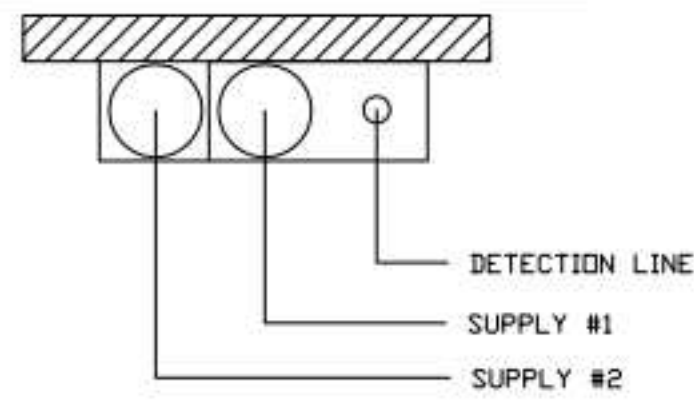
CARE FOR INDOOR AIR

Sheet MH-1.1

**NOTE:**

FIRE SYSTEM TYPE TO BE DETERMINED AT TIME OF ORDER RELEASE.

**\*\*PROTECTS HOODS H-2 & H-3\*\***  
 REMOTE MOUNTED:  
 (1) REGULATED RELEASE (WITH ONE TANK)  
 (1) SINGLE TANK ENCLOSURE (WITH ONE TANK)



FUSIBLE LINK RATINGS

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

ANSUL R-102 FIRE SYSTEM NOTES  
 THREE TANK SYSTEM MOUNTED ON TOP OF (H-1L)  
 MAXIMUM FLOW POINTS = 33

ANSUL R-102 FIRE SYSTEM NOTES  
 TWO TANK SYSTEM REMOTE MOUNTED  
 MAXIMUM FLOW POINTS = 22

ITEM #	QTY	DESCRIPTION	FLOW PTS (TOTAL)
1W	4	DUCT NOZZLES	4
1N	4	PLENUM NOZZLES	4
230	2	APPLIANCE NOZZLES	4
3N	11	APPLIANCE NOZZLES	33
<b>TOTAL FLOW POINTS - 45</b>			

ITEM #	QTY	DESCRIPTION
#200	8	SERIES DETECTORS W/ FUSIBLE LINKS
#201	2	TERMINAL DETECTOR W/ FUSIBLE LINKS
#202	1	DEM REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH
#202	1	REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH
#203	5	3 GALLON TANKS
#204	1	SINGLE TANK ENCLOSURE
#205	2	REMOTE PULL STATION

ANSUL R-102 FIRE SYSTEM  
 UL LISTED PER STD LATEST STD 300  
 1. FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICABLE CODES  
 2. ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN. MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY ANSUL INSTALLER  
 3. REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS



THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFY THE FOLLOWING:  
 1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS  
 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.  
 REVISE AND RESUBMIT  
 APPROVED FOR FABRICATION  
 WITH NO CHANGES  
 WITH CHANGES AS NOTED  
 DATE

