

DIVISION 15 SPECIFICATIONS

PART I - GENERAL

1.01 SCOPE

- A. IT IS THE RESPONSIBILITY OF CONTRACTOR TO READ ALL SPECIFICATIONS AND CONSULT ALL DRAWINGS WHICH MAY AFFECT THE INSTALLATION AND COORDINATION OF WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN LOCATION OF EQUIPMENT AND MATERIALS AS NECESSARY FOR COORDINATION.
- B. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES.
- C. SYSTEM LAYOUT IS SCHEMATIC AND EXACT LOCATIONS SHALL BE DETERMINED BY STRUCTURAL CONDITIONS. COORDINATION WITH OTHER TRADES, COORDINATION WITH FINISHES AND OTHER CONDITIONS. STRUCTURAL SUPPORTS SHALL NOT BE CUT OR ALTERED TO ASSURE FIT OF HVAC SYSTEM. TEN FOOT CLEARANCE SHALL BE MAINTAINED BETWEEN OUTSIDE AIR INTAKES AND EXHAUST FANS AND PLUMBING VENT TERMINALS.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEFECTS, REPAIRS AND REPLACEMENTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER FINAL PAYMENT IS APPROVED. CONTRACTOR SHALL HONOR FACTORY WARRANTIES ON ALL EQUIPMENT PROVIDED AS PART OF THIS SYSTEM.
- E. UPON COMPLETION OF PROJECT, ALL SYSTEM EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITION WITH ALL DAMAGE RESTORED TO CONDITION ACCEPTABLE TO THE OWNERS REPRESENTATIVE. ALL EQUIPMENT, COMPONENTS, DUCTWORK AND AIR DEVICES SHALL BE INSPECTED AND THOROUGHLY CLEANED, CLEARED OF DEBRIS, AND READY FOR USE. AT COMPLETION OF JOB, ALL MISCELLANEOUS TOOLS, SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY CONTRACTOR.
- F. CONTRACTOR SHALL PROVIDE TWO SETS OF 2" MERV 8 OR HIGHER THROW AWAY TYPE FILTERS. A CLEAN SET SHALL BE PROVIDED PRIOR TO TEST AND BALANCE AND AGAIN PRIOR TO OPENING.

PART II - PRODUCTS

2.01 HEATING AND COOLING EQUIPMENT

- A. FURNISH AND INSTALL R-410A ROOFTOP SINGLE PACKAGE COMBINATION ELECTRIC COOLING AND NATURAL GAS FIRED HEATING UNITS AS SHOWN ON DRAWINGS. EQUIPMENT SHALL BE ARI CERTIFIED AND A.G.A. AND U.L. LISTED.
- B. ACCESSORIES SHALL INCLUDE LOW AND HIGH PRESSURE SAFETIES, CRANK CASE HEATER, OVERCURRENT AND OVERTEMPERATURE SAFETY, COMPRESSOR VIBRATION ISOLATORS, FILTER DRIERS, REFRIGERANT SERVICE VALVES, COIL HAIL GUARDS WHERE SCHEDULED, CONVENIENCE OUTLETS FACTORY INSTALLED ON SCHEDULED UNITS, UNIT MOUNTED NON-FUSED DISCONNECTS, LOW AMBIENT OPERATION DOWN TO 30 DEGREES F AND EVAPORATOR FREEZE STAT.
- C. COMPRESSORS SHALL BE HERMETIC SCROLL TYPE WITH INTERNAL VIBRATION ISOLATORS. COMPRESSORS SHALL BE PROVIDED WITH A MINIMUM FIVE (5) YEAR FULL WARRANTY.
- D. THE UNIT HEAT EXCHANGERS SHALL BE ALUMINIZED STEEL COATING. HEATING CONTROLS SHALL CONSIST OF REDUNDANT GAS VALVES, INTERMITTENT PILOT WITH ELECTRONIC SPARK OR HOT PLATE IGNITION SYSTEM, COMBUSTION/EXHAUST FAN PROTECTED BY CENTRIFUGAL SWITCHES, HEAT LIMIT SWITCHES, TIME-DELAY RELAY, FLAME, AND PILOT SENSORS. HEAT EXCHANGERS SHALL HAVE A TEN (10) YEAR WARRANTY. BURNERS SHALL BE IN-SHOT TYPE. THE DRAFT MOTOR SHALL BE MONITORED BY THE CONTROL SYSTEM.

2.02 DUCTWORK (C15735)

- A. ACCEPTABLE MANUFACTURERS OF INSULATION SHALL BE: JOHNS MANVILLE, OWENS CORNING OR KNAUF.
- B. ALL DUCTWORK SHALL BE SHEET METAL, UNLESS NOTED OTHERWISE (U.N.O.).
- C. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS, U.N.O.
- D. CONSTRUCTION OF DUCTWORK SHALL MEET SMACNA 1" W.C. PRESSURE CLASS STANDARD AND RECOMMENDATIONS. SMACNA SHALL BE FOLLOWED WITH RESPECT TO GAGE THICKNESS, JOINTS, REINFORCING, CONSTRUCTION, INSTALLATION AND SUPPORT FOR PRESSURE CLASS STATED. ALL TRANSVERSE JOINTS IN RECTANGULAR AND ROUND DUCT INCLUDING DUCT CONNECTION TO AIR DEVICE COLLAR SHALL BE SEALED PER SMACNA SEAL CLASS C WITH U.L. DUCT MASTIC SEALANT APPROVED FOR INTENDED USE. DUCT TAPE IS NOT AN ACCEPTABLE SUBSTITUTE FOR MASTIC UNLESS EQUAL TO HARDCAST FOIL-GRIP 1402 BUTYL RUBBER ADHESIVE TAPE.
- E. DUCT SHALL BE SUPPORTED AT BASE OF DUCT DROPS. CURB DUCT RAILS ARE NOT INTENDED TO AND SHALL NOT SUPPORT THE WEIGHT OF THE DUCT.
- F. ALL DUCT WRAP SHALL BE MINIMUM 2" THICK, 3/4 PCF AND 6 R-VALUE INSTALLED WITH EITHER A VAPOR BARRIER WITH MAXIMUM PERMEANCE 0.05 OR A MINIMUM 2 MIL ALUMINIUM 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: 877-544-8879). THE PANEL IS PROVIDED AND MOUNTED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING TERMINATIONS ARE BY THE MECHANICAL CONTRACTOR WHERE PERMITTED BY AHJ.
- B. THE SMOKE DETECTORS SHALL BE FACTORY INSTALLED AND WIRED BY THE ROOFTOP UNIT MANUFACTURER.
- C. A FACTORY INSTALLED SMOKE DETECTOR IN THE RETURN AIR SECTION OF EACH AIR CONDITIONING UNIT SHALL STOP THE INDOOR FAN AND CLOSE THE OUTSIDE AIR DAMPER IN THE EVENT OF EXCESSIVE TEMPERATURE OR SMOKE. SMOKE DETECTOR SHALL BE LOCATED PRIOR TO ANY EXHAUST FROM THE BUILDING OR MIXING WITH FRESH AIR MAKE-UP. UPON DETECTION, THE SYSTEM SHALL NOT RESTART UNTIL THE DEVICE IS MANUALLY RESET. DEVICES SHALL BE LOCATED WHERE THEY CAN BE EASILY ACCESSED AND WHERE CLEAR OF FILTERS.
- D. CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH SUNCOAST ENVIRONMENTAL CONTROLS FOR THE SMOKE DETECTOR TEST/RESET ANNUNCIATOR STATIONS. THE TEST/RESET STATIONS WILL BE PURCHASED BY THE ELECTRICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE AND TURNED OVER TO THE MECHANICAL CONTRACTOR FOR INSTALLATION.
- E. THE REMOTE TEST/RESET ANNUNCIATORS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE ANNUNCIATORS AND ALL WIRING FROM EACH DEVICE TO THE RTU. ELECTRICAL WILL PROVIDE A JUNCTION BOX IN THE WALL WITH 1/2" CONDUIT STUBBED UP ABOVE THE CEILING FOR EACH REMOTE TEST STATION AS SHOWN ON THE ELECTRICAL PLANS. ANNUNCIATOR SHALL BE SUNCOAST CONTROLS REMOTE TEST/RESET STATION WITH POWER LED, TROUBLE LED, ALARM LED, 90DB HORN AND TEST/RESET BUTTON.
- F. THE RESTROOM FAN SHALL BE INTERLOCKED TO THE LIGHTS SERVING THE MEN AND WOMEN'S RESTROOMS. THE HOOD FANS SHALL BE CONTROLLED VIA THE SUNCOAST CFA-500 CONTROL PANEL. WIRING, RELAYS AND SWITCHES FOR CONTROL OF ALL FANS ARE BY ELECTRICAL CONTRACTOR.
- G. THERMOSTATS ARE PROVIDED AND INTEGRATED INTO THE TEMPERATURE CONTROL PANEL BY SUNCOAST ENVIRONMENT CONTROLS. SUNCOAST WILL PROVIDE A NETWORK THERMOSTAT US32-CFA THERMOSTAT PRE-WIRED IN THE TEMPERATURE CONTROL PANEL. REMOTE TEMPERATURE SENSOR(S) FOR EACH THERMOSTAT IS ALSO PROVIDED. MECHANICAL CONTRACTOR SHALL INSTALL ALL WIRING BETWEEN THE THERMOSTAT, THE REMOTE SENSOR(S) AND THE ROOFTOP UNIT.
- H. MECHANICAL CONTRACTOR SHALL INSTALL CONTROL WIRING IN 1/2" CONDUIT WHERE REQUIRED BY CODE. WHERE NOT REQUIRED TO BE IN CONDUIT, ALL WIRING SHALL BE RUN PARALLEL TO STRUCTURAL MEMBERS OR PERPENDICULAR WITH NO DIAGONAL ROUTING. ALL WIRING SHALL BE SECURED TO THE FRAMING TO PREVENT SAGGING IN RUNS. WIRING TO ROOFTOP UNITS SHALL BE ROUTED THROUGH THE FACTORY THRU-BASE FITTING IN THE UNIT BASE. NO SPLICING OF WIRING WILL BE ACCEPTED. ALL WIRING ABOVE THE ROOF SHALL BE INSTALLED IN EXTERIOR GRADE FLEXIBLE CONDUIT. ALL CONTROL WIRING AND CONTROL WIRING CONDUIT SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LATEST EDITION OF NEC. ALL LOW VOLTAGE CONTROL WIRING SHALL BE NO LESS THAN 18 AWG MIN. CONTROL WIRING CONDUCTORS SHALL BE SIZED TO ACCOUNT FOR LOAD AND LENGTH OF RUN TO ALLOW SUFFICIENT VOLTAGE AVAILABLE AT CONTROLLED DEVICE TO OPERATE THE SYSTEM RELIABLY.

2.04 PIPING

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

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

GENERAL NOTES

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

CANOPY GENERAL NOTES

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

LEGEND

A-12-400	TYPE - NECK SIZE - CFM	EF#1	EXHAUST FAN #1 (TYP.)
	SPIN-IN FITTING WITH MANUAL BALANCING DAMPER, WITHOUT SCOOP		AIR CONDITIONING UNIT #1 (TYP.)
	SPIN-IN HARD FLEXIBLE DIFFUSER		RETURN/EXHAUST (TYP.)
	REMOTE TEMPERATURE SENSOR		SUPPLY DIFFUSER, SQ FACE (TYP.)
	HUMIDITY SENSOR		PLAN NOTE REFERENCE
	SMOKE DETECTOR		MANUAL VOLUME DAMPER
	DUCT SIZE (reverse for elevation views)		DIRECTION OF THROW ON DIFFUSER
	1ST NUMBER - HORIZONTAL DIMENSION		CLOSED AIR PATTERN DEFLECTOR
	2ND NUMBER - VERTICAL DIMENSION		GAS INFRARED HEATER (TYP.)
	AIR DOOR SWITCH		BELOW GRADE
	ELECTRIC INFRARED HEATER		THERMOSTAT

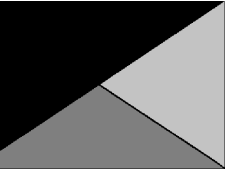
ABBREVIATIONS

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

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02/05/25

CHICK-FIL-A
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FSR#05559

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

M-001

2021 IECC Commissioning Requirements for Mechanical

2021 IECC COMMISSIONING REQUIREMENTS

C408.1 MECHANICAL SYSTEMS SHALL BE DOCUMENTED IN ACCORDANCE WITH THE FOLLOWING SECTIONS.

- C408.1.1 PROVIDE AN OPERATION AND MAINTENANCE MANUAL WHICH INCLUDES THE FOLLOWING:
1. PROVIDE HVAC EQUIPMENT SUBMITTAL DATA.
 2. PROVIDE MANUFACTURER'S OPERATION AND MAINTENANCE MANUALS FOR HVAC EQUIPMENT. ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.
 3. PROVIDE THE NAME AND ADDRESS OF AT LEAST ONE HVAC SERVICE AGENCY.
 4. PROVIDE HVAC CONTROL SYSTEM MAINTENANCE AND CALIBRATION INFORMATION INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCES. TENANT DESIRED OR FIELD-DETERMINED SETPOINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES OR IN SYSTEM PROGRAMMING INSTRUCTIONS.
 5. PROVIDE A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING RECOMMENDED SETPOINTS.

C408.2 COMMISSIONING OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS.

- C408.2.1 A COMMISSIONING PLAN SHALL BE DEVELOPED IN ACCORDANCE WITH THIS SECTION AND SHALL INCLUDE THE FOLLOWING ITEMS.
1. A NARRATIVE DESCRIPTION OF THE ACTIVITIES TO BE PERFORMED.
 2. A LIST OF THE SYSTEMS AND EQUIPMENT REQUIRED TO BE COMMISSIONED.
 3. A LIST OF THE TEST FUNCTIONS TO BE PERFORMED ON THE CORRESPONDING EQUIPMENT.
 4. CONDITIONS UNDER WHICH THE TEST WILL BE PERFORMED.
 5. MEASURABLE CRITERIA FOR PERFORMANCE.

C408.2.2 MECHANICAL SYSTEMS SHALL UNDERGO TEST AND BALANCE AND SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS AS WELL AS THE 2021 IECC. AIR AND WATER FLOW RATES SHALL BE MEASURED AND ADJUSTED TO DELIVER FINAL FLOW RATES WITHIN THE TOLERANCES PROVIDED IN THE CONSTRUCTION SPECIFICATIONS.

C408.2.2.1 CONDUCT AIR SYSTEMS TEST AND BALANCE IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION AND THE CONSTRUCTION SPECIFICATIONS.

C408.2.2.2 CONDUCT WATER SYSTEMS TEST AND BALANCE IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION AND THE CONSTRUCTION SPECIFICATIONS.

C408.2.3 PERFORM FUNCTIONAL PERFORMANCE TESTING IN ACCORDANCE WITH THE FOLLOWING SECTIONS.

C408.2.3.1 PERFORM FUNCTIONAL PERFORMANCE TESTING FOR HVAC EQUIPMENT IN ORDER TO DEMONSTRATE THE OPERATION OF COMPONENTS, SYSTEMS AND SYSTEM-TO-SYSTEM INTERACTION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER REQUIREMENTS. TESTING SHALL INCLUDE FULL-LOAD, PART-LOAD AND EMERGENCY OPERATING CONDITIONS AND SHALL COVER ALL OPERATING MODES LISTED IN THE SEQUENCE OF OPERATION AS DEFINED IN THE CONSTRUCTION DOCUMENTS.

C408.2.3.2 HVAC SYSTEMS SHALL BE TESTED IN ORDER TO DOCUMENT THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT AND SYSTEMS ARE CALIBRATED AND ADJUSTED TO OPERATE IN ACCORDANCE WITH CONSTRUCTION DOCUMENTS AND SPECIFICATIONS. HVAC CONTROL SYSTEMS

SHALL BE TESTED FOR ALL OPERATING MODES LISTED IN THE SEQUENCE OF OPERATION AS DEFINED IN THE CONSTRUCTION DOCUMENTS.

C408.2.3.3 AIRSIDE ECONOMIZERS SHALL UNDERGO FUNCTIONAL PERFORMANCE TESTING IN ORDER TO ENSURE OPERATIONAL MODES ARE FUNCTIONING IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

C408.2.4 COMPLETE A PRELIMINARY COMMISSIONING REPORT OUTLINING TEST PROCEDURES AND RESULTS IN ACCORDANCE WITH THIS SECTION. THE REPORT SHALL IDENTIFY:

1. ITEMIZATION OF DEFICIENCIES FOUND DURING TESTING REQUIRED BY THIS SECTION THAT HAVE NOT BEEN CORRECTED AT THE TIME OF REPORT PREPARATION.
2. DEFERRED TESTS THAT CANNOT BE PERFORMED AT THE TIME OF THE REPORT PREPARATION DUE TO CLIMATIC CONDITIONS.
3. CLIMATIC CONDITIONS REQUIRED FOR PERFORMANCE OF THE DEFERRED TESTS.
4. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
5. FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS, INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.

C408.2.4.1 THE OWNER SHALL RECEIVE A COPY OF THE PRELIMINARY COMMISSIONING REPORT BEFORE FINAL INSPECTION BY THE CODE OFFICIAL OCCURS.

C408.2.4.2 THE PRELIMINARY COMMISSIONING REPORT SHALL BE MADE AVAILABLE TO THE PROJECT CODE OFFICIAL UPON REQUEST.

C408.2.5 COMMISSIONING DOCUMENTATION OUTLINED IN SECTION C408 SHALL BE PROVIDED TO THE OWNER WITHIN 90 DAYS OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

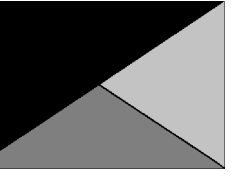
C408.2.5.1 PROVIDE AIR AND WATER SYSTEM TEST AND BALANCES REPORTS IN ACCORDANCE WITH SECTION C408.2.2.

C408.2.5.2 PROVIDE A FINAL COMMISSIONING REPORT TO THE OWNER INCLUDING THE FOLLOWING.

1. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
2. DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.
3. FUNCTIONAL PERFORMANCE TESTING PROCEDURES USED DURING THE COMMISSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE, PROVIDED FOR REPEATABILITY.
4. LIST OUT ANY DEFERRED TESTS STILL OUTSTANDING DUE TO CLIMATIC CONDITIONS.



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02/05/25

CHICK-FIL-A
SADSBURY FSR

NOVA WAY
PARKESBURG, PA 19365

FSR#05559

BUILDING TYPE / SIZE: P-14 LS BN
RELEASE: 24.05

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REVISION SCHEDULE

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CONSULTANT PROJECT #	24121.EH.S
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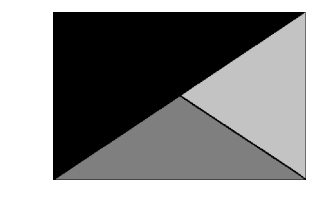
SHEET
COMMISSIONING
REQUIREMENTS -
MECHANICAL
SHEET NUMBER

M-002



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NOVA WAY
PARKESBURG, PA 19365

FSR#05559

BUILDING TYPE / SIZE: P14 LS BN

RELEASE: 24.05

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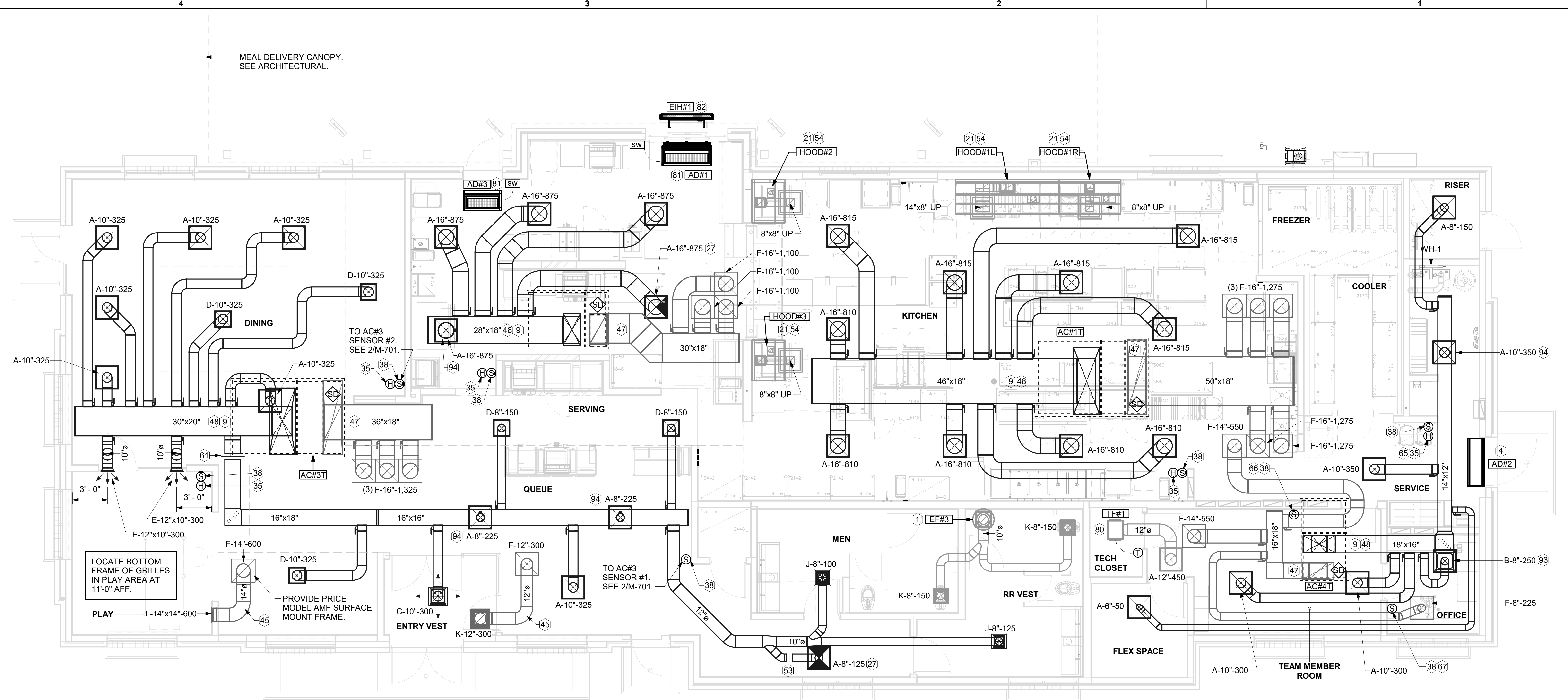
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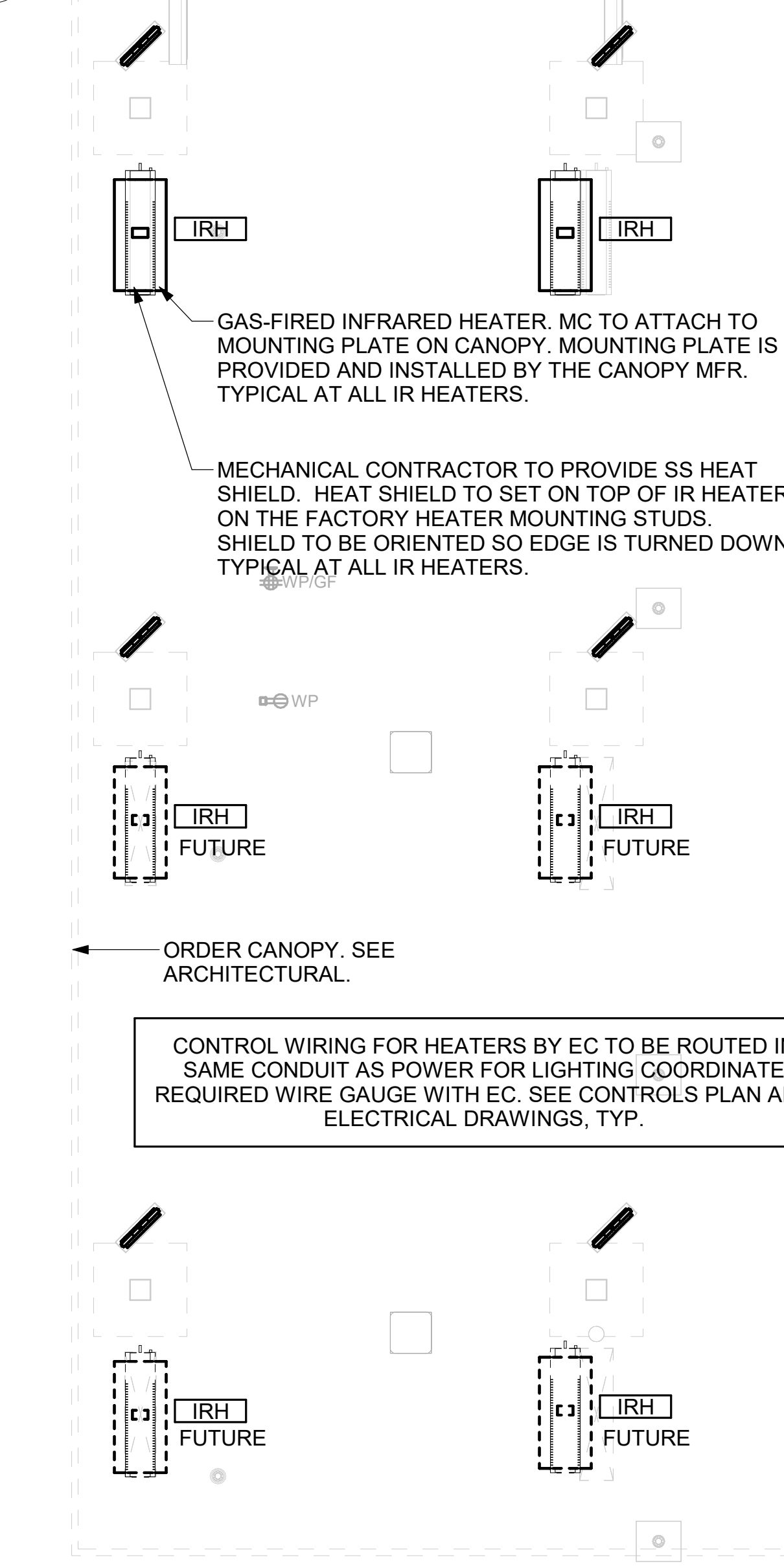
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NO. DATE DESCRIPTION

NO. DATE DESCRIPTION



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



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

Mark	SUPPLY AIR	RETURN AIR	OUTSIDE AIR	EXHAUST AIR	BUILDING POSITIVE PRESSURE
AC#1T	8,125	6,375	1,750	0	
AC#2T	4,375	4,375	1,075	0	
AC#3T	5,250	3,975	1,275	0	
AC#4T	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	
	19,500	16,050	4,525	3,615	910

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-701 FOR MORE INFORMATION.

KEY NOTES

- 1 10" UP THRU ROOF.
- 4 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.
- 9 BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY OFFSET OR ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.
- 21 HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-201 FOR LOCATION.
- 27 MECHANICAL CONTRACTOR TO CLOSE THE AIR PATTERN DEFLECTORS ON SHADED SIDE.
- 35 MOUNT HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.
- 38 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.
- 45 TRANSFER AIR DUCT, NO BALANCING DAMPERS AT GRILLES.
- 47 TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. SEE DETAIL 6/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).
- 48 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).
- 53 RUSKIN MDRS25 MVD W/LOCKING QUADRANT HANDLE.
- 54 SEE ELEVATIONS ON M-201 FOR CJ FAN DUCTING REQUIREMENT.
- 61 PROVIDE RUSKIN CD35 MANUAL BALANCING DAMPER WITH 6" MAXIMUM BLADE WIDTH. OPPOSED BLADE ACTION, LOCKING QUADRANT HANDLE WITH 2" STANDOFF AND 16 GA GALVANIZED BLADE AND FRAME CONSTRUCTION.
- 65 TO AC#4, SENSOR #1. SEE 2/M-701.
- 66 TO AC#4, SENSOR #2. SEE 2/M-701.
- 67 TO AC#4, SENSOR #3. SEE 2/M-701.
- 80 CEILING MOUNTED RECIRCULATING FAN. DUCT AND DISCHARGE TO TYPE 'A' DIFFUSER AS SHOWN. MOUNT THERMOSTAT FOR RECIRCULATING FAN ON WALL AT 4'-0" AFF.
- 81 MOUNT AIR DOOR IN CEILING, CENTERED ON DRIVE-THRU/MFA DOOR OPENING. REFER TO WIRING DIAGRAM ON SHEET M-702 FOR MORE INFORMATION.
- 82 ELECTRIC HEATER, MC TO MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
- 93 MAXIMUM HEATING AND COOLING AIRFLOWS INDICATED. SET MINIMUM AIRFLOW TO 25 CFM.
- 94 TAKE OFF WITH DAMPER AT THE BOTTOM OF DUCTWORK, TYP.

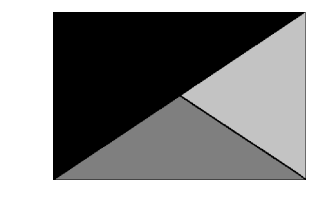
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30-LS-05559A-M-101T-EQUIPMENT AND DUCTWORK PLAN - TRANE

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SHEET
EQUIPMENT AND DUCTWORK PLAN - TRANE
SHEET NUMBER
M-101T



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PARKESBURG, PA 19365

FSR#05559

BUILDING TYPE / SIZE: P-14 LS BN

RELEASE: 24.05

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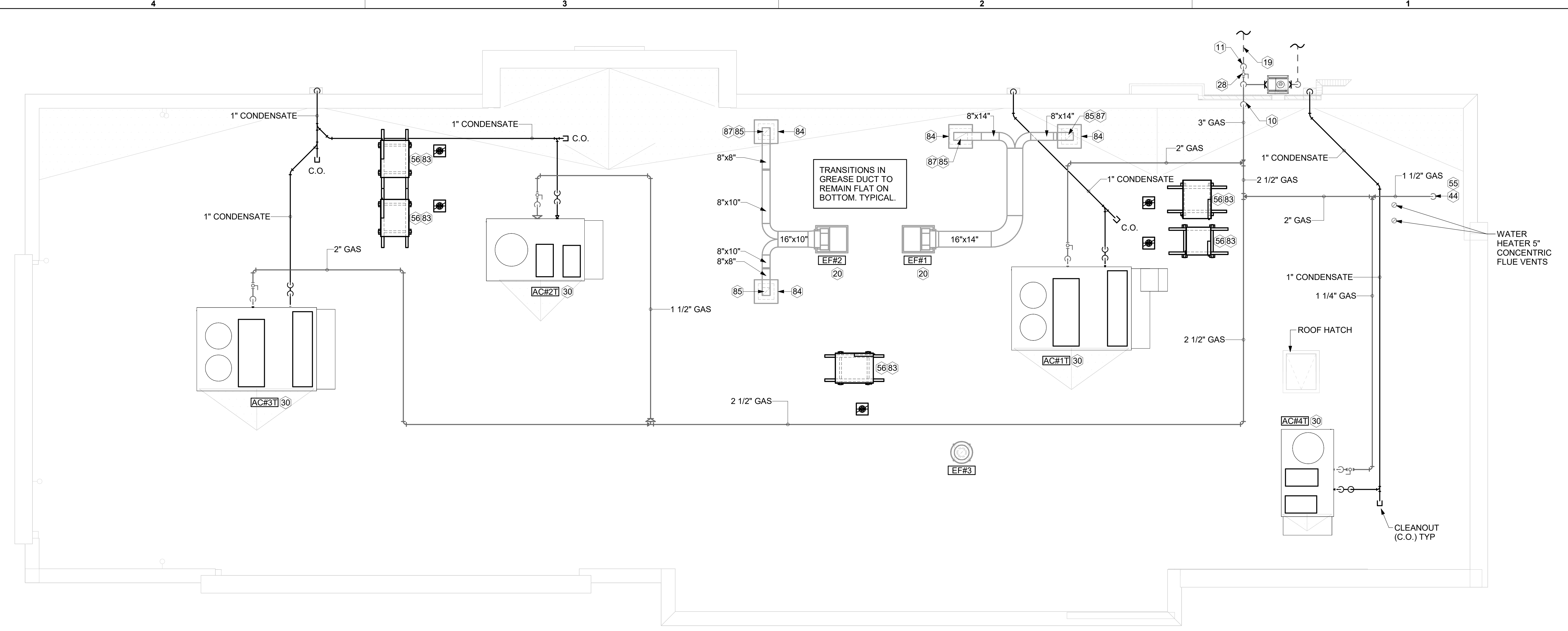
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SHEET EQUIPMENT ROOF PLAN - TRANE

SHEET NUMBER **M-102T**

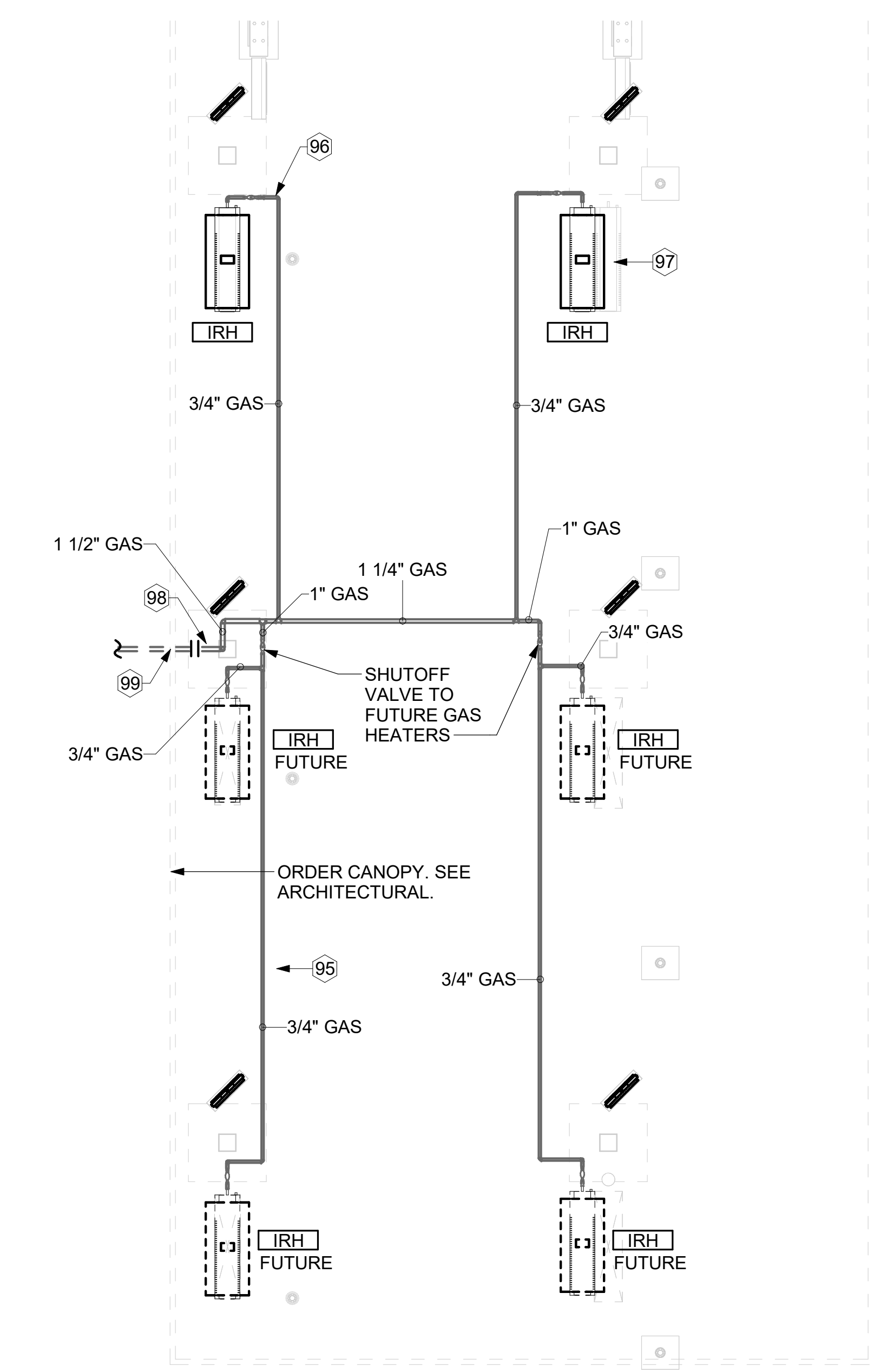


1 EQUIPMENT ROOF PLAN - TRANE
1/4" = 1'-0"

KEY NOTES

- 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.
- 19 1-1/2" GAS BELOW GRADE TO ORDER CANOPY. SEE DETAIL 2 SHEET M-102.
- 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 2/M-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/LM-101T FOR CONTINUATION.
- 87 DUCT PENETRATIONS ON ROOF MUST BE AT LEAST 18" FROM ADJACENT PARAPETS.
- 95 GAS PIPING TO BE ROUTED ABOVE CANOPY, ON TOP OF STRUCTURAL MEMBERS, EXCEPT WHERE ROUTED DOWN THROUGH PENETRATIONS AS INDICATED.
- 96 GAS PIPING DOWN THROUGH DECK, WEATHERPROOF DECK PENETRATION PER DETAIL 6/M-502, TYPICAL. SEE DETAIL 1/M-502 FOR PIPING AT IRH, TYPICAL.
- 98 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.
- 99 1-1/2" GAS B/G TO METER SEE 1/M-102L OR 1/M-102T.

