

DIVISION 23 SPECIFICATIONS

PART I - GENERAL

1.01 SCOPE

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

PART II - PRODUCTS

2.01 HEATING AND COOLING EQUIPMENT

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

2.02 DUCTWORK (C15735)

- A. ACCEPTABLE MANUFACTURERS OF INSULATION SHALL BE: JOHNS MANVILLE, OWENS CORNING OR KNAUF.
- B. ALL DUCTWORK SHALL BE SHEET METAL, UNLESS NOTED OTHERWISE (U.N.O.).
- C. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS, U.N.O.
- D. CONSTRUCTION OF DUCTWORK SHALL MEET SMACNA 1" W.C. PRESSURE CLASS STANDARD AND RECOMMENDATIONS. SMACNA SHALL BE FOLLOWED WITH RESPECT TO GAGE THICKNESS, JOINTS, REINFORCING, CONSTRUCTION, INSTALLATION AND SUPPORT FOR PRESSURE CLASS STATED. ALL TRANSVERSE JOINTS IN RECTANGULAR AND ROUND DUCT INCLUDING DUCT CONNECTION TO AIR DEVICE COLLAR SHALL BE SEALED PER SMACNA SEAL CLASS C WITH U.L. DUCT MASTIC SEALANT APPROVED FOR INTENDED USE. DUCT TAPE IS NOT AN ACCEPTABLE SUBSTITUTE FOR MASTIC UNLESS EQUAL TO HARDCAST FOIL-GRIP 1402 BUTYL RUBBER ADHESIVE TAPE.
- E. DUCT SHALL BE SUPPORTED AT BASE OF DUCT DROPS. CURB DUCT 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: 877-544-6879). THE PANEL IS PROVIDED AND MOUNTED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING TERMINATIONS ARE BY THE MECHANICAL CONTRACTOR WHERE PERMITTED BY AHJ.
- B. THE SMOKE DETECTORS SHALL BE FACTORY INSTALLED AND WIRED BY THE ROOFTOP UNIT MANUFACTURER.
- C. A FACTORY INSTALLED SMOKE DETECTOR IN THE SUPPLY & RETURN AIR SECTION OF EACH AIR CONDITIONING UNIT SHALL STOP THE INDOOR FAN AND CLOSE THE OUTSIDE AIR DAMPER IN THE EVENT OF EXCESSIVE TEMPERATURE OR SMOKE. SMOKE DETECTOR SHALL BE LOCATED PRIOR TO ANY EXHAUST FROM THE BUILDING OR MIXING WITH FRESH AIR MAKE-UP. UPON DETECTION, THE SYSTEM SHALL NOT RESTART UNTIL THE DEVICE IS MANUALLY RESET. DEVICES SHALL BE LOCATED WHERE THEY CAN BE EASILY ACCESSED AND WHERE CLEAR OF FILTERS.
- D. CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH SUNCOAST ENVIRONMENTAL CONTROLS FOR THE SMOKE DETECTOR TEST/RESET ANNUNCIATOR STATIONS. THE TEST/RESET STATIONS WILL BE PURCHASED BY THE ELECTRICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE AND TURNED OVER TO THE MECHANICAL CONTRACTOR FOR INSTALLATION.
- E. THE REMOTE TEST/RESET ANNUNCIATORS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE ANNUNCIATORS AND ALL WIRING FROM EACH DEVICE TO THE RTU. ELECTRICAL WILL PROVIDE A JUNCTION BOX IN THE WALL WITH 1/2" CONDUIT STUBBED UP ABOVE THE CEILING FOR EACH REMOTE TEST STATION AS SHOWN ON THE ELECTRICAL PLANS. ANNUNCIATOR SHALL BE SUNCOAST CONTROLS REMOTE TEST/RESET STATION WITH POWER LED, TROUBLE LED, ALARM LED, 90DB HORN AND TEST/RESET BUTTON.
- F. THE RESTROOM FAN SHALL BE INTERLOCKED TO THE LIGHTS SERVING THE MEN AND WOMEN'S RESTROOMS. THE HOOD FANS SHALL BE CONTROLLED VIA THE SUNCOAST CFA-500 CONTROL PANEL. WIRING, RELAYS AND SWITCHES FOR CONTROL OF ALL FANS ARE BY ELECTRICAL CONTRACTOR.
- G. THERMOSTATS ARE PROVIDED AND INTEGRATED INTO THE TEMPERATURE CONTROL PANEL BY SUNCOAST ENVIRONMENTAL CONTROLS. SUNCOAST WILL PROVIDE A NETWORK THERMOSTAT US32-CFA THERMOSTAT PRE-WIRED IN THE TEMPERATURE CONTROL PANEL. REMOTE TEMPERATURE SENSOR(S) FOR EACH THERMOSTAT IS ALSO PROVIDED. MECHANICAL CONTRACTOR SHALL INSTALL ALL WIRING BETWEEN THE THERMOSTAT, THE REMOTE SENSOR(S) AND THE ROOFTOP UNIT.
- H. MECHANICAL CONTRACTOR SHALL INSTALL CONTROL WIRING IN 1/2" CONDUIT WHERE REQUIRED BY CODE. WHERE NOT REQUIRED TO BE IN CONDUIT, ALL WIRING SHALL BE RUN PARALLEL TO STRUCTURAL MEMBERS OR PERPENDICULAR WITH NO DIAGONAL ROUTING. ALL WIRING SHALL BE SECURED TO THE FRAMING TO PREVENT SAGGING IN RUNS. WIRING TO ROOFTOP UNITS SHALL BE ROUTED THROUGH THE FACTORY THRU-BASE FITTING IN THE UNIT BASE. NO SPLICING OF WIRING WILL BE ACCEPTED. ALL WIRING ABOVE THE ROOF SHALL BE INSTALLED IN EXTERIOR GRADE FLEXIBLE CONDUIT. ALL CONTROL WIRING AND CONTROL WIRING CONDUIT SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LATEST EDITION OF NEC. ALL LOW VOLTAGE CONTROL WIRING SHALL BE NO LESS THAN 18 AWG MIN. CONTROL WIRING CONDUCTORS SHALL BE SIZED TO ACCOUNT FOR LOAD AND LENGTH OF RUN TO ALLOW SUFFICIENT VOLTAGE AVAILABLE AT CONTROLLED DEVICE TO OPERATE THE SYSTEM RELIABLY.

2.04 PIPING

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

- C. PROVIDE AND INSTALL A CUT-OFF VALVE, UNION AND FULL SIZE DIRT LEG AT CONNECTION TO EACH GAS-FIRED PIECE OF EQUIPMENT. INSTALL PIPING AT AND AROUND EQUIPMENT SO AS TO NO WAY OBSTRUCT EQUIPMENT ACCESS PANELS AND/OR ACCESS DOORS.
- D. ALL GAS PIPING ABOVE ROOF SHALL BE CLEANED FREE OF RUST AND PAINTED WITH COAT OF ZINC RUST PRIMER AND ONE COAT OF 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.
10. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-702 FOR MORE INFORMATION.

LEGEND

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

ABBREVIATIONS

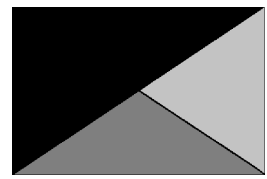
| | |
|------|-----------------------|
| EC | ELECTRICAL CONTRACTOR |
| GC | GENERAL CONTRACTOR |
| MC | MECHANICAL CONTRACTOR |
| PC | PLUMBING CONTRACTOR |
| O.C. | ON CENTER |
| IRH | INFRARED HEATER |
| CF | CIRCULATING FAN |
| TF | TRANSFER FAN |
| EF | EXHAUST FAN |

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.



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



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



07/24/24

CHICK-FIL-A
Michigan City FSU

5809 Franklin St
Michigan City, IN 46360

FSR#05893

| NO. | DATE | DESCRIPTION |
|-----|----------|------------------------|
| 1 | 05/27/24 | ISSUE FOR PERMIT |
| 1 | 07/22/24 | ISSUE FOR CONSTRUCTION |

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| CONSULTANT PROJECT # | 24066.CD.S |
| DATE | 05/27/2024 |
| DRAWN BY | BLM |

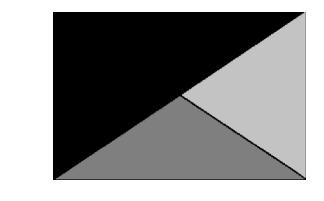
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GENERAL NOTES, LEGENDS, SYMBOLS, AND ABBREVIATIONS
SHEET NUMBER

M-001



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



07/24/24

CHICK-FIL-A
 Michigan City FSU
 5809 Franklin St
 Michigan City, IN 46360

FSR#05893

BUILDING TYPE / SIZE: P14 LS BN
 RELEASE: 23.11
 PRINTED FOR:
 ISSUE FOR CONSTRUCTION
 REVISION SCHEDULE

| NO. | DATE | DESCRIPTION |
|-----|----------|------------------------|
| 1 | 05/27/24 | ISSUE FOR PERMIT |
| 1 | 07/22/24 | ISSUE FOR CONSTRUCTION |

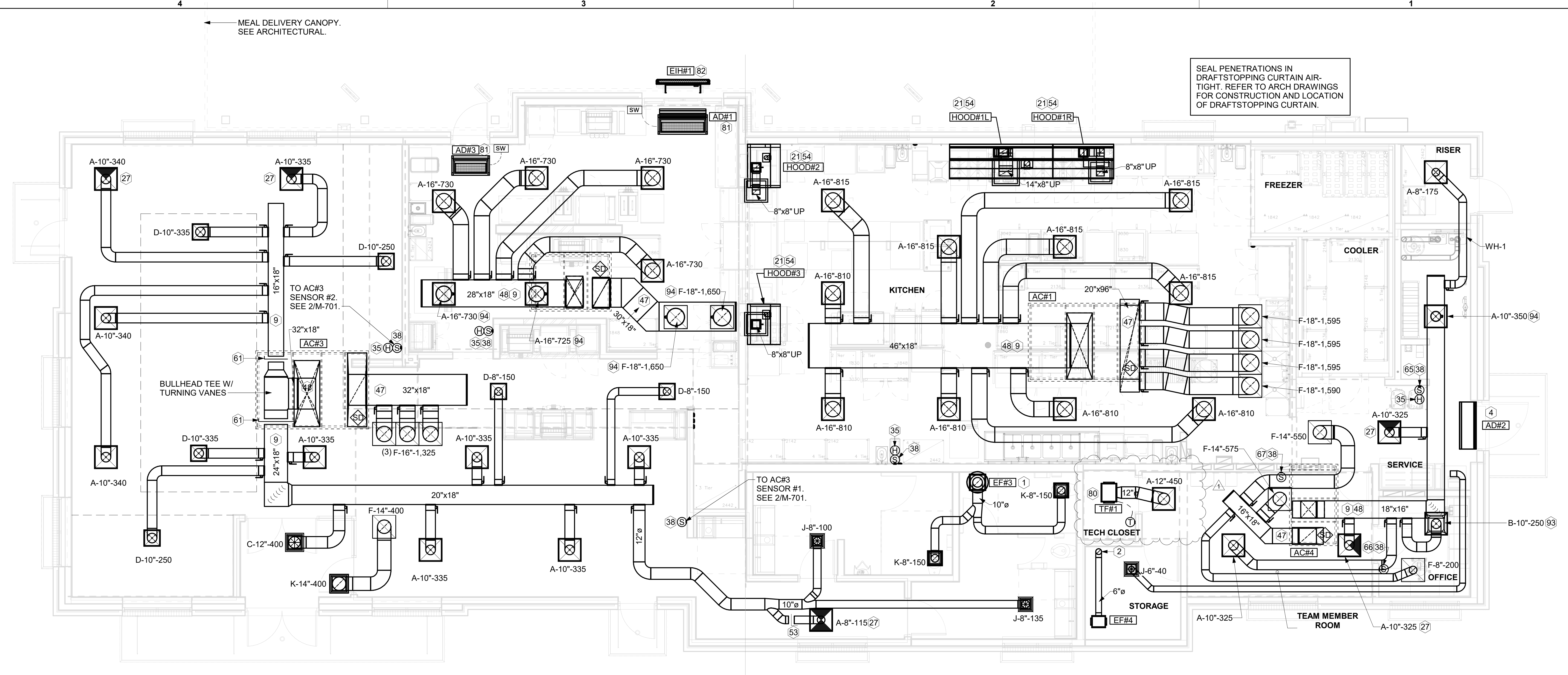
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SHEET
 EQUIPMENT AND DUCTWORK PLAN - TRANE
 SHEET NUMBER

M-101

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



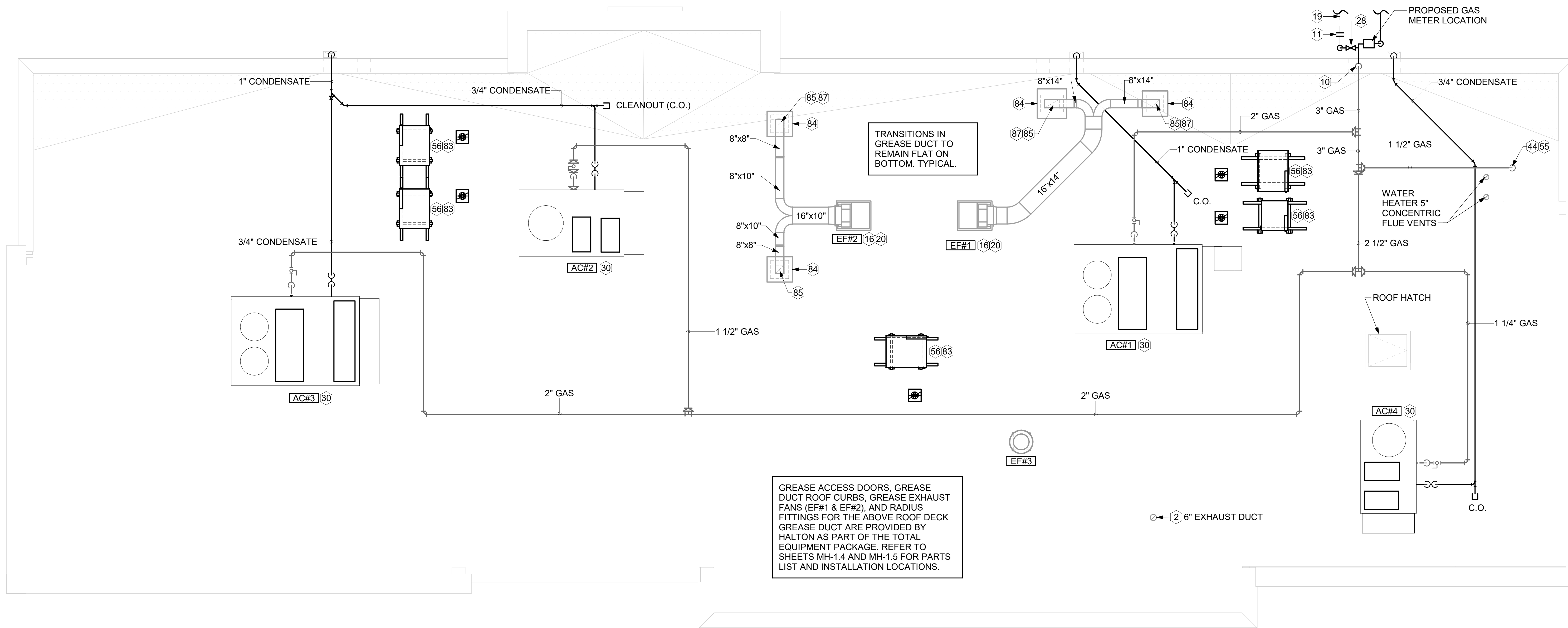
1 EQUIPMENT AND DUCTWORK PLAN
 1/4" = 1'-0"

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

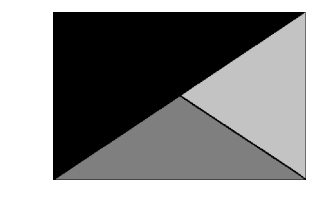
H.E.S. SYSTEM
 MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL SUNCOAST H.E.S. SYSTEM FOR ALL HOODS. SEE HOOD FAN/EQUIPMENT INTERLOCK WIRING DIAGRAM ON M-702 FOR MORE INFORMATION.

KEY NOTES

- 10" DIA. DUCT UP THRU ROOF.
- PROVIDE DUCT AS SHOWN. TERMINATE DUCT 24" ABOVE ROOF WITH ALUMINUM WEATHER CAP WITH INTEGRAL BIRD SCREEN. EXHAUST DUCT DISCHARGE SHALL BE LOCATED A MINIMUM OF 10 FT FROM ANY OUTSIDE AIR INTAKE.
- 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-201 FOR LOCATION.
- MECHANICAL CONTRACTOR TO CLOSE THE AIR PATTERN DEFLECTORS ON SHADED SIDE.
- MOUNT HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.
- MOUNT REMOTE SENSOR ON WALL AT 5'-0" AFF U.N.O. AND ROUTE WIRING BACK TO SUNCOAST TEMP CONTROL PANEL. FOR SENSOR SERVING AC#1, COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT.
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. SEE DETAIL 5/M-501 FOR REQUIRED TRANSITION GEOMETRY. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITHOUT TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).
- TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE. WHERE THE DUCT IS SHOWN OFFSET HORIZONTALLY, PROVIDE ELBOW WITH TURNING VANES. FOR DROPS WITH NO HORIZONTAL OFFSET, EXTEND DROP BELOW STRUCTURE TO ACCOMMODATE START COLLARS. TERMINATE DROP A MINIMUM 0'-10" ABOVE CEILING (0'-4" ABOVE CEILING IF REQUIRED TO ACCOMMODATE TAKE-OFF AND DROP IS NOT LOCATED DIRECTLY ABOVE A LIGHT).
- RUSKIN MDRS25 MVD W/LOCKING QUADRANT HANDLE.
- SEE ELEVATIONS ON M-201 FOR CJ FAN DUCTING REQUIREMENT.
- 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.
- TO AC#4, SENSOR #1. SEE 2/M-701.
- TO AC#4, SENSOR #2. SEE 2/M-701.
- TO AC#4, SENSOR #3. SEE 2/M-701.
- CEILING MOUNTED RECIRCULATING FAN. DUCT AND DISCHARGE TO TYPE 'A' DIFFUSER AS SHOWN.
- MOUNT AIR DOOR IN CEILING. CENTERED ON DRIVE-THRU/MFA DOOR OPENING. REFER TO WIRING DIAGRAM ON SHEET M-702 FOR MORE INFORMATION.
- ELECTRIC HEATER. MC TO MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
- MAXIMUM HEATING AND COOLING AIRFLOWS INDICATED. SET MINIMUM AIRFLOW TO 25 CFM.
- TAKE OFF WITH DAMPER AT THE BOTTOM OF DUCTWORK, TYP.



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



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



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

KEY NOTES

- 2 PROVIDE DUCT AS SHOWN. TERMINATE DUCT 24" ABOVE ROOF WITH ALUMINUM WEATHER CAP WITH INTEGRAL BIRD SCREEN. EXHAUST DUCT DISCHARGE SHALL BE LOCATED A MINIMUM OF 10 FT FROM ANY OUTSIDE AIR INTAKE.
- 10 TURN 3" GAS UP WITHIN WALL, THRU PARAPET AND ONTO ROOF.
- 11 ROUTE POLYETHYLENE GAS BELOW GRADE FROM THE METER. FOR TRANSITION FROM POLYETHYLENE PIPING BELOW GRADE TO STEEL AT THE METER, INSTALL ANODELESS RISER WITH INTEGRAL CONSTAB PE-TO-IPS TRANSITION FITTING BY CONTINENTAL INDUSTRIES OR EQUAL BY ELSTER.
- 16 VERIFY EXHAUST TERMINATION IS A MINIMUM 10'-0" FROM PARAPETS AND OUTSIDE AIR INTAKES. REFER TO MH-1.4 AND MH-1.5 FOR DETAILS.
- 19 1-1/2" GAS BELOW GRADE TO ORDER CANOPY, SEE DETAIL 2 SHEET M-103.
- 20 GREASE EXHAUST DUCT LOCATED ON ROOF SHALL SLOPE 1/4" PER FOOT TOWARDS THE HOOD, THE FAN, OR A COMBINATION OF THE TWO SUCH THAT NO PORTION OF THE RADIUS ELBOW AT THE CURB IS BELOW THE CURB CAP AND SUCH THAT THE FAN BASE SETS DIRECTLY ON THE CURB RAILS. THE BOTTOM OF THE RADIUS ELBOW MAY BE EVEN OR FLUSH WITH THE CURB CAP, BUT NOT BELOW THE CAP. THE DUCT AT THE FAN MUST BE CENTERED ON THE FAN INLET.
- 28 PROVIDE FULL PORT BALL VALVE EQUAL TO APOLLO 50GB SERIES WITH WINGS HANDLE OPTION ABOVE GRADE AT THE METER. PROVIDE BRASS VALVE TAG WITH JACK CHAIN AT VALVE MARKED "SERVICE SHUTOFF FOR CANOPY HEATERS."
- 30 MECHANICAL CONTRACTOR TO SEE ARCHITECTURAL ROOF PLAN FOR NOTES REGARDING LEVELING FRAMES FOR RTUS. COORDINATE WITH GENERAL CONTRACTOR EXACT LOCATIONS AND SIZE NEEDED.
- 44 1-1/2" GAS DOWN THRU ROOF TO WATER HEATER. SEE DETAIL 2M-502 FOR MORE INFORMATION ON CONSTRUCTION AND PENETRATION.
- 55 SEE ARCHITECTURAL DETAILS FOR ROOFTOP PIPE PENETRATIONS.
- 56 GC SHALL PROVIDE EQUIPMENT STANDS AS MANUFACTURED BY AVCOA OR EQUAL. STANDS SHALL BE INSTALLED PRIOR TO ROOF INSULATION SO THAT THE INSULATION IS CONTINUOUS UP TO THE PIPE POSTS. POSTS SHALL BE FLASHED IN ACCORDANCE WITH ROOFING MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE BLOCKING BELOW THE ROOF DECK AS REQUIRED.
- 83 DO NOT DISCHARGE OF CONDENSING UNITS INTO CONDENSER SECTION OF ROOFTOP UNITS, TYP.
- 84 ROOF CURB FOR DUCT PENETRATION. REFER TO MH-1.4 AND MH-1.5 FOR DETAILS.
- 85 TURN DOWN THRU ROOF. SEE M-101 FOR CONTINUATION.
- 87 DUCT PENETRATIONS ON ROOF MUST BE AT LEAST 18" FROM ADJACENT PARAPETS.

| 3. GAS LOAD SCHEDULE | |
|------------------------------------|---|
| EQUIPMENT | GAS LOAD |
| AC#1 | 400,000 BTUS |
| AC#2 | 250,000 BTUS |
| AC#3 | 400,000 BTUS |
| AC#4 | 130,000 BTUS |
| IRH (2 @ 50,000 BTU EA.) | 100,000 BTUS |
| IRH (FUTURE 4 @ 50,000 BTU EA.) | 200,000 BTUS |
| WATER HEATER | 398,000 BTUS |
| TOTAL FUTURE CONNECTED LOAD | 1,878,000 BTUS |
| REMARKS: | 1. EQUIVALENT TO 1,878.0 CFH 2. 7" W.C. DELIVERY PRESSURE 3. DEVELOPED LENGTH: 200 FT. (METER TO AC#3) 4. GAS PIPING SIZED FOR FUTURE LOAD |

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 Michigan City FSU
 5809 Franklin St
 Michigan City, IN 46360

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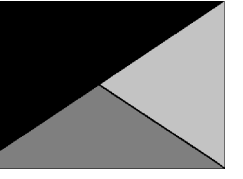
SHEET
 EQUIPMENT ROOF PLAN - TRANE

SHEET NUMBER
M-102

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 30-US-05893-M-102-EQUIPMENT ROOF PLAN - TRANE



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



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



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5809 Franklin St
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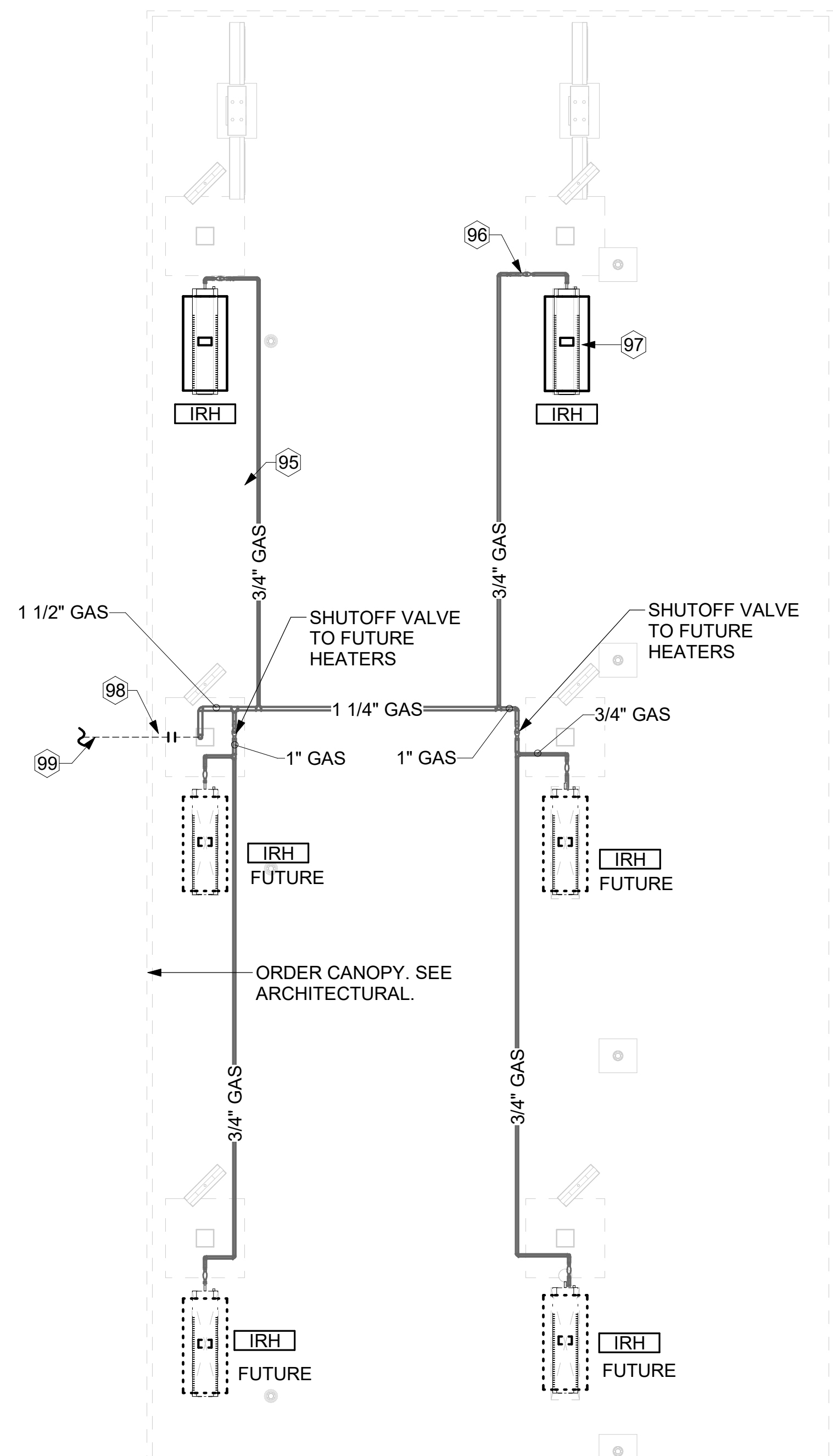
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SHEET CANOPY HVAC PLAN

SHEET NUMBER

M-103



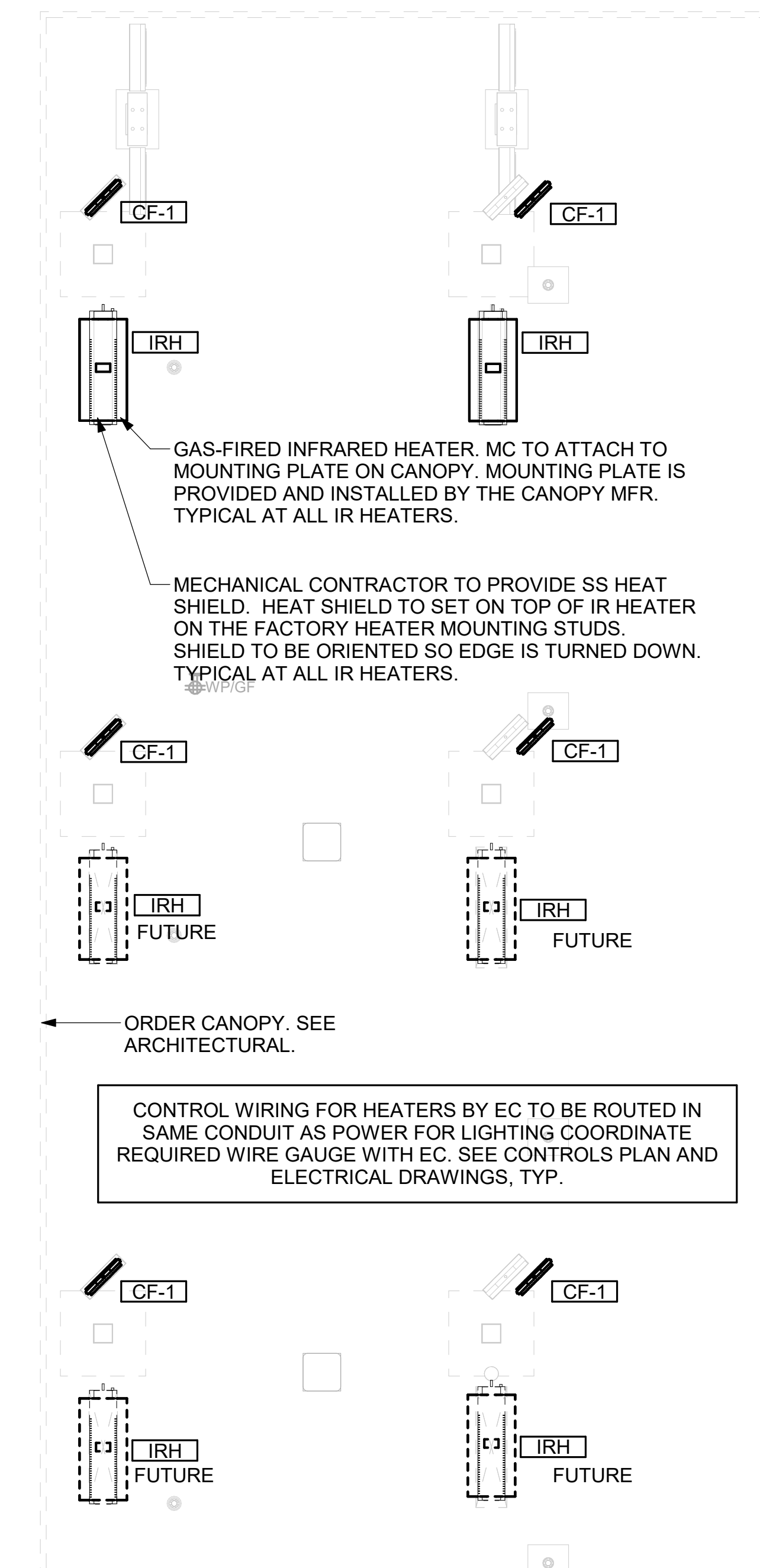
2 ORDER CANOPY GAS PIPNG PLAN
1/4" = 1'-0"

KEY NOTES

- 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.
- 97 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 EL-STER 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-102.

CANOPY GENERAL NOTES

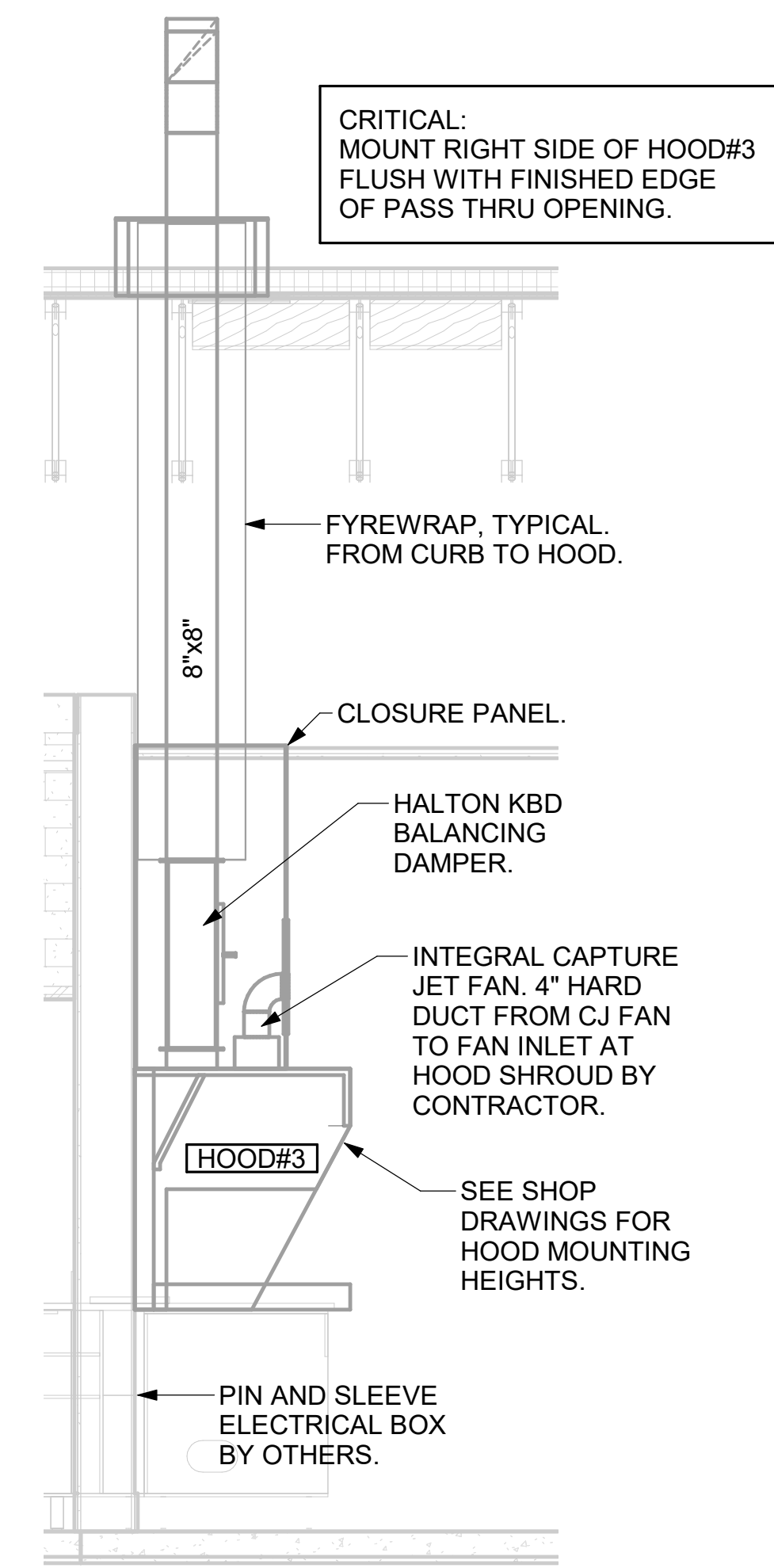
1. COORDINATE WORK WITH CONDUIT, STRUCTURE, AND PIPING. FIELD VERIFY CONDITIONS PRIOR TO START OF WORK.
2. COORDINATE LOCATION AND RESPONSIBILITIES FOR UNDERGROUND PIPING AND ASSOCIATED TRENCHING WITH GENERAL CONTRACTOR PRIOR TO START OF WORK.
3. EXPOSED GAS PIPING SHALL BE COVERED WITH A RUST INHIBITING 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.).



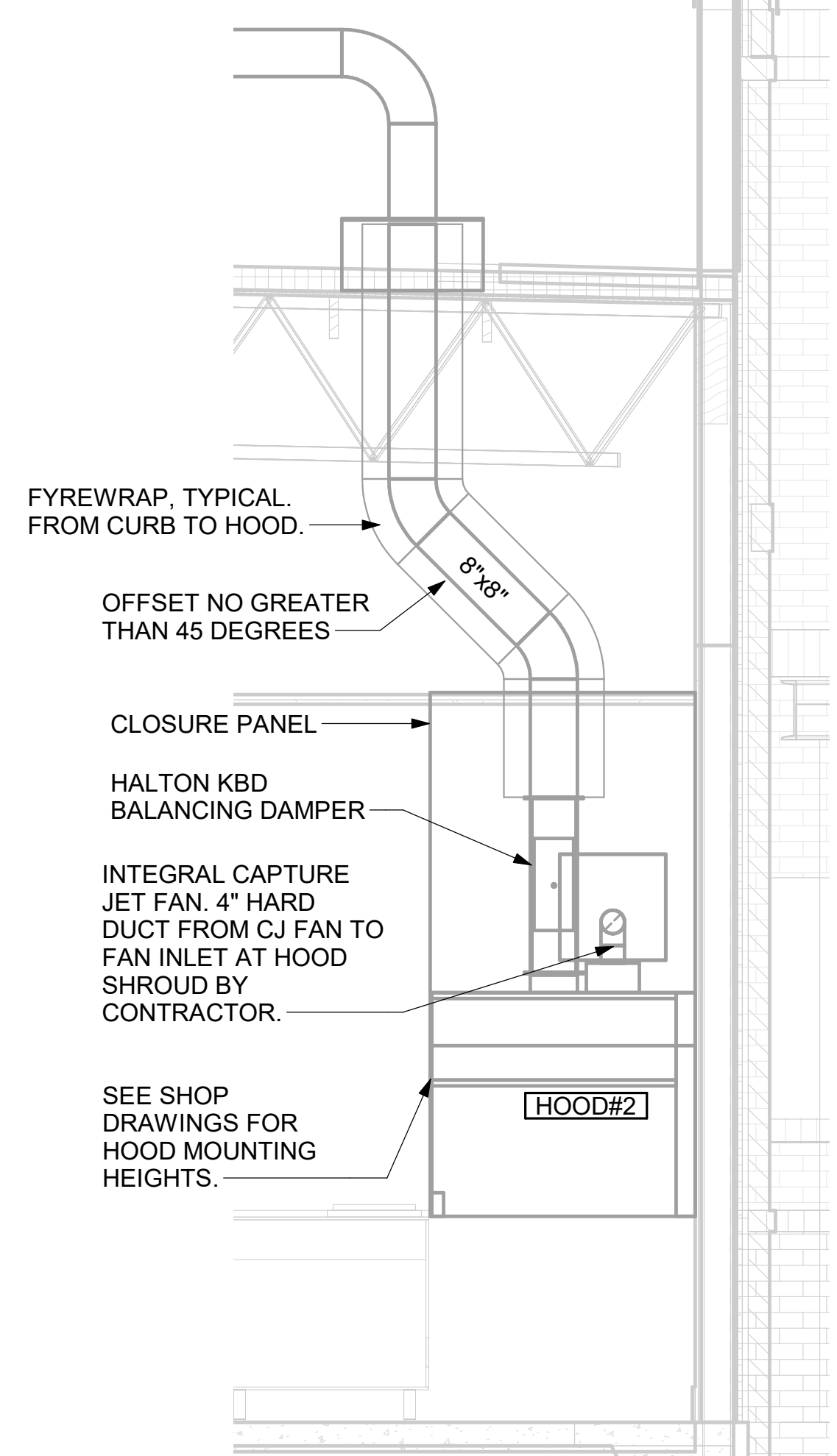
1 MECHANICAL FLOOR PLAN - ORDER CANOPY
1/4" = 1'-0"

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.

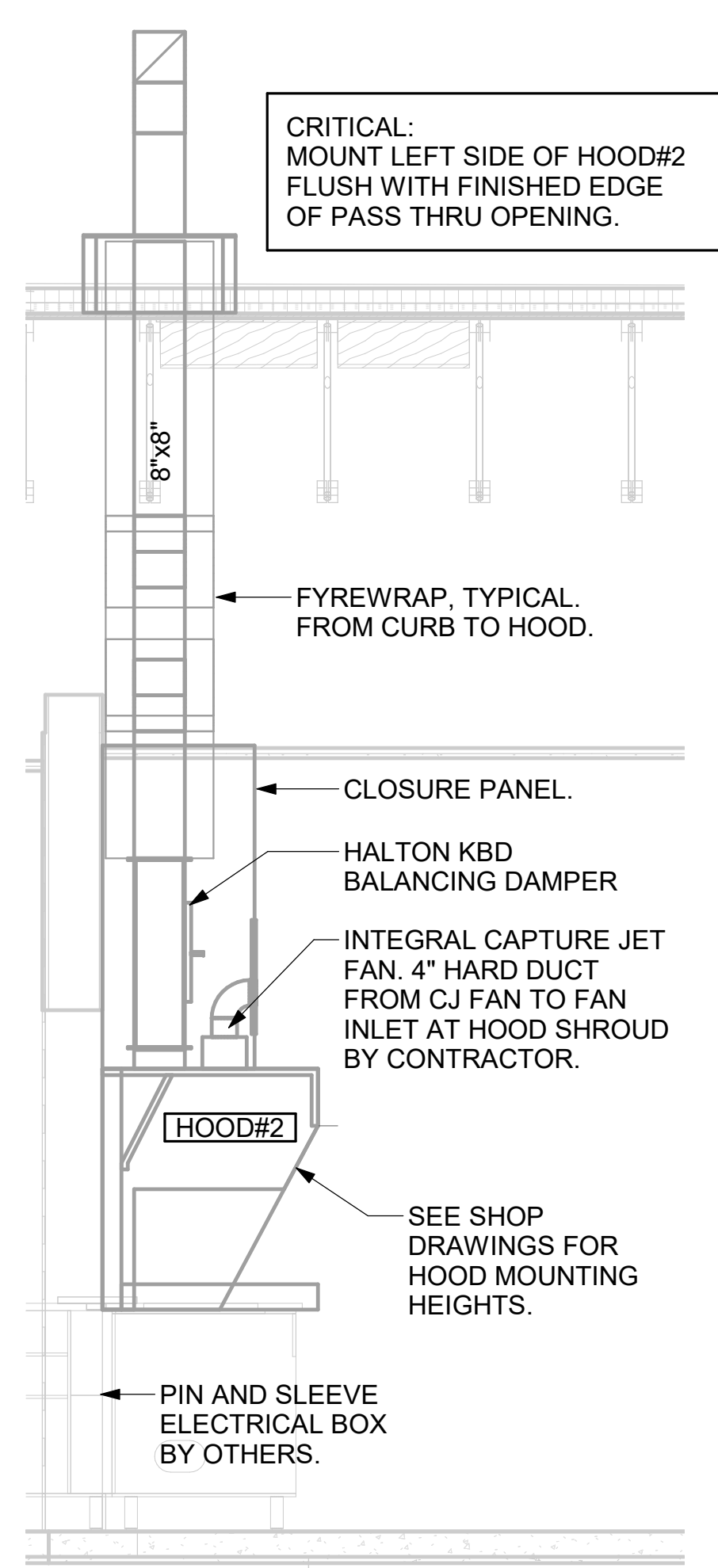
CLEANOUT DOOR NOTE:
 DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS. NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.