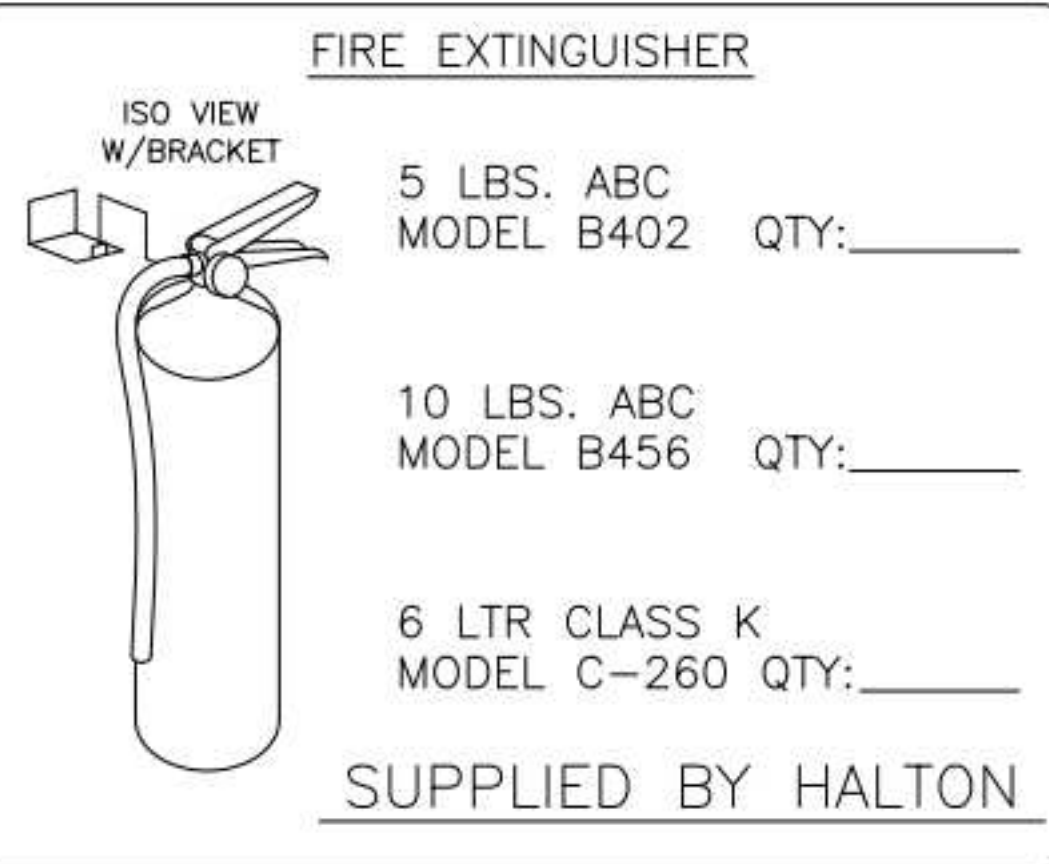


REV.	DATE	BY
1		
2		
3		
4		
5		
6		
7		

WEBSITE: WWW.HALTON.COM  
 HALTON CO. (USA)  
 101 INDUSTRIAL DRIVE  
 SCOTTSDALE, KY 42164  
 1-270-237-9600

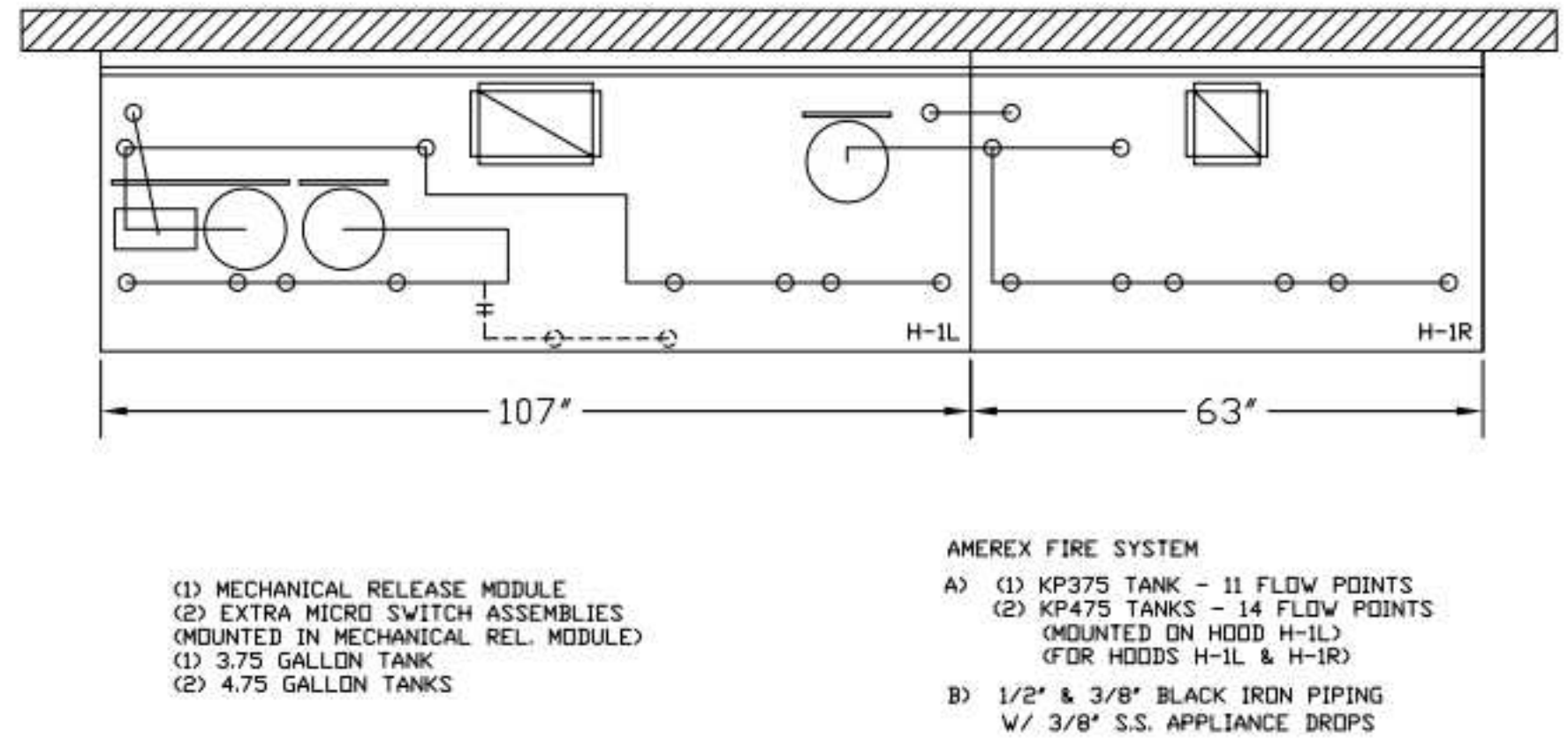