3. GAS LOAD SCHEDULE	
EQUIPMENT	GAS LOAD
AC#1T	400,000 BTUS
AC#2T	250,000 BTUS
AC#3T	400,000 BTUS
AC#4T	150,000 BTUS
IRH (2 @ 50,000 BTU EA.)	100,000 BTUS
IRH (FUTURE 4 @ 50,000 BTU EA.)	200,000 BTUS
WATER HEATER	398,000 BTUS
TOTAL FUTURE CONNECTED LOAD	1,898,000 BTUS
REMARKS:	1. EQUIVALENT TO 1,898.0 CFH 2. 7" W.C. DELIVERY PRESSURE 3. DEVELOPED LENGTH: 200 FT. (METER TO AC#3) 4. GAS PIPING SIZED FOR FUTURE LOAD 5. PIPE SIZED PER IFGC TABLE 402.4(2).



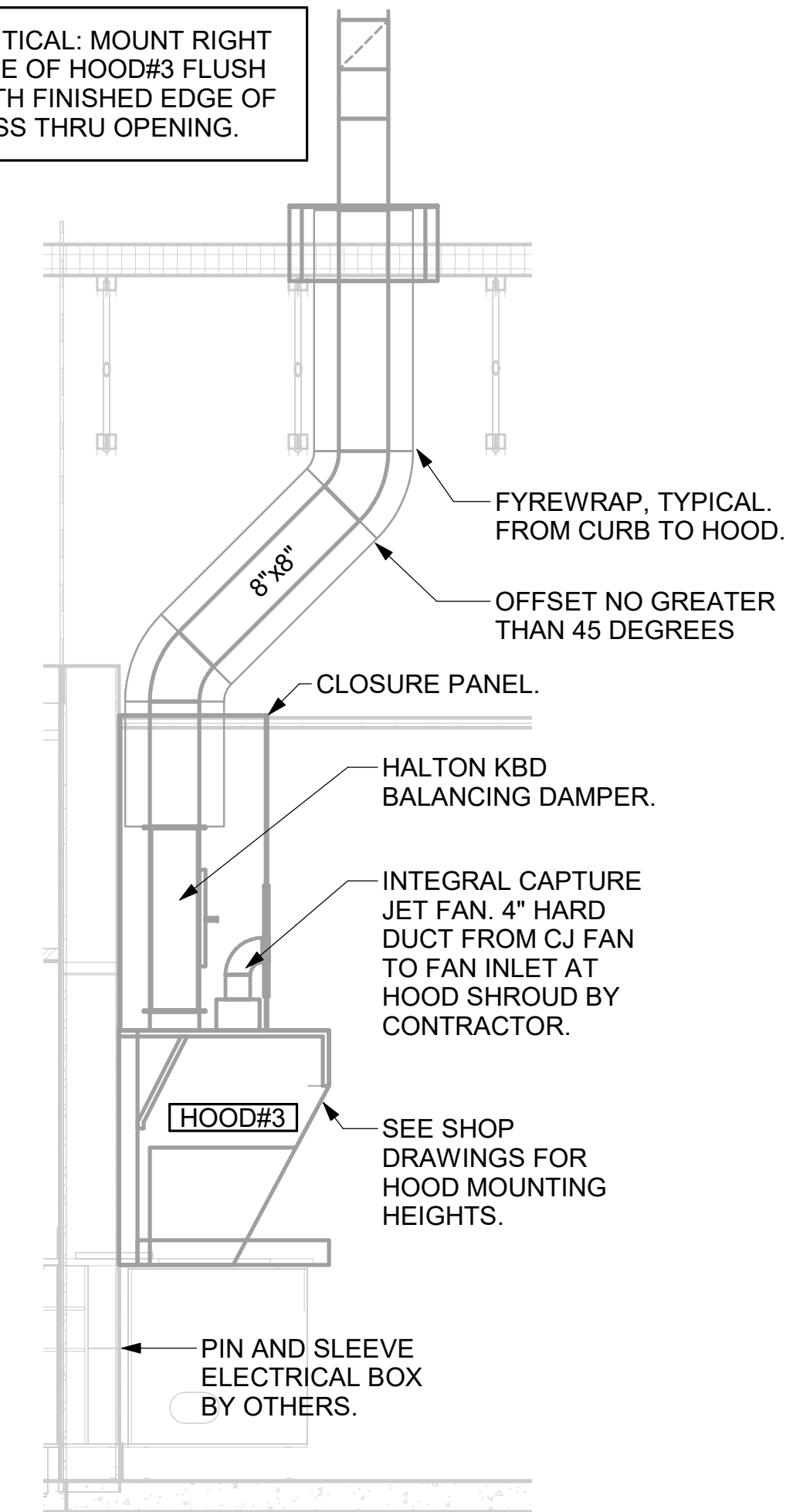
2 ORDER CANOPY GAS PIPING PLAN
1/4" = 1'-0"

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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.

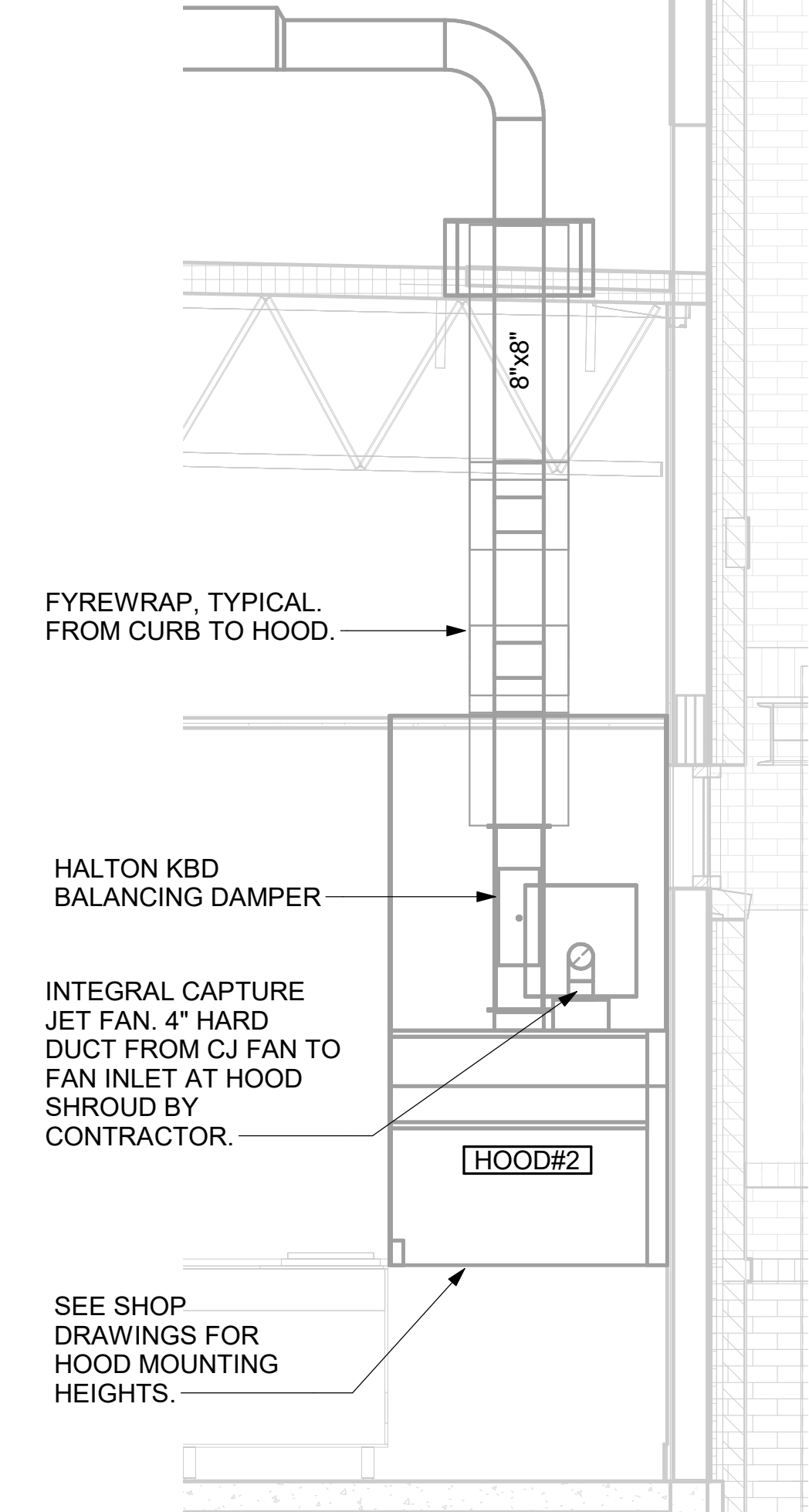
CLEANOUT DOOR NOTE:
 DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS. NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.

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

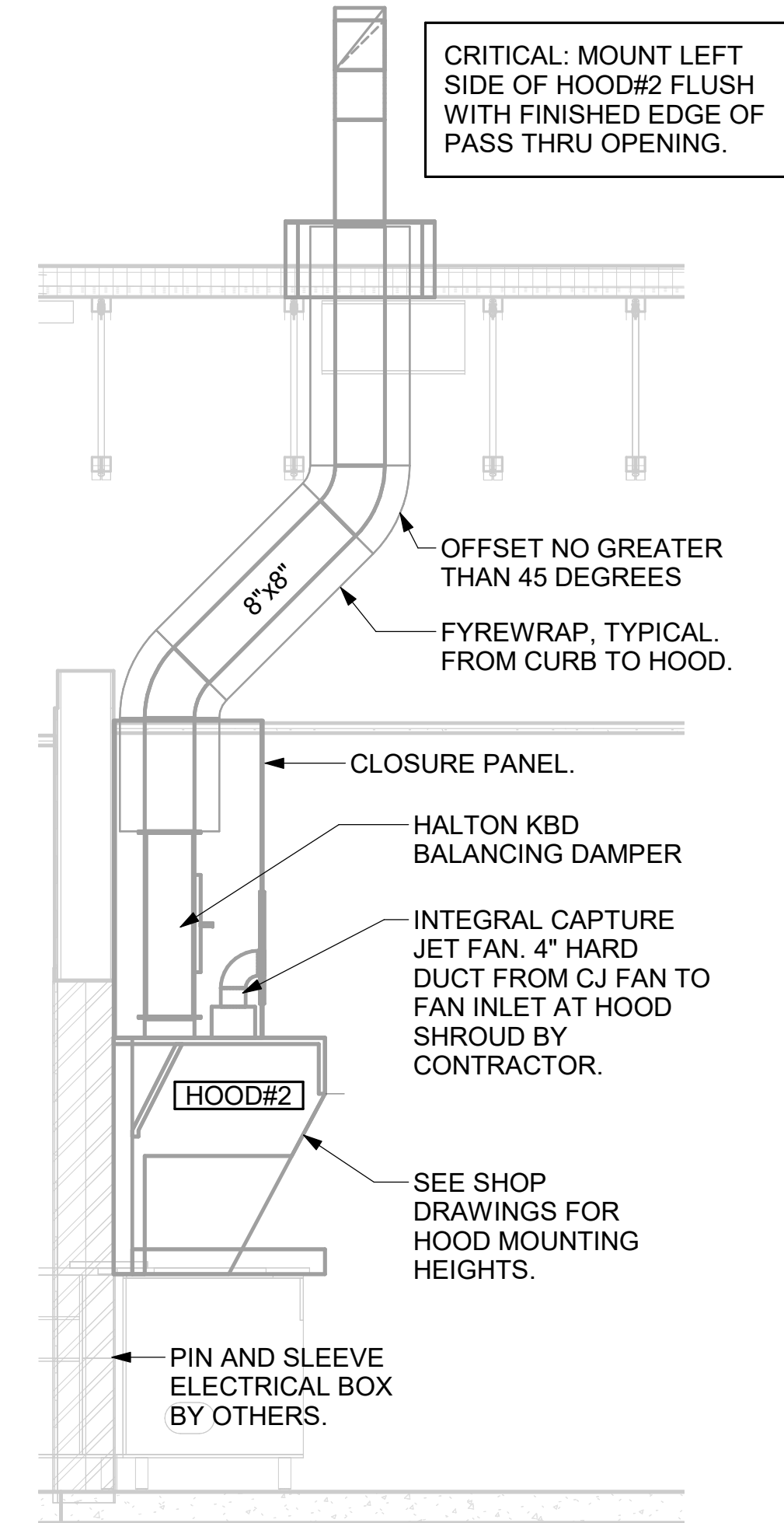


6 HOOD ELEVATION - HOOD#3
 NOT TO SCALE

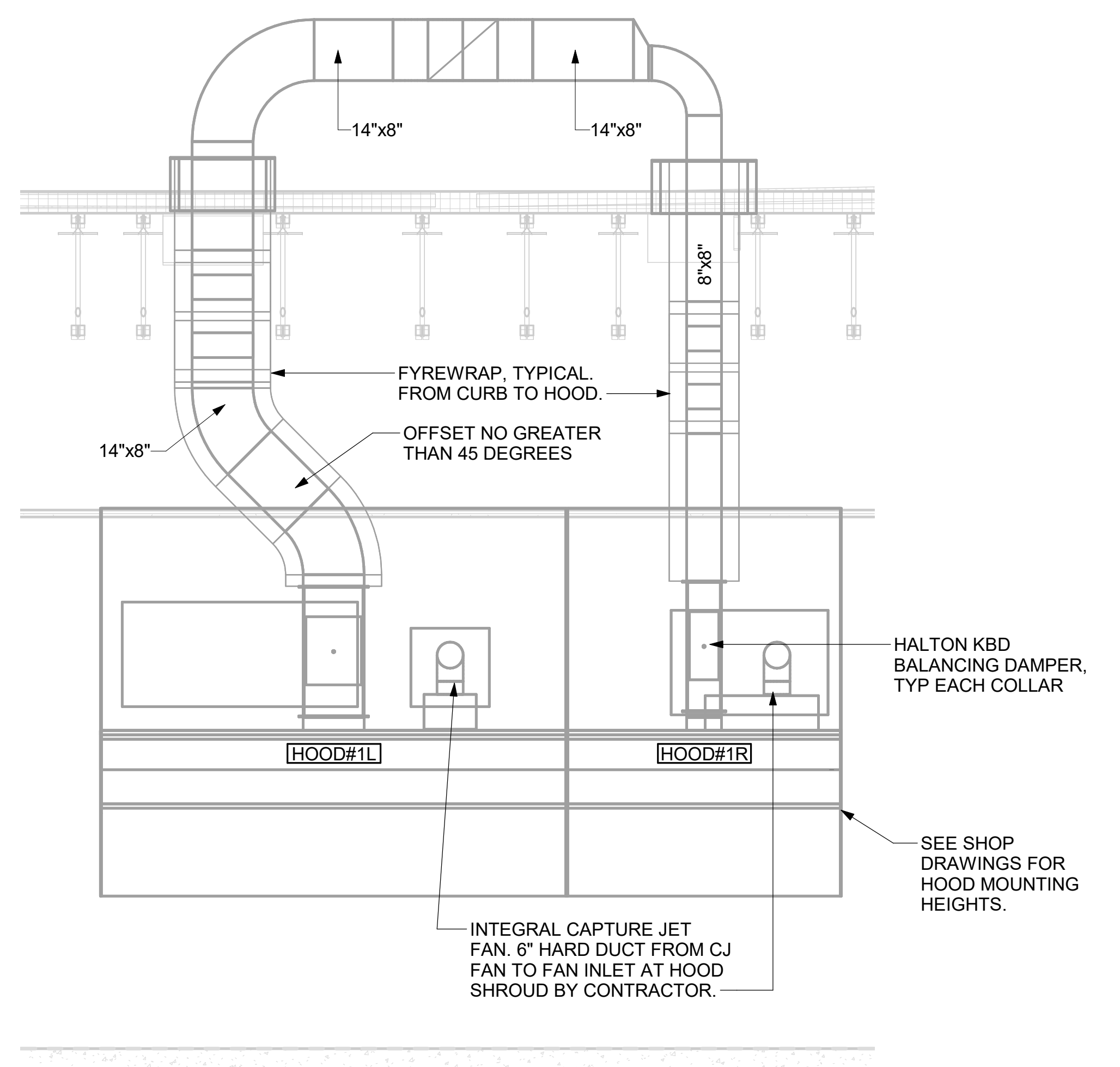
CRITICAL: MOUNT LEFT SIDE OF HOOD#2 FLUSH WITH FINISHED EDGE OF PASS THRU OPENING.



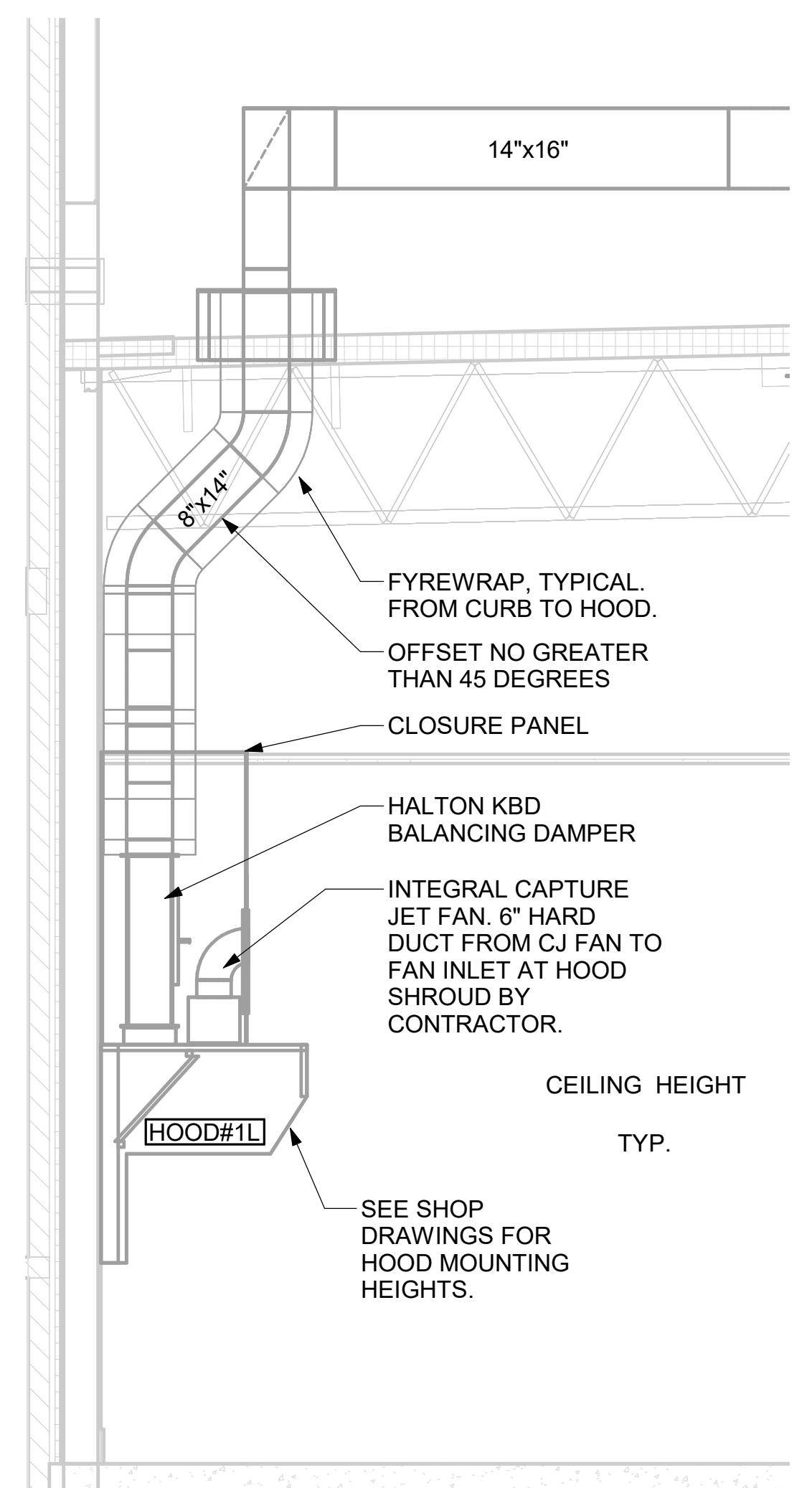
5 HOOD ELEVATION - HOOD#2 - FRONT
 NOT TO SCALE



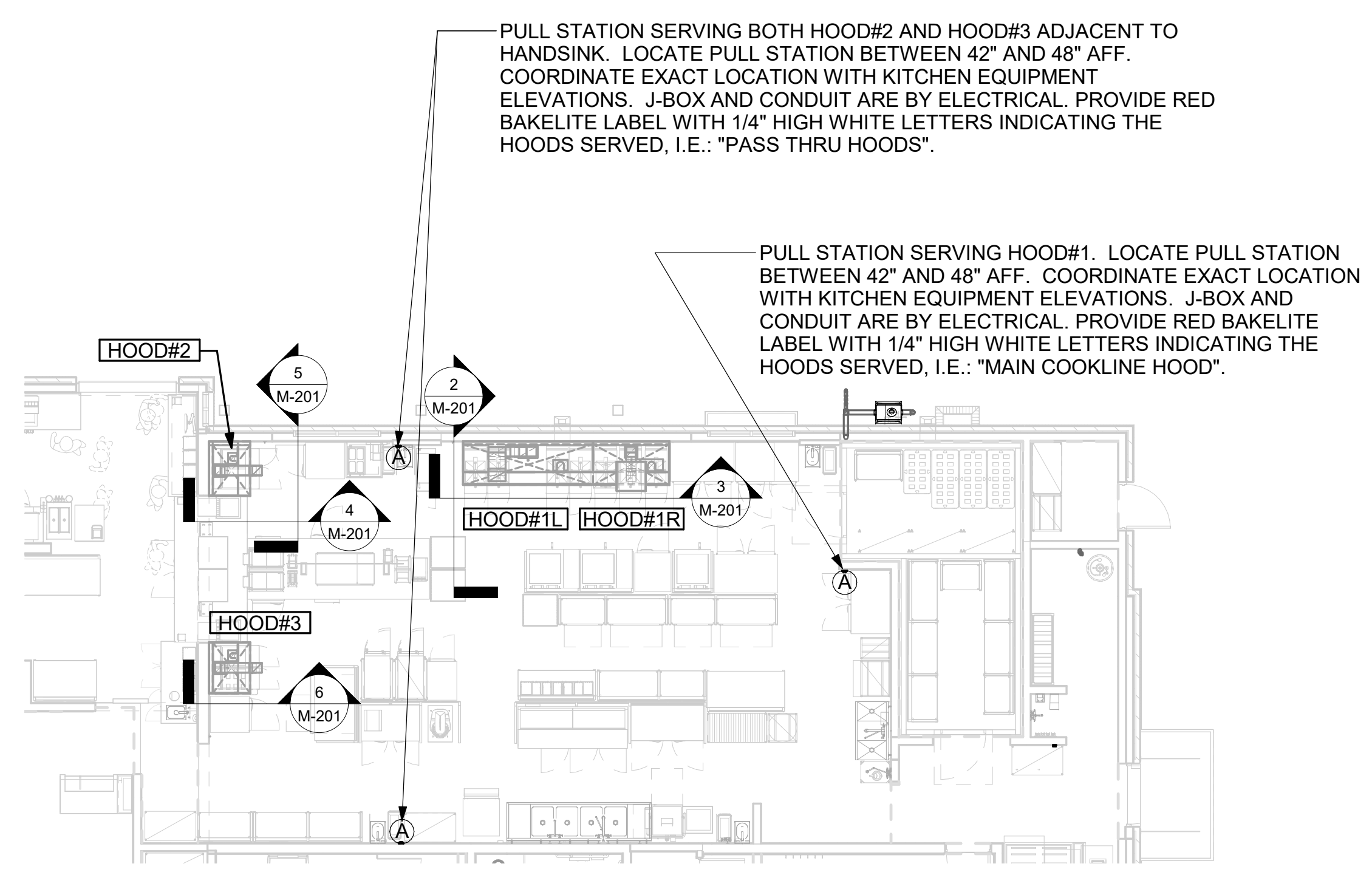
4 HOOD ELEVATION - HOOD#2 - SIDE
 NOT TO SCALE



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



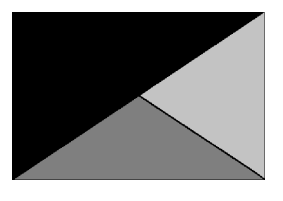
2 HOOD ELEVATION - HOOD#1 - SIDE
 NOT TO SCALE



1 HOOD LAYOUT
 NOT TO SCALE



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02/05/25

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FSR#05559

BUILDING TYPE / SIZE: P-14 LS BN
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SHEET EXHAUST HOOD ELEVATIONS

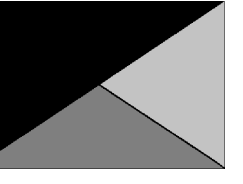
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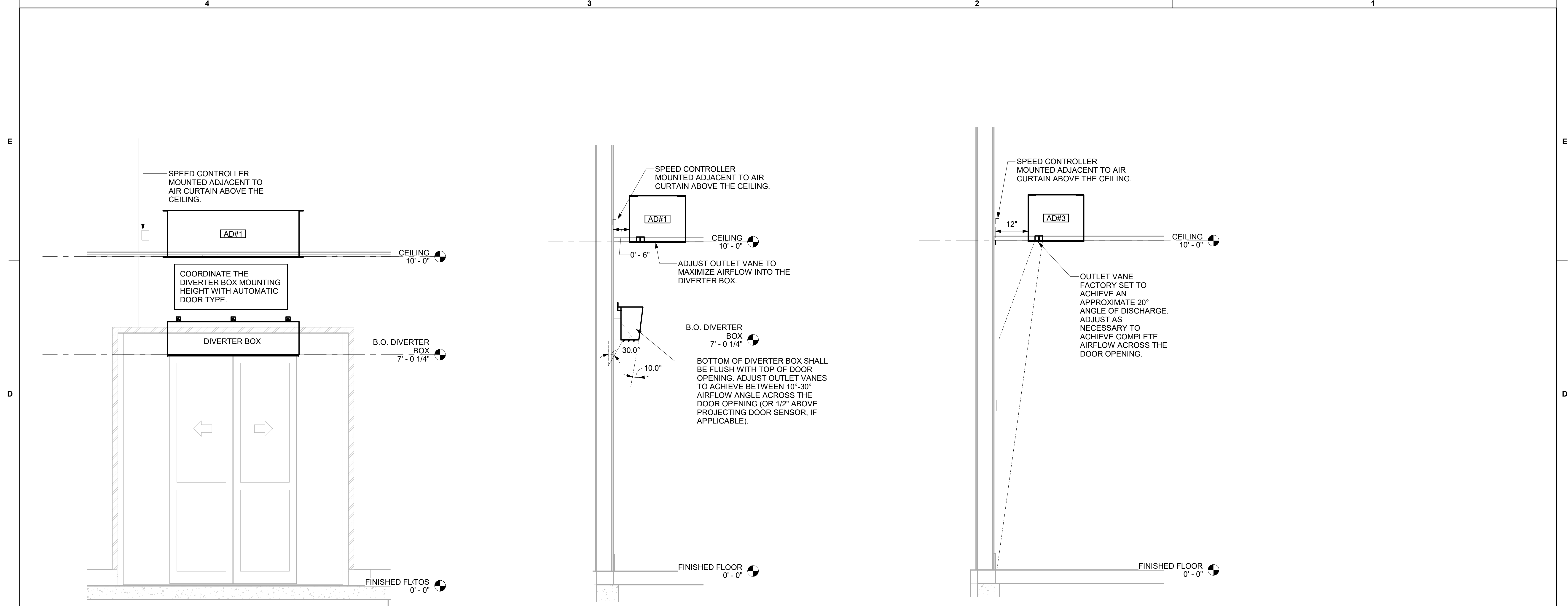
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SHEET SECTIONS

SHEET NUMBER

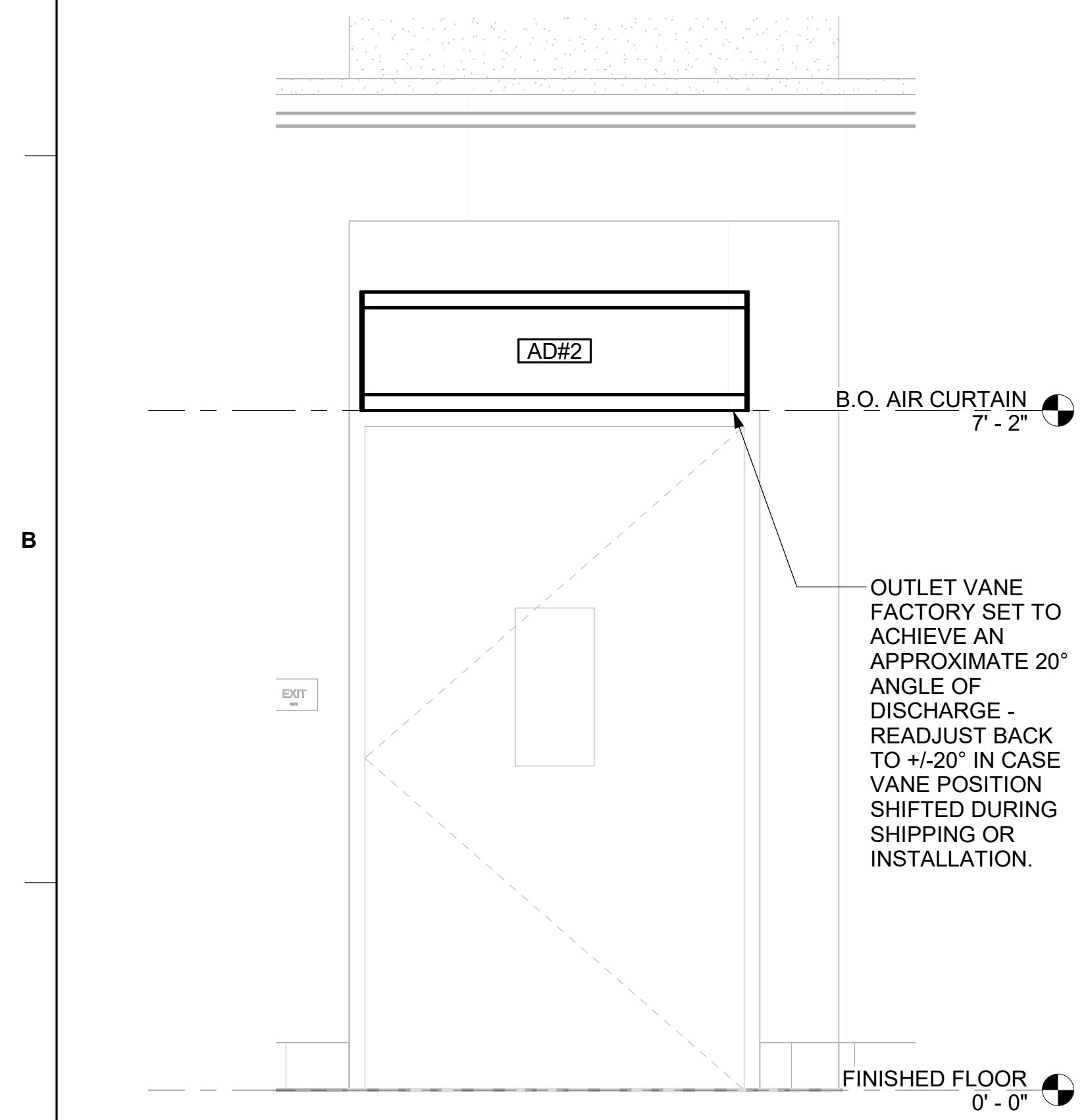
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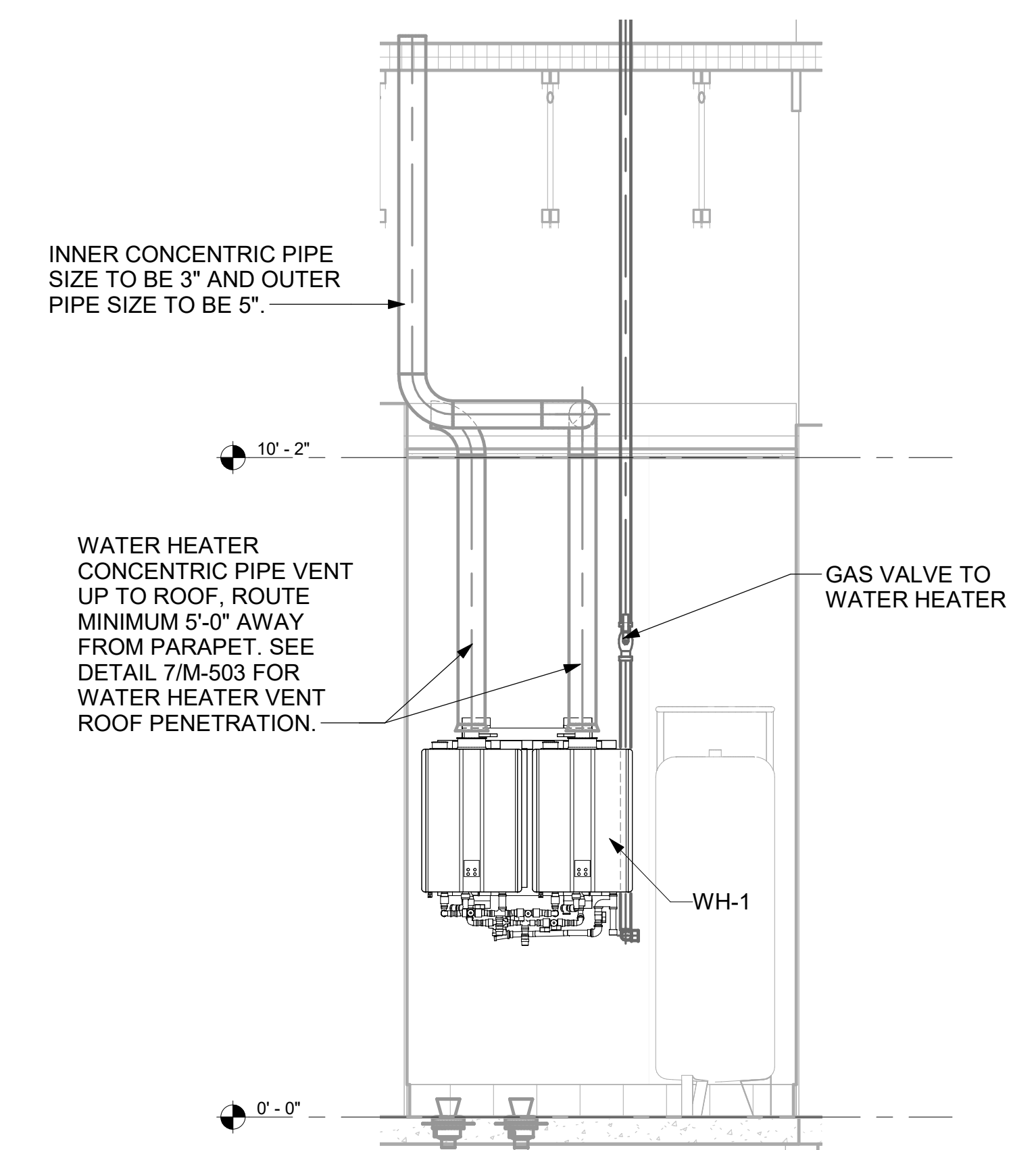
2 AD#1 FRONT VIEW
 3/4" = 1'-0"