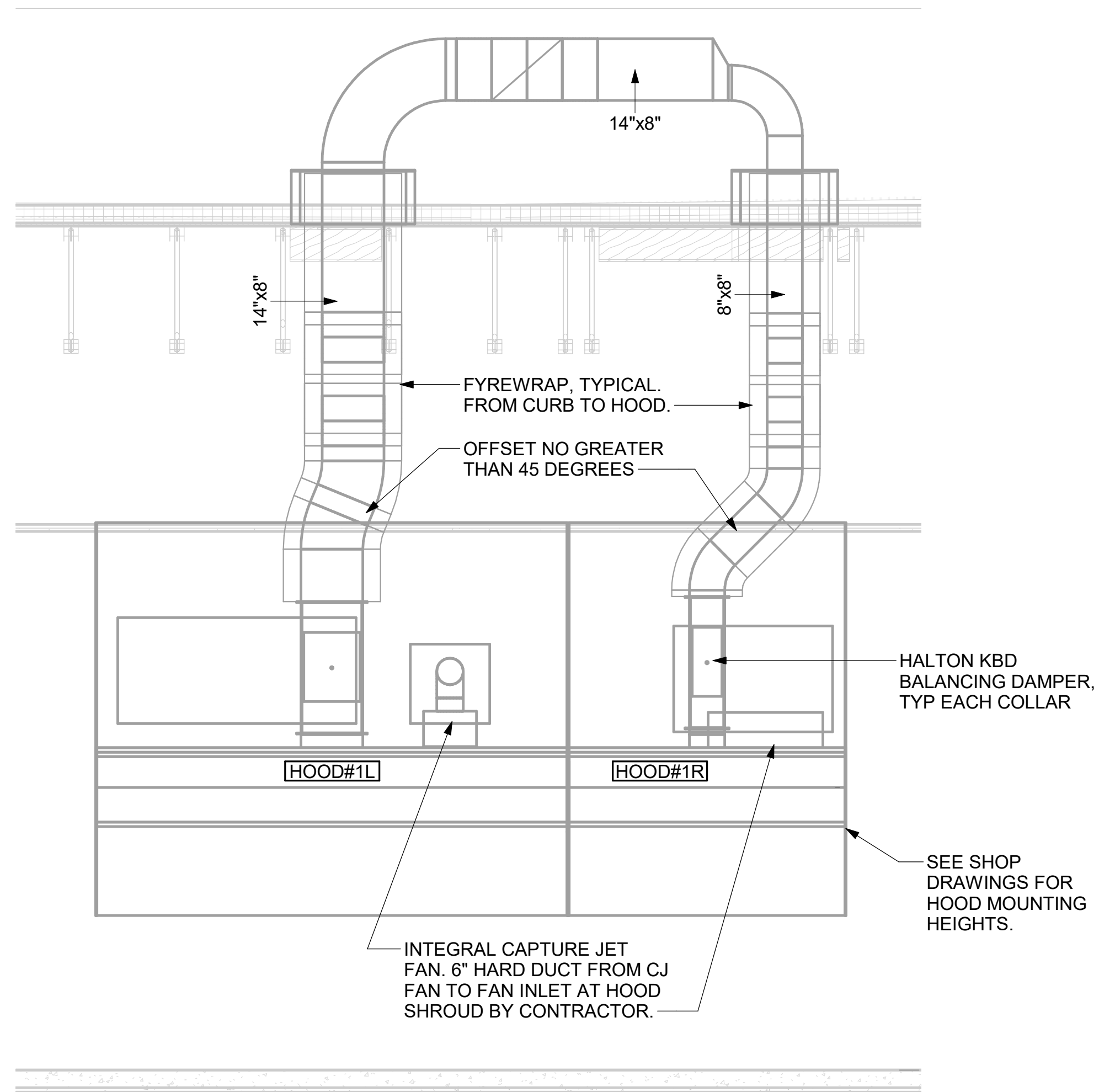
6 HOOD ELEVATION - HOOD#3
 NOT TO SCALE



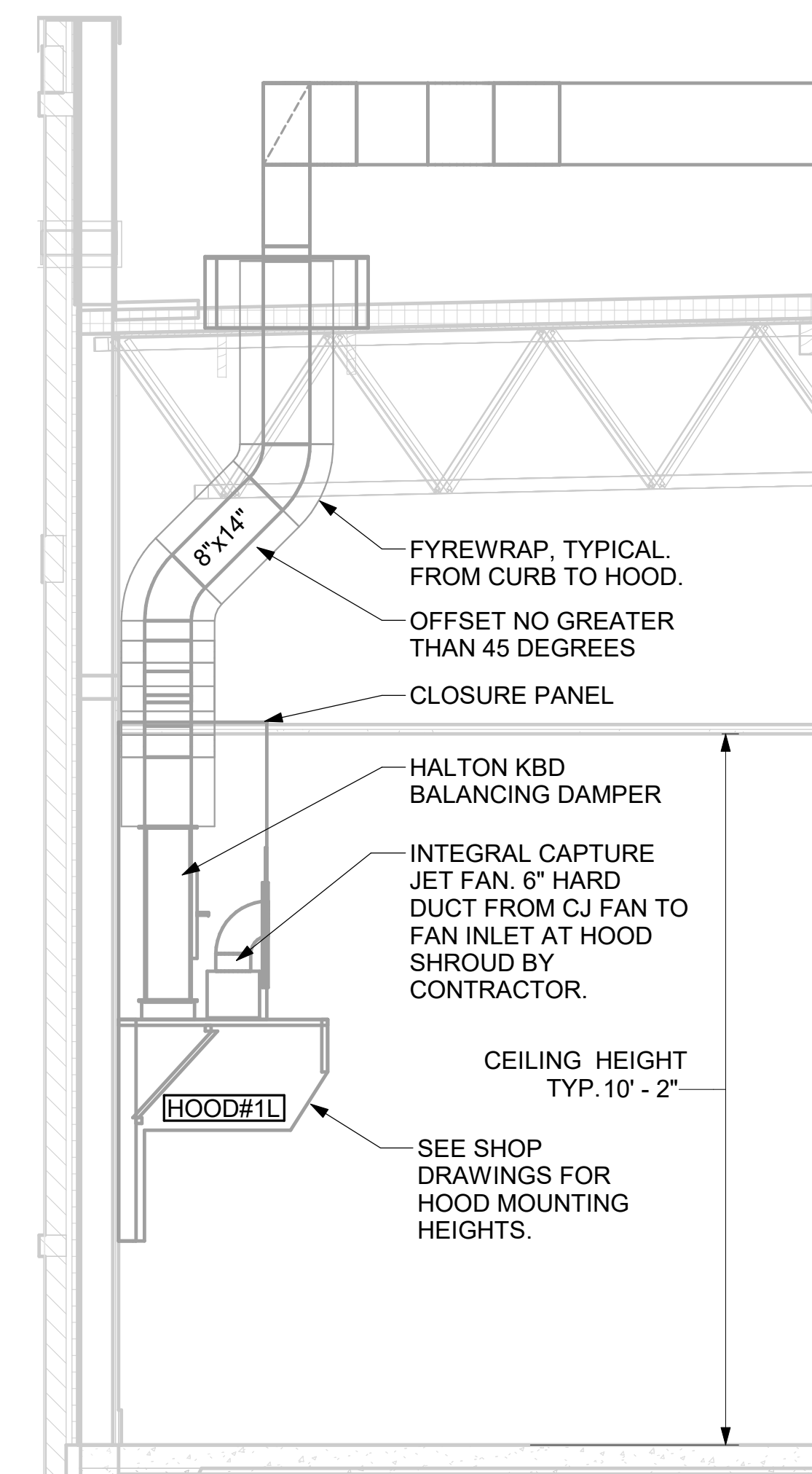
5 HOOD ELEVATION - HOOD#2 - FRONT
 NOT TO SCALE



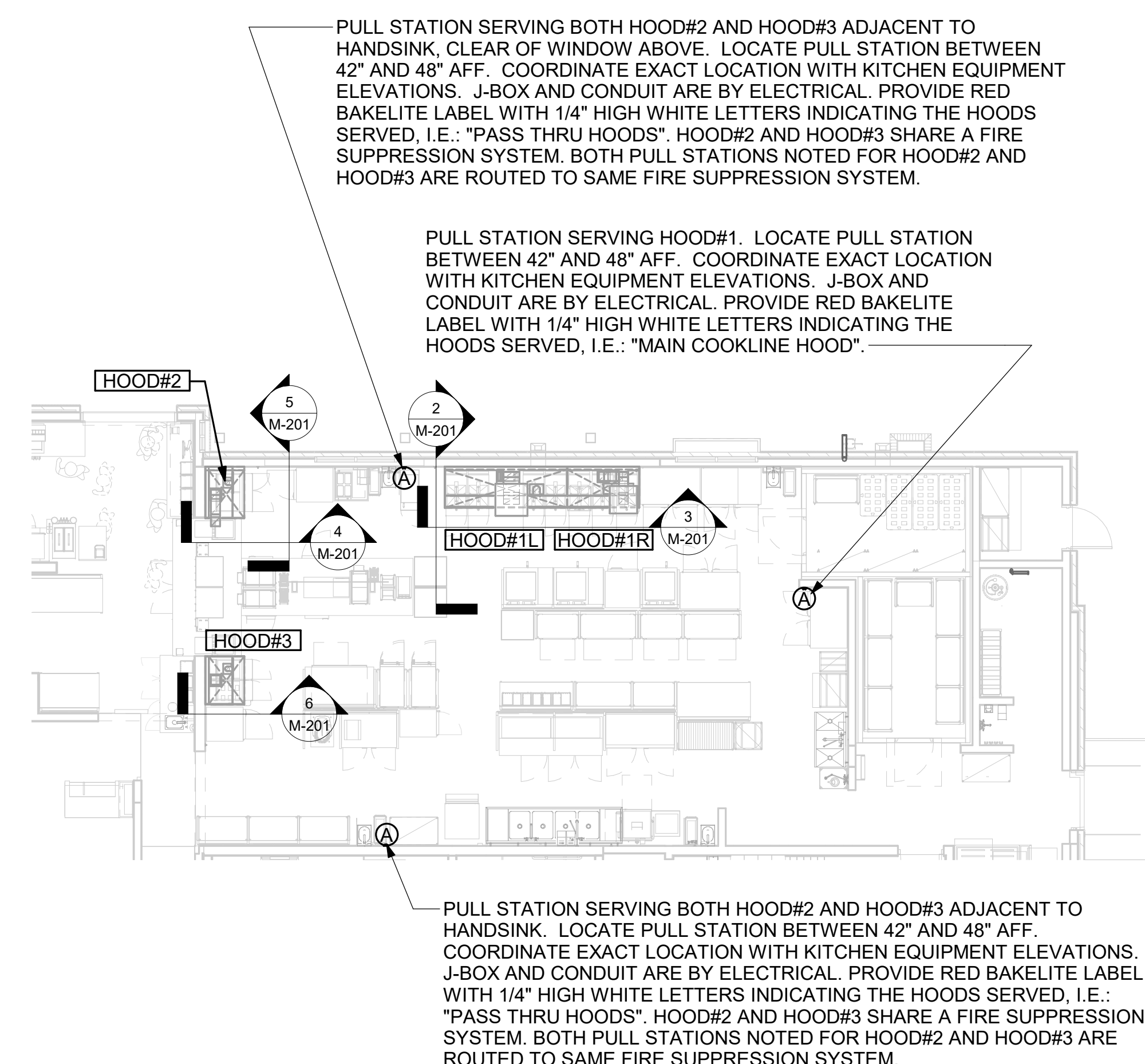
4 HOOD ELEVATION - HOOD#2 - SIDE
 NOT TO SCALE



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



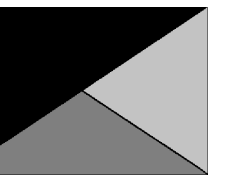
2 HOOD ELEVATION - HOOD#1 - SIDE
 NOT TO SCALE



1 HOOD LAYOUT
 NOT TO SCALE



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



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



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 Michigan City FSU

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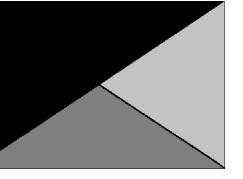
SHEET
 EXHAUST HOOD ELEVATIONS

M-201



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



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5809 Franklin St
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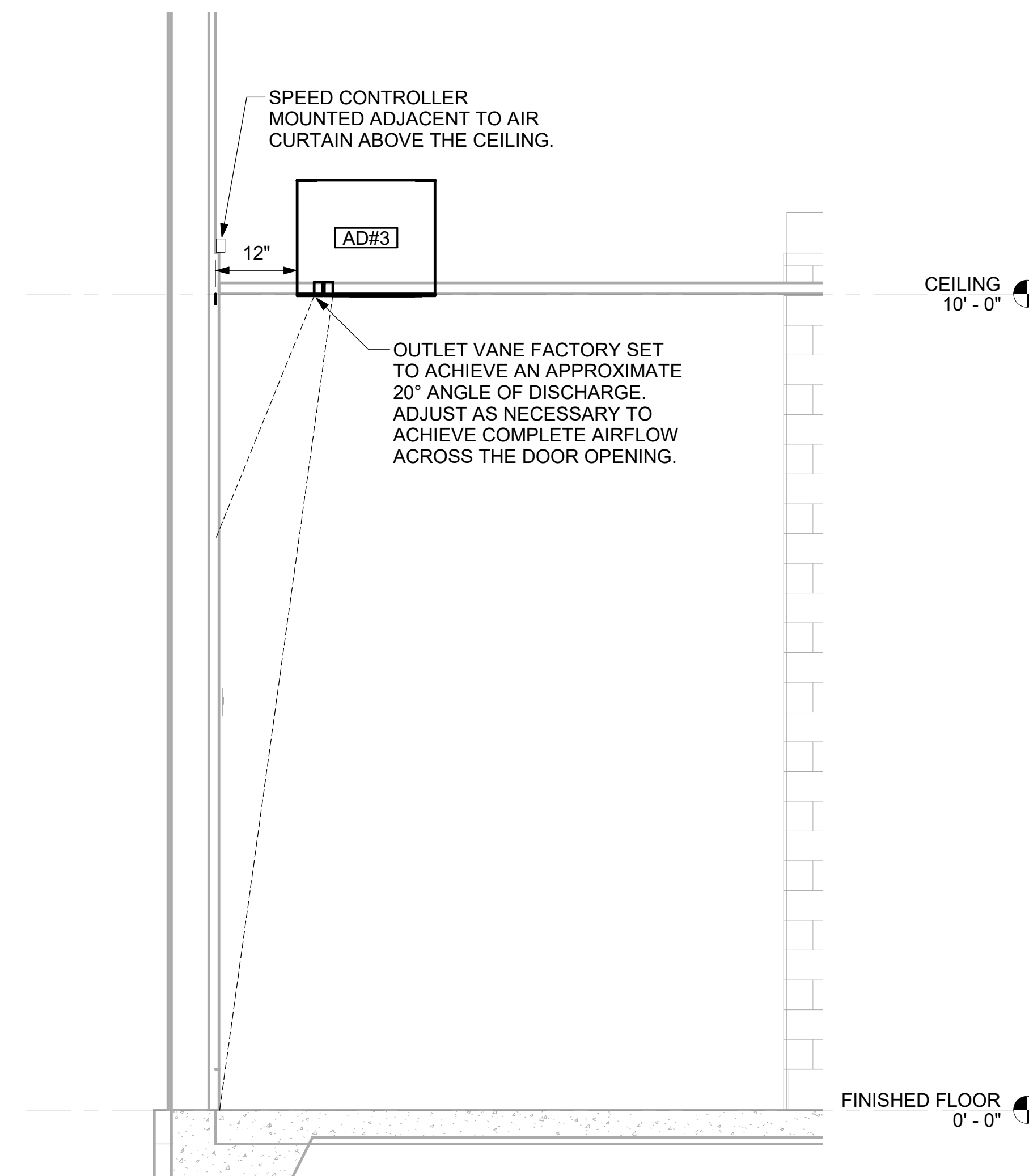
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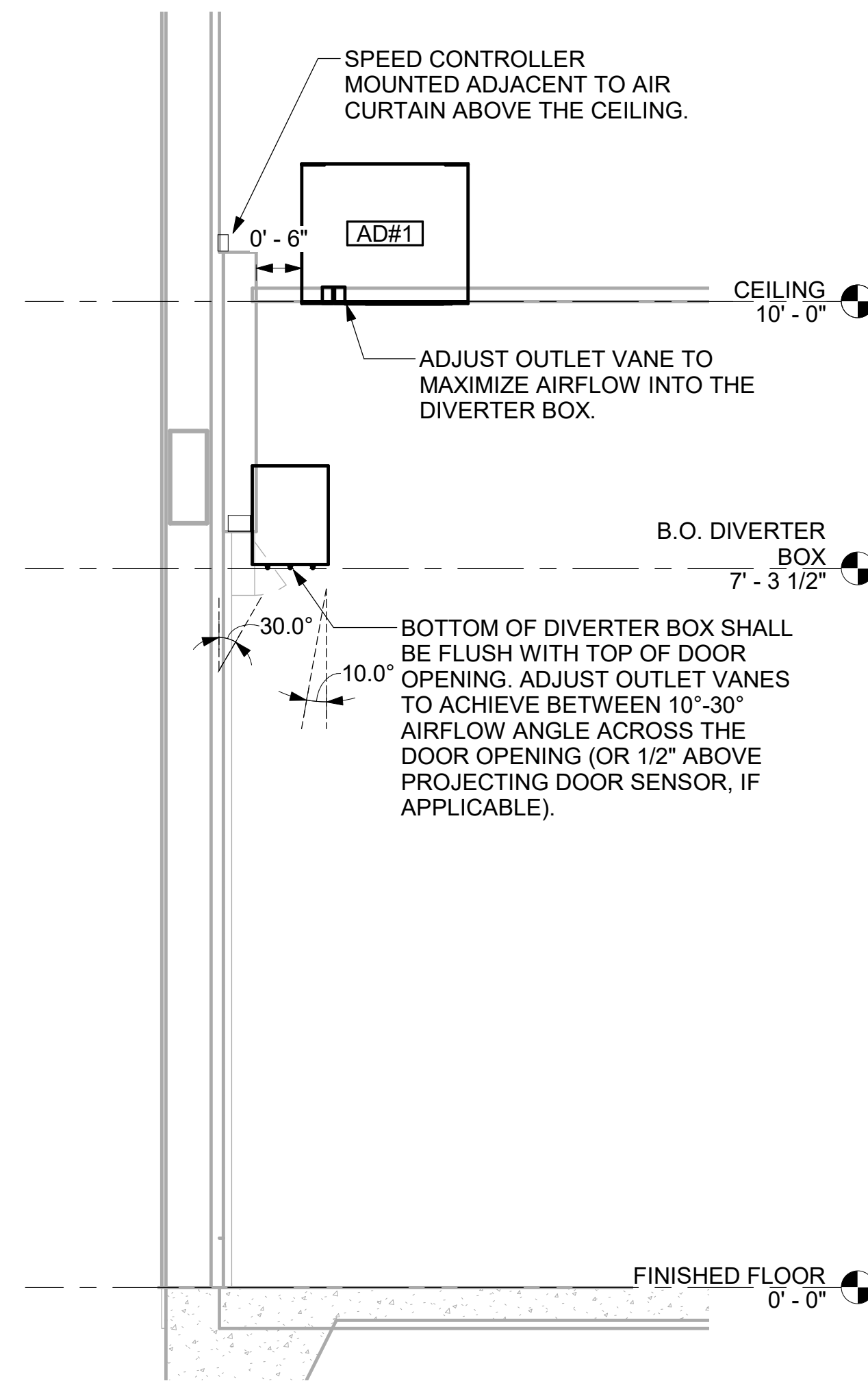
SHEET SECTIONS

SHEET NUMBER

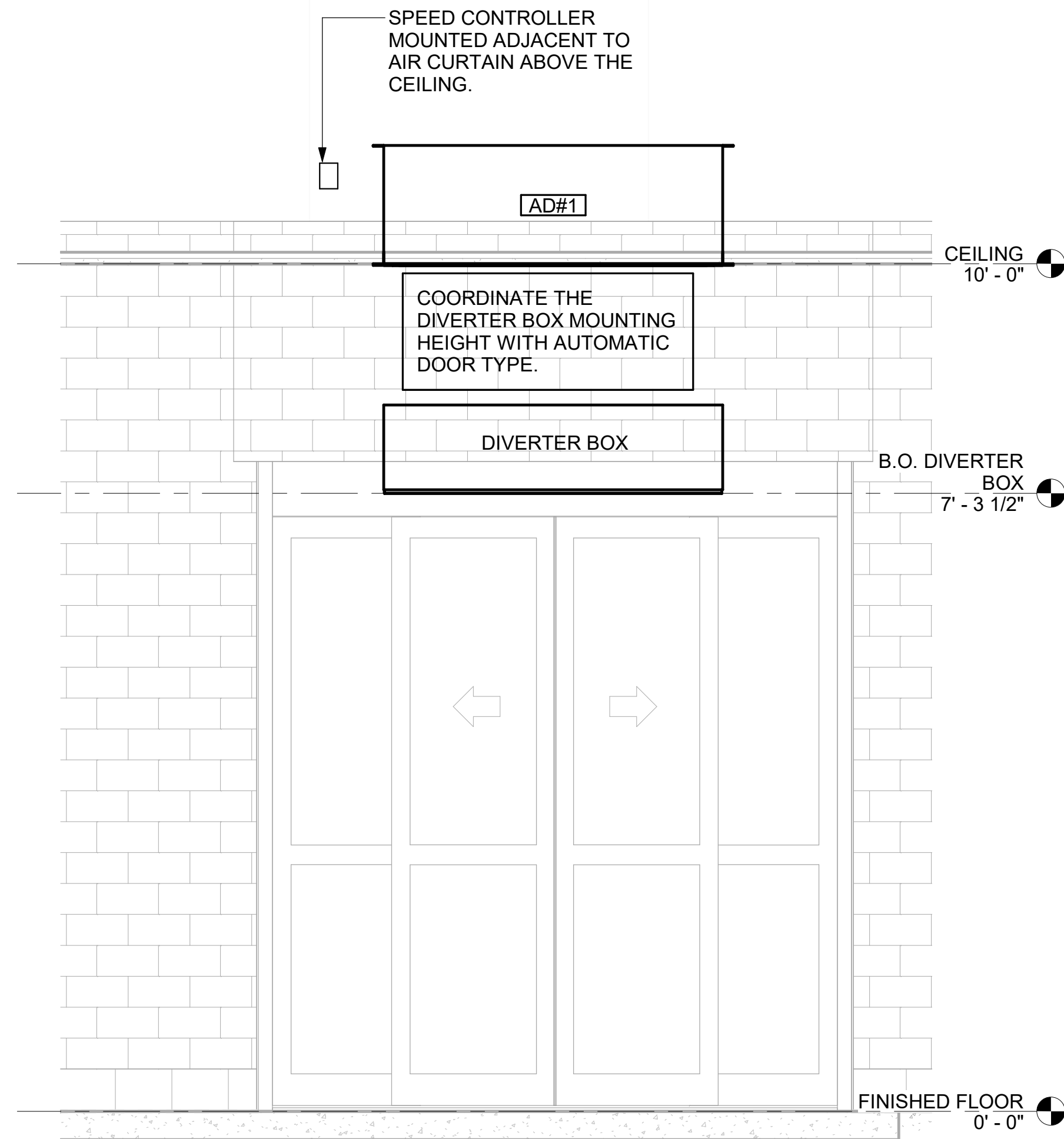
M-301



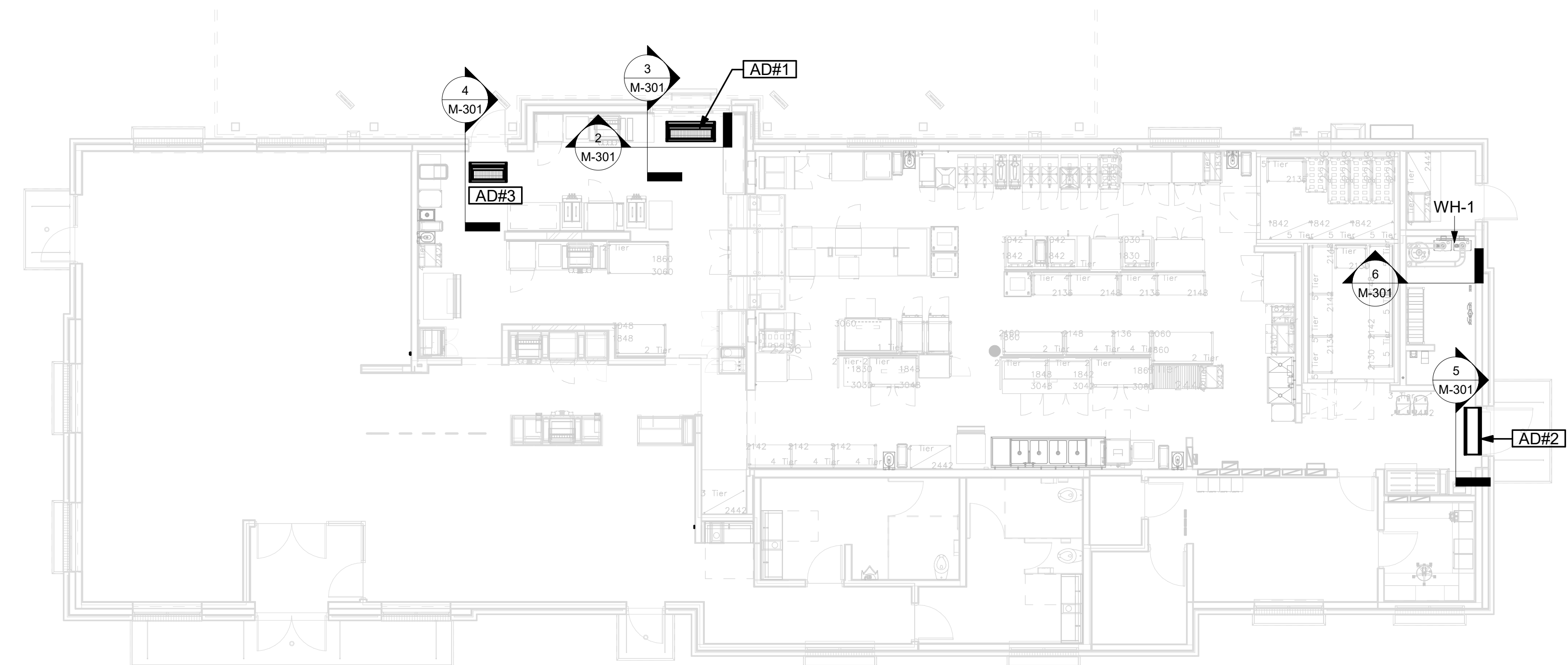
4 AD#3 SIDE VIEW
3/4" = 1'-0"



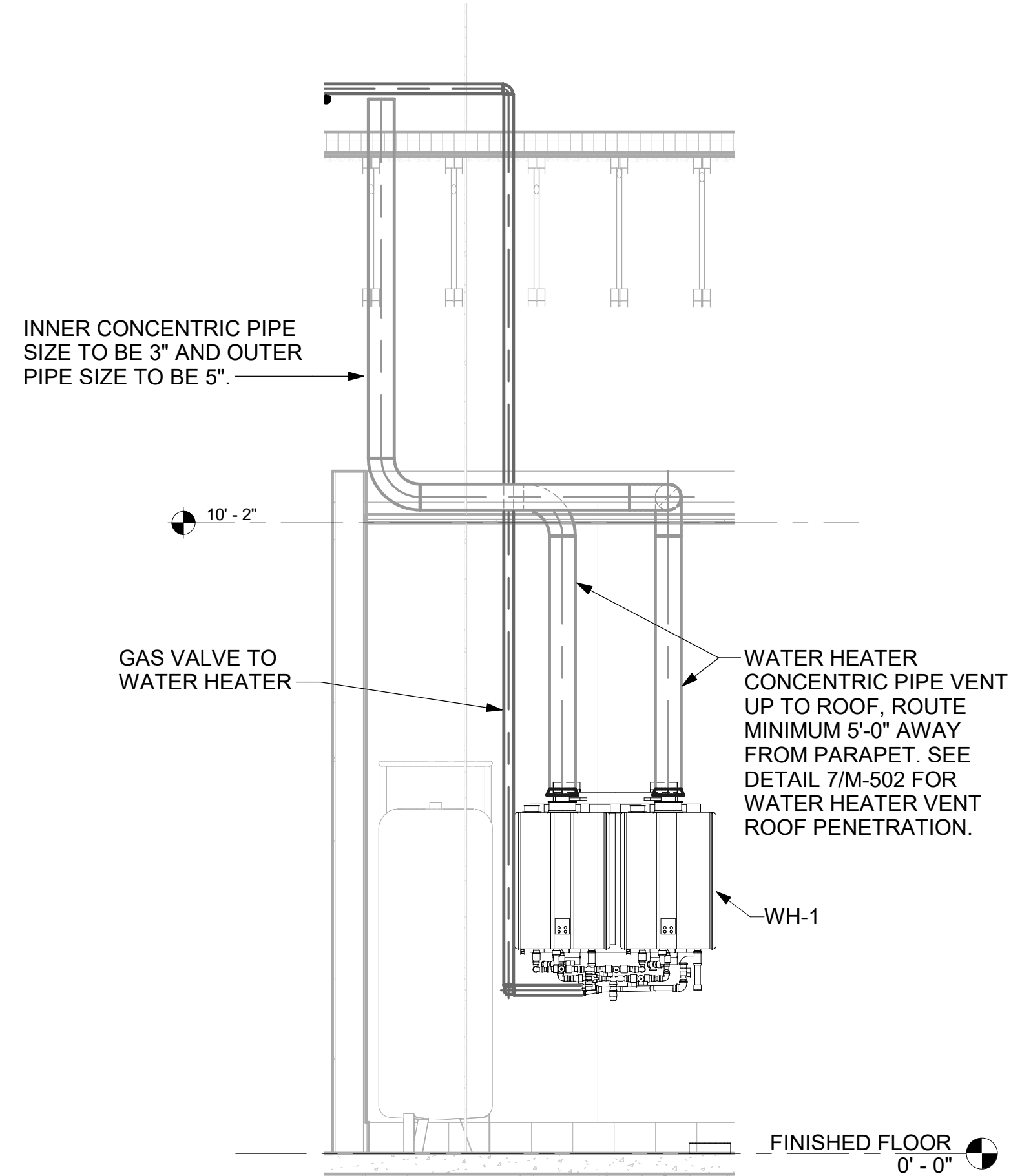
3 AD#1 SIDE VIEW
3/4" = 1'-0"



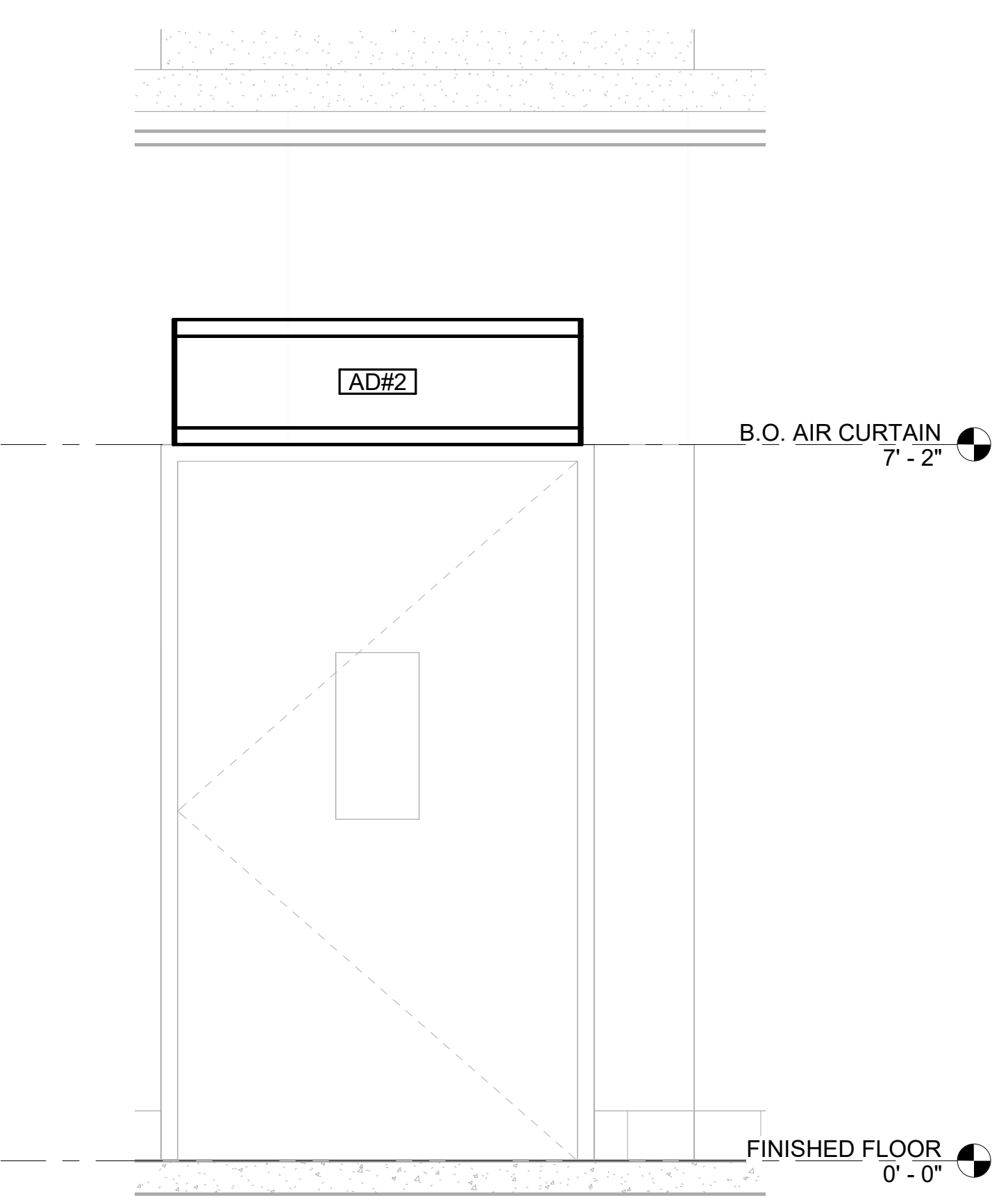
2 AD#1 FRONT VIEW
3/4" = 1'-0"



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



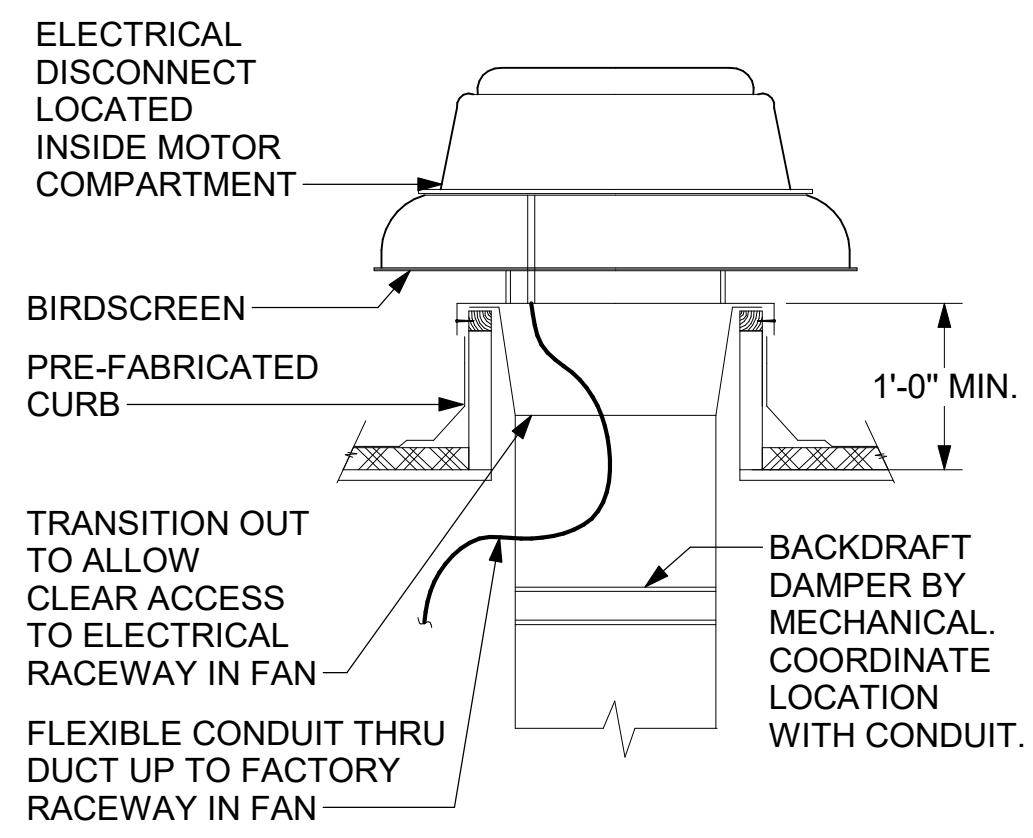
6 WATER HEATER GAS PIPING AND VENTING
NOT TO SCALE



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

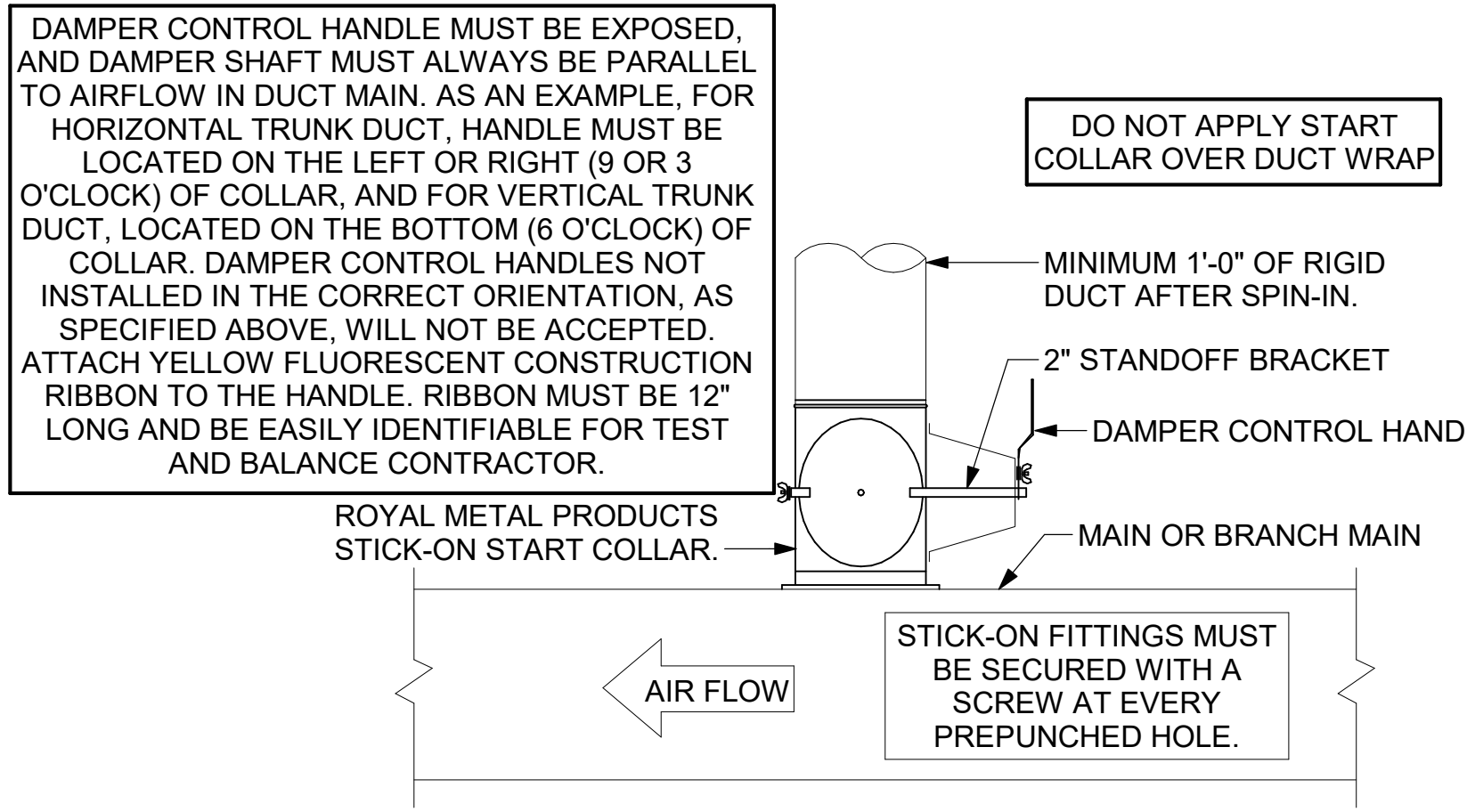
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30-LS-05893-M-301-SECTIONS