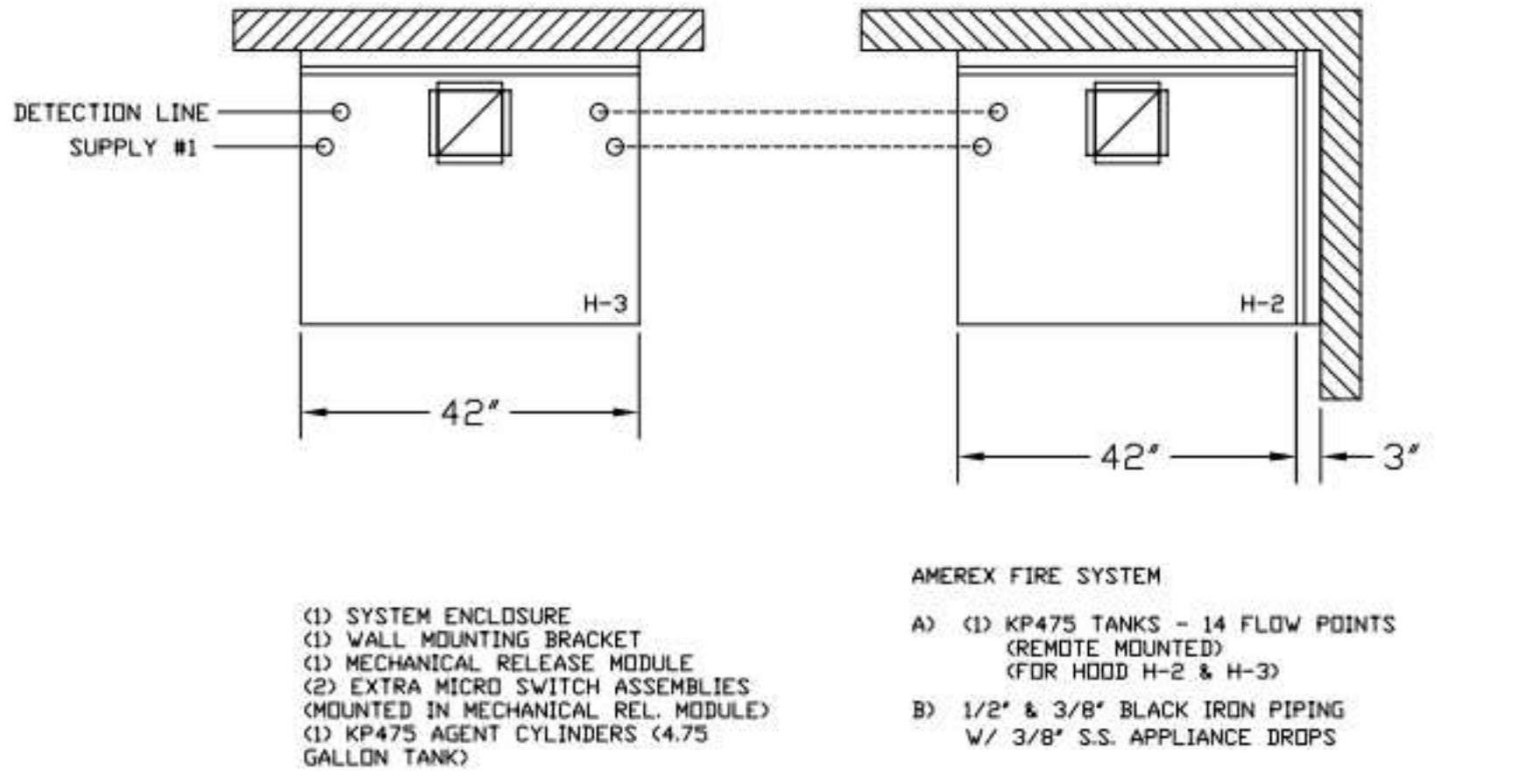
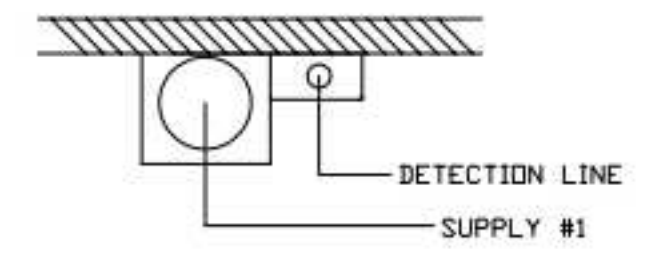
MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:  
 HALTON CO. (CANADA)  
 1021 BREVK PLACE 3R7  
 MISSISSAUGA, ON L4W 1L9  
 1-905-624-0301