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

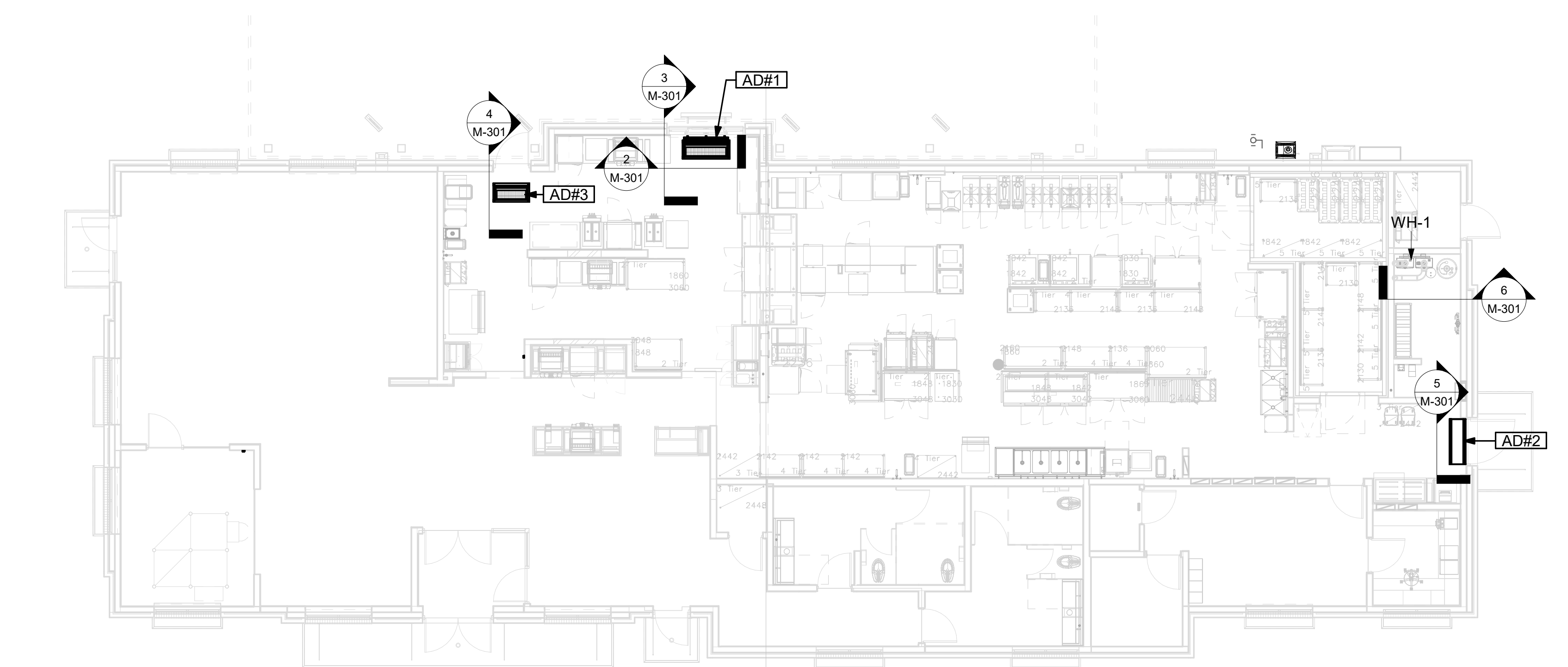
4 AD#3 SIDE VIEW
 3/4" = 1'-0"



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

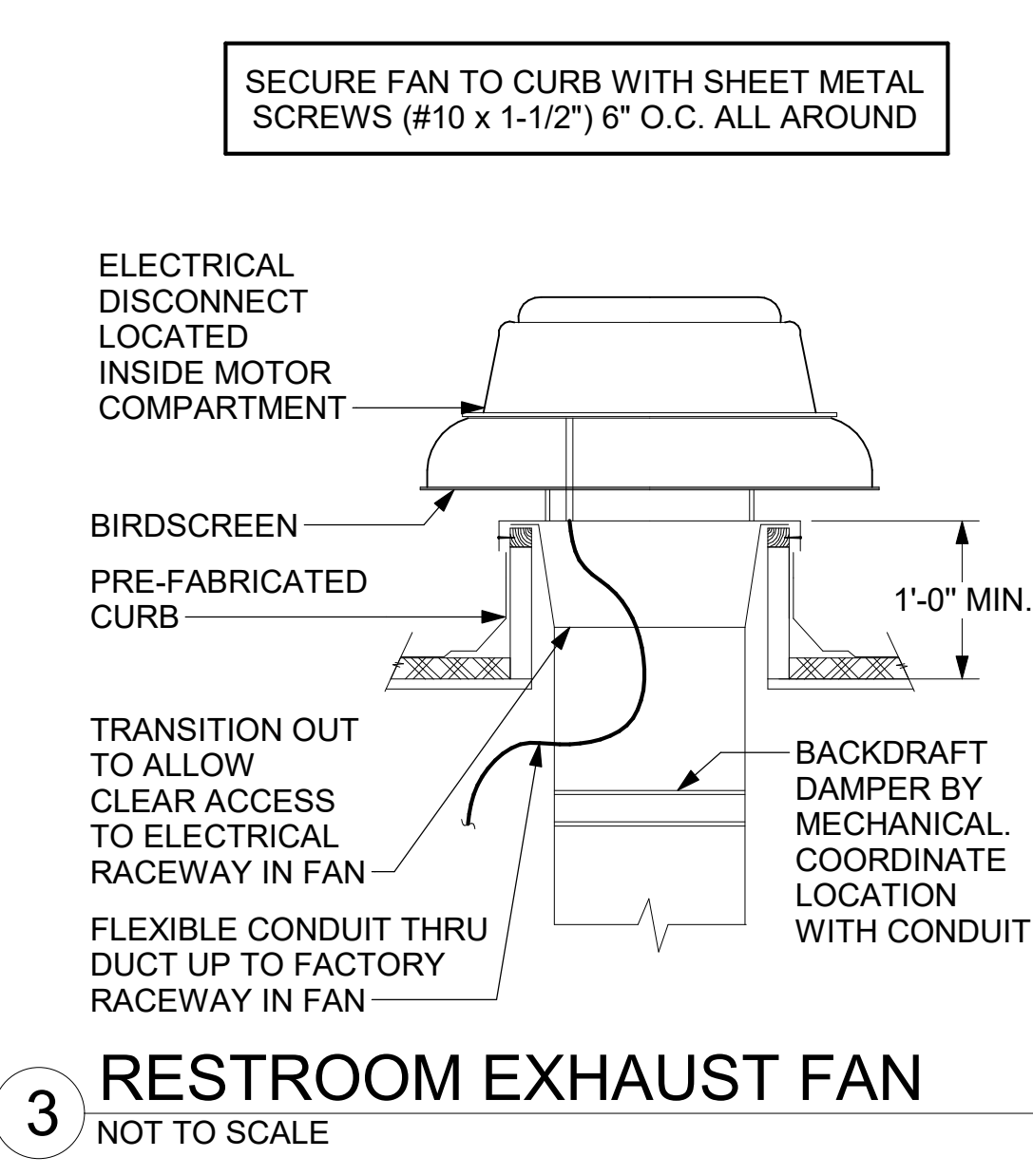


6 WATER HEATER GAS PIPING AND VENTING
 NOT TO SCALE

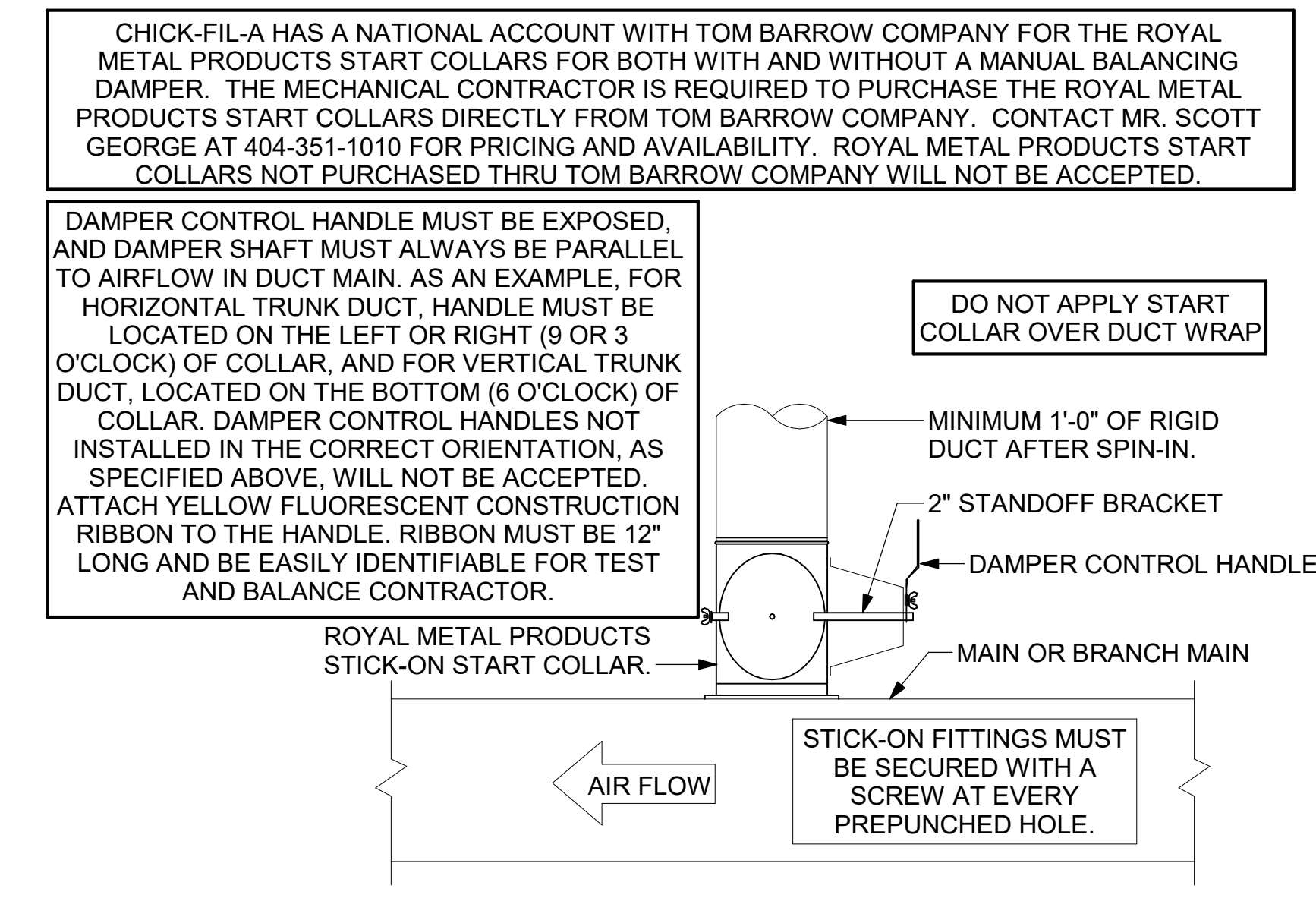


1 VARIOUS SECTIONS
 1/8" = 1'-0"

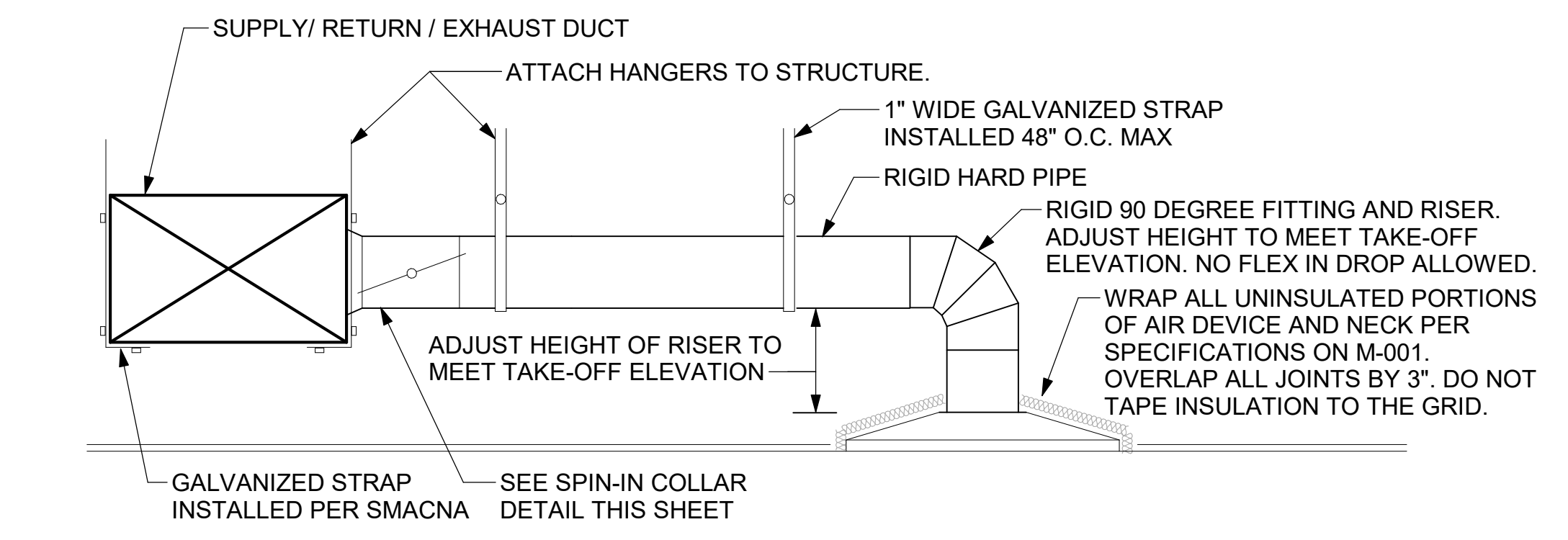
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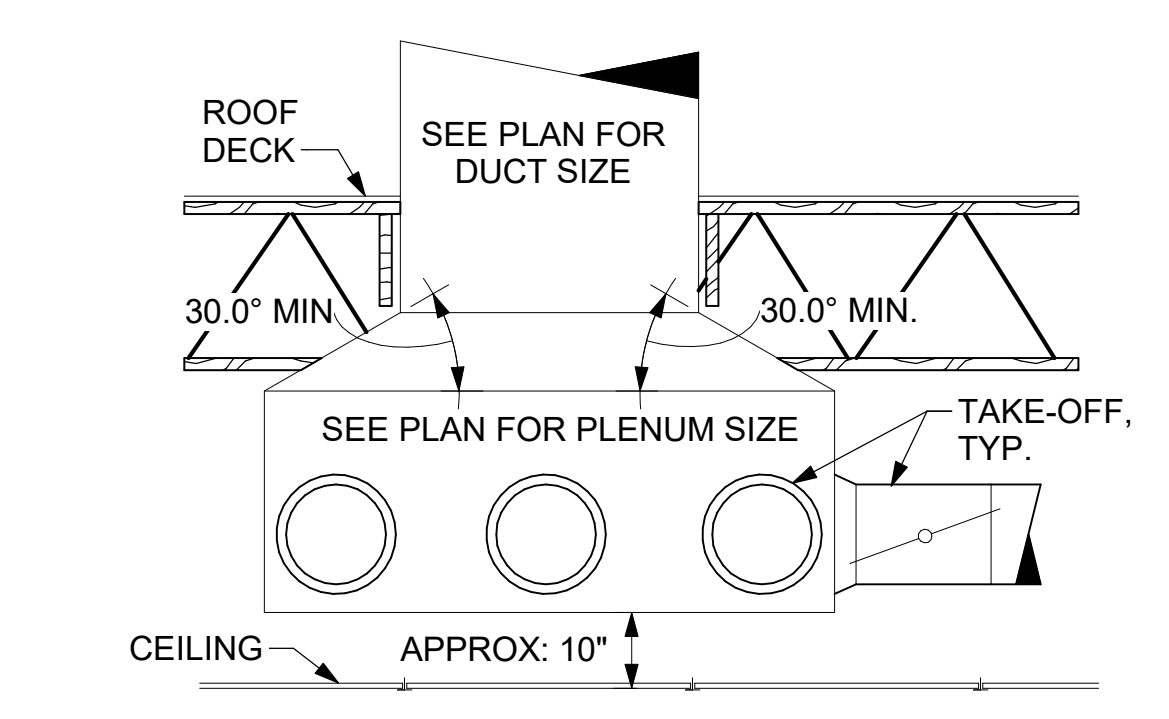
3 RESTROOM EXHAUST FAN
NOT TO SCALE



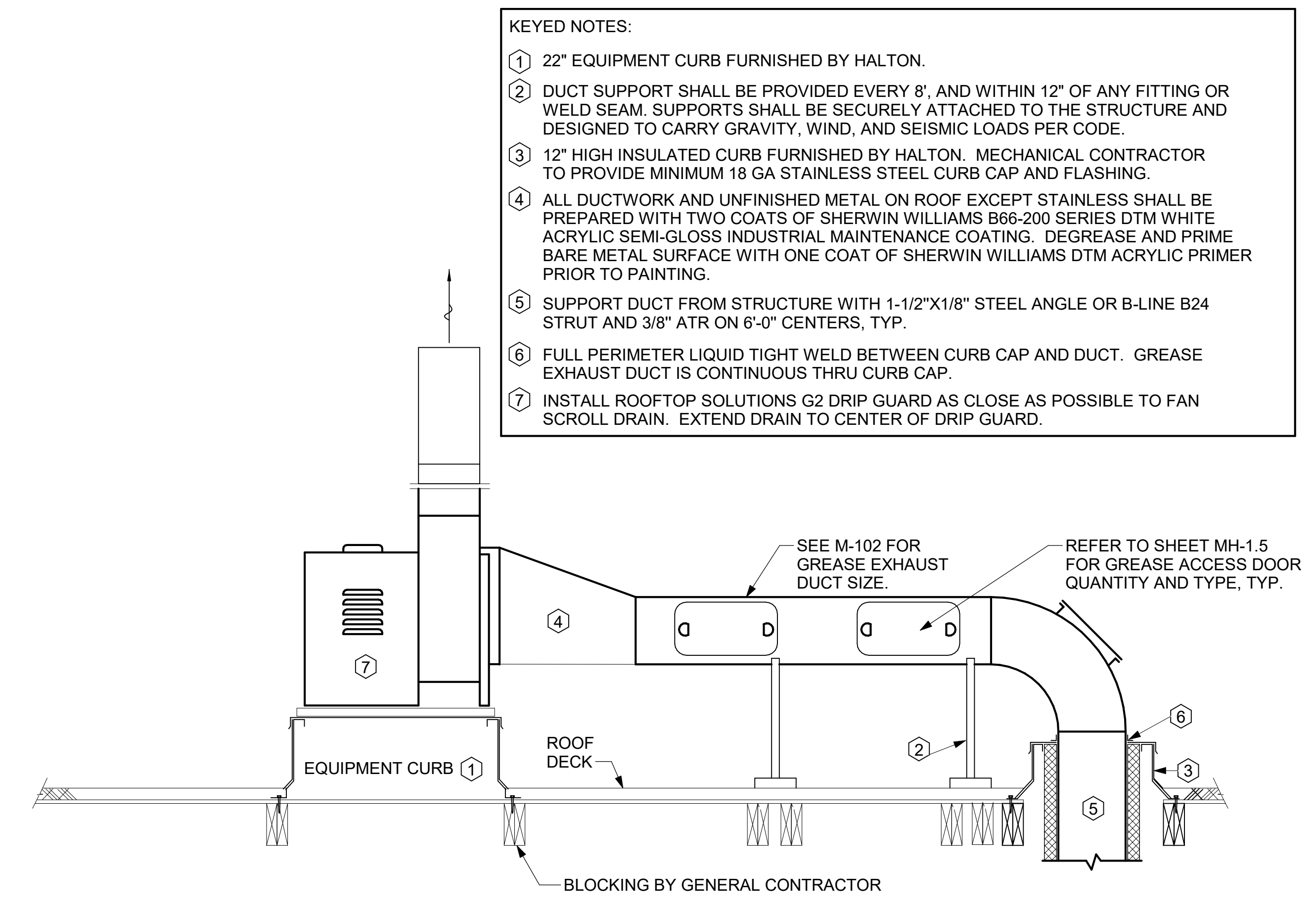
2 START COLLAR - LARGE
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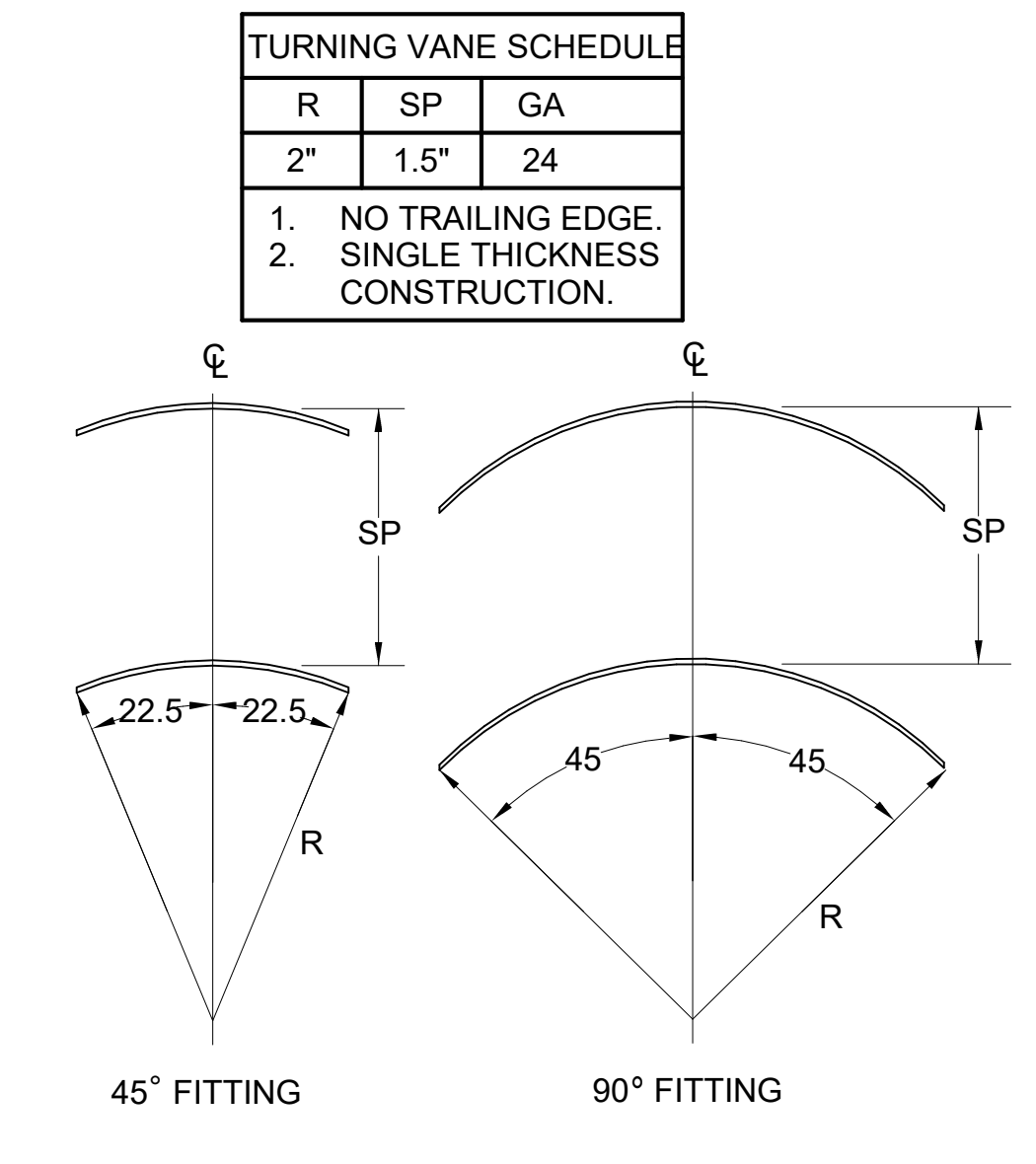
1 SAG/RAG/GRILLE TAKE-OFF - LARGE
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6 RETURN DROP GEOMETRY
NOT TO SCALE



5 KITCHEN HOOD EXHAUST FANS
NOT TO SCALE

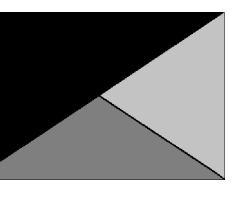


4 TURNING VANES
NOT TO SCALE



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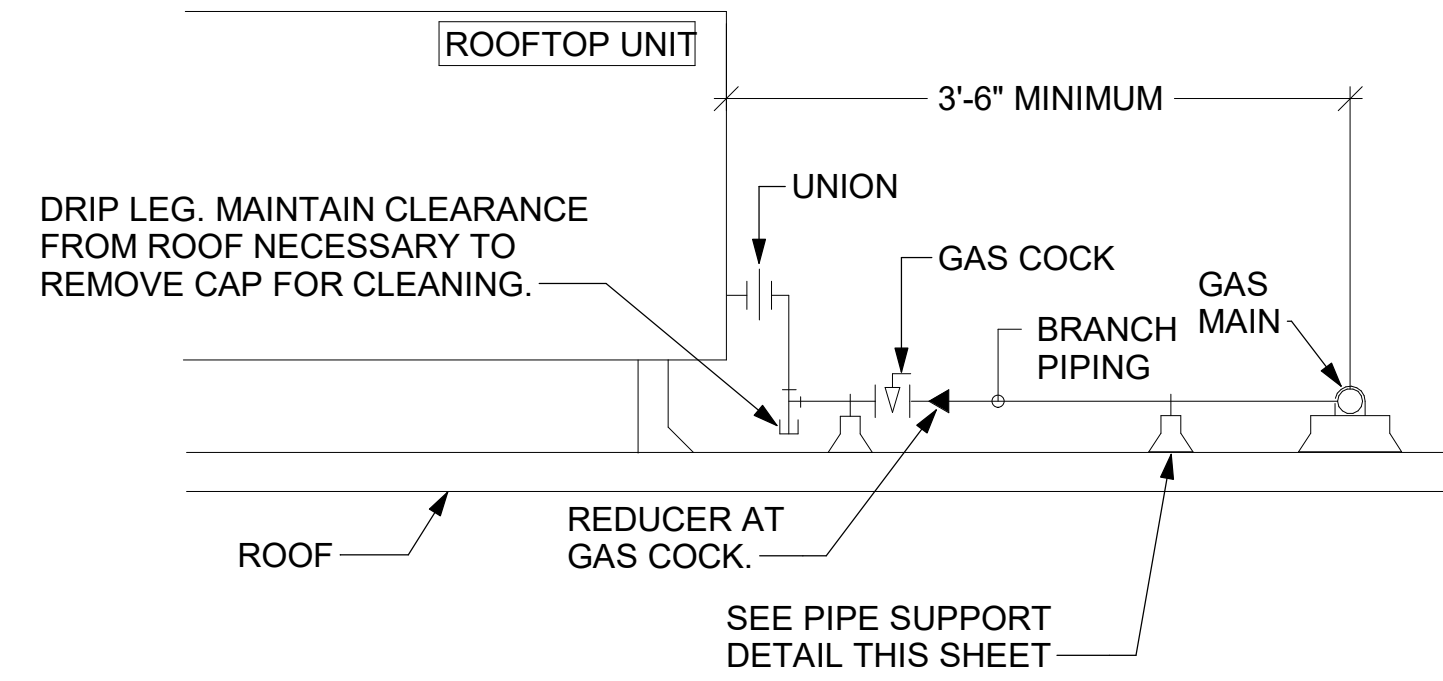
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SHEET
DETAILS

SHEET NUMBER
M-501

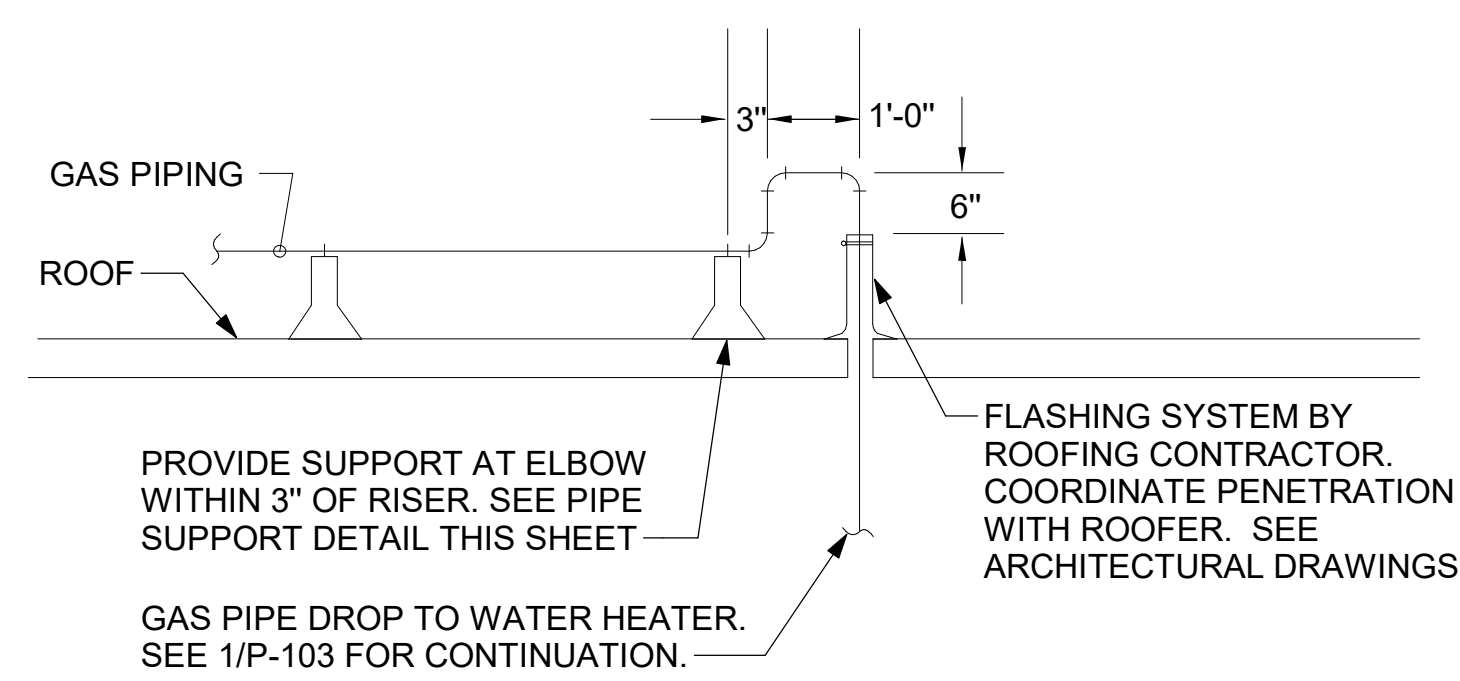
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30-LS-05559-M-501-DETAILS

- 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.

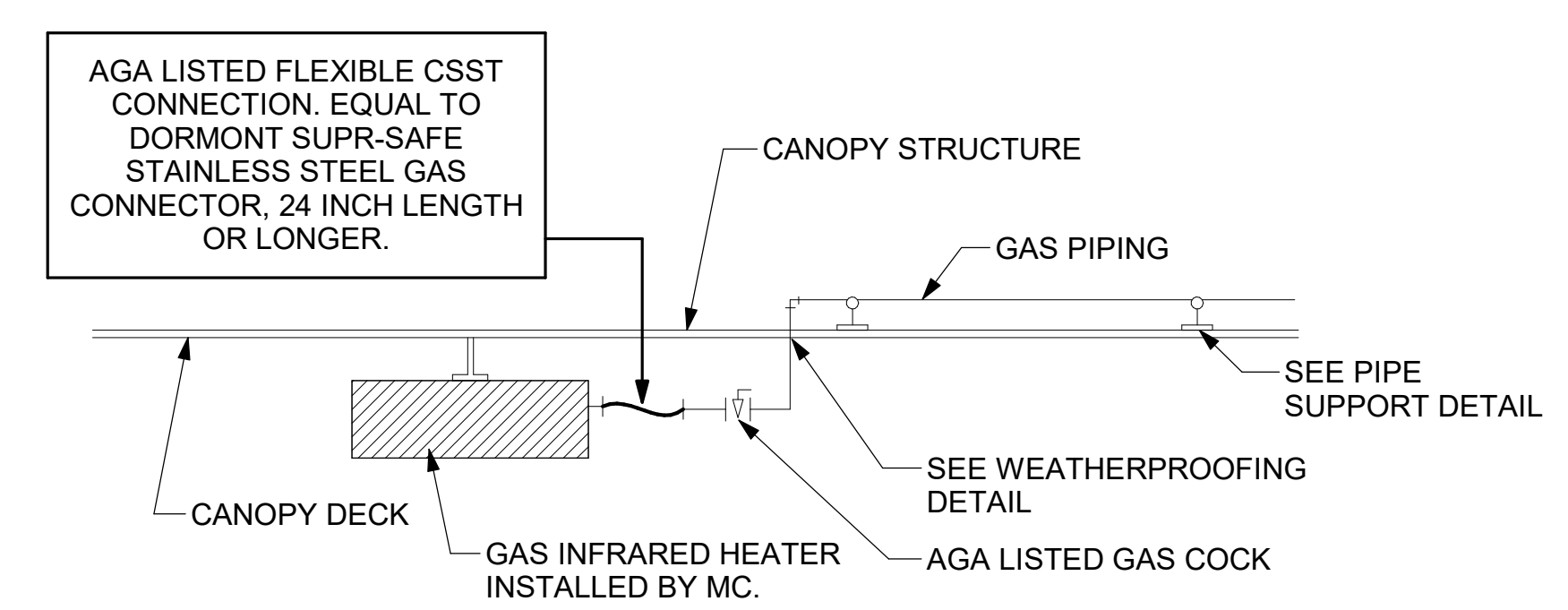


3 GAS PIPING AT RTU
NOT TO SCALE

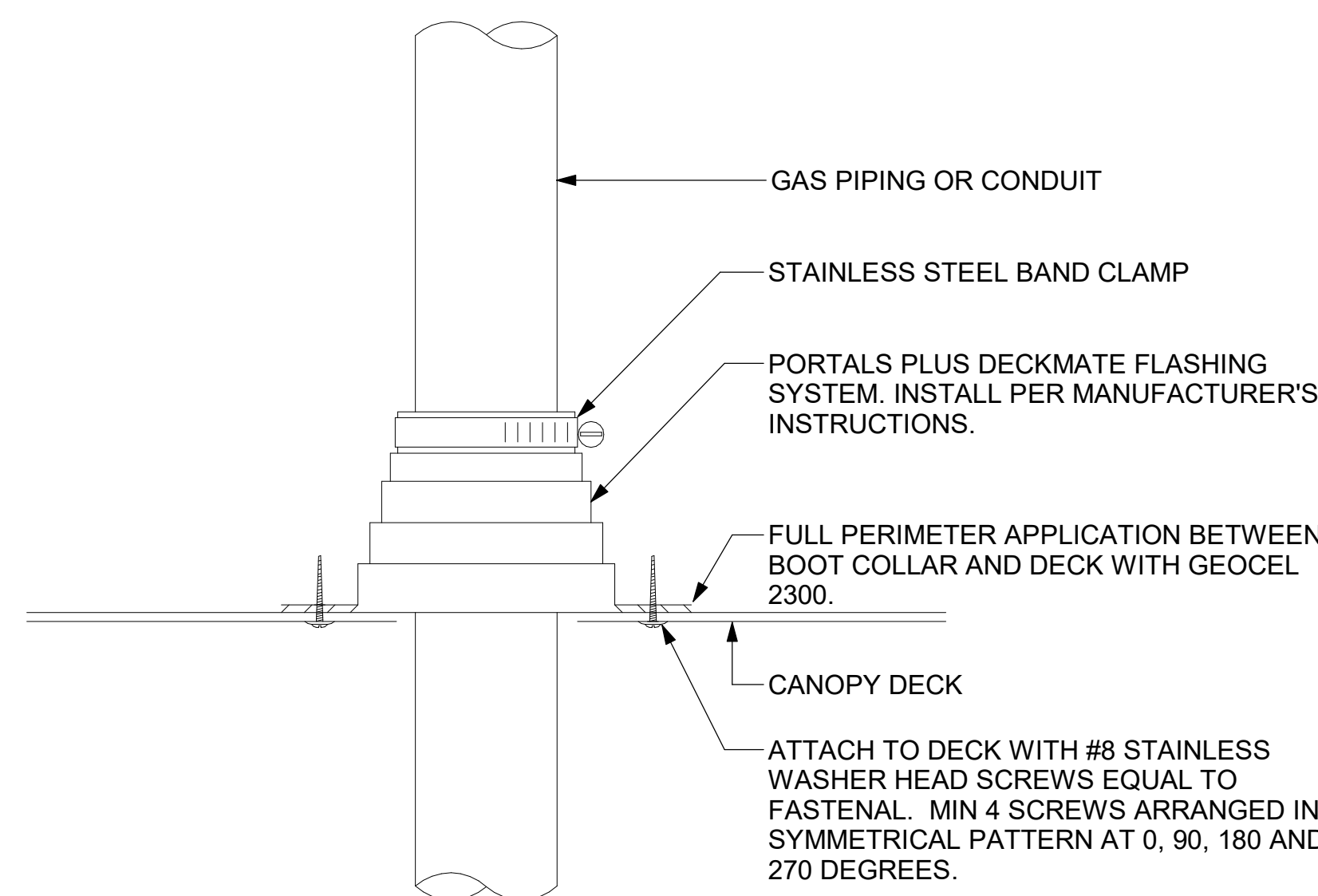
OFFSET PIPING A MINIMUM OF 6" ABOVE TOP EDGE OF FLASHING.