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

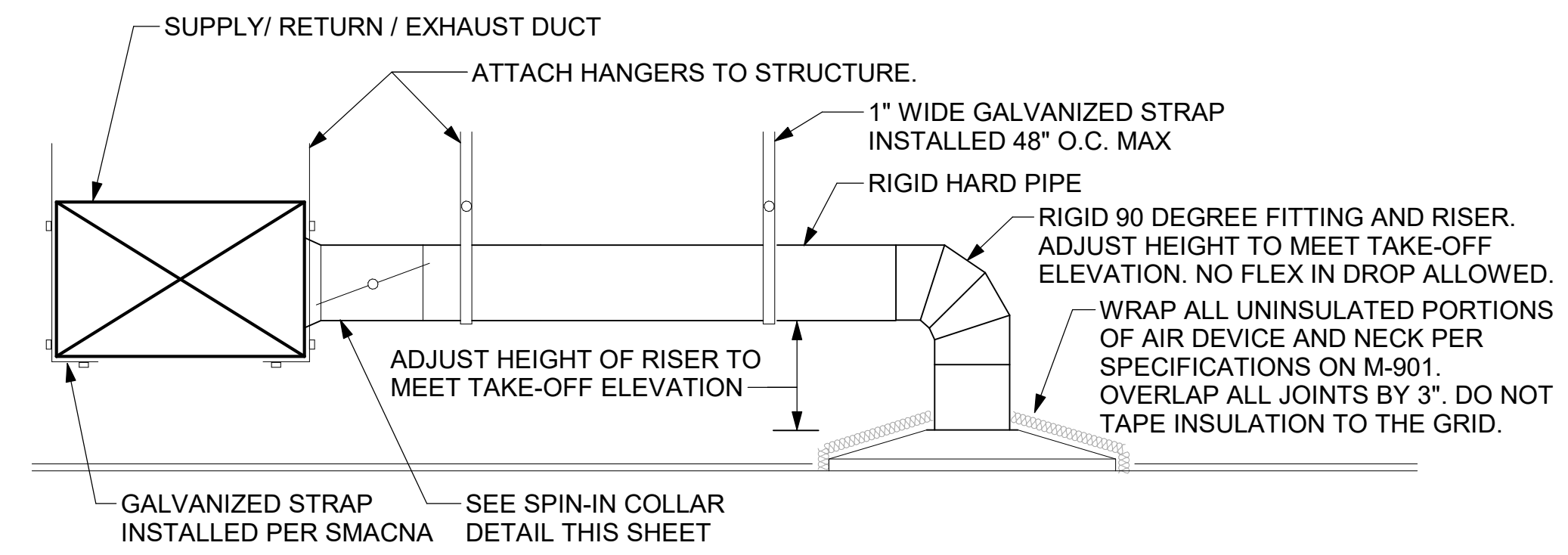


3 RESTROOM EXHAUST FAN
NOT TO SCALE

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

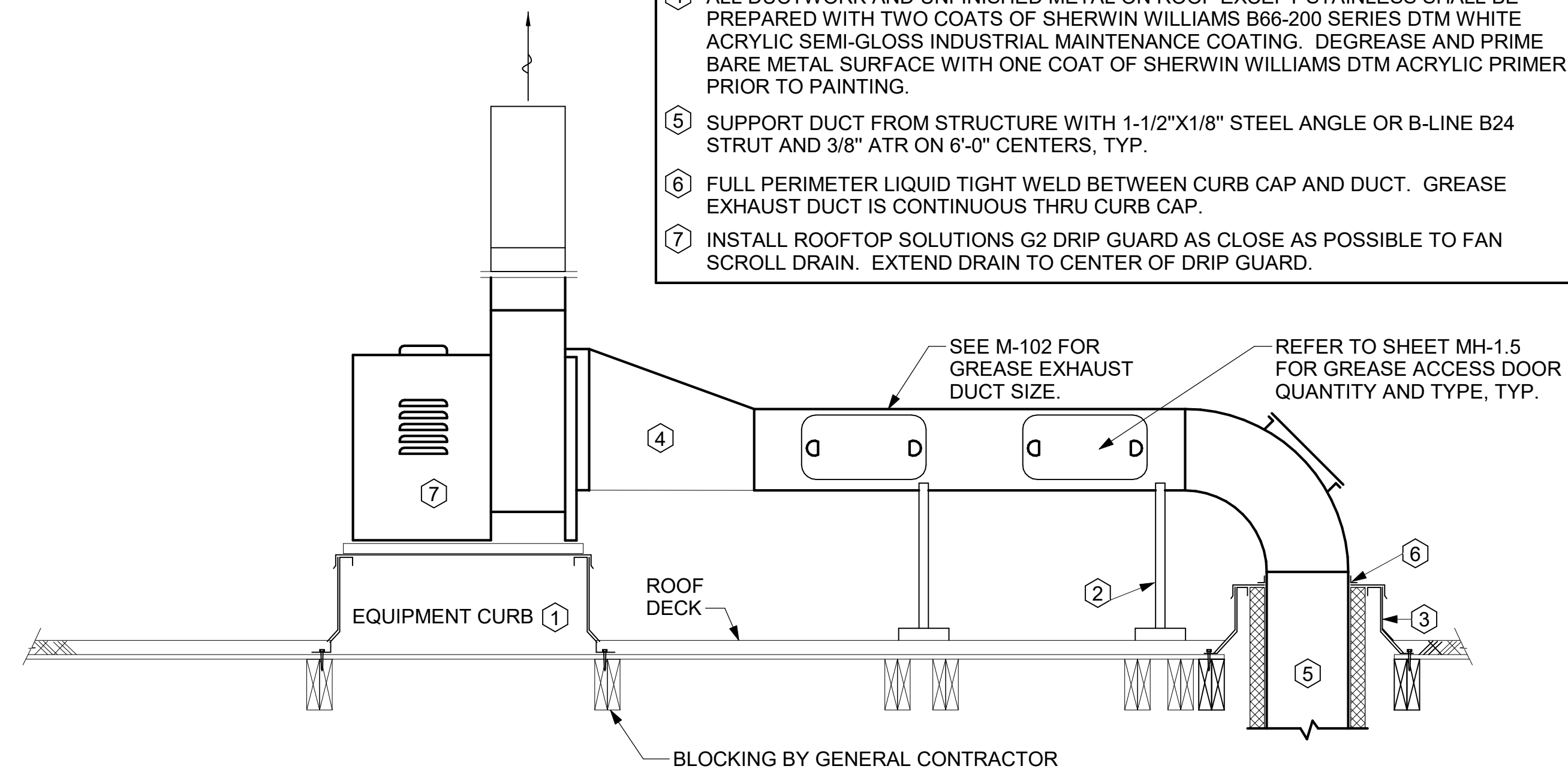


2 START COLLAR
NOT TO SCALE

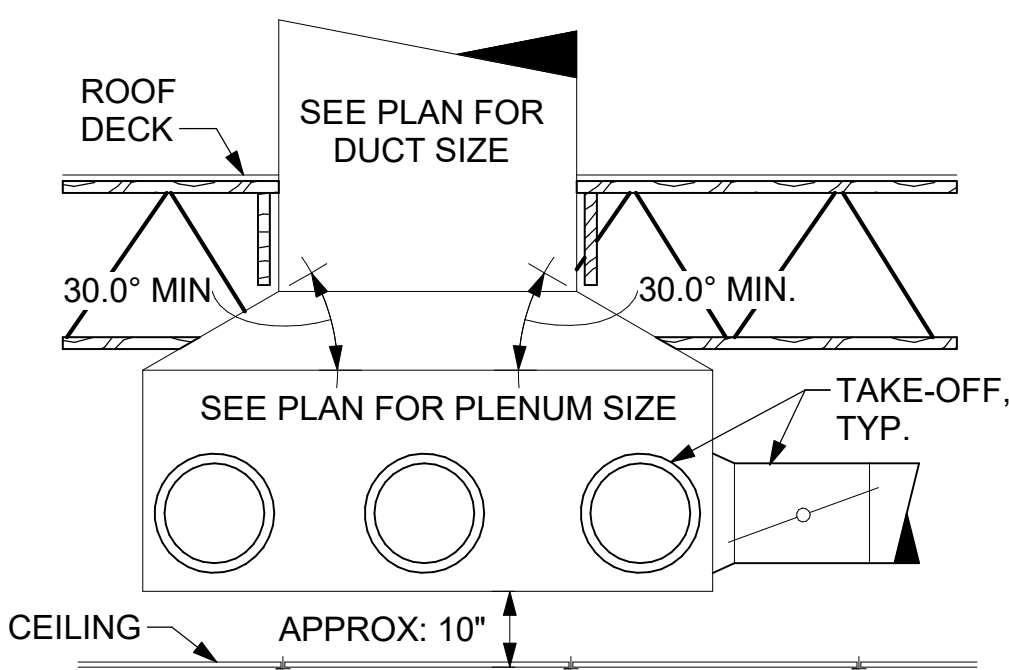


1 SAG/RAG/GRILLE TAKE-OFF - LARGE
NOT TO SCALE

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



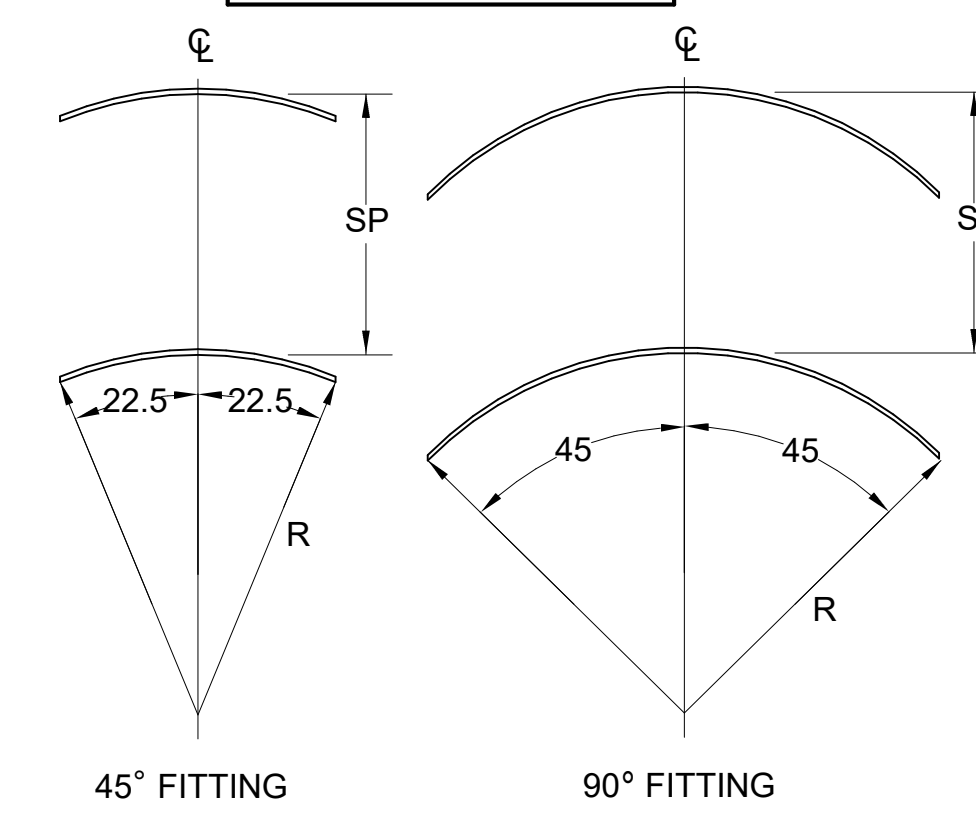
6 KITCHEN HOOD EXHAUST FANS
NOT TO SCALE



5 RETURN DROP GEOMETRY
NOT TO SCALE

| TURNING VANE SCHEDULE | | |
|-----------------------|------|----|
| R | SP | GA |
| 2" | 1.5" | 24 |

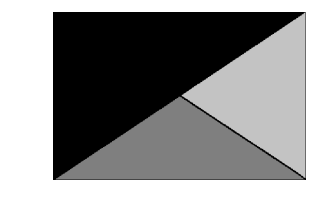
1. NO TRAILING EDGE.
2. SINGLE THICKNESS CONSTRUCTION.



4 TURNING VANES
NOT TO SCALE



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



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



CHICK-FIL-A
Michigan City FSU
5809 Franklin St
Michigan City, IN 46360

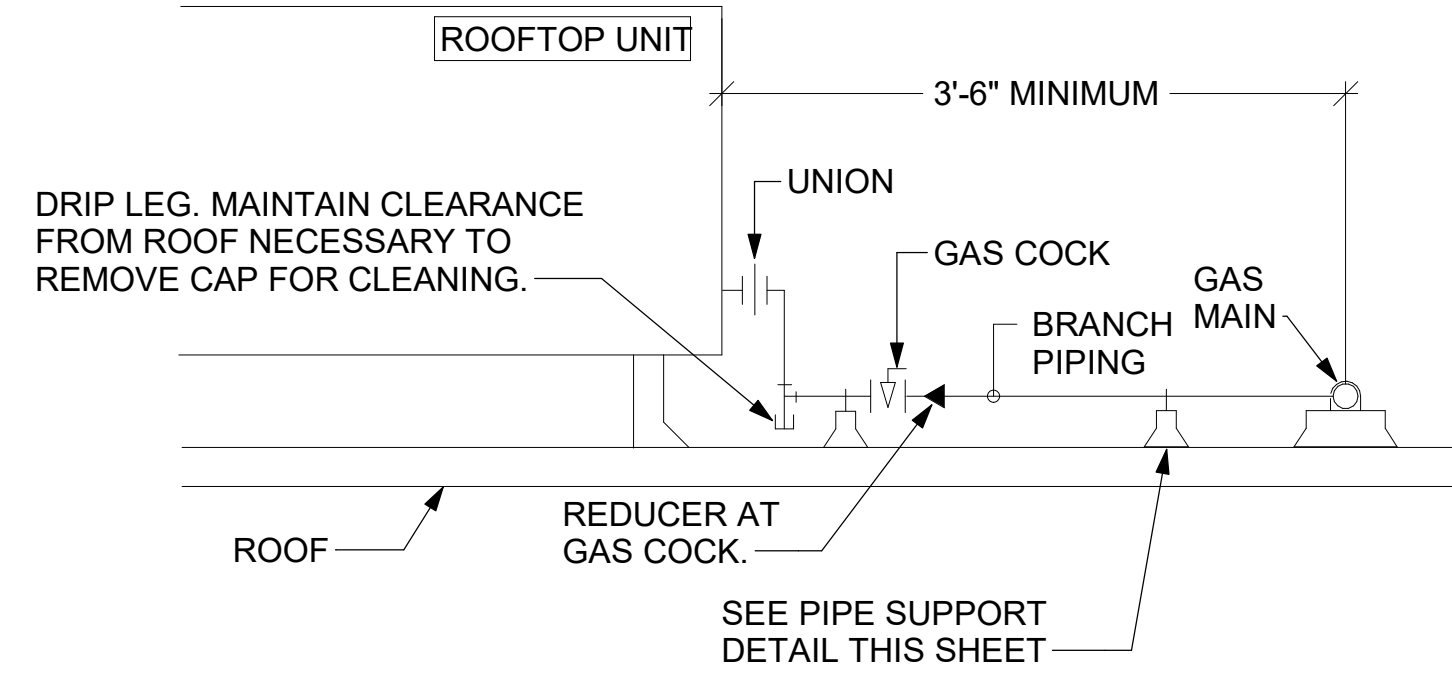
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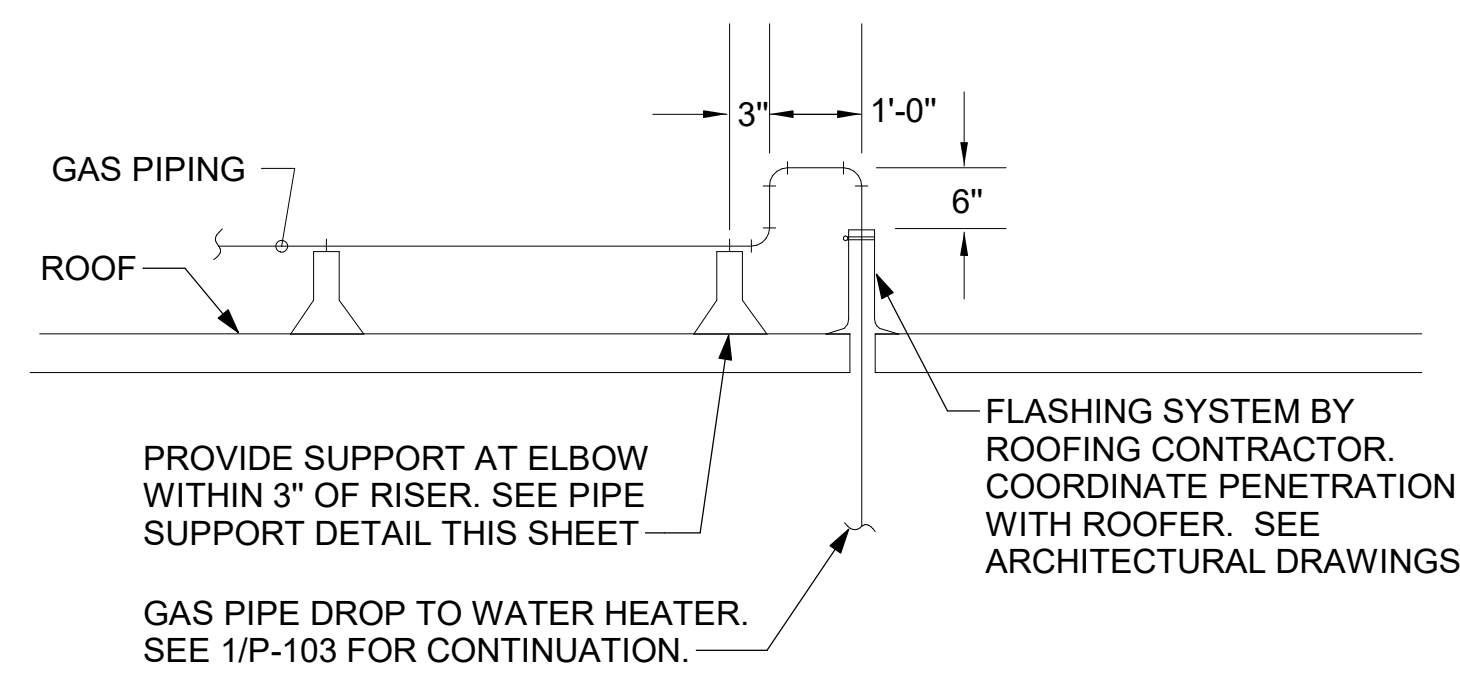
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SHEET
DETAILS
SHEET NUMBER
M-501

- NOTES:**
- INSTALL GAS PIPING SUCH THAT HVAC EQUIPMENT ACCESS PANELS AND/OR DOORS ARE IN NO WAY OBSTRUCTED BY PIPING, VALVES, OR SUPPORTS.
 - 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.)
 - 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.

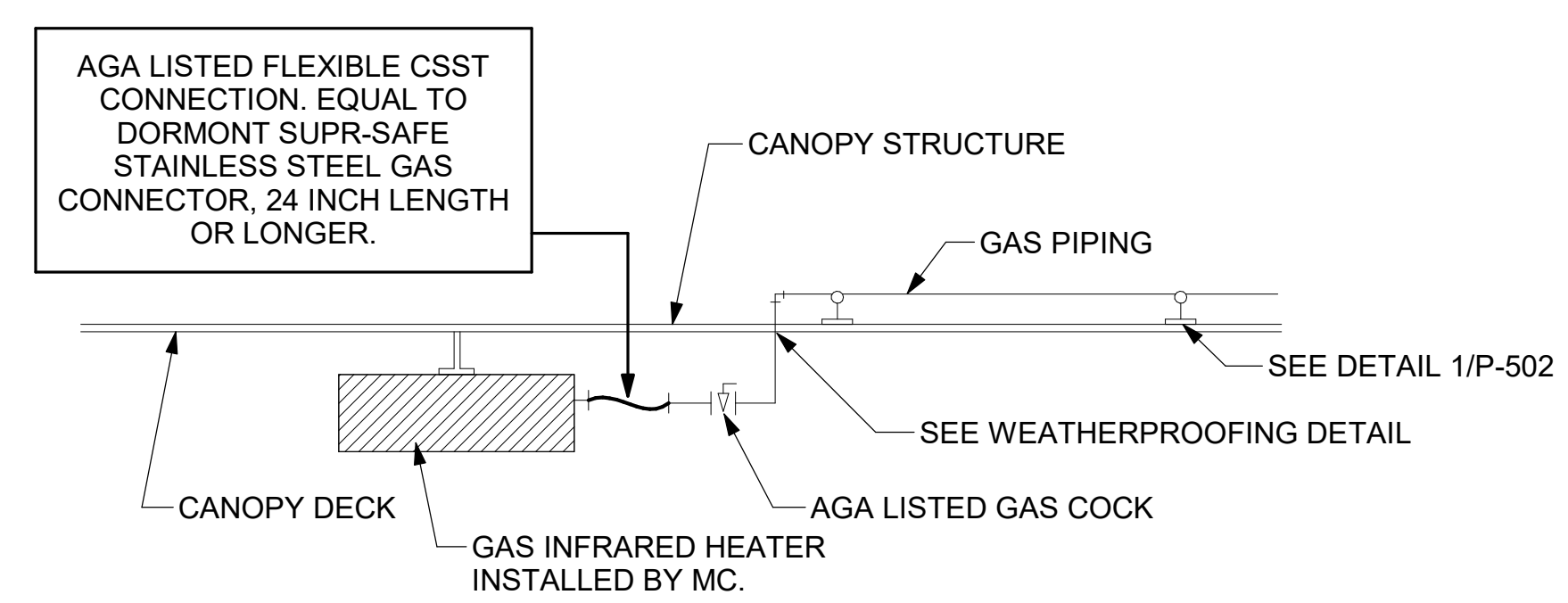


3 GAS PIPING AT RTU
NOT TO SCALE

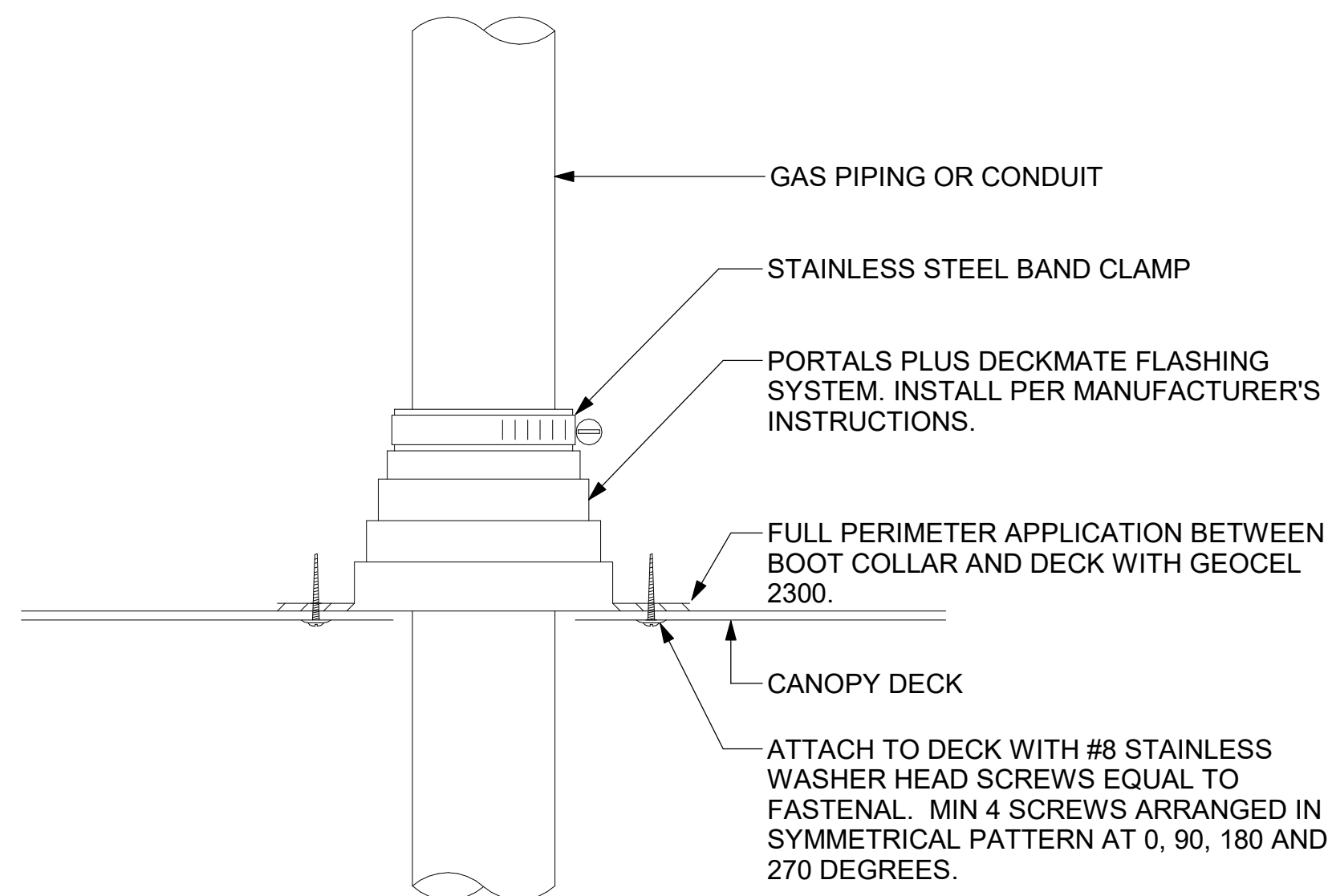
OFFSET PIPING A MINIMUM OF 6" ABOVE TOP EDGE OF FLASHING.



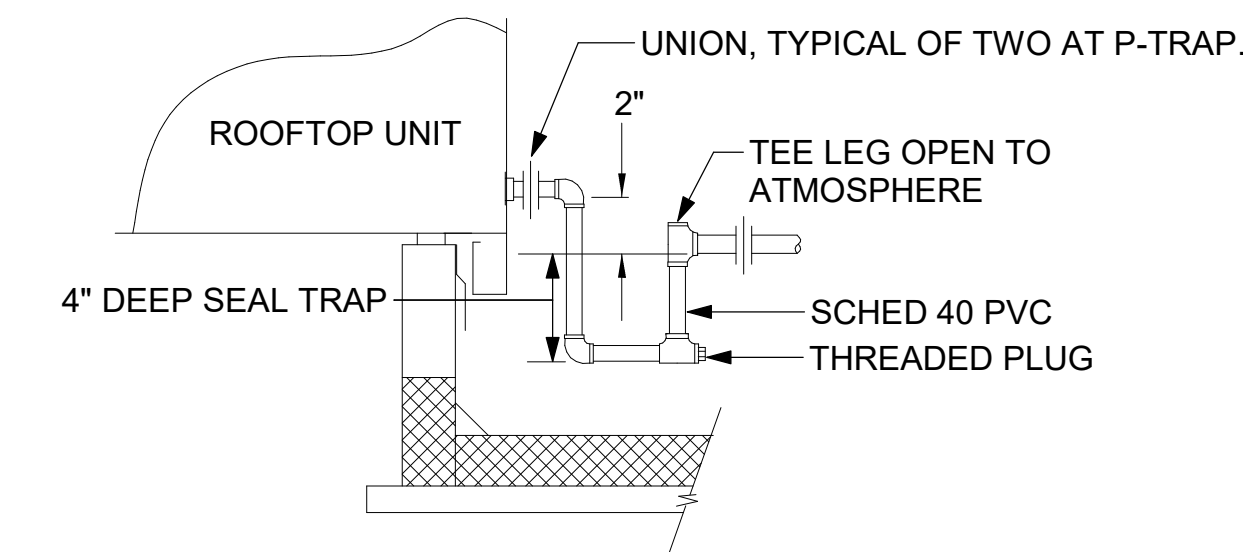
2 GAS PIPE DROP TO WATER HEATER
NOT TO SCALE



1 GAS CONNECTION AT APPLIANCE
NOT TO SCALE

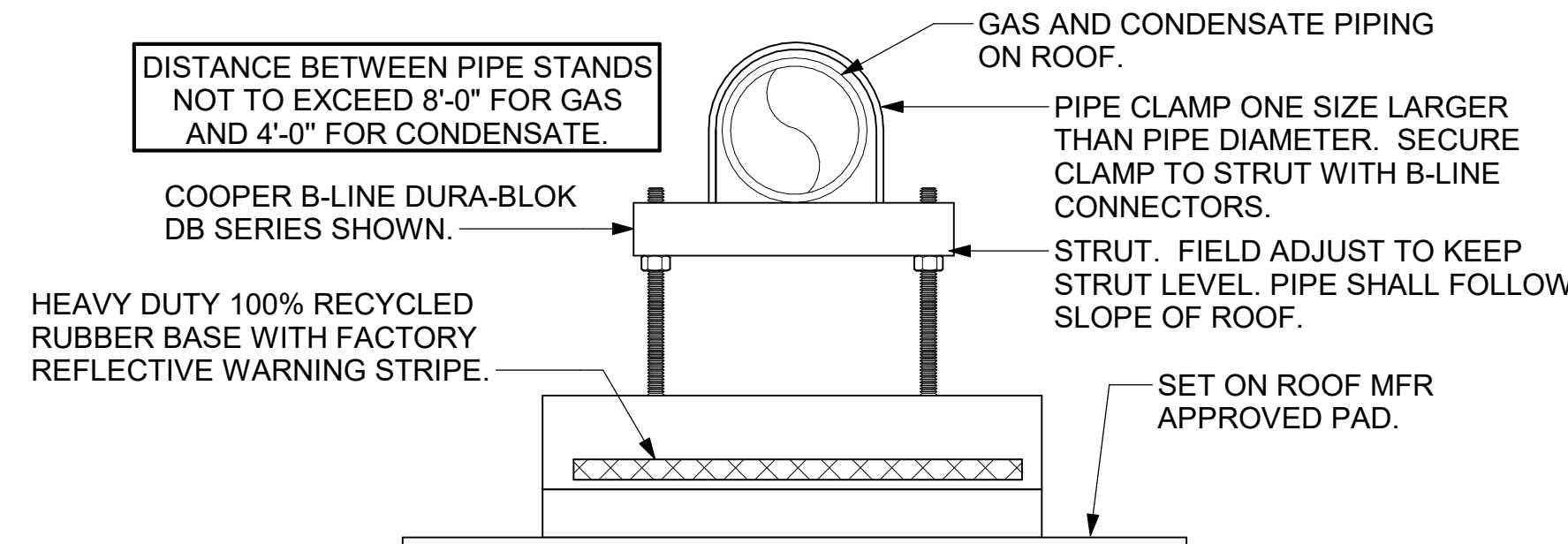


6 WEATHERPROOFING AT CANOPY PENETRATION
NOT TO SCALE

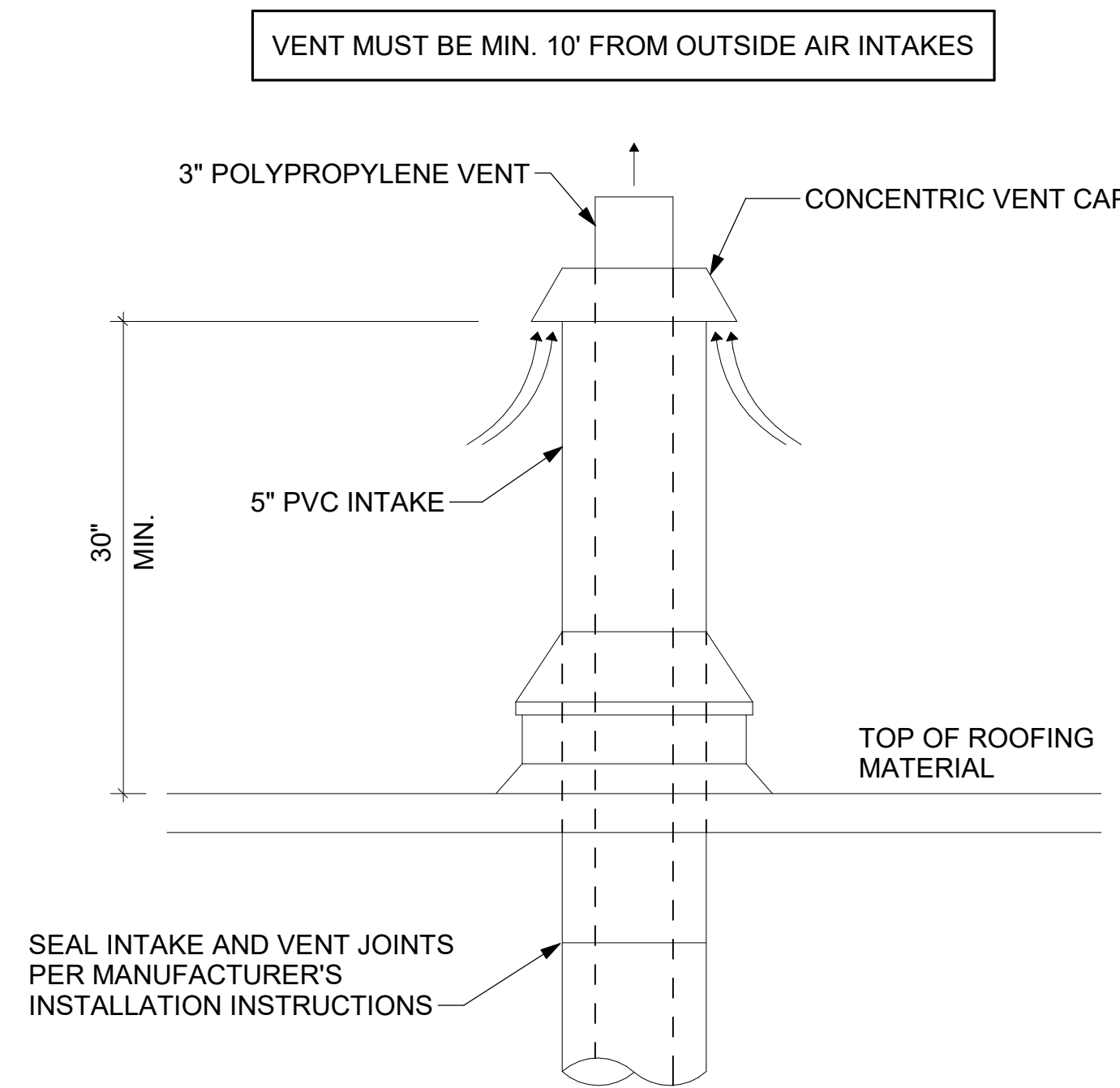


5 CONDENSATE DRAIN PIPING
NOT TO SCALE

- NOTES:**
- NON ADJUSTABLE MODEL DB610 PIPE STAND TO BE USED FOR NON-ELEVATED PIPING INSTALLED FLAT ON ROOF DECK.
 - 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.
 - 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

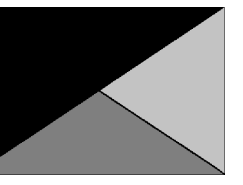


7 WATER HEATER VENT ROOF PENETRATION
NOT TO SCALE



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



CHICK-FIL-A
Michigan City FSU
5809 Franklin St
Michigan City, IN 46360

FSR#05893

BUILDING TYPE / SIZE: P-14 LS BN
RELEASE: 23.11
PRINTED FOR
ISSUE FOR CONSTRUCTION
REVISION SCHEDULE

| NO. | DATE | DESCRIPTION |
|-----|----------|------------------------|
| 1 | 05/27/24 | ISSUE FOR PERMIT |
| 1 | 07/22/24 | ISSUE FOR CONSTRUCTION |

ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 24066.CD.S
DATE 05/27/2024
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SHEET
DETAILS

SHEET NUMBER

M-502

ROOFTOP UNIT SCHEDULE - TRANE

| MARK | TOTAL COOLING MBH | SENSIBLE COOLING MBH | HEATING INPUT MBH | HEATING OUTPUT MBH | SUPPLY (CFM) | OA (CFM) | HP | # OF FANS | ESP (in-wg) | EER | IEER/SEER | VOLTAGE (V) | PHASE | MCA (A) | MOCP (A) | MODEL | MANUFACTURER | REMARKS |
|------|-------------------|----------------------|-------------------|--------------------|--------------|----------|-----|-----------|-------------|------|-----------|-------------|-------|---------|----------|-----------|--------------|---------------------------------|
| AC#1 | 271.1 | 202.4 | 400 | 324 | 8,125 | 1,750 | 3 | 2 | 0.8 | 9.8 | 13 | 208 | 3 | 125 | 150 | YSJ300A3S | TRANE | 1,3,4,5,7,8,9,10,11,12,13,14,16 |
| AC#2 | 150.9 | 114.9 | 250 | 202.5 | 4,375 | 1,075 | 4.6 | 1 | 0.8 | 10.8 | 14 | 208 | 3 | 73 | 100 | YSJ150A3S | TRANE | 1,3,4,5,7,8,9,10,11,12,13,14,16 |
| AC#3 | 184.3 | 140.4 | 400 | 324 | 5,250 | 1,275 | 3 | 2 | 0.8 | 10.8 | 14 | 208 | 3 | 83 | 110 | YSJ180A3S | TRANE | 1,3,4,5,7,8,9,10,11,12,13,14,16 |
| AC#4 | 58.1 | 44.2 | 130 | 104 | 1,750 | 425 | 1 | 1 | 0.8 | 13 | 17.2 | 208 | 3 | 33 | 45 | YHC067E3R | TRANE | 2,3,4,5,6,7,8,9,10,11,12,15,16 |

NOTES

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

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 21M-701 FOR CONTROL WIRING BY MC.
- PROVIDE FACTORY INSTALLED SUPPLY AND RETURN AIR SMOKE DETECTORS.
- 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 AND FACTORY CIRCUIT BREAKER.
- PROVIDE FACTORY INSTALLED 115V, 20 AMP GFI SERVICE OUTLET. SEPERATE 115V CIRCUIT PROVIDED BY ELECTRICAL CONTRACTOR.
- PROVIDE FACTORY INSTALLED AND POWERED 115V GFI SERVICE OUTLET.
- PROVIDE FRESH AIR TEMPERING KIT.

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

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

HEATER SCHEDULE

| MARK | HEATING INPUT | | FRAME LENGTH | FRAME WIDTH | FRAME DEPTH | MOUNTING TYPE | VOLTAGE (V) | PHASE | FLA (A) | MOCP (A) | MODEL | MFGR | 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-N7-CM | SPACE-RAY | 5, 6, 7 |

NOTES

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

REMARKS

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

FAN SCHEDULE

| MARK | FAN CFM | ESP (in-wg) | MOTOR RPM | HP | AREA SERVED | VOLTAGE (V) | PHASE | FLA (A) | MOCP (A) | MODEL | MANUFACTURER | REMARKS |
|------|---------|-------------|-----------|-------|-----------------|-------------|-------|---------|----------|-------------|--------------|-------------------------|
| CF-1 | 1,900 | 0.01 | 1,625 | 0.1 | OUTDOOR CANOPY | 120 | 1 | 1.1 | 20 | U-18-TE-HD | TPI | 20,21,24 |
| EF#1 | 1,913 | 0.75 | 1,331 | 0.75 | HOOD#1 | 120 | 1 | 13.8 | 25 | KEFB-14-CFA | HALTON | 1,2,3,4,5,6,7,8,9,10,11 |
| EF#2 | 1,402 | 0.95 | 1,199 | 0.75 | HOOD#2 & HOOD#3 | 115 | 1 | 13.8 | 25 | KEFB-14-CFA | HALTON | 1,2,3,4,5,6,7,8,9,10,11 |
| EF#3 | 300 | 0.375 | 1,550 | 0.125 | RESTROOMS | 120 | 1 | 2.2 | 20 | XRED-095-VG | ACCUREX | 1,3,11,12,13,14,15,16 |
| EF#4 | 75 | 0.26 | 900 | 0.02 | RESTROOMS | 120 | 1 | 0.2 | 20 | SP-A90 | GREENHECK | 1,22,23 |
| TF#1 | 450 | 0.3 | 1,144 | 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

- FANS SUPPLIED BY HALTON.
- U.L. 705 LISTED AND LABELED FOR RESTUARANT APPLICATIONS.
- FACTORY INSTALLED PREWIRED DISCONNECT SWITCH.
- 19" HIGH ROOF CURB.
- INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD. MECHANICAL CONTRACTOR TO CONTACT ROOFTOP SOLUTIONS AT 800-913-7034.
- FACTORY WEATHER HOUSING W/ HINGED ACCESS DOOR.
- FACTORY DRAIN CONNECTION.
- FACTORY BOLTED ACCESS DOOR ON SCROLL.
- FACTORY INSTALLED BELT DRIVE WITH ADJUSTABLE MOTOR SHEAVE, SPARE BELT, AND BELT TENSIONER.
- FACTORY INSTALLED OUTLET WITH QUICK RELEASE, HINGED ACCESS, AND GRAVITY BACKDRAFT DAMPER.
- INTEGRAL THERMAL OVERLOAD.
- BIRDSCREEN.
- BACKDRAFT DAMPER IN DUCT BY MECHANICAL CONTRACTOR AS SHOWN ON 5/M-501.
- STARTER BY ELECTRICAL CONTRACTOR. INTERLOCK WITH LIGHTS BY ELECTRICAL CONTRACTOR.
- 12" HIGH CURB.
- FACTORY INSTALLED AND WIRED SPEED CONTROLLER.
- PROVIDE NEMA 1 PREWIRED DISCONNECT.
- INTEGRAL POTENTIOMETER ON FAN MOTOR. SET TO FULL SPEED.
- PROVIDE THERMOSTAT / TEMPERATURE CONTROLLER, SET TO 76°F.
- INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE WITH ON/OFF SWITCH.
- FAN SHALL BE CONTROLLED WITH THE ROOM LIGHTING. ALL WIRING IS BY THE ELECTRICAL CONTRACTOR.
- DIRECT DRIVE CEILING FAN. PROVIDE DISCONNECT SWITCH. INTEGRAL BACKDRAFT DAMPER, AND MANUFACTURER'S FAN SPEED CONTROLLER.
- FAN SUPPLIED BY TOM BARROW OR POWERS OF ARKANSAS FOR THE SOUTHWEST REGION.

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 | 10" | 24"x24" | LAY-IN | 1,7,8 |
| C | PRICE MODEL SMCDC 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" | SURFACE | 1,3,5,6 |
| 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 SMCDC 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 | 1,2,5,6 |

NOTES

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

REMARKS

- STANDARD OFF WHITE FINISH.
- PROVIDE MODEL VCS3 NECK DAMPER.
- SEE DRAWING M-101 FOR THROW.
- PROVIDE MODEL VCR7 NECK DAMPER ON GRILLES IN RESTROOMS SERVING EXHAUST FAN.
- PROVIDE BACKPAN. MC TO SEAL JOINTS WITH MASTIC AND INSULATE EXTERNALLY.
- FIELD INSULATE BACKPAN AS SHOWN ON DETAIL 3/M-501.
- FACTORY INSULATED R-6 BACKPAN.
- PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER.