PROJECT: CHICK-FIL-A P14  
 LS/LE/SE/DTO/DTN BUILDING  
 LOCATION: ---  
 DRAWN BY: CG DATE: 08.09.22  
 SCALE: NTS  
 Halton Dwg: U:22-606-02FS  
**Halton**  
 CARE FOR INDOOR AIR  
 Sheet MH-1.2



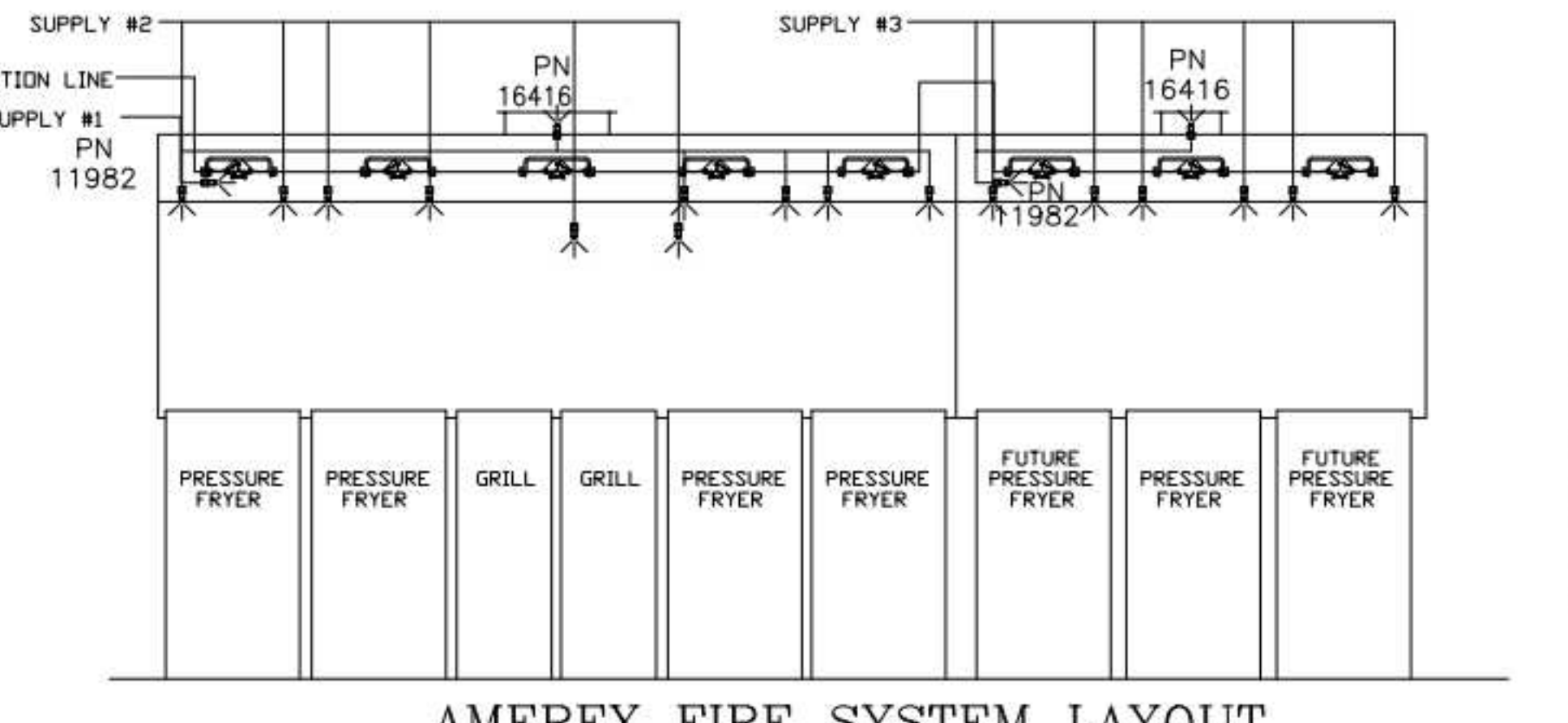
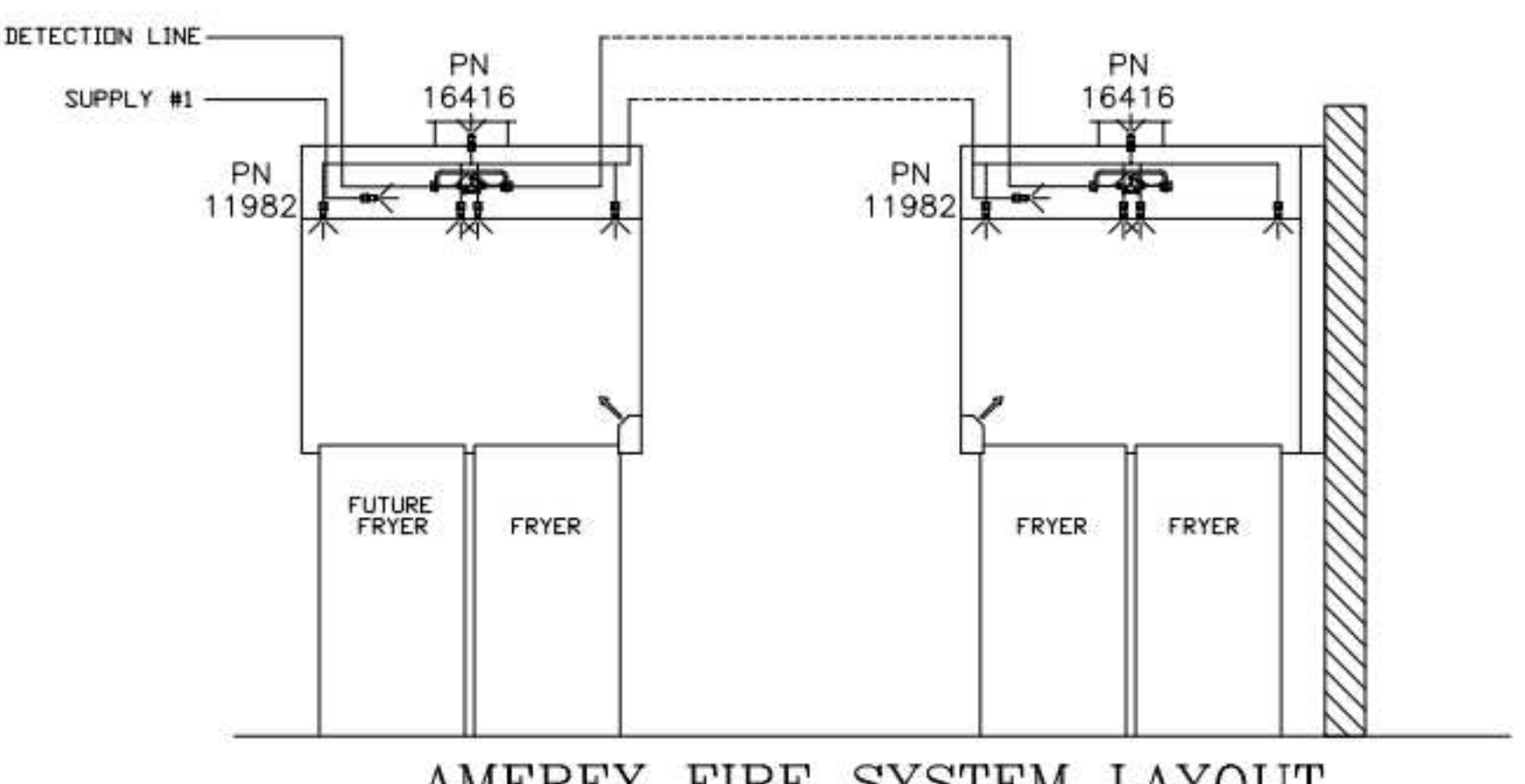
1/2" BLACK IRON SUPPLY LINE REQ'D FROM TANK TO FIRST BRANCH LINE FOR 475 TANKS ONLY!