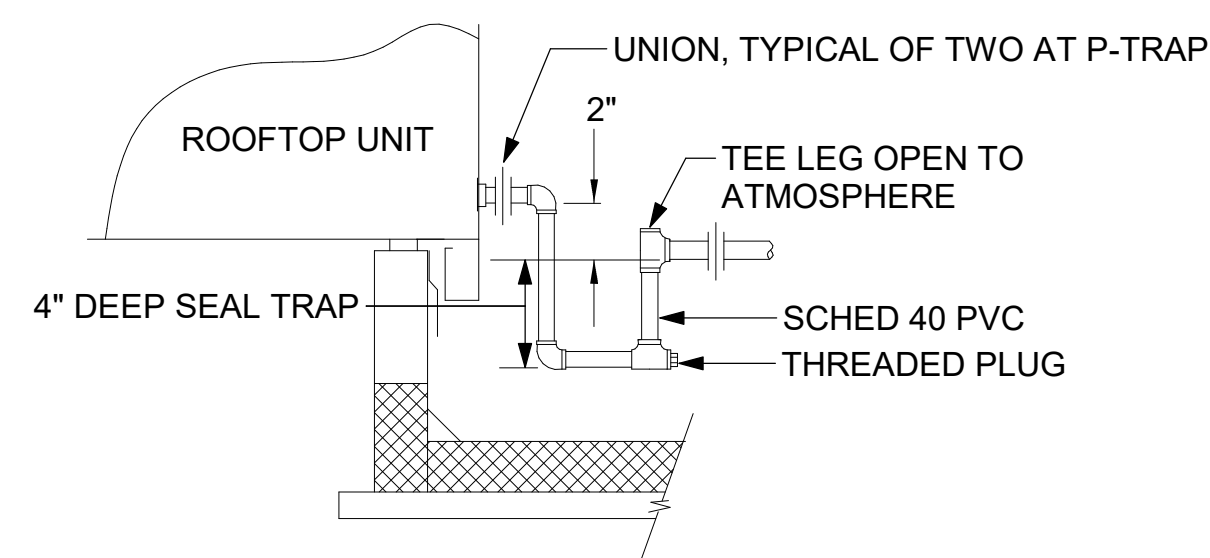
2 GAS PIPE DROP TO WATER HEATER
NOT TO SCALE



1 GAS CONNECTION AT APPLIANCE
NOT TO SCALE

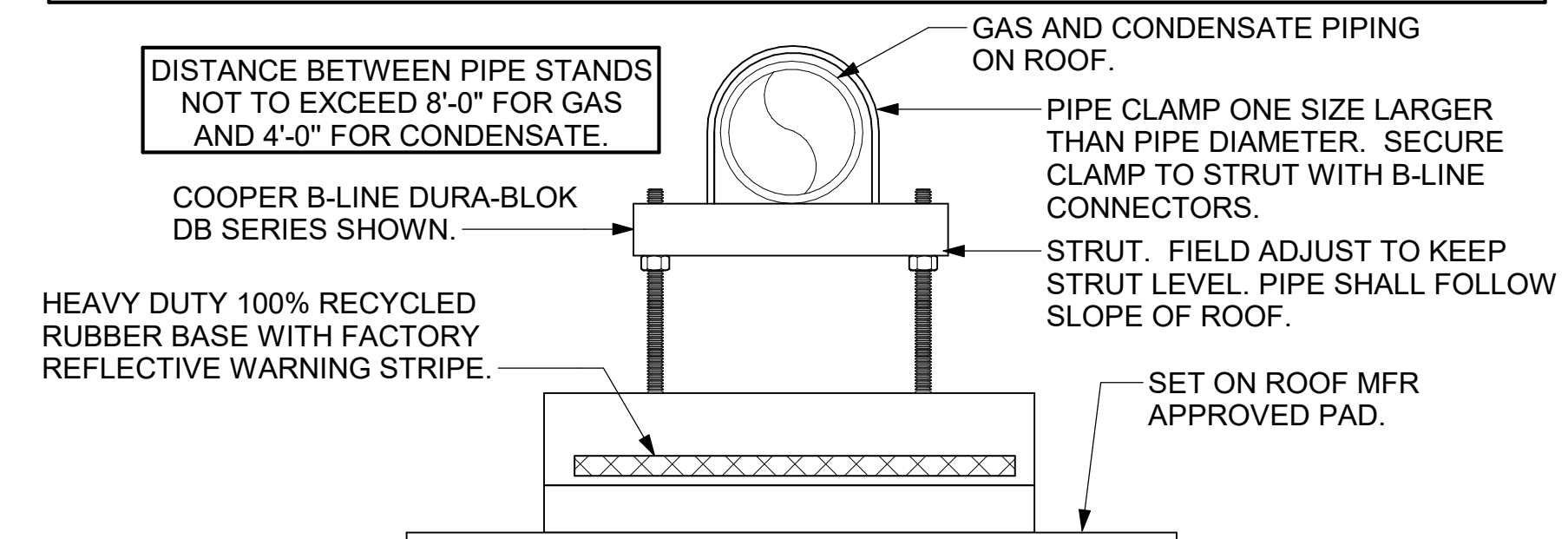


6 WEATHERPROOFING AT CANOPY PENETRATION
NOT TO SCALE

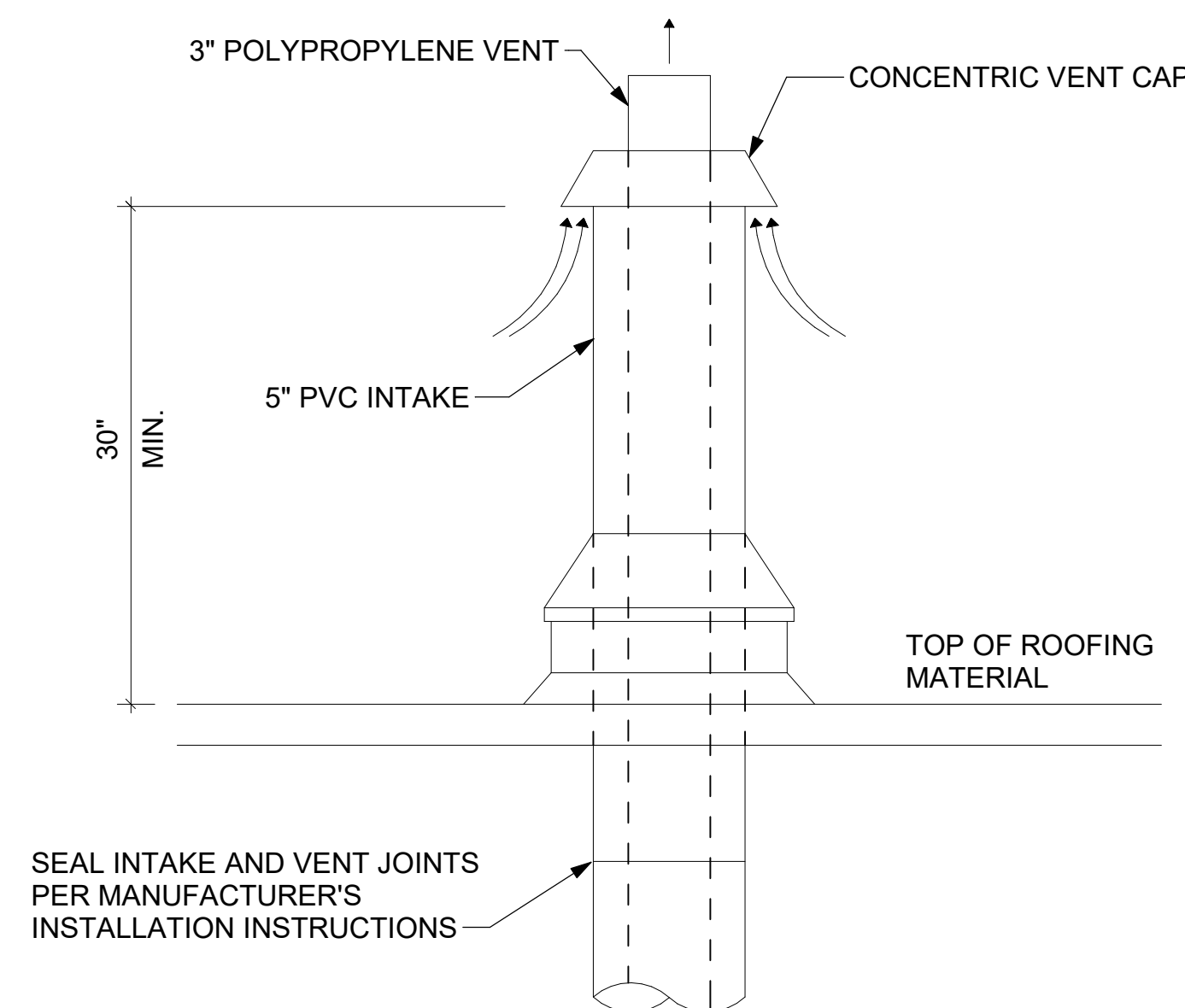


5 CONDENSATE DRAIN PIPING
NOT TO SCALE

- 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.



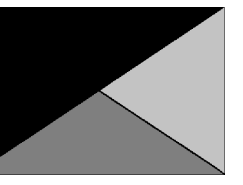
4 PIPING SUPPORT ON ROOF
NOT TO SCALE



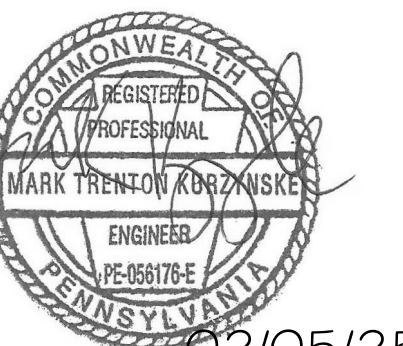
7 WATER HEATER VENT ROOF PENETRATION
NOT TO SCALE



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CHICK-FIL-A
SADSBURY FSR

NOVA WAY
PARKESBURG, PA 19365

FSR#05559

BUILDING TYPE / SIZE: P-14 LS BN

RELEASE: 24.05

PRINTED FOR CONSTRUCTION

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

SHEET NUMBER

CONSULTANT PROJECT # 24121.EH.S

DATE 11/18/2024

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SHEET DETAILS

SHEET NUMBER

M-502

ROOFTOP UNIT SCHEDULE - TRANE

MARK	MANUFACTURER	MODEL	EER	IEER/SEER	TOTAL WEIGHT	SUPPLY (CFM)	OA (CFM)	HP	ESP (in-wg)	TOTAL COOLING MBH	SENSIBLE COOLING MBH	HEATING INPUT MBH	HEATING OUTPUT MBH	VOLTAGE (V)	PHASE	MCA (A)	MOCP (A)	REMARKS
ACH1T	TRANE	YSK300A3S	9.8	13	2938.00 lbf	8,125	1,750	3	0.8	267.9	189.8	400	324	208	3	124	150	1,3,4,5,6,7,8,9,10,11,12,13,14
ACH2T	TRANE	YSK150A3S	10.8	14	1855.00 lbf	4,375	1,075	4.6	0.8	140.8	100.7	250	202.5	208	3	73	100	1,3,4,5,6,7,8,9,10,11,12,13,14
ACH3T	TRANE	YSK180A3S	10.8	14	2793.00 lbf	5,250	1,275	3	0.8	178.7	130.4	400	324	208	3	85	110	1,3,4,5,6,7,8,9,10,11,12,13,14
ACH4T	TRANE	YHK060A3S	13	16.4	1077.00 lbf	1,750	425	3	0.8	59.4	42.2	150	121.5	208	3	34	45	2,3,4,5,6,7,8,9,10,11,12,13,14

NOTES
 • MECHANICAL CONTRACTOR TO VERIFY TRANE SUBMITTAL WITH CONSTRUCTION DOCUMENTS. NATIONAL ACCOUNTS - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS
 1. DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST.
 2. DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST.
 3. 14" HIGH ROOF CURB.
 4. SEE DETAIL 2M-701T FOR SETTING OF CONTROL PARAMETERS BY MC.
 5. FACTORY INSTALLED 115V GFI SERVICE OUTLET. SEPERATE 115V CIRCUIT PROVIDED BY ELECTRICAL CONTRACTOR.
 6. FACTORY INSTALLED RETURN AIR SMOKE DETECTOR.
 7. FACTORY HIGH FAULT SCCR (65K) AND FACTORY PROVIDED CIRCUIT BREAKER.
 8. 2" MERV 8 THROW AWAY FILTERS.
 9. HINGED PANELS FOR ACCESS TO FILTER(S), FAN BLOWER & MOTOR, COMPRESSOR(S) ACCESS AND CONTROLS.
 10. FACTORY INSTALLED COIL HAIL GUARD.
 11. HOT GAS DEHUMIDIFICATION OPTION WITH WALL MOUNTED HUMIDITY SENSOR.
 12. FACTORY CONFIGURED PHASE LOSS PROTECTION.
 13. FACTORY INSTALLED CONDENSATE PAN DRAIN OVERFLOW SWITCH.
 14. FRESH AIR TEMPERING KIT.

FAN SCHEDULE

MARK	FAN CFM	ESP (in-wg)	MOTOR RPM	HP	AREA SERVED	VOLTAGE (V)	PHASE	FLA (A)	MOCP (A)	MODEL	MANUFACTURER	REMARKS
CF-1	1,900	0.01	1,625	0.1	OUTDOOR CANOPY	120	1	1.1	20	U-18-TE-HD	TPI	20,21,22
EF#1	1,913	0.75	1,747	1	HOOD#1	120	1	16	30	KEFB-14-CFA	HALTON	1,2,3,4,5,6,7,8,9,10,11
EF#2	1,402	0.95	1,522	1	HOOD#2 & HOOD#3	120	1	16	30	KEFB-14-CFA	HALTON	1,2,3,4,5,6,7,8,9,10,11
EF#3	300	0.375	1,207	0.125	RESTROOMS	120	1	2.2	20	XRED-095-VG	ACCUREX	1,3,11,12,13,14,15,16
TF#1	450	0.3	1,070	0.127	TECH CLOSET	120	1	2.5	20	SP-A510-VG	GREENHECK	1,17,18,19

NOTES
 • NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS
 1. FANS SUPPLIED BY HALTON.
 2. U.L. 705 LISTED AND LABELED FOR RESTUARANT APPLICATIONS.
 3. FACTORY INSTALLED PREWIRED DISCONNECT SWITCH.
 4. 22" HIGH ROOF CURB.
 5. INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD. MECHANICAL CONTRACTOR TO CONTACT ROOFTOP SOLUTIONS AT 800-913-7034.
 6. FACTORY WEATHER HOUSING W/ HINGED ACCESS DOOR.
 7. FACTORY DRAIN CONNECTION.
 8. FACTORY BOLTED ACCESS DOOR ON SCROLL.
 9. FACTORY INSTALLED BELT DRIVE WITH ADJUSTABLE MOTOR SHEAVE, SPARE BELT, AND BELT TENSIONER.
 10. FACTORY INSTALLED OUTLET WITH QUICK RELEASE, HINGED ACCESS, AND GRAVITY BACKDRAFT DAMPER.
 11. INTEGRAL THERMAL OVERLOAD.
 12. BIRDSCREEN.
 13. BACKDRAFT DAMPER IN DUCT BY MECHANICAL CONTRACTOR AS SHOWN ON 3/M-501.
 14. STARTER BY ELECTRICAL CONTRACTOR. INTERLOCK WITH LIGHTS BY ELECTRICAL CONTRACTOR.
 15. 12" HIGH CURB.
 16. FACTORY INSTALLED AND WIRED SPEED CONTROLLER.
 17. PROVIDE NEMA 1 PREWIRED DISCONNECT.
 18. INTEGRAL POTENTIOMETER ON FAN MOTOR. SET TO FULL SPEED.
 19. PROVIDE THERMOSTAT / TEMPERATURE CONTROLLER, SET TO 76°F.
 20. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
 21. PROVIDE WITH ON/OFF SWITCH.
 22. FAN SUPPLIED BY TOM BARROW OR POWERS OF ARKANSAS FOR THE SOUTHWEST REGION.

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"	36"	38"	HALTON	KVL-2-IC	1
HOOD#1R	709	0.13	47 @ 0.30"	BACKSHELF	8"X8"	63"	36"	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
 1. REFER TO HOOD SHOP DRAWINGS FOR HOOD CONSTRUCTION AND OPTIONS. PRELIMINARY HOOD SHOP DRAWINGS ARE INCLUDED FOR REFERENCE ON SHEETS MH-1.1, MH-1.2, AND MH-1.3.

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.	DINING/ KITCHEN	VARIES	24"x24"	LAY-IN	1,7
B	VARITHERM PLAQUE DIFFUSER	OFFICE	8"	24"x24"	LAY-IN	1,7,8
C	PRICE MODEL SMCD STEEL SUPPLY AIR DIFFUSER FIELD ADJUSTABLE AIR PATTERN CONTROLLERS.	ENTRY	14"x14"	19"x19"	BEVELLED	1,3,5,6
D	PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS.	DINING/ KITCHEN	VARIES	16"x16"	LAY-IN	1,2,3,5,6
E	PRICE MODEL 22 DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY GRILLE. FRONT BLADE PARALLEL TO LONG SIDE.	PLAY AREA	12"x10"	14"x12"	SURFACE	1
F	PRICE MODEL 80 EGGCRATE RETURN AIR GRILLE WITH REMOVABLE WHITE CORE. FACTORY FLAT BLACK BACKPAN AND ROUND NECK.	KITCHEN / DINING / OFFICE	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	1,3,4,5,6
K	PRICE MODEL APDDR ALUMINUM PERFORATED FACE RETURN AIR GRILLE.	RESTROOMS / ENTRY	14"x14"	16"x16"	SURFACE	1,4,5,6
L	PRICE MODEL 21 ALUMINUM SIDEWALL RETURN GRILLE. FRONT BLADE PARALLEL TO LONG SIDE.	PLAY AREA	14"x14"	16"x16"	SURFACE	1

NOTES
 • NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS
 1. STANDARD OFF WHITE FINISH.
 2. PROVIDE PRICE MODEL AMF SURFACE MOUNT FRAME.
 3. SEE DRAWING M-101 FOR THROW TRANSITION.
 4. PROVIDE FACTORY MOUNTED MODEL VCS3 NECK DAMPER AND FIELD INSTALLED RECTANGULAR TO ROUND TRANSITION.
 5. PROVIDE BACKPAN. MC TO SEAL JOINTS WITH MASTIC AND INSULATE EXTERNALLY.
 6. FIELD INSULATE BACKPAN AS SHOWN ON DETAIL 1/M-501.
 7. FACTORY INSULATED R-6 BACKPAN.
 8. PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER.

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"	13.4"	BRACKET	120	1	0.4	20	WB50	SPACE-RAY	1, 5, 6, 7

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

REMARKS
 1. STAINLESS STEEL LENS WITH BLACK EMISSIVE COATING.
 2. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND.
 3. PROVIDE BLACK HEATER WITH HIGH TEMPERATURE COATING, AND MANUFACTURER MOUNTING BRACKETS.
 4. PROVIDE BROMIC WALL MOUNTED ELECTRIC HEATER MODEL: BH0420033 FOR 220-240V SITES.
 5. STEEL BURNER WITH CERAMIC BURNER TILES.
 6. 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.
 7. STAINLESS STEEL HEAT SHIELDS.

AIR DOOR SCHEDULE

MARK	CFM	VELOCITY (FPM)	HEATING (KW)	MOTOR HP	MCA (A)	MOCP (A)	VOLTAGE (V)	PHASE	AREA SERVED	MODEL	MANUFACTURER	REMARKS
AD#1	1,543	2,338	10	0.75	31.4	40	208	3	DRIVE THRU	CHA-1-48E	POWERED AIRE	1,2,3,5
AD#2	3,867	4,218	0	0.75	8	20	120	1	REAR DOOR	RBT-1-48	POWERED AIRE	4
AD#3	1,197	2,443	10	0.75	31.4	40	208	3	SERVING	CHA-1-36E	POWERED AIRE	1,2,3,4

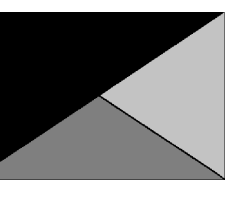
NOTES
 • NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.

REMARKS
 1. FACTORY PROVIDED, WIRED, AND UNIT MOUNTED SPEED CONTROLLER ABOVE CEILING.
 2. FACTORY WIRED DISCONNECT.
 3. FACTORY PROVIDED, FIELD INSTALLED BY MC, REMOTE WALL SWITCHES FOR HEATING ON/OFF AND FAN ON/AUTO SWITCH. SEE DETAILS ON M-701.
 4. FACTORY PROVIDED MAGNETIC DOOR CONTACT WITH FACTORY INSTALLED LOW VOLTAGE CONTROLS LOCATED IN AIR DOOR CABINET.
 5. PROVIDE WITH A DIVERTER BOX. PROVIDE WITH MOUNTING BRACKETS PER MANUFACTURER'S RECOMMENDATIONS.



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07/15/25

CHICK-FIL-A
SADSBURY FSR

NOVA WAY
PARKESBURG, PA 19365

FSR#05559

BUILDING TYPE / SIZE: P14 LS BN
 RELEASE: 24.05
 PRINTED FOR: CONSTRUCTION
REVISION SCHEDULE
 NO. DATE DESCRIPTION
 4 7-11-25 HOOD REVISION

CONSULTANT PROJECT # 24121.EH.S
 DATE 11/18/2024
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 SHEET: EQUIPMENT SCHEDULES - TRANE

SHEET NUMBER
M-601T

VENTILATION SCHEDULE

General			Ventilation													Exhaust					Served by				
Room #	Room Name	Area Az ft2	People			Area						Breathing Zone Outdoor Airflow CFM Vbz	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow CFM Voz	Primary Zone Airflow CFM Vpz	Primary Outdoor Air Fraction Zp	Actual Outdoor Airflow CFM	Area			Toilet		Actual Exhaust CFM	Supply	Exhaust
			Occupant Density People/1,000 ft2	Occupants People	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/ft2 Ra	Outdoor Airflow CFM Az x Ra	Required Exhaust Rate CFM/ft2	Total Required Exhaust CFM	Exhaust Control/Operation							Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM						
1	Kitchen	1,245	20	25	7.5	187.5	0.12	149	337	0.8	422	7,700	0.05	1,658	1	872	-	-	-	-	-	3,315	AC#1L / AC#1T	EF-1 / EF-2	
2	Scullery	126	15	2	7.5	15	0.18	23	38	0.8	48	425	0.11	92	-	-	-	-	-	-	-	-	AC#1L / AC#1T	-	
Total Area 1,371						Total Vbz 375						Total Supply Airflow 8,125			1,750 Actual Outdoor Airflow										
						Diversity (D) 0.74						Maximum Zp 0.11													
						Uncorrected Outdoor Air Intake (You) 330						System Ventilation Efficiency (Ev) 1.00													
						Required Outdoor Air Intake (CFM) 329																			

VENTILATION SCHEDULE

General			Ventilation													Exhaust					Served by				
Room #	Room Name	Area Az ft2	People			Area						Breathing Zone Outdoor Airflow CFM Vbz	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow CFM Voz	Primary Zone Airflow CFM Vpz	Primary Outdoor Air Fraction Zp	Actual Outdoor Airflow CFM	Area			Toilet		Actual Exhaust CFM	Supply	Exhaust
			Occupant Density People/1,000 ft2	Occupants People	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/ft2 Ra	Outdoor Airflow CFM Az x Ra	Required Exhaust Rate CFM/ft2	Total Required Exhaust CFM	Exhaust Control/Operation							Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM						
5	Meal Fulfillment Area	543	15	9	7.5	67.5	0.18	98	165	0.8	207	4,375	0.05	1,075	-	-	-	-	-	-	-	-	AC#2L / AC#2T	-	
Total Area 543						Total Vbz 165						Total Supply Airflow 4,375			1,075 Actual Outdoor Airflow										
						Diversity (D) 0.89						Maximum Zp 0.04													
						Uncorrected Outdoor Air Intake (You) 154						System Ventilation Efficiency (Ev) 1.00													
						Required Outdoor Air Intake (CFM) 154																			

VENTILATION SCHEDULE

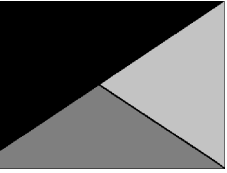
General			Ventilation													Exhaust					Served by				
Room #	Room Name	Area Az ft2	People			Area						Breathing Zone Outdoor Airflow CFM Vbz	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow CFM Voz	Primary Zone Airflow CFM Vpz	Primary Outdoor Air Fraction Zp	Actual Outdoor Airflow CFM	Area			Toilet		Actual Exhaust CFM	Supply	Exhaust
			Occupant Density People/1,000 ft2	Occupants People	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/ft2 Ra	Outdoor Airflow CFM Az x Ra	Required Exhaust Rate CFM/ft2	Total Required Exhaust CFM	Exhaust Control/Operation							Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM						
1	Dining	884	100	88	7.5	660	0.18	159	819	0.8	1,024	2,950	0.35	716	-	-	-	-	-	-	-	-	AC#3L	-	
2	Serving	472	15	7	7.5	53	0.12	57	110	0.8	138	1,050	0.13	255	-	-	-	-	-	-	-	-	AC#3L	-	
3	Men's RR	153	-	-	-	-	-	-	-	0.8	-	110	-	27	-	-	-	-	-	-	-	150	AC#3L	EF-3	
4	Women's RR	167	-	-	-	-	-	-	-	0.8	-	125	-	30	-	-	-	-	-	-	-	100	AC#3L	EF-3	
5	RR Vestibule	113	-	-	-	0.06	7	7	0.8	9	115	0.08	28	-	-	-	-	-	-	-	-	-	AC#3L	-	
6	Entry Vestibule	63	-	-	-	0.06	4	4	0.8	5	300	0.02	73	-	-	-	-	-	-	-	-	-	AC#3L	-	
7	Play Area	166	7	2	20	40	0.18	30	70	0.8	88	600	0.15	146	-	-	-	-	-	-	-	-	AC#3L	-	
Total Area 2,018						Total Vbz 1,010						Total Supply Airflow 5,250			1,275 Actual Outdoor Airflow										
						Diversity (D) 1.00						Maximum Zp 0.35													
						Uncorrected Outdoor Air Intake (You) 1,010						System Ventilation Efficiency (Ev) 0.80													
						Required Outdoor Air Intake (CFM) 1,263																			

VENTILATION SCHEDULE

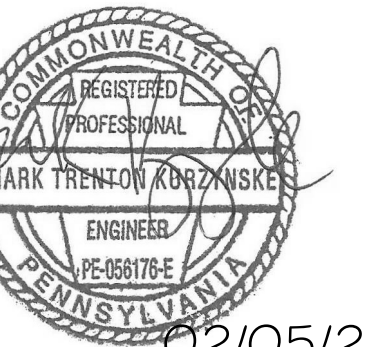
General			Ventilation													Exhaust					Served by				
Room #	Room Name	Area Az ft2	People			Area						Breathing Zone Outdoor Airflow CFM Vbz	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow CFM Voz	Primary Zone Airflow CFM Vpz	Primary Outdoor Air Fraction Zp	Actual Outdoor Airflow CFM	Area			Toilet		Actual Exhaust CFM	Supply	Exhaust
			Occupant Density People/1,000 ft2	Occupants People	Outdoor Airflow Rate CFM/Person Rp	Outdoor Airflow CFM Pz x Rp	Outdoor Airflow Rate CFM/ft2 Ra	Outdoor Airflow CFM Az x Ra	Required Exhaust Rate CFM/ft2	Total Required Exhaust CFM	Exhaust Control/Operation							Fixture Exhaust Rate CFM/Fixture	Required Fixture Exhaust CFM						
1	Team Member Room	195	50	10	5	50	0.06	12	62	0.8	78	650	0.12	158	-	-	-	-	-	-	-	-	-	AC#4L	-
2	Riser Room	41	-	-	-	-	0.12	5	5	0.8	6	175	0.03	43	-	-	-	-	-	-	-	-	-	AC#4L	-
3	Service / Beverage	198	-	-	-	-	0.12	24	24	0.8	30	650	0.05	158	-	-	-	-	-	-	-	-	-	AC#4L	-
4	Office	68	5	1	5	5	0.06	4	9	0.8	11	225	0.05	55	-	-	-	-	-	-	-	-	-	AC#4L	-
5	Flex Room	65	-	-	-	-	0.12	8	8	0.8	10	50	0.20	11	-	-	-	-	-	-	-	-	-	AC#4L	-
Total Area 567						Total Vbz 108						Total Supply Airflow 1,750			425 Actual Outdoor Airflow										
						Diversity (D) 1.00						Maximum Zp 0.20													
						Uncorrected Outdoor Air Intake (You) 108						System Ventilation Efficiency (Ev) 0.90													
						Required Outdoor Air Intake (CFM) 120																			



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



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



02/05/25

CHICK-FIL-A
SADSBURY FSR

NOVA WAY
PARKESBURG, PA 19365

FSR#05559

BUILDING TYPE / SIZE: P-14 LS BN
RELEASE: 24.05
PRINTED FOR: CONSTRUCTION
REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 24121.EH.S
DATE 11/18/2024
DRAWN BY BLM

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SHEET VENTILATION SCHEDULES

SHEET NUMBER

M-602

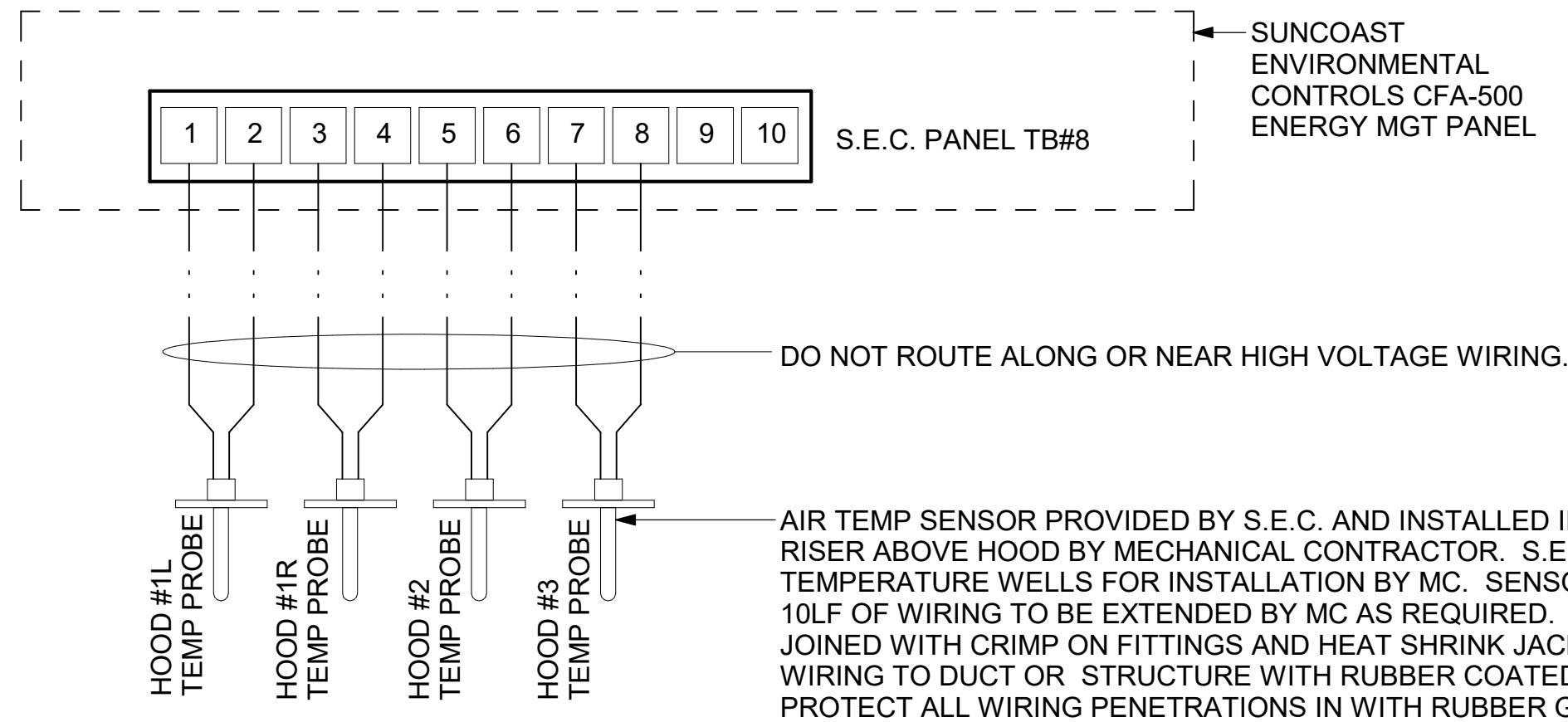
LEGEND	
S.E.C.	SUNCOAST ENVIRONMENTAL CONTROLS CFA-500 ENERGY MGT PANEL
M.C.	MECHANICAL CONTRACTOR
- - -	18 AWG MIN UNSHIELDED LOW VOLTAGE WIRING BY MC, U.N.O.

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

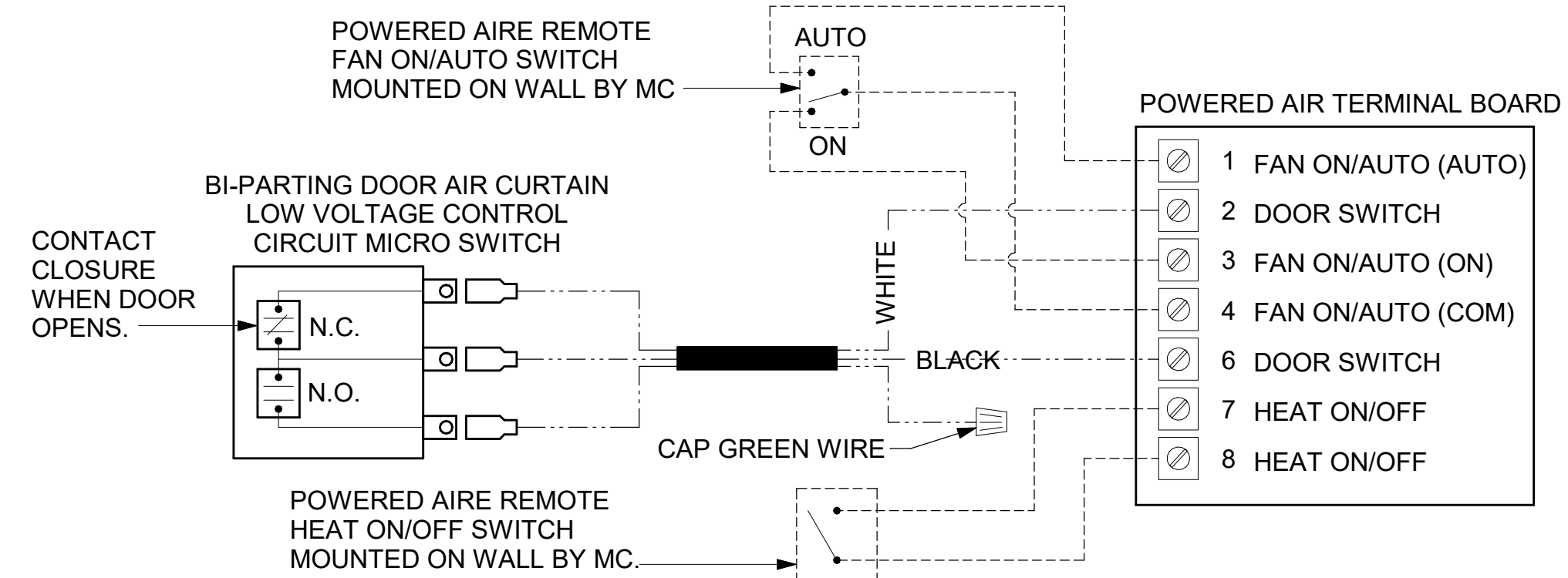
IN THE EVENT THAT ANY COOKING EQUIPMENT ITEM BENEATH ANY HOOD IS STARTED WITHOUT THE 'STORE SWITCH' BEING IN THE 'OCCUPIED' POSITION, THE H.E.S. CONTROLLER WILL SENSE THE HEAT RISE WITHIN THE HOOD CANOPY AND ENERGIZE THE EXHAUST FANS.



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

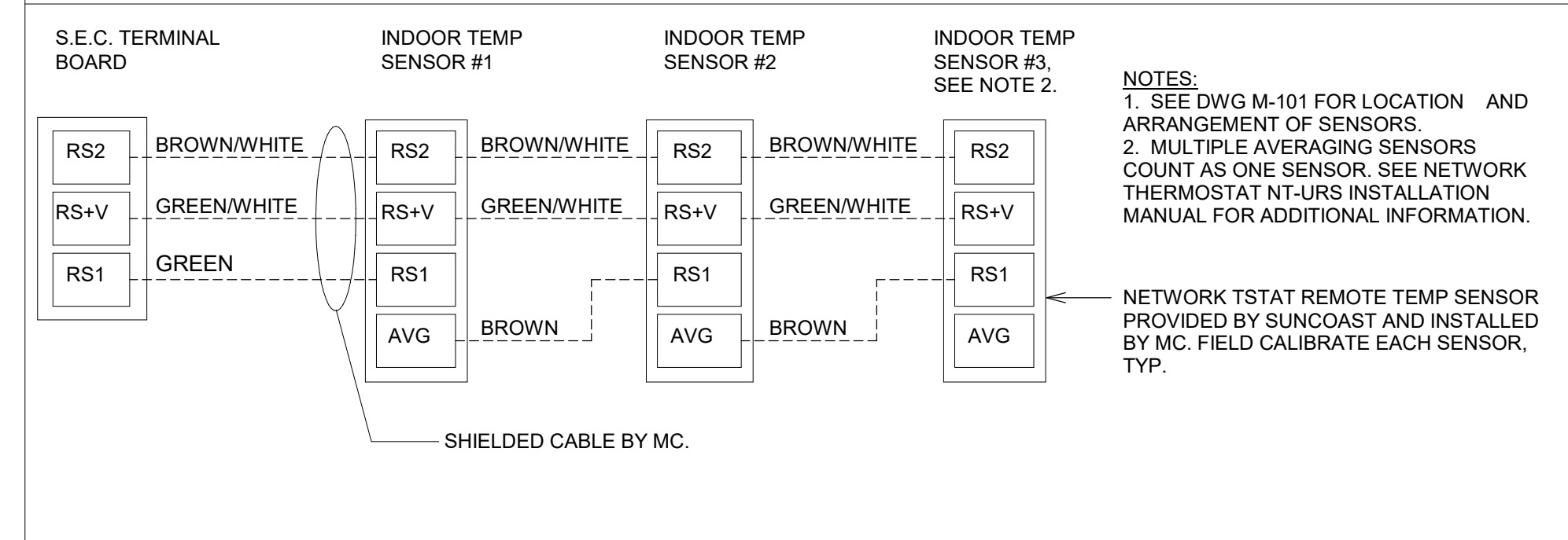
AD#3 IS NOT PROVIDED WITH A BI-PARTING DOOR SWITCH. AD#3 IS TO BE PROVIDED WITH A FACTORY DOOR SWITCH. CONTRACTOR TO LOCATE MAGNETIC CONTACT TYPE SWITCH IN DOOR FRAME ON STRIKE SIDE.

LEGEND	
- - -	18 AWG MIN LOW VOLTAGE WIRING BY MC, U.N.O.
- - -	22 AWG LOW VOLTAGE WIRING PROVIDED BY TORMAX. WIRING INSTALLED BY MC.



3 AIR CURTAIN WIRING DIAGRAM
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: BELDEN 8760 OR EQUAL.
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.

NOTES:

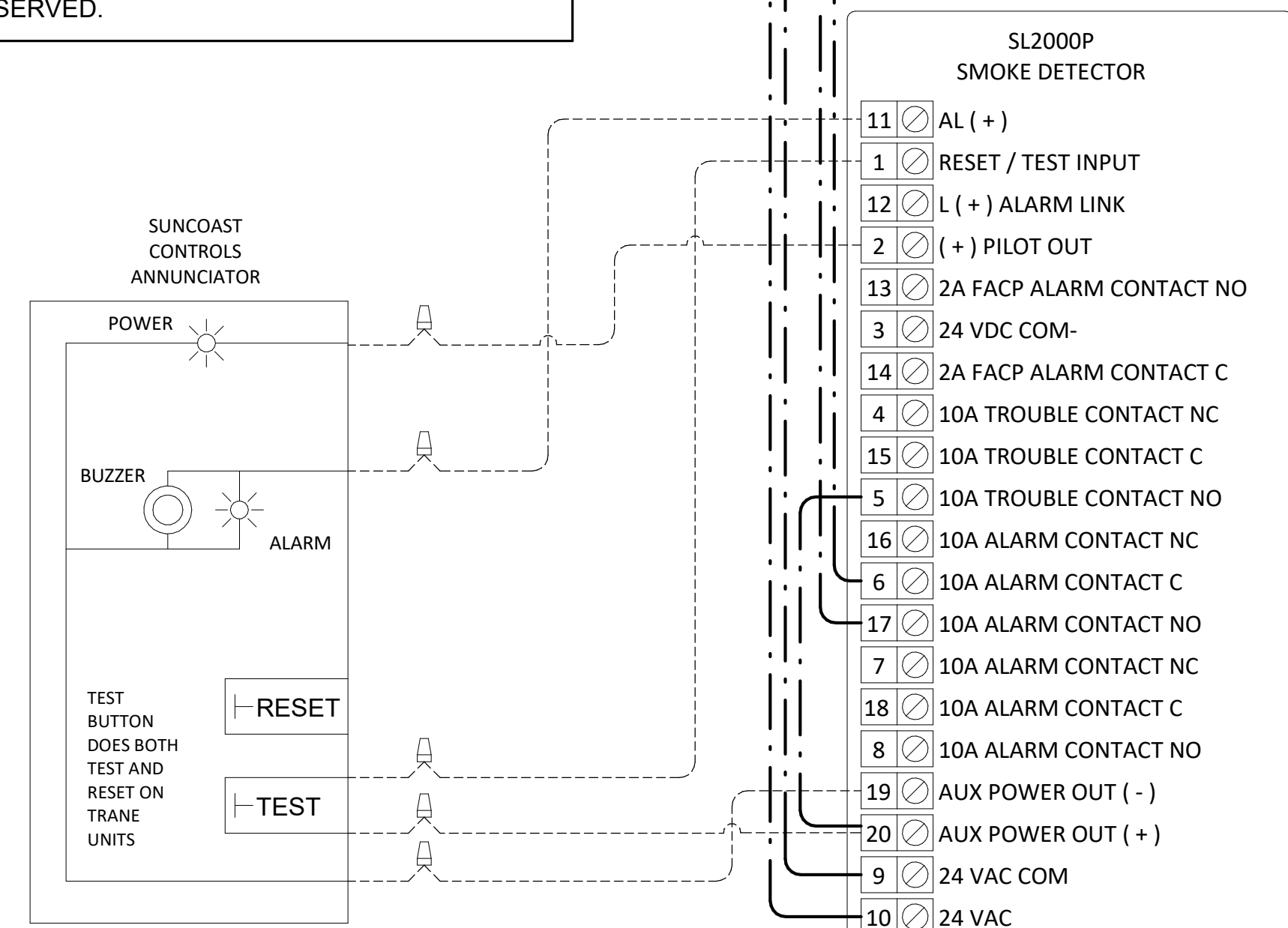
1. PROVIDE A PROFESSIONALLY LAMINATED COPY OF THESE DETAILS TO BE INSTALLED INSIDE THE ROOFTOP UNIT CONTROL CABINET. USE A SETON CHART FRAME STYLE #68624. TELEPHONE NUMBER 800-243-6624. FOR MOUNTING THE DETAIL, ATTACH THE FRAME TO THE INTERIOR OF THE UNIT IN PLAIN AND EASY VIEW OF THE CONTROLS SECTION. CONTACT ENGINEER OF RECORD FOR A REPRODUCIBLE COPY OF THE DETAIL.
2. SEE DETAILS IN THIS SHEET FOR SMOKE DETECTOR AND ANNUNCIATOR WIRING.
3. SET ALL THERMOSTATS TO AUTO CHANGEOVER.
4. PROVIDE PLASTIC ENGRAVABLE AT ALL SENSORS WITH 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND (E.G., "AC#2 HUMIDITY SENSOR" OR "AC#2 TEMP SENSOR"). PLACE LABELS ON WALL DIRECTLY ABOVE OR BELOW THE SENSOR. DO NOT APPLY LABEL DIRECTLY TO DEVICE.

FIELD INSTALLED WIRING: WITHIN THE ROOFTOP UNITS, WIRING SHALL BE ROUTED BY WAY OF FACTORY WIREWAYS 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

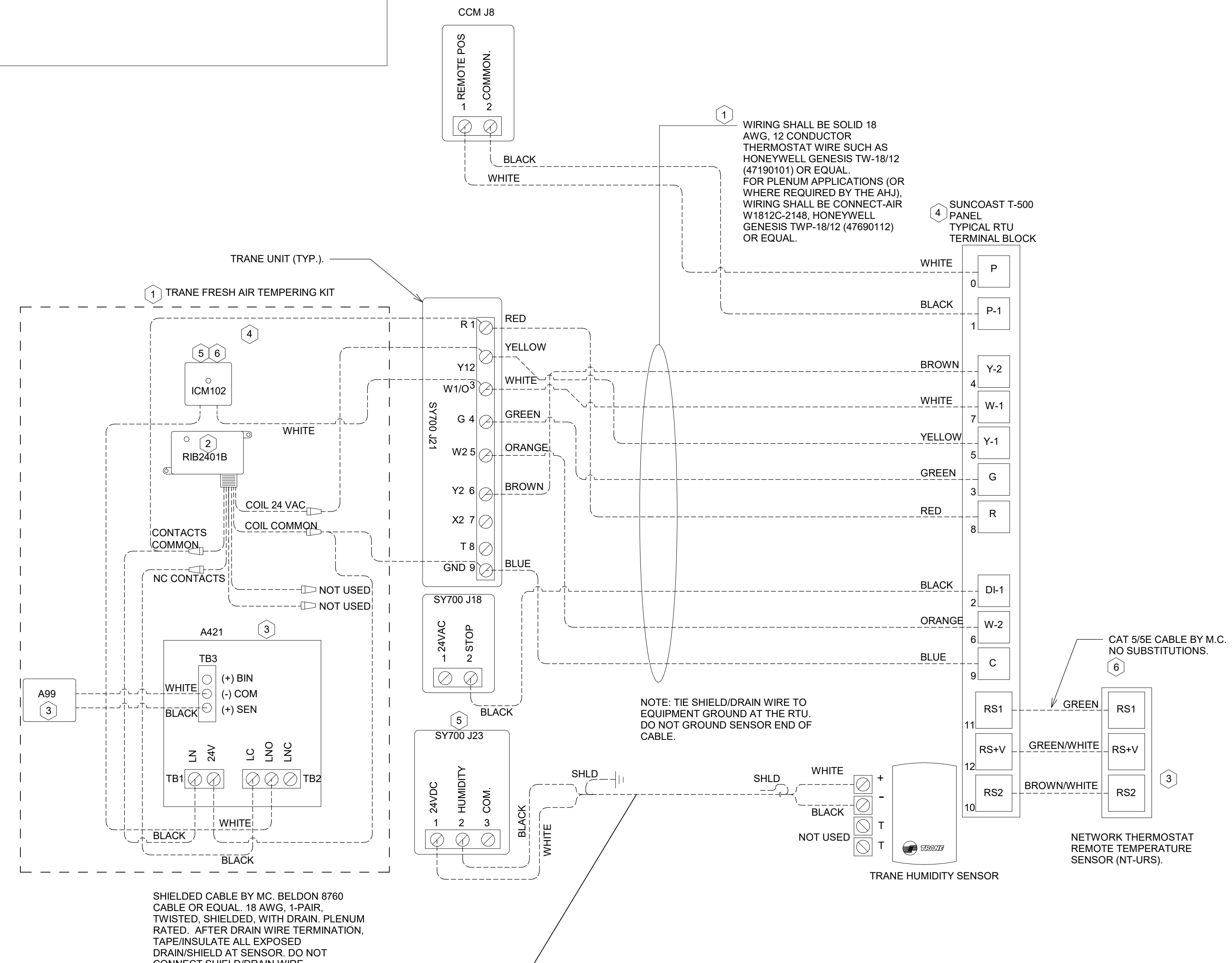
TRANE FACTORY WIRING



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

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 IN RTU CONTROL CABINET. CONTRACTOR SHALL INSTALL TRANE FURNISHED JCI A99 SENSOR IN THE SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT WITH TE8001-1 SENSOR DUCT MOUNTING PLATE FURNISHED BY TRANE. DO NOT RUN WIRING INSIDE DUCTWORK. SET A421 CONTROLLER PARAMETERS TO THE FOLLOWING:
• RELAY ON TEMPERATURE: 58°F
• RELAY OFF TEMPERATURE: 80°F
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 ROOFTOP UNIT.
6. SET TIME DELAY RELAY (ICM102) TO 2 MINUTES.

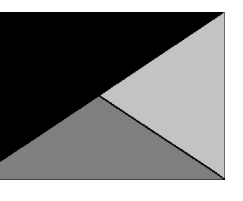


2 ROOFTOP UNIT CONTROL WIRING - TRANE
NOT TO SCALE



Chick-fil-A

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5200 Buffington Road
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30349-2998



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2705 Lebanon Pike - Suite One
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Telephone: (615) 255-5203



02/05/25

CHICK-FIL-A
SADSBURY FSR

NOVA WAY
PARKESBURG, PA 19365

FSR#05559

BUILDING TYPE / SIZE: P-14 LS BN
RELEASE: 24.05
PRINTED FOR: CONSTRUCTION
REVISION SCHEDULE
NO. DATE DESCRIPTION

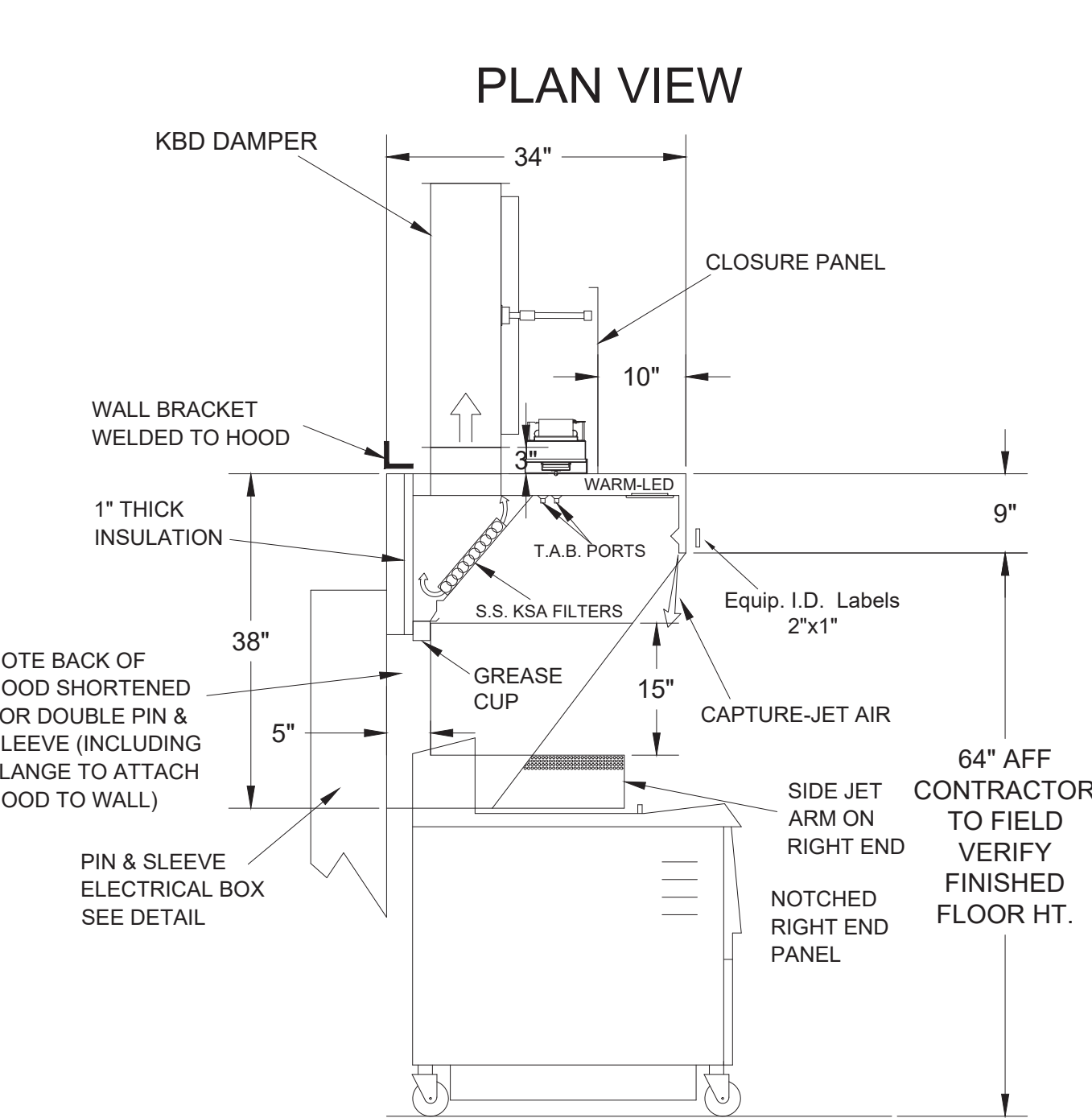
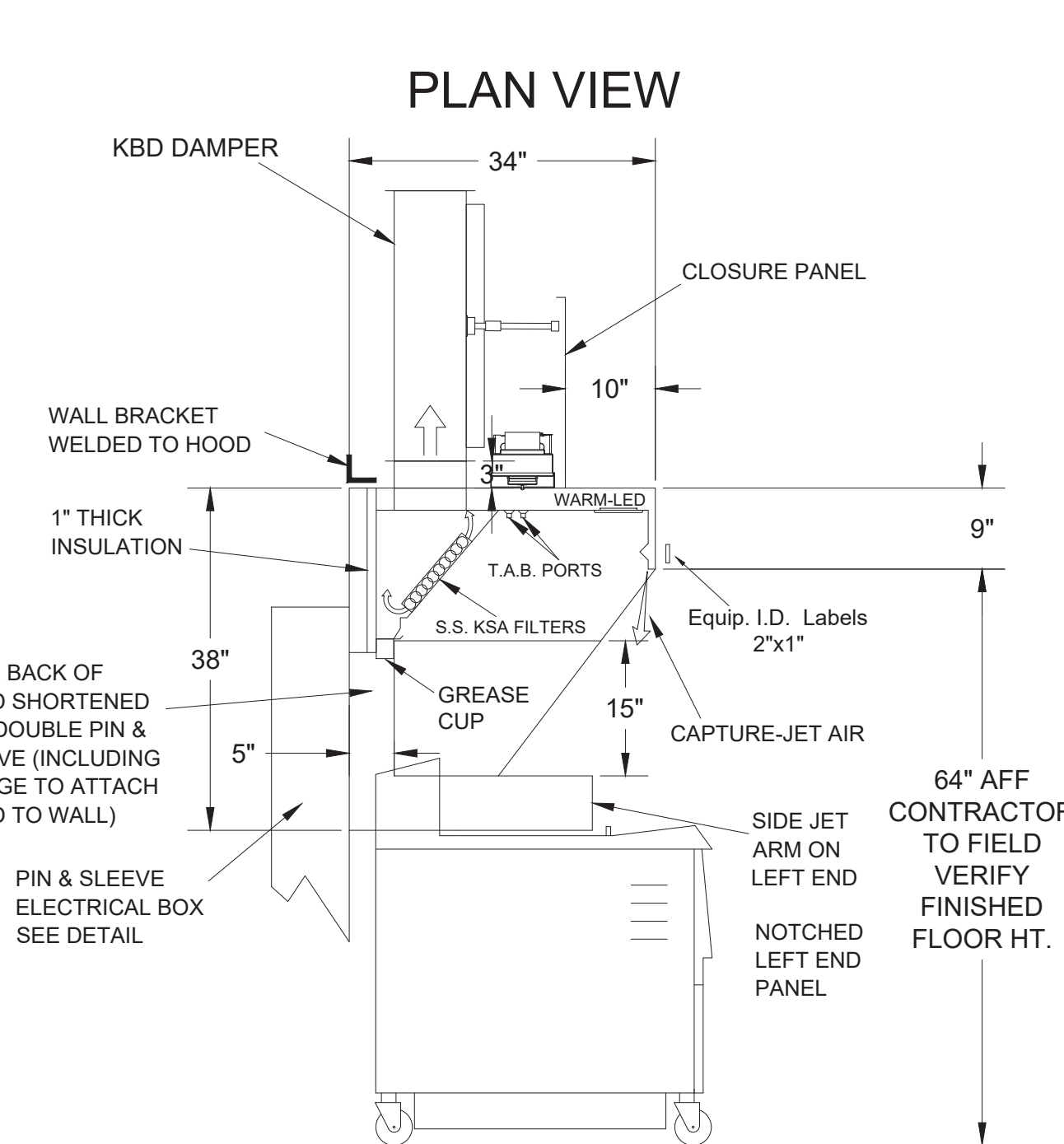
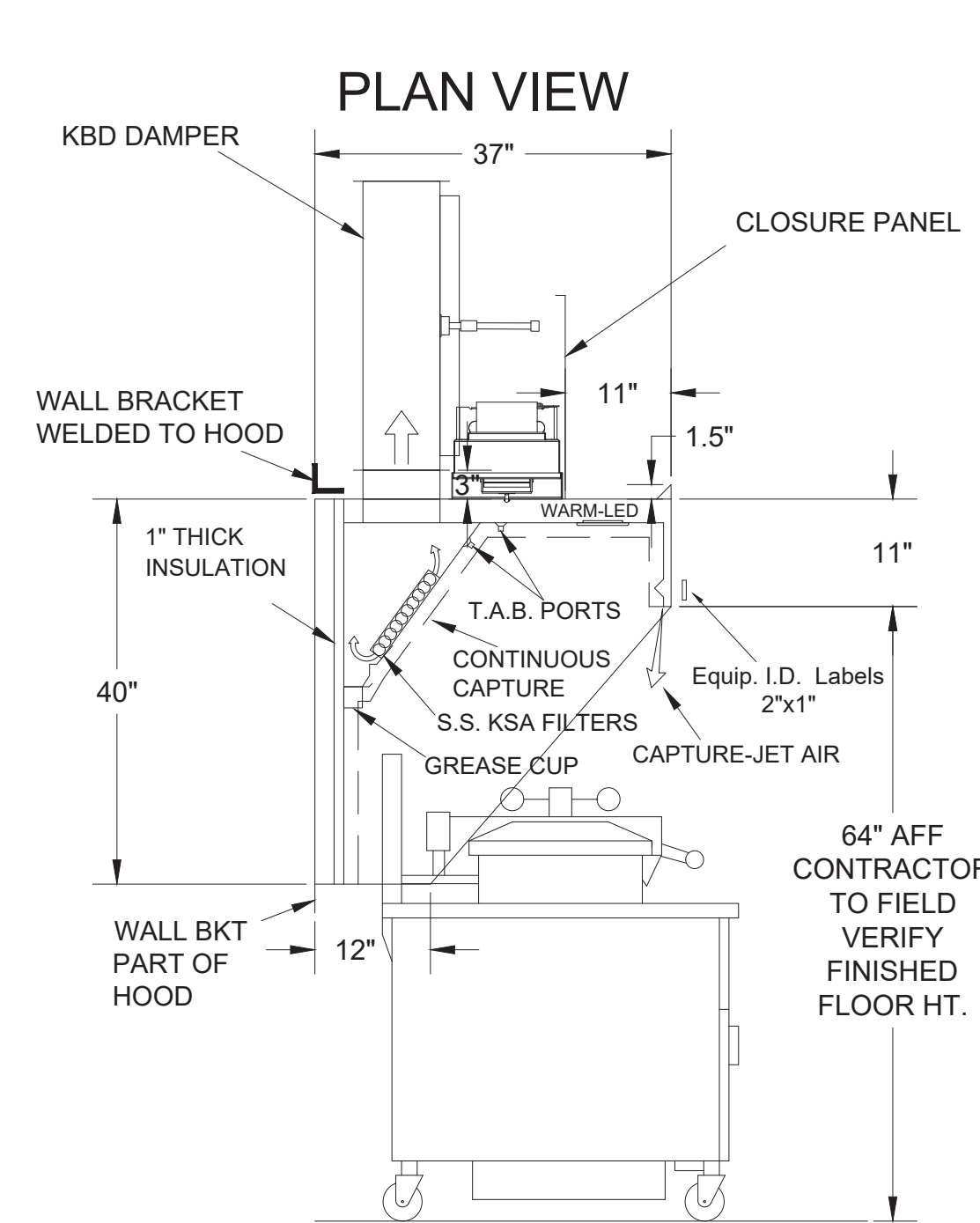
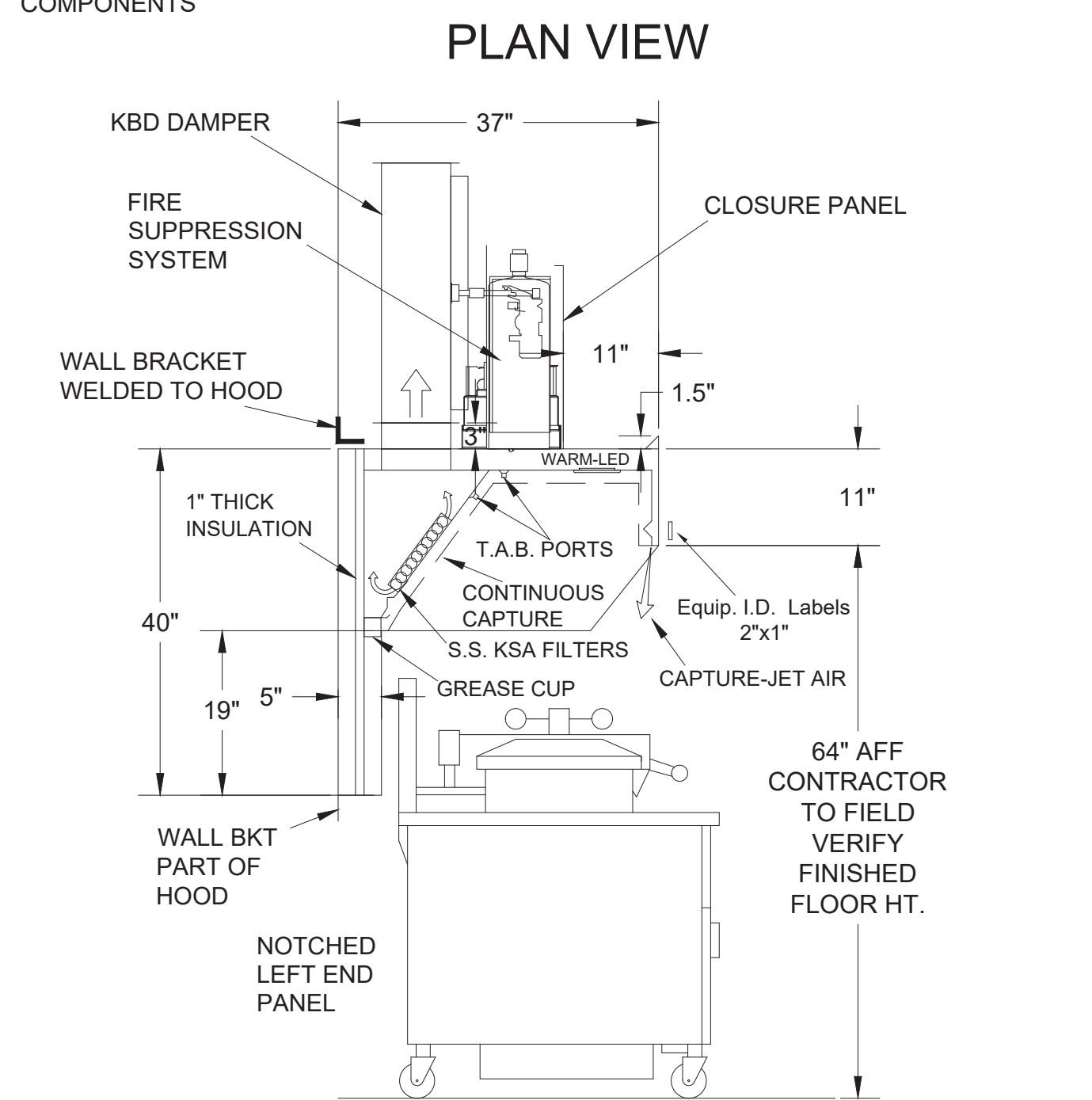
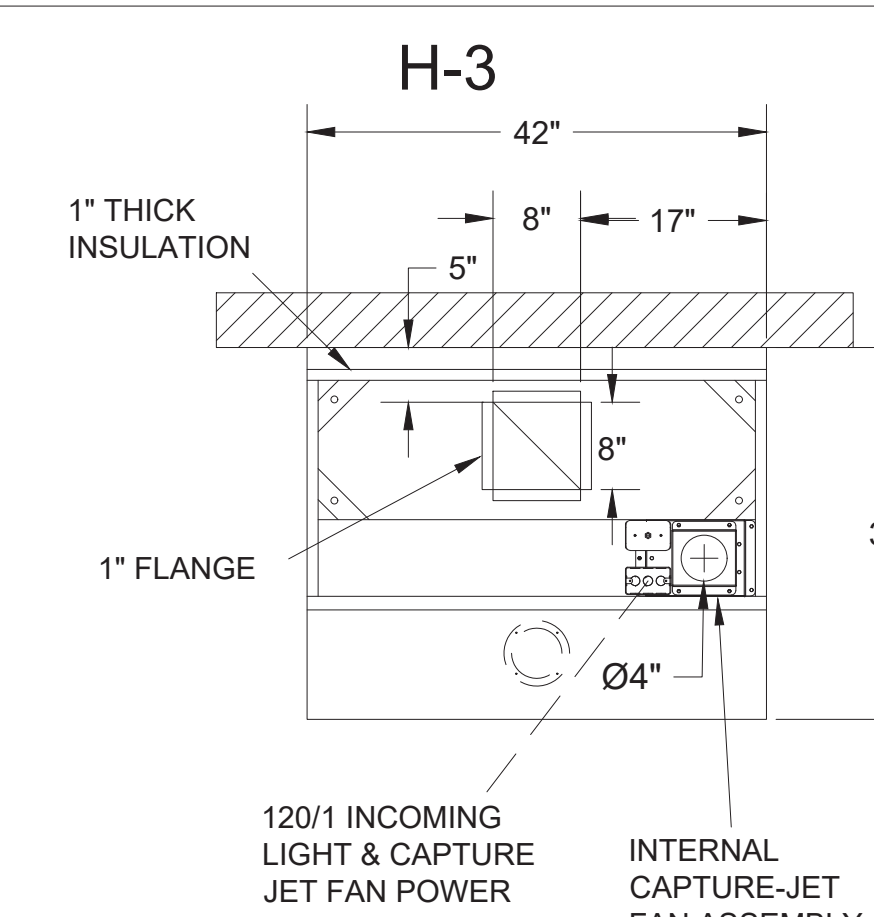
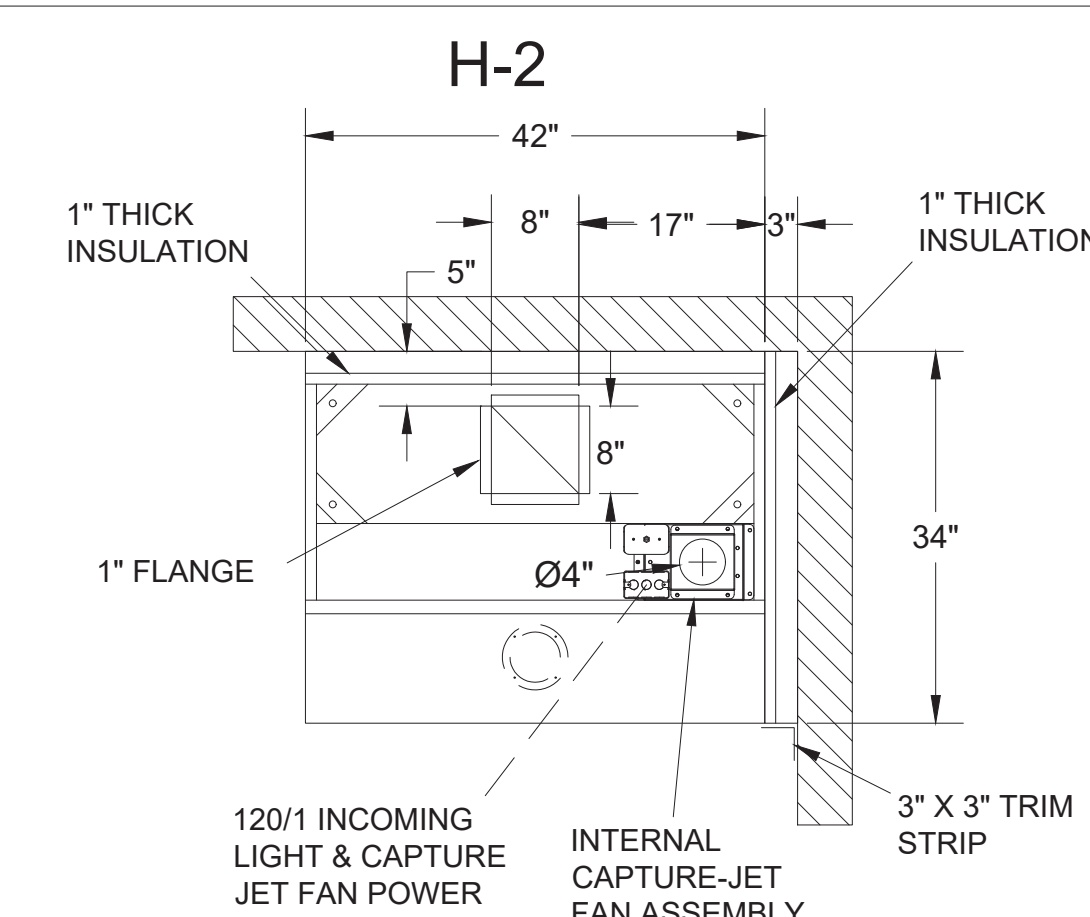
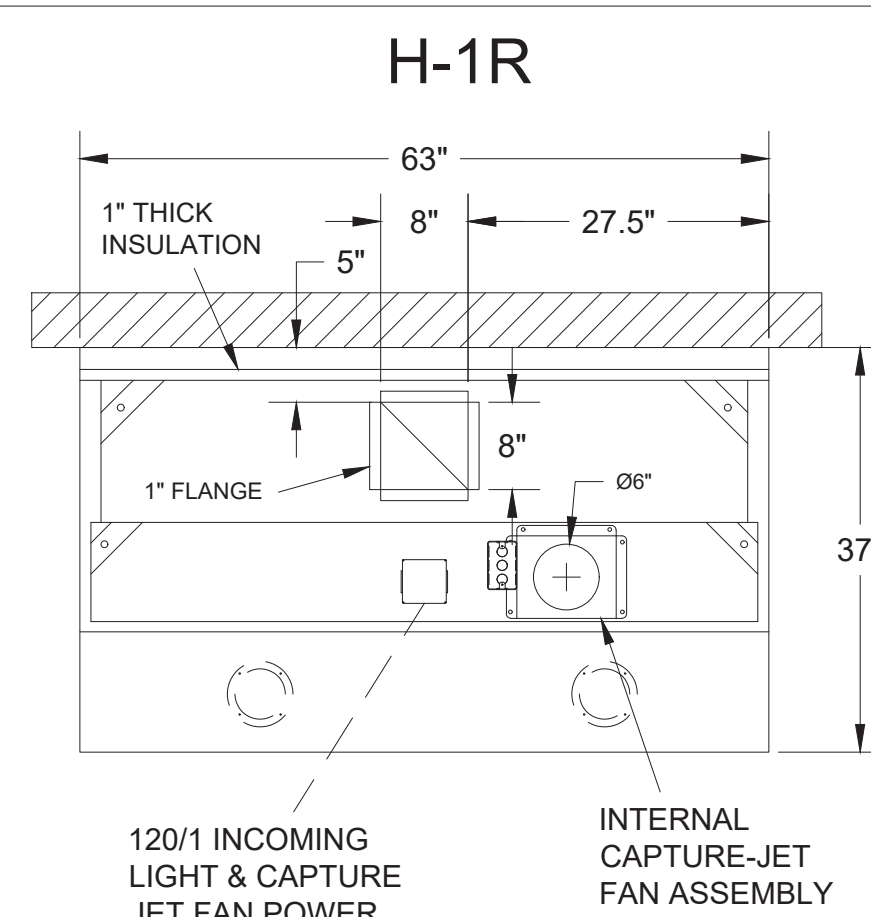
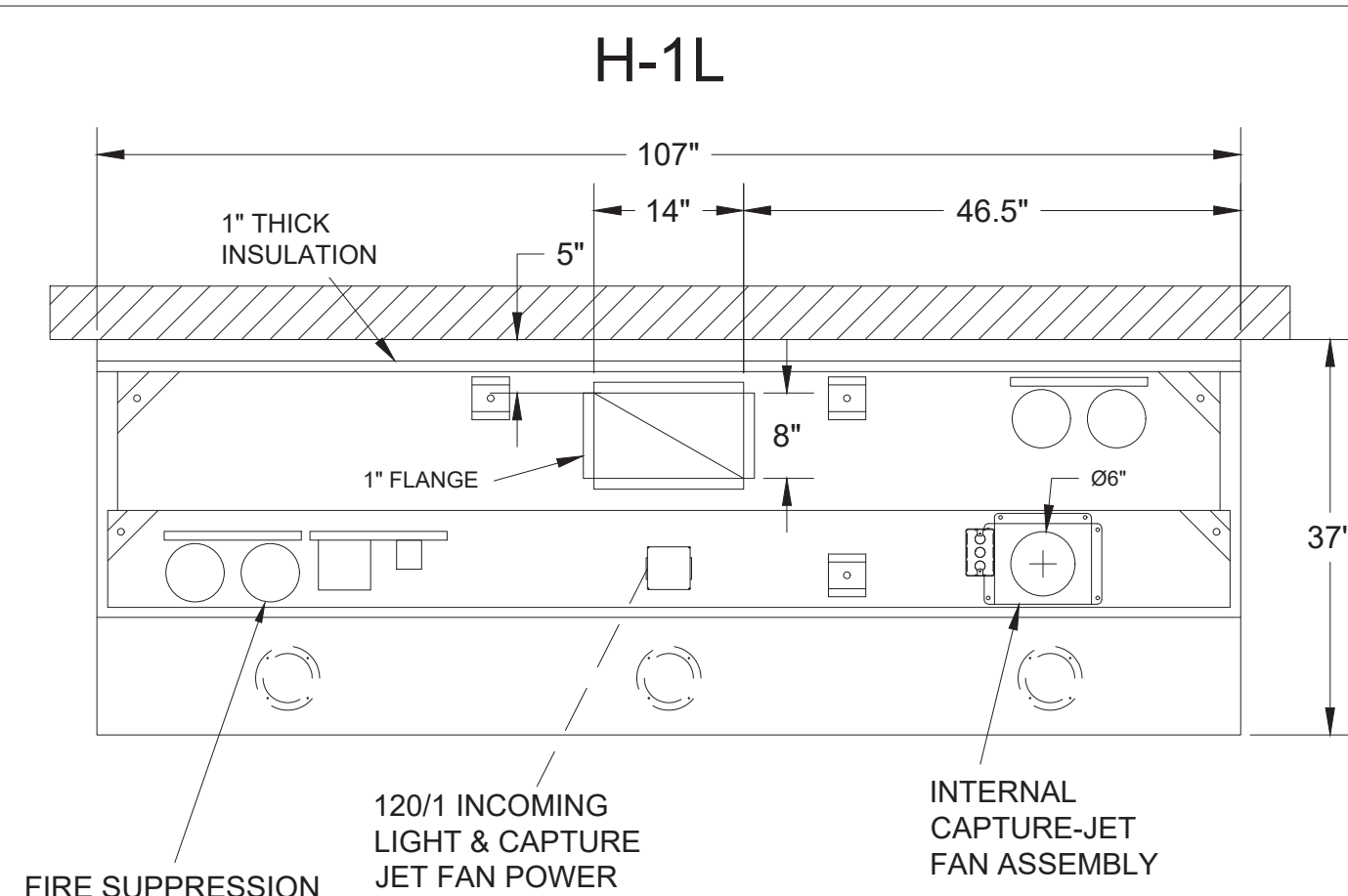
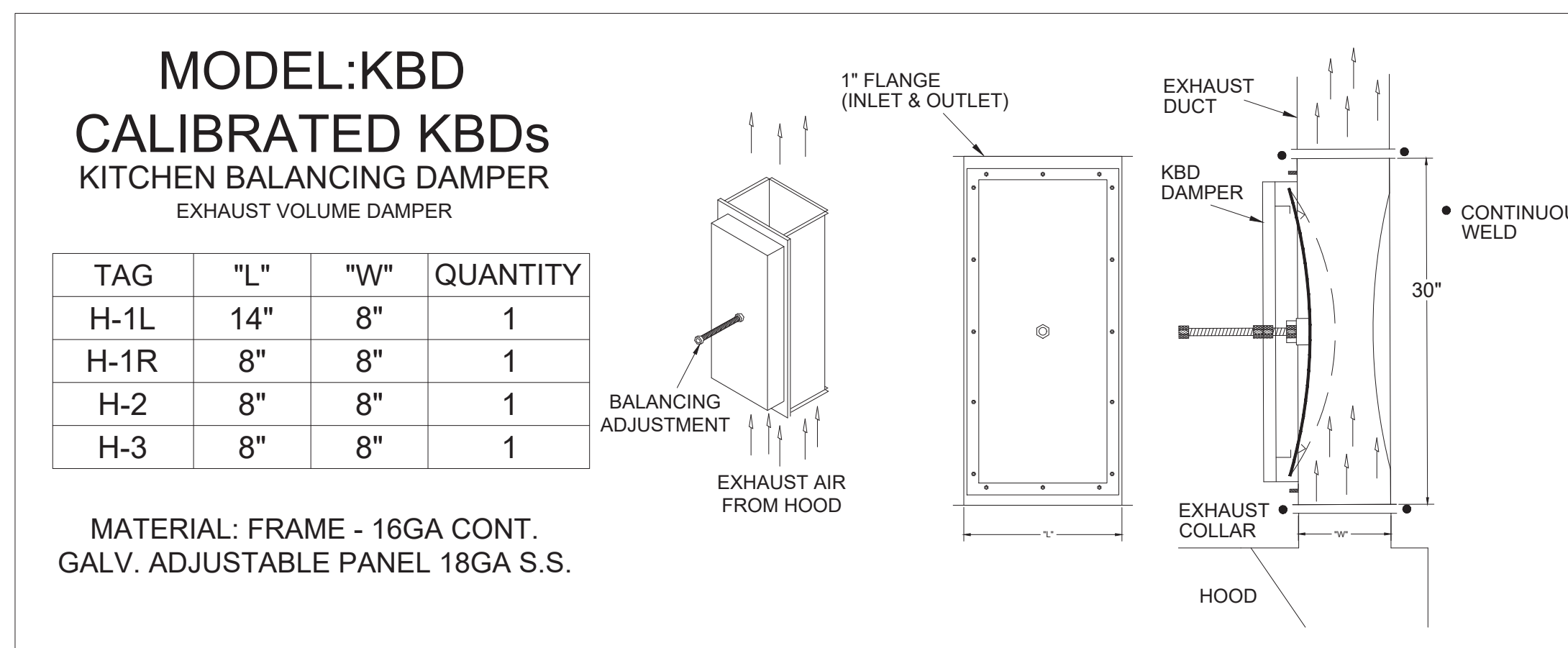
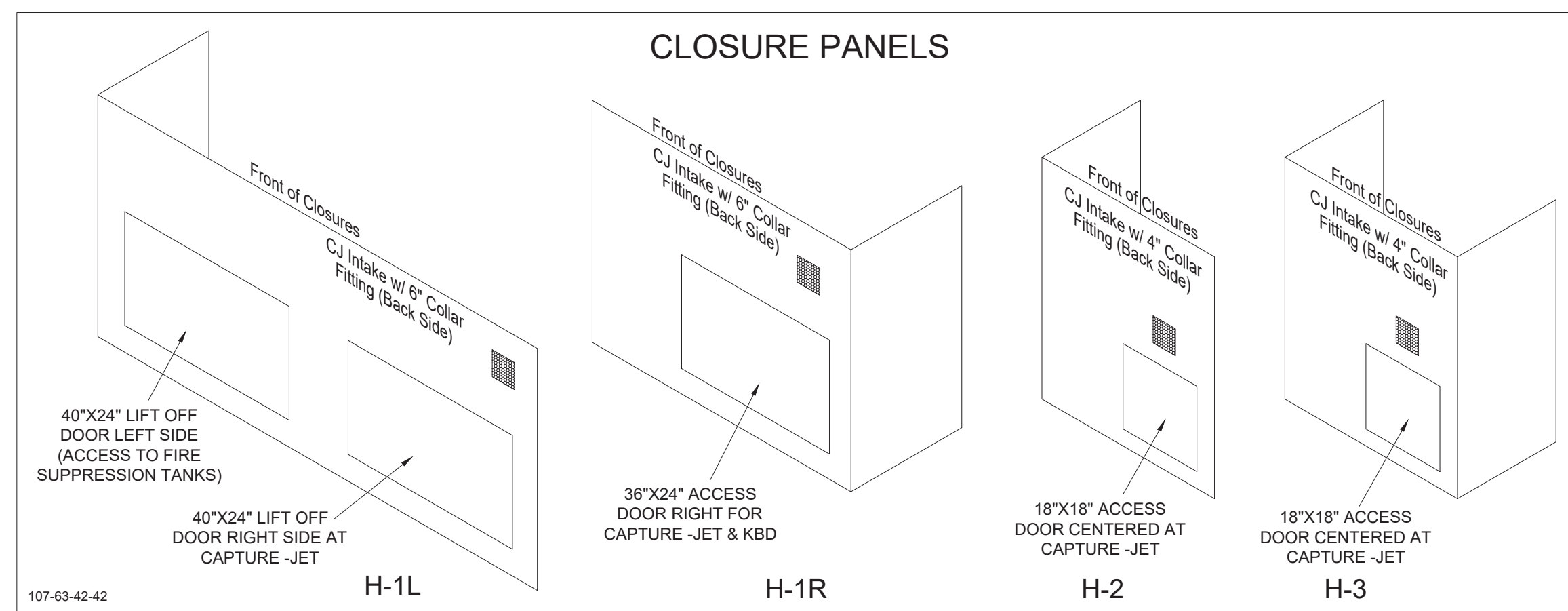
CONSULTANT PROJECT # 24121.EH.S
DATE 11/18/2024
DRAWN BY BLM

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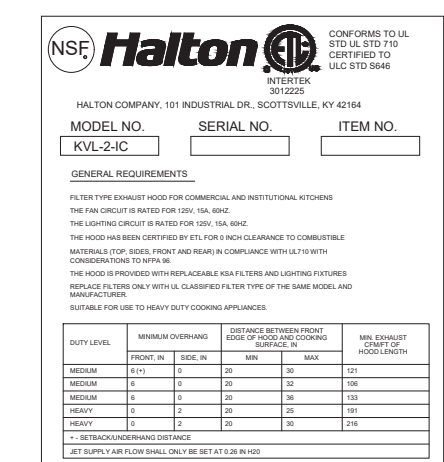
SHEET CONTROL WIRING DIAGRAMS - TRANE

SHEET NUMBER **M-701T**

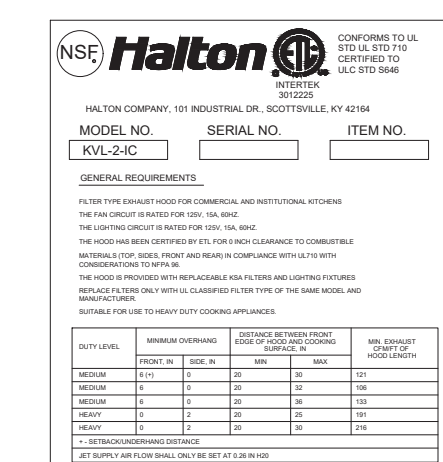
HOOD MODEL	HOOD NUMBER	EXHAUST COLLAR			EXHAUST AIR INFORMATION			CAPTURE AIR INFORMATION		S.S. KSA FILTERS		CEILING CLOSURES					MATERIAL		
		QTY	LENGTH	WIDTH	CFM	TAB	SP	CFM	SP	FULL	HALF	LED LIGHTS	QTY	CLOSURE HEIGHT	CEILING HEIGHT	HOOD WEIGHT		KBD DAMPER	K FACTOR (CFM = K FACTOR * √DP)
KVL-2-IC	H-1L	1	14"	8"	1204	0.13"	0.22"	80	0.30"	5	-	3	2	49"	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	2			394 LBS	*	1971	
KVL-C-IC	H-2	1	8"	8"	701	0.30"	0.39"	30	0.29"	2	-	1	2	245 LBS		*	1291		
KVL-C-IC	H-3	1	8"	8"	701	0.30"	0.39"	30	0.29"	2	-	1	3	245 LBS		*	1291		



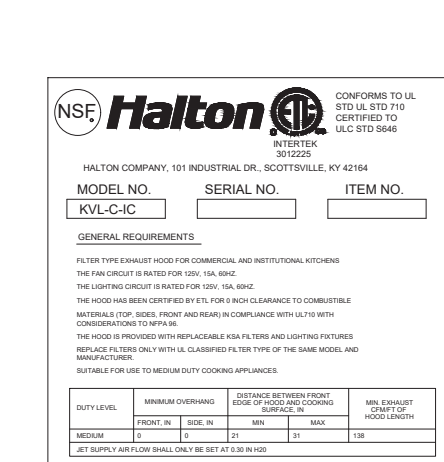
- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- FRONT CLOSURE PANEL WITH 40"X24" LIFT OUT DOOR LEFT SIDE (ACCESS TO FIRE SUPPRESSION)
- 40"X24" LIFT DOOR RIGHT SIDE AT CAPTURE-JET WITH FRONT CJ INTAKE
- CONTINUOUS CAPTURE INTERNAL RIGHT END CUTOUT
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- NOTCHED LEFT END PANEL
- GREASE CUP RIGHT END
- ANSUL WEIGHT = 328 LBS



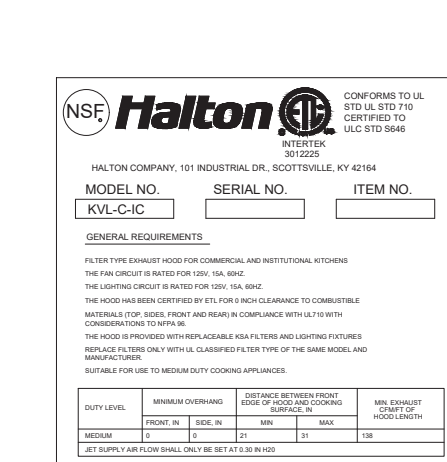
- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- FRONT CLOSURE PANEL WITH 36"X24" ACCESS DOOR FOR ACCESS TO CAPTURE-JET
- CONTINUOUS CAPTURE INTERNAL LEFT END CUTOUT
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- GREASE CUP RIGHT END



- 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 CHANGES OCCUR, A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

APPROVED FOR FABRICATION: WITH NO CHANGES WITH CHANGES AS NOTED

DATE: _____



REV.	DESCRIPTION	DATE	BY	CT
1	NO CHANGE - POST RELEASE	06/11/25	SKK	
2	NO CHANGE - POST RELEASE	07/10/25	CT	
3				
4				
5				
6				
7				

REVISION DESCRIPTION

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

PROJECT: CHICK-FIL-A #5559 SADBURY FSR

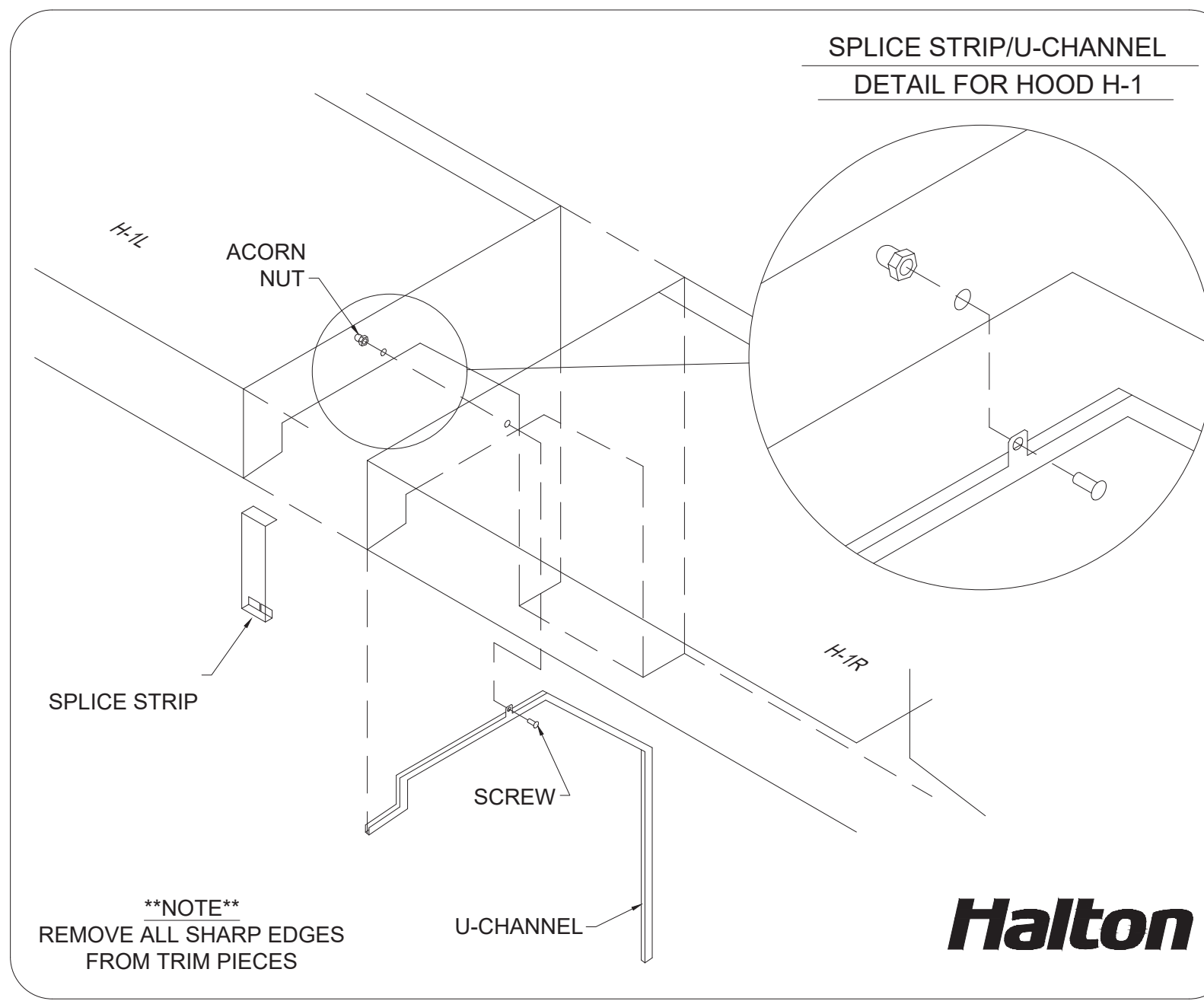
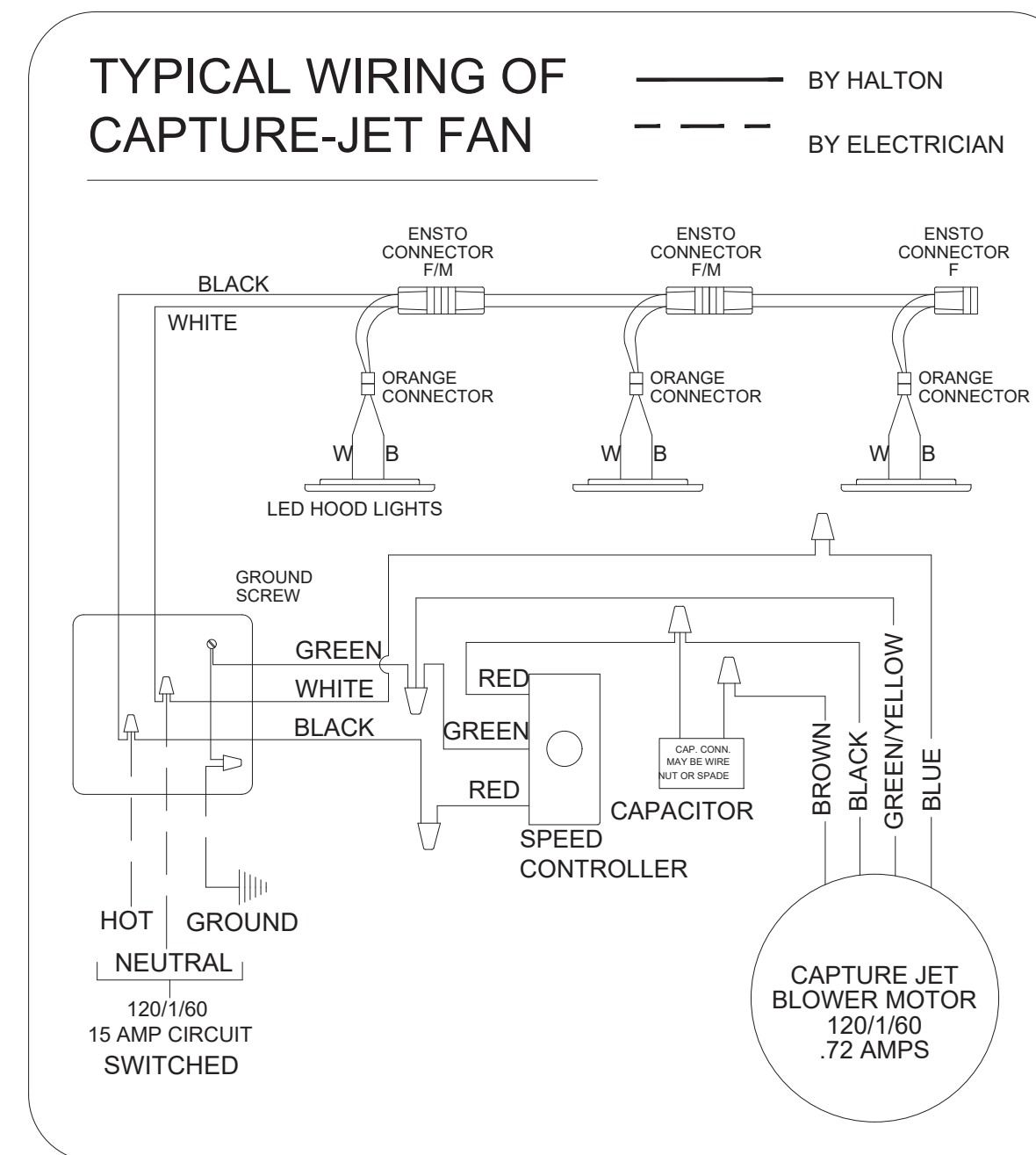
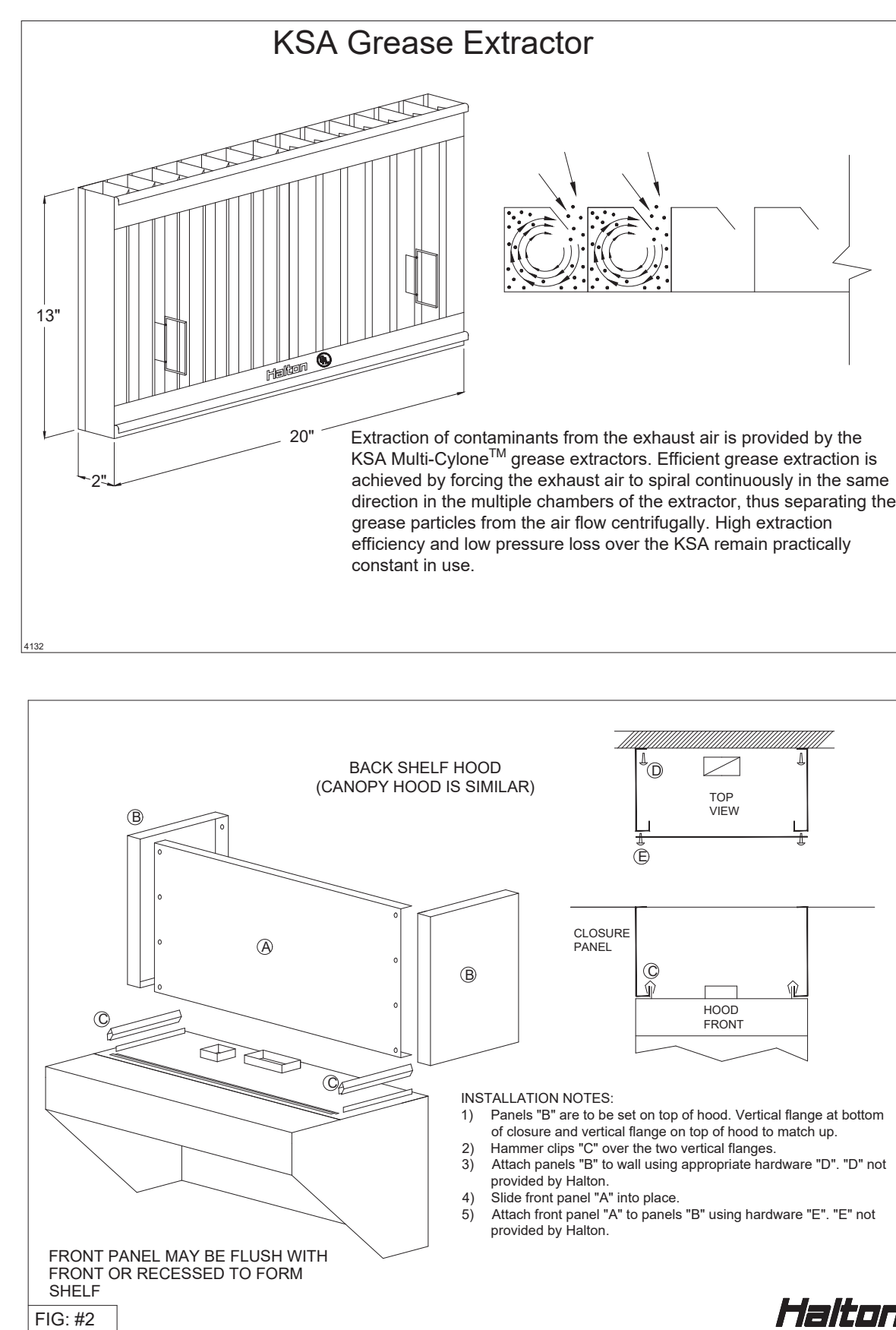
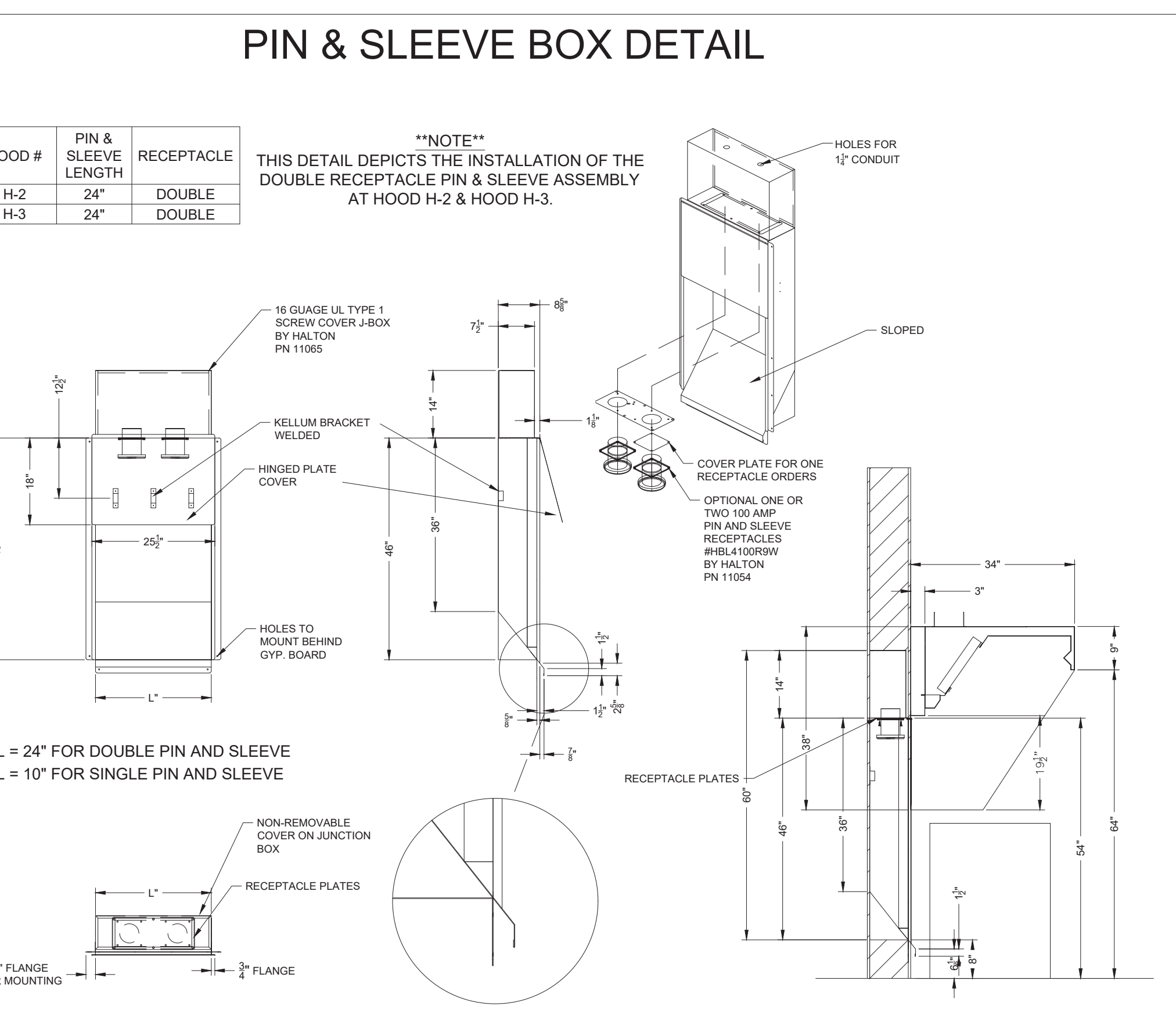
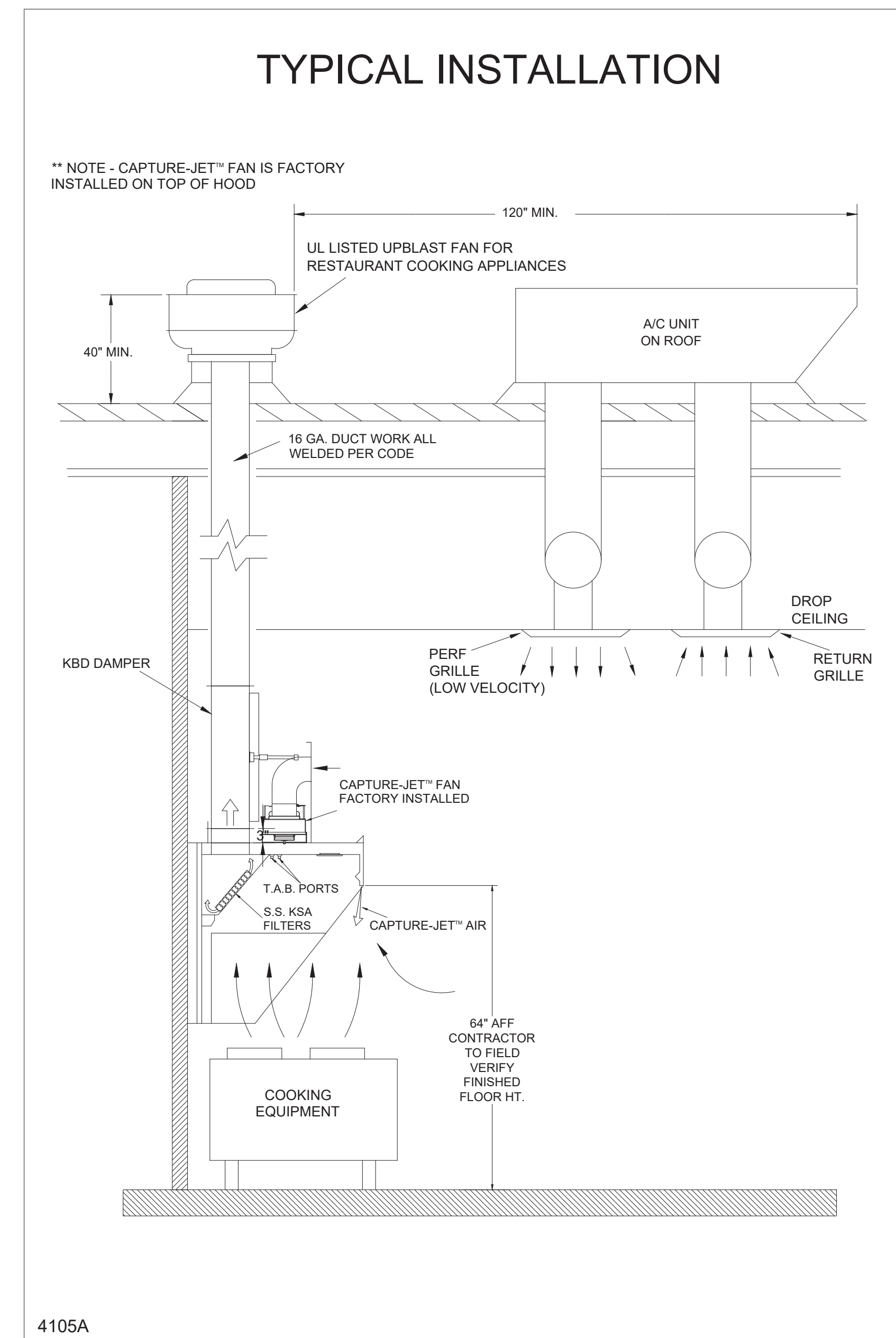
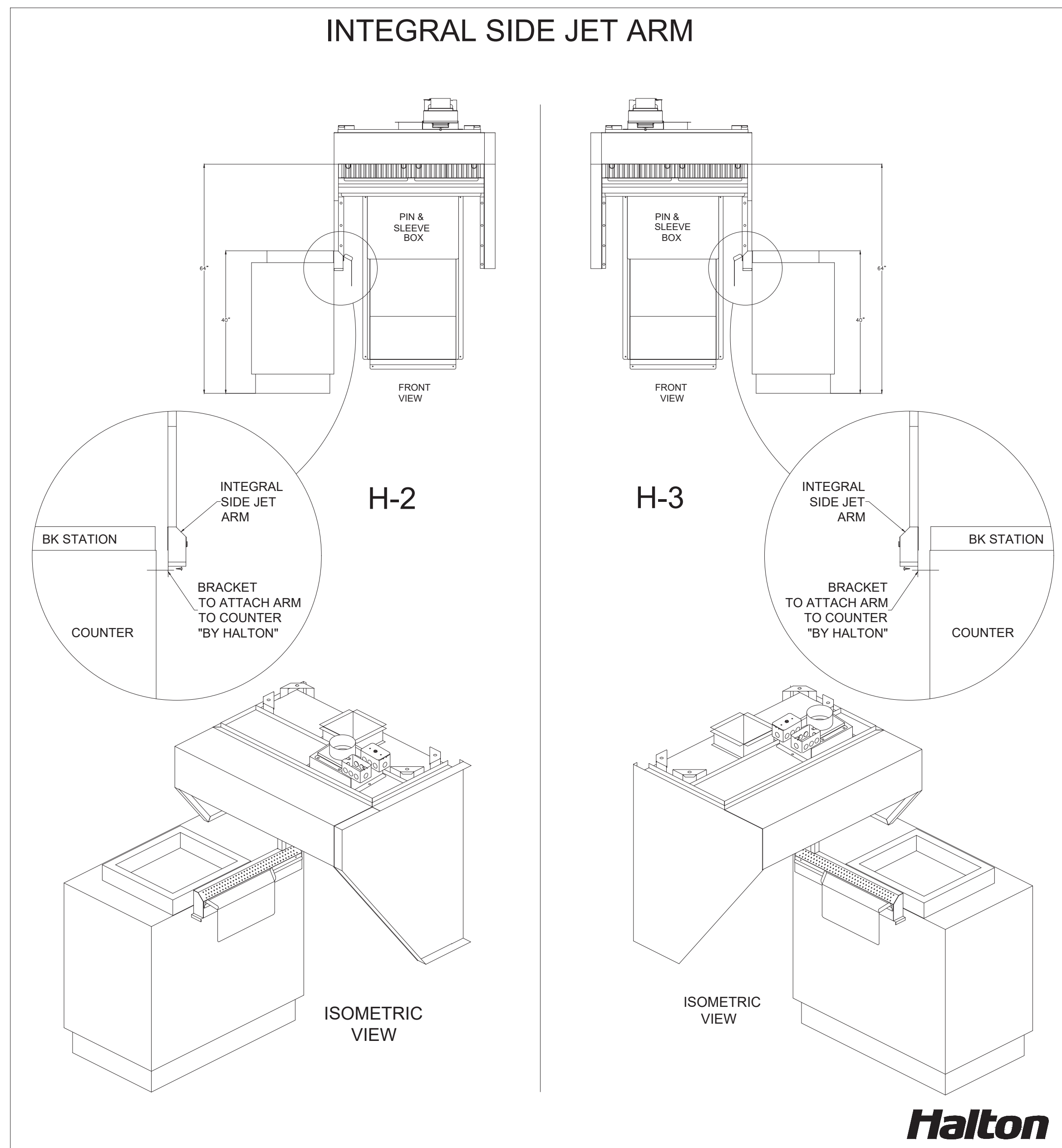
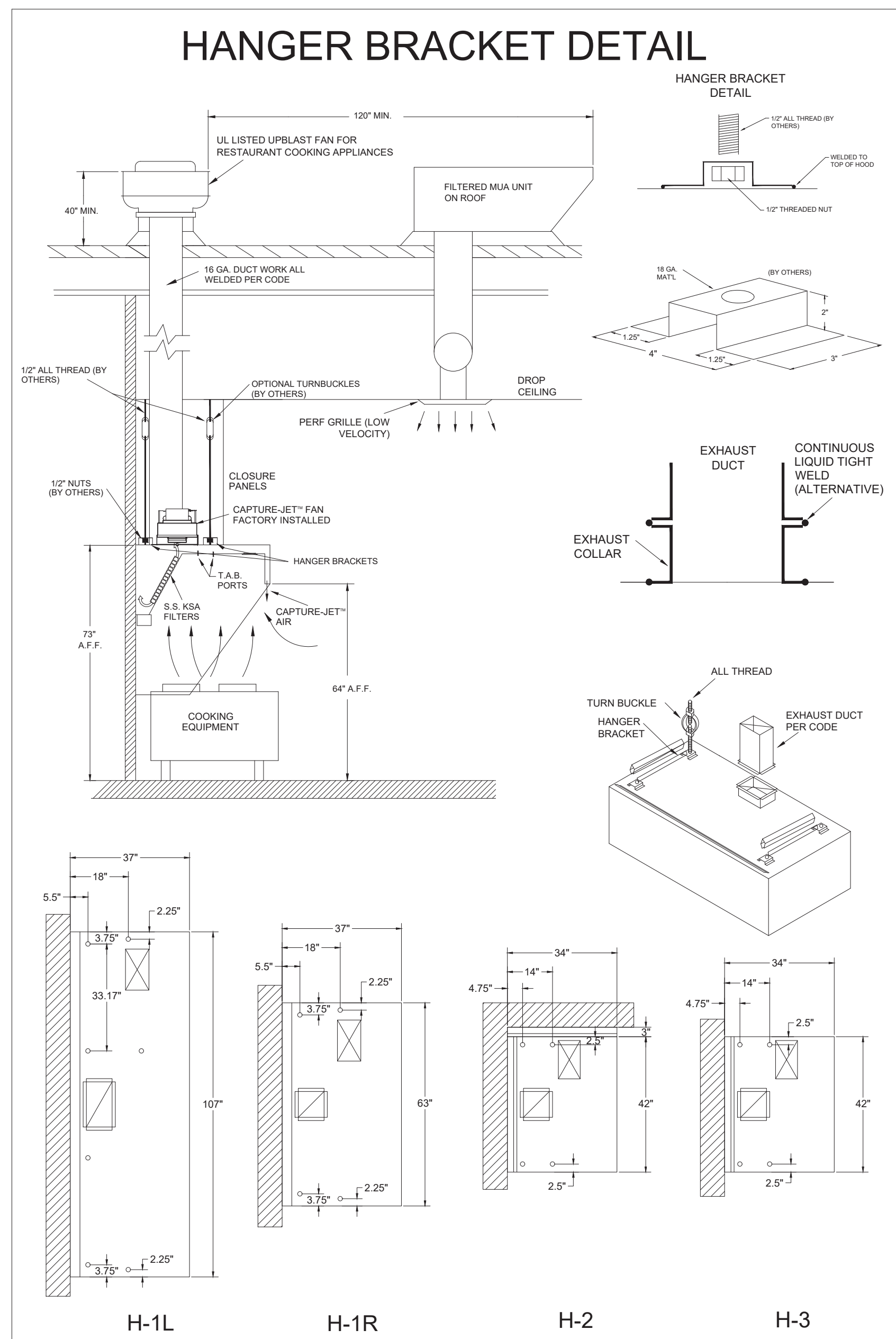
LOCATION: PARKESBURG, PA

DRAWN BY: SKK DATE: 06.05.25

SCALE: NOT TO SCALE

DRAWING No.: U25-433-01

SHEET NO.: H-1.1



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

NSF Halton ETL INTERTEK 3012225 CONFORMS TO UL STD. UL STD 710 CERTIFIED TO UL STD 5666

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, 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		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN		MIN. EXHAUST DUCT NET HOOD LENGTH
	FRONT	SIDE	MIN	MAX	
MEDIUM	6"	0"	20"	36"	121"
MEDIUM	6"	0"	20"	36"	166"
HEAVY	6"	0"	20"	36"	191"
HEAVY	6"	0"	20"	36"	191"
HEAVY	6"	0"	20"	36"	216"

1. SETBACK FROM REFRIG. DISTANCE
2. JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.30 IN/HD

NSF Halton ETL INTERTEK 3012225 CONFORMS TO UL STD. UL STD 710 CERTIFIED TO UL STD 5666

HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, 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		DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN		MIN. EXHAUST DUCT NET HOOD LENGTH
	FRONT	SIDE	MIN	MAX	
MEDIUM	6"	0"	20"	36"	121"
MEDIUM	6"	0"	20"	36"	166"
HEAVY	6"	0"	20"	36"	191"
HEAVY	6"	0"	20"	36"	191"
HEAVY	6"	0"	20"	36"	216"

1. SETBACK FROM REFRIG. DISTANCE
2. JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.30 IN/HD

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 RE-CALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

REVISION AND RESUBMIT

APPROVED FOR FABRICATION

WITH NO CHANGES

WITH CHANGES AS NOTED

APPROVED BY _____ DATE _____



WEBSITE: www.halton.com

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

DATE: 06.11.25

BY: SKK

CT: 07.10.25

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

HALTON CO. (CANADA)
1021 BREVIK PLACE
MISSISSAUGA, ON L4W 9R7
1-905-624-0301

REV.	NO CHANGE - POST RELEASE	NO CHANGE - POST RELEASE	REVISION DESCRIPTION
1			
2			
3			
4			
5			
6			
7			

PROJECT: CHICK-FIL-A #5559 SADBURY FSR

LOCATION: PARKESBURG, PA

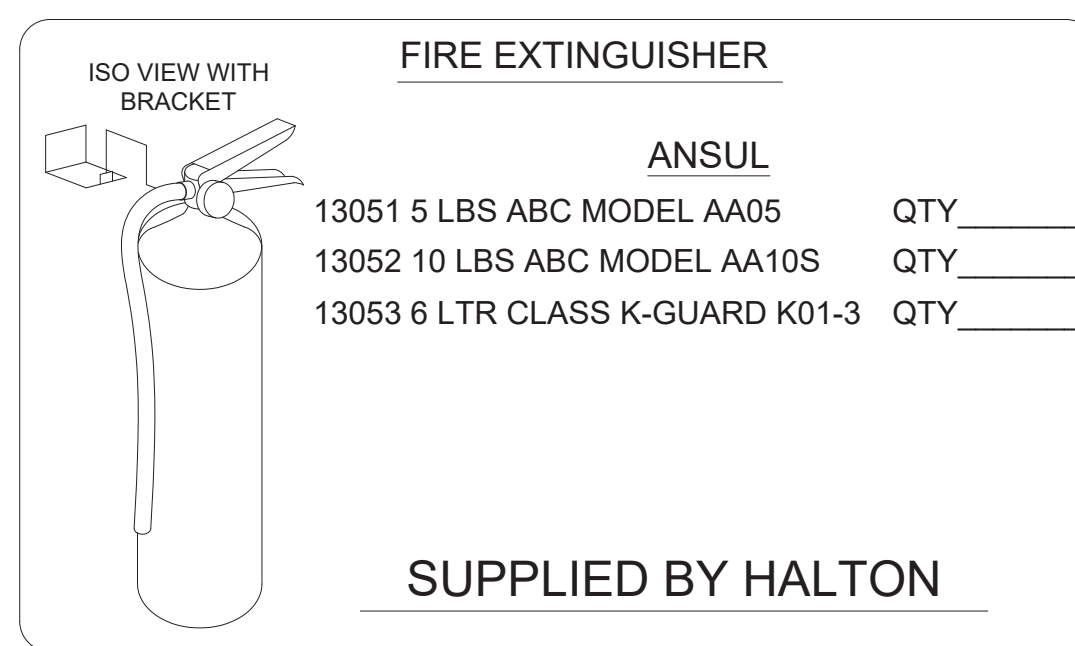
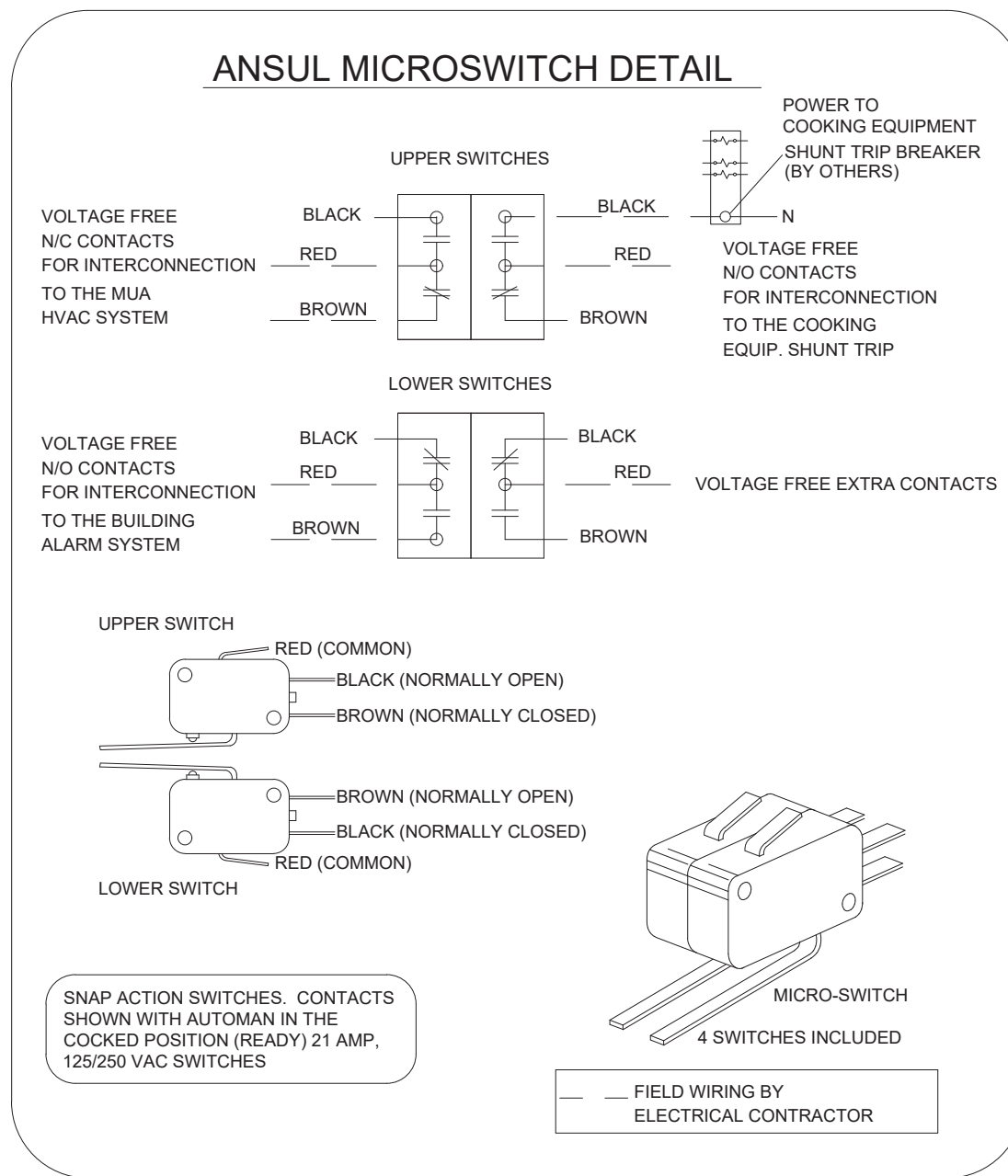
DRAWN BY: SKK DATE: 06.05.25

SCALE: NOT TO SCALE

DRAWING No.: U25-433-02

SHEET NO.: H-1.2

Halton



ANSUL R-102

FIRE SYSTEM HOODS H-2 & H-3

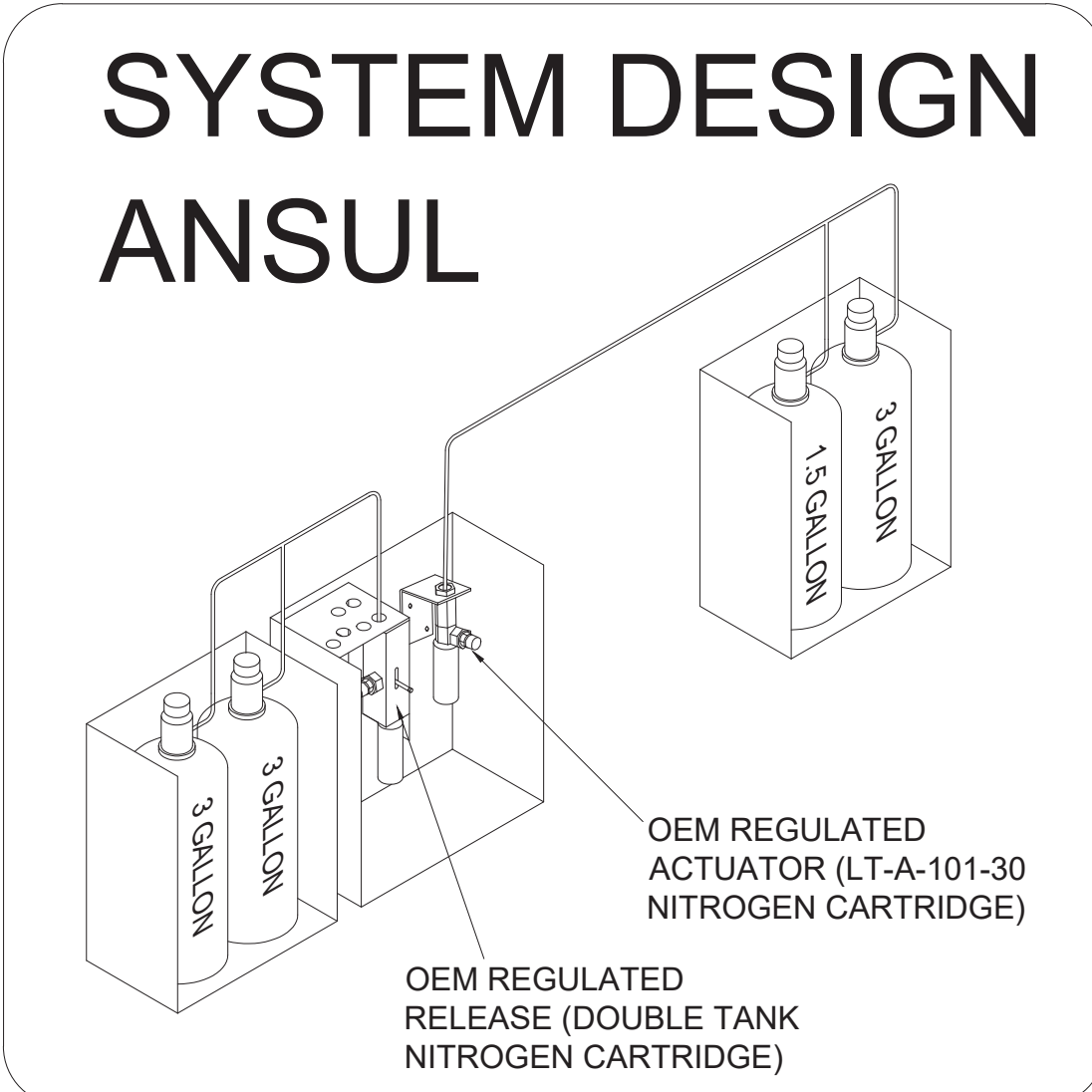
- 6 GALLON SYSTEM (2 TANKS) REMOTE MOUNTED
MAXIMUM FLOW POINTS = 22
- 3/8" BLACK IRON PIPING WITH 3/8" S.S. APPLIANCE DROPS

ITEM	HALTON PART #	QTY	DESCRIPTION	FLOW PTS (TOTAL)
1W	10023	2	DUCT NOZZLES	2
1N	10022	2	PLENUM NOZZLES	2
3N	10021	4	APPLIANCE NOZZLES	12
			TOTAL FLOW POINTS	16
		QTY	DESCRIPTION	
	10035	2	DETECTORS W/ FUSIBLE LINKS	
	10033	1	REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH	
	10043	2	EXTRA MICRO SWITCH ASSEMBLIES (MOUNTED IN REG. REL.)	
	10044	1	SINGLE TANK ENCLOSURE	
	10333	2	3 GALLON TANKS	
	10040	2	REMOTE PULL STATION	
	10065	2	DOUBLE TANK NITROGEN CARTRIDGE	
	11128	2	3 GALLON ANSULEX CONTAINER	

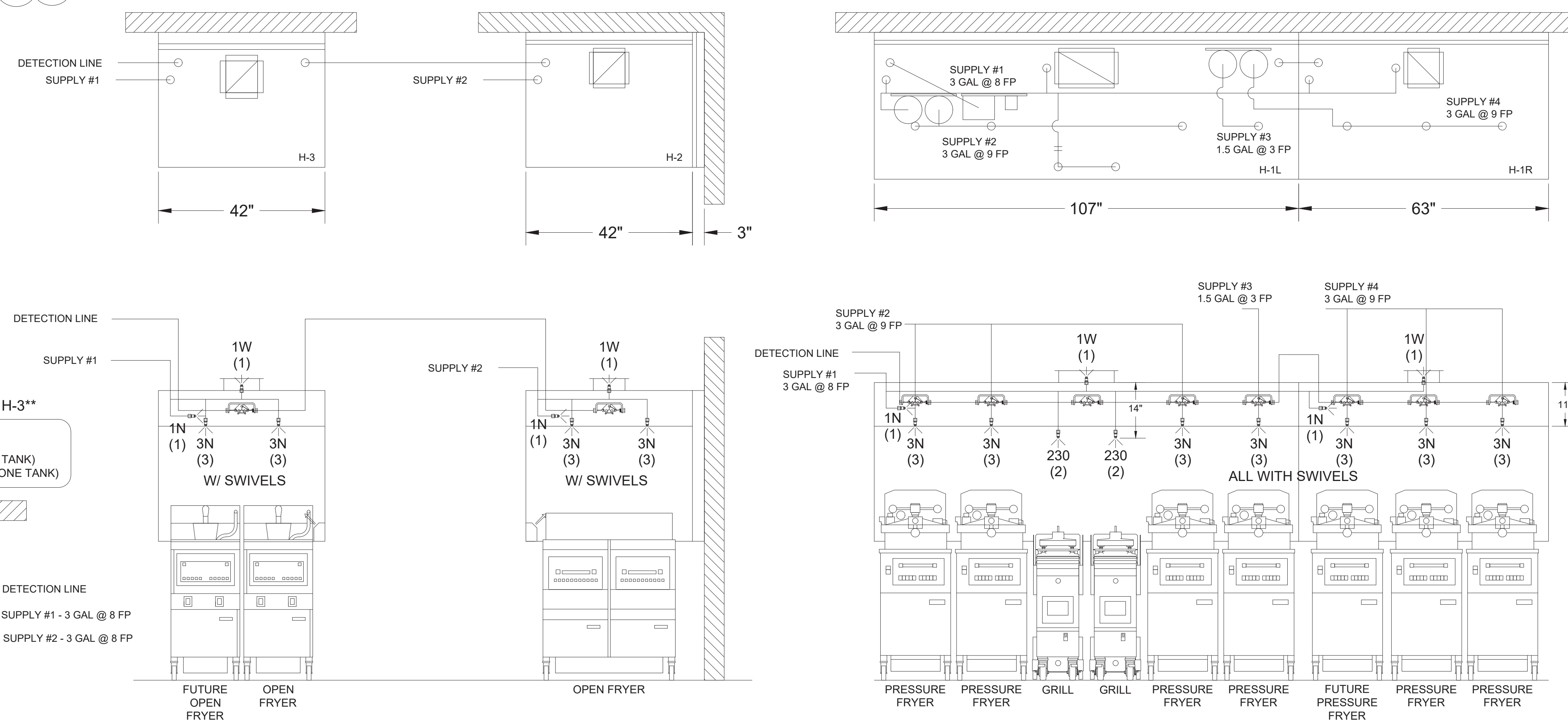
FIRE SYSTEM HOODS H-1L & H-1R

- 10.5 GALLON SYSTEM (4 TANKS) MOUNTED ON TOP OF HOODS
MAXIMUM FLOW POINTS = 38
- 3/8" BLACK IRON PIPING WITH 3/8" S.S. APPLIANCE DROPS

ITEM	HALTON PART #	QTY	DESCRIPTION	FLOW PTS (TOTAL)
1W	10023	2	DUCT NOZZLES	2
1N	10022	2	PLENUM NOZZLES	2
230	10025	2	APPLIANCE NOZZLES	4
3N	10021	7	APPLIANCE NOZZLES	21
			TOTAL FLOW POINTS	29
		QTY	DESCRIPTION	
	10035	8	DETECTORS W/ FUSIBLE LINKS	
	10046	1	OEM REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH	
	11996	1	OEM REGULATED ACTUATOR	
	10043	2	EXTRA MICRO SWITCH ASSEMBLIES (MOUNTED IN REG. REL.)	
	10333	3	3 GALLON TANKS	
	10682	1	1.5 GALLON TANK	
	10040	1	REMOTE PULL STATION	
	10065	2	DOUBLE TANK NITROGEN CARTRIDGE	
	13533	2	LT-A-101-30 NITROGEN CARTRIDGE	
	11128	3	3 GALLON ANSULEX CONTAINER	
	13459	1	1.5 GALLON ANSULEX CONTAINER	



****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!!



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

ANSUL R-102 FIRE SYSTEM LAYOUT

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
 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 ANSUL INSTALLER
 - 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 AND CLEARANCES.
 2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.

NOTE TO APPROVER:
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REVISE AND RESUBMIT
 APPROVED FOR FABRICATION
 WITH NO CHANGES
 WITH CHANGES AS NOTED

APPROVED BY: _____ DATE: _____



WEBSITE: www.halton.com

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

DATE: 06.11.25
 BY: SKK
 CT: 07.10.25

MAIL-APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

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

REVISION DESCRIPTION

NO CHANGE - POST RELEASE
 NO CHANGE - POST RELEASE

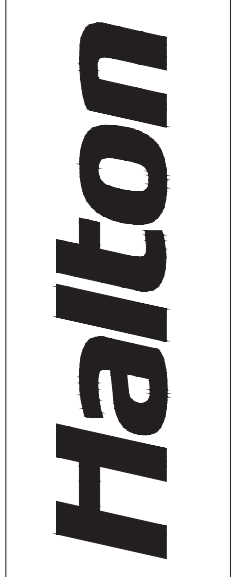
REV. 1
 2
 3
 4
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 6
 7

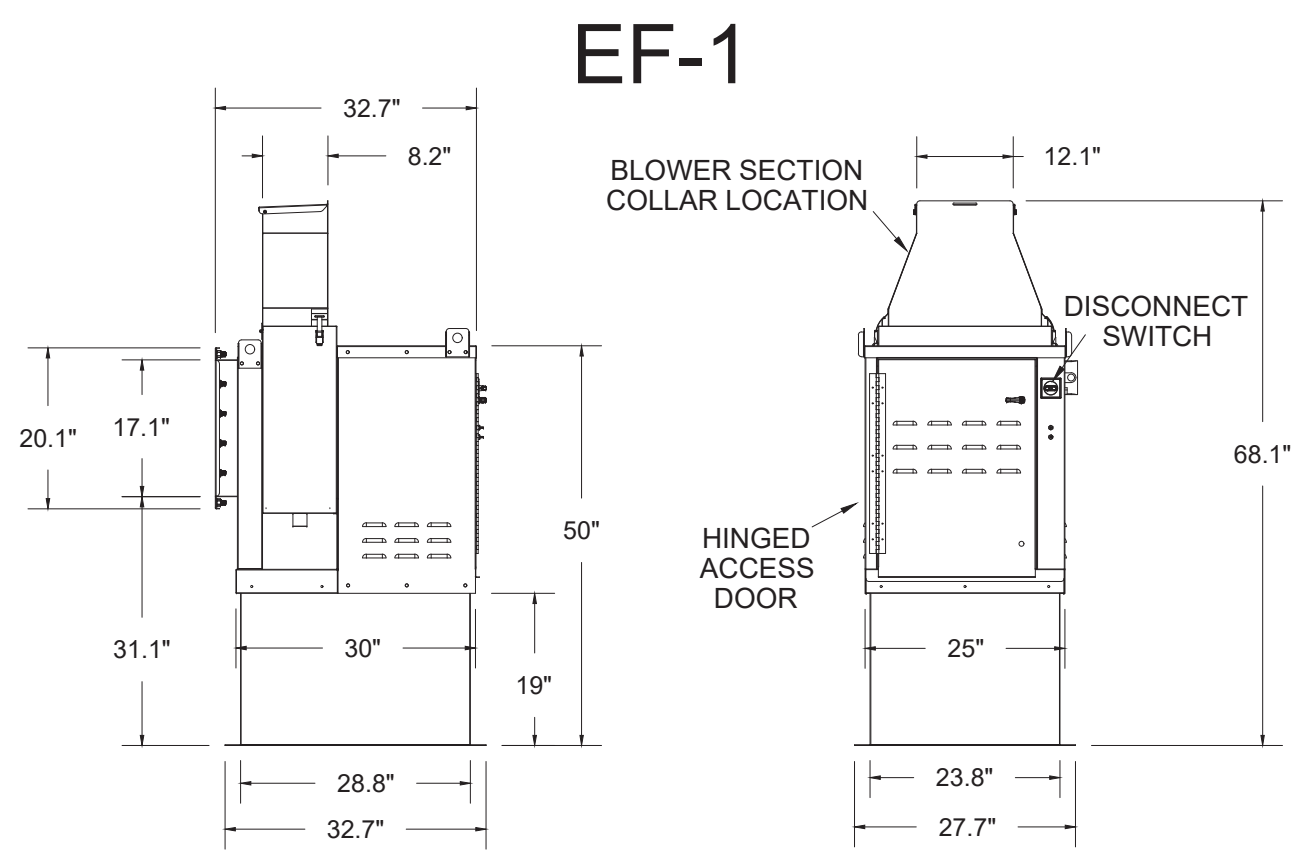
PROJECT: CHICK-FLA-A #5559
 SADSBUURY FSR

LOCATION: PARKESBURG, PA
 DRAWN BY: SKK
 SCALE: NOT TO SCALE

DATE: 06.05.25B

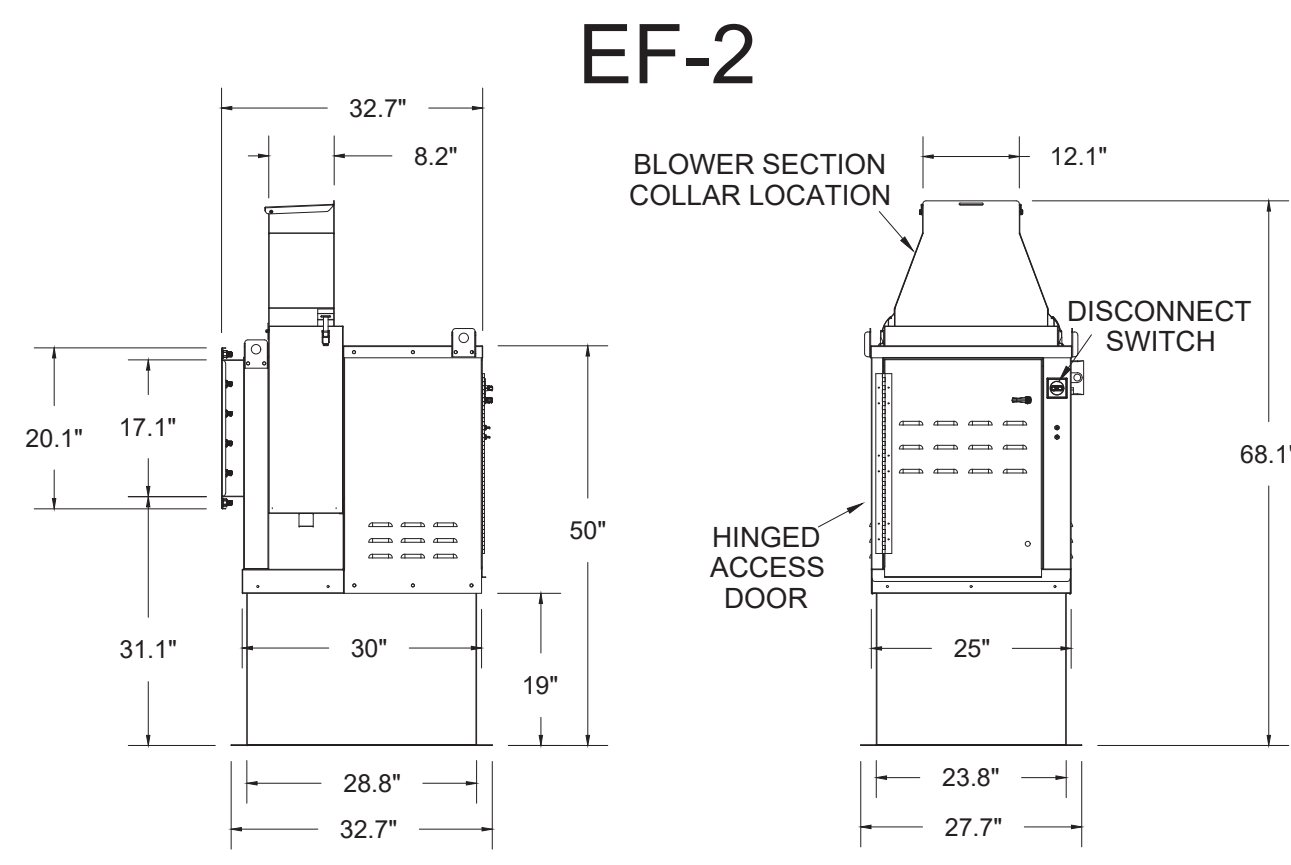
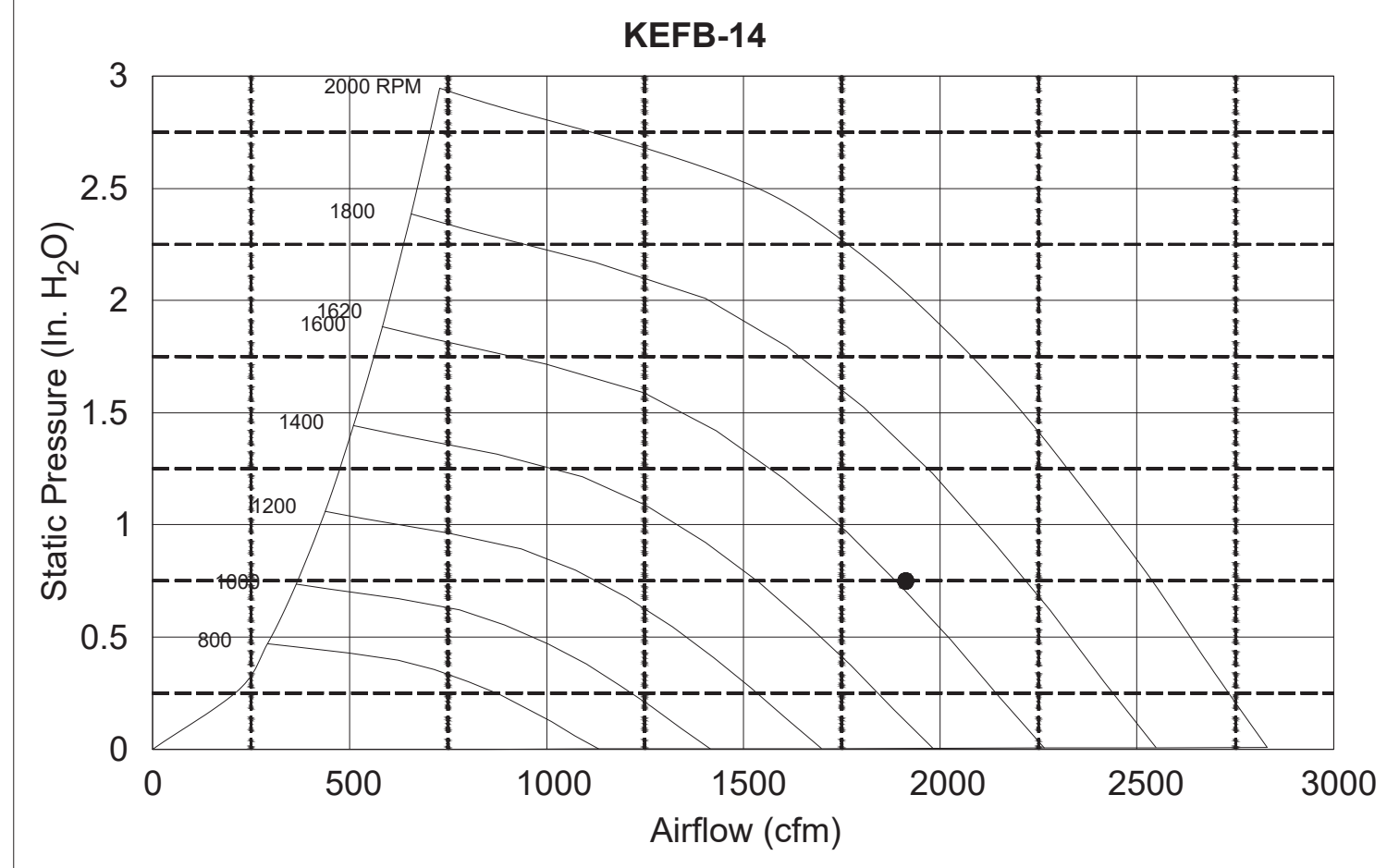
DRAWING No.: U25-433-03
 SHEET NO.: H-1.3





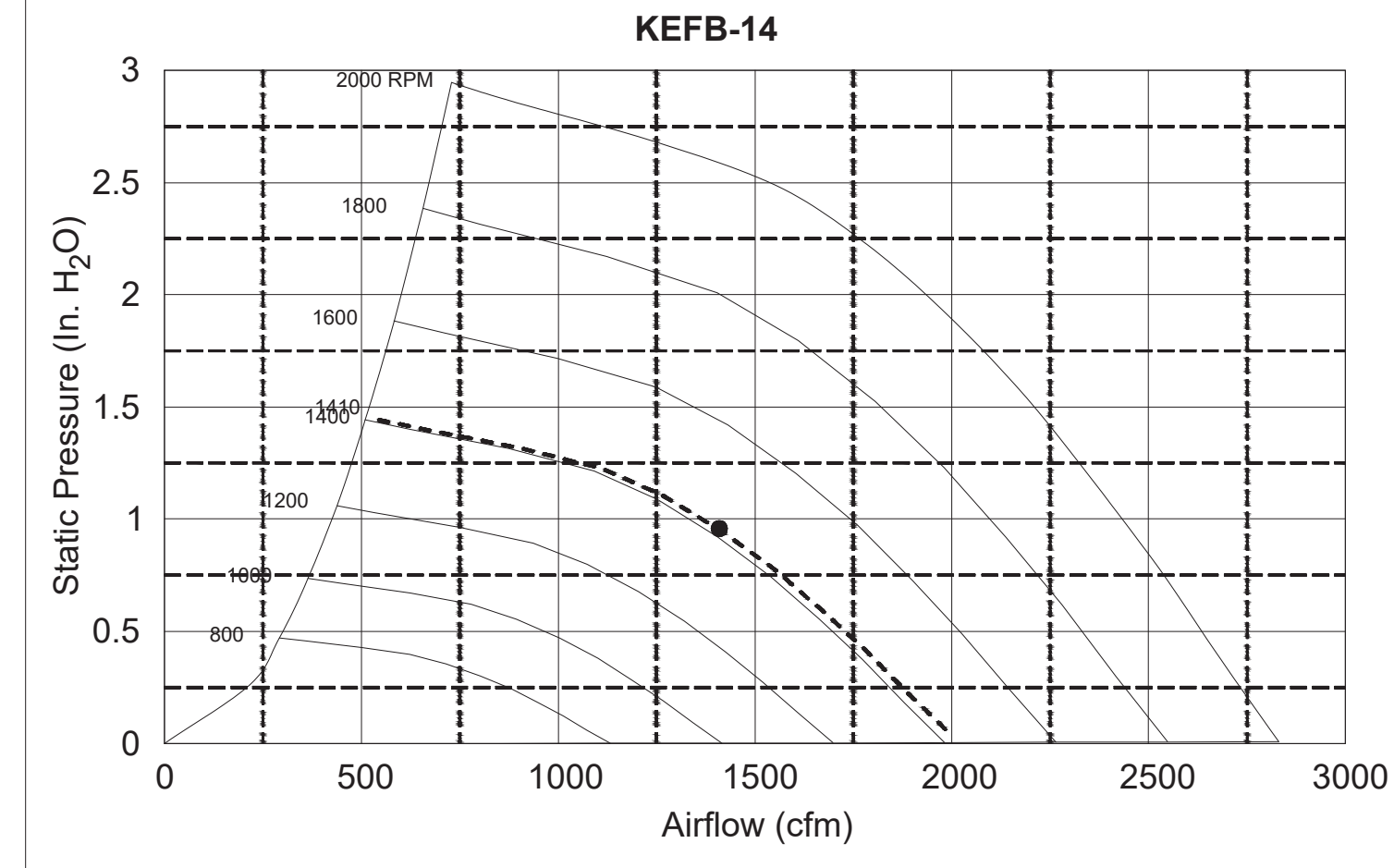
Halton KEFB Exhaust Fan

Job Name	Chick-Fl-A	Item No		Qty		Volts/Amps/Ph	115/1/60
Location	EF-1	Model	KEFB-14	Fan RPM	1,620	Motor HP	1
Date	1/26/2023	Airflow, cfm	1,912	Fan BHP	0.55	TAB Port, in WC	4.8
Static Pressure, in WC	0.75						



Halton KEFB Exhaust Fan

Job Name	Chick-Fl-A	Item No		Qty		Volts/Amps/Ph	115/1/60
Location	EF-2	Model	KEFB-14	Fan RPM	1,410	Motor HP	1
Date	1/26/2023	Airflow, cfm	1,402	Fan BHP	0.38	TAB Port, in WC	2.1
Static Pressure, in WC	0.95						

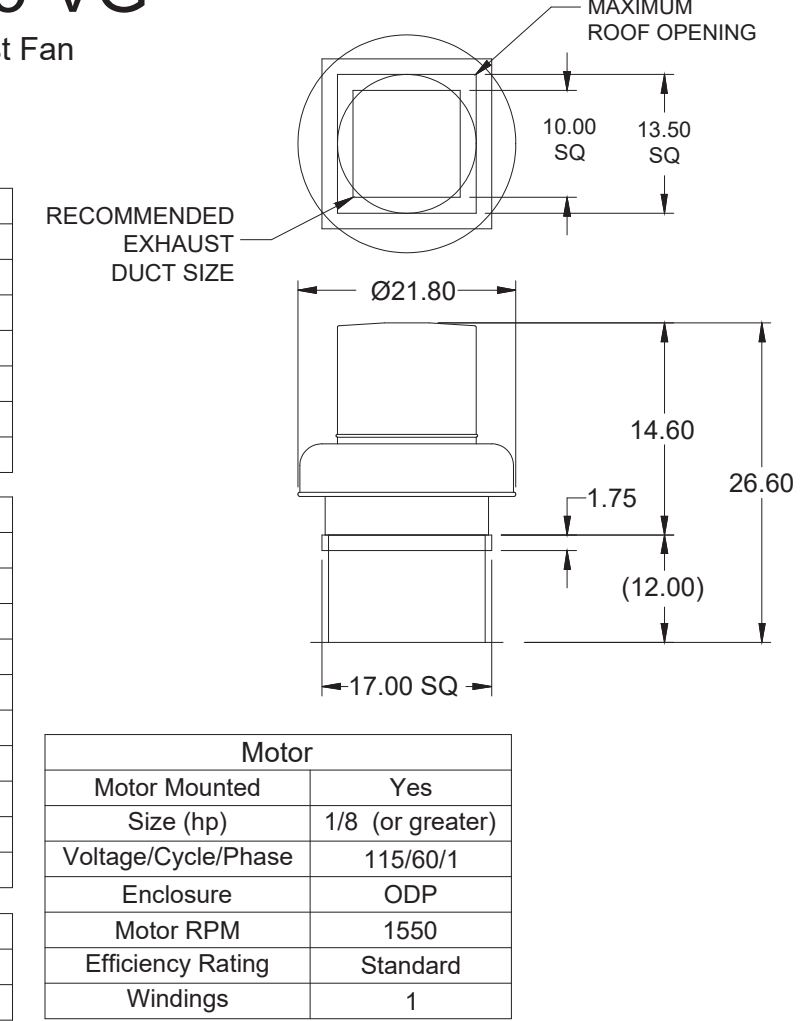


Model: XRED-095-VG
Direct Drive Centrifugal Roof Exhaust Fan

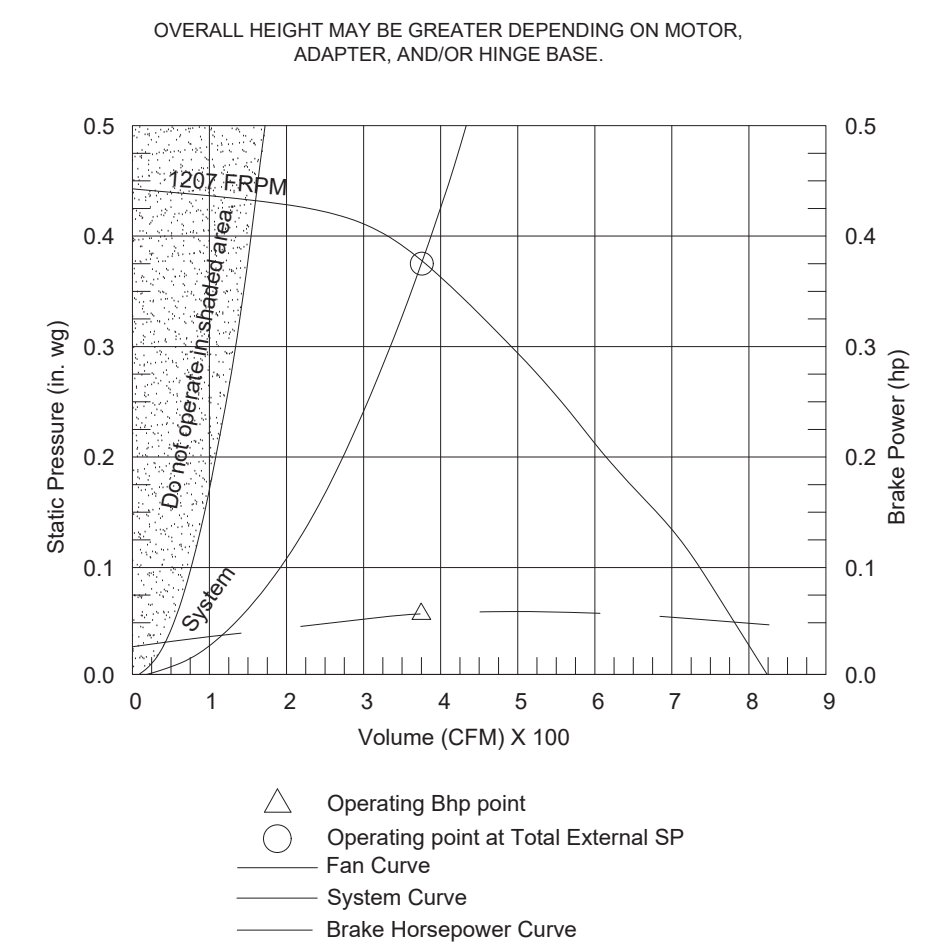
Dimensional	
Quantity	1
Weight w/ Acc's (lb)	28
Weight w/ Acc's and Curb (lb)	35
Standard Curb Cap Size (in.)	17 x 17
Optional Damper (in.)	10 x 10
Roof Opening (in.)	13.5 x 13.5

Performance	
Requested Volume (CFM)	300
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

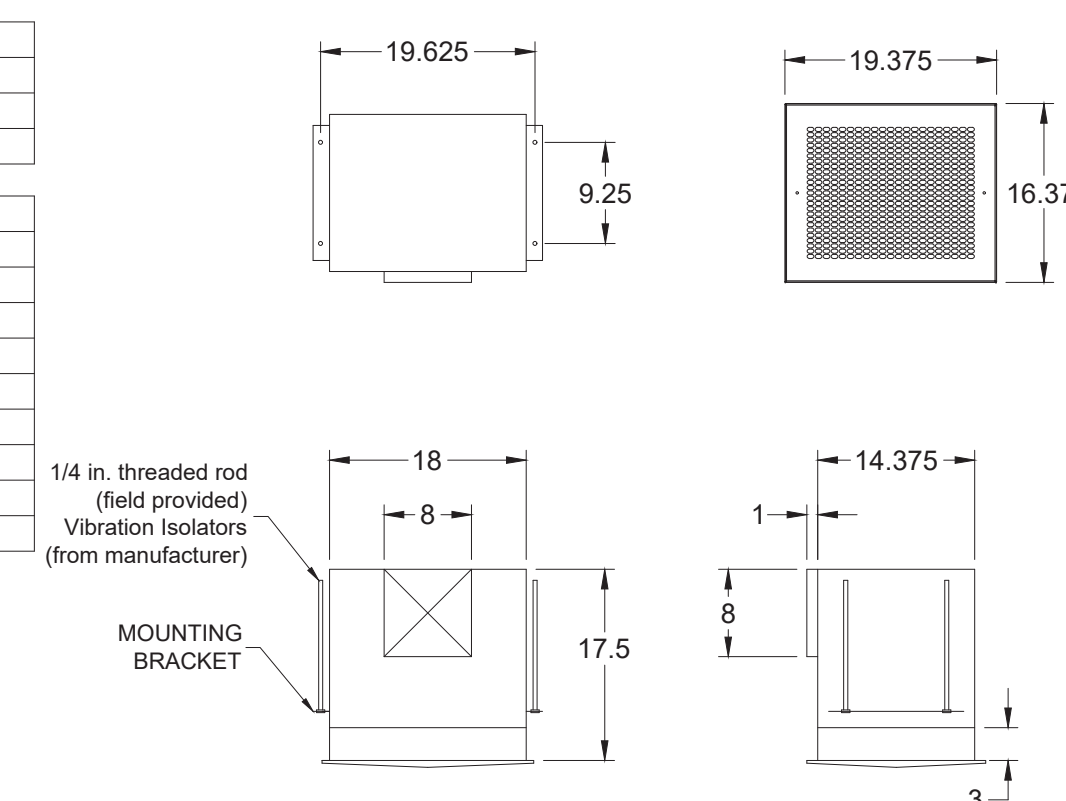


Model: SP-A510-VG

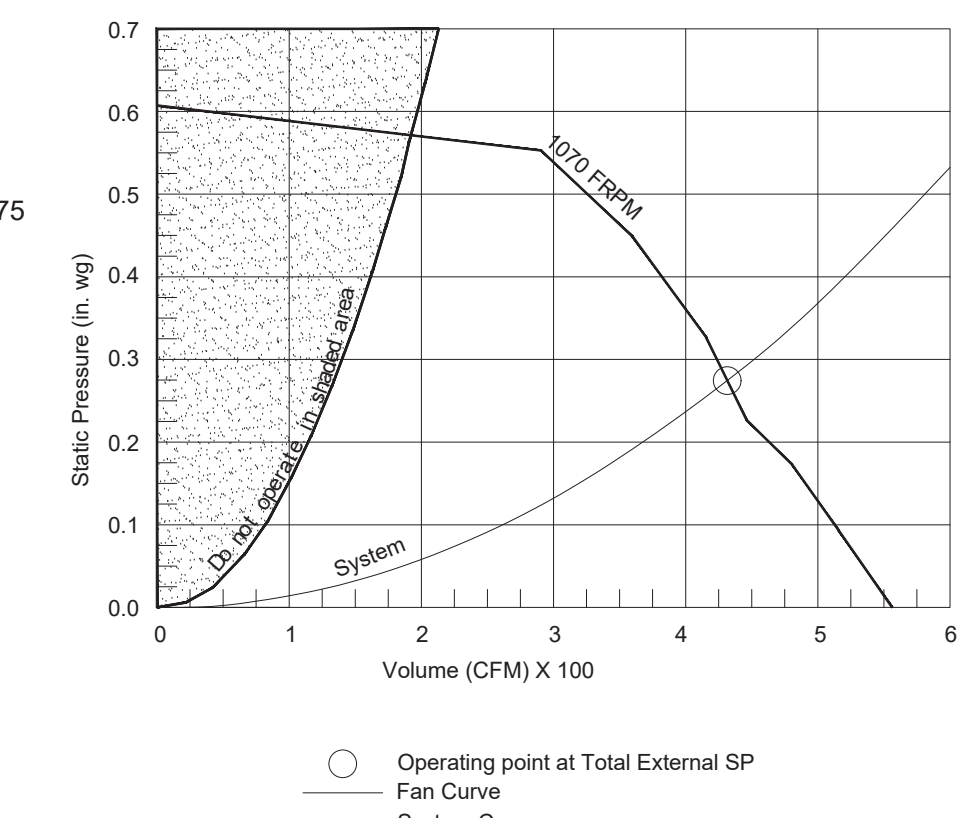
Dimensional	
Quantity	1
Weight w/ Acc's (lb)	31
Weight w/ Acc's (lb)	40

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

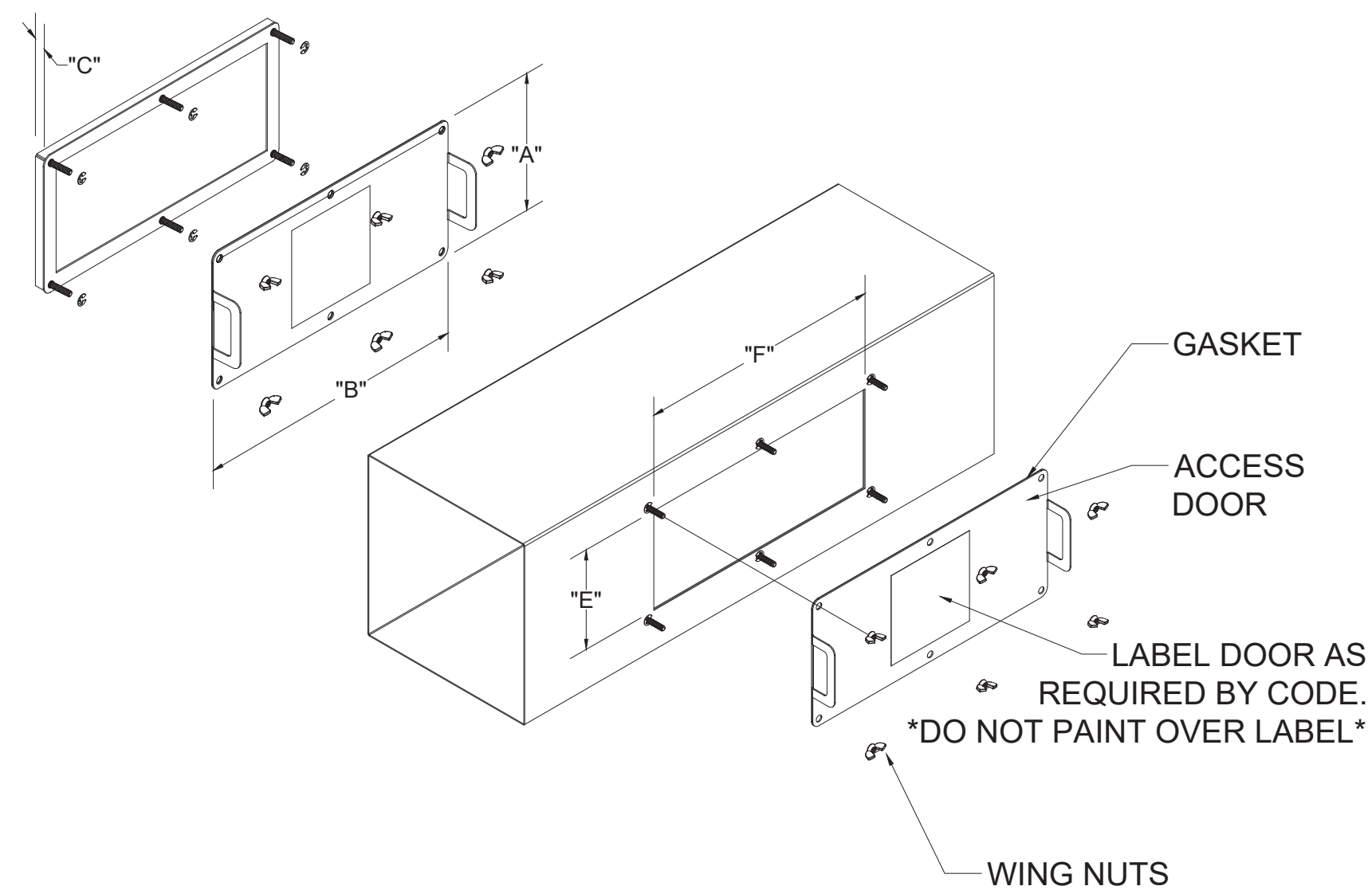


TF-1



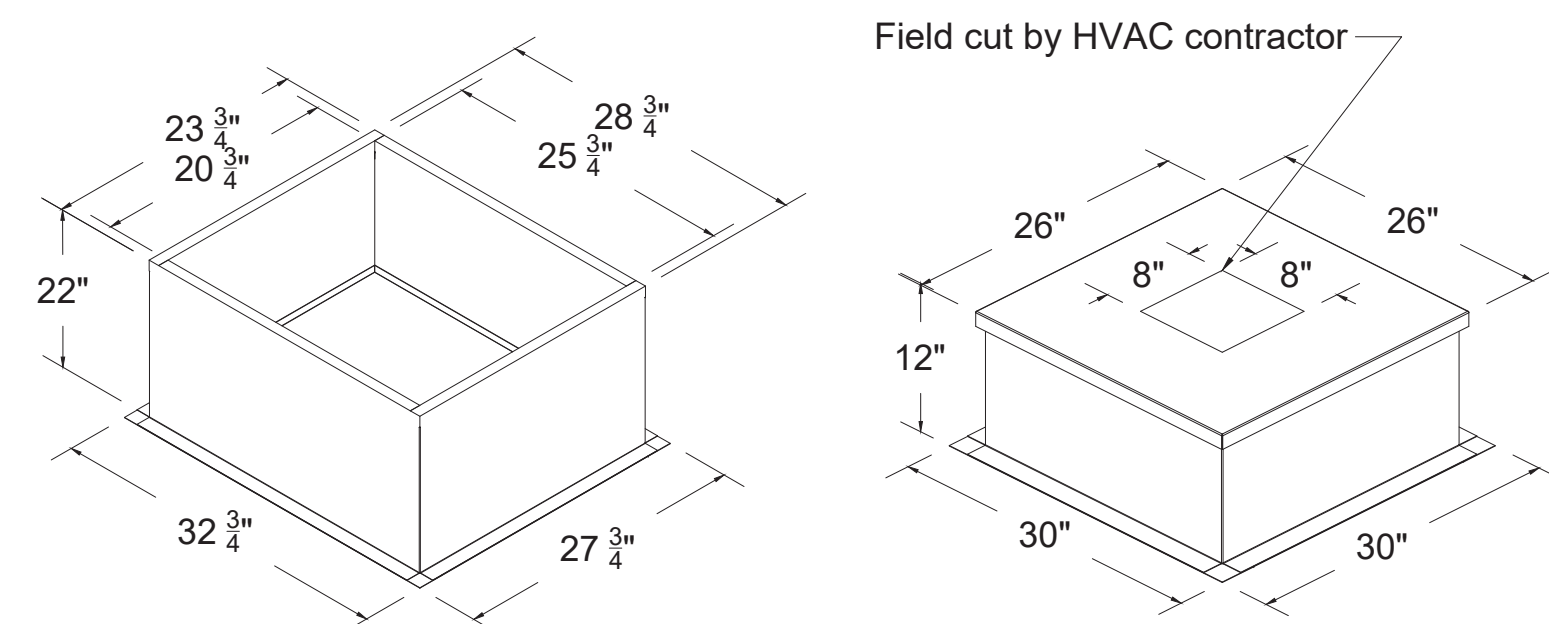
MODEL	GREASE ACCESS DOOR SCHEDULE				
	DOOR SIZE	OPTIONAL FLANGE	OPENING SIZE		
KAP0715	"A"	"B"	"C"	"E"	"F"
KAP1015	7	15	FLAT	5.5	13.5
	10	15	1/2	7	12

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

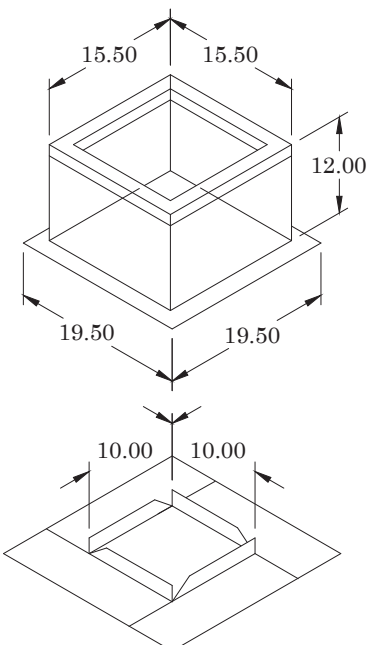


Kitchen Exhaust Fan Curb

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

Insulated Duct Curb

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



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

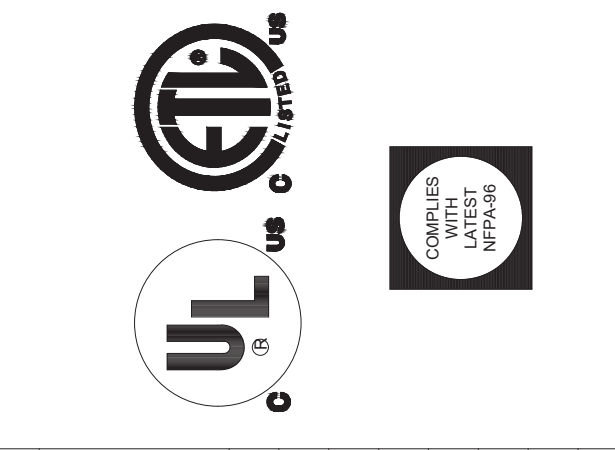
ACCESSORIES			
MATERIAL BARS	SECURITY LINER	INSULATION (in.)	INSULATION R VALUE
GALVANIZED	NO	NO	1 R4.3

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

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

*MAY NOT BE APPLICABLE

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 REVISE AND RESUBMIT
 APPROVED FOR FABRICATION
 WITH NO CHANGES
 WITH CHANGES AS NOTED
 APPROVED BY: _____ DATE: _____

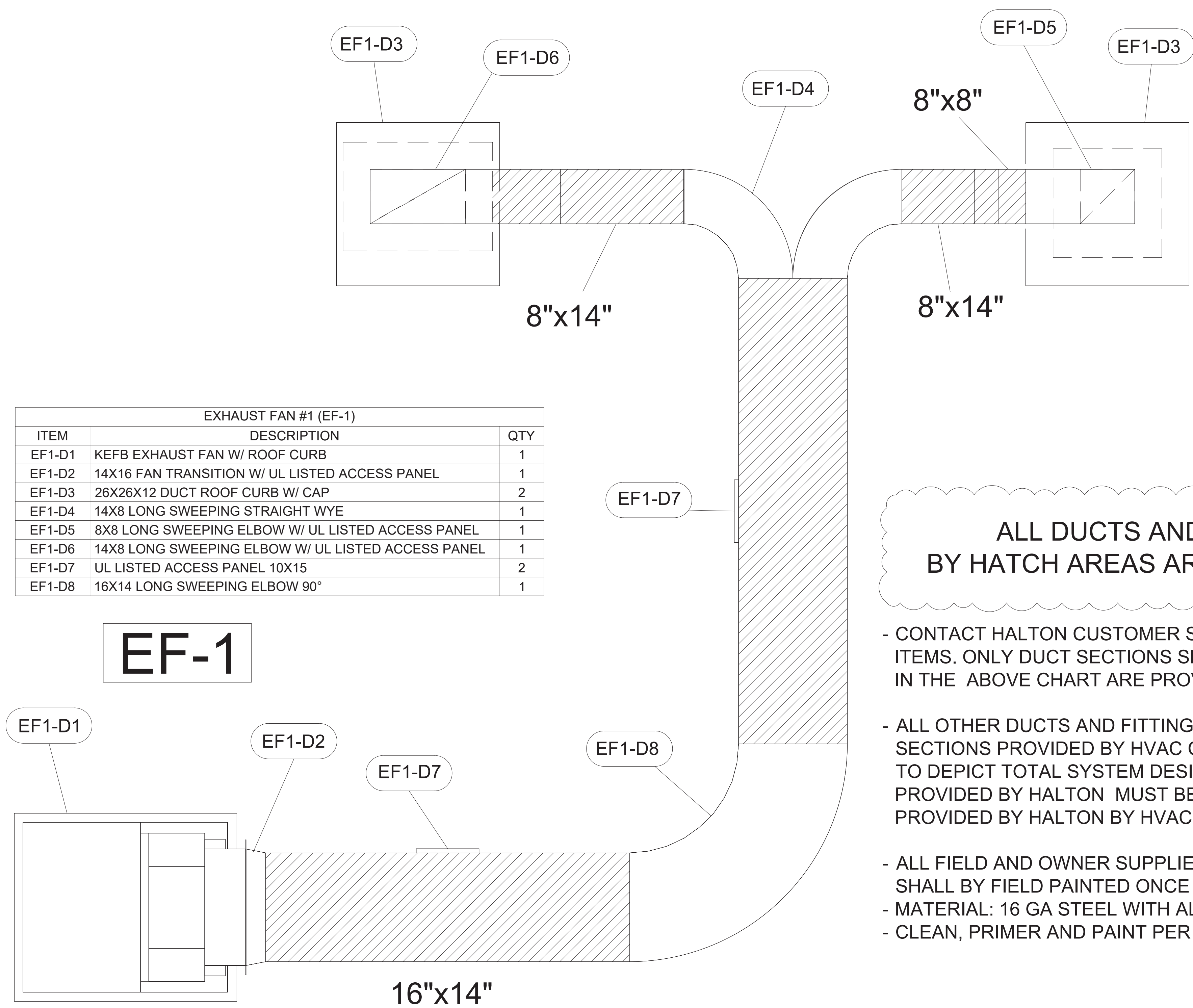


WEBSITE: www.halton.com	DATE	06.11.25
HALTON CO. (USA)	SKK	07.10.25
101 INDUSTRIAL DRIVE	CT	
SCOTTSDALE, KY 42164		
1-270-237-5800		

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:	REVISION DESCRIPTION
HALTON CO. (CANADA)	1 CHANGED TO COMEFRI - POST RELEASE
1021 BREVIK PLACE	2 CHANGED EF-1 AND EF-2 TO 1 HP - POST RELEASE
MISSISSAUGA, ON L4W 3R7	
1-905-624-0301	

PROJECT: CHICK-FL-A #5559
SADSBURY FSR
LOCATION: PARKESBURG, PA
DRAWN BY: SKK DATE: 06.05.25
SCALE: NOT TO SCALE
CONSULTANT:
DRAWING TITLE: CFA FAN DETAILS
DRAWING No.: U25-433
REV. NO.: 2 SHEET NO.: 4 of 5



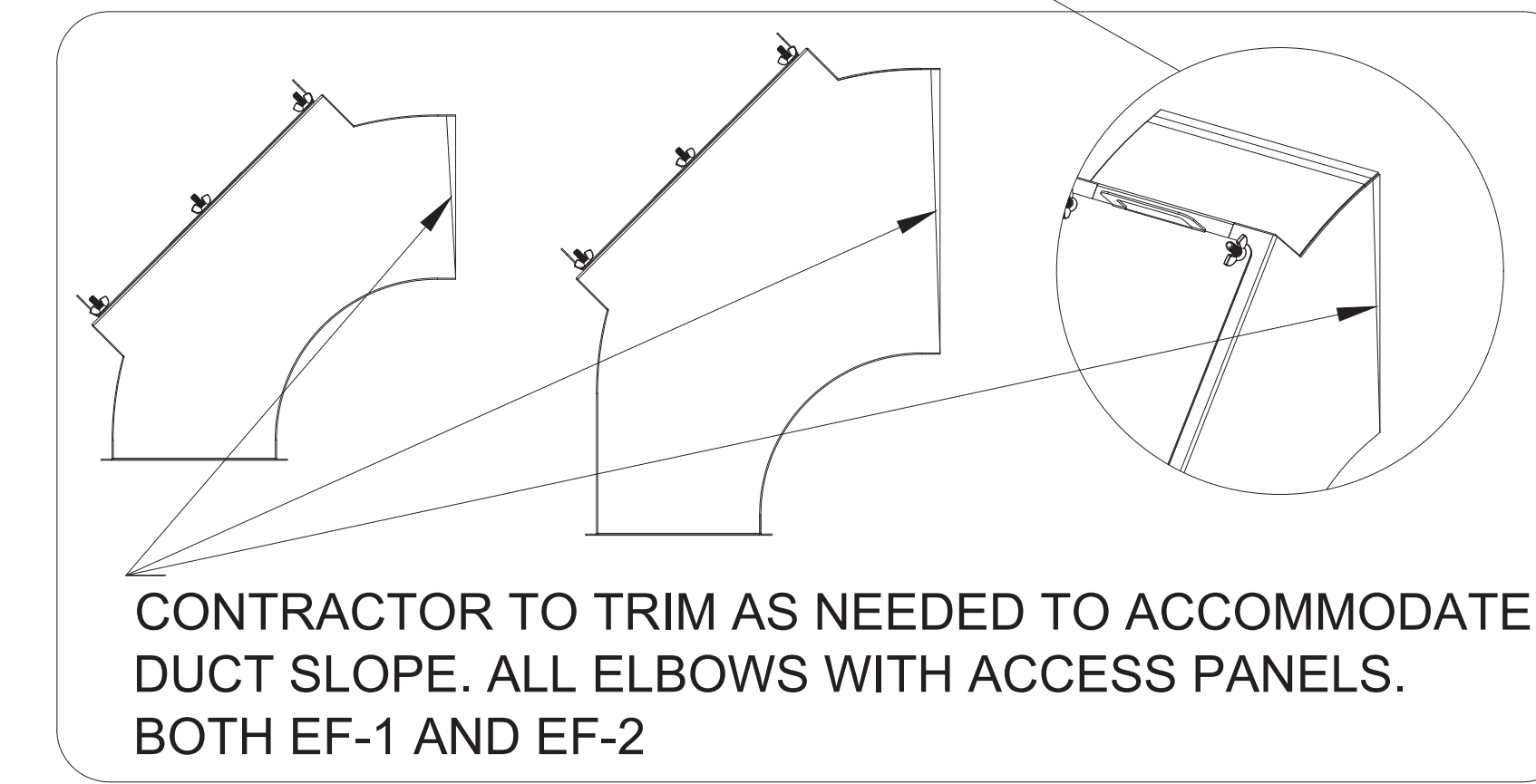
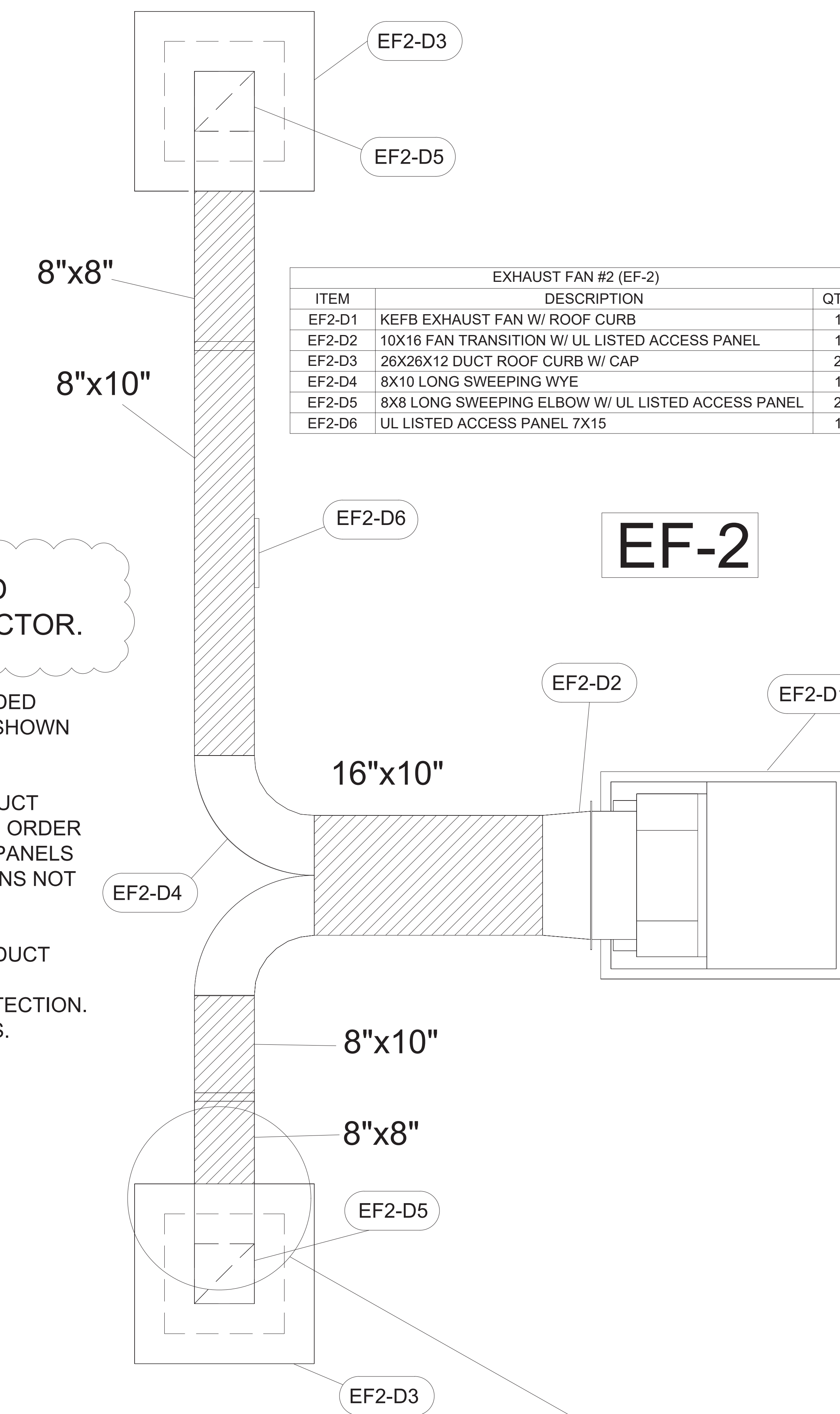


EXHAUST FAN #1 (EF-1)		
ITEM	DESCRIPTION	QTY
EF1-D1	KEFB EXHAUST FAN W/ ROOF CURB	1
EF1-D2	14X16 FAN TRANSITION W/ UL LISTED ACCESS PANEL	1
EF1-D3	26X26X12 DUCT ROOF CURB W/ CAP	2
EF1-D4	14X8 LONG SWEEPING STRAIGHT WYE	1
EF1-D5	8X8 LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL	1
EF1-D6	14X8 LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL	1
EF1-D7	UL LISTED ACCESS PANEL 10X15	2
EF1-D8	16X14 LONG SWEEPING ELBOW 90°	1

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

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

- CONTACT HALTON CUSTOMER SERVICE FOR HALTON PROVIDED ITEMS. ONLY DUCT SECTIONS SPECIFIED BY NUMBERS AND SHOWN IN THE ABOVE CHART ARE PROVIDED BY HALTON.
- ALL OTHER DUCTS AND FITTINGS BY HVAC CONTRACTOR. DUCT SECTIONS PROVIDED BY HVAC CONTRACTOR ARE SHOWN IN ORDER TO DEPICT TOTAL SYSTEM DESIGN. THE UL LISTED ACCESS PANELS PROVIDED BY HALTON MUST BE INSTALLED IN DUCT SECTIONS NOT PROVIDED BY HALTON BY HVAC CONTRACTOR.
- ALL FIELD AND OWNER SUPPLIED EXTERIOR ROOF GREASE DUCT SHALL BY FIELD PAINTED ONCE COMPLETE.
- MATERIAL: 16 GA STEEL WITH ALUMINIZED CORROSION PROTECTION.
- CLEAN, PRIMER AND PAINT PER CHICK-FIL-A SPECIFICATIONS.



"H"	"W"	"A"	Ro	Rc	Ri	
EF-1	16	14	17	16	12	8
	14	8	29	28	21	14
	8	8	17	16	12	8

TRANSITION	"H"	"W"	"L"
EF-1 (5)	14	16	17
EF-2 (6)	10	16	17

"W"	"H"	Wo	Ro	Rc	Ri	"A"	"B"	
EF-1	8	14	16	16	12	8	34	17
EF-2	8	10	16	16	12	8	34	17

	QTY
EF-1	1
EF-2	-

"A" DISTANCE AVAILABLE FOR DUCT SLOPE

ELBOW	"A"	
EF-1	14X8	8
EF-2	8X8	10

30-LS-BN/BP

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- 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
SCOTTSDALE, KY 42164
1-270-237-5600

DATE: 06.11.25

BY: SKK

DATE: 07.10.25

BY: SKK

REVISION DESCRIPTION

REV.	DATE	DESCRIPTION
1	06.11.25	NO CHANGE - POST RELEASE
2	07.10.25	NO CHANGE - POST RELEASE
3		
4		
5		
6		
7		

PROJECT: CHICK-FIL-A #5559
SADSBURY FSR

LOCATION: PARKESBURG, PA

DRAWN BY: SKK DATE: 06.05.25

SCALE: NOT TO SCALE

CONSULTANT:

Halton

DRAWING TITLE: CFA FAN DETAILS

DRAWING No.: U25-433

REV. NO.: 2 SHEET NO.: 5 of 5