AIR DOOR SCHEDULE

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

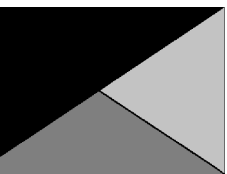
- NATIONAL ACCOUNT - NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004

REMARKS

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



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



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



07/24/24

CHICK-FIL-A
Michigan City FSU

5809 Franklin St
Michigan City, IN 46360

FSR#05893

BUILDING TYPE / SIZE: P-14 LS BN
RELEASE: 23.11
PRINTED FOR: ISSUE FOR CONSTRUCTION

REVISION SCHEDULE

| NO. | DATE | DESCRIPTION |
|----------|------------------------|-------------|
| 05/27/24 | ISSUE FOR PERMIT | |
| 07/22/24 | ISSUE FOR CONSTRUCTION | |

ISSUE FOR CONSTRUCTION

CONSULTANT PROJECT # 24066.CD.S
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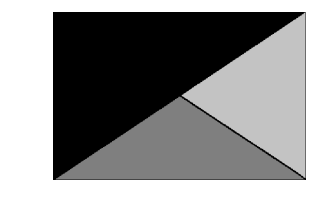
SHEET EQUIPMENT SCHEDULES - TRANE

SHEET NUMBER

M-601



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



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



07/24/24

CHICK-FIL-A
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 5809 Franklin St
 Michigan City, IN 46360

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SHEET VENTILATION SCHEDULES

ISSUE FOR CONSTRUCTION SHEET NUMBER

M-602

| General | | Ventilation | | | | | | | | | | | | | Exhaust | | | | | Served by | | | | |
|-------------------|------------------------|-------------------------------------|---|---------------------------------|--|--|---|---|---|----------------------------|--|--|--|--|---|----------------------------|-------------------------------|----------------------------------|------------------------------|--------------------|-------|--------|-------------|---|
| Room # | Room Name | Area A _r ft ² | People | | | Area | | | | | Breathing Zone Outdoor Airflow CFM V _{bz} | Zone Air Distribution Effectiveness E _z | Zone Outdoor Airflow CFM V _{oz} | Primary Zone Airflow CFM V _{pz} | Primary Outdoor Air Fraction Z _p | Actual Outdoor Airflow CFM | Area | | Toilet | | | Supply | Exhaust | |
| | | | Occupant Density People/1,000 ft ² | Occupants People P _z | Outdoor Airflow Rate CFM/Person R _o | Outdoor Airflow CFM P _z x R _o | Outdoor Airflow Rate CFM/ft ² R _a | Outdoor Airflow CFM A _r x R _a | Required Exhaust Rate CFM/ft ² | Total Required Exhaust CFM | | | | | | | Exhaust Control/Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM | | | | |
| 1 | Kitchen | 1,146 | 20 | 23 | 7.5 | 172.5 | 0.12 | 138 | 310 | 0.8 | 388 | 7,325 | 0.05 | 1,578 | 0.70 | 803 | - | - | - | - | 3,315 | AC#1 | EF-1 / EF-2 | |
| 2 | Kitchen (Dish Washing) | 128 | 15 | 2 | 7.5 | 15 | 0.18 | 23 | 38 | 0.8 | 48 | 800 | 0.06 | 172 | - | - | - | - | - | - | - | - | AC#1 | - |
| Total Area | | 1,274 | | | | Total V_{bz} | | | | | 348 | Total Supply Airflow | | 8,125 | 1,750 | | Actual Outdoor Airflow | | | | | | | |
| | | | | | | Diversity (D) | | | | | 0.80 | Maximum Zp | | 0.06 | | | | | | | | | | |
| | | | | | | Uncorrected Outdoor Air Intake (V_{oa}) | | | | | 316 | System Ventilation Efficiency (E_s) | | 1.00 | | | | | | | | | | |
| | | | | | | Required Outdoor Air Intake (CFM) | | | | | | | 315 | | | | | | | | | | | |

| General | | Ventilation | | | | | | | | | | | | | Exhaust | | | | | Served by | | | | |
|-------------------|-----------------------|-------------------------------------|---|---------------------------------|--|--|---|---|---|----------------------------|--|--|--|--|---|----------------------------|-------------------------------|----------------------------------|------------------------------|--------------------|---|--------|-----------------|---|
| Room # | Room Name | Area A _r ft ² | People | | | Area | | | | | Breathing Zone Outdoor Airflow CFM V _{bz} | Zone Air Distribution Effectiveness E _z | Zone Outdoor Airflow CFM V _{oz} | Primary Zone Airflow CFM V _{pz} | Primary Outdoor Air Fraction Z _p | Actual Outdoor Airflow CFM | Area | | Toilet | | | Supply | Exhaust | |
| | | | Occupant Density People/1,000 ft ² | Occupants People P _z | Outdoor Airflow Rate CFM/Person R _o | Outdoor Airflow CFM P _z x R _o | Outdoor Airflow Rate CFM/ft ² R _a | Outdoor Airflow CFM A _r x R _a | Required Exhaust Rate CFM/ft ² | Total Required Exhaust CFM | | | | | | | Exhaust Control/Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM | | | | |
| 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#2 / ALT AC#2 | - |
| Total Area | | 543 | | | | Total V_{bz} | | | | | 165 | Total Supply Airflow | | 4,375 | 1,075 | | Actual Outdoor Airflow | | | | | | | |
| | | | | | | Diversity (D) | | | | | 0.89 | Maximum Zp | | 0.04 | | | | | | | | | | |
| | | | | | | Uncorrected Outdoor Air Intake (V_{oa}) | | | | | 154 | System Ventilation Efficiency (E_s) | | 1.00 | | | | | | | | | | |
| | | | | | | Required Outdoor Air Intake (CFM) | | | | | | | 154 | | | | | | | | | | | |

| General | | Ventilation | | | | | | | | | | | | | Exhaust | | | | | Served by | | | | | |
|-------------------|-----------------|-------------------------------------|---|---------------------------------|--|--|---|---|---|----------------------------|--|--|--|--|---|----------------------------|-------------------------------|----------------------------------|------------------------------|--------------------|---|--------|-----------------|-----------------|---|
| Room # | Room Name | Area A _r ft ² | People | | | Area | | | | | Breathing Zone Outdoor Airflow CFM V _{bz} | Zone Air Distribution Effectiveness E _z | Zone Outdoor Airflow CFM V _{oz} | Primary Zone Airflow CFM V _{pz} | Primary Outdoor Air Fraction Z _p | Actual Outdoor Airflow CFM | Area | | Toilet | | | Supply | Exhaust | | |
| | | | Occupant Density People/1,000 ft ² | Occupants People P _z | Outdoor Airflow Rate CFM/Person R _o | Outdoor Airflow CFM P _z x R _o | Outdoor Airflow Rate CFM/ft ² R _a | Outdoor Airflow CFM A _r x R _a | Required Exhaust Rate CFM/ft ² | Total Required Exhaust CFM | | | | | | | Exhaust Control/Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM | | | | | |
| 1 | Dining | 1,393 | 70 | 98 | 7.5 | 735 | 0.18 | 251 | 986 | 0.8 | 1,233 | 4,000 | 0.308 | 971 | - | - | - | - | - | - | - | - | AC#3 / ALT AC#3 | - | |
| 2 | Serving | 191 | 15 | 3 | 7.5 | 23 | 0.18 | 34 | 57 | 0.8 | 72 | 500 | 0.14 | 121 | - | - | - | - | - | - | - | - | AC#3 / ALT AC#3 | - | |
| 3 | Men's RR | 151 | - | - | - | - | - | - | - | 0.8 | - | 100 | - | 24 | - | - | Continuous | 50 | 100 | 150 | - | - | AC#3 / ALT AC#3 | EF-3 | |
| 4 | Women's RR | 167 | - | - | - | - | - | - | - | 0.8 | - | 135 | - | 33 | - | - | Continuous | 50 | 100 | 150 | - | - | AC#3 / ALT AC#3 | EF-3 | |
| 5 | RR Vestibule | 117 | - | - | - | - | 0.06 | 7 | 7 | 0.8 | 9 | 115 | 0.08 | 28 | - | - | - | - | - | - | - | - | AC#3 / ALT AC#3 | - | |
| 6 | Entry Vestibule | 63 | - | - | - | - | 0.06 | 4 | 4 | 0.8 | 5 | 400 | 0.01 | 97 | - | - | - | - | - | - | - | - | - | AC#3 / ALT AC#3 | - |
| Total Area | | 2,082 | | | | Total V_{bz} | | | | | 1,053 | Total Supply Airflow | | 5,250 | 1,275 | | Actual Outdoor Airflow | | | | | | | | |
| | | | | | | Diversity (D) | | | | | 0.77 | Maximum Zp | | 0.308 | | | | | | | | | | | |
| | | | | | | Uncorrected Outdoor Air Intake (V_{oa}) | | | | | 986 | System Ventilation Efficiency (E_s) | | 0.80 | | | | | | | | | | | |
| | | | | | | Required Outdoor Air Intake (CFM) | | | | | | | 1,232 | | | | | | | | | | | | |

| General | | Ventilation | | | | | | | | | | | | | Exhaust | | | | | Served by | | | | | |
|-------------------|--------------------|-------------------------------------|---|---------------------------------|--|--|---|---|---|----------------------------|--|--|--|--|---|----------------------------|-------------------------------|----------------------------------|------------------------------|--------------------|---|--------|-----------------|-----------------|---|
| Room # | Room Name | Area A _r ft ² | People | | | Area | | | | | Breathing Zone Outdoor Airflow CFM V _{bz} | Zone Air Distribution Effectiveness E _z | Zone Outdoor Airflow CFM V _{oz} | Primary Zone Airflow CFM V _{pz} | Primary Outdoor Air Fraction Z _p | Actual Outdoor Airflow CFM | Area | | Toilet | | | Supply | Exhaust | | |
| | | | Occupant Density People/1,000 ft ² | Occupants People P _z | Outdoor Airflow Rate CFM/Person R _o | Outdoor Airflow CFM P _z x R _o | Outdoor Airflow Rate CFM/ft ² R _a | Outdoor Airflow CFM A _r x R _a | Required Exhaust Rate CFM/ft ² | Total Required Exhaust CFM | | | | | | | Exhaust Control/Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM | | | | | |
| 1 | Team Member Room | 172 | 50 | 9 | 5 | 45 | 0.08 | 10 | 55 | 0.8 | 70 | 650 | 0.11 | 158 | - | - | - | - | - | - | - | - | AC#4 / ALT AC#4 | - | |
| 2 | Riser Room | 41 | - | - | - | - | 0.12 | 5 | 5 | 0.8 | 7 | 225 | 0.03 | 55 | - | - | - | - | - | - | - | - | - | AC#4 / ALT AC#4 | - |
| 3 | Service / Beverage | 141 | - | - | - | - | 0.12 | 17 | 17 | 0.8 | 22 | 700 | 0.03 | 170 | - | - | - | - | - | - | - | - | - | AC#4 / ALT AC#4 | - |
| 4 | Office | 68 | 5 | 1 | 5 | 5 | 0.06 | 4 | 9 | 0.8 | 12 | 135 | 0.08 | 33 | - | - | - | - | - | - | - | - | - | AC#4 / ALT AC#4 | - |
| 5 | Employee RR | 68 | - | - | - | - | - | - | - | 0.8 | - | 40 | - | 10 | - | - | Intermittent | 70 | 70 | 75 | - | - | AC#4 / ALT AC#4 | EF-4 | |
| Total Area | | 490 | | | | Total V_{bz} | | | | | 86 | Total Supply Airflow | | 1,750 | 425 | | Actual Outdoor Airflow | | | | | | | | |
| | | | | | | Diversity (D) | | | | | 0.80 | Maximum Zp | | 0.11 | | | | | | | | | | | |
| | | | | | | Uncorrected Outdoor Air Intake (V_{oa}) | | | | | 79 | System Ventilation Efficiency (E_s) | | 1.00 | | | | | | | | | | | |
| | | | | | | Required Outdoor Air Intake (CFM) | | | | | | | 78 | | | | | | | | | | | | |

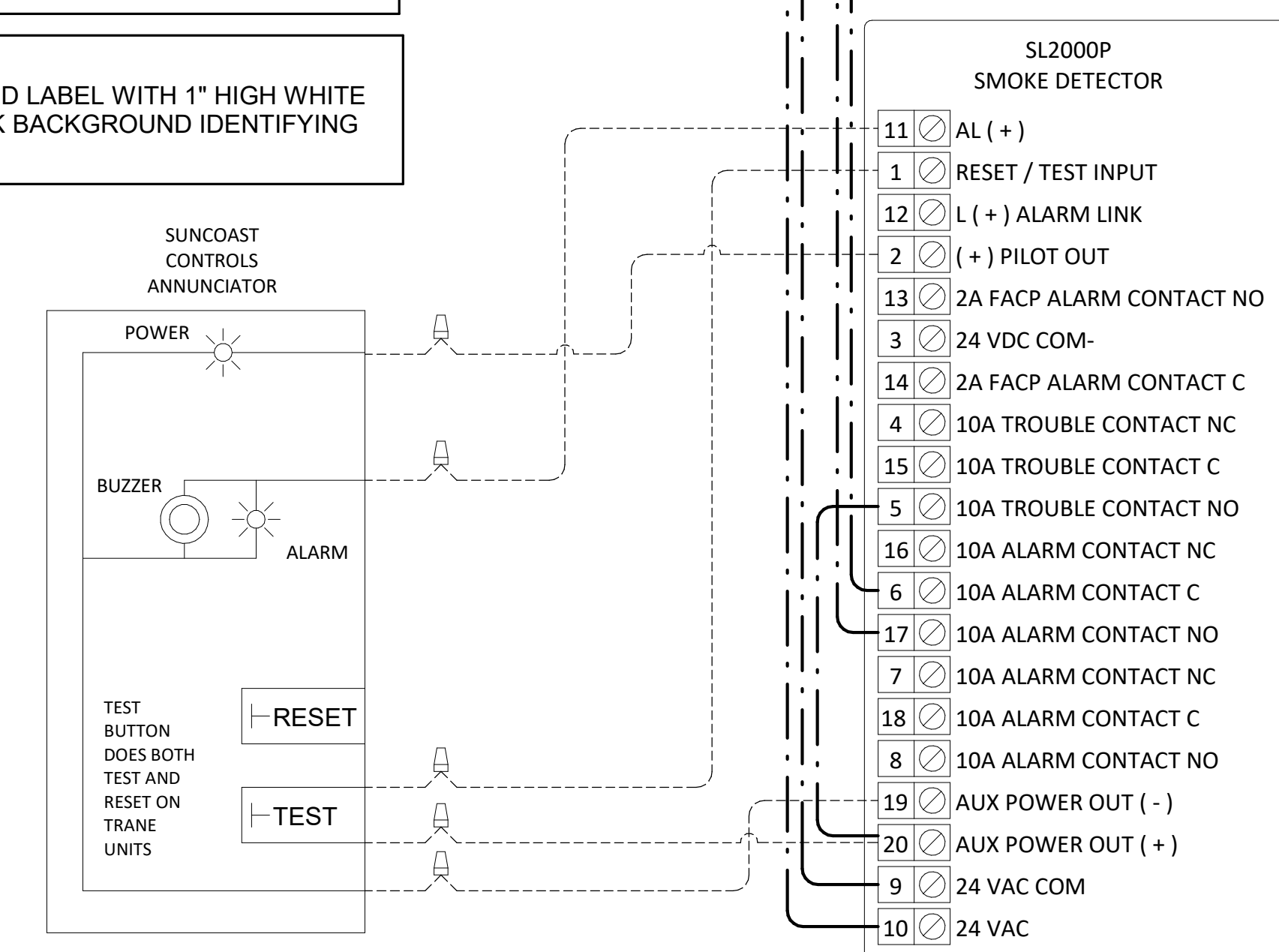
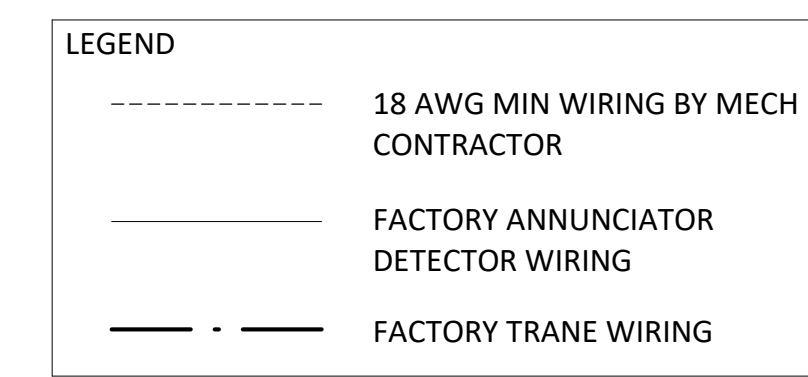
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 7/22/2024 3:05:36 PM
 30-LS-05893-M-602-VENTILATION SCHEDULES

ISSUE FOR CONSTRUCTION

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

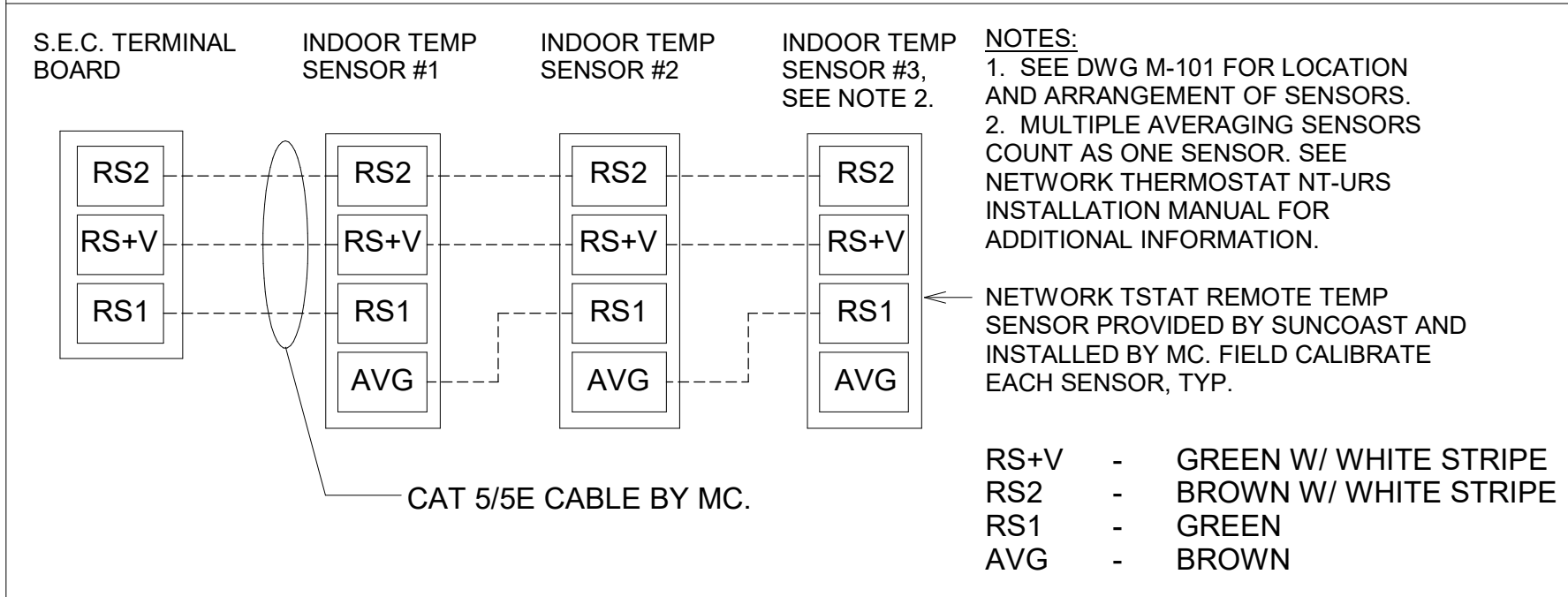
FIELD INSTALLED WIRING:
WITHIN THE ROOFTOP UNITS, WIRING SHALL BE ROUTED BY WAY OF FACTORY WIRE WAYS ONLY. WIRING ROUTED OVER THE BLOWER HOUSING OR BY WAY OF OTHER ROUTES DETRIMENTAL TO WIRING LIFE WILL NOT BE ACCEPTED.

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



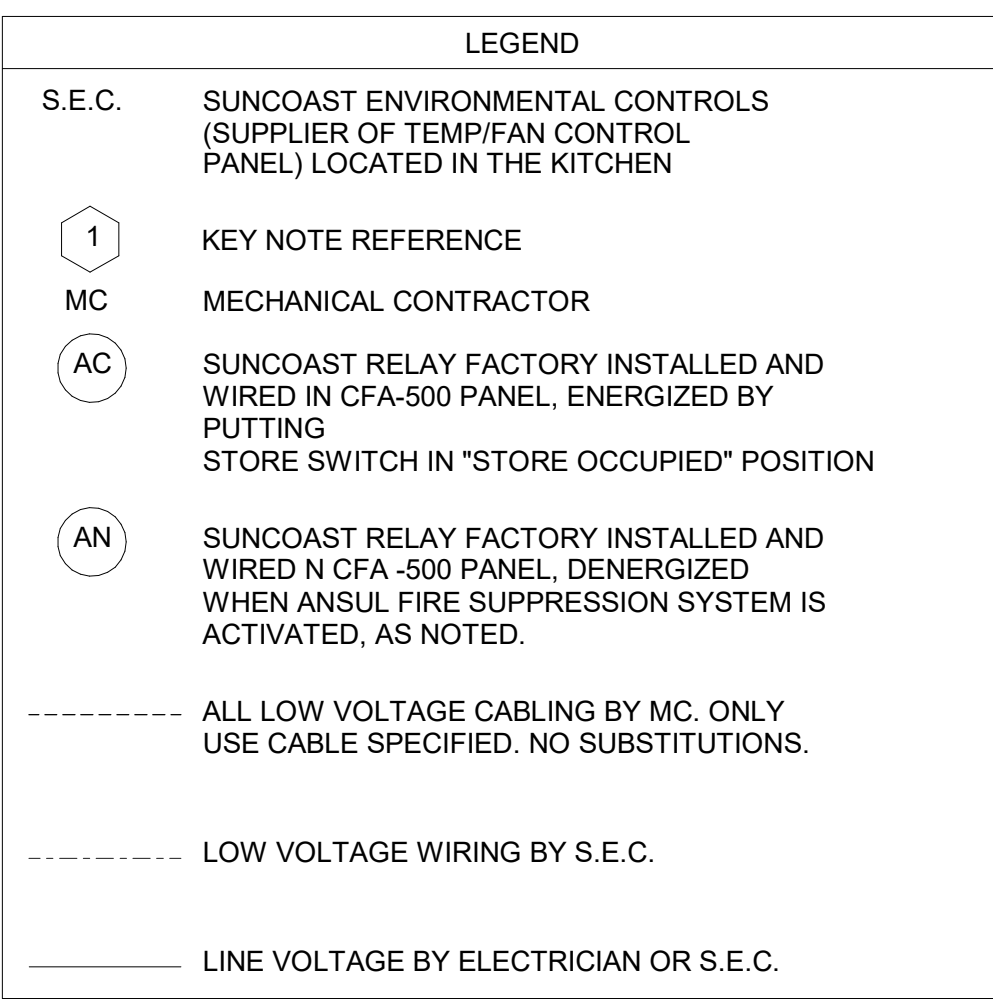
1 SMOKE DETECTOR AND ANNUNCIATOR WIRING DIAGRAM - TRANE
NOT TO SCALE

AVERAGING SENSORS
(WHERE SHOWN ON PLANS)

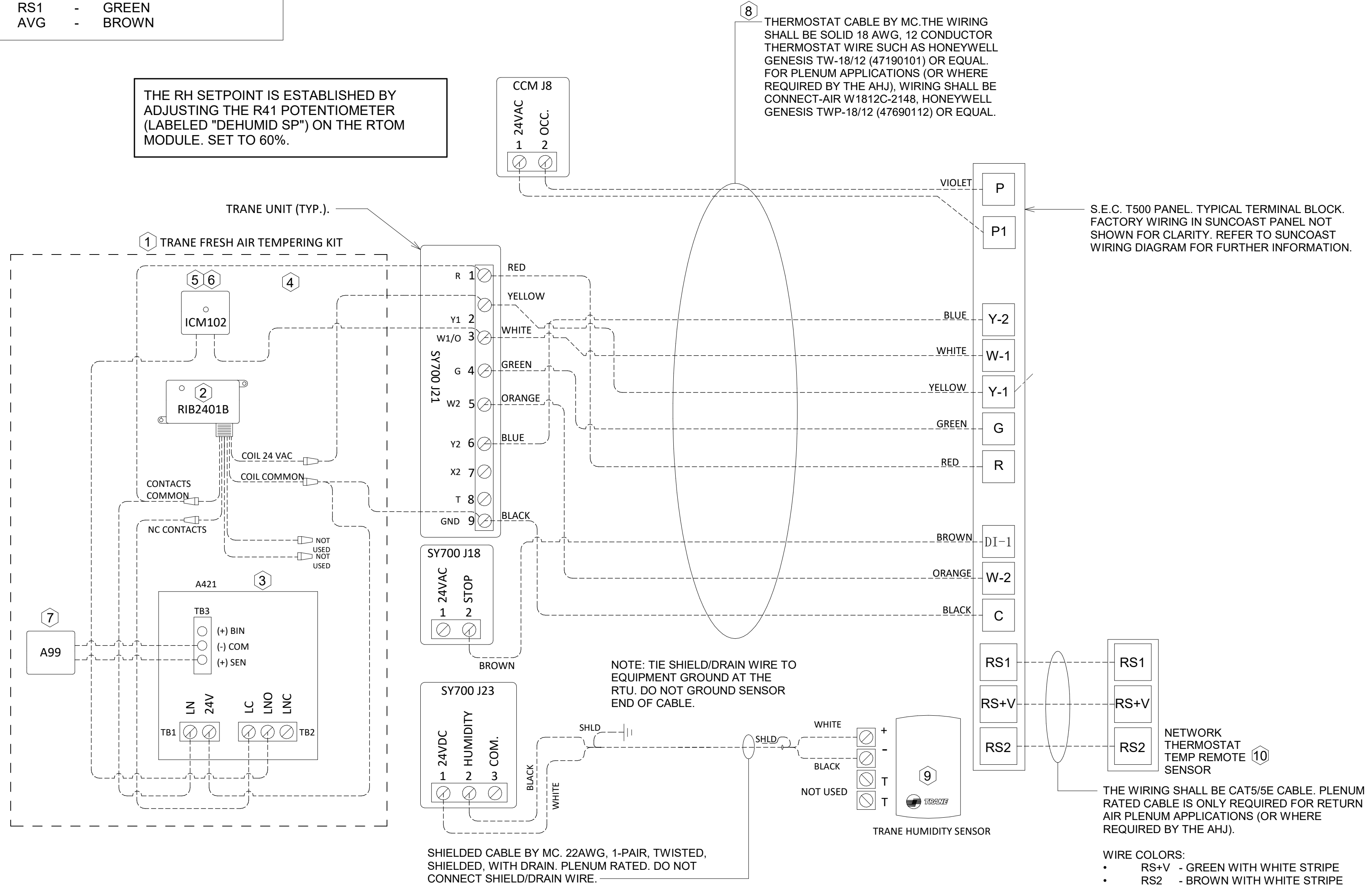


KEYED NOTES:
8 LOW VOLTAGE WIRING TO RTU TO BE ROUTED TO UNIT THRU FACTORY WIREWAY.
9 WIRING TO HUMIDITY SENSOR TO BE MADE WITH SINGLE 18/2 SENSOR CABLE: W221P-2003NT ONLY
10 NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY MC. SENSOR IS INTENDED TO BE SURFACE MOUNTED AND DOES NOT REQUIRE A SINGLE GANG BOX OR CONDUIT. FIELD CALIBRATE EACH SENSOR. SEAL CABLE PENETRATION AT ALL WALL LOCATIONS.

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 PLAIC ENGRAVELABEL AT ALL NEW SENSORS WITH 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND, I.E. "AC42 HUMIDITY SENSOR" OR "AC42 TEMP SENSOR". PLACE LABELS ON WALL ADJACENT TO DEVICE. DO NOT APPLY DIRECTLY TO DEVICE.



THE RH SETPOINT IS ESTABLISHED BY ADJUSTING THE R41 POTENTIOMETER (LABELED "DEHUMID SP") ON THE RTOM MODULE. SET TO 60%.



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. DIM-MOUNTED IN THE RTU CONTROL CABINET. SET TO 58F. LOCATE TRANE PROVIDED JCI A99 SENSOR IN THE SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT WITH TE6001-1 SENSOR DUCT MOUNTING PLATE PROVIDED BY TRANE. DO NOT RUN WIRING INSIDE DUCTWORK.
4 18 AWG MIN. LOW VOLTAGE WIRING BY MC.
5 ICM102 TIME DELAY RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.
6 SET TIME DELAY RELAY (ICM102) TO 2 MINUTES.
7 PROVIDE JCI TE6001-1 TEMPERATURE ELEMENT HOLDER FOR SUPPLY AIR TEMPERATURE SENSOR (A99).

2 ROOFTOP UNIT CONTROL WIRING - TRANE
NOT TO SCALE



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

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



CHICK-FIL-A
Michigan City FSU
5809 Franklin St
Michigan City, IN 46360

FSR#05893
BUILDING TYPE / SIZE: P-14 LS BN
RELEASE: 23.11
PRINTED FOR:
ISSUE FOR CONSTRUCTION
REVISION SCHEDULE
NO. DATE DESCRIPTION
1 05/27/24 ISSUE FOR PERMIT
1 07/22/24 ISSUE FOR CONSTRUCTION

ISSUE FOR CONSTRUCTION
CONSULTANT PROJECT # 24066.CD.S
DATE 05/27/2024
DRAWN BY BLM
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CONTROL WIRING DIAGRAMS - TRANE
SHEET NUMBER
M-701

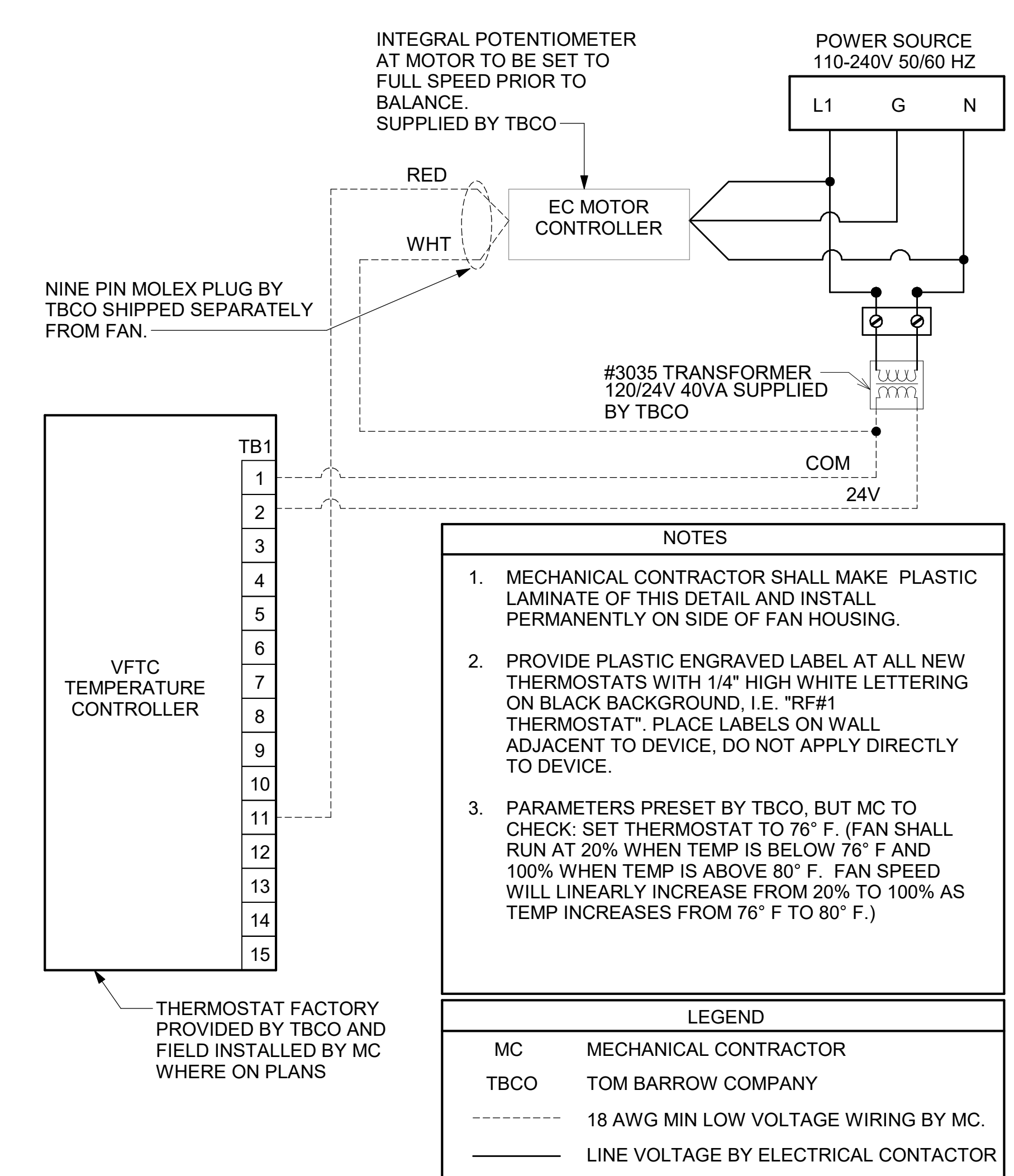
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D

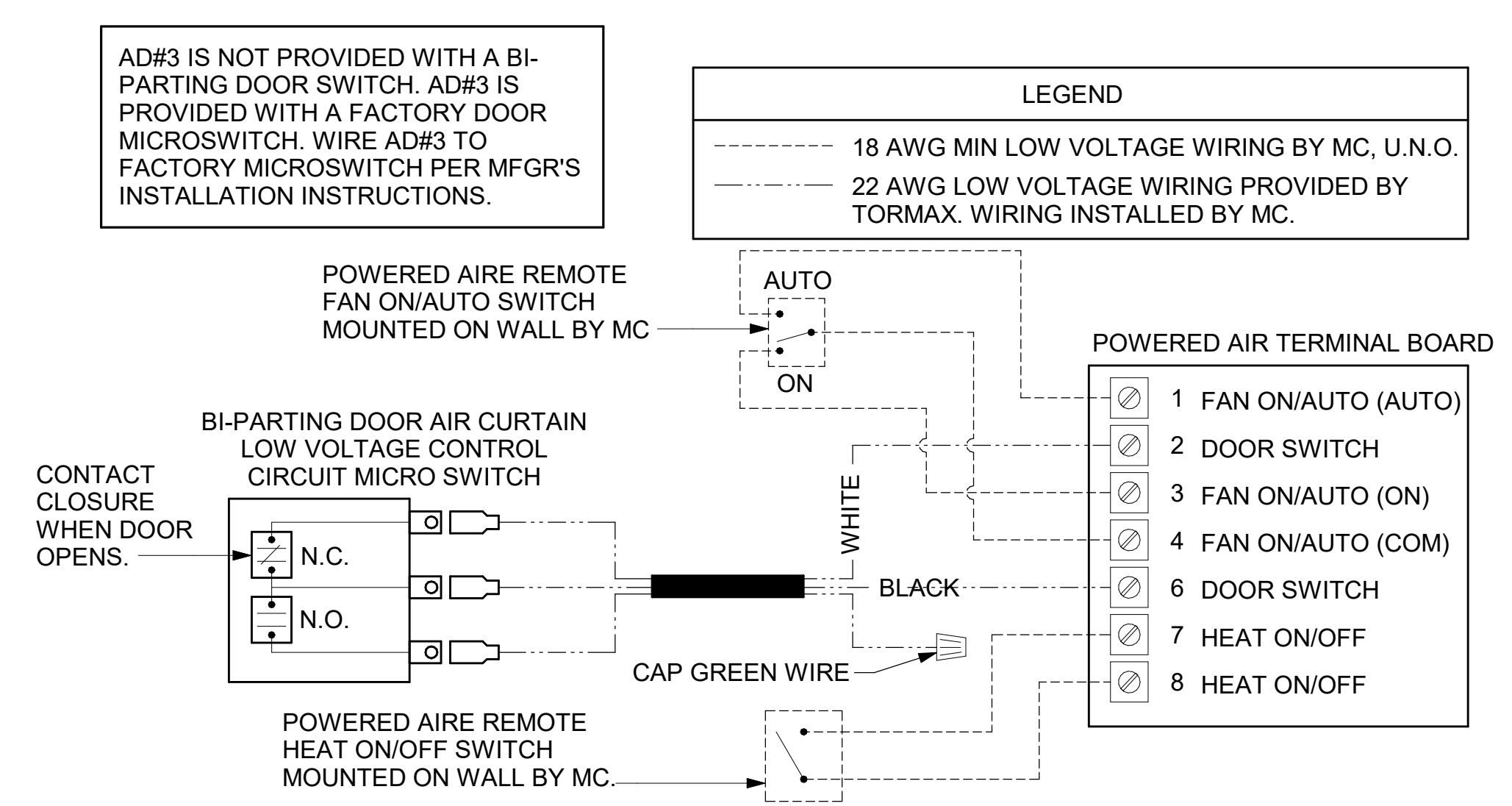
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B

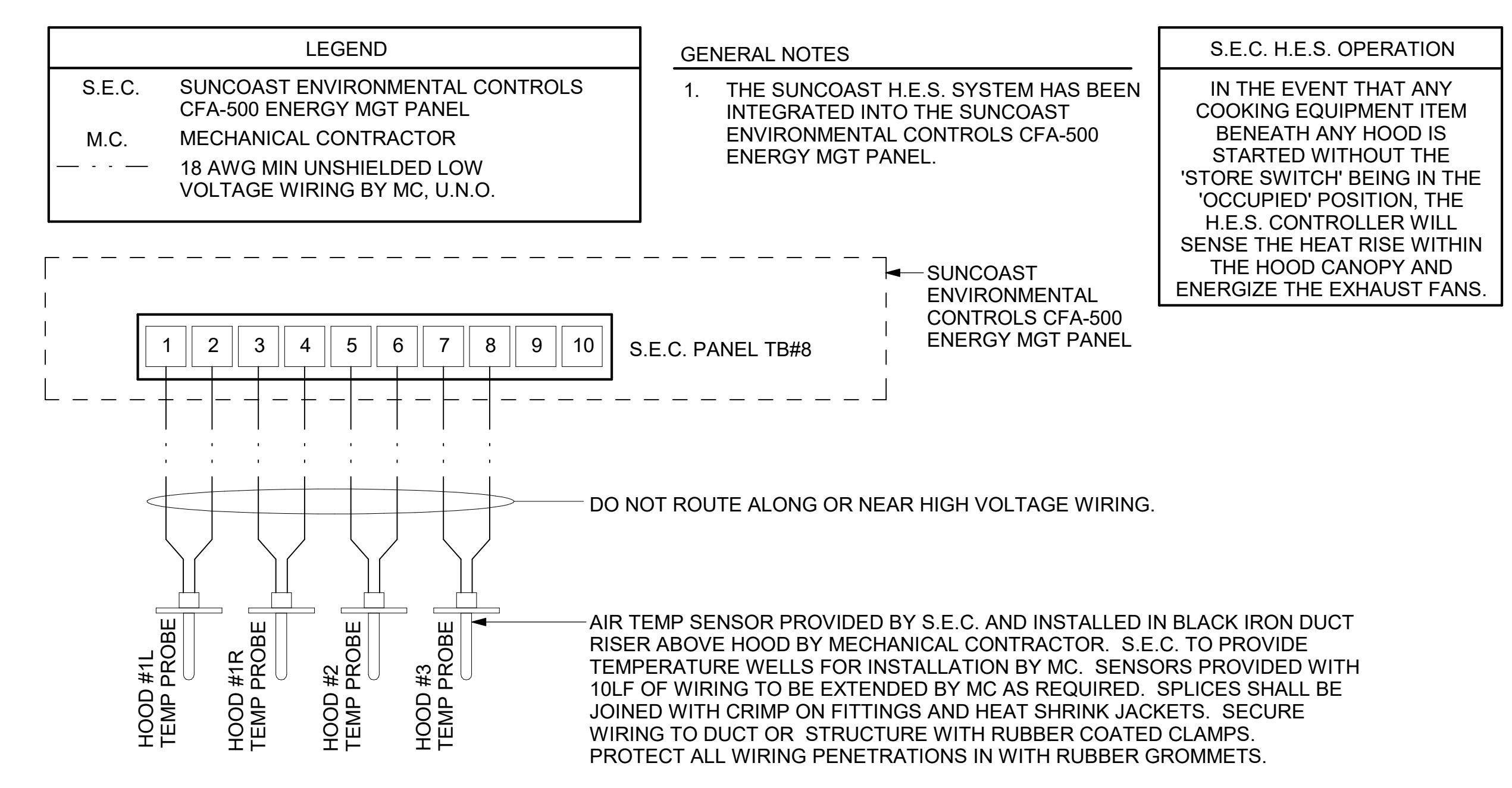
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1 TECH CLOSET CONTROL DIAGRAM
NOT TO SCALE



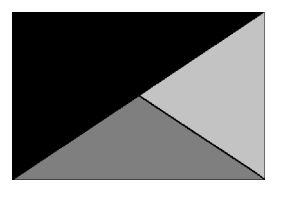
2 AIR CURTAIN WIRING DIAGRAM
NOT TO SCALE



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



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



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



07/24/24

CHICK-FIL-A
Michigan City FSU
5809 Franklin St
Michigan City, IN 46360

FSR#05893

BUILDING TYPE / SIZE: P-14 LS BN
RELEASE: 23.11
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| 1 | 05/27/24 | ISSUE FOR PERMIT |
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DATE 05/27/2024
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CONTROL WIRING DIAGRAMS
SHEET NUMBER

M-702

4 3 2 1

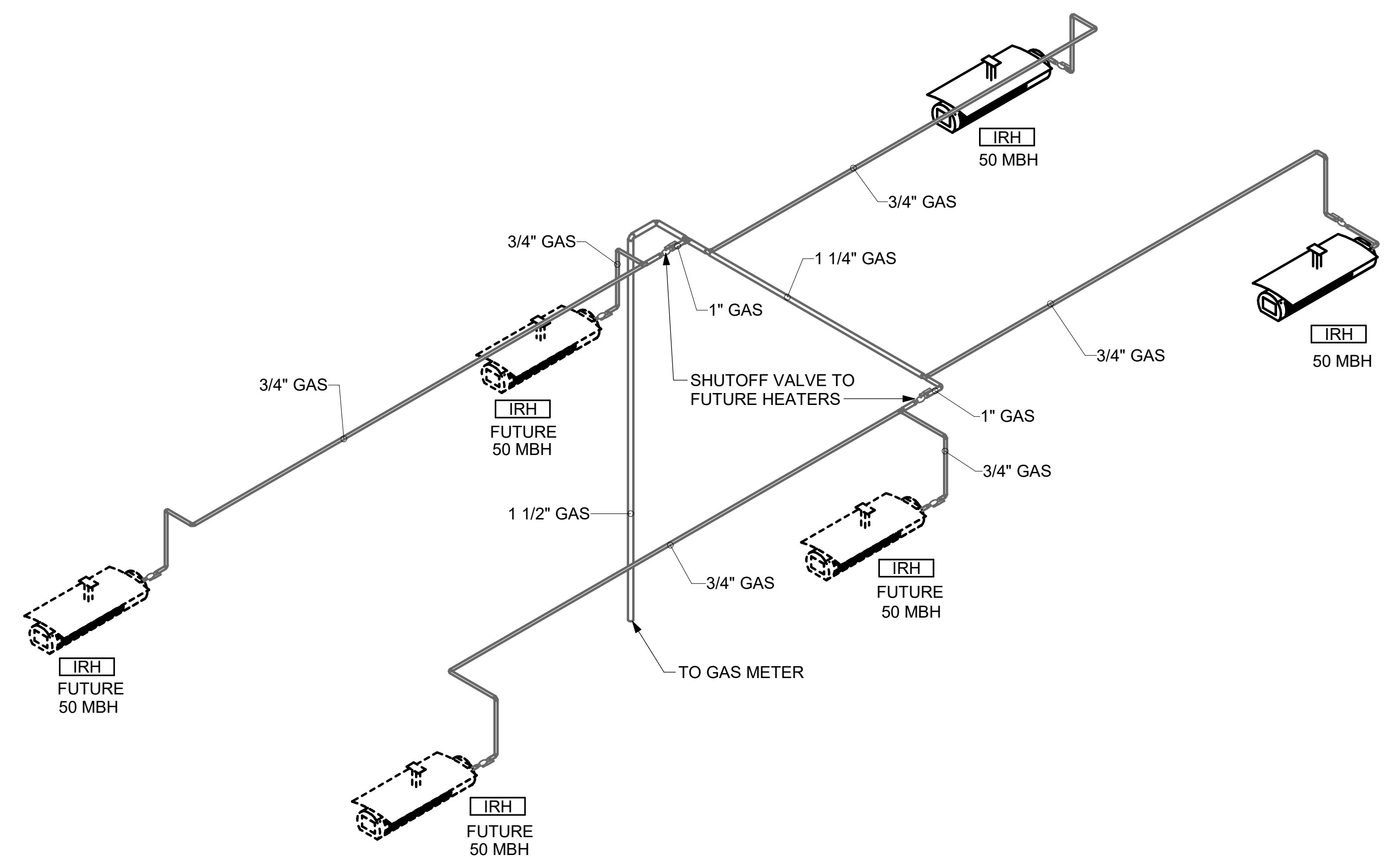
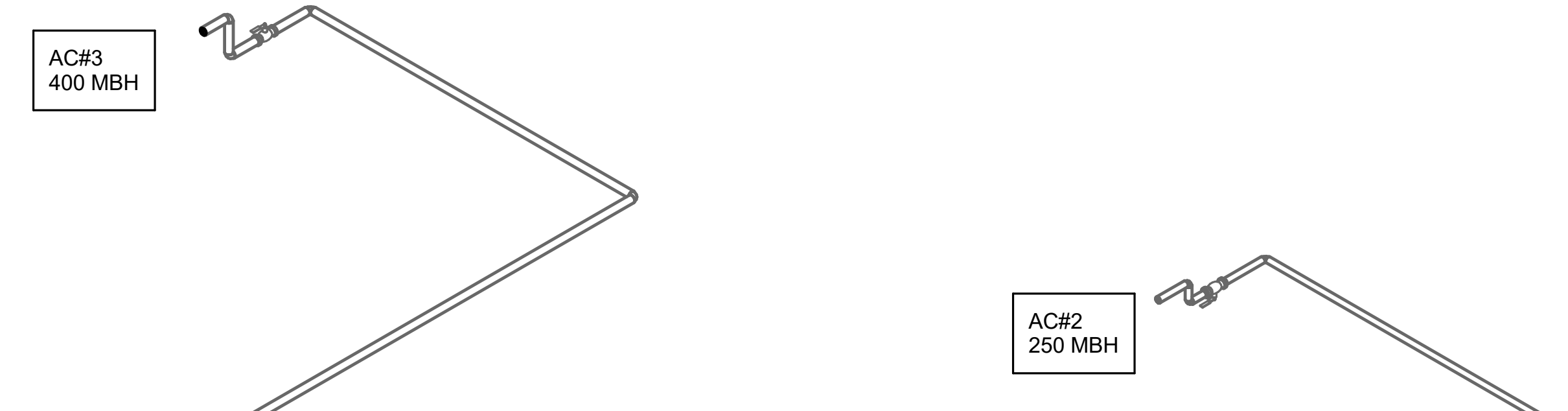
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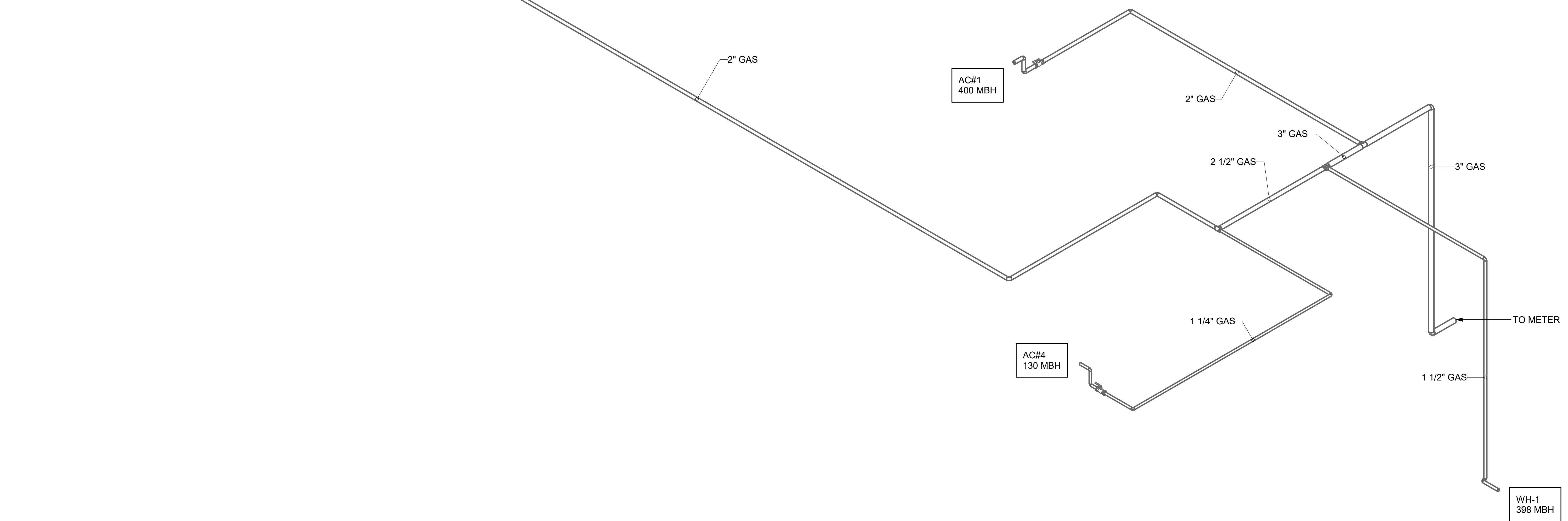
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B

A



2 ORDER CANOPY GAS PIPING ISOMETRIC

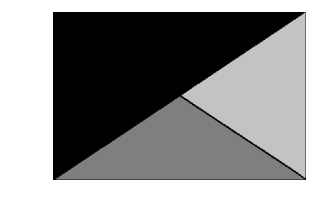


1 GAS PIPING ISOMETRIC - TRANE

4 3 2 1



Chick-fil-A
5200 Buffington Road
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Kurzynske & Associates
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203



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FSR#05893

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SHEET
GAS AND CONDENSATE ISOMETRIC - TRANE

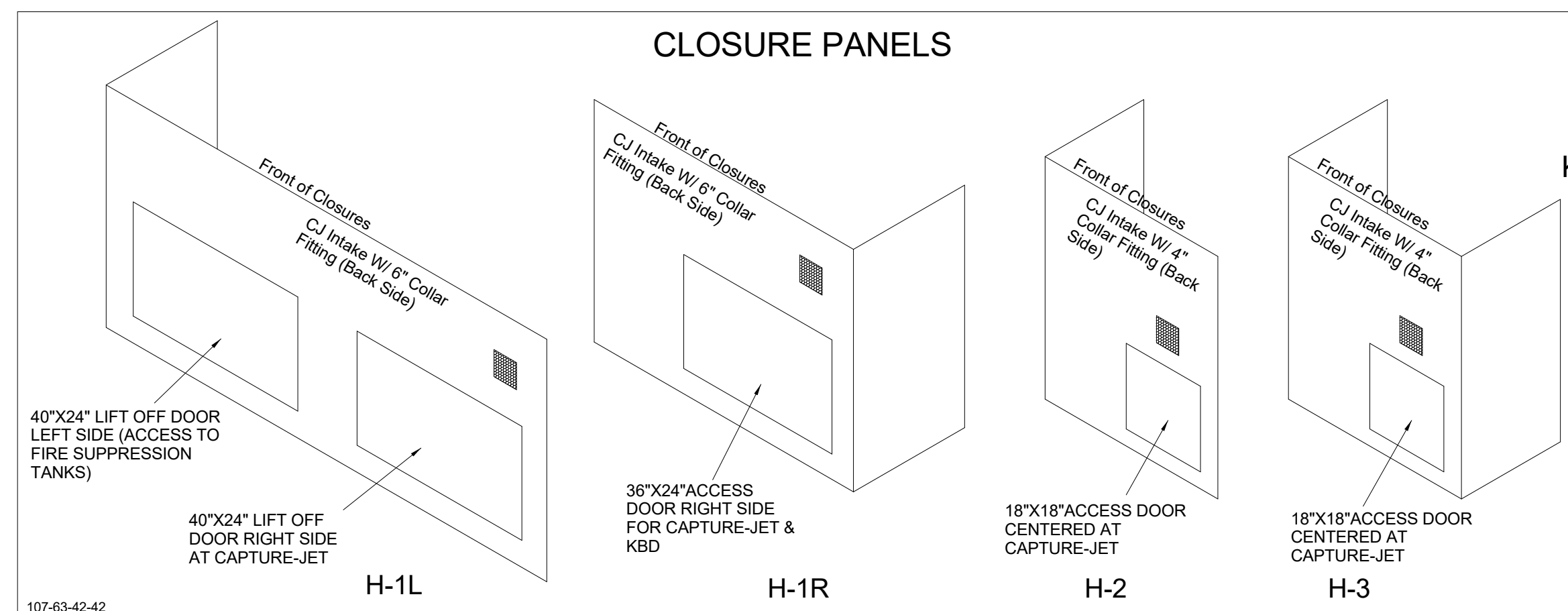
SHEET NUMBER

M-901

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30-LS-05893-M-901-GAS AND CONDENSATE ISOMETRIC - TRANE

| HOOD MODEL | HOOD NUMBER | EXHAUST COLLAR | | | EXHAUST AIR INFORMATION | | | CAPTURE AIR INFORMATION | | S.S. KSA FILTERS | | CEILING CLOSURES | | | | KBD DAMPER | K FACTOR (CFM = K FACTOR * √DP) | MATERIAL | |
|------------|-------------|----------------|--------|-------|-------------------------|-------|-------|-------------------------|-------|------------------|------|------------------|-----|----------------|----------------|------------|------------------------------------|----------|---------------------------------|
| | | QTY | LENGTH | WIDTH | CFM | TAB | SP | CFM | SP | FULL | HALF | LED LIGHTS | QTY | CLOSURE HEIGHT | CEILING HEIGHT | | | | HOOD WEIGHT |
| KVL-2-IC | H-1L | 1 | 14" | 8" | 1204 | 0.13" | 0.22" | 80 | 0.30" | 5 | - | 3 | 2 | 51" | 122" | 669 LBS | * | 3365 | EXPOSED SURFACES 18 GA. S.S. |
| KVL-2-IC | H-1R | 1 | 8" | 8" | 709 | 0.13" | 0.23" | 47 | 0.30" | 3 | - | 2 | 2 | | | 394 LBS | * | 1959 | |
| 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 | |

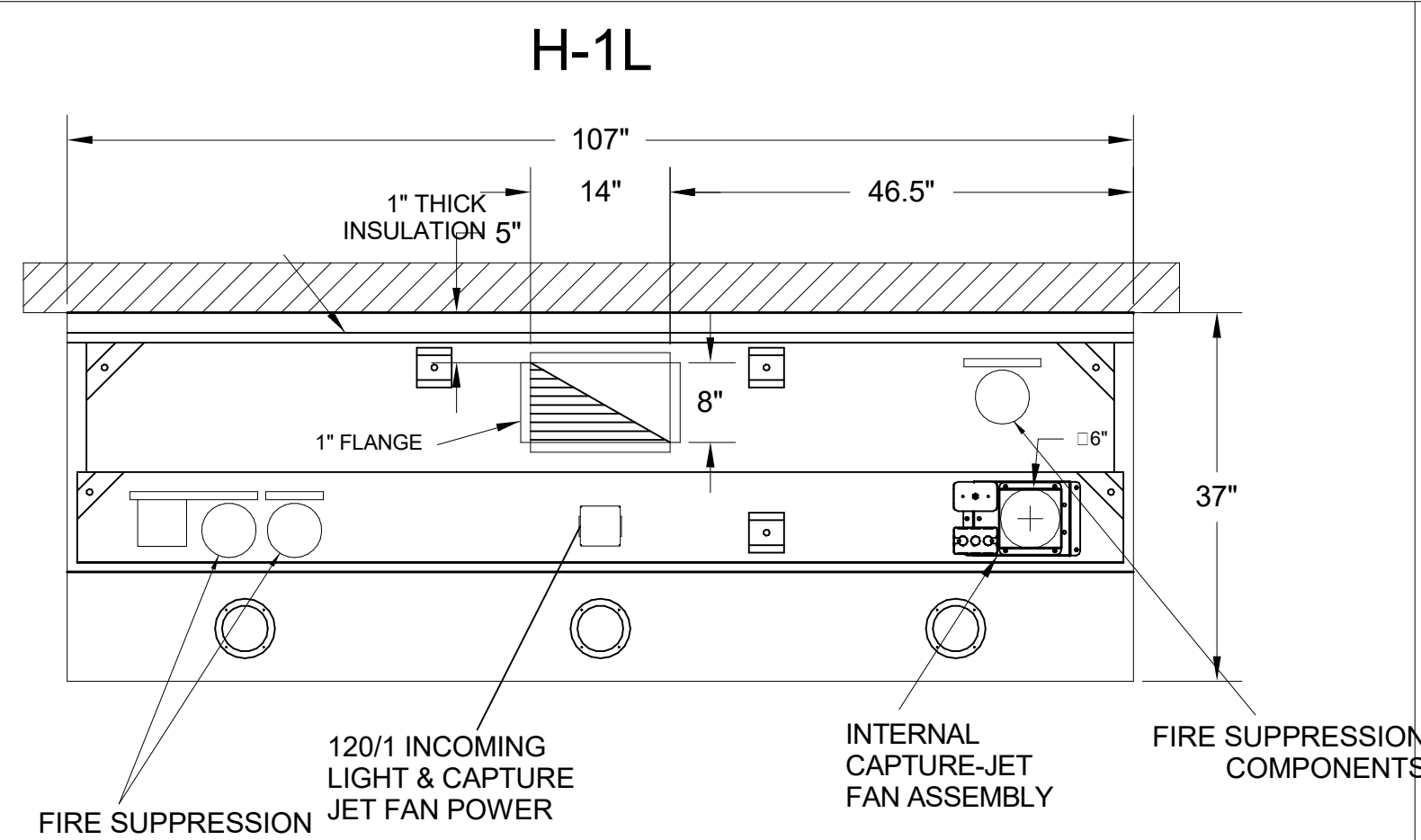
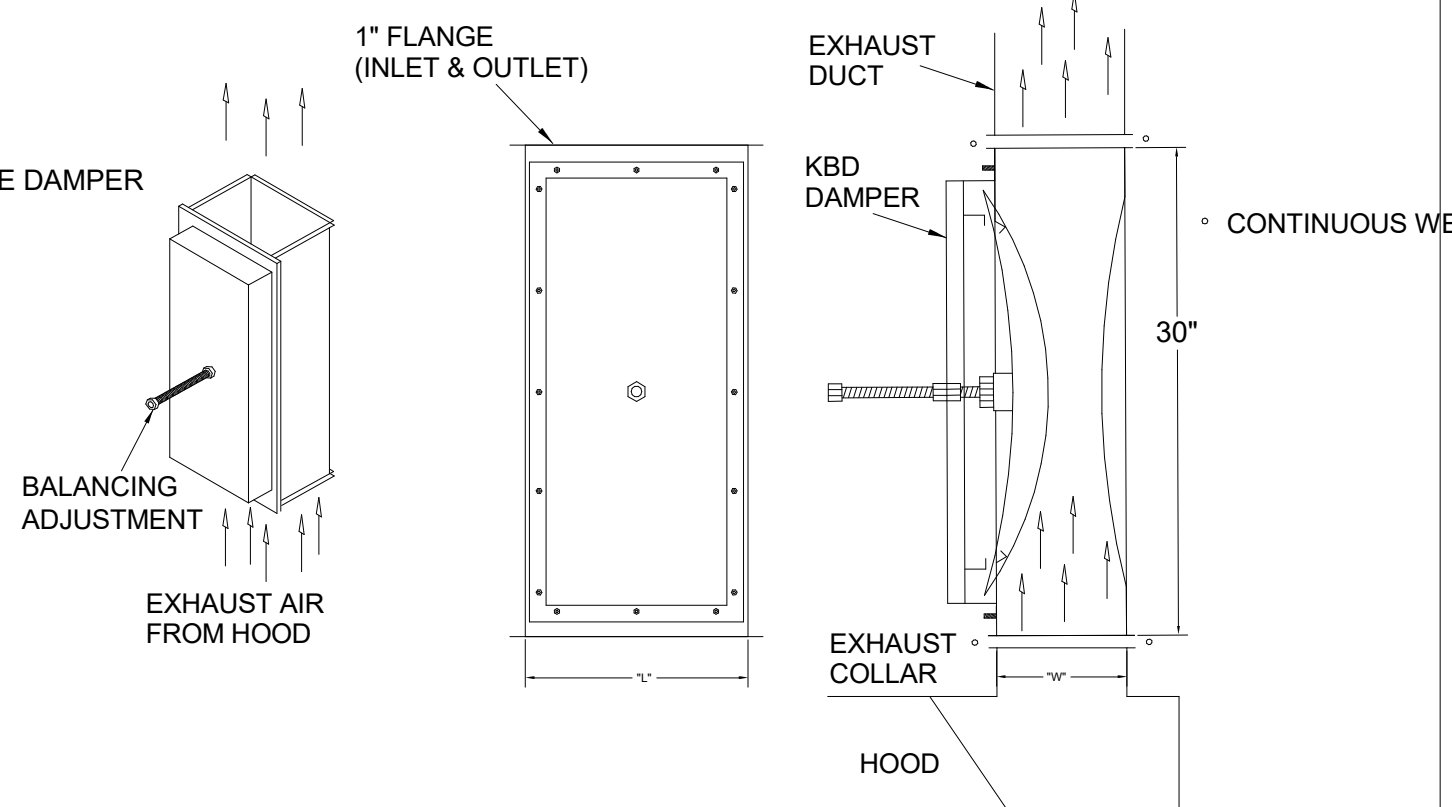
FOR REFERENCE ONLY



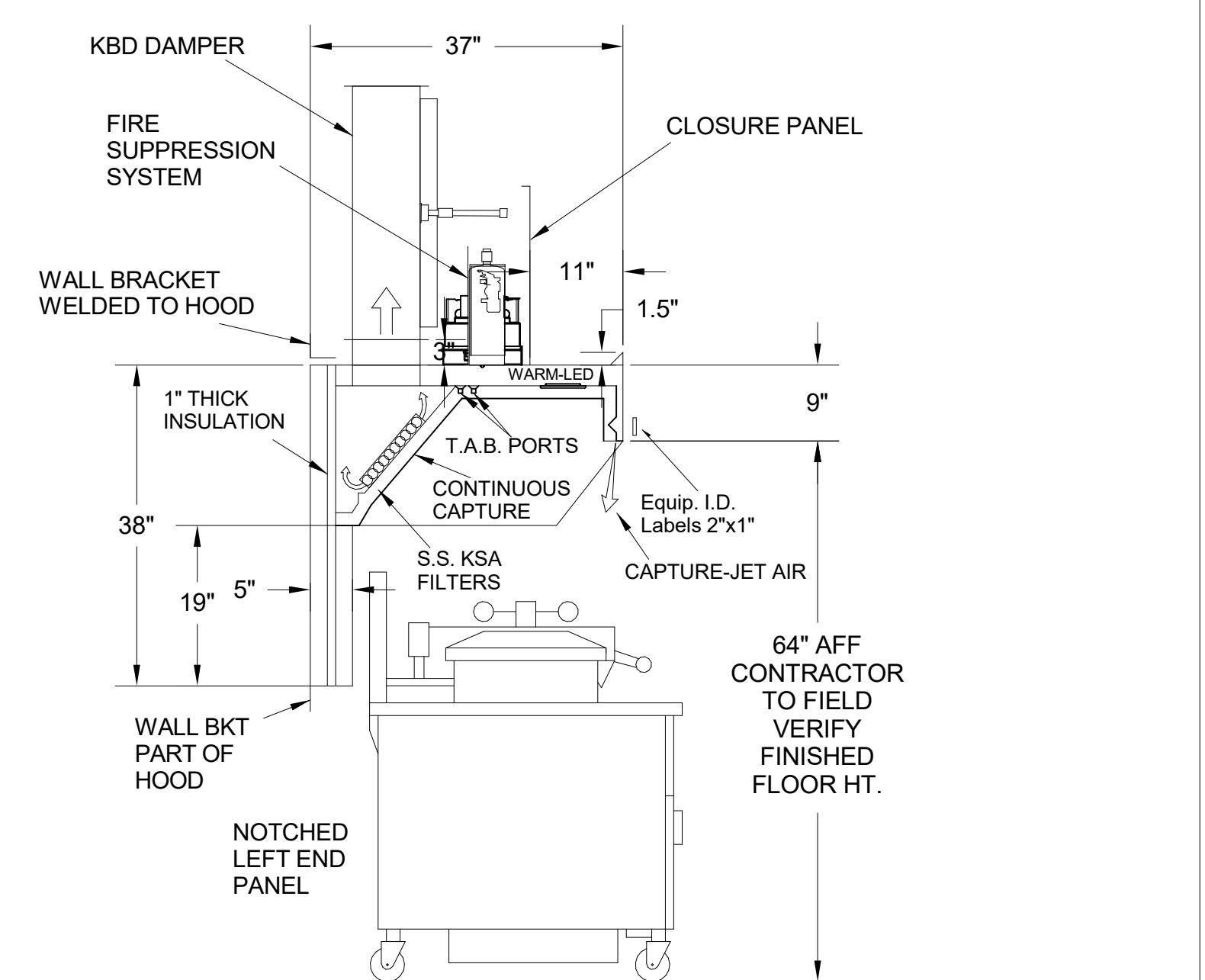
**MODEL:KBD
CALIBRATED
KITCHEN BALANCING DAMPER**

| TAG | "L" | "W" | QUANTITY |
|------|-----|-----|----------|
| H-1L | 14" | 8" | 1 |
| H-1R | 8" | 8" | 1 |
| H-2 | 8" | 8" | 1 |
| H-3 | 8" | 8" | 1 |

MATERIAL: FRAME - 16GA CONT. GALV.
ADJUSTABLE PANEL 18GA S.S.

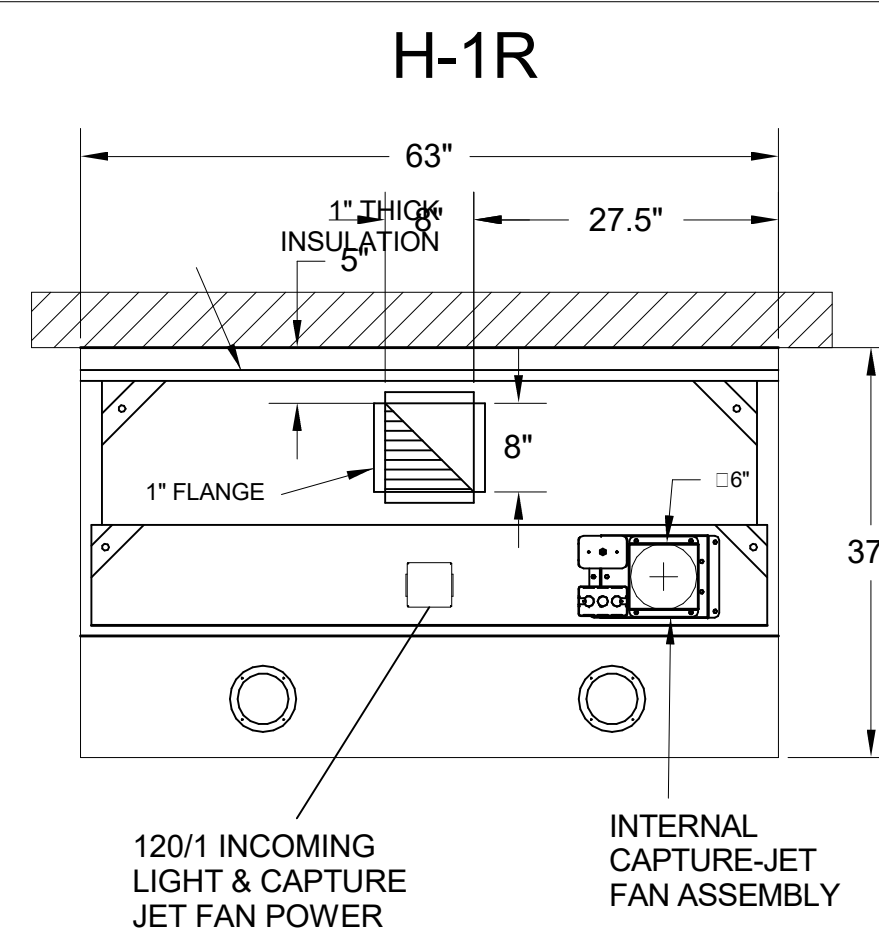
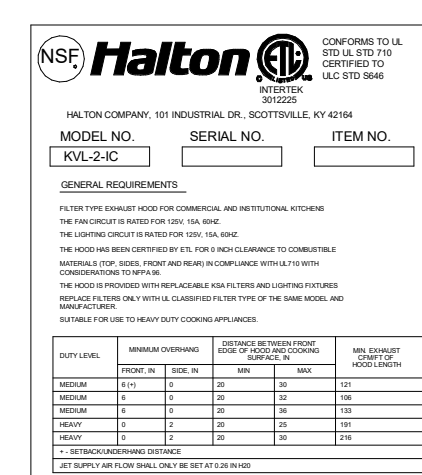


H-1L PLAN VIEW

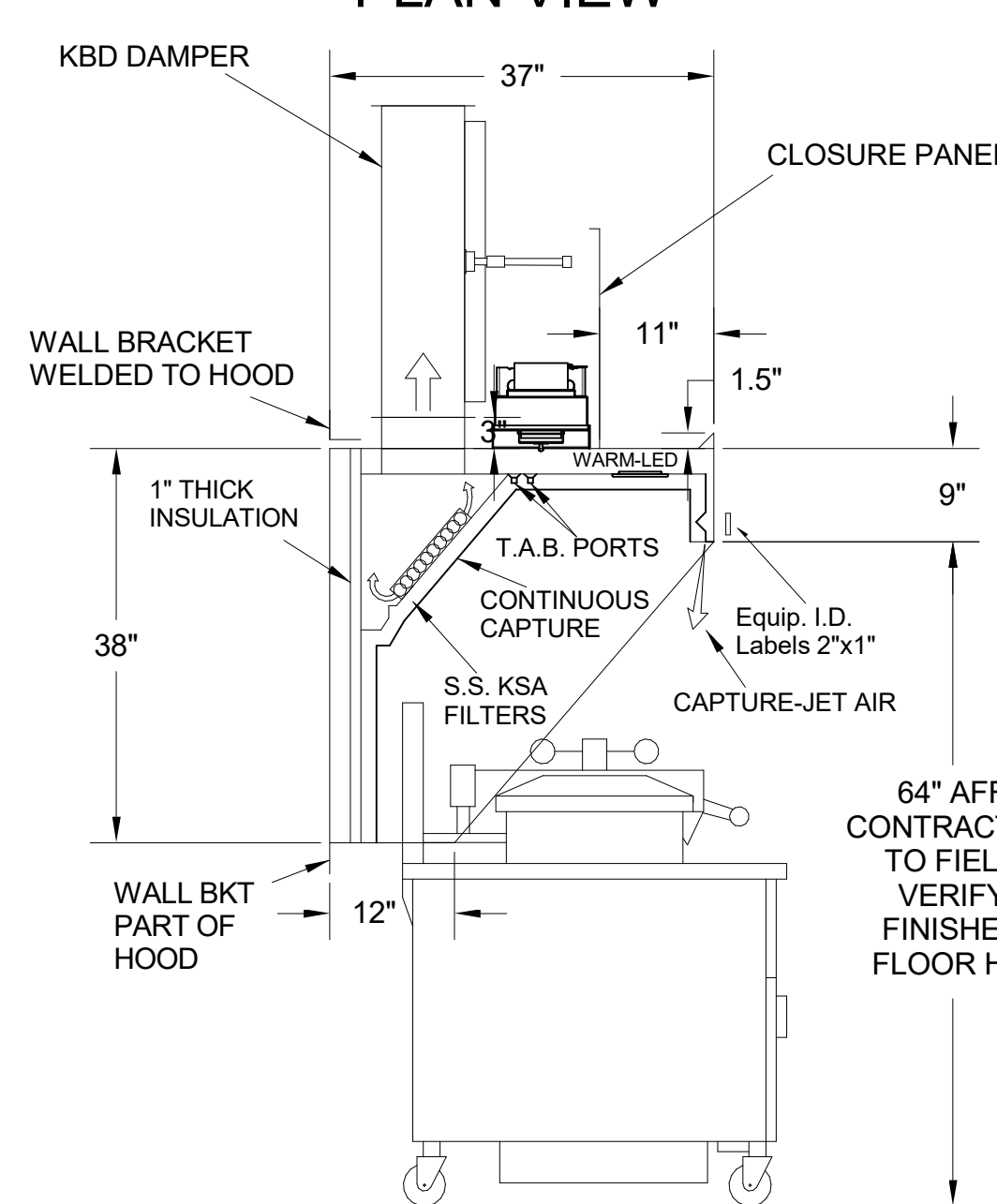


H-1L SECTION VIEW

- 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
- EQUIPMENT COVERED:
(4) PRESSURE FRYERS
(2) GRILLS
- ANSUL WEIGHT = 286 LBS
- AMEREX WEIGHT = 264 LBS

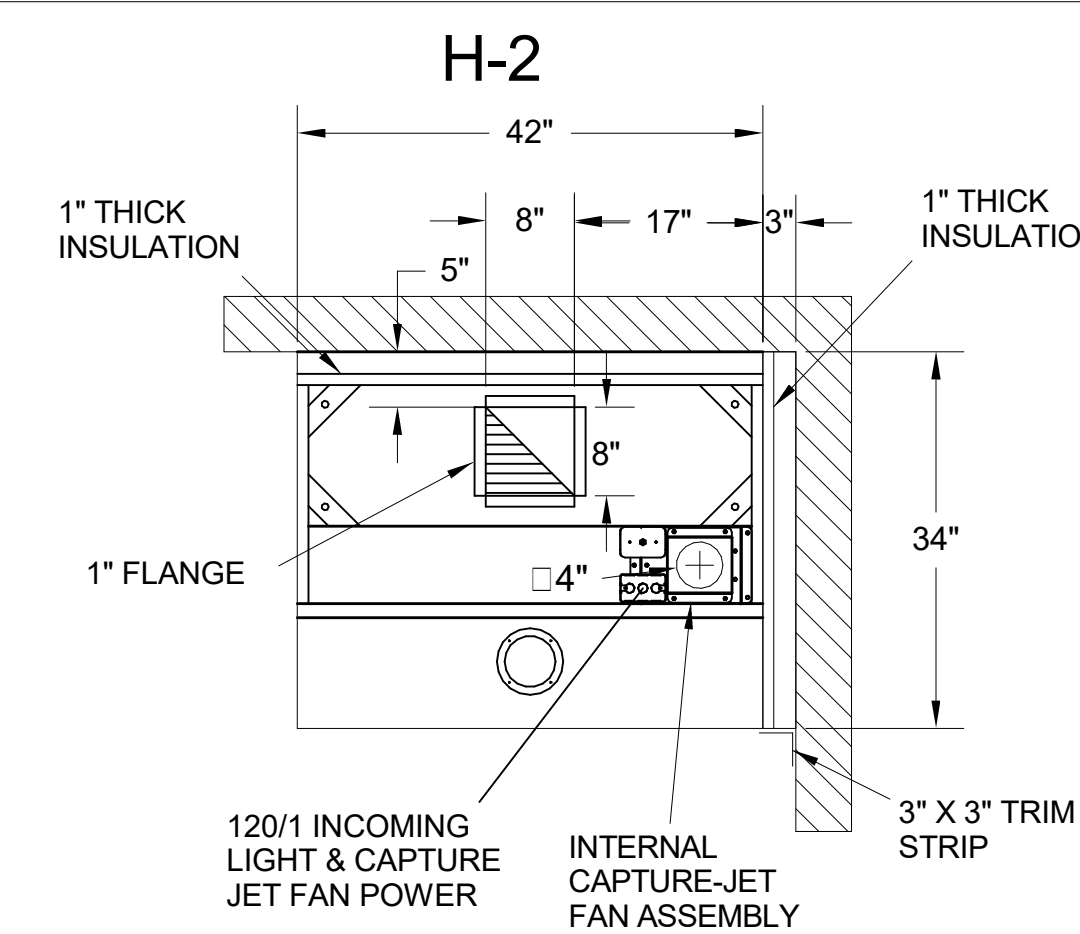
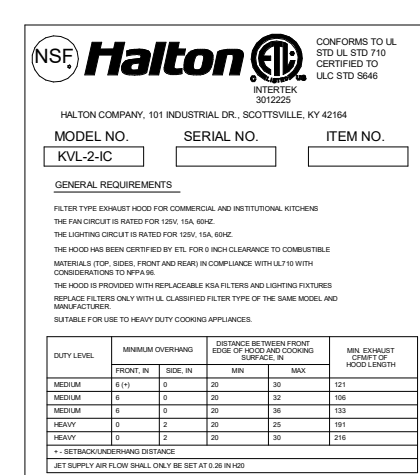


H-1R PLAN VIEW

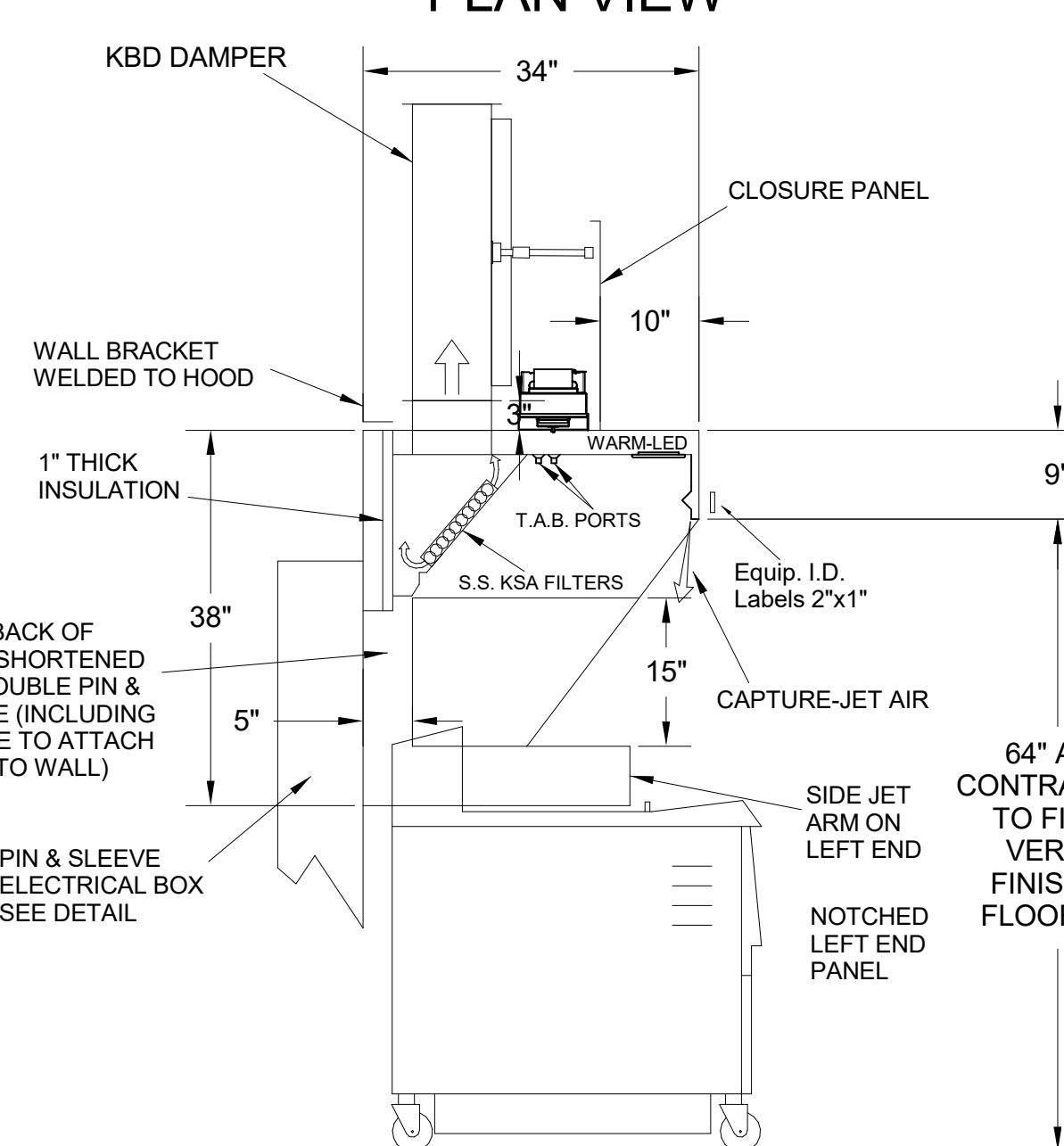


H-1R SECTION VIEW

- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- 36"x24" ACCESS DOOR RIGHT SIDE FOR ACCESS TO CAPTURE-JET WITH FRONT CJ INTAKE & KBD
- CONTINUOUS CAPTURE INTERNAL LEFT END CUTOUT
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- EQUIPMENT COVERED:
(3) PRESSURE FRYERS

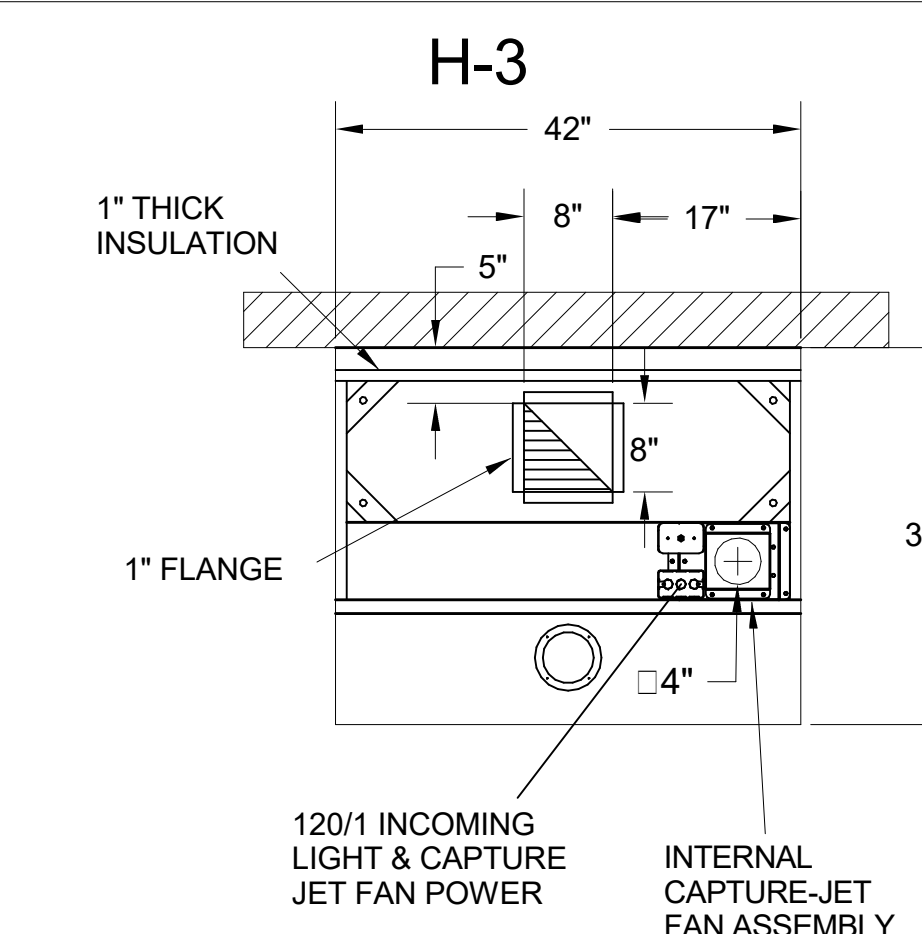
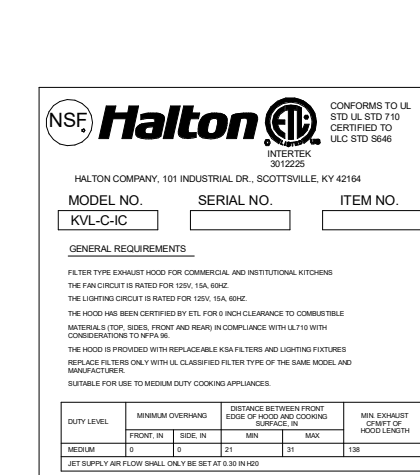


H-2 PLAN VIEW

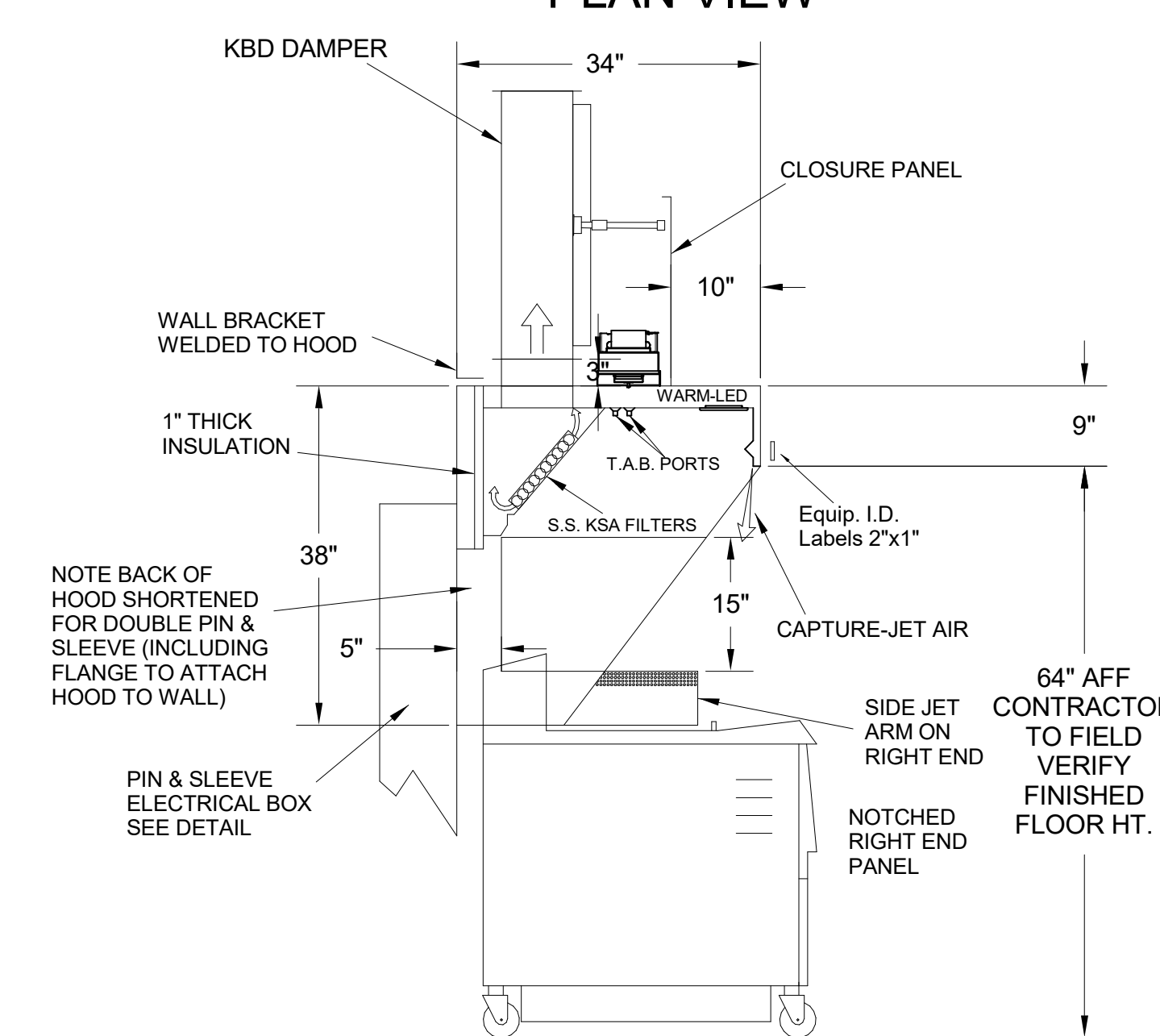


H-2 SECTION VIEW

- 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
- EQUIPMENT COVERED:
(2) FRYERS

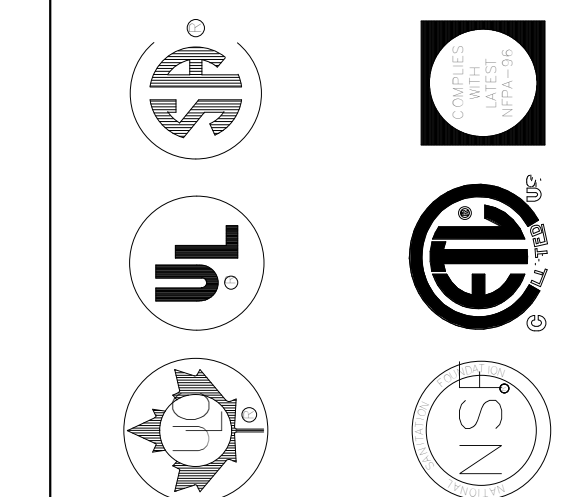
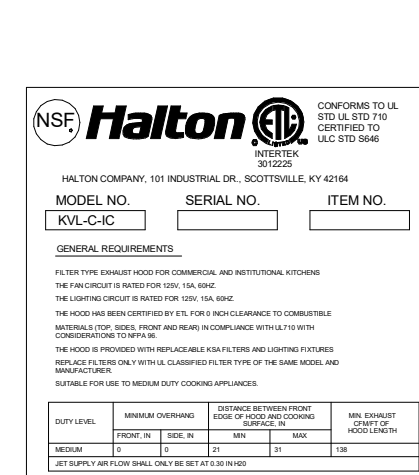


H-3 PLAN VIEW



H-3 SECTION VIEW

- 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
- EQUIPMENT COVERED:
(2) FRYERS



MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY. BELOW WEBSITE: WWW.HALTONCOMPANY.COM

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

HALTON CO. (USA)
101 INDUSTRIAL DRIVE
SCOTTSDALE, AZ 85254
1-270-237-5600

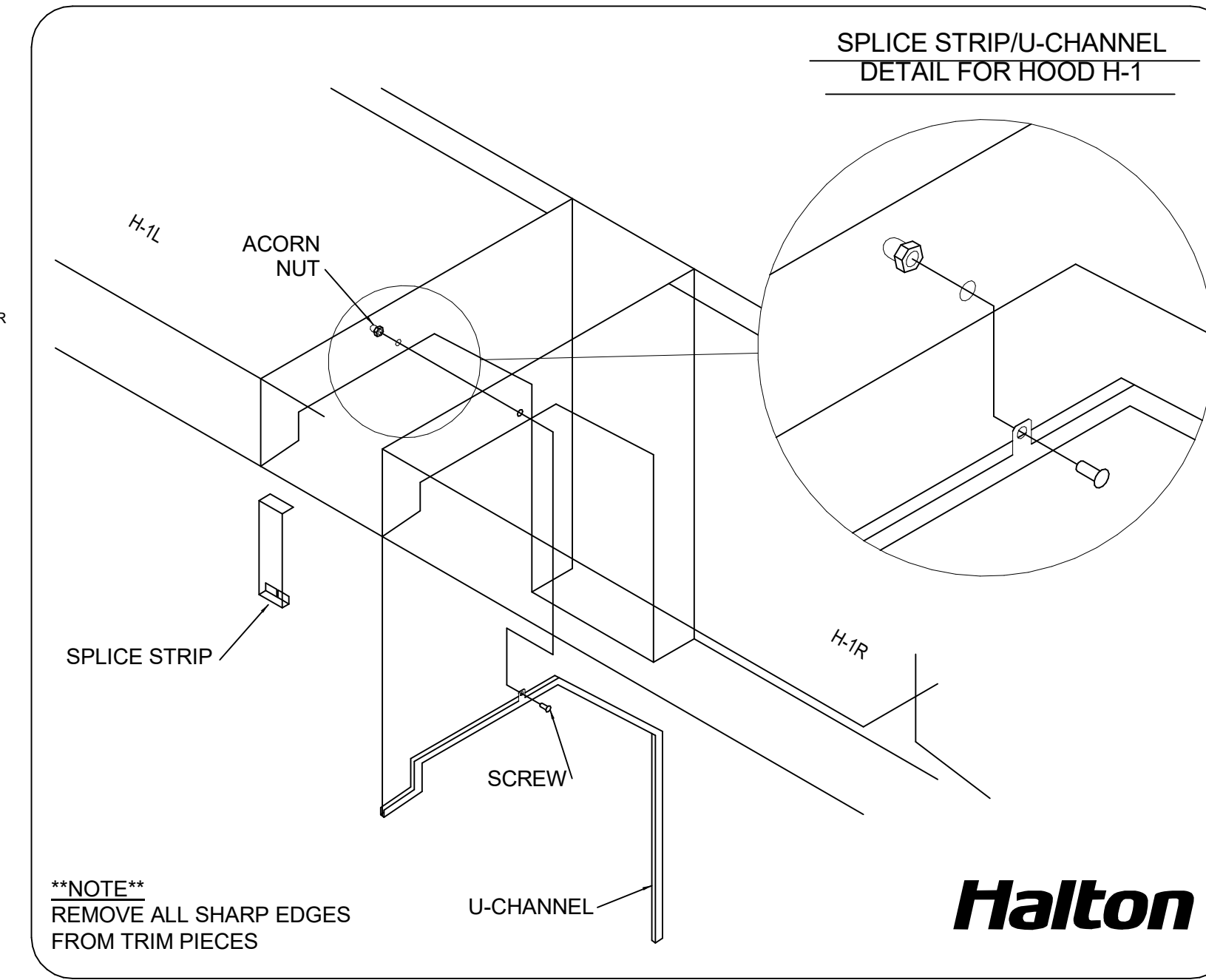
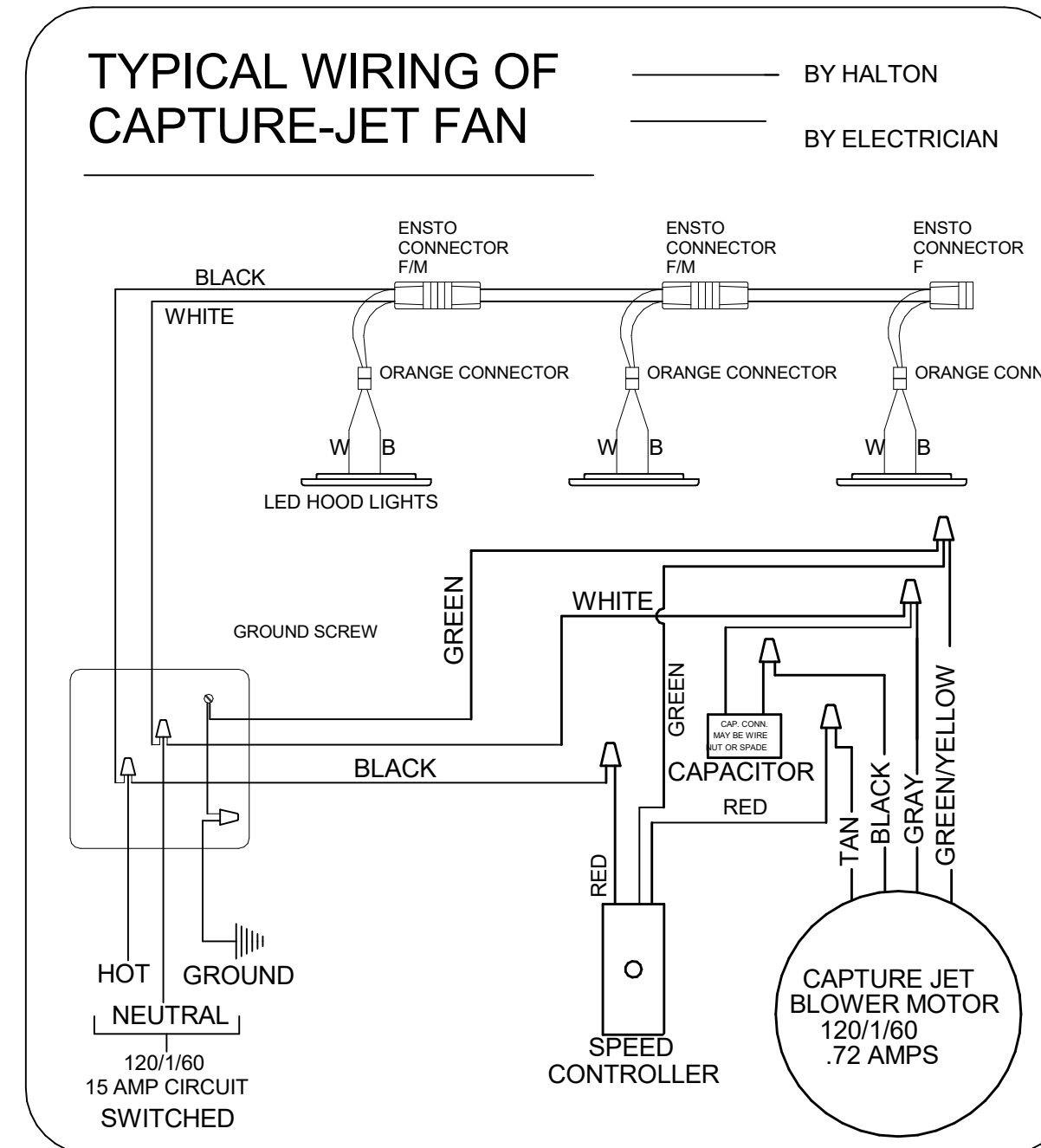
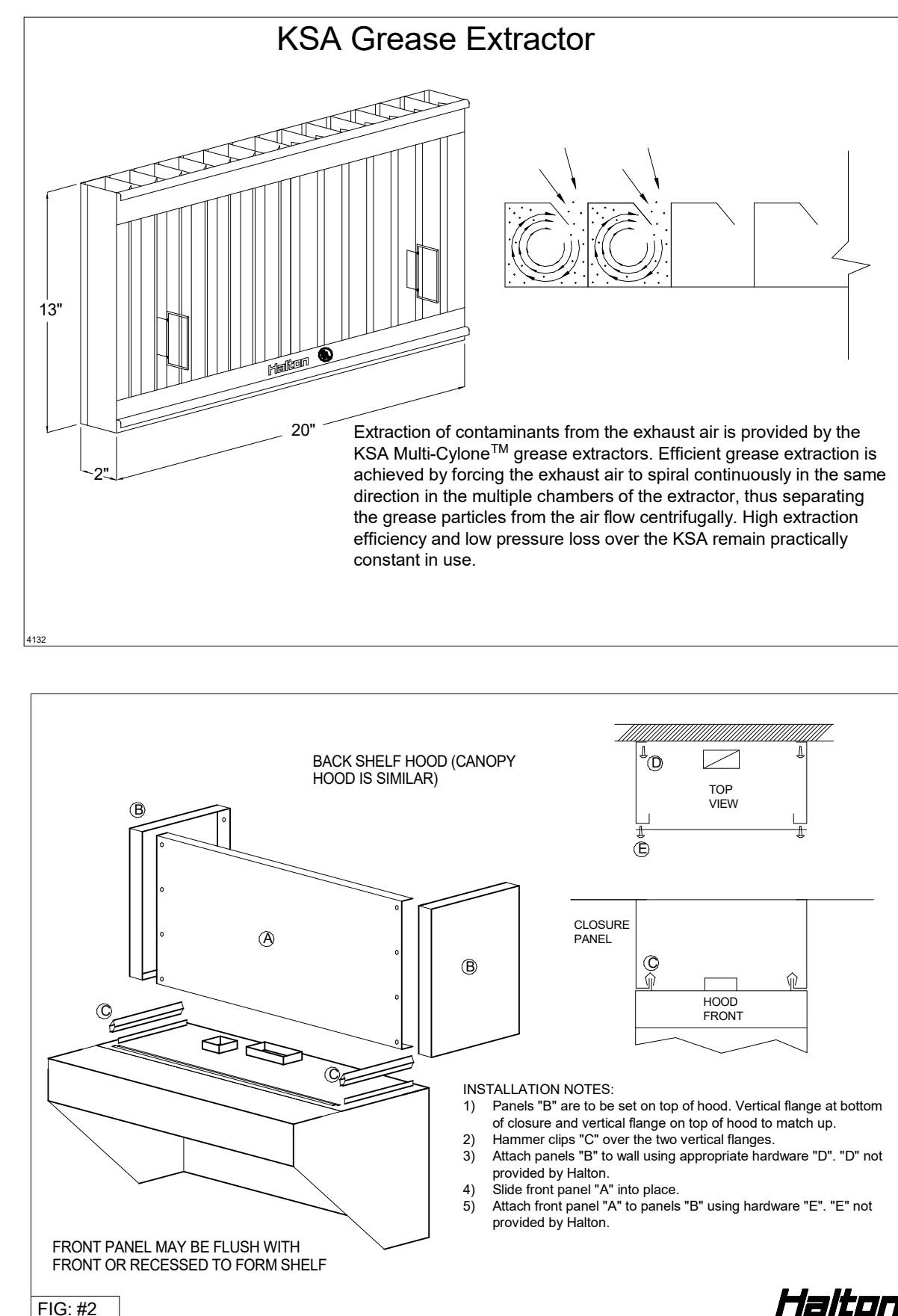
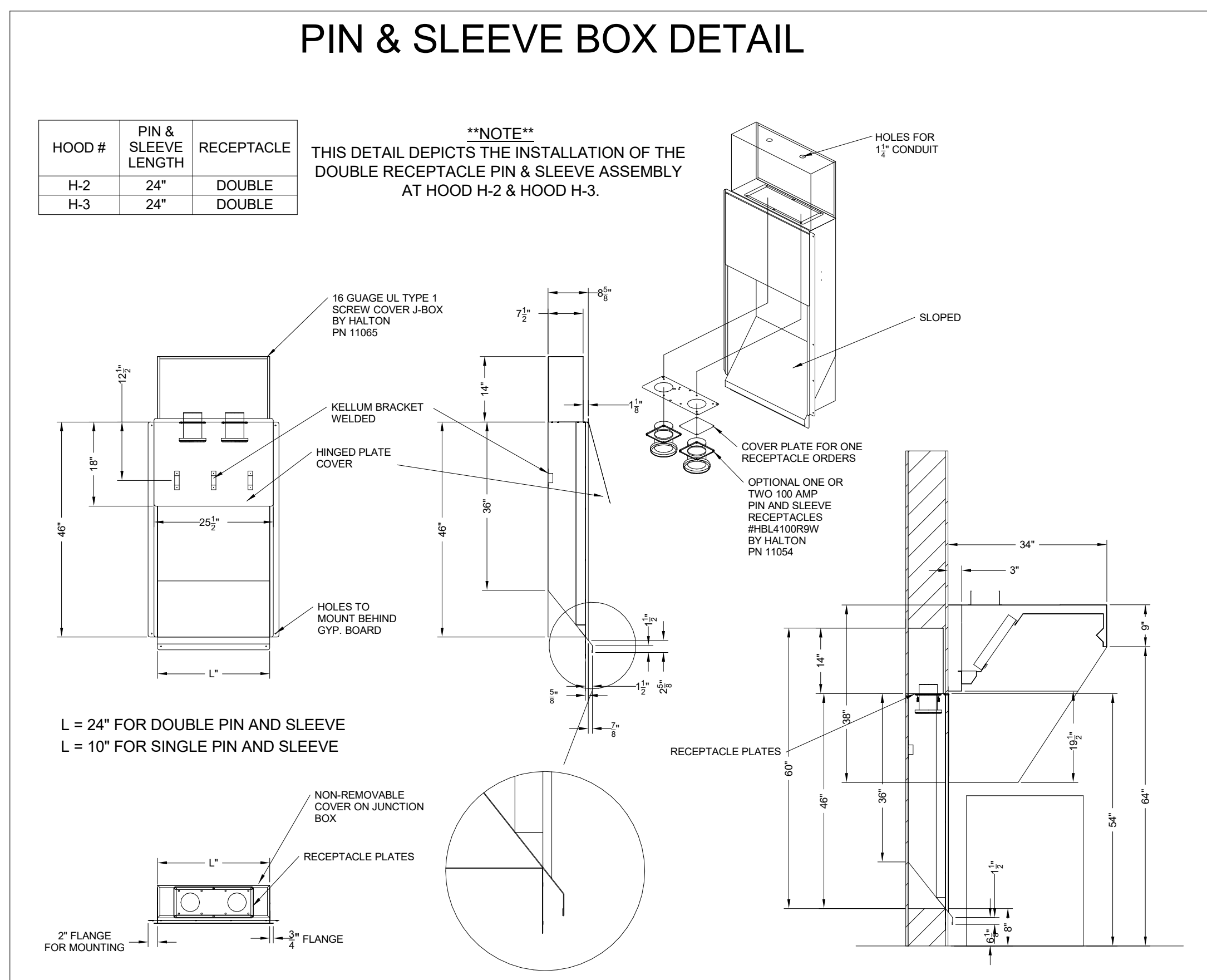
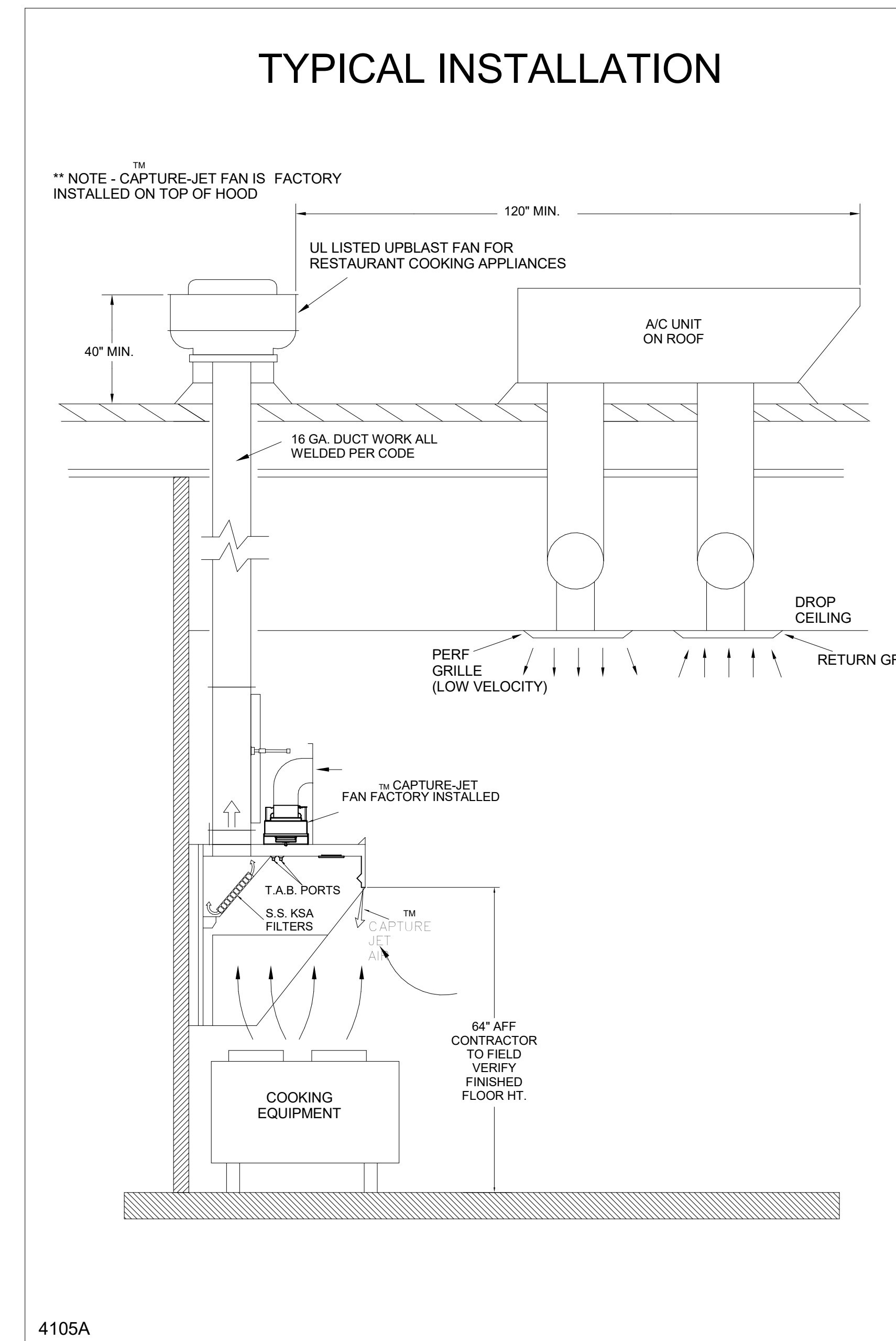
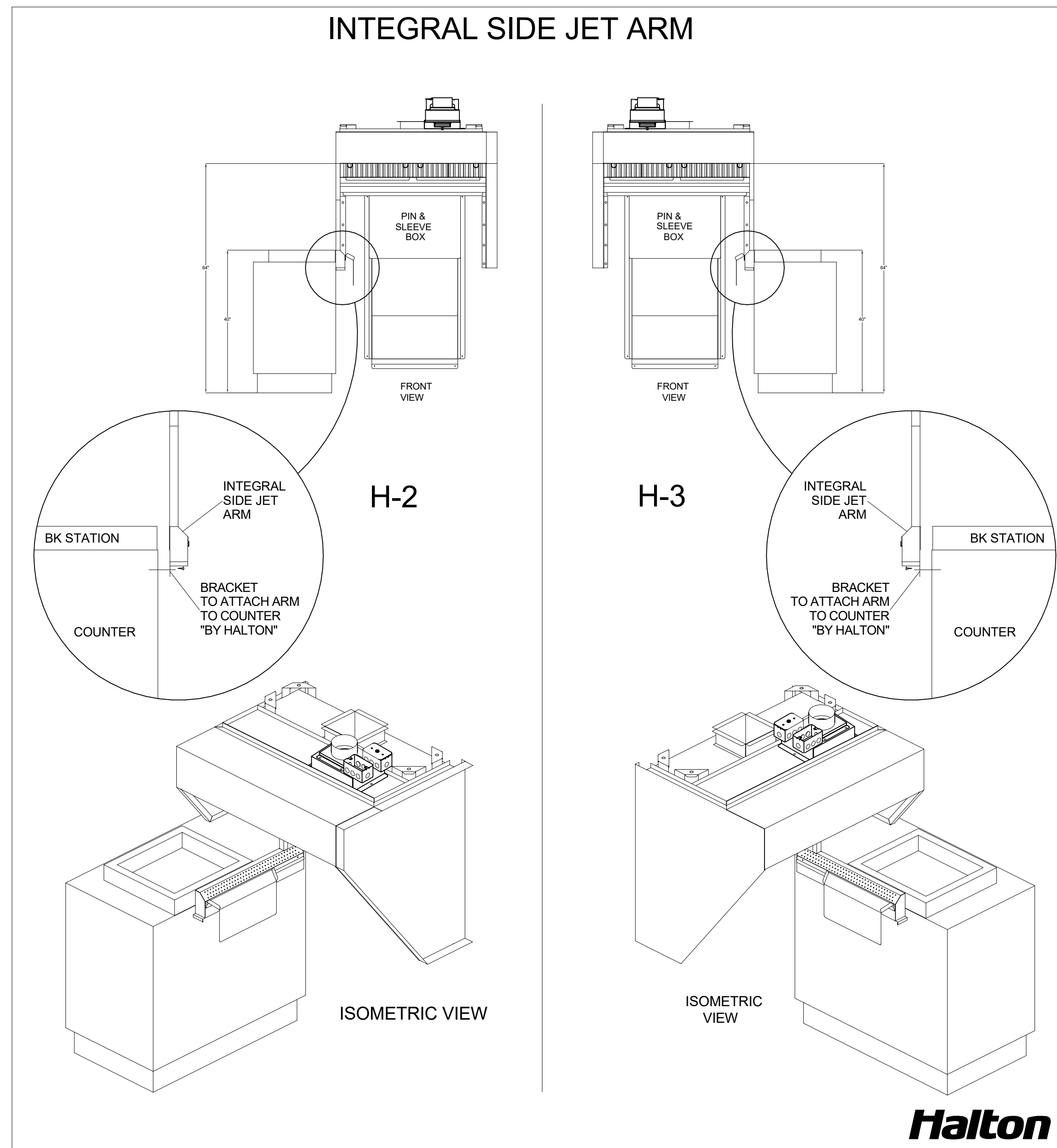
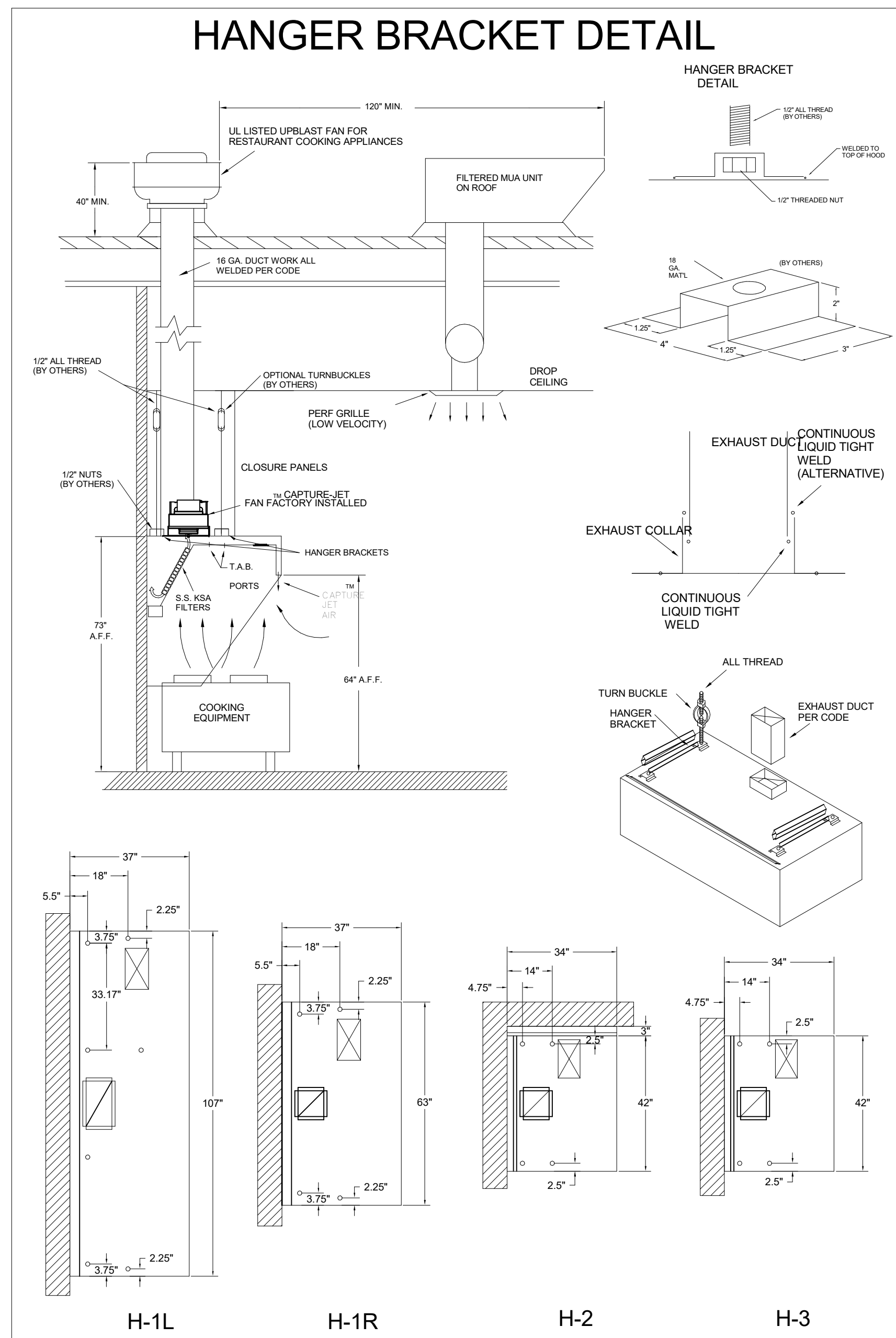
PROJECT: **CHICK-FL-A**
LOCATION: Michigan City FSU
DRAWN BY: DATE: 05/27/2024
SCALE: NTS
Halton Dwg:

Sheet

MH-1.1

Halton
CARE FOR INDOOR AIR

THE DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFYING THE FOLLOWING:
1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.
2. THE TYPE OF COOKING EQUIPMENT.
3. THE TYPE OF EXHAUST SYSTEM.
4. THE TYPE OF EXHAUST AIRFLOW.
5. THE TYPE OF EXHAUST AIRFLOW.
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HALTON HOODS
- ETL LISTED PER LATEST
710 STANDARD
- BUILT PER NFPA 96
- NSF LISTED

NSF **Halton** INTERTEK 3012225
 CONFORMS TO UL STD. UL STD 710 CERTIFIED TO UL STD 8646
 HALTON COMPANY, 101 INDUSTRIAL DR., SCOTTSVILLE, KY 42164
 MODEL NO. SERIAL NO. ITEM NO.
 KVL-C-4C

GENERAL REQUIREMENTS
 FILTER TYPE EXHAUST HOOD FOR COMMERCIAL AND INSTITUTIONAL KITCHENS
 THE HOOD IS PROVIDED WITH REPLACEMENT KSA FILTERS AND LIGHTING FIXTURES
 REPLACEMENT FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER
 THE HOOD IS PROVIDED WITH REPLACEMENT KSA FILTERS AND LIGHTING FIXTURES
 REPLACEMENT FILTERS ONLY WITH UL CLASSIFIED FILTER TYPE OF THE SAME MODEL AND MANUFACTURER
 SUITABLE FOR USE TO HEAVY DUTY COOKING APPLIANCES

| DUTY LEVEL | MINIMUM OVERHANG | DISTANCE BETWEEN FRONT EDGE OF HOOD AND COOKING SURFACE, IN | | MIN. EXHAUST CREST OF HOOD HEIGHT |
|------------|------------------|---|-----|-----------------------------------|
| | FRONT IN | SIDE IN | MIN | MAX |
| MEDIUM | 6 | 0 | 20 | 36 |
| MEDIUM | 6 | 0 | 20 | 32 |
| MEDIUM | 6 | 0 | 20 | 36 |
| HEAVY | 6 | 2 | 20 | 28 |
| HEAVY | 6 | 2 | 20 | 30 |
| HEAVY | 6 | 2 | 20 | 26 |

* RETRACK/UNDERHANG DISTANCE
 JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.30 IN/H2O

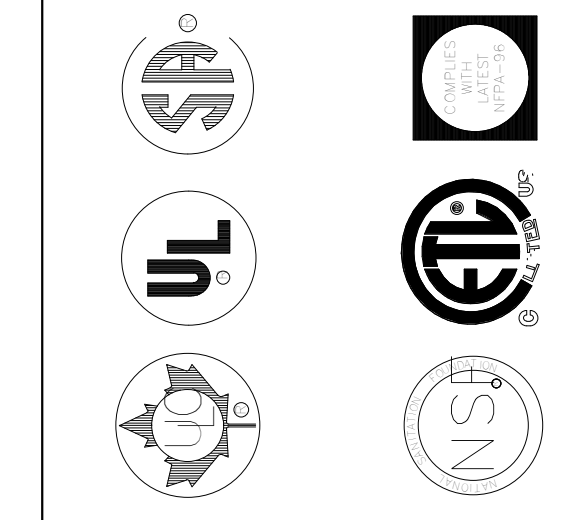
NSF **Halton** INTERTEK 3012225
 CONFORMS TO UL STD. UL STD 710 CERTIFIED TO UL STD 8646
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|------------|------------------|---|-----|-----------------------------------|
| | FRONT IN | SIDE IN | MIN | MAX |
| MEDIUM | 6 | 0 | 20 | 36 |
| MEDIUM | 6 | 0 | 20 | 32 |
| MEDIUM | 6 | 0 | 20 | 36 |
| HEAVY | 6 | 2 | 20 | 28 |
| HEAVY | 6 | 2 | 20 | 30 |
| HEAVY | 6 | 2 | 20 | 26 |

* RETRACK/UNDERHANG DISTANCE
 JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.30 IN/H2O

FOR REFERENCE ONLY



MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY. BELOW WEBSITE: WWW.HALTONCOMPANY.COM

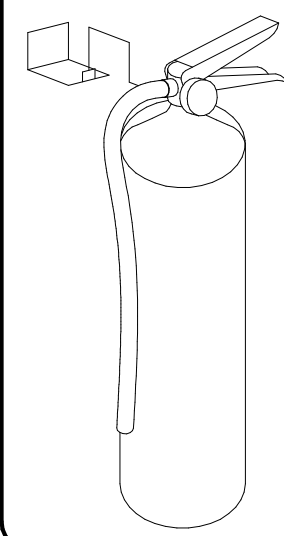
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|------|------|----|----------------------|
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| 6 | | | |
| 7 | | | |

CHICK-FLA

PROJECT: Michigan City FSU
 LOCATION: Michigan City FSU
 DRAWN BY: DATE: 05/27/2024
 SCALE: NTS
 Halton Dwg:

ISO VIEW
W/BRACKET

FIRE EXTINGUISHER



| | |
|---------------------------------|-----------|
| ANSUL | QTY _____ |
| 13051 5 LBS ABC MODEL AA05 | QTY _____ |
| 13052 10 LBS ABC MODEL AA10S | QTY _____ |
| 13053 6 LTR CLASS K-GUARD K01-3 | QTY _____ |

SUPPLIED BY
HALTON

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

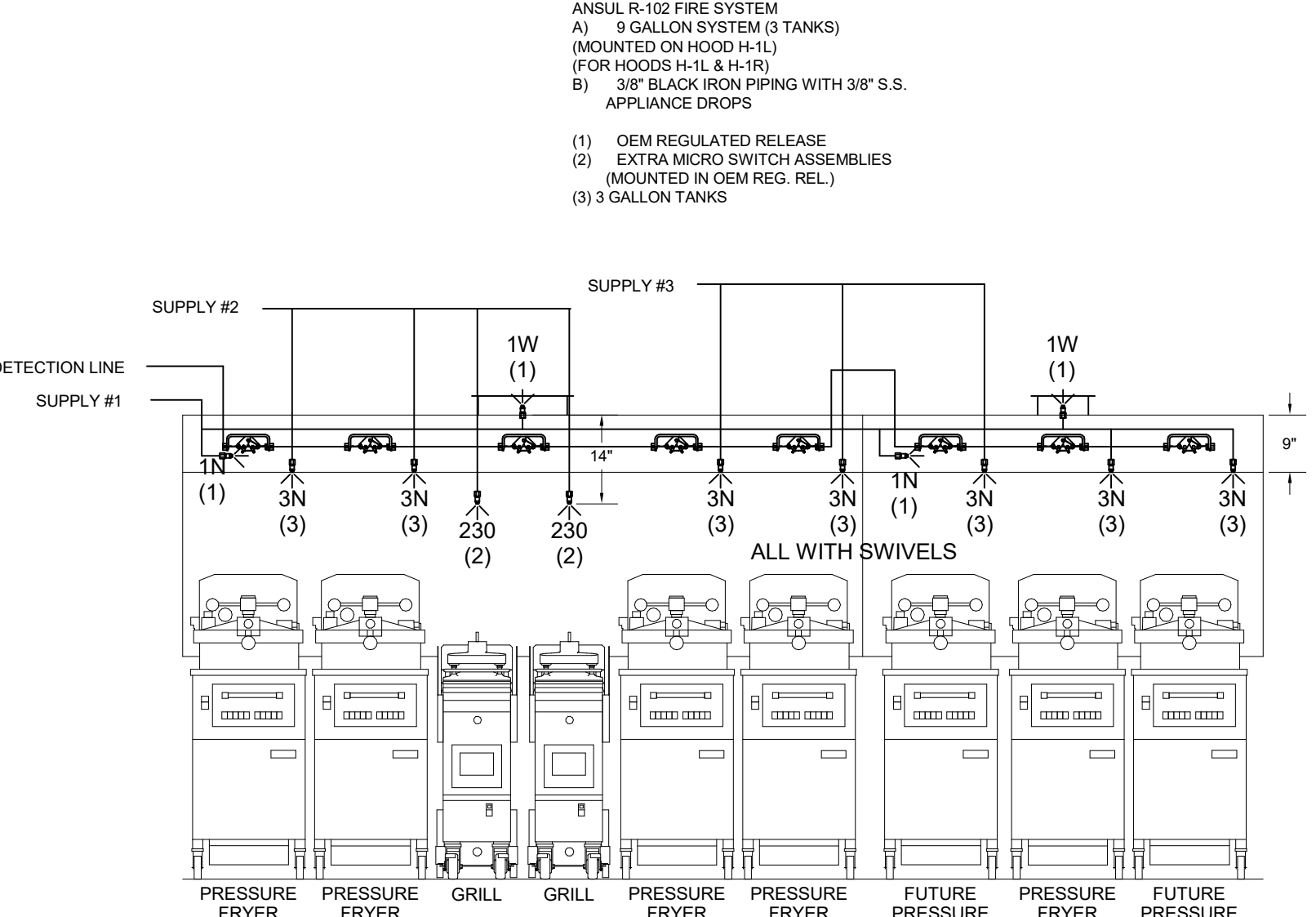
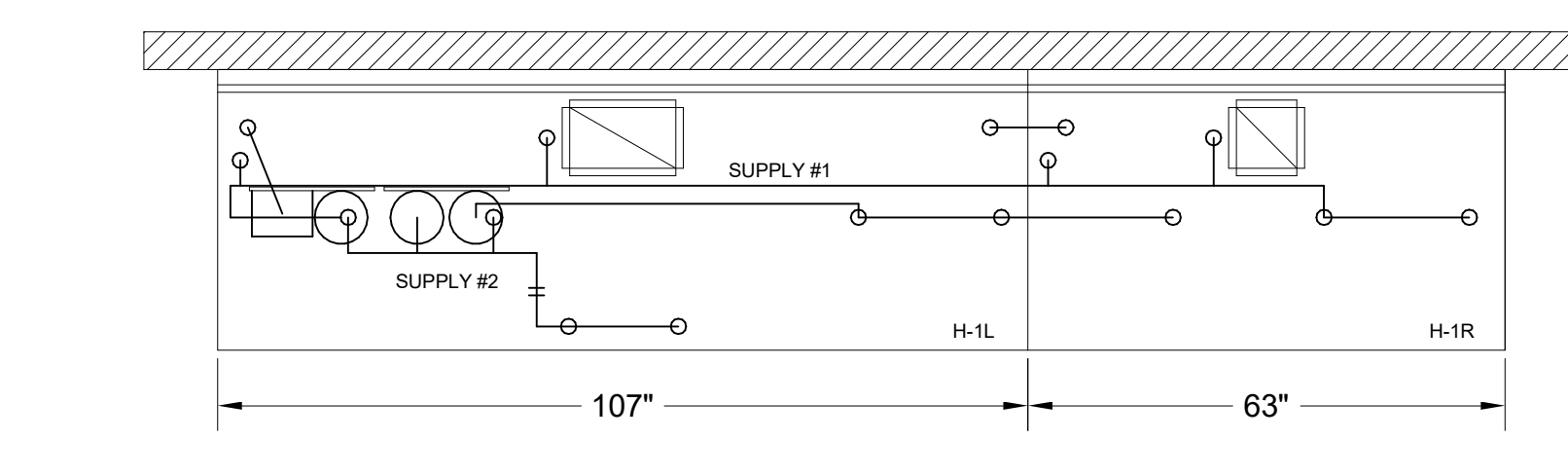
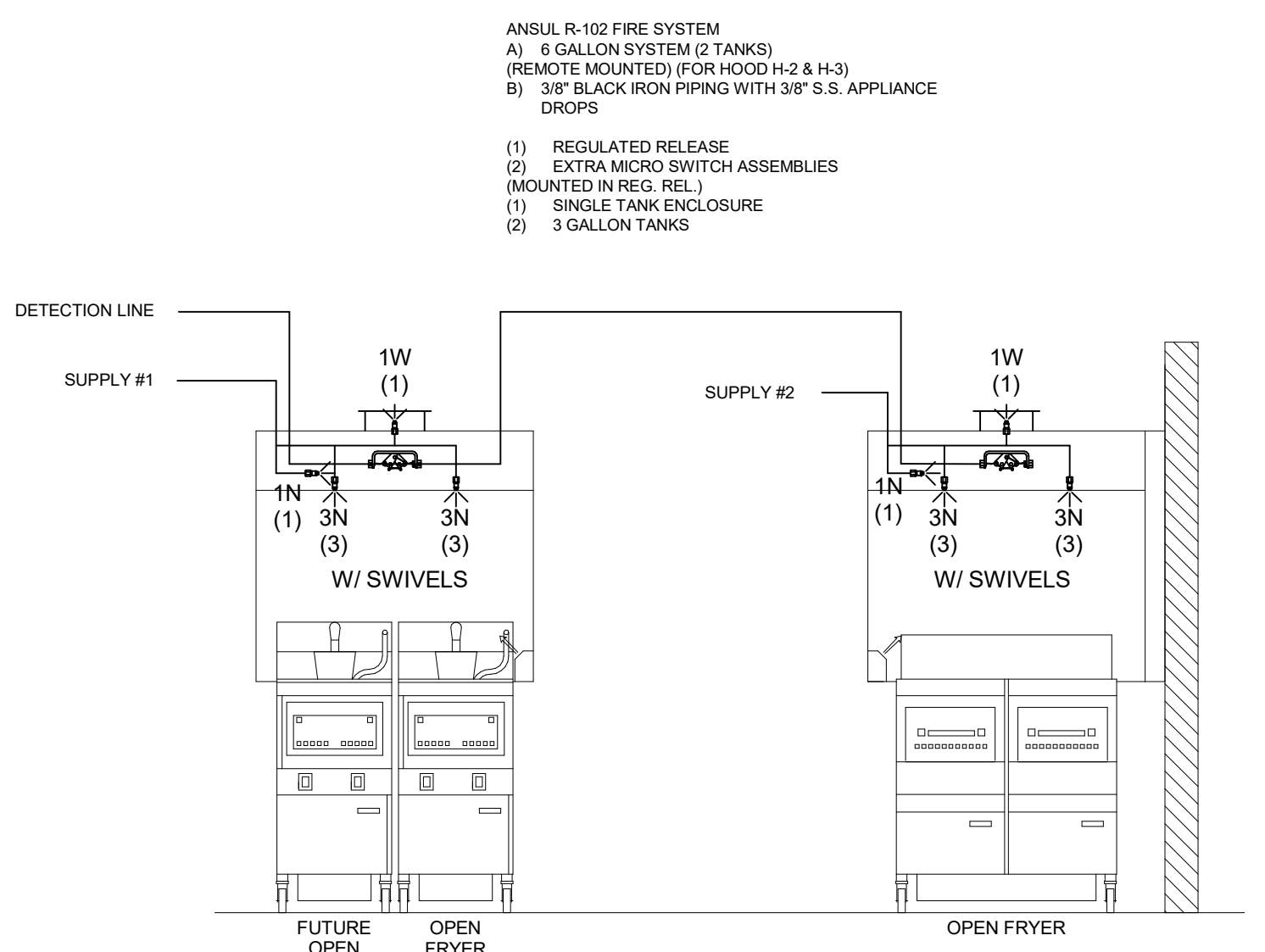
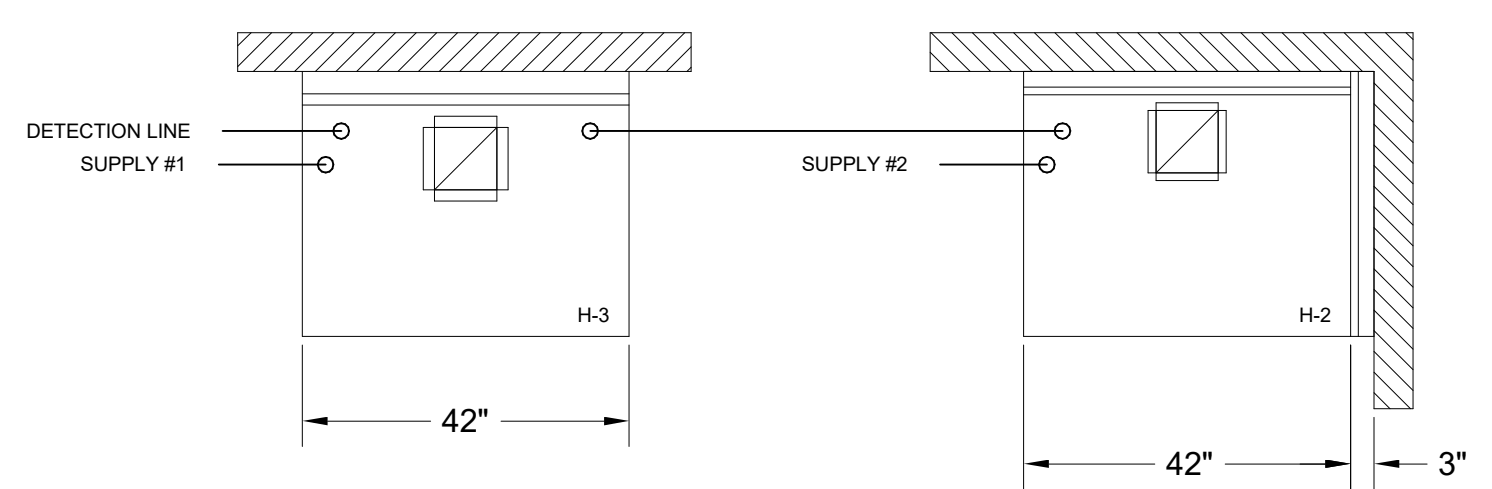
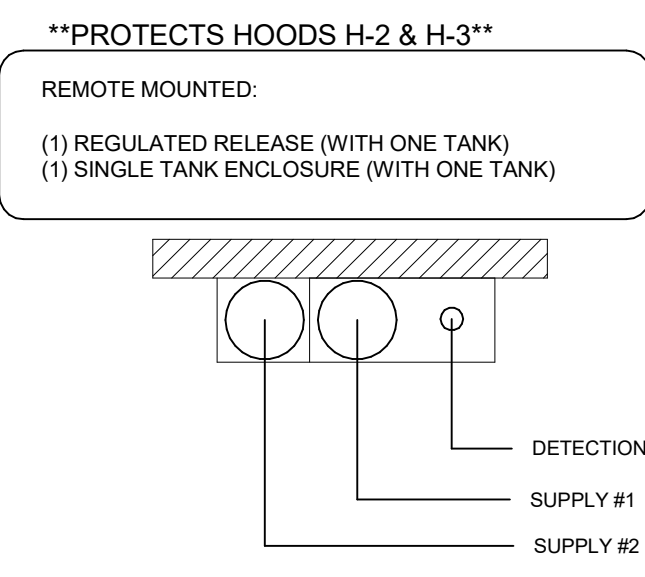
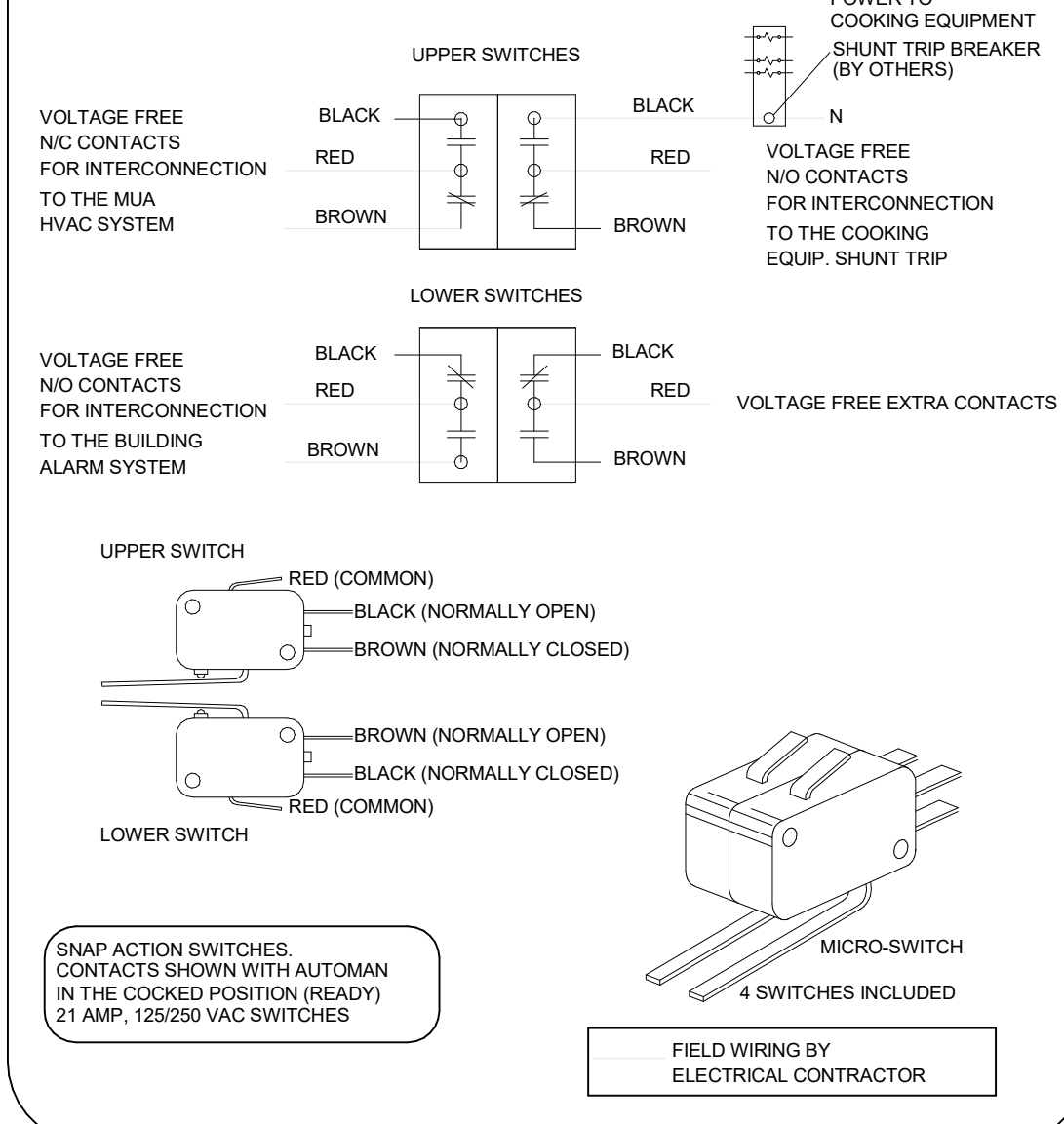
ANSUL

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 | PART # | QTY | DESCRIPTION | FLOW PTS (TOTAL) |
|-------------------|--------|-------------|---|------------------|
| 1W | 10023 | 4 | DUCT NOZZLES | 4 |
| 1N | 10022 | 4 | PLENUM NOZZLES | 4 |
| 230 | 10025 | 2 | APPLIANCE NOZZLES | 4 |
| 3N | 10021 | 11 | APPLIANCE NOZZLES | 33 |
| TOTAL FLOW POINTS | | | | 45 |
| ITEM | QTY | DESCRIPTION | | |
| #200 | 10035 | 8 | SERIES DETECTORS W/ FUSIBLE LINKS | |
| #201 | 11973 | 2 | TERMINAL DETECTORS W/ FUSIBLE LINKS | |
| #202 | 10046 | 1 | OEM REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH | |
| #202 | 10033 | 1 | REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH | |
| #203 | 10333 | 5 | 3 GALLON TANKS | |
| #204 | 10044 | 1 | SINGLE TANK ENCLOSURE | |
| #205 | 10040 | 2 | REMOTE PULL STATION | |
| #206 | 10065 | 4 | DOUBLE TANK NITROGEN CARTRIDGE | |
| #207 | 11128 | 5 | 3 GALLON ANSULEX CONTAINER | |

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

ANSUL MICROSWITCH DETAIL

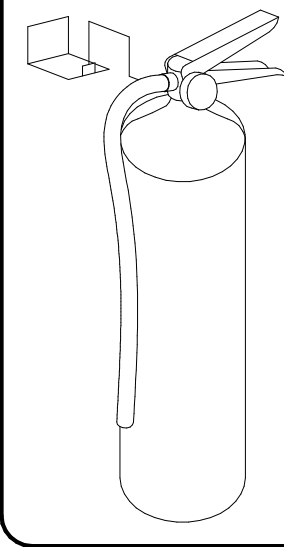


ANSUL R-102 FIRE SYSTEM LAYOUT

FOR REFERENCE ONLY

ISO VIEW
W/BRACKET

FIRE EXTINGUISHER



| | |
|---------------------------------|-----------|
| AMEREX | QTY _____ |
| 11238 5 LBS ABC MODEL B402 | QTY _____ |
| 11239 10 LBS ABC MODEL B456 | QTY _____ |
| 11240 6 LTR CLASS K MODEL C-260 | QTY _____ |

SUPPLIED BY
HALTON

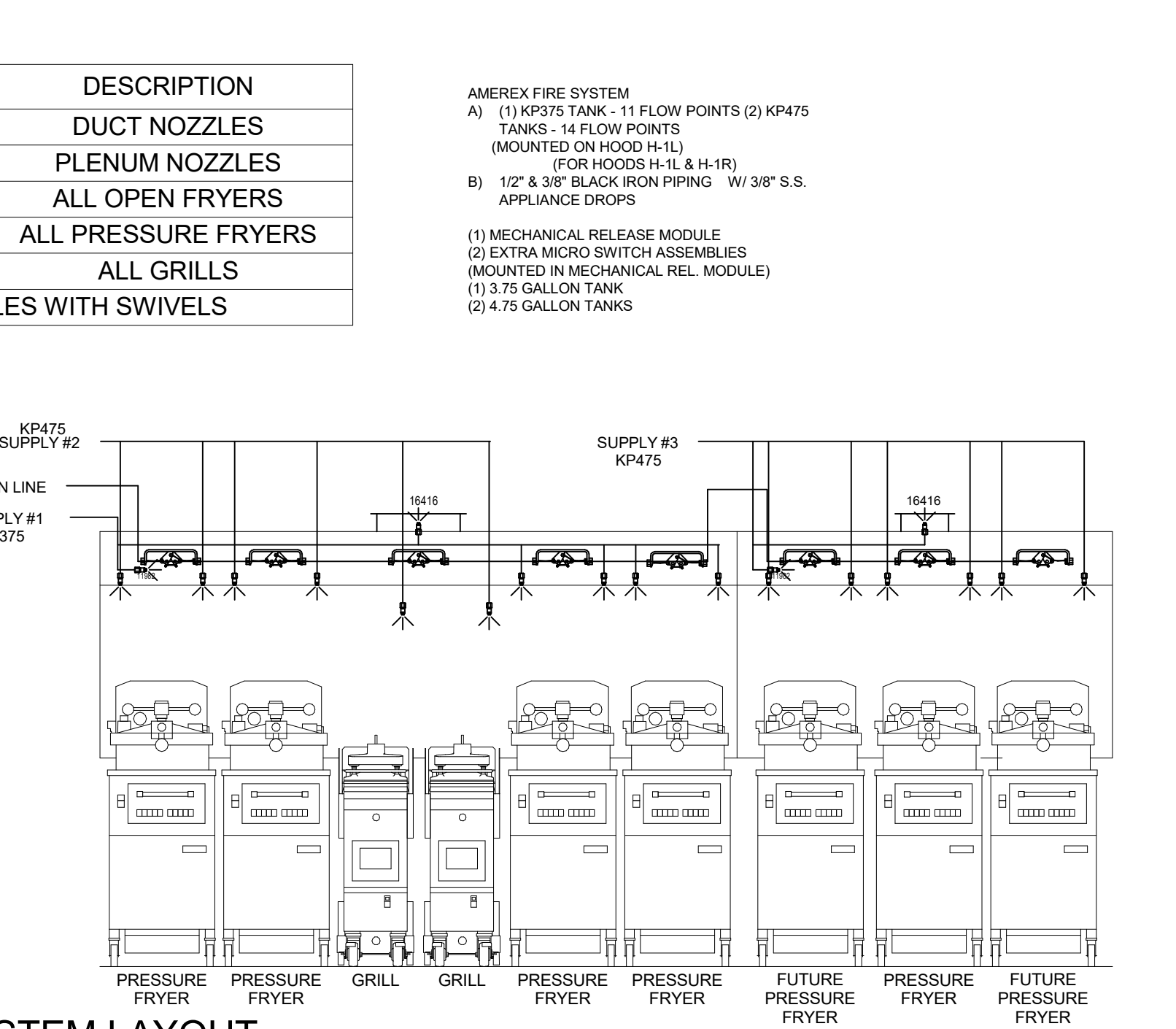
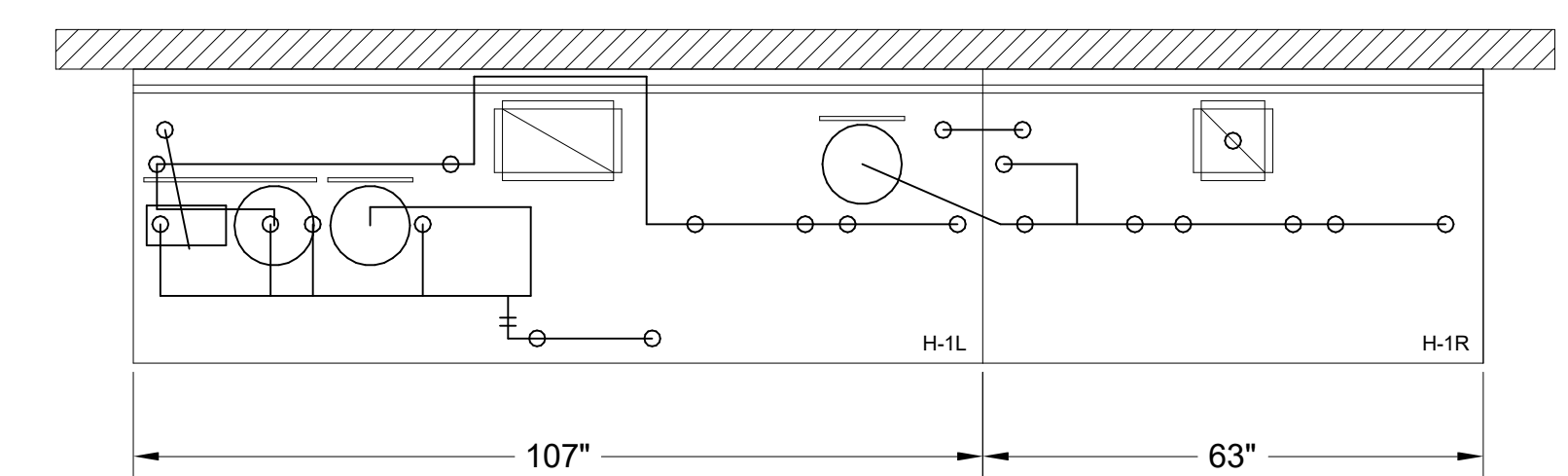
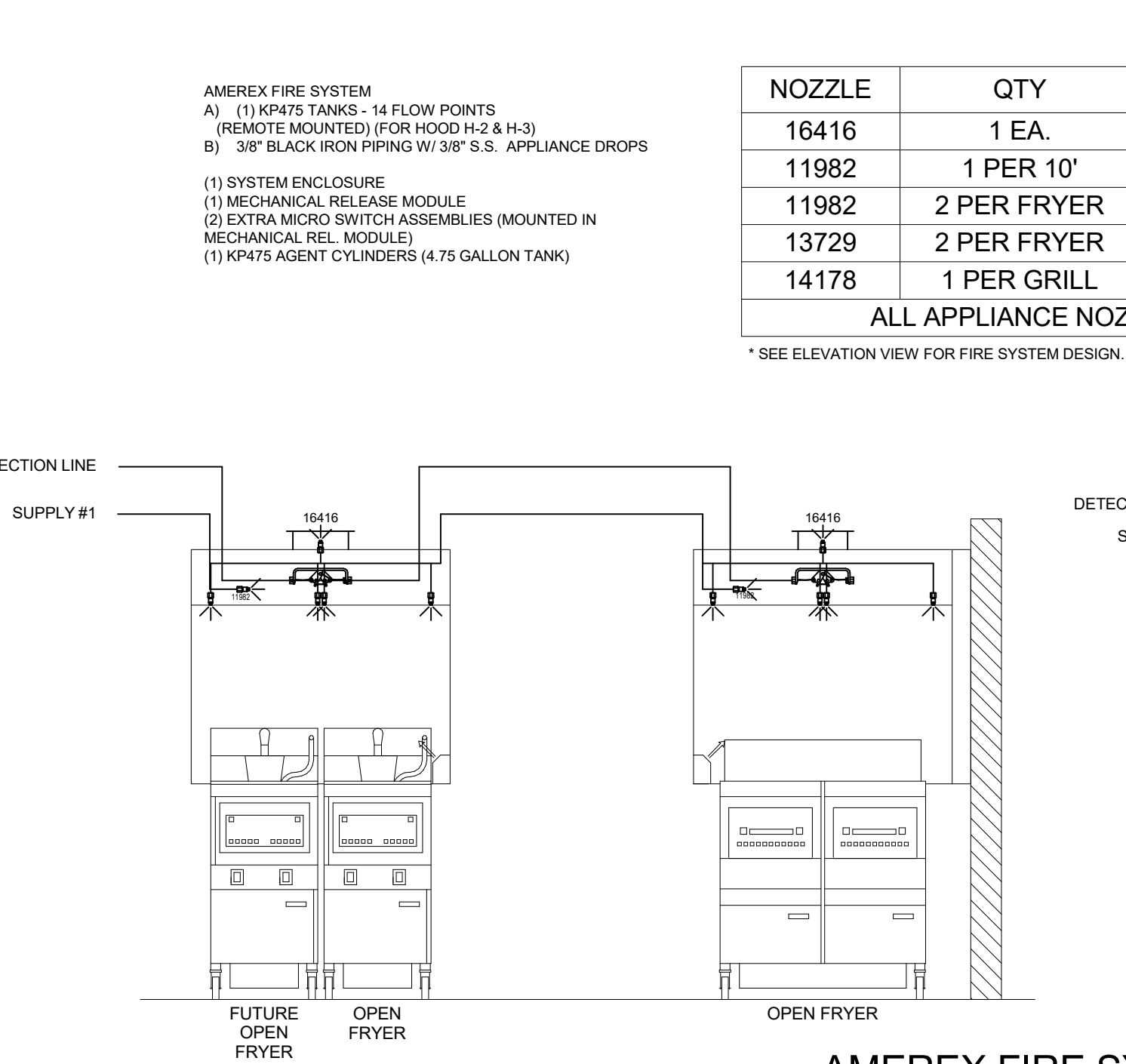
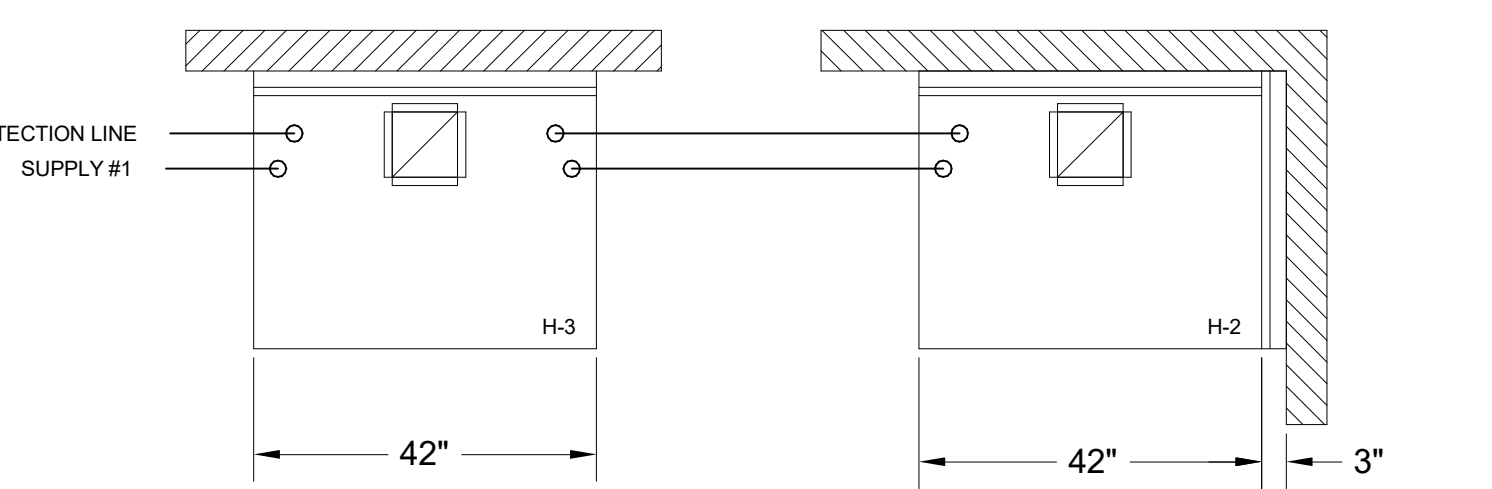
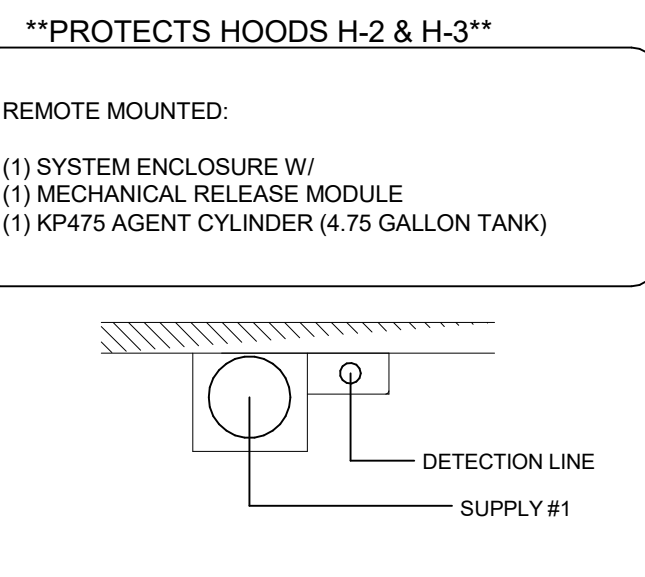
AMEREX

FUSIBLE LINK RATINGS
ITEM TEMP
OPEN FRYERS 450°
2 BURNER / FLAT TOP 450°
PRESSURE FRYERS 450°
GRILL 450°
EXHAUST COLLARS 450°
AMEREX FIRE SYSTEM NOTES
(1) KP475 & (2) KP475 TANK SYSTEM MOUNTED ON TOP OF (H-1L)
MAXIMUM FLOW POINTS = 39
AMEREX FIRE SYSTEM NOTES
(1) KP475 TANK SYSTEM REMOTE MOUNTED
MAXIMUM FLOW POINTS = 14

| ITEM | QTY | DESCRIPTION | FLOW PTS (TOTAL) |
|-------------------|-----|---|------------------|
| 16416 | 4 | DUCT NOZZLES | 4 |
| 11982 | 4 | PLENUM NOZZLES | 4 |
| 11982 | 8 | APPLIANCE NOZZLES | 8 |
| 14178 | 2 | APPLIANCE NOZZLES | 4 |
| 13729 | 14 | APPLIANCE NOZZLES | 28 |
| TOTAL FLOW POINTS | | | 48 |
| ITEM | QTY | DESCRIPTION | |
| 12508-P001 | 10 | DETECTORS BRACKET ASSEMBLY | |
| 13334 | 1 | KP375 AGENT CYLINDER | |
| 17379 | 3 | KP475 AGENT CYLINDER | |
| 18001 | 1 | MECHANICAL RELEASE MODULE WITH ENCLOSURE WITH DOUBLE POLE MICRO SWITCH | |
| 11977 | 1 | MECHANICAL RELEASE MODULE WITHOUT ENCLOSURE WITH DOUBLE POLE MICRO SWITCH | |
| 21481 | 2 | REMOTE MANUAL PULL STATION | |

AMEREX 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 AMEREX INSTALLER
3. REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS

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



AMEREX FIRE SYSTEM LAYOUT

| NOZZLE | QTY | DESCRIPTION |
|------------------------------------|-------------|---------------------|
| 16416 | 1 EA. | DUCT NOZZLES |
| 11982 | 1 PER 10' | PLENUM NOZZLES |
| 11982 | 2 PER FRYER | ALL OPEN FRYERS |
| 13729 | 2 PER FRYER | ALL PRESSURE FRYERS |
| 14178 | 1 PER GRILL | ALL GRILLS |
| ALL APPLIANCE NOZZLES WITH SWIVELS | | |

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY. BELOW WEBSITE: WWW.HALTONCOMPANY.COM

PROJECT: **CHICK-FL-A**

LOCATION: Michigan City FSU

DRAWN BY: DATE: 05/27/2024

SCALE: NTS

Halton Dwg: _____

Sheet **MH-1.3**

REVISION: 1 2 3 4 5 6 7

DATE: _____

BY: _____

REVISION DESCRIPTION: _____

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

HALTON CO. (USA)
101 INDUSTRIAL DRIVE
SCOTTSDALE, AZ 85264
1-270-237-5600

SN# 05983

REVISION: 1 2 3 4 5 6 7

DATE: _____

BY: _____

REVISION DESCRIPTION: _____

UL LISTED PER STD LATEST STD 300

UL

ANSI

CSA

ETL

NSI

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ISO 14001

ISO 45001

ISO 50001

ISO 26000

ISO 27001

ISO 27002

ISO 27005

ISO 27006

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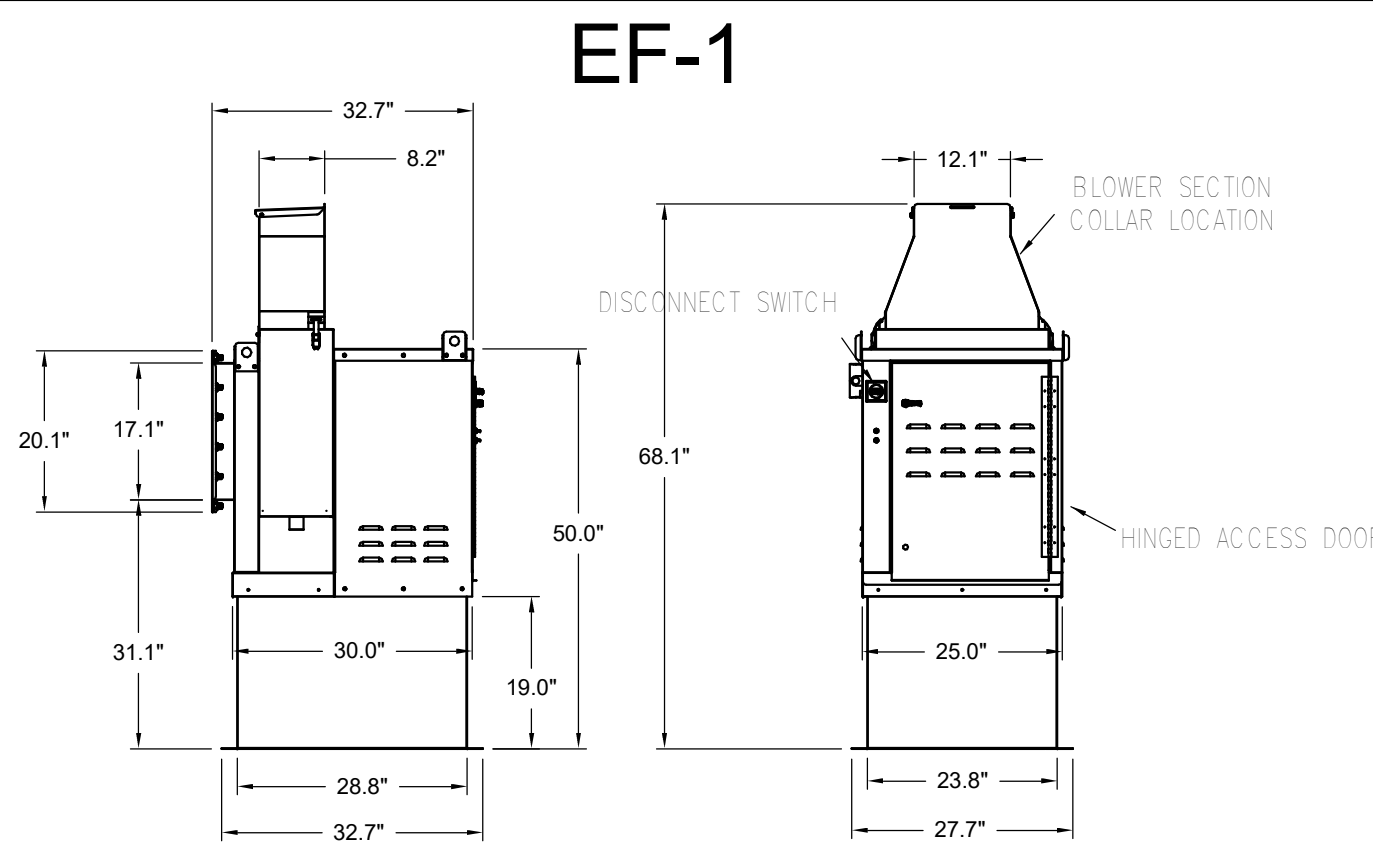
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ISO 27581

ISO 27582

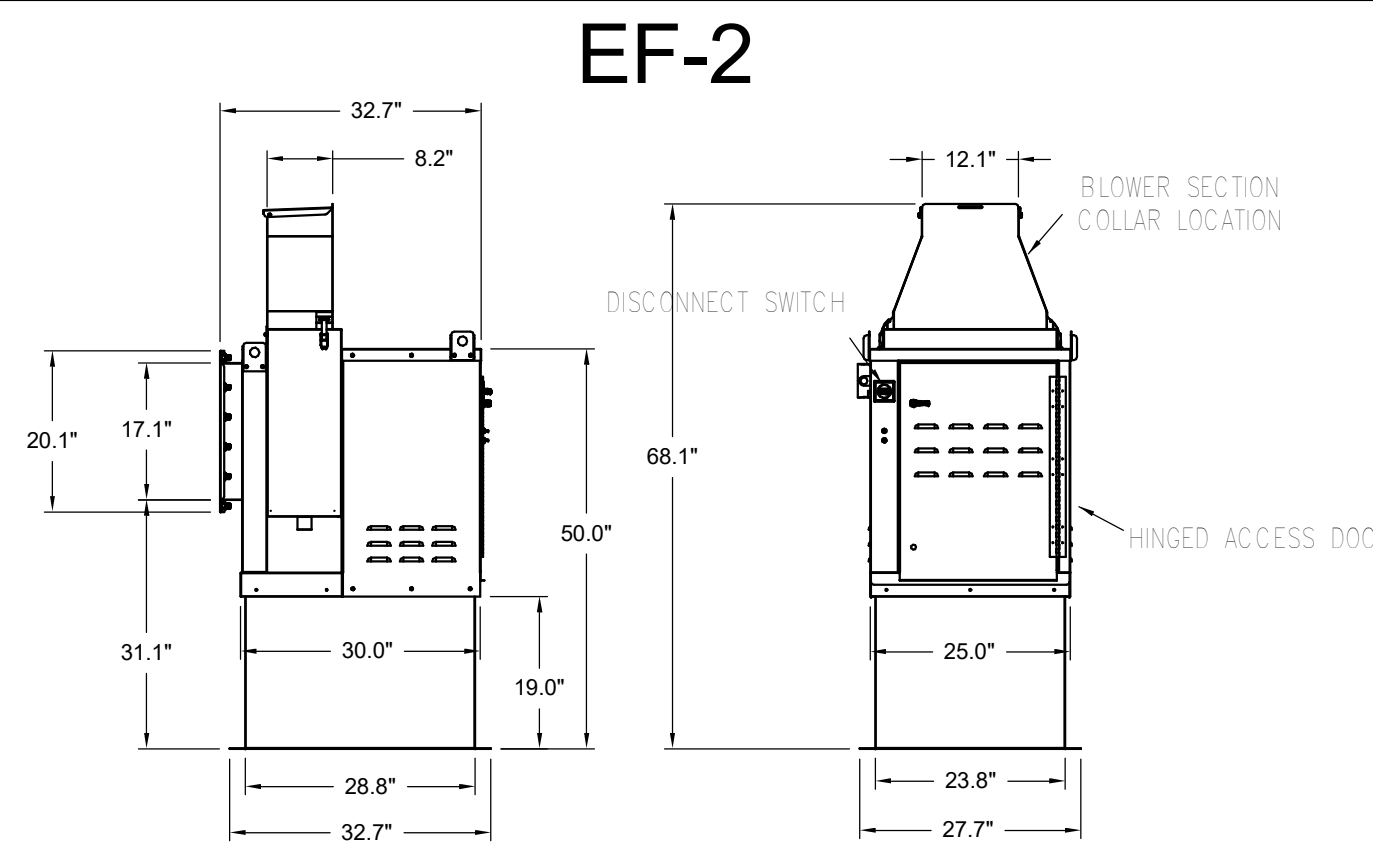
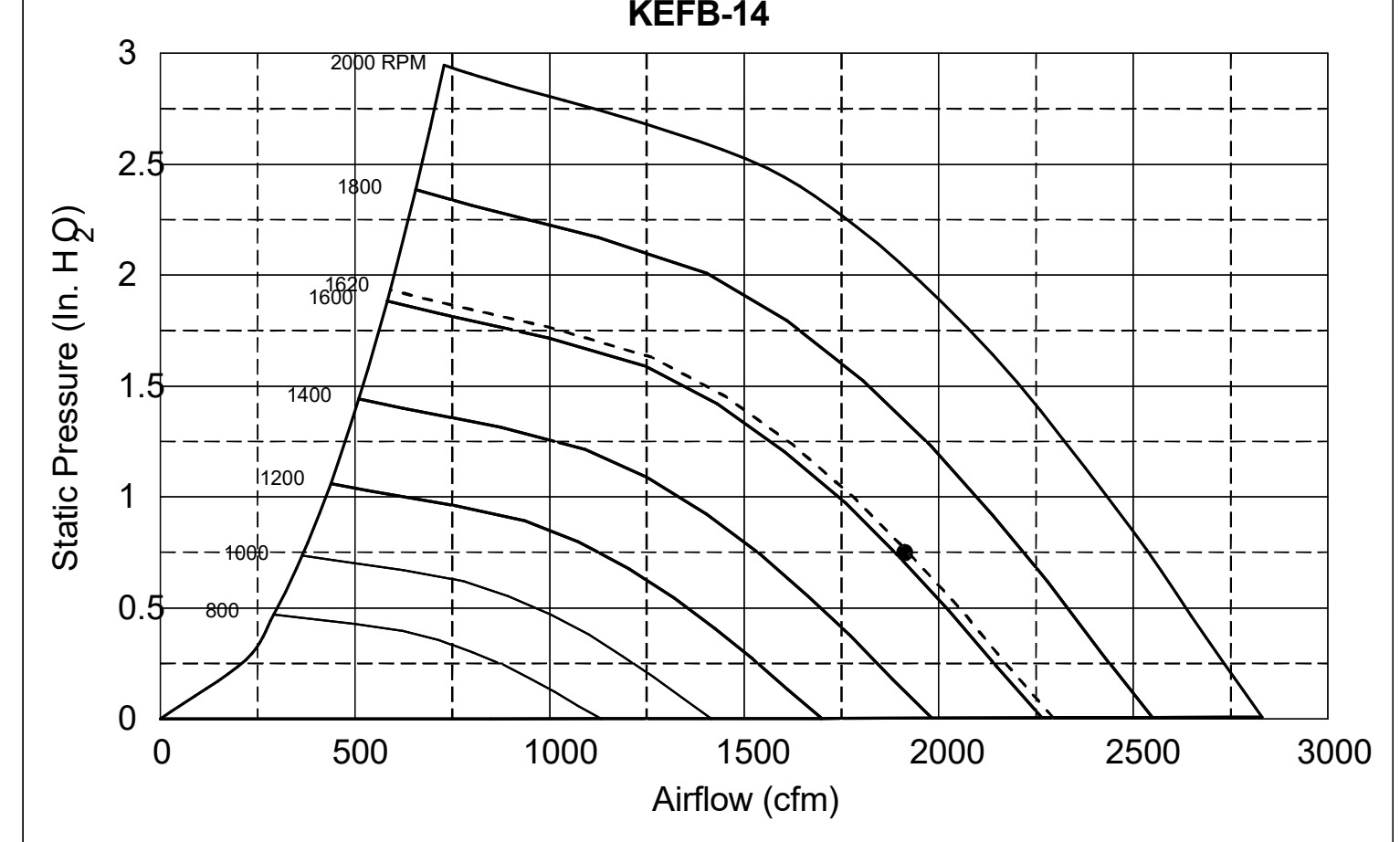
ISO 27583

ISO 27584</



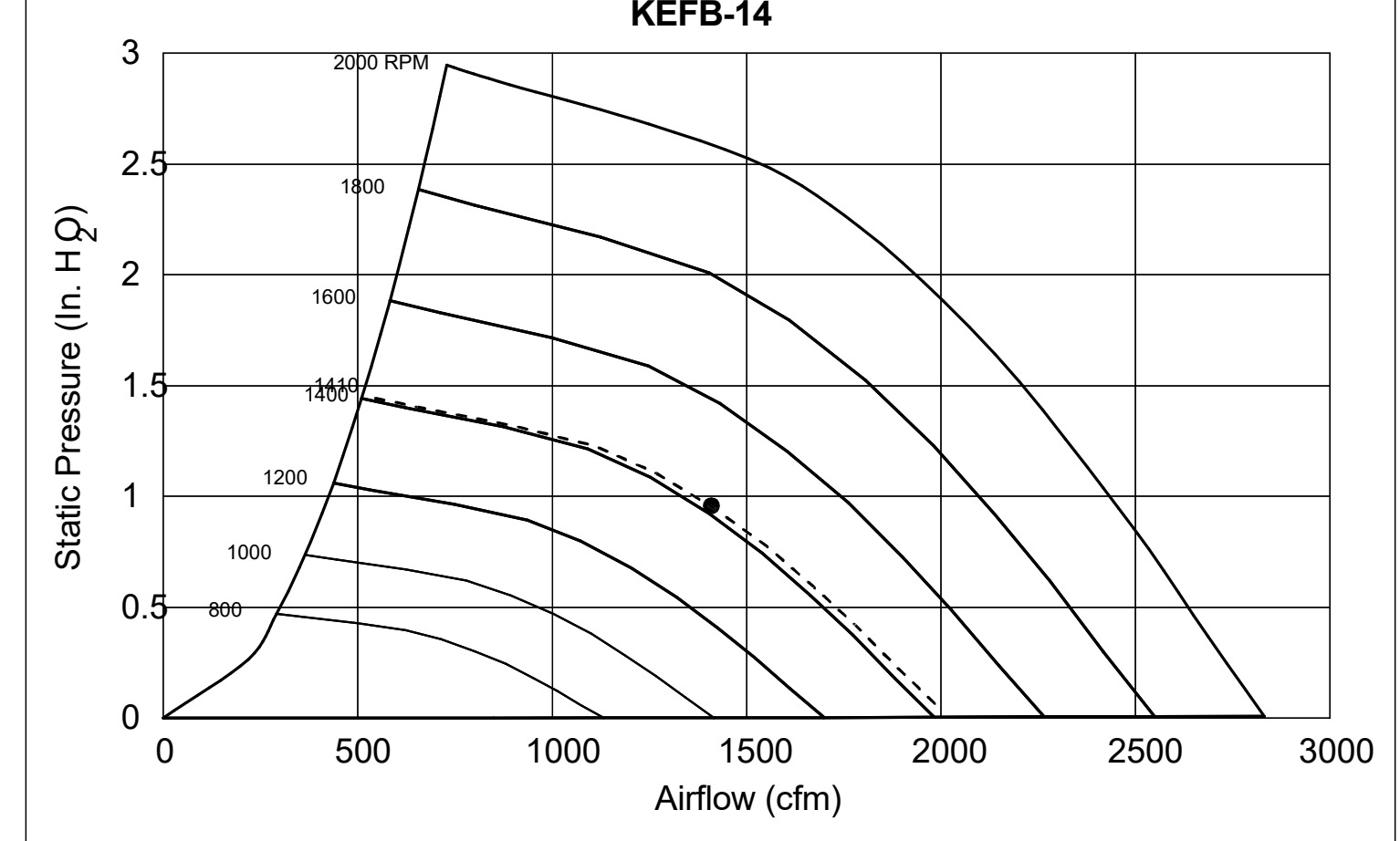
Halton KEFB Exhaust Fan

| | | | | | | | | | | | | | | | | | |
|----------|-----------|----------|---------|---------|------|--------------|---------------|----------|------|----------|------|------------------------|------|----|------|-----------------|-----|
| Job Name | Chick-FLA | Location | EF-1 | Item No | 1747 | Qty | Volts/Ph/Amps | 115/1/60 | | | | | | | | | |
| Date | 1/26/2023 | Model | KEFB-14 | Fan RPM | 1522 | Airflow, cfm | 1,402 | Fan BHP | 0.36 | Motor HP | 0.75 | Static Pressure, in WC | 0.85 | dB | 81.6 | TAB Port, in WC | 2.1 |



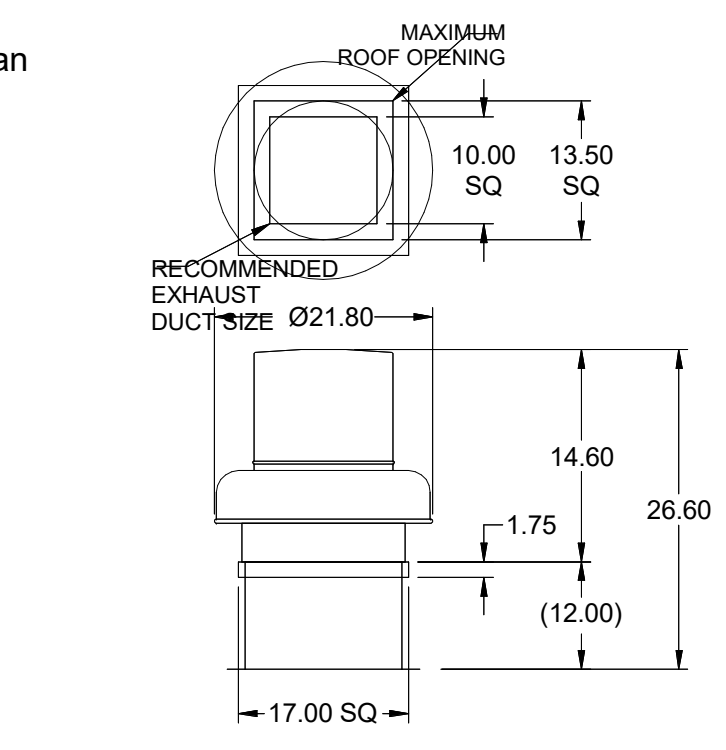
Halton KEFB Exhaust Fan

| | | | | | | | | | | | | | | | | | |
|----------|-----------|----------|---------|---------|------|--------------|---------------|----------|------|----------|------|------------------------|------|----|------|-----------------|-----|
| Job Name | Chick-FLA | Location | EF-2 | Item No | 1522 | Qty | Volts/Ph/Amps | 115/1/60 | | | | | | | | | |
| Date | 1/26/2023 | Model | KEFB-14 | Fan RPM | 1522 | Airflow, cfm | 1,402 | Fan BHP | 0.36 | Motor HP | 0.75 | Static Pressure, in WC | 0.85 | dB | 81.6 | TAB Port, in WC | 2.1 |



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

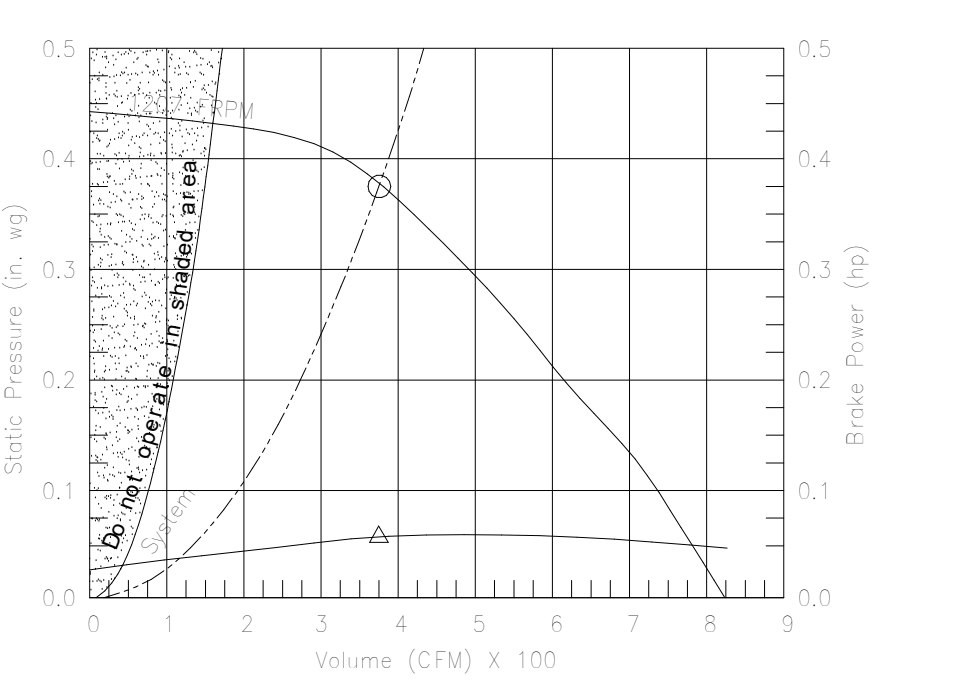
| Dimensional | |
|-------------------------------|-------------|
| Quantity | 1 |
| Weight w/ Acc's (lb) | 28 |
| Weight w/ Acc's and Curb (lb) | 35 |
| Weight w/ Acc's and Curb (lb) | 49 |
| Standard Curb Cap Size (in.) | 17 x 17 |
| Optional Damper (in.) | 10 x 10 |
| Roof Opening (in.) | 13.5 x 13.5 |
| Performance | |
| Requested Volume (CFM) | 375 |
| Actual Volume (CFM) | 375 |
| Total External SP (in. wg) | 0.375 |
| Fan RPM | 1207 |
| Operating Power (hp) | 0.06 |
| Elevation (ft) | 23 |
| Airstream Temp (F) | 70 |
| Air Density (lb/ft3) | 0.075 |
| Tip Speed (ft/min) | 3,437 |
| Static Eff. (%) | 41 |
| Misc Fan Data | |
| Fan Eff. Index (FEI) | - |
| Outlet Velocity (ft/min) | 323 |



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

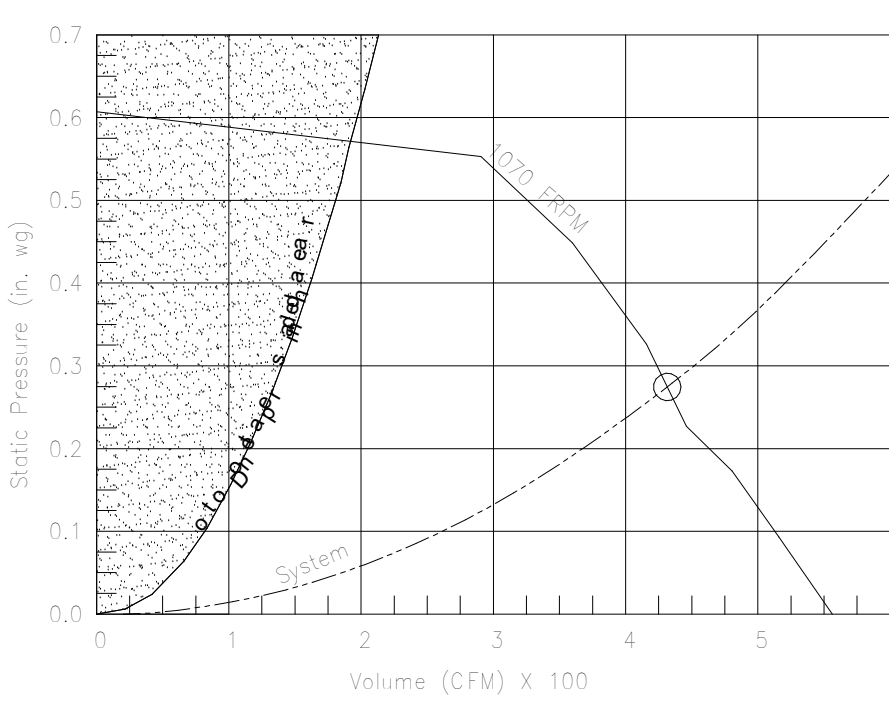
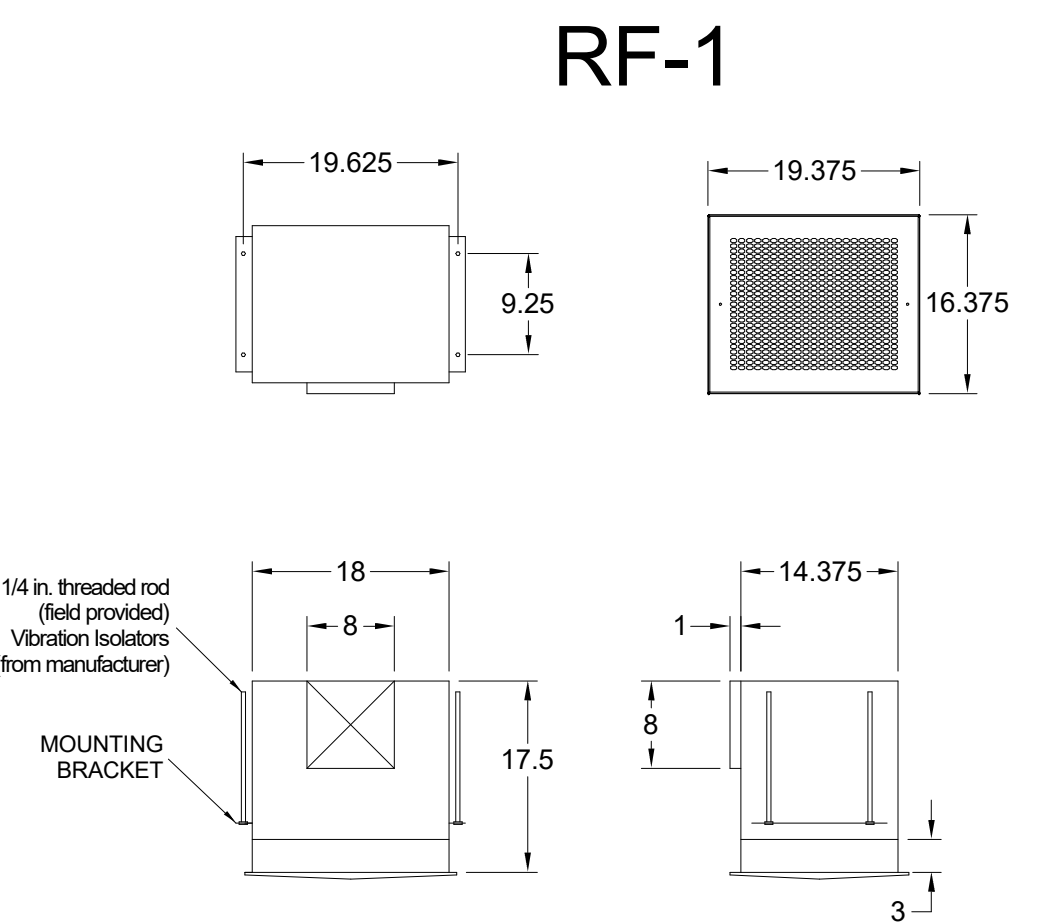
EF-3

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.



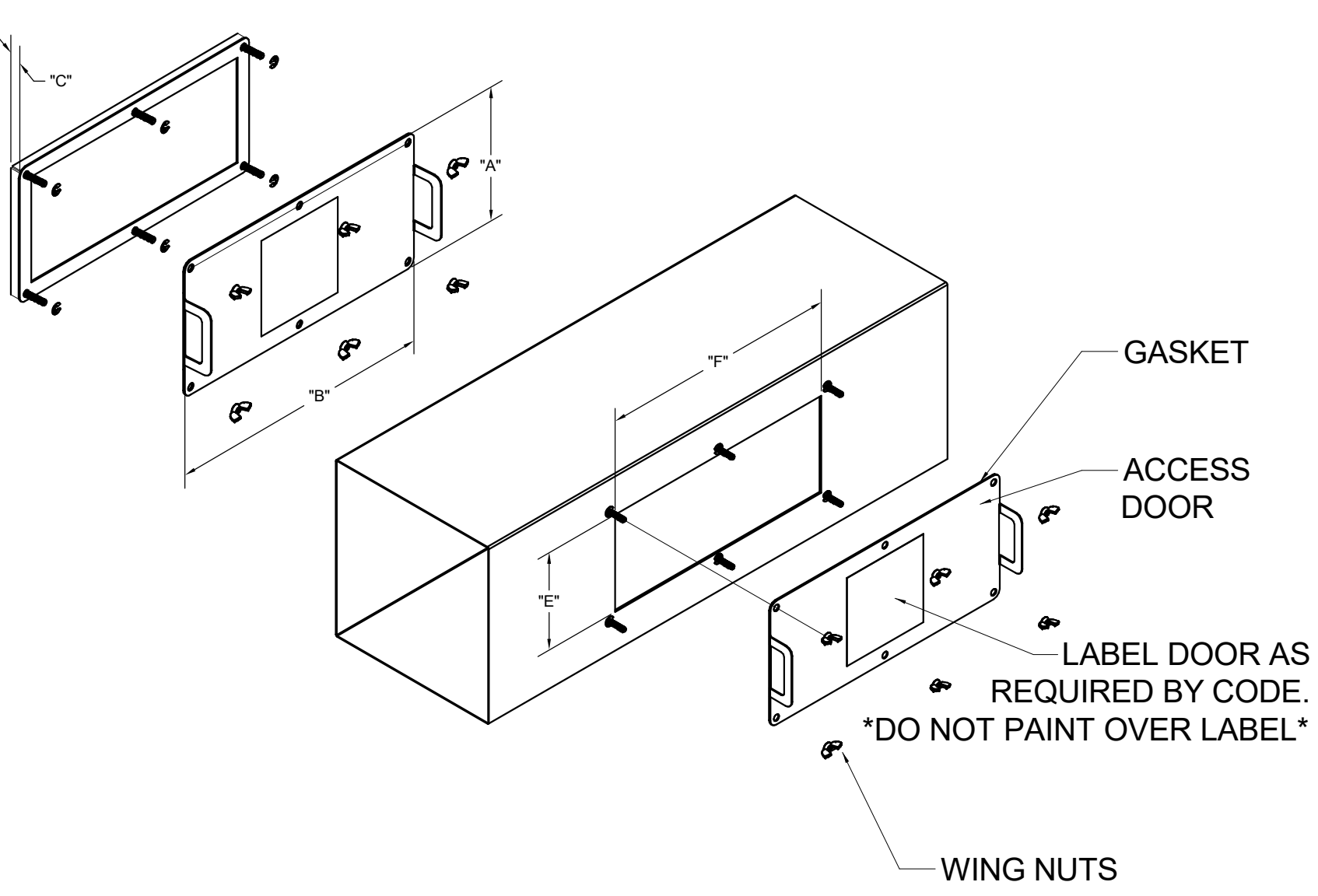
Model: SP-A510-VG

| 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/ft3) | 0.075 |
| Sones | 4.5 |
| Motor | |
| Motor Mounted | Yes |
| ** Input Watts (W) | 224 |
| Voltage/Cycle/Phase | 115/60/1 |
| Enclosure | ODP |

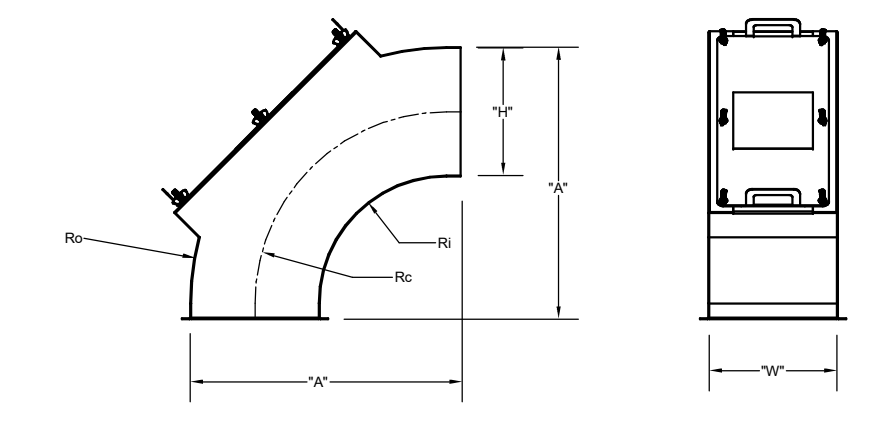
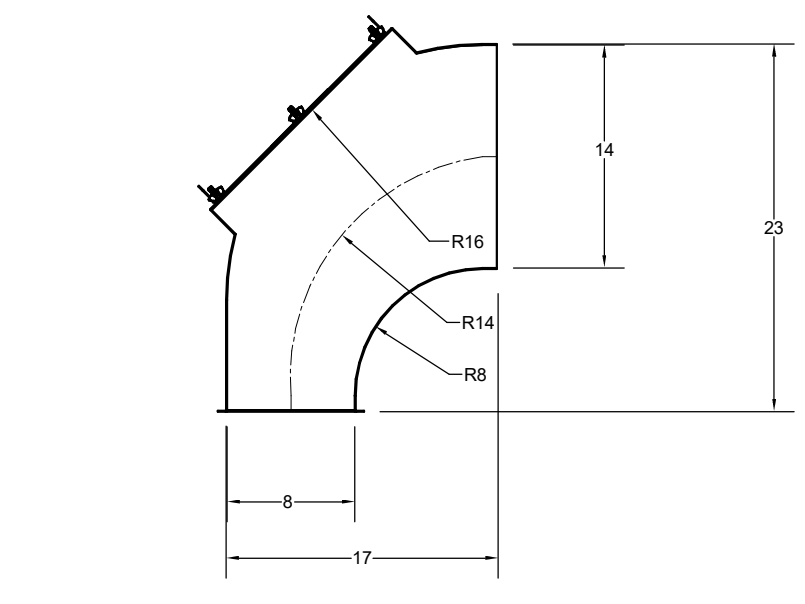


| GREASE ACCESS DOOR SCHEDULE | | | | | |
|-----------------------------|-----------|-----|------|-----------------|---------|
| MODEL | DOOR SIZE | "A" | "B" | OPTIONAL FLANGE | OPENING |
| KAP0715 | 7 | 15 | FLAT | 5.5 | 13.5 |
| KAP1015 | 10 | 15 | 1/2 | 7 | 12 |

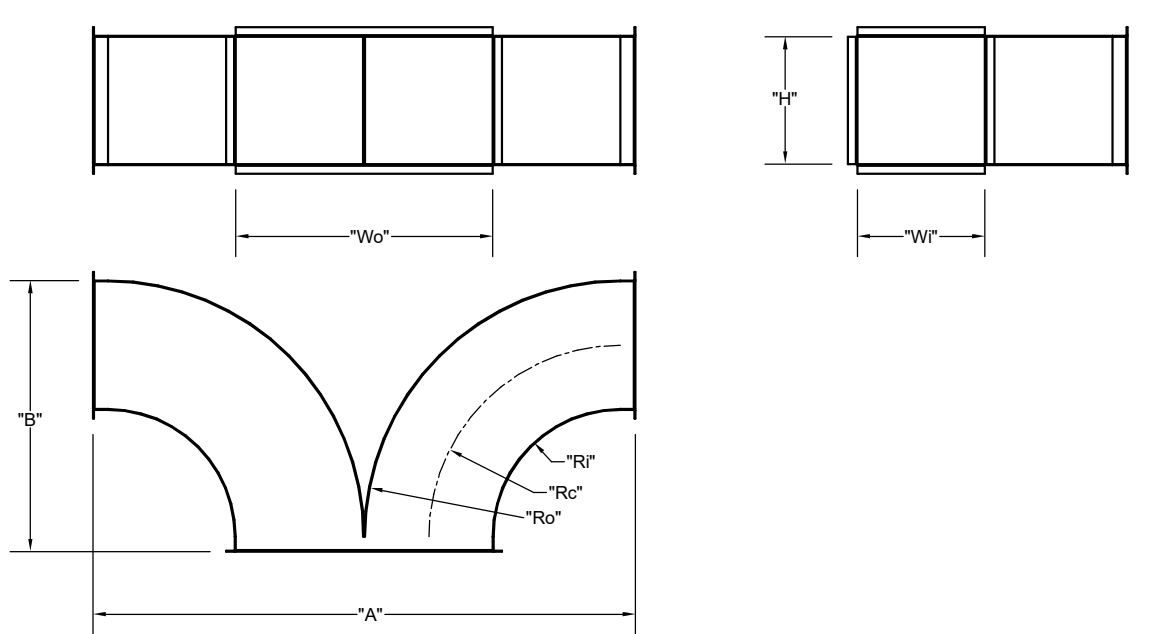
ACCESS DOORS SHALL BE U.L. 1978 LISTED OR FIELD FABRICATED. REQUIRE NO TOOLS FOR REMOVAL AND MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE IMC. ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOORS SHALL BE SEALED WITH A MINIMUM 1500 DEREET GASKET MATERIAL.



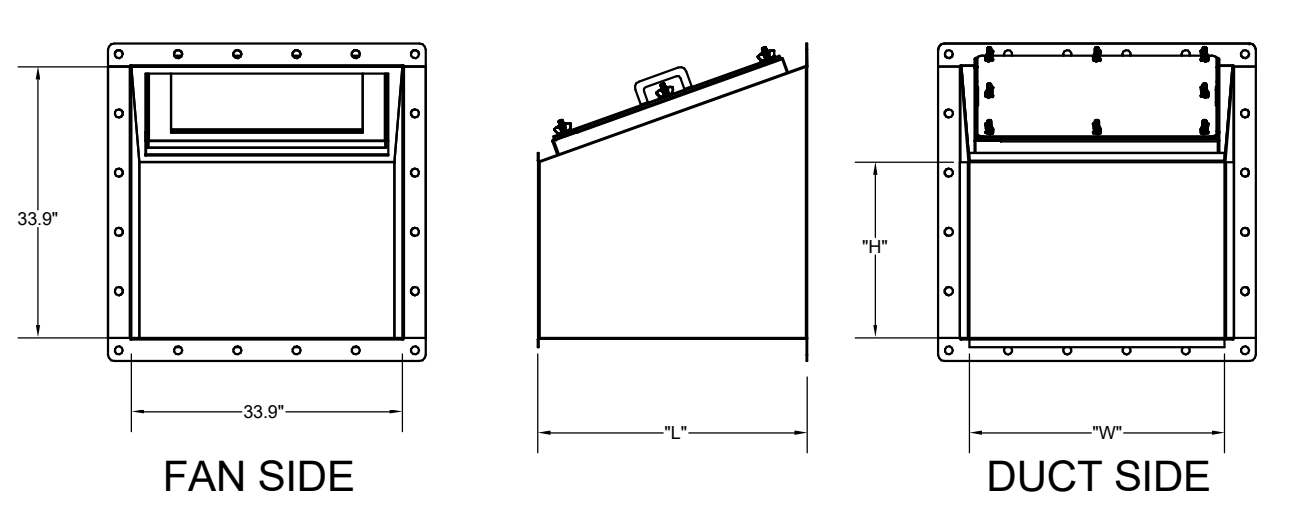
INSTALL PER MANUFACTURER'S INSTRUCTIONS



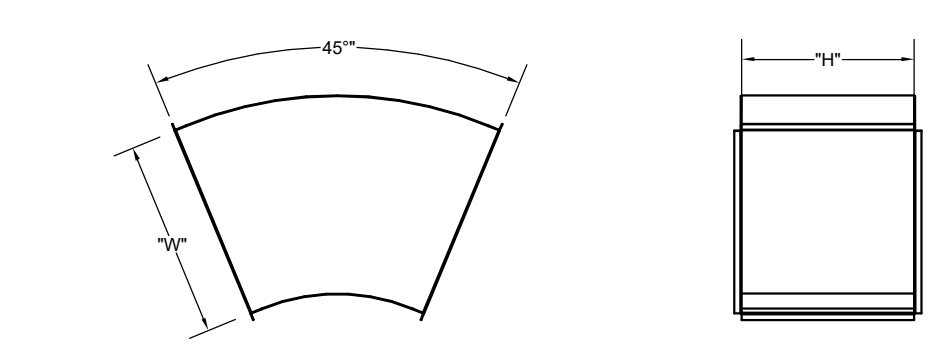
| "H" | "W" | "A" | Ro | Rc | Ri |
|-----|-----|-----|----|----|----|
| 14 | 8 | 29 | 28 | 21 | 14 |
| 8 | 8 | 17 | 16 | 12 | 8 |



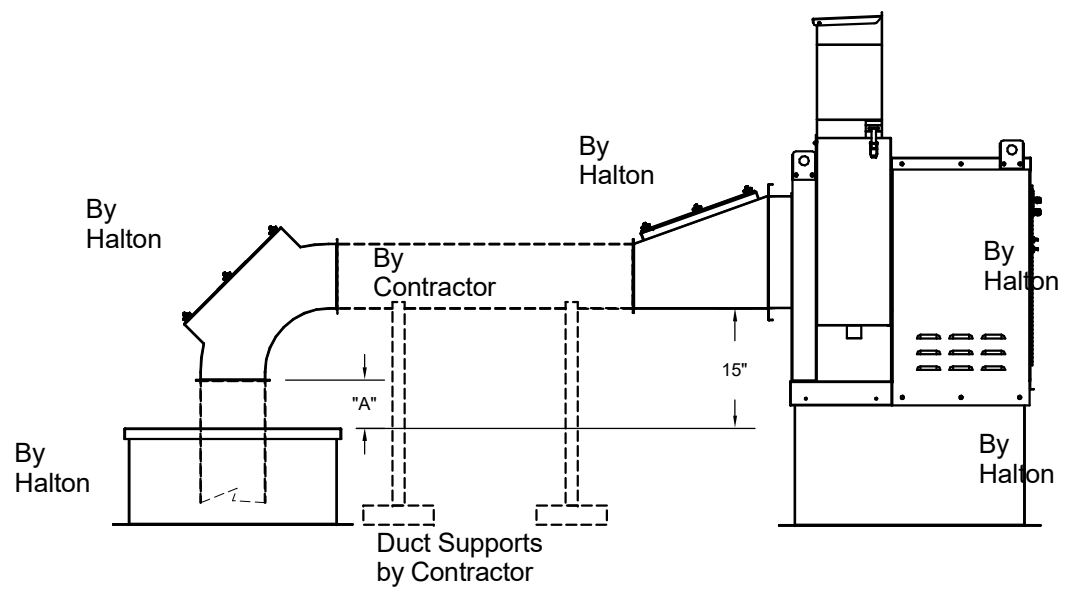
| "W" | "H" | Wo | Ro | Rc | Ri | "A" | "B" |
|-----|-----|----|----|----|----|-----|-----|
| 8 | 14 | 16 | 16 | 12 | 8 | 34 | 17 |
| 8 | 10 | 16 | 16 | 12 | 8 | 34 | 17 |



| TRANSITION | "H" | "W" | "L" |
|------------|-----|-----|-----|
| EF-1 | 14 | 16 | 25 |
| EF-2 | 10 | 16 | 17 |

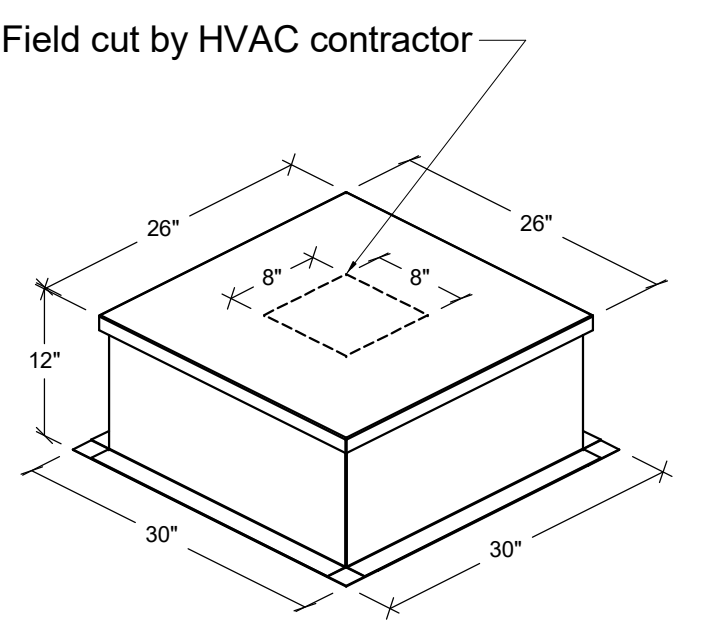
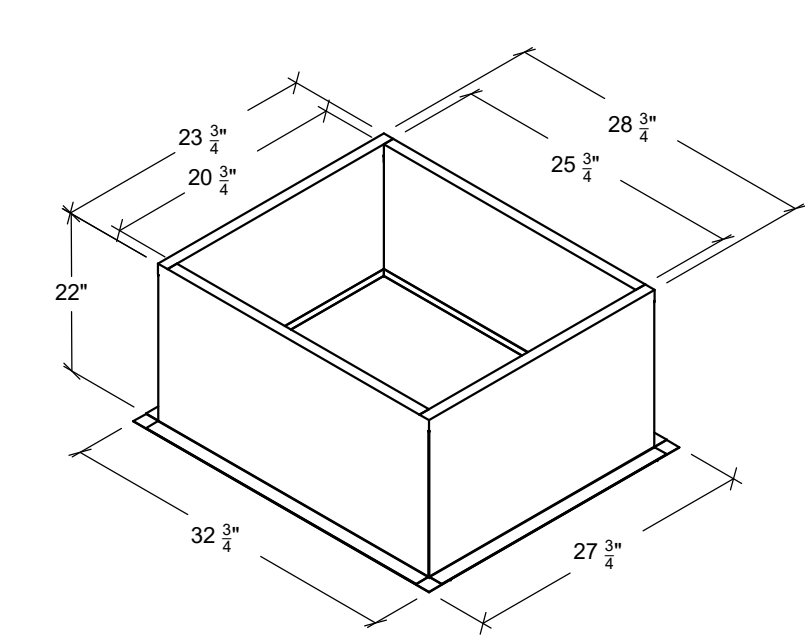


| "W" | "H" |
|-----|-----|
| 16 | 14 |



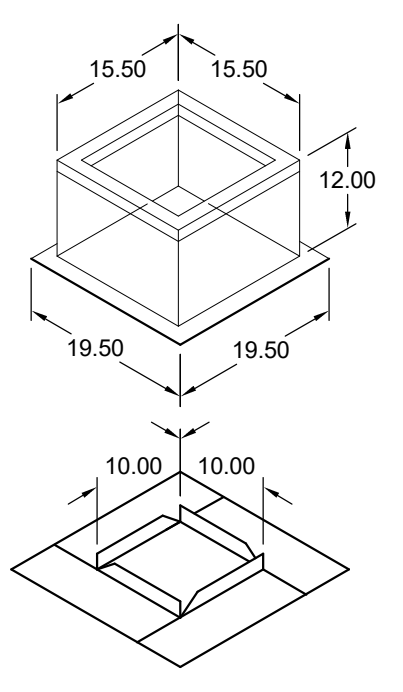
| "A" DISTANCE AVAILABLE FOR DUCT SLOPE ELBOW | "A" |
|---|------|
| EF-1 | 14x8 |
| EF-2 | 8x8 |
| EF-2 | 10 |

Halton Kitchen Exhaust Fan Curb Insulated Duct Curb



Kitchen Exhaust Fan Roof 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 aluminum 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 aluminum 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 | Security Bars | Liner | Insulation (in.) | Insulation R Value |
| Galvanized | No | No | 1 | R4.3 |

| General | | | | | | | | | |
|-------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|---------------------------|----------------------------|--------------------|------------------------|-------------------------|
| Tag | Qty | Model | Sizing Method | Undersizing (in.) | Weight (lb) | Shipped Assembled | Union Label | | |
| EF-3 | 1 | GPI-17 | Nominal | 1.5 | 14 | Yes | No Preference | | |
| Dimensions | | | | | | | | | |
| Curb Height (in.) | Normal Outside Width (in.) | Normal Outside Length (in.) | Actual Outside Width (in.) | Actual Outside Length (in.) | Actual Inside Width (in.) | Actual Inside Length (in.) | Flange Width (in.) | Hinge Base Width (in.) | Hinge Base Length (in.) |
| 12 | 17 | 17 | 15.5 | 15.5 | 12 | 12 | 19.5 | 16 | |

FOR REFERENCE ONLY

PROJECT: **CHICK-FLA**

LOCATION: Michigan City FSU

DRAWN BY: DATE: 05/27/2024

SCALE: NTS

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

Halton CO. (USA)
101 INDUSTRIAL DRIVE
SCOTTSDALE, AZ 85264
1-270-237-5600

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY. BELOW WEBSITE: WWW.HALTONCOMPANY.COM

REVISION: DESCRIPTION BY DATE

1. REVISED FOR FABRICATION

2. REVISED FOR FABRICATION

3. REVISED FOR FABRICATION

4. REVISED FOR FABRICATION

5. REVISED FOR FABRICATION

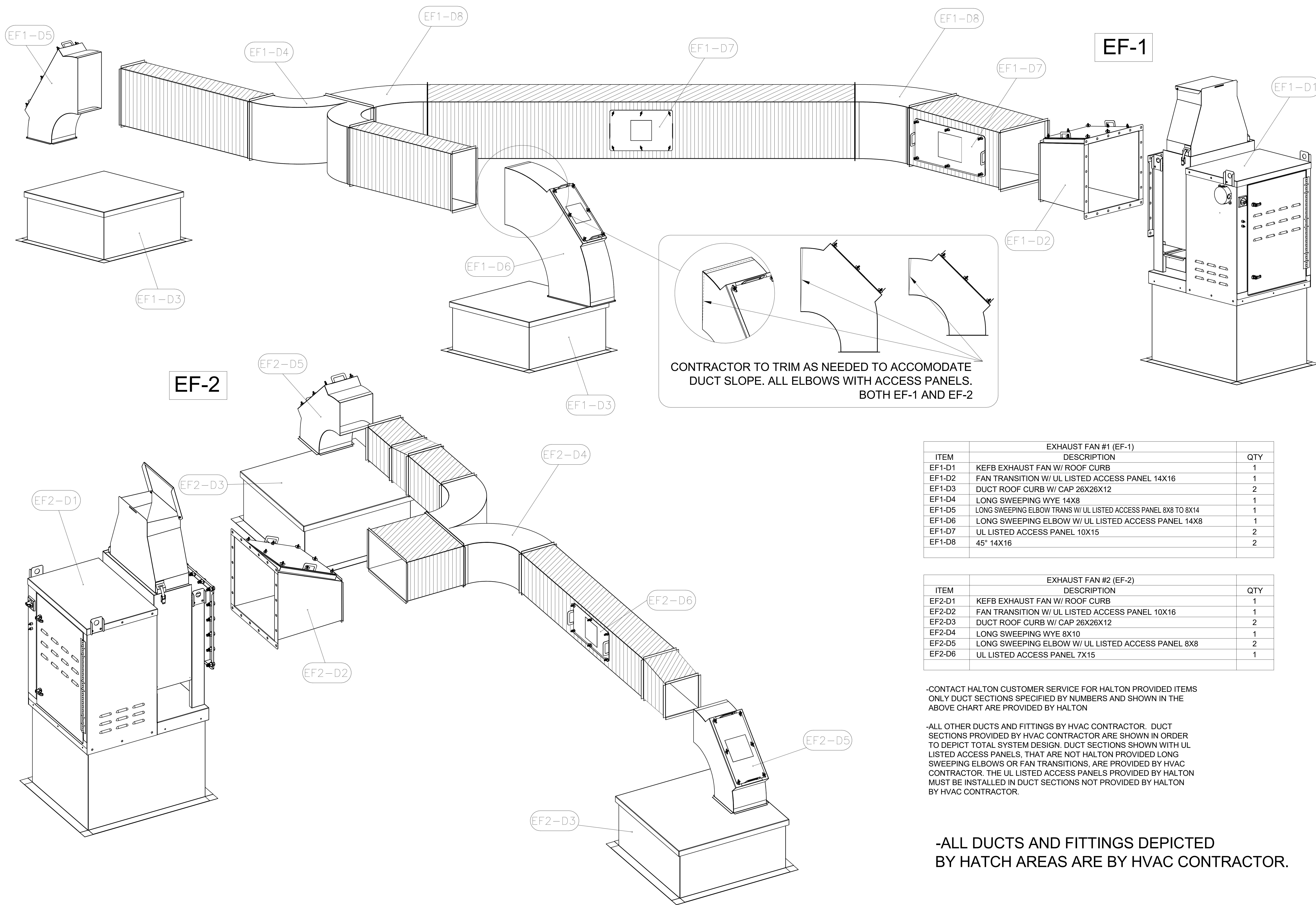
6. REVISED FOR FABRICATION

7. REVISED FOR FABRICATION

Sheet **MH-1.4**

Halton CARE FOR INDOOR AIR

FOR REFERENCE ONLY



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

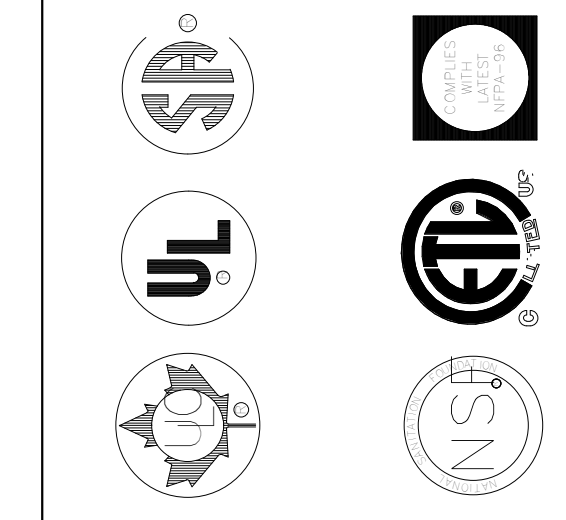
| EXHAUST FAN #1 (EF-1) | | |
|-----------------------|---|-----|
| ITEM | DESCRIPTION | QTY |
| EF1-D1 | KEFB EXHAUST FAN W/ ROOF CURB | 1 |
| EF1-D2 | FAN TRANSITION W/ UL LISTED ACCESS PANEL 14X16 | 1 |
| EF1-D3 | DUCT ROOF CURB W/ CAP 26X26X12 | 2 |
| EF1-D4 | LONG SWEEPING WYE 14X8 | 1 |
| EF1-D5 | LONG SWEEPING ELBOW TRANS W/ UL LISTED ACCESS PANEL 8X8 TO 8X14 | 1 |
| EF1-D6 | LONG SWEEPING ELBOW W/ UL LISTED ACCESS PANEL 14X8 | 1 |
| EF1-D7 | UL LISTED ACCESS PANEL 10X15 | 2 |
| EF1-D8 | 45° 14X16 | 2 |

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

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

-ALL OTHER DUCTS AND FITTINGS BY HVAC CONTRACTOR. DUCT SECTIONS PROVIDED BY HVAC CONTRACTOR ARE SHOWN IN ORDER TO DEPICT TOTAL SYSTEM DESIGN. DUCT SECTIONS SHOWN WITH UL LISTED ACCESS PANELS, THAT ARE NOT HALTON PROVIDED LONG SWEEPING ELBOWS OR FAN TRANSITIONS, ARE PROVIDED BY HVAC CONTRACTOR. THE UL LISTED ACCESS PANELS PROVIDED BY HALTON MUST BE INSTALLED IN DUCT SECTIONS NOT PROVIDED BY HALTON BY HVAC CONTRACTOR.

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



MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY. BELOW WEBSITE: WWW.HALTONCOMPANY.COM

HALTON CO. (USA)
 101 INDUSTRIAL DRIVE
 SCOTTSVILLE, KY 42764
 1-270-237-5600

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

REVISION DESCRIPTION BY DATE
 1
 2
 3
 4
 5
 6
 7

PROJECT: **CHICK-FIL-A**

LOCATION: Michigan City FSU SN#: 05893

DRAWN BY: DATE: 05/27/2024

SCALE: NTS

Halton Dwg: **Halton**
CARE FOR INDOOR AIR

Sheet **MH-1.5**

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

- ALL DIMENSIONAL INFORMATION, INCLUDING POSITIONS AND CLEARANCES.
- THE TYPE OF COOKING EQUIPMENT.
- THE TYPE OF EXHAUST SYSTEM.
- EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF THESE CHANGES OCCUR. A RECALCULATION, EXHAUST AIRFLOW MAY BE REQUIRED.

REVISE AND RESUBMIT
 APPROVED FOR FABRICATION
 WITH NO CHANGES
 WITH CHANGES AS NOTED

APPROVED BY: _____ DATE: _____