**\*\*PROTECTS HOODS H-2 & H-3\*\***  
 REMOTE MOUNTED:  
 (1) SYSTEM ENCLOSURE  
 (1) WALL MOUNTING BRACKET  
 (1) MECHANICAL RELEASE MODULE  
 (1) KP475 AGENT CYLINDER (4.75 GALLON TANK)



ALL APPLIANCE NOZZLES FOR H-2 & H-3 ARE PN 11982 NOZZLES W/ SWIVELS.

ALL APPLIANCE NOZZLES FOR PRESSURE FRYERS ARE PN 13729 NOZZLES W/ SWIVELS. ALL GRILL NOZZLES ARE 14178 NOZZLES W/ SWIVELS.



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  
 (1) KP375 & (2) KP475 TANK SYSTEM MOUNTED ON TOP OF (H-1L)  
 MAXIMUM FLOW POINTS = 39

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

ITEM #	QTY	DESCRIPTION	FLOW PTS (TOTAL)
16416	4	DUCT NOZZLES	4
11982	4	PLENUM NOZZLES	4
11982	8	APPLIANCE NOZZLES	8
14178	2	APPLIANCE NOZZLES	4
13729	14	APPLIANCE NOZZLES	28
<b>TOTAL FLOW POINTS - 48</b>			

ITEM #	QTY	DESCRIPTION
12508-P001	10	DETECTOR BRACKET ASSEMBLY
13334	1	KP375 AGENT CYLINDER
17379	3	KP475 AGENT CYLINDER
18001	1	MECHANICAL RELEASE MODULE W/ DOUBLE POLE MICRO SWITCH
25851	1	SYSTEM ENCLOSURE W/ DOUBLE POLE MICRO SWITCH
16920	1	WALL MOUNTING BRACKET
21481	3	REMOTE MANUAL PULL STATION

AMEREX FIRE SYSTEM  
 TESTED & LISTED BY UNDERWRITERS LABORATORIES, INC. TO UL STANDARD 300.  
 1. FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICABLE CODES  
 2. ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN. MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY AMEREX INSTALLER  
 3. REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS