



**2021 IECC Commissioning Requirements for Mechanical**

2021 IECC COMMISSIONING REQUIREMENTS

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

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

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

C408.2.1 A COMMISSIONING PLAN SHALL BE DEVELOPED IN ACCORDANCE WITH THIS SECTION AND SHALL INCLUDE THE FOLLOWING ITEMS.

1. A NARRATIVE DESCRIPTION OF THE ACTIVITIES TO BE PERFORMED.
2. A LIST OF THE SYSTEMS AND EQUIPMENT REQUIRED TO BE COMMISSIONED.
3. A LIST OF THE TEST FUNCTIONS TO BE PERFORMED ON THE CORRESPONDING EQUIPMENT.
4. CONDITIONS UNDER WHICH THE TEST WILL BE PERFORMED.
5. MEASURABLE CRITERIA FOR PERFORMANCE.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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5802 GULL ROAD  
KALAMAZOO, MI 49048

**FSR#06006**

BUILDING TYPE / SIZE: P14 LSR BN  
RELEASE: 25.02

PRINTED FOR

ISSUED FOR CONSTRUCTION

REVISION SCHEDULE

NO. DATE DESCRIPTION

CONSULTANT PROJECT # 2024223.59

DATE 05/28/25

DRAWN BY JDF

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SHEET

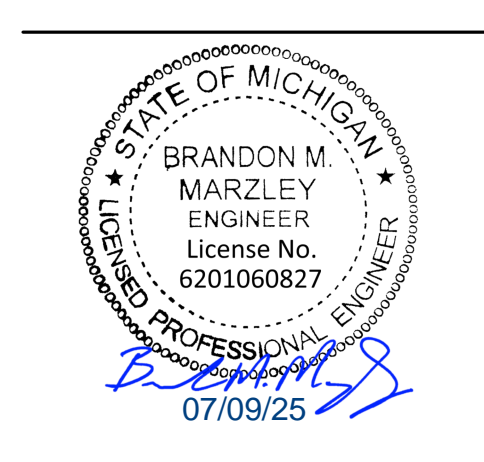
COMMISSIONING REQUIREMENTS - MECHANICAL

SHEET NUMBER

**M-002**



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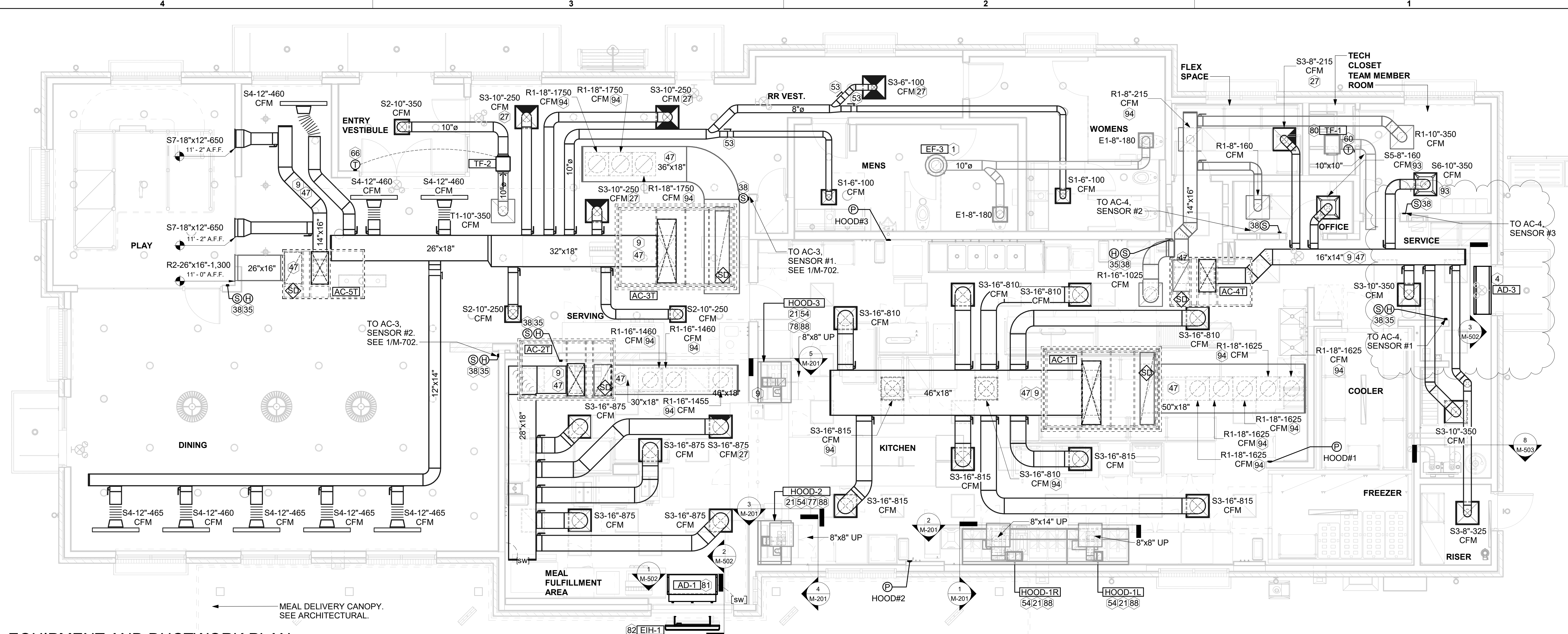
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SHEET: EQUIPMENT AND DUCTWORK PLAN - TRANE  
 SHEET NUMBER: **M-101T**

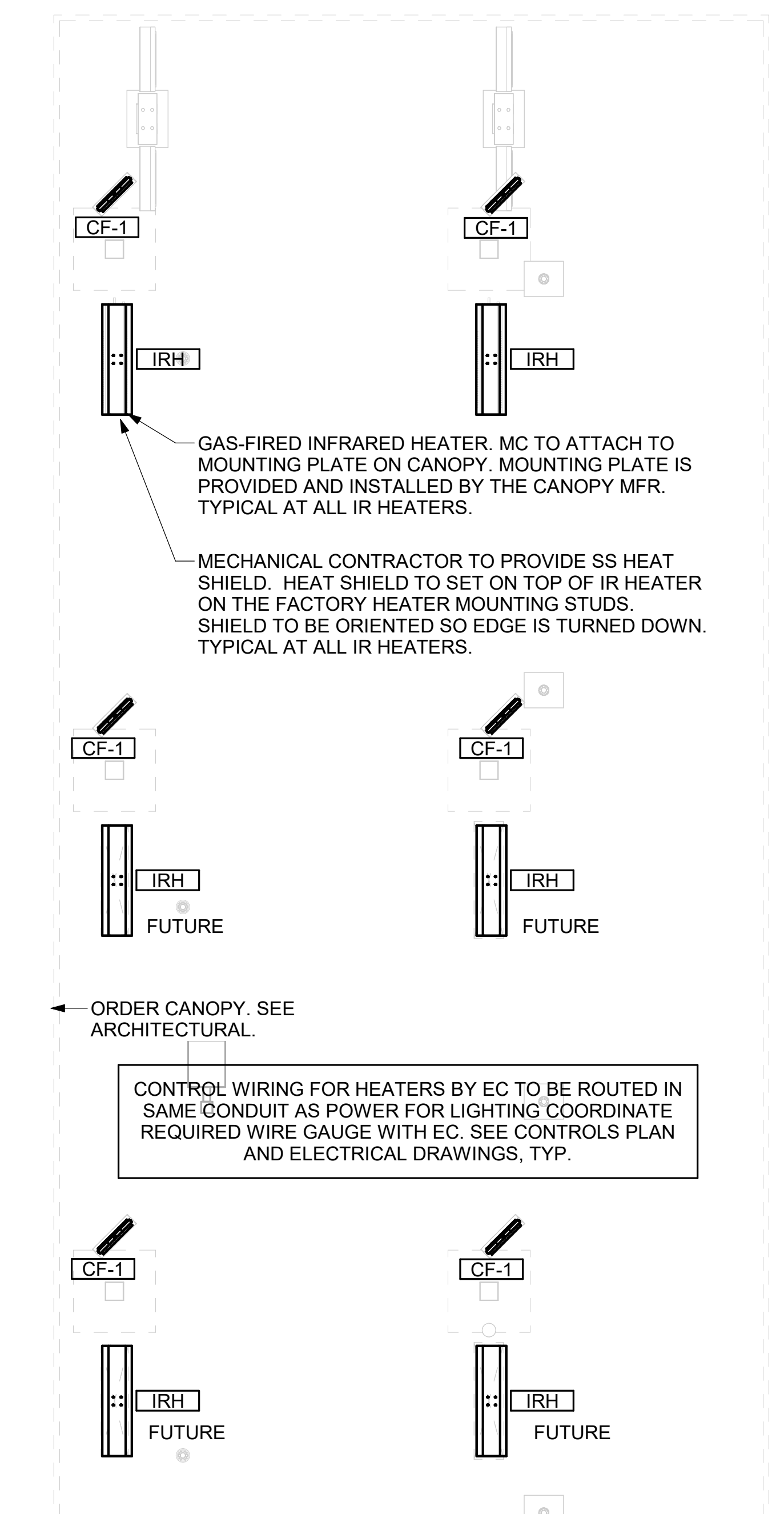


**1** EQUIPMENT AND DUCTWORK PLAN  
 1/4" = 1'-0"

| Mark  | SUPPLY AIR | RETURN AIR | OUTSIDE AIR | EXHAUST AIR | BUILDING POSITIVE PRESSURE |
|-------|------------|------------|-------------|-------------|----------------------------|
| AC-1T | 8,125 CFM  | 8,125 CFM  | 1,750 CFM   | 0 CFM       |                            |
| AC-2T | 4,375 CFM  | 4,375 CFM  | 875 CFM     | 0 CFM       |                            |
| AC-3T | 5,250 CFM  | 5,250 CFM  | 1,275 CFM   | 0 CFM       |                            |
| AC-4T | 1,725 CFM  | 1,400 CFM  | 180 CFM     | 0 CFM       |                            |
| AC-5T | 1,300 CFM  | 1,300 CFM  | 150 CFM     | 0 CFM       |                            |
| EF-1  | 0 CFM      | 0 CFM      | 0 CFM       | 1,913 CFM   | -1,913 CFM                 |
| EF-2  | 0 CFM      | 0 CFM      | 0 CFM       | 1,402 CFM   | -1,402 CFM                 |
| EF-3  | 0 CFM      | 0 CFM      | 0 CFM       | 360 CFM     | -360 CFM                   |
|       | 20,775 CFM | 20,450 CFM | 4,230 CFM   | 3,675 CFM   | 555 CFM                    |

**KEY NOTES**

- 1 10" UP THRU ROOF.
- 4 AIR CURTAIN MOUNTED OVER DOOR HEADER AT 7'-2" AFF TO BOTTOM OF UNIT. PROVIDE BLOCKING IN WALL BEHIND AIR CURTAIN. USE FACTORY PRE-PUNCHED MOUNTING HOLES ON BACK SIDE OF AIR CURTAIN ONLY. ATTACH AIR CURTAIN TO WALL USING 3/8" LAG BOLTS. LENGTH AS REQUIRED TO FULLY PENETRATE BLOCKING. LOCATE MAGNETIC CONTACT TYPE MICROSWITCH IN DOOR FRAME ON STRIKE SIDE.
- 9 BRANCH TAKE-OFFS ARE NOT TO BE LOCATED CLOSER THAN 3'-0" FROM ANY OFFSET OR ELBOW INCLUDING THE SUPPLY AIR DROP FROM CURB.
- 21 HALTON KBD DAMPER AT HOOD COLLAR BY MECHANICAL CONTRACTOR. SEE HOOD ELEVATIONS ON M-201 FOR LOCATION.
- 27 MECHANICAL CONTRACTOR TO CLOSE THE AIR PATTERN DEFLECTORS ON SHADED SIDE.
- 35 MOUNT HUMIDITY SENSOR ON WALL ABOVE SPACE TEMP SENSOR AND ROUTE WIRING TO UNIT ON ROOF.
- 38 MOUNT REMOTE SENSOR ON WALL AT 5'-0" AFF U.N.O. AND ROUTE WIRING BACK TO SUNCOAST TEMP CONTROL PANEL. FOR SENSOR SERVING AC#1. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT.
- 47 TRANSITION IN VERTICAL DROP FROM FULL SIZE OF CURB OPENING TO SIZE SHOWN. TRANSITION WITHIN CURB WHERE REQUIRED TO AVOID STRUCTURE.
- 53 RUSKIN MDRS25 MVD W/LOCKING QUADRANT HANDLE.
- 54 SEE ELEVATIONS ON M-201 FOR CJ FAN DUCTING REQUIREMENT.
- 60 MOUNT THERMOSTAT ON WALL AT 4'-0" AFF.
- 66 PROVIDE 7 DAY PROGRAMMABLE THERMOSTAT, OCCUPIED/UNOCCUPIED TERMINALS. MOUNT THERMOSTAT ON WALL AT 4'-0" AFF.
- 77 INSTALL LEFT SIDE OF HOOD FLUSH WITH FINISHED EDGE OF PASS-THRU OPENING.
- 78 INSTALL RIGHT SIDE OF HOOD WITH FINISHED EDGE OF PASS-THRU OPENING.
- 80 CEILING MOUNTED RECIRCULATING FAN. DUCT AND DISCHARGE ABOVE CEILING.
- 81 MOUNT AIR DOOR IN CEILING. CENTERED ON DRIVE-THRU/MFA DOOR OPENING.
- 82 ELECTRIC HEATER. MC TO MOUNT ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
- 88 PULL STATION FOR KITCHEN EXHAUST HOOD MOUNTED 42" TO 48" A.F.F. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT ELEVATIONS. JUNCTION BOX AND CONDUIT PROVIDED BY ELECTRICAL CONTRACTOR. PROVIDE PLASTIC ENGRAVED LABEL - RED WITH 1" HIGH WHITE LETTERING. LABELS SHALL BE AS FOLLOWS: HOOD #1 - "MAIN COOKLINE", HOOD #2 - "PASS THRU - RIGHT", HOOD #3 - "PASS THRU - LEFT".
- 93 MAXIMUM HEATING AND COOLING AIRFLOWS INDICATED. SET MINIMUM AIRFLOW TO 25 CFM.
- 94 TAKE OFF WITH DAMPER AT THE BOTTOM OF DUCTWORK, TYP.



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

GAS-FIRED INFRARED HEATER. MC TO ATTACH TO MOUNTING PLATE ON CANOPY. MOUNTING PLATE IS PROVIDED AND INSTALLED BY THE CANOPY MFR. TYPICAL AT ALL IR HEATERS.

MECHANICAL CONTRACTOR TO PROVIDE SS HEAT SHIELD. HEAT SHIELD TO SET ON TOP OF IR HEATER ON THE FACTORY HEATER MOUNTING STUDS. SHIELD TO BE ORIENTED SO EDGE IS TURNED DOWN. TYPICAL AT ALL IR HEATERS.

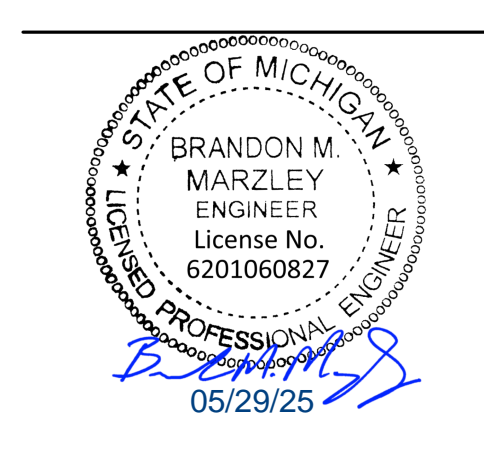
ORDER CANOPY. SEE ARCHITECTURAL.

CONTROL WIRING FOR HEATERS BY EC TO BE ROUTED IN SAME CONDUIT AS POWER FOR LIGHTING COORDINATE REQUIRED WIRE GAUGE WITH EC. SEE CONTROLS PLAN AND ELECTRICAL DRAWINGS, TYP.

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 30-LSR-06006-M-101T-EQUIPMENT AND DUCTWORK PLAN - TRANE



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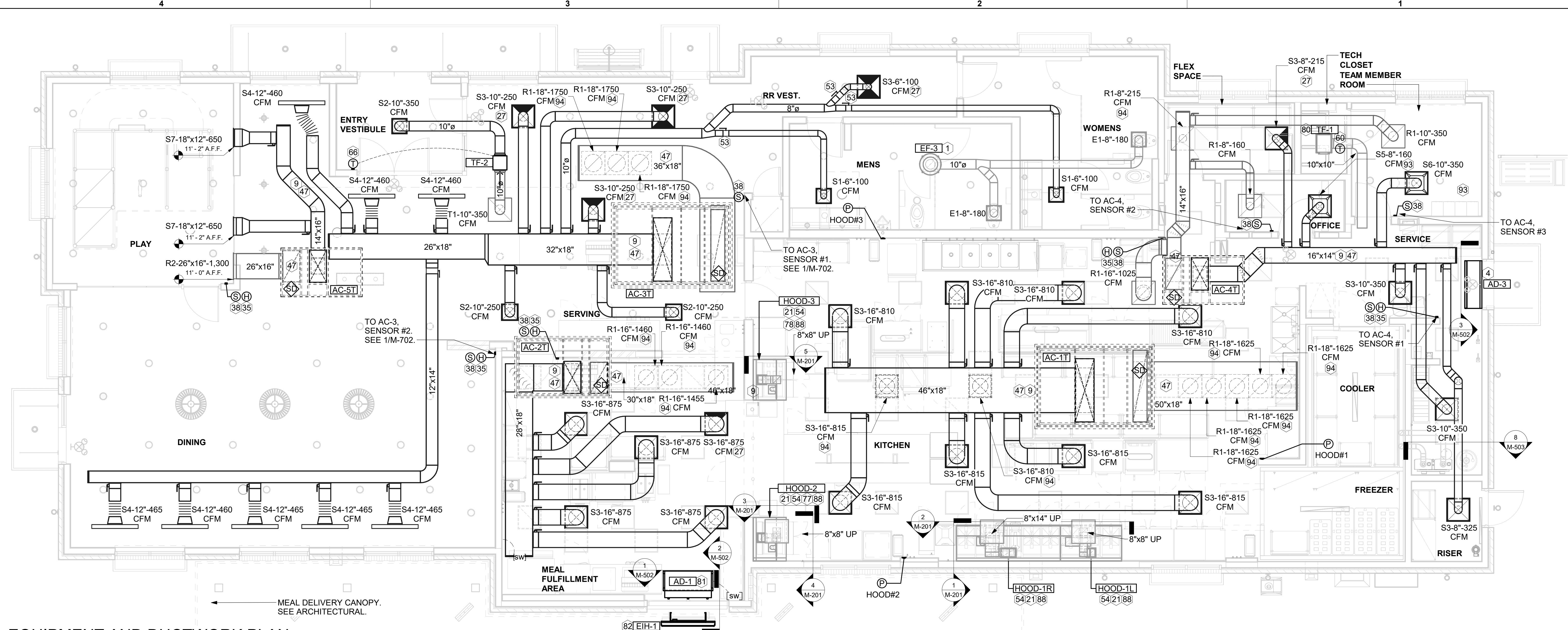
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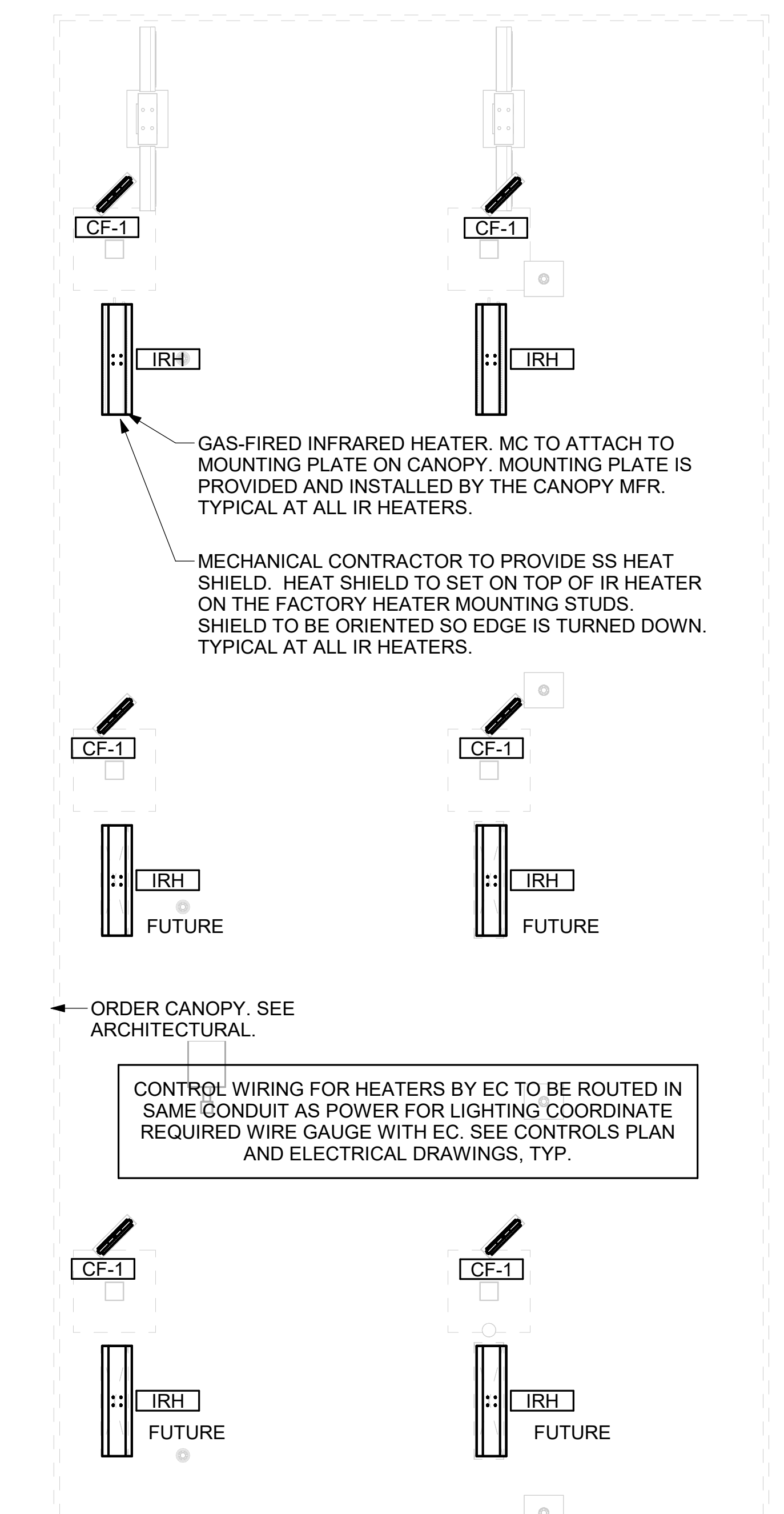


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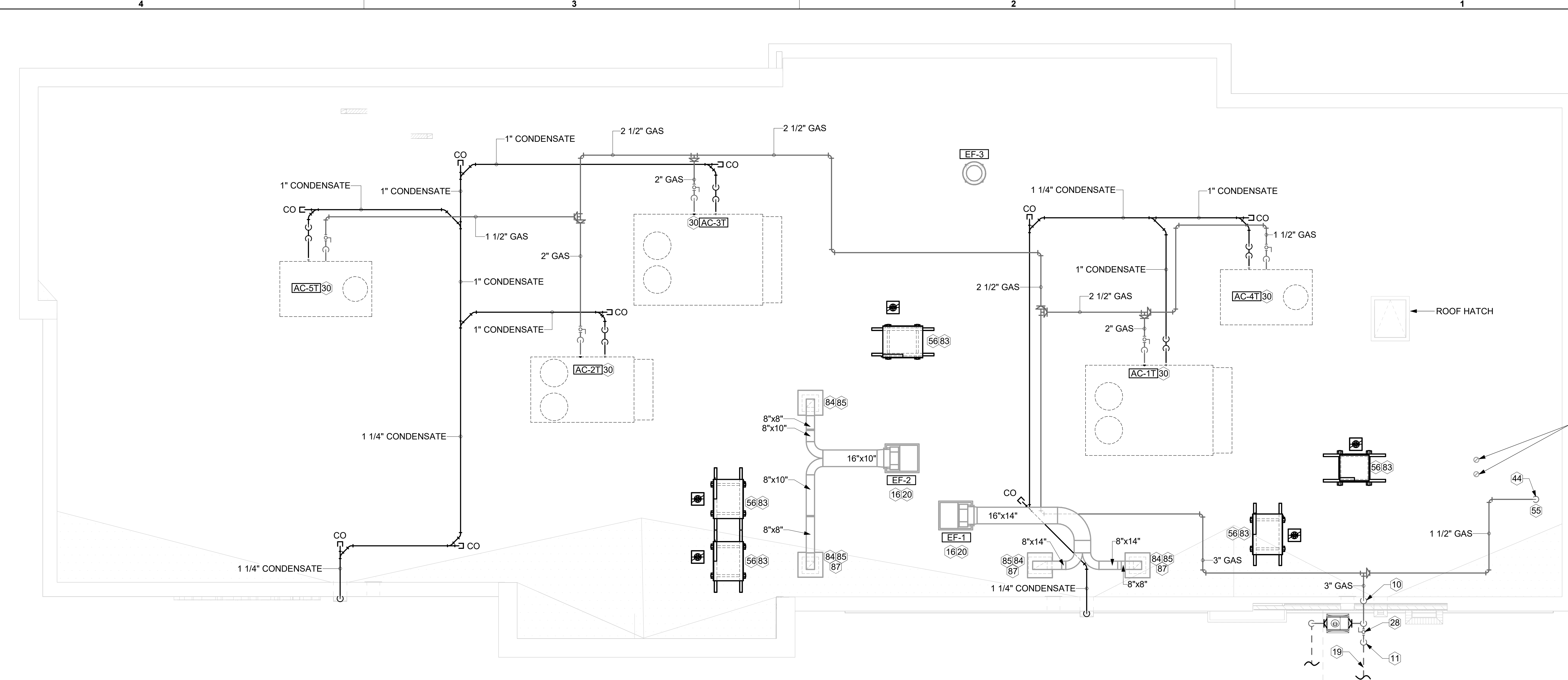


**2** MECHANICAL FLOOR PLAN - ORDER CANOPY  
 1/4" = 1'-0"

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 30-LSR-06006-M-101T-EQUIPMENT AND DUCTWORK PLAN - TRANE



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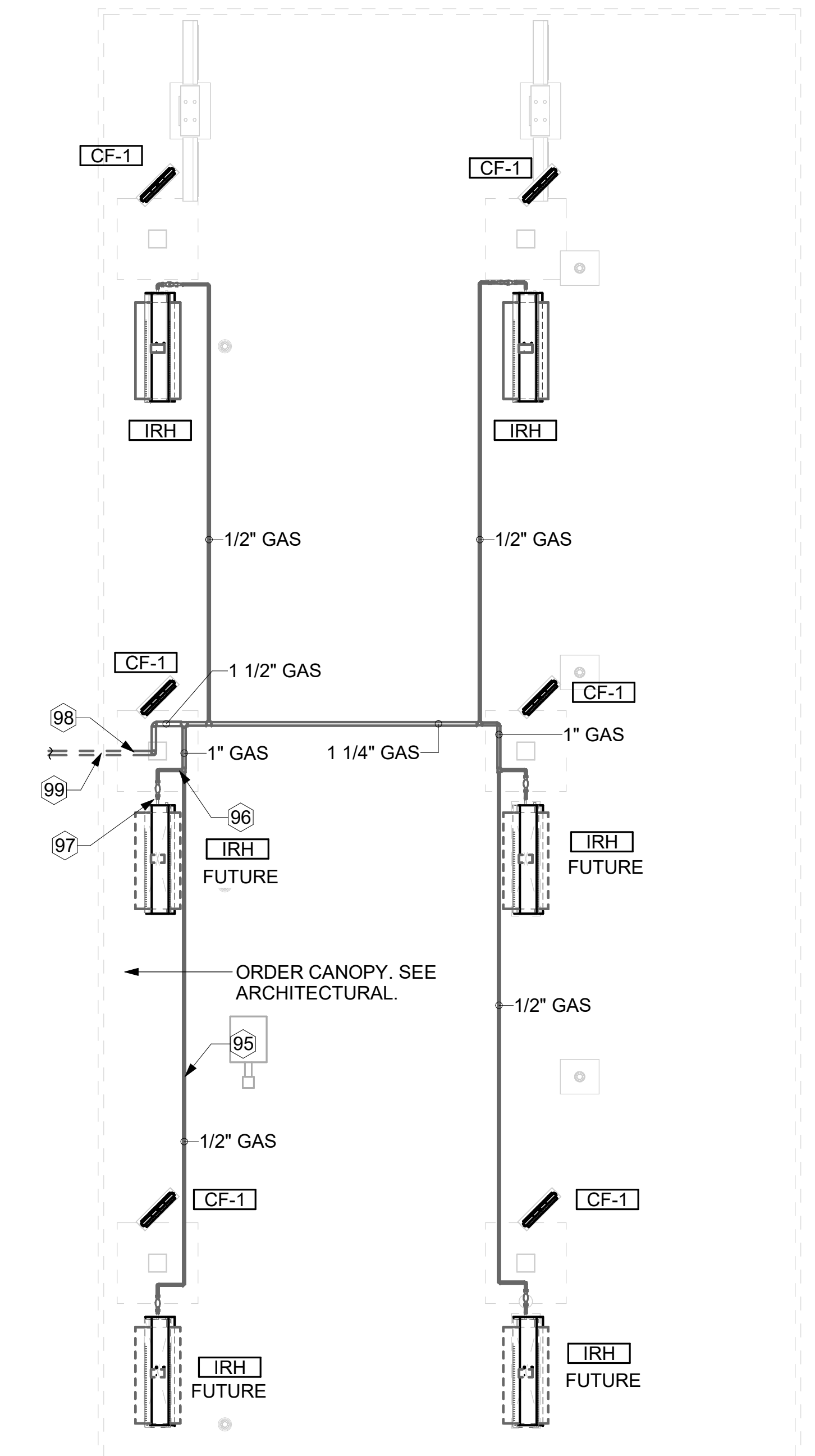


**1 EQUIPMENT ROOF PLAN - TRANE**  
 1/4" = 1'-0"

**KEY NOTES**

- 10 TURN 3" GAS UP WITHIN WALL, THRU PARAPET AND ONTO ROOF.
- 11 ROUTE POLYETHYLENE GAS BELOW GRADE FROM THE METER. FOR TRANSITION FROM POLYETHYLENE PIPING BELOW GRADE TO STEEL AT THE METER, INSTALL ANODELESS RISER WITH INTEGRAL CONSTAB PE-TO-IPS TRANSITION FITTING BY CONTINENTAL INDUSTRIES OR EQUAL BY ELSTER.
- 16 FABRICATE DISCHARGE AIR NOZZLE. VERIFY EXHAUST TERMINATION IS A MINIMUM 10'-0" FROM PARAPETS AND OUTSIDE AIR INTAKES. REFER TO MH-1.3 AND MH-1.4 FOR DETAILS.
- 19 1-1/2" GAS BELOW GRADE TO ORDER CANOPY, SEE DETAIL 2 THIS SHEET.
- 20 GREASE EXHAUST DUCT LOCATED ON ROOF SHALL SLOPE 1/4" PER FOOT TOWARDS THE HOOD, THE FAN, OR A COMBINATION OF THE TWO SUCH THAT NO PORTION OF THE RADIUS ELBOW AT THE CURB IS BELOW THE CURB CAP AND SUCH THAT THE FAN BASE SETS DIRECTLY ON THE CURB RAILS. THE BOTTOM OF THE RADIUS ELBOW MAY BE EVEN OR FLUSH WITH THE CURB CAP, BUT NOT BELOW THE CAP. THE DUCT AT THE FAN MUST BE CENTERED ON THE FAN INLET.
- 28 PROVIDE FULL PORT BALL VALVE EQUAL TO APOLLO 50GB SERIES WITH WINGS HANDLE OPTION ABOVE GRADE AT THE METER. PROVIDE BRASS VALVE TAG WITH JACK CHAIN AT VALVE MARKED "SERVICE SHUTOFF FOR CANOPY HEATERS."
- 30 MECHANICAL CONTRACTOR TO SEE ARCHITECTURAL ROOF PLAN FOR NOTES REGARDING LEVELING FRAMES FOR RTUS. COORDINATE WITH GENERAL CONTRACTOR EXACT LOCATIONS AND SIZE NEEDED.
- 44 1-1/2" GAS DOWN THRU ROOF TO WATER HEATER. SEE DETAIL 3/P-502 FOR MORE INFORMATION ON CONSTRUCTION AND PENETRATION. WHEN CONTRACTOR OPTS TO PROVIDE ALTERNATIVE WATER-HEATER, INCREASE PIPE SIZE AS NEEDED PER CODE.
- 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-1.3 AND MH-1.4 FOR DETAILS.
- 85 TURN DOWN THRU ROOF. SEE M-101L/M-101T FOR CONTINUATION.
- 87 DUCT PENETRATIONS ON ROOF MUST BE AT LEAST 18" FROM ADJACENT PARAPETS.
- 95 GAS PIPING TO BE ROUTED ABOVE CANOPY, ON TOP OF STRUCTURAL MEMBERS, EXCEPT WHERE ROUTED DOWN THROUGH PENETRATIONS AS INDICATED.
- 96 GAS PIPING DOWN THROUGH DECK. WEATHERPROOF DECK PENETRATION PER DETAIL 6/M-503, TYPICAL.
- 97 SEE DETAIL 1/M-503 FOR PIPING AT IRH, TYPICAL.
- 98 GAS TRANSITION FITTING TO GAS PIPE STUB-OUT. GAS PIPING INSIDE COLUMN AND STUB-OUTS BY CANOPY MFR. JOIN UNDERGROUND POLYETHYLENE GAS PIPING TO TRANSITION FITTING WITH ELSTER PERMASERT COUPLING. CANOPY MFR'S EXPOSED STEEL PIPING BELOW GRADE SHALL BE PROTECTED WITH TWO COATS ASPHALT TUM BASE PAINT AND POLY SLEEVE.
- 99 1-1/2" GAS B/G TO METER SEE 1/M-102L OR 1/M-102T.

| 3. GAS LOAD SCHEDULE               |  |
|------------------------------------|--|
| EQUIPMENT                          | GAS LOAD   |
| AC-1T                              | 400,000 BTUS   |
| AC-2T                              | 240,000 BTUS   |
| AC-3T                              | 400,000 BTUS   |
| AC-4T                              | 150,000 BTUS   |
| AC-5T                              | 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   |
| <b>TOTAL BASIS OF DESIGN LOAD</b>  | <b>1,828,000 BTUS</b>  |
| <b>TOTAL FUTURE CONNECTED LOAD</b> | <b>2,028,000 BTUS</b>  |
| REMARKS:                           | 1. EQUIVALENT TO 2,008.0 CFH<br>2. 7" W.C. DELIVERY PRESSURE<br>3. DEVELOPED LENGTH: 210 FT. (METER TO AC-5T)<br>4. GAS PIPING SIZED FOR FUTURE LOAD |



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

**CHICK-FIL-A**  
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 5802 GULL ROAD  
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**FSR#06006**  
 BUILDING TYPE / SIZE: P14 LSR BN  
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 SHEET  
 EQUIPMENT ROOF PLAN - TRANE

SHEET NUMBER  
**M-102T**

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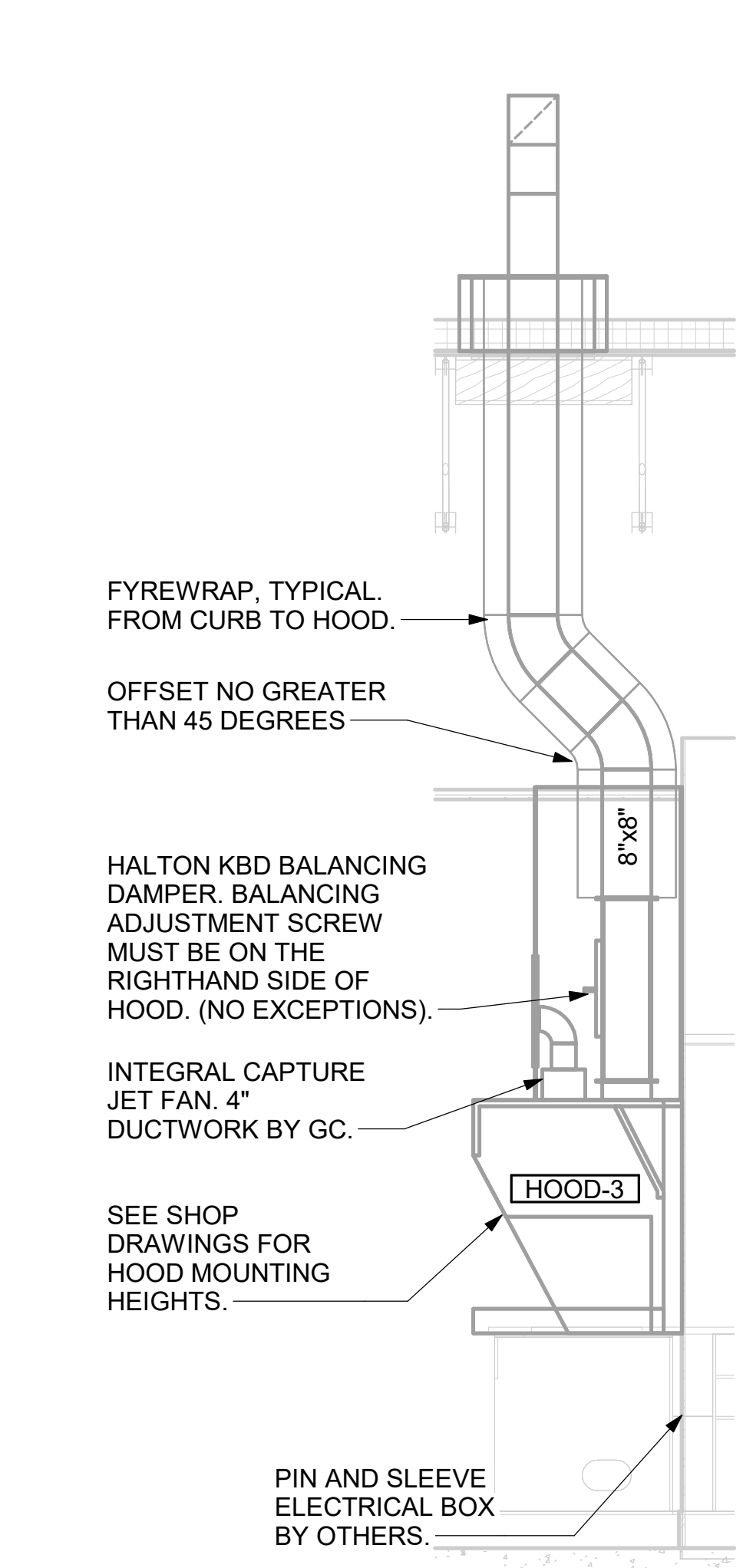
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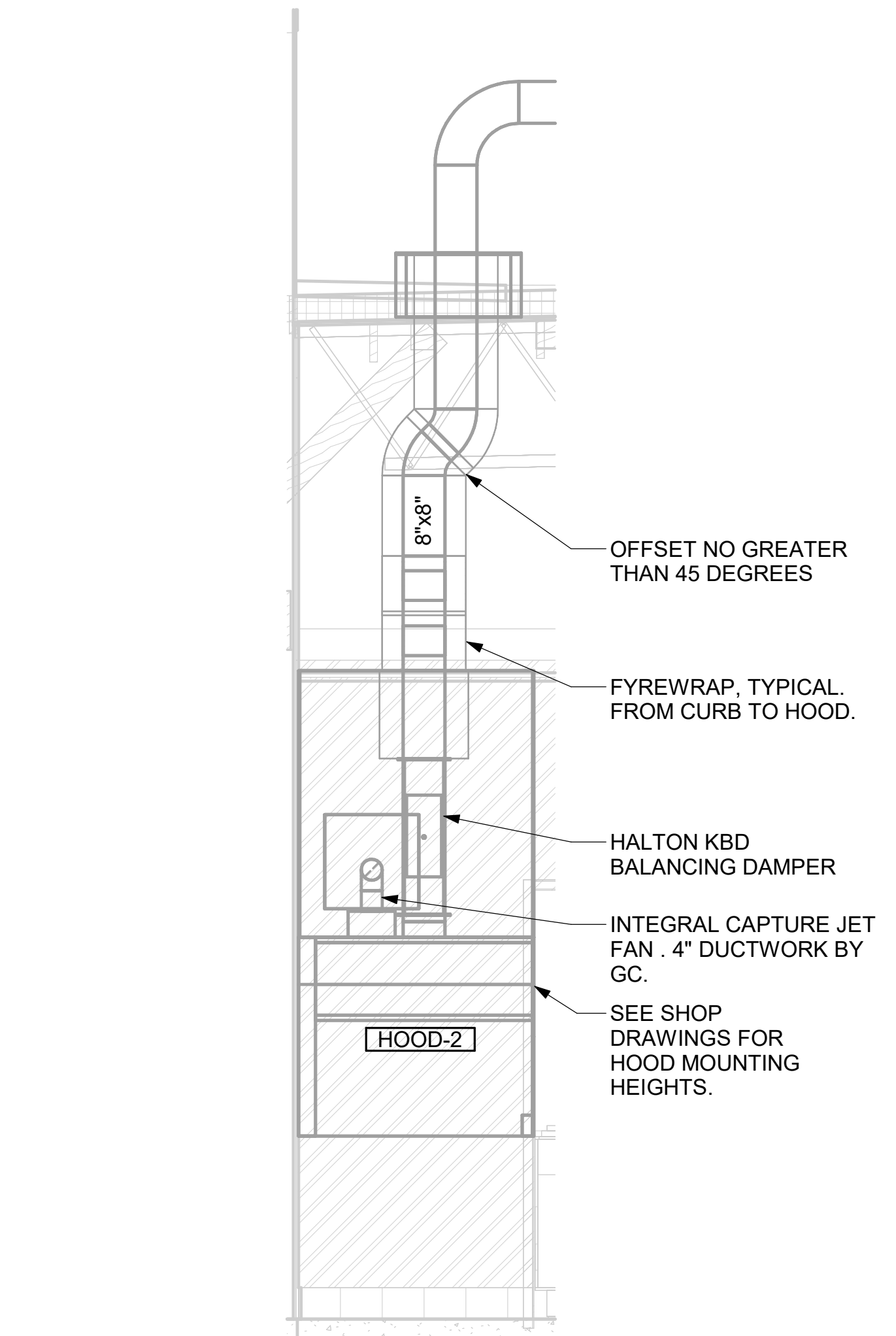
A

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

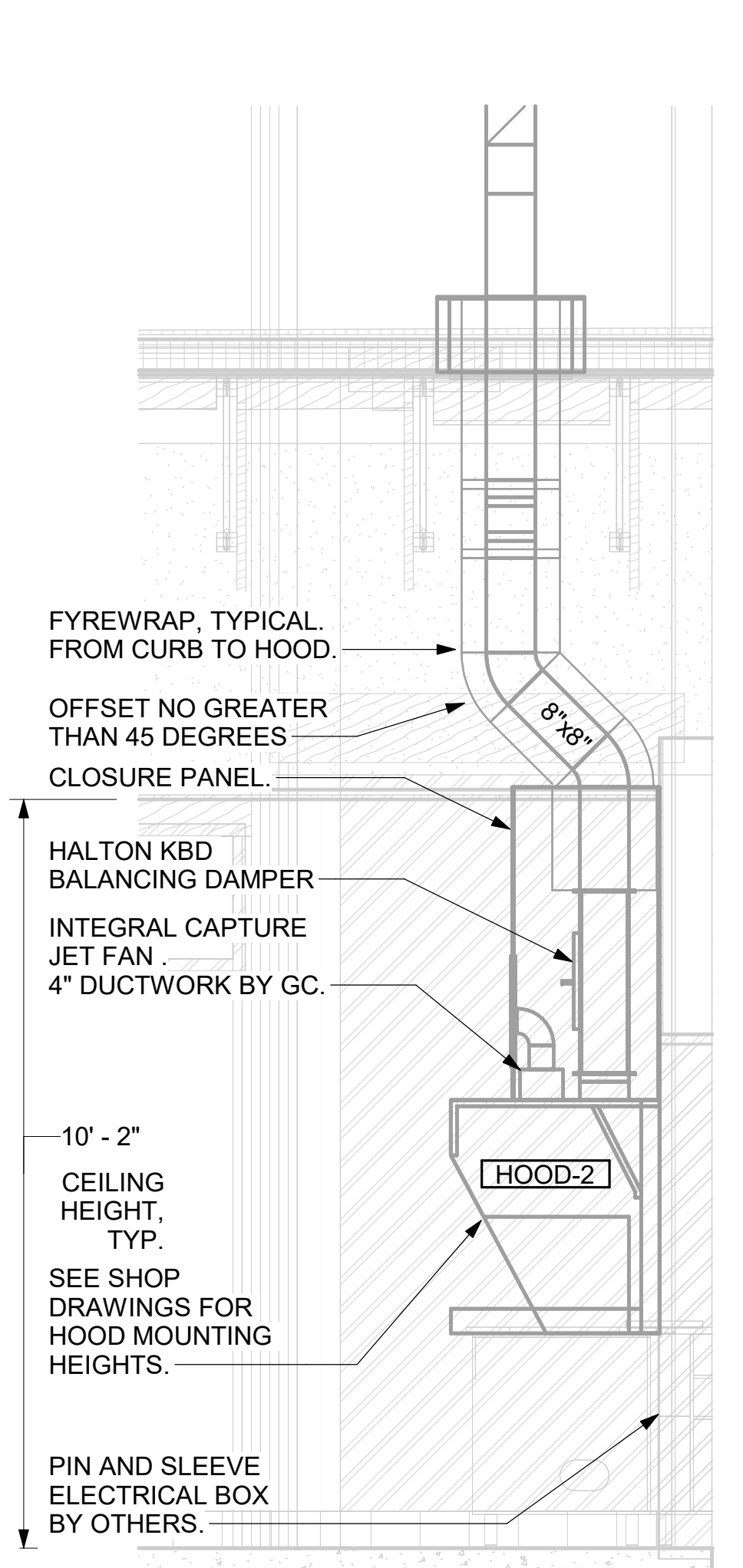
**CLEANOUT DOOR NOTE:**  
 DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS, NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.



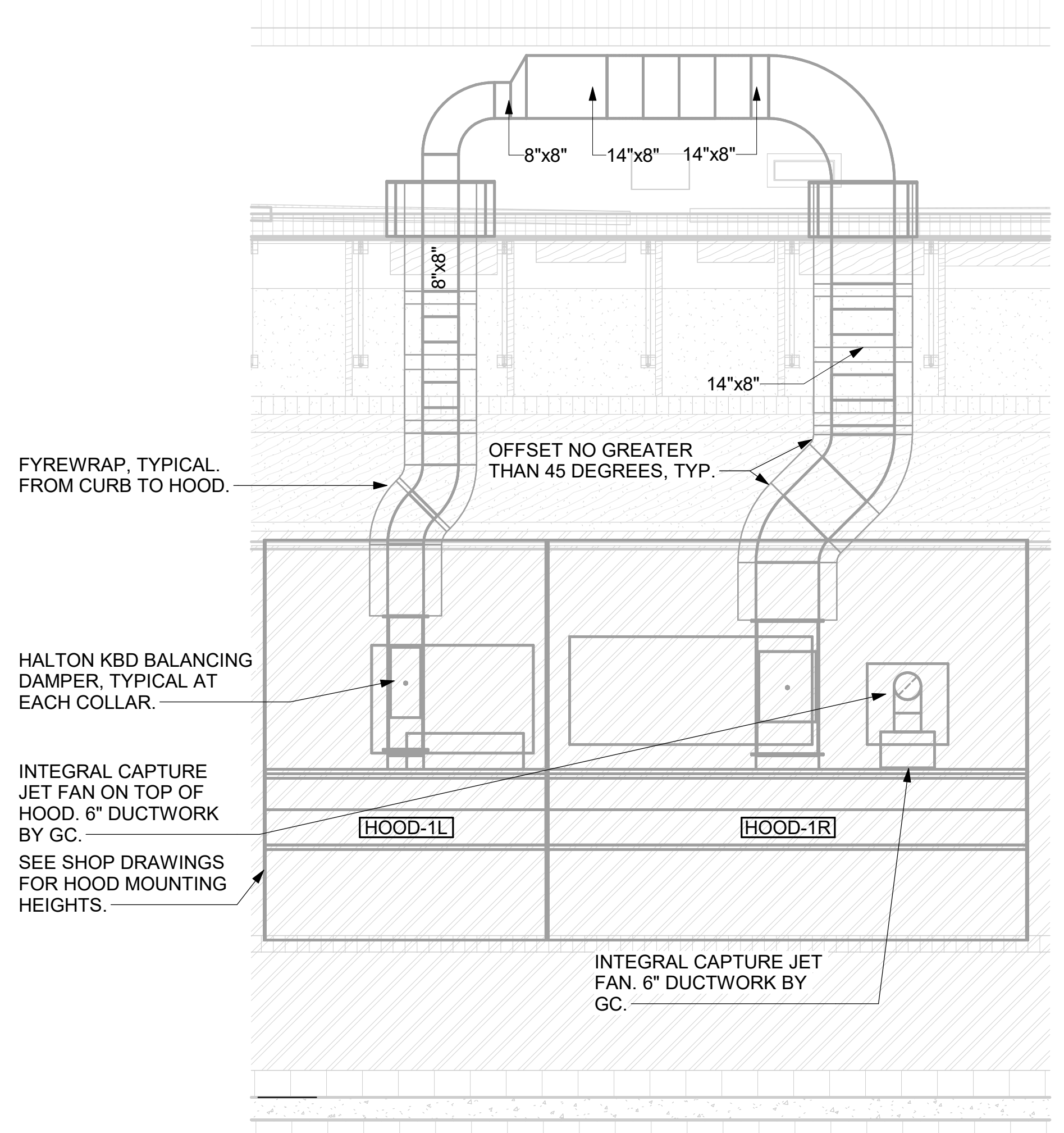
5 HOOD ELEVATION - HOOD#3  
 NOT TO SCALE



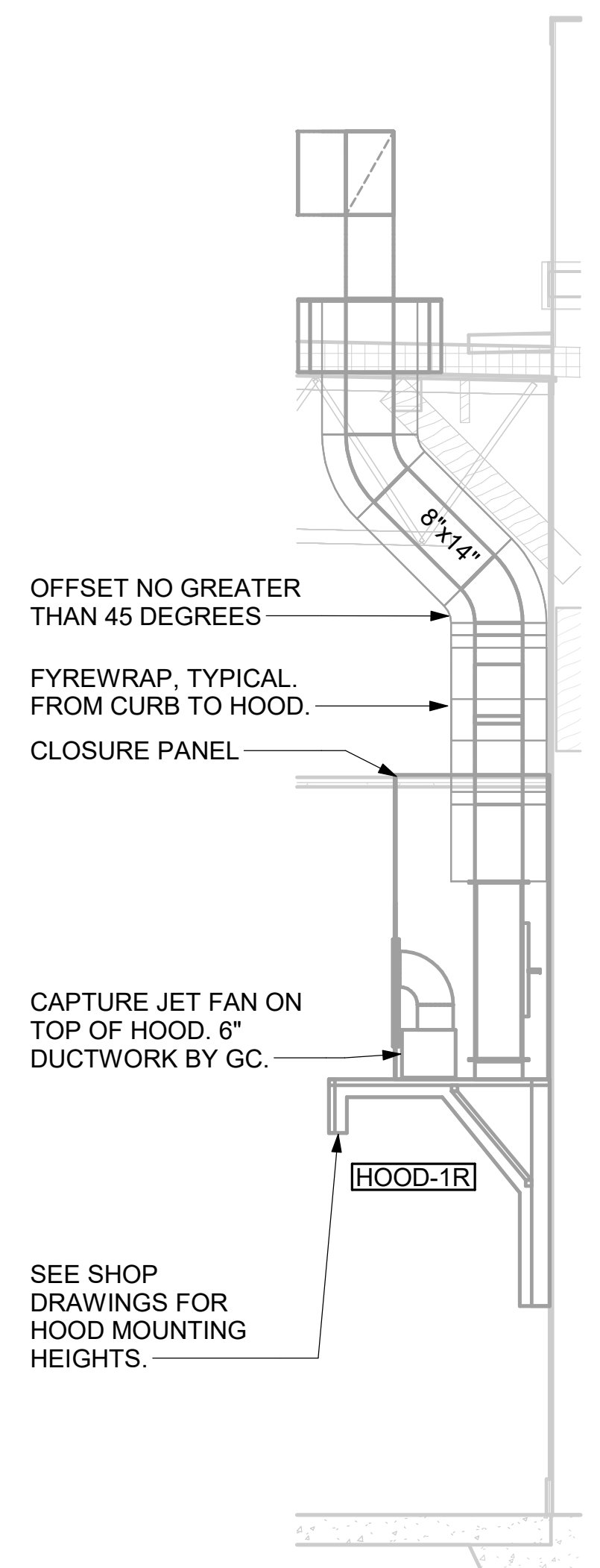
4 HOOD ELEVATION - HOOD#2 - FRONT  
 NOT TO SCALE



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



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



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



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



**CHICK-FIL-A**  
**KALAMAZOO**  
 5802 GULL ROAD  
 KALAMAZOO, MI 49048

**FSR#06006**  
 BUILDING TYPE / SIZE: P14 LSR BN  
 RELEASE: 25.02  
 PRINTED FOR  
 ISSUED FOR CONSTRUCTION

**REVISION SCHEDULE**

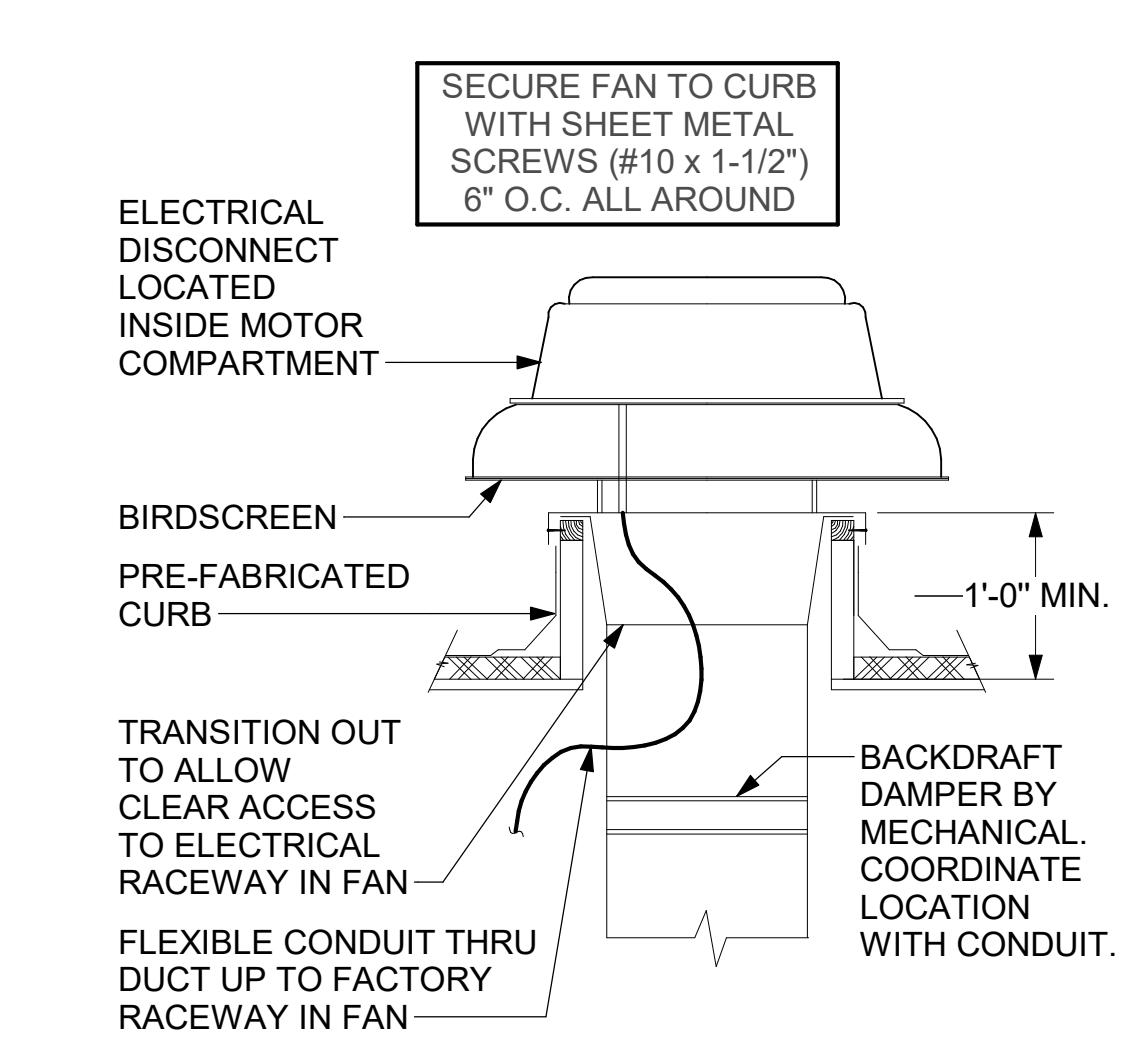
| NO. | DATE | DESCRIPTION |
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CONSULTANT PROJECT # 2024223.59  
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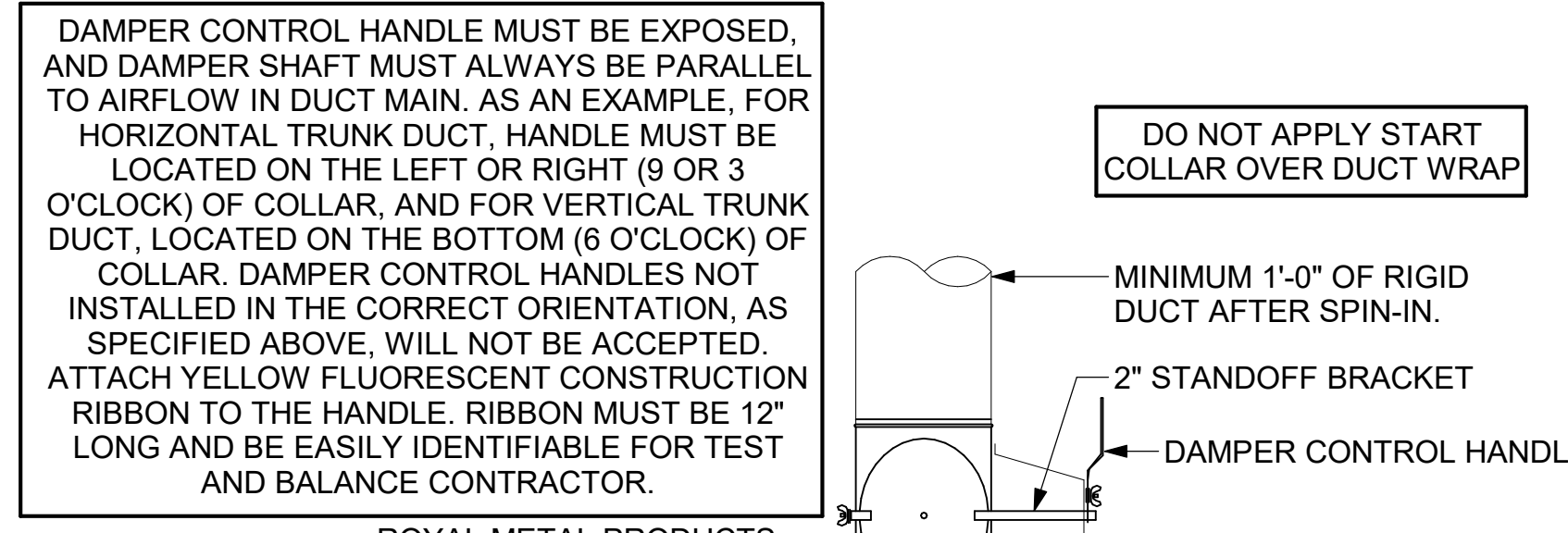
**SHEET**  
**EXHAUST HOOD ELEVATIONS**  
 SHEET NUMBER  
**M-201**

Autodesk Docs://MIL\_06006\_Kalamazoo - Gull Road FSU\_2025.1\_FSR#06006\_Kalamazoo - Gull Road FSU\_MEC.rvt  
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 30-LSR-06006-M-201-EXHAUST HOOD ELEVATIONS

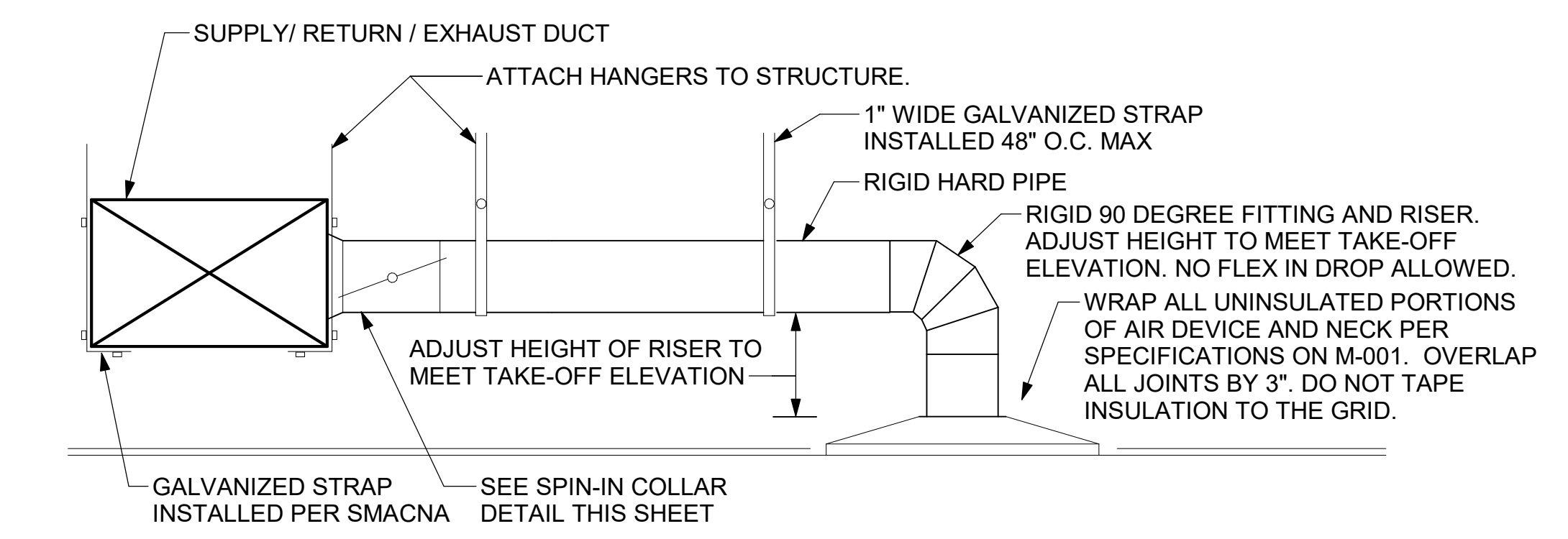


**3 RESTROOM EXHAUST FAN**  
NOT TO SCALE

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

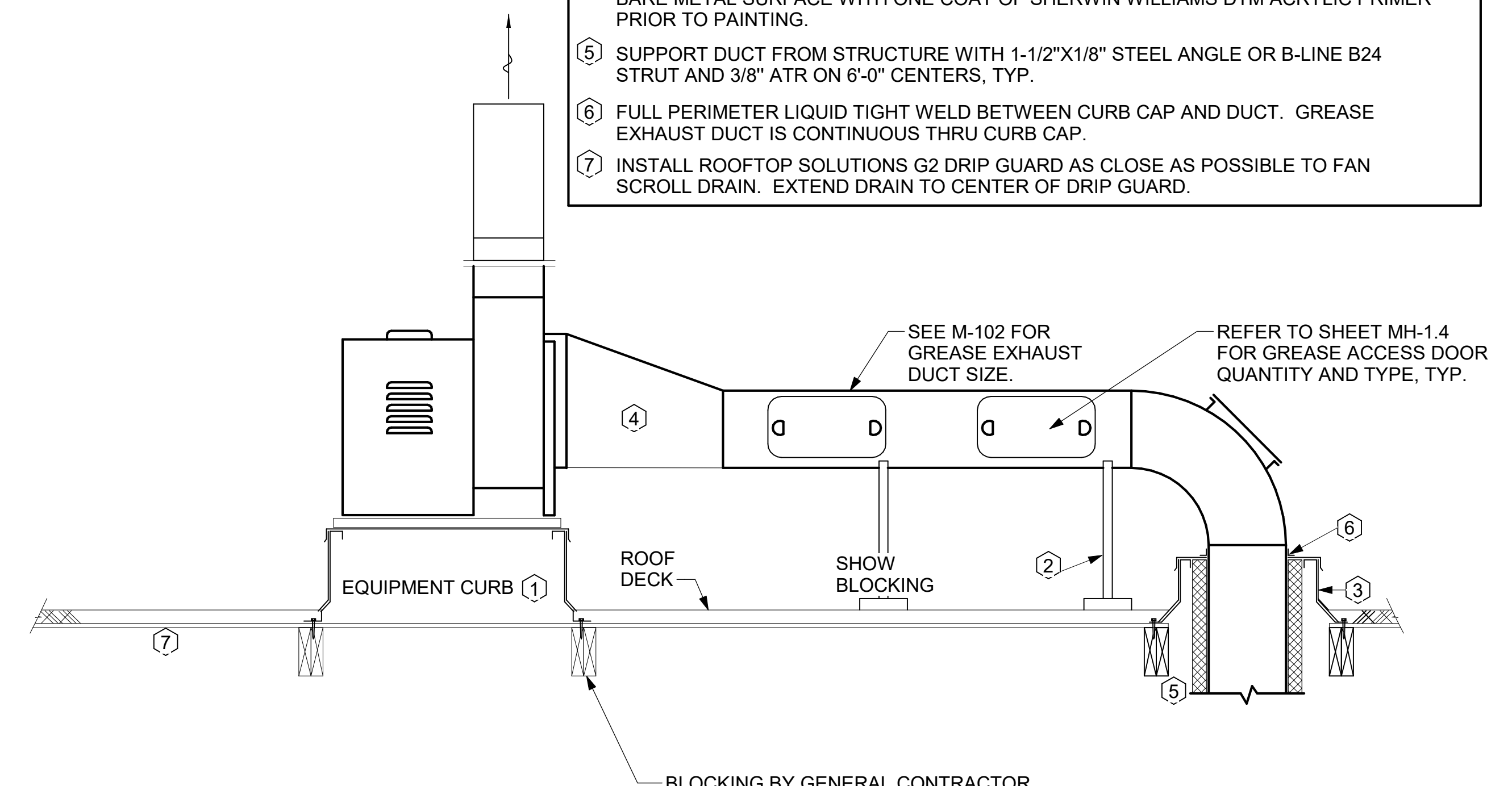


**2 START COLLAR**  
NOT TO SCALE



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

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

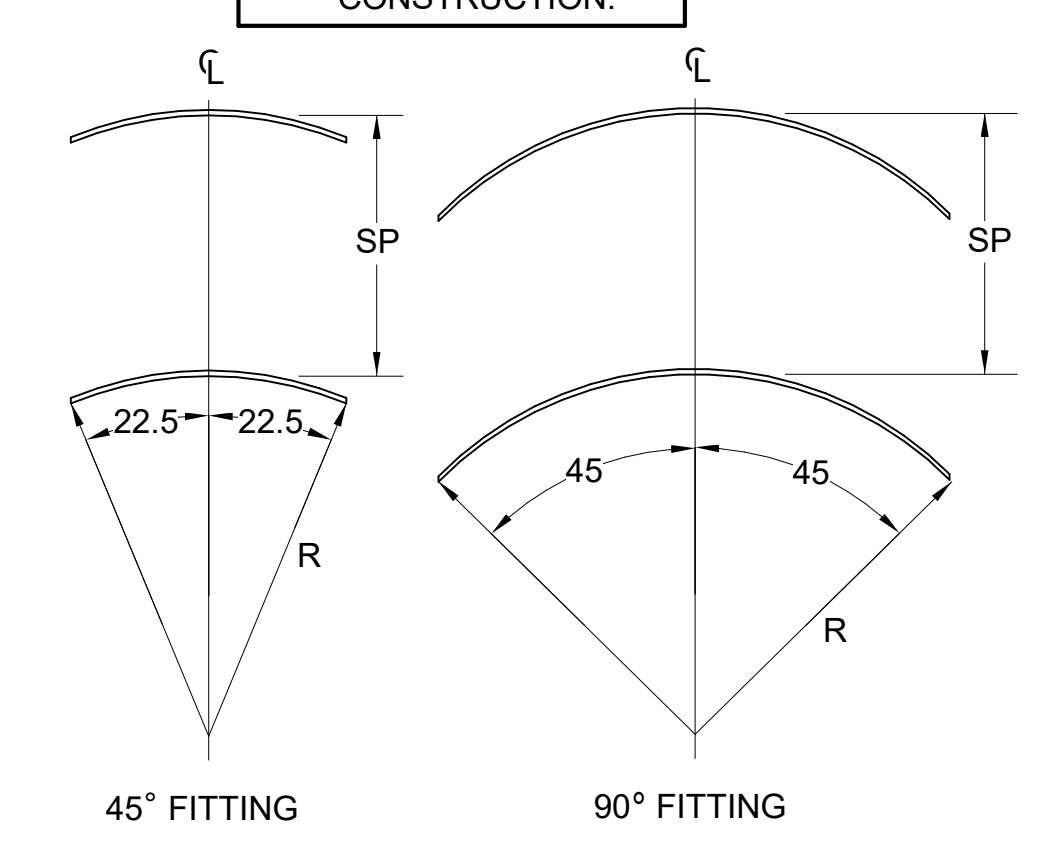


**6 KITCHEN HOOD EXHAUST FAN**  
NOT TO SCALE

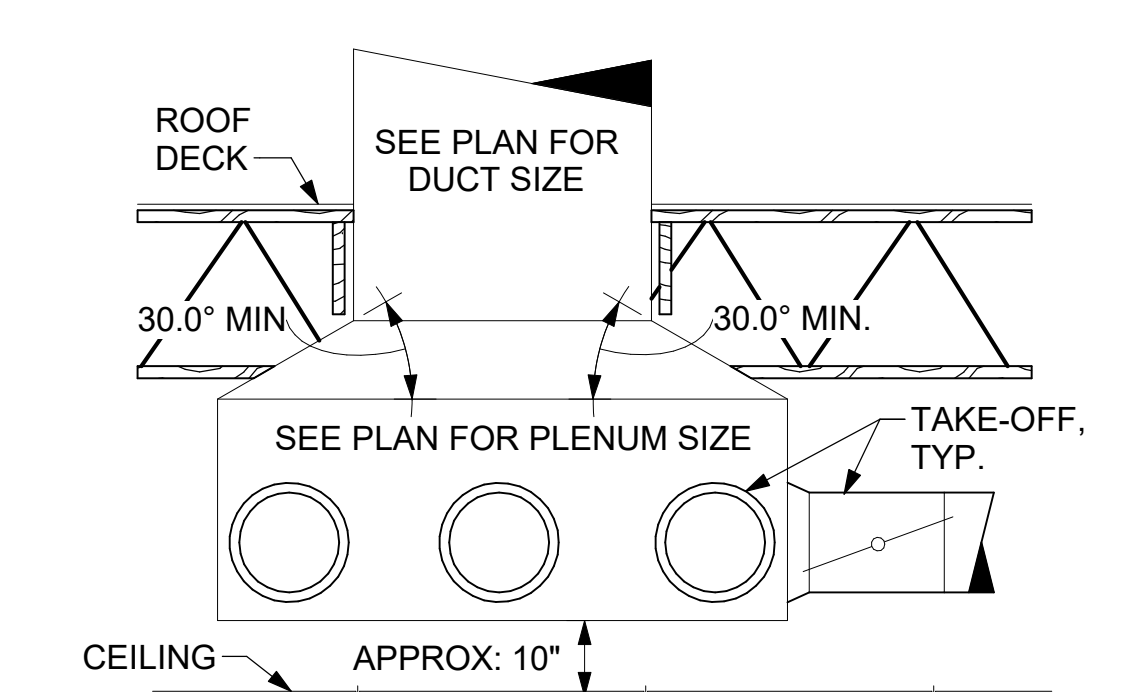
**TURNING VANE SCHEDULE**

| R  | SP   | GA |
|----|------|----|
| 2" | 1.5" | 24 |

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



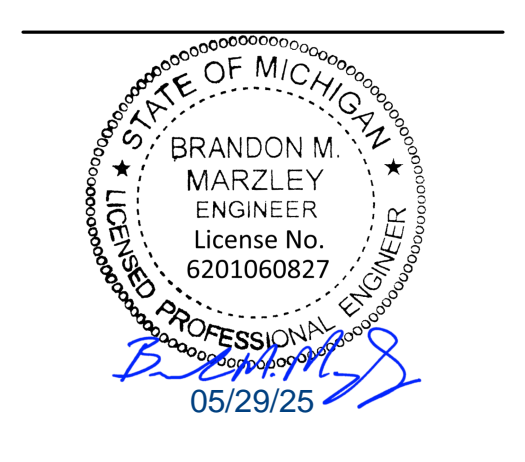
**4 TURNING VANES**  
NOT TO SCALE



**5 RETURN DROP GEOMETRY**  
NOT TO SCALE



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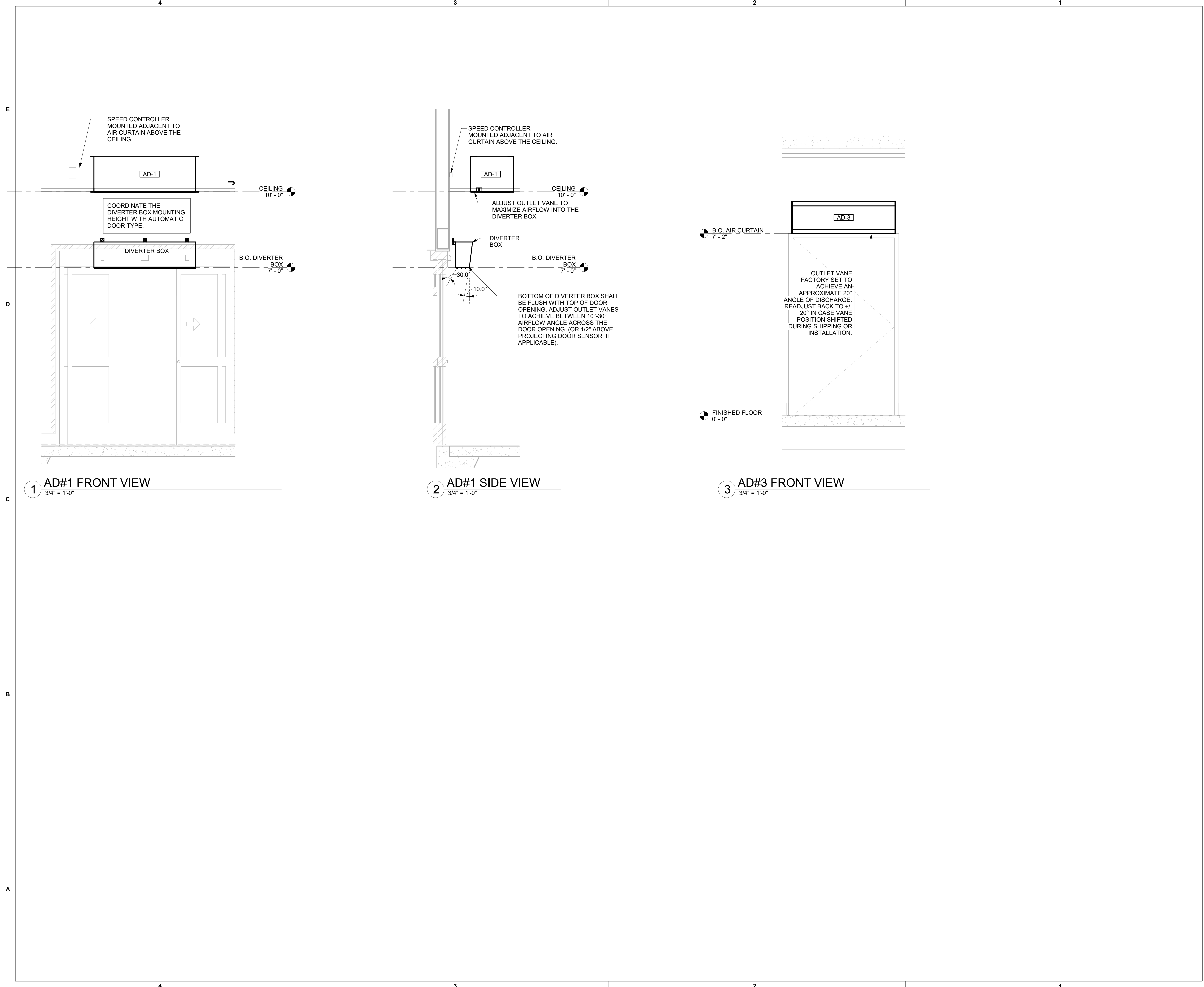
**CHICK-FIL-A**  
**KALAMAZOO**  
5802 GULL ROAD  
KALAMAZOO, MI 49048

**FSR#06006**  
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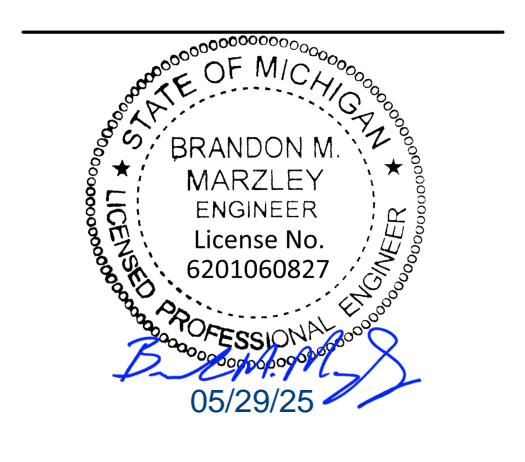
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SHEET  
**DETAILS**

SHEET NUMBER  
**M-501**



**Chick-fil-A**  
 5200 Buffington Road  
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 30349-2998



**CHICK-FIL-A**  
**KALAMAZOO**  
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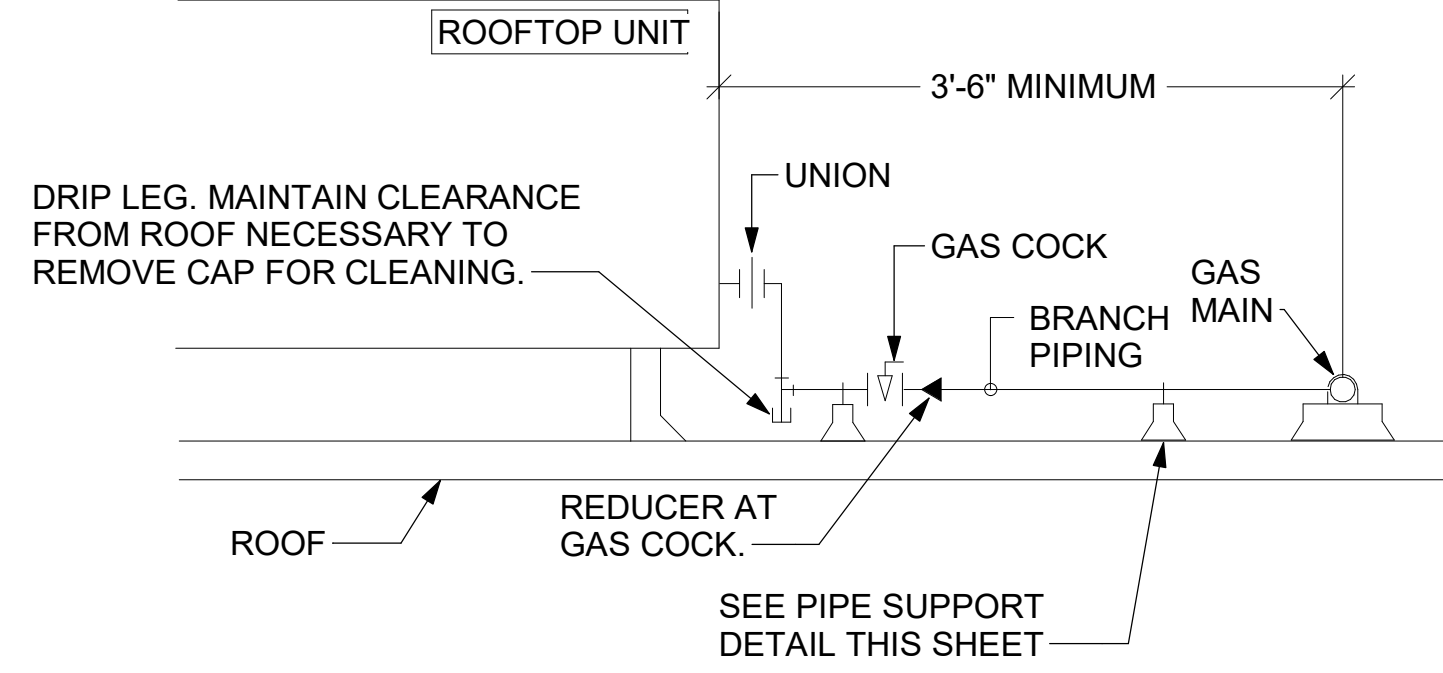
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 SHEET  
 DETAILS

SHEET NUMBER  
**M-502**

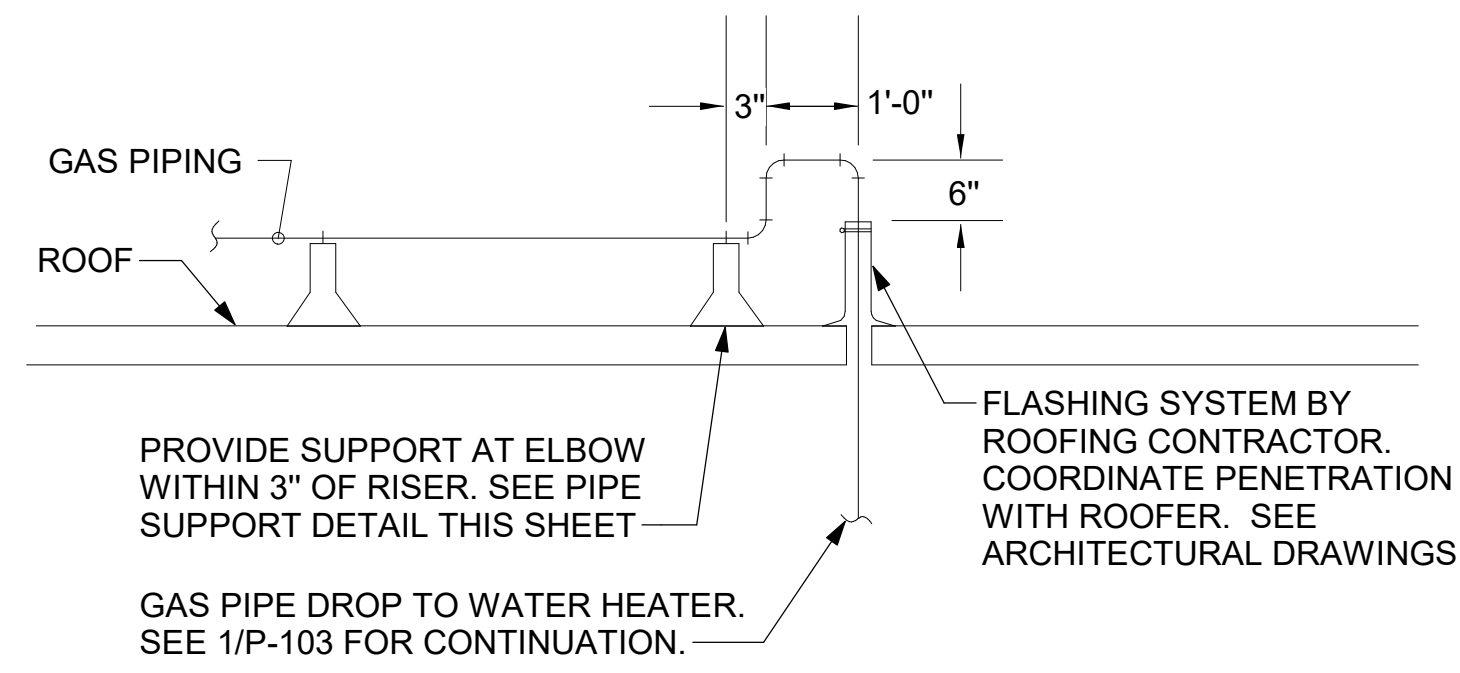
**NOTES:**

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

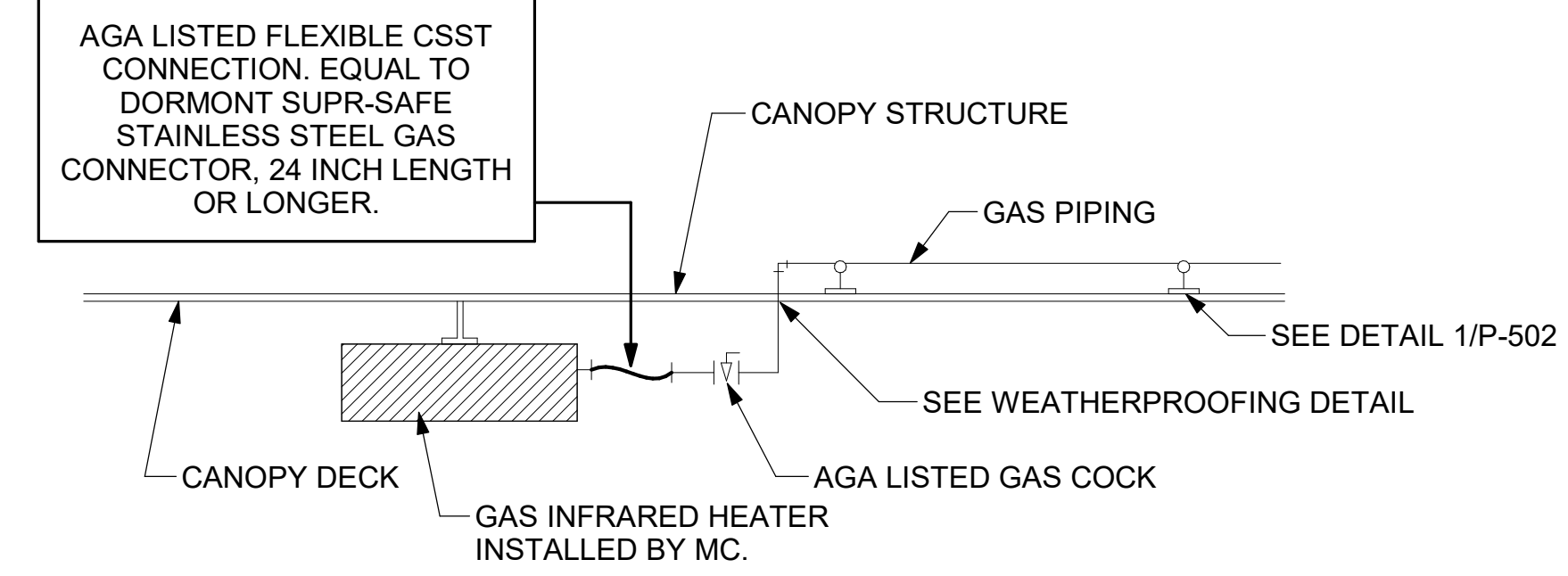


**3 GAS PIPING AT RTU**  
NOT TO SCALE

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

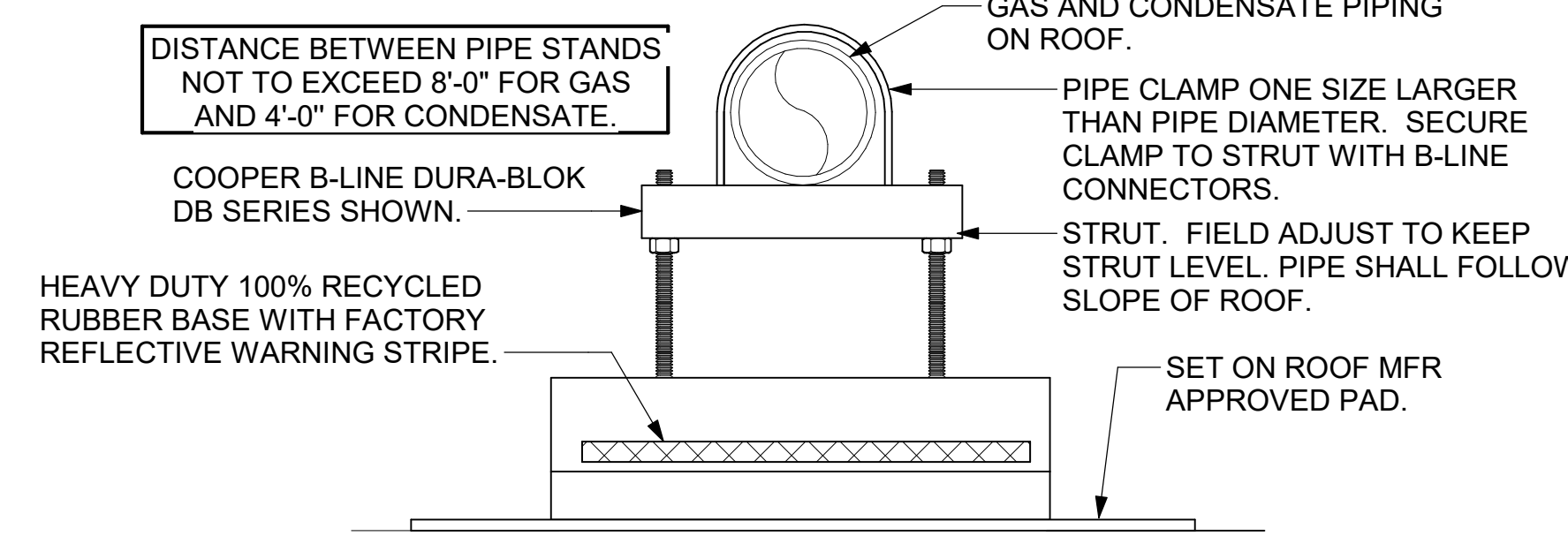


**2 GAS PIPE DROP TO WATER HEATER**  
NOT TO SCALE

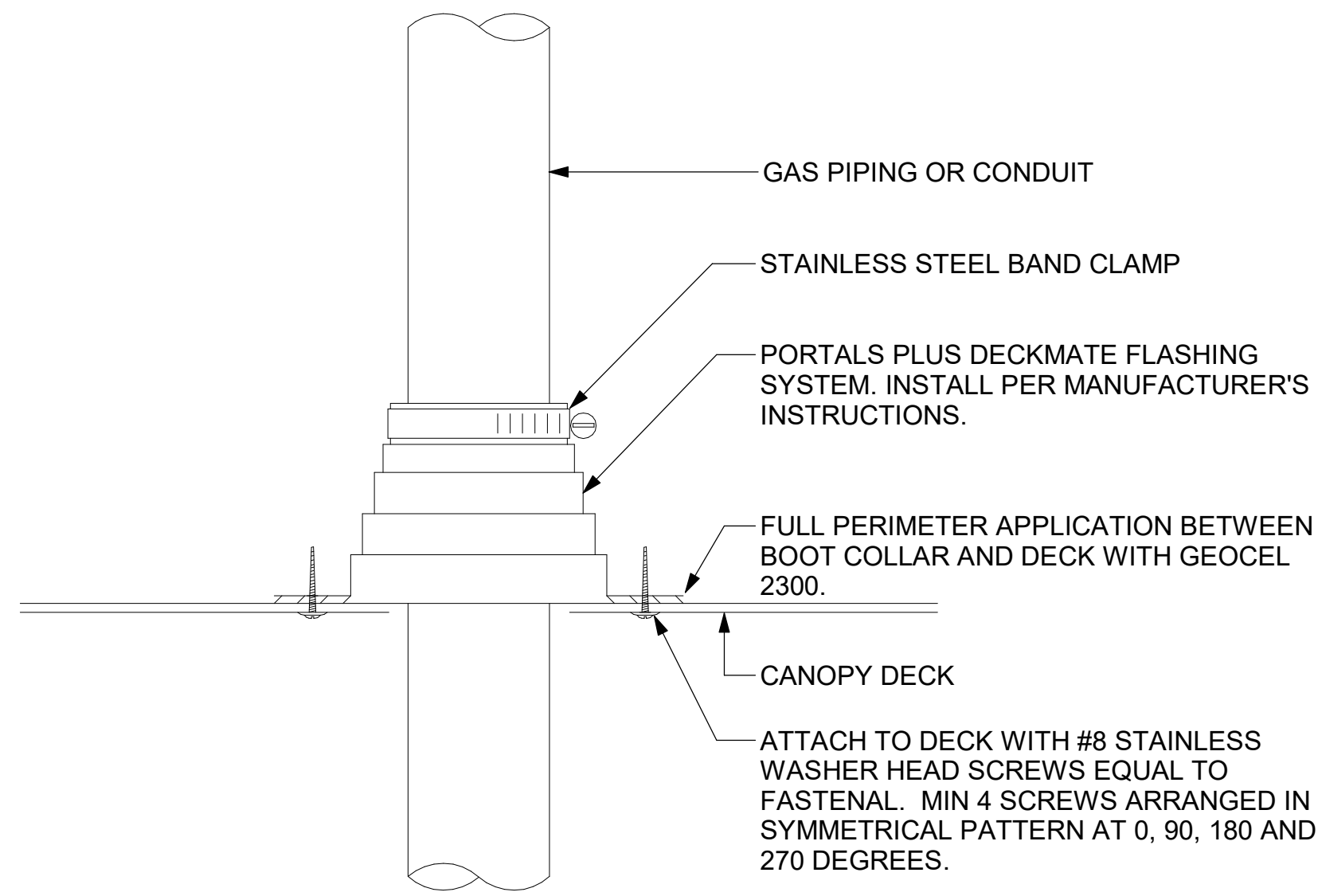


**1 GAS CONNECTION AT APPLIANCE**  
NOT TO SCALE

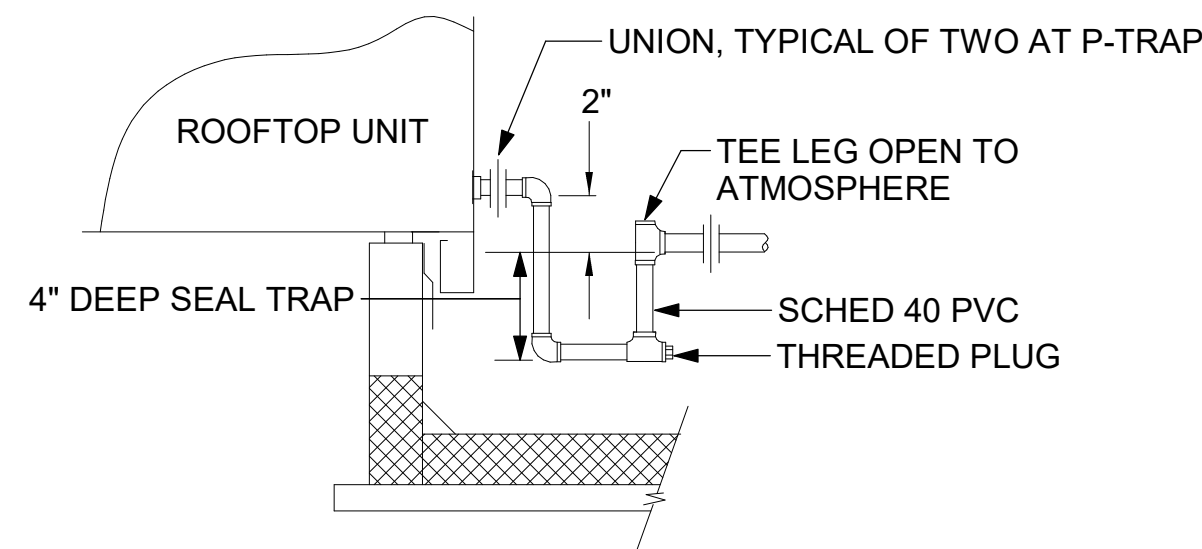
- NOTES:**
1. NON ADJUSTABLE MODEL DB610 PIPE STAND TO BE USED FOR NON-ELEVATED PIPING INSTALLED FLAT ON ROOF DECK.
  2. PROVIDE MODEL DBE 10-8 OR DBE 10-12 OR DBE 10-16 AS NEEDED FOR ELEVATING CONDENSATE PIPING TO MAINTAIN PROPER SLOPE AND FOR GAS PIPING CROSSING OVER CONDENSATE PIPING.
  3. ENSURE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



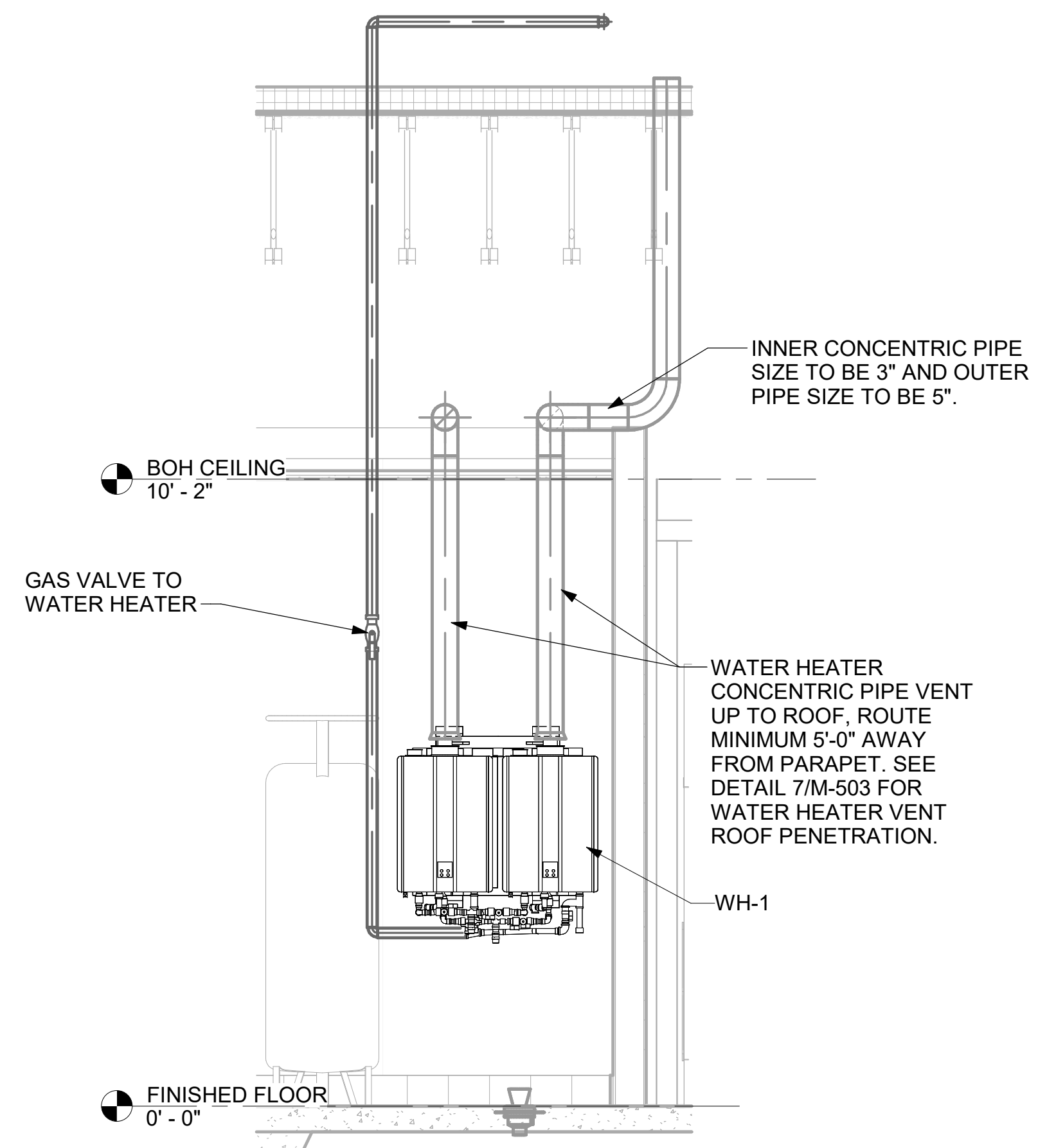
**4 PIPING SUPPORT ON ROOF**  
NOT TO SCALE



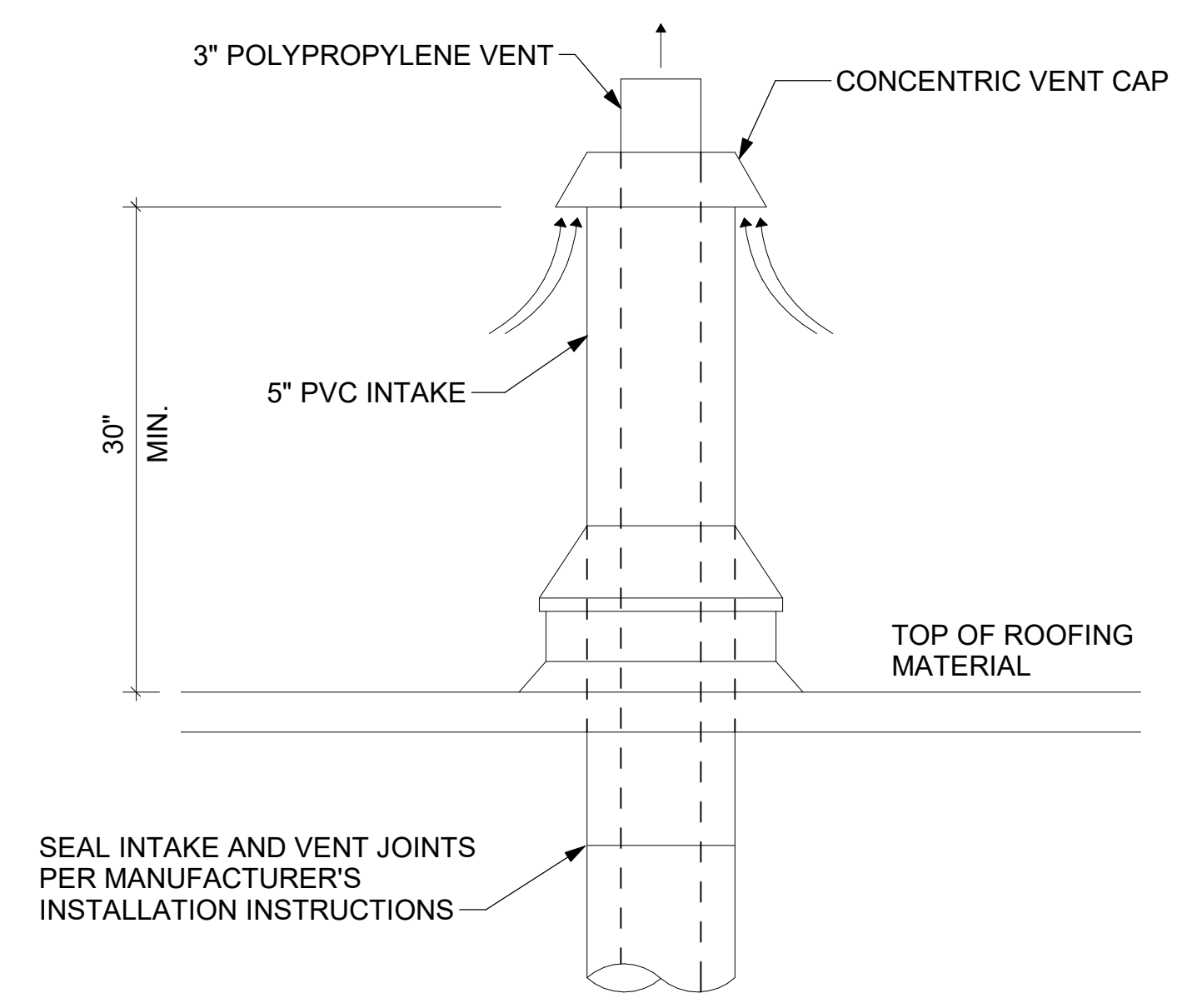
**6 WEATHERPROOFING AT CANOPY PENETRATION**  
NOT TO SCALE



**5 CONDENSATE DRAIN PIPING**  
NOT TO SCALE



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



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



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| REVISION SCHEDULE |      |             |
|-------------------|------|-------------|
| NO.               | DATE | DESCRIPTION |
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SHEET  
DETAILS  
SHEET NUMBER  
**M-503**

ROOFTOP UNIT SCHEDULE - TRANE

| MARK  | MANUFACTURER | MODEL    | EER/IEER | SEER | TOTAL WEIGHT | SUPPLY (CFM) | OA (CFM) | HP  | ESP (in-wg) | TOTAL COOLING MBH | SENSIBLE COOLING MBH | HEATING INPUT MBH | HEATING OUTPUT MBH | VOLTAGE (V) | PHASE | MCA (A) | MOCP (A) | REMARKS                              |
|-------|--------------|----------|----------|------|--------------|--------------|----------|-----|-------------|-------------------|----------------------|-------------------|--------------------|-------------|-------|---------|----------|--------------------------------------|
| AC-1T | TRANE        | YSK300A3 | 9.8/13.0 |      | 2731.00 lb   | 8,125        | 1,750    | 3   | 0.8         | 274.9             | 195.3                | 400               | 324                | 208         | 3     | 124     | 150      | 1,3,4,5,6,7,8,9,10,11,12,14,15,16,17 |
| AC-2T | TRANE        | YSK150A3 | 10.8/14  |      | 1599.00 lb   | 4,375        | 875      | 4.6 | 0.8         | 148.3             | 98.9                 | 250               | 202                | 208         | 3     | 67      | 90       | 2,3,4,5,6,7,8,9,10,11,12,14,15,16,17 |
| AC-3T | TRANE        | YSK180A3 | 10.8/14  |      | 2471.00 lb   | 5,250        | 1,275    | 3   | 0.8         | 189.4             | 117.8                | 400               | 324                | 208         | 3     | 79      | 110      | 2,3,4,5,6,7,8,9,10,11,12,14,15,16,17 |
| AC-4T | TRANE        | YHK048A3 |          | 17.1 | 1186.00 lb   | 1,725        | 180      | 3   | 0.8         | 47.3              | 32                   | 130               | 105.3              | 208         | 3     | 32      | 45       | 1,3,4,5,6,7,8,9,10,11,12,14,15,16    |
| AC-5T | TRANE        | YHK048A3 |          | 17.1 | 1228.00 lb   | 1,300        | 150      | 3   | 0.8         | 47.3              | 32                   | 130               | 105.3              | 208         | 3     | 38      | 50       | 1,3,4,5,6,7,8,9,10,11,12,14,15,16    |

NOTES

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

REMARKS

- DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST.
- DIFFERENTIAL ENTHALPY ECONOMIZER WITH BAROMETRIC EXHAUST.
- 14" HIGH ROOF CURB.
- SEE DETAIL 21M-702T FOR SETTING OF CONTROL PARAMETERS BY MC.
- FACTORY INSTALLED 115V GFI SERVICE OUTLET. SEPERATE 115V CIRCUIT PROVIDED BY ELECTRICAL CONTRACTOR.
- FACTORY INSTALLED RETURN AIR SMOKE DETECTOR.
- FACTORY INSTALLED NON-FUSED DISCONNECT.
- 2" MERV 8 THROW AWAY FILTERS.
- HINGED PANELS FOR ACCESS TO FILTER(S), FAN BLOWER & MOTOR, COMPRESSOR(S) ACCESS AND CONTROLS.
- FACTORY COIL HAIL GUARD, FIELD INSTALLED.
- FRESH AIR TEMPERING KIT.
- HOT GAS DEHUMIDIFICATION OPTION WITH WALL MOUNTED HUMIDITY SENSOR.
- NOT USED.
- FACTORY CONFIGURED PHASE LOSS PROTECTION.
- FACTORY INSTALLED CONDENSATE PAN DRAIN OVERFLOW SWITCH.
- FACTORY STAINLESS STEEL HEAT EXCHANGER.
- 100K SCCR RATING.

FAN SCHEDULE

| MARK | AREA SERVED     | MANUFACTURER | MODEL       | FAN CFM | ESP (in-wg) | HP    | MOTOR RPM | VOLTAGE (V) | PHASE | FLA (A) | MOCP (A) | REMARKS                 |
|------|-----------------|--------------|-------------|---------|-------------|-------|-----------|-------------|-------|---------|----------|-------------------------|
| CF-1 | OUTDOOR CANOPY  | TPI          | U-18-TE-HD  | 1,900   | 0.01        | 0.1   | 1,625     | 120         | 1     | 1.1     | 20       |                         |
| EF-1 | HOOD#1          | HALTON       | KEFB-14-CFA | 1,913   | 0.75        | 0.75  | 1,331     | 120         | 1     | 0       | 25       | 1,2,3,4,5,6,7,8,9,10,11 |
| EF-2 | HOOD#2 & HOOD#3 | HALTON       | KEFB-14-CFA | 1,402   | 0.95        | 0.75  | 1,199     | 115         | 1     | 0       | 25       | 1,2,3,4,5,6,7,8,9,10,11 |
| EF-3 | RESTROOMS       | ACCUREX      | XRED-095-VG | 360     | 0.375       | 0.167 | 1,201     | 115         | 1     | 2.2     | 20       | 1,3,11,12,13,14,15,16   |
| TF-1 | TECH CLOSET     | GREENHECK    | SP-A510-VG  | 450     | 0.3         | 0.127 | 1,144     | 120         | 1     | 2.5     | 20       | 1, 17, 18, 19           |
| TF-2 | VESTIBULE       | ACCUREX      | XID-7-VG    | 350     | 0.3         | 0.067 | 1,725     | 115         | 1     | 1.3     | 20       | 1,17,20                 |

NOTES

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

REMARKS

- FANS SUPPLIED BY HALTON. PURCHASED BY OWNER. WIRING DIAGRAMS PROVIDED 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.
- INTEGRAL POTENTIOMETER ON FAN MOTOR. SET TO FULL SPEED.
- 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.
- NOT USED.
- NOT USED.
- FAN SUPPLIED BY TOM BARROW OR POWERS OF ARKANSAS FOR THE SOUTHWEST REGION.

HOOD SCHEDULE

| MARK    | MANUFACTURER | MODEL    | EXHAUST CFM | SP @ TAB PORT (in-wg) | CAPTURE JET CFM & S.P. | TYPE      | COLLAR SIZE | WIDTH | DEPTH | HEIGHT | REMARKS                                 |
|---------|--------------|----------|-------------|-----------------------|------------------------|-----------|-------------|-------|-------|--------|---|
| HOOD-1L | HALTON       | KVL-2-IC | 709         | 0.13                  | 47 @ 0.30"             | BACKSHELF | 8"X8"       | 63"   | 37"   | 38"    | 1, 2, 3, 5, 7, 8, 9, 20, 21, 22         |
| HOOD-1R | HALTON       | KVL-2-IC | 1,204       | 0.13                  | 80 @ 0.30"             | BACKSHELF | 14"X8"      | 107"  | 37"   | 38"    | 1, 2, 3, 4, 5, 7, 8, 9, 12, 16, 21, 23  |
| HOOD-2  | HALTON       | KVL-C-IC | 701         | 0.3                   | 30 @ 0.29"             | BACKSHELF | 8"X8"       | 42"   | 34"   | 38"    | 1, 2, 3, 6, 7, 8, 9, 13, 15, 16, 18, 21 |
| HOOD-3  | HALTON       | KVL-C-IC | 701         | 0.3                   | 30 @ 0.29"             | BACKSHELF | 8"X8"       | 42"   | 34"   | 38"    | 1, 2, 3, 4, 6, 7, 8, 9, 13, 17, 21      |

NOTES

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

REMARKS

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

AIR DOOR SCHEDULE

| MARK | AREA SERVED | MANUFACTURER | MODEL     | CFM   | VELOCITY (FPM) | HEATING (KW) | MOTOR HP | MCA (A) | MOCP (A) | VOLTAGE (V) | PHASE | REMARKS |
|------|-------------|--------------|-----------|-------|----------------|--------------|----------|---------|----------|-------------|-------|---------|
| AD-1 | DRIVE THRU  | POWERED AIRE | CHA-1-48E | 1,543 | 2,338          | 10           | 0.75     | 42      | 45       | 208         | 3     | 1,2,3,5 |
| AD-3 | REAR DOOR   | POWERED AIRE | RBT-1-48  | 3,867 | 4,218          | 0            | 0.75     | 10      | 15       | 120         | 1     | 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.

AIR DEVICE SCHEDULE

| Mark | LOCATION                     | DESCRIPTION   | NECK SIZE | FACE SIZE | FRAME TYPE | REMARKS    |
|------|------------------------------|---|-----------|-----------|------------|------------|
|      | DINING/KITCHEN/ MFA/BOH/PLAY |   | VARIABLES | 24"x24"   |            |            |
| A    | DINING/KITCHEN/ MFA/BOH/PLAY |   | VARIABLES | 24"x24"   |            |            |
| D    | VESTIBULE                    |   | 10"       | 16"x16"   |            |            |
| E1   | RESTROOMS                    | PRICE MODEL APDDR ALUMINUM PERFORATED FACE EXHAUST AIR GRILLE.  | 14"x14"   | 16"x16"   | LAY-IN     | 1,3,4,9    |
| R2   | PLAY                         | PRICE MODEL 21 ALUMINUM SIDEWALL RETURN GRILLE. FRONT BLADE PARALLEL TO LONG SIDE                               | 24"x14"   | 26"x16"   | SURFACE    | 1,9        |
| S1   | RESTROOMS                    |   | VARIABLES | 12"x12"   |            |            |
| S2   | VESTIBULE/SERVING            | PRICE MODEL APDC ALUMINUM SUPPLY AIR DIFFUSER WITH INDIVIDUALLY ADJUSTABLE CURVED AIR PATTERN CONTROLLERS       | 10"       | 16"x16"   | LAY-IN     | 1,2,4,6,10 |
| S4   | DINING                       | PRICE MODEL TBDI2150 T-BAR SUPPLY DIFFUSERS   | 12"       | 48"x6"    | LAY-IN     | 1,8        |
| S5   | OFFICE                       | PRICE MODEL VARITHERM PLAQUE DIFFUSER   | 8"        | 24"x24"   | LAY-IN     | 1,6,7      |
| S6   | TEAM MEMBERS                 | PRICE MODEL VARITHERM PLAQUE DIFFUSER   | 10"       | 24"x24"   | LAY-IN     | 1,6,7      |
| S7   | PLAY                         | PRICE MODEL 20 DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY GRILLE. FRONT BLADE PARALLEL TO LONG SIDE             | 16"x10"   | 18"x12"   | SURFACE    | 1,9        |
| T1   | VESTIBULE                    | PRICE MODEL 80 EGGRATE TRANSFER AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND ROUND NECK | 10"       | 24"x24"   | LAY-IN     | 1,5,6      |

NOTES

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

REMARKS

- STANDARD OFF WHITE FINISH.
- PROVIDE 4-WAY BLOW UNLESS OTHERWISE NOTED. REFER TO M-101(L,T) 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.
- PROVIDE SQUARE TO ROUND ADAPTOR.
- FACTORY INSULATED R-6 BACKPAN.
- PROVIDE RELIEF COLLAR ACCESSORY FOR VAV DIFFUSER.
- PROVIDE 2 SLOTS, CENTER NOTCH, AND ONE WAY DISCHARGE.
- FIELD INSULATE BACKPAN AS SHOWN ON DETAIL 1/M-501.
- PROVIDE ALUMINUM PLASTER FRAME.

ELECTRIC HEATER SCHEDULE

| MARK  | MANUFACTURER | MODEL     | HEATING INPUT ELECTRIC (KW) | FRAME LENGTH | FRAME WIDTH | FRAME DEPTH | MOUNTING TYPE | VOLTAGE (V) | PHASE | FLA (A) | MOCP (A) | REMARKS    |
|-------|--------------|-----------|-----------------------------|--------------|-------------|-------------|---------------|-------------|-------|---------|----------|------------|
| EIH-1 | BROMIC       | BH0420035 | 6.00                        | 56"          | 8.5"        | 3.5"        | WALL BRACKET  | 208         | 1     | 28.9    | 40       | 1, 2, 3, 4 |

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.

GAS HEATER SCHEDULE

| MARK | MANUFACTURER | MODEL   | HEATING INPUT GAS (MBH) | FRAME LENGTH | FRAME WIDTH | FRAME DEPTH | MOUNTING TYPE | REMARKS |
|------|--------------|---------|-------------------------|--------------|-------------|-------------|---------------|---------|
| IRH  | SCHWANK      | 2352-NG | 50.0                    | 48.3"        | 13"         | 10"         | BRACKET       |         |

NOTES

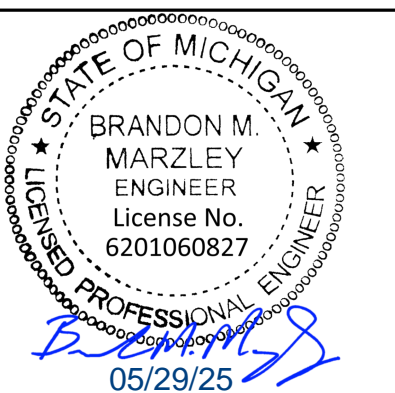
- NATIONAL ACCOUNT NO SUBSTITUTIONS PERMITTED - SEE DRAWING G-004.
- CONFIRM HEATER QUANTITY WITH CANOPY SHOP DRAWINGS.

REMARKS

- STAINLESS STEEL LENS WITH BLACK EMISSIVE COATING.
- STEEL BURNER WITH CERAMIC BURNER TILES.
- PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BACKGROUND. MOUNT TO CANOPY DECK, FACING FORWARD, 12" LATERALLY FROM THE LONG SIDE OF THE HEATER.
- STAINLESS STEEL HEAT SHIELDS.
- REFER TO ELECTRICAL DRAWINGS FOR DISCONNECTING MEANS, CONDUIT, CONDUCTOR, AND CONNECTION REQUIREMENTS.



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



**CHICK-FIL-A**  
**KALAMAZOO**  
5802 GULL ROAD  
KALAMAZOO, MI 49048

**FSR#06006**

BUILDING TYPE / SIZE: P14 LSR BN  
RELEASE: 25.02  
PRINTED FOR:  
ISSUED FOR CONSTRUCTION

REVISION SCHEDULE  
NO. DATE DESCRIPTION

CONSULTANT PROJECT # 2024223.59  
DATE 05/28/25  
DRAWN BY JDF

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SHEET HVAC EQUIPMENT SCHEDULES - TRANE

SHEET NUMBER

**M-601T**

### VENTILATION SCHEDULE

| General           |           | Ventilation  |                                   |              |                                    |                             |                             |   |                         |   |                                    |  |                          |                               | Exhaust                         |                            |                            |                           |                                  | Served by                    |                    |               |             |
|-------------------|-----------|--------------|-----------------------------------|--------------|------------------------------------|-----------------------------|-----------------------------|---|-------------------------|---|------------------------------------|--|--------------------------|-------------------------------|---------------------------------|----------------------------|----------------------------|---------------------------|----------------------------------|------------------------------|--------------------|---------------|-------------|
| Room #            | Room Name | Area Az ft2  | People                            |              |                                    | Area                        |                             |   |                         |   | Breathing Zone Outdoor Airflow CFM | Zone Air Distribution Effectiveness Ez | Zone Outdoor Airflow CFM | Primary Zone Airflow CFM      | Primary Outdoor Air Fraction Zp | Actual Outdoor Airflow CFM | Area                       |                           | Toilet                           |                              |                    | Supply        | Exhaust     |
|                   |           |              | Occupant Density People/1,000 ft2 | Occupants Pz | Outdoor Airflow Rate CFM/Person Rp | Outdoor Airflow CFM Pz x Rp | Outdoor Airflow Rate CFM/Ra | Outdoor Airflow CFM Az x Ra                 | Outdoor Airflow CFM Vbz | Required Exhaust Rate CFM/ft2             |                                    |  |                          |                               |                                 |                            | Total Required Exhaust CFM | Exhaust Control/Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM |               |             |
| 1                 | Kitchen   | 1,283        | 20                                | 26           | 7.5                                | 195                         | 0.12                        | 154   | 349                     | 0.8                                       | 437                                | 8,125                                  | 0.05                     | 1,750                         | 1                               | 899                        | -                          | -                         | -                                | -                            | -                  | AC-1L / AC-1T | EF-1 / EF-2 |
| <b>Total Area</b> |           | <b>1,283</b> |                                   |              |                                    |                             |                             | <b>Total Vbz</b>                            | <b>349</b>              | <b>Total Supply Airflow</b>               | <b>8,125</b>                       |  | <b>1,750</b>             | <b>Actual Outdoor Airflow</b> |                                 |                            |                            |                           |                                  |                              |                    |               |             |
|                   |           |              |                                   |              |                                    |                             |                             | <b>Diversity (D)</b>                        | <b>0.85</b>             | <b>Maximum Zp</b>                         |                                    |  | <b>0.05</b>              |                               |                                 |                            |                            |                           |                                  |                              |                    |               |             |
|                   |           |              |                                   |              |                                    |                             |                             | <b>Uncorrected Outdoor Air Intake (Vou)</b> | <b>325</b>              | <b>System Ventilation Efficiency (Ev)</b> |                                    |  | <b>1.00</b>              |                               |                                 |                            |                            |                           |                                  |                              |                    |               |             |
|                   |           |              |                                   |              |                                    |                             |                             | <b>Required Outdoor Air Intake (CFM)</b>    |                         | <b>325</b>                                |                                    |  |                          |                               |                                 |                            |                            |                           |                                  |                              |                    |               |             |

### VENTILATION SCHEDULE

| General           |                       | Ventilation |                                   |              |                                    |                             |                             |   |                         |   |                                    |  |                          |                               | Exhaust                         |                            |                            |                           |                                  | Served by                    |                    |               |         |
|-------------------|-----------------------|-------------|-----------------------------------|--------------|------------------------------------|-----------------------------|-----------------------------|---|-------------------------|---|------------------------------------|--|--------------------------|-------------------------------|---------------------------------|----------------------------|----------------------------|---------------------------|----------------------------------|------------------------------|--------------------|---------------|---------|
| Room #            | Room Name             | Area Az ft2 | People                            |              |                                    | Area                        |                             |   |                         |   | Breathing Zone Outdoor Airflow CFM | Zone Air Distribution Effectiveness Ez | Zone Outdoor Airflow CFM | Primary Zone Airflow CFM      | Primary Outdoor Air Fraction Zp | Actual Outdoor Airflow CFM | Area                       |                           | Toilet                           |                              |                    | Supply        | Exhaust |
|                   |                       |             | Occupant Density People/1,000 ft2 | Occupants Pz | Outdoor Airflow Rate CFM/Person Rp | Outdoor Airflow CFM Pz x Rp | Outdoor Airflow Rate CFM/Ra | Outdoor Airflow CFM Az x Ra                 | Outdoor Airflow CFM Vbz | Required Exhaust Rate CFM/ft2             |                                    |  |                          |                               |                                 |                            | Total Required Exhaust CFM | Exhaust Control/Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM |               |         |
| 5                 | Meal Fulfillment Area | 425         | 15                                | 7            | 7.5                                | 52.5                        | 0.18                        | 77  | 129                     | 0.8                                       | 162                                | 4,375                                  | 0.04                     | 875                           | -                               | -                          | -                          | -                         | -                                | -                            | -                  | AC-2L / AC-2T | -       |
| <b>Total Area</b> |                       | <b>425</b>  |                                   |              |                                    |                             |                             | <b>Total Vbz</b>                            | <b>129</b>              | <b>Total Supply Airflow</b>               | <b>4,375</b>                       |  | <b>875</b>               | <b>Actual Outdoor Airflow</b> |                                 |                            |                            |                           |                                  |                              |                    |               |         |
|                   |                       |             |                                   |              |                                    |                             |                             | <b>Diversity (D)</b>                        | <b>1.00</b>             | <b>Maximum Zp</b>                         |                                    |  | <b>0.03</b>              |                               |                                 |                            |                            |                           |                                  |                              |                    |               |         |
|                   |                       |             |                                   |              |                                    |                             |                             | <b>Uncorrected Outdoor Air Intake (Vou)</b> | <b>129</b>              | <b>System Ventilation Efficiency (Ev)</b> |                                    |  | <b>1.00</b>              |                               |                                 |                            |                            |                           |                                  |                              |                    |               |         |
|                   |                       |             |                                   |              |                                    |                             |                             | <b>Required Outdoor Air Intake (CFM)</b>    |                         | <b>129</b>                                |                                    |  |                          |                               |                                 |                            |                            |                           |                                  |                              |                    |               |         |

### VENTILATION SCHEDULE

| General           |              | Ventilation  |                                   |              |                                    |                             |                             |   |                         |   |                                    |  |                          |                               | Exhaust                         |                            |                            |                           |                                  | Served by                    |                    |               |         |
|-------------------|--------------|--------------|-----------------------------------|--------------|------------------------------------|-----------------------------|-----------------------------|---|-------------------------|---|------------------------------------|--|--------------------------|-------------------------------|---------------------------------|----------------------------|----------------------------|---------------------------|----------------------------------|------------------------------|--------------------|---------------|---------|
| Room #            | Room Name    | Area Az ft2  | People                            |              |                                    | Area                        |                             |   |                         |   | Breathing Zone Outdoor Airflow CFM | Zone Air Distribution Effectiveness Ez | Zone Outdoor Airflow CFM | Primary Zone Airflow CFM      | Primary Outdoor Air Fraction Zp | Actual Outdoor Airflow CFM | Area                       |                           | Toilet                           |                              |                    | Supply        | Exhaust |
|                   |              |              | Occupant Density People/1,000 ft2 | Occupants Pz | Outdoor Airflow Rate CFM/Person Rp | Outdoor Airflow CFM Pz x Rp | Outdoor Airflow Rate CFM/Ra | Outdoor Airflow CFM Az x Ra                 | Outdoor Airflow CFM Vbz | Required Exhaust Rate CFM/ft2             |                                    |  |                          |                               |                                 |                            | Total Required Exhaust CFM | Exhaust Control/Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM |               |         |
| 1                 | Dining       | 1,036        | 70                                | 73           | 7.5                                | 547.5                       | 0.18                        | 186   | 734                     | 0.8                                       | 918                                | 3,700                                  | 0.248                    | 881                           | -                               | -                          | -                          | -                         | -                                | -                            | -                  | AC-3L / AC-3T | -       |
| 2                 | Serving      | 563          | 15                                | 9            | 7.5                                | 68                          | 0.18                        | 101   | 169                     | 0.8                                       | 212                                | 1,250                                  | 0.17                     | 298                           | -                               | -                          | -                          | -                         | -                                | -                            | -                  | AC-3L / AC-3T | -       |
| 3                 | Men's RR     | 172          | -                                 | -            | -                                  | -                           | -                           | -   | -                       | 0.8                                       | -                                  | 100                                    | -                        | 24                            | -                               | -                          | Continuous                 | 50                        | 150                              | 180                          | -                  | AC-3L / AC-3T | EF-3    |
| 4                 | Women's RR   | 197          | -                                 | -            | -                                  | -                           | -                           | -   | -                       | 0.8                                       | -                                  | 100                                    | -                        | 24                            | -                               | -                          | Continuous                 | 50                        | 150                              | 180                          | -                  | AC-3L / AC-3T | EF-3    |
| 5                 | RR Vestibule | 90           | -                                 | -            | -                                  | -                           | 0.06                        | 5   | 5                       | 0.8                                       | 7                                  | 100                                    | 0.07                     | 24                            | -                               | -                          | -                          | -                         | -                                | -                            | -                  | AC-3L / AC-3T | -       |
| <b>Total Area</b> |              | <b>2,058</b> |                                   |              |                                    |                             |                             | <b>Total Vbz</b>                            | <b>908</b>              | <b>Total Supply Airflow</b>               | <b>5,250</b>                       |  | <b>1,250</b>             | <b>Actual Outdoor Airflow</b> |                                 |                            |                            |                           |                                  |                              |                    |               |         |
|                   |              |              |                                   |              |                                    |                             |                             | <b>Diversity (D)</b>                        | <b>1.00</b>             | <b>Maximum Zp</b>                         |                                    |  | <b>0.248</b>             |                               |                                 |                            |                            |                           |                                  |                              |                    |               |         |
|                   |              |              |                                   |              |                                    |                             |                             | <b>Uncorrected Outdoor Air Intake (Vou)</b> | <b>908</b>              | <b>System Ventilation Efficiency (Ev)</b> |                                    |  | <b>0.90</b>              |                               |                                 |                            |                            |                           |                                  |                              |                    |               |         |
|                   |              |              |                                   |              |                                    |                             |                             | <b>Required Outdoor Air Intake (CFM)</b>    |                         | <b>1,009</b>                              |                                    |  |                          |                               |                                 |                            |                            |                           |                                  |                              |                    |               |         |

### VENTILATION SCHEDULE

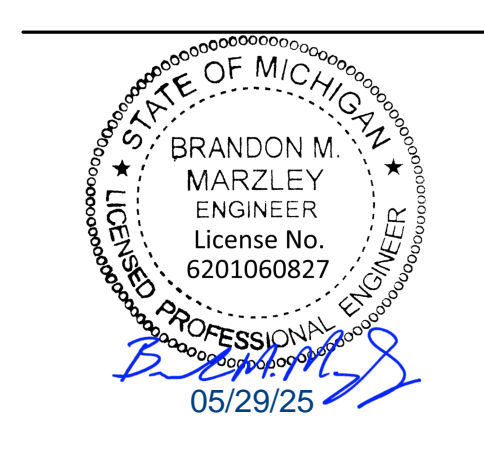
| General           |                    | Ventilation |                                   |              |                                    |                             |                             |   |                         |   |                                    |  |                          |                               | Exhaust                         |                            |                            |                           |                                  | Served by                    |                    |               |         |
|-------------------|--------------------|-------------|-----------------------------------|--------------|------------------------------------|-----------------------------|-----------------------------|---|-------------------------|---|------------------------------------|--|--------------------------|-------------------------------|---------------------------------|----------------------------|----------------------------|---------------------------|----------------------------------|------------------------------|--------------------|---------------|---------|
| Room #            | Room Name          | Area Az ft2 | People                            |              |                                    | Area                        |                             |   |                         |   | Breathing Zone Outdoor Airflow CFM | Zone Air Distribution Effectiveness Ez | Zone Outdoor Airflow CFM | Primary Zone Airflow CFM      | Primary Outdoor Air Fraction Zp | Actual Outdoor Airflow CFM | Area                       |                           | Toilet                           |                              |                    | Supply        | Exhaust |
|                   |                    |             | Occupant Density People/1,000 ft2 | Occupants Pz | Outdoor Airflow Rate CFM/Person Rp | Outdoor Airflow CFM Pz x Rp | Outdoor Airflow Rate CFM/Ra | Outdoor Airflow CFM Az x Ra                 | Outdoor Airflow CFM Vbz | Required Exhaust Rate CFM/ft2             |                                    |  |                          |                               |                                 |                            | Total Required Exhaust CFM | Exhaust Control/Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM |               |         |
| 1                 | Team Member Room   | 107         | 50                                | 6            | 5                                  | 30                          | 0.06                        | 6   | 36                      | 0.8                                       | 46                                 | 285                                    | 0.16                     | 37                            | -                               | -                          | -                          | -                         | -                                | -                            | -                  | AC-4L / AC-4T | -       |
| 2                 | Riser Room         | 40          | -                                 | -            | -                                  | -                           | 0.12                        | 5   | 5                       | 0.8                                       | 6                                  | 205                                    | 0.03                     | 26                            | -                               | -                          | -                          | -                         | -                                | -                            | -                  | AC-4L / AC-4T | -       |
| 3                 | Service / Beverage | 198         | -                                 | -            | -                                  | -                           | 0.12                        | 24  | 24                      | 0.8                                       | 30                                 | 575                                    | 0.05                     | 74                            | -                               | -                          | -                          | -                         | -                                | -                            | -                  | AC-4L / AC-4T | -       |
| 4                 | Office             | 44          | 5                                 | 1            | 5                                  | 5                           | 0.06                        | 3   | 8                       | 0.8                                       | 10                                 | 120                                    | 0.08                     | 15                            | -                               | -                          | -                          | -                         | -                                | -                            | -                  | AC-4L / AC-4T | -       |
| 5                 | Flex               | 67          | -                                 | -            | -                                  | -                           | 0.12                        | 8   | 8                       | 0.8                                       | 11                                 | 215                                    | 0.05                     | 28                            | -                               | -                          | -                          | -                         | -                                | -                            | -                  | AC-4L / AC-4T | -       |
| <b>Total Area</b> |                    | <b>456</b>  |                                   |              |                                    |                             |                             | <b>Total Vbz</b>                            | <b>81</b>               | <b>Total Supply Airflow</b>               | <b>1,400</b>                       |  | <b>180</b>               | <b>Actual Outdoor Airflow</b> |                                 |                            |                            |                           |                                  |                              |                    |               |         |
|                   |                    |             |                                   |              |                                    |                             |                             | <b>Diversity (D)</b>                        | <b>1.00</b>             | <b>Maximum Zp</b>                         |                                    |  | <b>0.16</b>              |                               |                                 |                            |                            |                           |                                  |                              |                    |               |         |
|                   |                    |             |                                   |              |                                    |                             |                             | <b>Uncorrected Outdoor Air Intake (Vou)</b> | <b>81</b>               | <b>System Ventilation Efficiency (Ev)</b> |                                    |  | <b>0.90</b>              |                               |                                 |                            |                            |                           |                                  |                              |                    |               |         |
|                   |                    |             |                                   |              |                                    |                             |                             | <b>Required Outdoor Air Intake (CFM)</b>    |                         | <b>89</b>                                 |                                    |  |                          |                               |                                 |                            |                            |                           |                                  |                              |                    |               |         |

### VENTILATION SCHEDULE

| General           |           | Ventilation |                                   |              |                                    |                             |                             |   |                         |   |                                    |  |                          |                               | Exhaust                         |                            |                            |                           |                                  | Served by                    |                    |               |         |
|-------------------|-----------|-------------|-----------------------------------|--------------|------------------------------------|-----------------------------|-----------------------------|---|-------------------------|---|------------------------------------|--|--------------------------|-------------------------------|---------------------------------|----------------------------|----------------------------|---------------------------|----------------------------------|------------------------------|--------------------|---------------|---------|
| Room #            | Room Name | Area Az ft2 | People                            |              |                                    | Area                        |                             |   |                         |   | Breathing Zone Outdoor Airflow CFM | Zone Air Distribution Effectiveness Ez | Zone Outdoor Airflow CFM | Primary Zone Airflow CFM      | Primary Outdoor Air Fraction Zp | Actual Outdoor Airflow CFM | Area                       |                           | Toilet                           |                              |                    | Supply        | Exhaust |
|                   |           |             | Occupant Density People/1,000 ft2 | Occupants Pz | Outdoor Airflow Rate CFM/Person Rp | Outdoor Airflow CFM Pz x Rp | Outdoor Airflow Rate CFM/Ra | Outdoor Airflow CFM Az x Ra                 | Outdoor Airflow CFM Vbz | Required Exhaust Rate CFM/ft2             |                                    |  |                          |                               |                                 |                            | Total Required Exhaust CFM | Exhaust Control/Operation | Fixture Exhaust Rate CFM/Fixture | Required Fixture Exhaust CFM | Actual Exhaust CFM |               |         |
| 1                 | Play      | 268         | 100                               | 27           | 7.5                                | 202.5                       | 0.06                        | 16  | 219                     | 0.8                                       | 274                                | 1,300                                  | 0.21                     | 150                           | -                               | -                          | -                          | -                         | -                                | -                            | -                  | AC-5L / AC-5T | -       |
| <b>Total Area</b> |           | <b>268</b>  |                                   |              |                                    |                             |                             | <b>Total Vbz</b>                            | <b>219</b>              | <b>Total Supply Airflow</b>               | <b>1,300</b>                       |  | <b>150</b>               | <b>Actual Outdoor Airflow</b> |                                 |                            |                            |                           |                                  |                              |                    |               |         |
|                   |           |             |                                   |              |                                    |                             |                             | <b>Diversity (D)</b>                        | <b>0.67</b>             | <b>Maximum Zp</b>                         |                                    |  | <b>0.21</b>              |                               |                                 |                            |                            |                           |                                  |                              |                    |               |         |
|                   |           |             |                                   |              |                                    |                             |                             | <b>Uncorrected Outdoor Air Intake (Vou)</b> | <b>213</b>              | <b>System Ventilation Efficiency (Ev)</b> |                                    |  | <b>0.90</b>              |                               |                                 |                            |                            |                           |                                  |                              |                    |               |         |
|                   |           |             |                                   |              |                                    |                             |                             | <b>Required Outdoor Air Intake (CFM)</b>    |                         | <b>236</b>                                |                                    |  |                          |                               |                                 |                            |                            |                           |                                  |                              |                    |               |         |



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



**CHICK-FIL-A**  
**KALAMAZOO**  
 5802 GULL ROAD  
 KALAMAZOO, MI 49048

**FSR#06006**  
 BUILDING TYPE / SIZE: P14 LSR BN  
 RELEASE: 25.02  
 PRINTED FOR:  
 ISSUED FOR CONSTRUCTION  
 REVISION SCHEDULE  
 NO. DATE DESCRIPTION

CONSULTANT PROJECT # 2024223.59  
 DATE 05/28/25  
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 SHEET HVAC VENTILATION SCHEDULES  
 SHEET NUMBER **M-602**



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**CHICK-FIL-A**  
**KALAMAZOO**  
5802 GULL ROAD  
KALAMAZOO, MI 49048

**FSR#06006**

BUILDING TYPE / SIZE: P14 LSR BN

RELEASE: 25.02

PRINTED FOR

ISSUED FOR CONSTRUCTION

REVISION SCHEDULE

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
|     |      |             |

CONSULTANT PROJECT # 2024223.59

DATE 05/28/25

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SHEET CONTROL WIRING DIAGRAMS - TRANE

SHEET NUMBER

**M-701T**

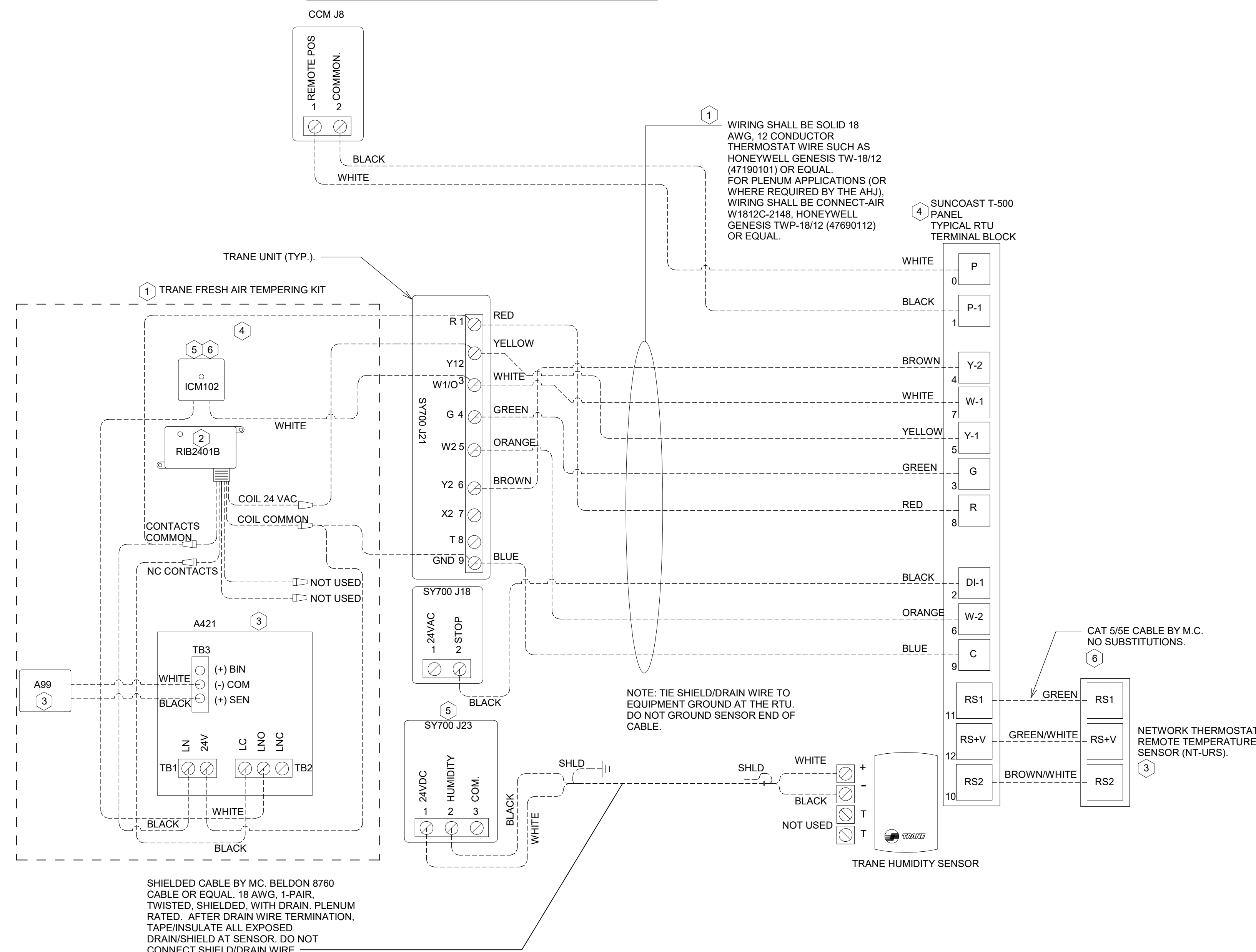
- KEYED NOTES:**
1. LOW VOLTAGE WIRING TO RTU TO BE ROUTED TO UNIT THRU FACTORY WIREWAY.
  2. WIRING TO HUMIDITY SENSOR TO BE MADE WITH SINGLE 18/2 SENSOR CABLE. BELDEN 8760 OR EQUAL.
  3. NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY MC. SENSOR IS INTENDED TO BE SURFACE MOUNTED AND DOES NOT REQUIRE A SINGLE GANG BOX OR CONDUIT. FIELD CALIBRATE EACH SENSOR. SEAL CABLE PENETRATION AT ALL WALL LOCATIONS.
  4. FACTORY WIRING IN SUNCOAST T-500 PANEL NOT SHOWN FOR CLARITY. SEE SUNCOAST WIRING DIAGRAM FOR ADDITIONAL INFORMATION.
  5. SY700 INTERFACE TO SET RELATIVE HUMIDITY. SET TO 80%.
  6. CAT 5/6 CABLE BY M.C. NO SUBSTITUTIONS.

- NOTES:**
1. PROVIDE A PROFESSIONALLY LAMINATED COPY OF THESE DETAILS TO BE INSTALLED INSIDE THE ROOFTOP UNIT CONTROL CABINET. USE A SETON CHART FRAME STYLE #6824. TELEPHONE NUMBER 800-243-6624. FOR MOUNTING THE DETAIL ATTACH THE FRAME TO THE INTERIOR OF THE UNIT IN PLAIN AND EASY VIEW OF THE CONTROLS SECTION. CONTACT ENGINEER OF RECORD FOR A REPRODUCIBLE COPY OF THE DETAIL.
  2. SEE DETAILS IN THIS SHEET FOR SMOKE DETECTOR AND ANNUNCIATOR WIRING.
  3. SET ALL THERMOSTATS TO AUTO CHANGEOVER.
  4. PROVIDE PLASTIC ENGRAVABLE AT ALL SENSORS WITH 1/4" HIGH WHITE LETTERING ON BLACK BACKGROUND (E.G. "AC#2 HUMIDITY SENSOR" OR "AC#2 TEMP SENSOR"). PLACE LABELS ON WALL DIRECTLY ABOVE OR BELOW THE SENSOR. DO NOT APPLY LABEL DIRECTLY TO DEVICE.

**LEGEND**

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

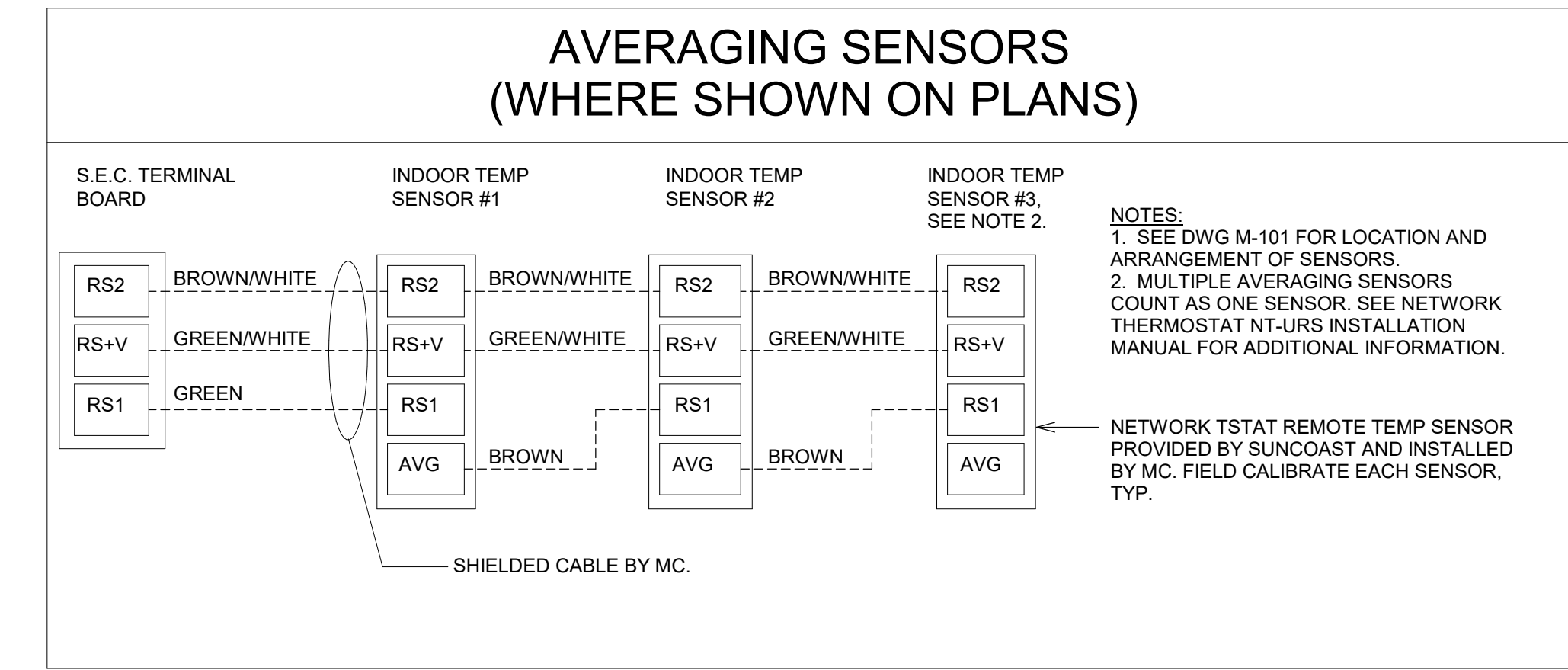
- FRESH AIR TEMPERING KEYED NOTES:**
1. INSTALL FRESH AIR TEMPERING KIT AS RECOMMENDED BY TRANE.
  2. RIB2401B SPDT RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF TRANE UNIT.
  3. JCI A421 TEMPERATURE CONTROLLER FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN RTU CONTROL CABINET. CONTRACTOR SHALL INSTALL TRANE FURNISHED JCI A99 SENSOR IN THE SUPPLY DUCT DOWNSTREAM OF FIRST ELBOW. SECURE WIRING TO DUCT WITH T6601-1 SENSOR DUCT MOUNTING PLATE FURNISHED BY TRANE. DO NOT RUN WIRING INSIDE DUCTWORK. SET A421 CONTROLLER PARAMETERS TO THE FOLLOWING:  
• RELAY ON TEMPERATURE: 50°F  
• RELAY OFF TEMPERATURE: 80°F
  4. 18 AWG MIN. LOW VOLTAGE WIRING BY MC.
  5. ICM104 TIME DELAY RELAY FURNISHED BY TRANE AND INSTALLED BY CONTRACTOR IN CONTROL CABINET OF ROOFTOP UNIT.
  6. SET TIME DELAY RELAY (ICM104) TO 15 MINUTES.



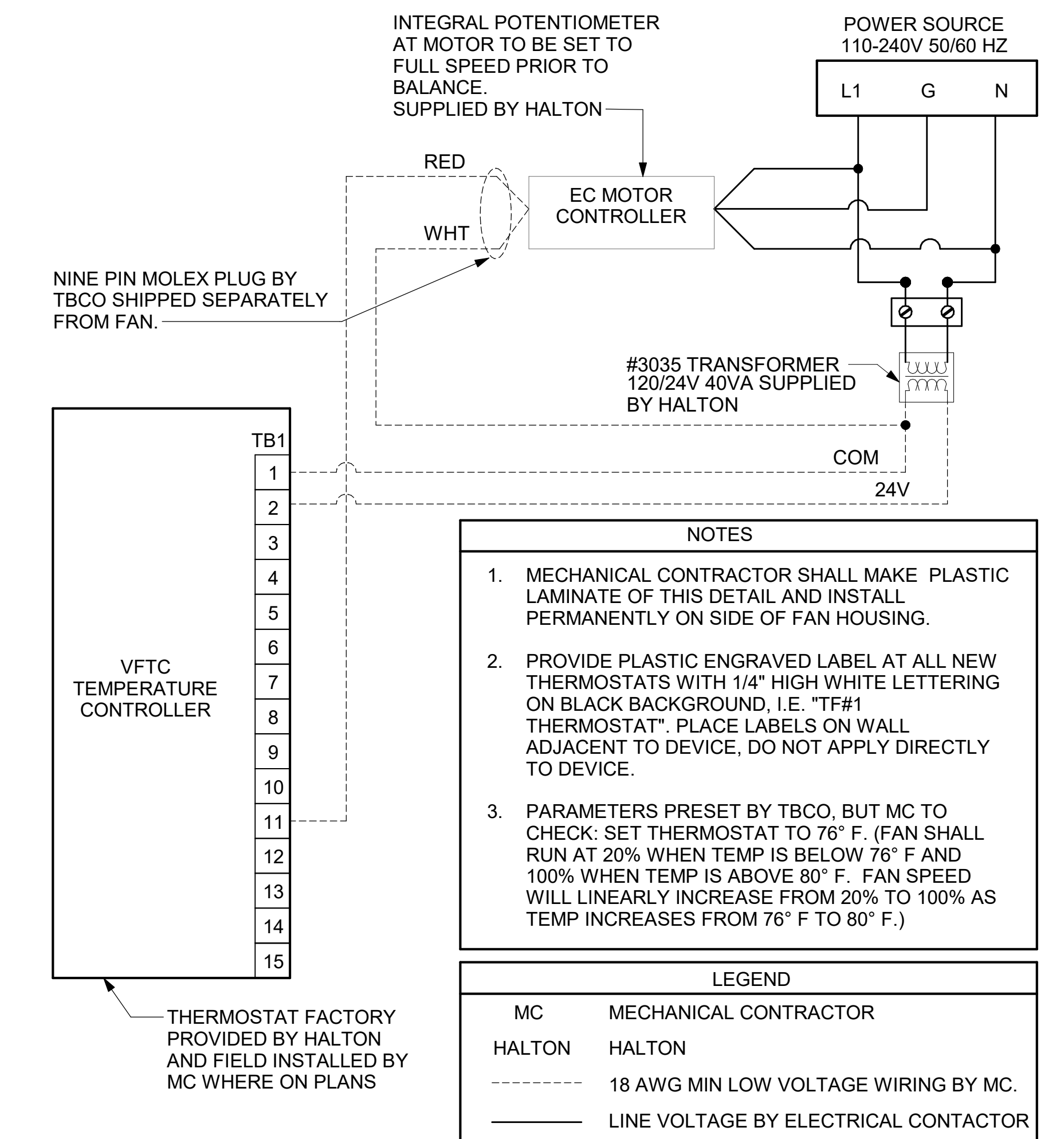
**1 ROOFTOP UNIT CONTROL WIRING - TRANE**

NOT TO SCALE

Autodesk Docs://M/06006\_Kalamazoo - Gull Road FSU\_2025\_1\_FSR#06006\_Kalamazoo - Gull Road FSU\_MECA.rvt  
5/29/2025 5:08:51 PM  
30-LSR-06006-M-701T-CONTROL WIRING DIAGRAMS - TRANE



**1 ROOFTOP UNIT AVERAGING SENSORS**  
NOT TO SCALE



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



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



**CHICK-FIL-A**  
**KALAMAZOO**  
5802 GULL ROAD  
KALAMAZOO, MI 49048

**FSR#06006**  
BUILDING TYPE / SIZE: P14 LSR BN  
RELEASE: 25.02  
PRINTED FOR  
ISSUED FOR CONSTRUCTION

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
|     |      |             |

CONSULTANT PROJECT # 2024223.59  
DATE 05/28/25  
DRAWN BY JDF

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**SHEET**  
CONTROL WIRING  
DIAGRAMS  
SHEET NUMBER

**M-702**



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



**GPD GROUP**  
 Professional Corporation  
 525 South Main Street, Suite 201  
 Akron, OH 44311  
 330.572.2100 Fax 330.572.2101



**CHICK-FIL-A**  
**KALAMAZOO**  
 5802 GULL ROAD  
 KALAMAZOO, MI 49048

**FSR#06006**

BUILDING TYPE / SIZE: P14 LSR BN  
 RELEASE: 25.02  
 PRINTED FOR  
 ISSUED FOR CONSTRUCTION

**REVISION SCHEDULE**

| NO. | DATE | DESCRIPTION |
|-----|------|-------------|
|     |      |             |

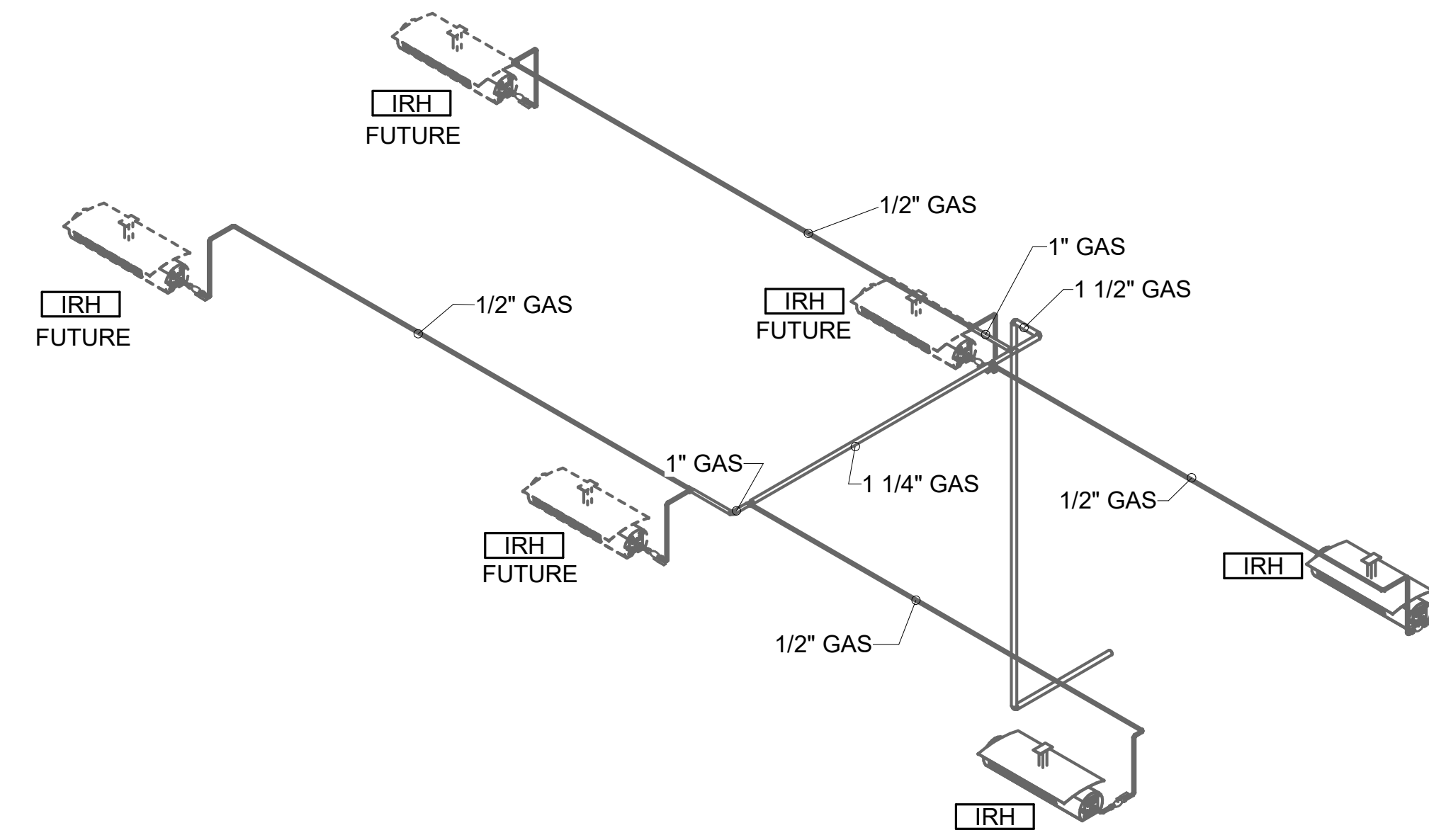
CONSULTANT PROJECT # 2024223.59  
 DATE 05/28/25  
 DRAWN BY JDF

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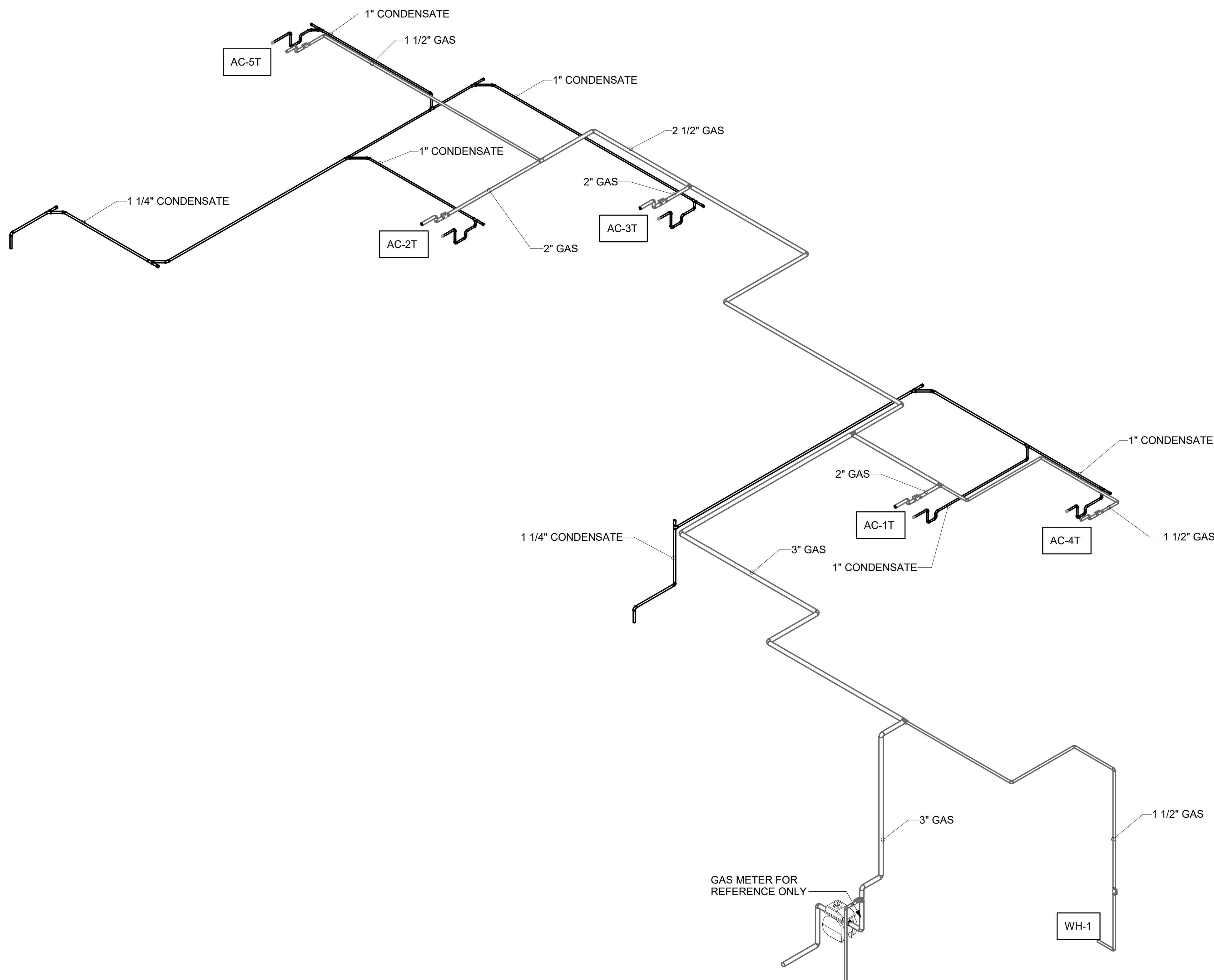
**SHEET**  
 GAS AND CONDENSATE ISOMETRIC - TRANE

SHEET NUMBER

**M-901T**

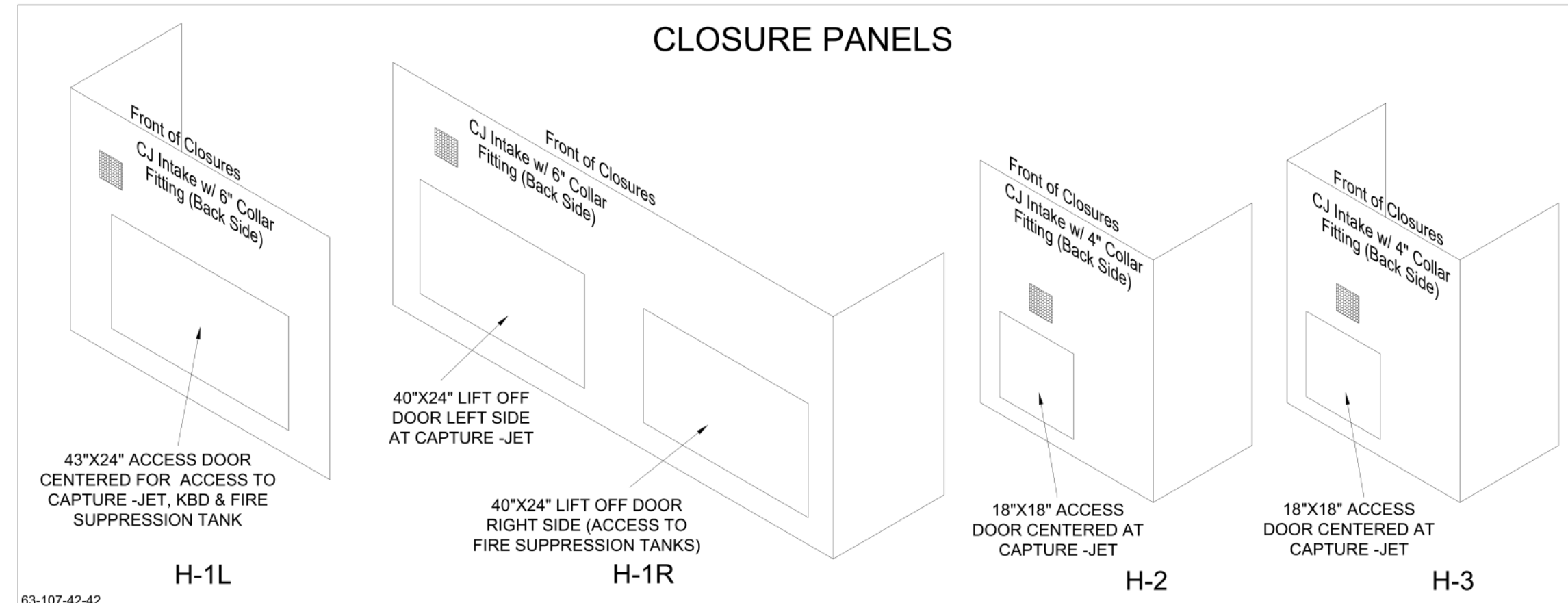


2 ORDER CANOPY PIPING ISOMETRIC - TRANE



1 GAS AND CONDENSATE ISOMETRIC - TRANE

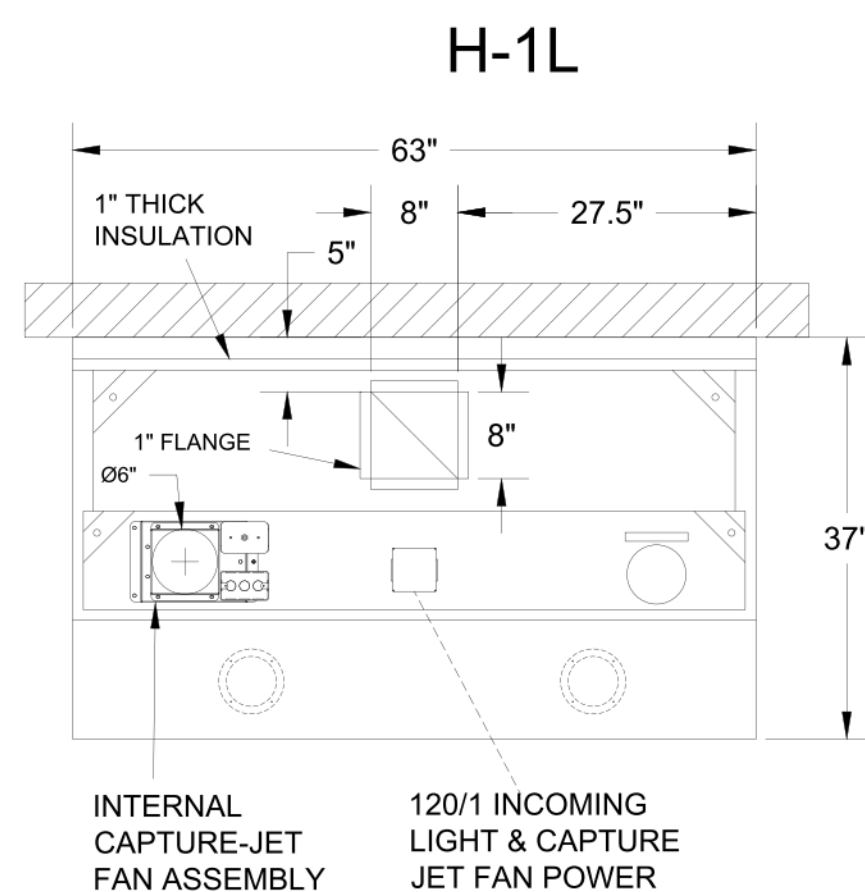
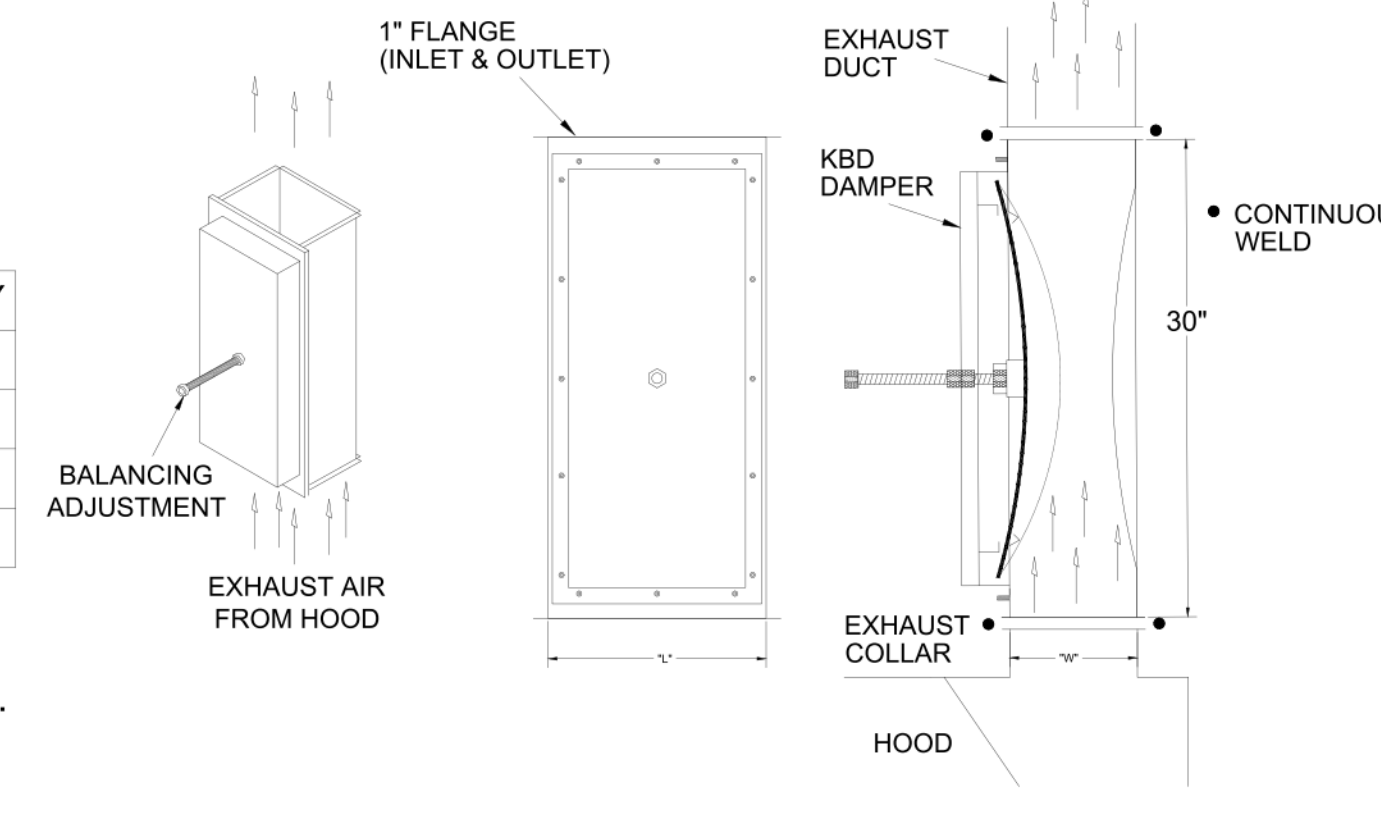
| HOOD MODEL | HOOD NUMBER | QTY | EXHAUST COLLAR |       |      | EXHAUST AIR INFORMATION |       |     | CAPTURE AIR INFORMATION |      | S.S. KSA FILTERS |                | LED LIGHTS | QTY | CEILING CLOSURES |             | KBD DAMPER | K FACTOR<br>(CFM = K FACTOR * √DP) | MATERIAL              |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



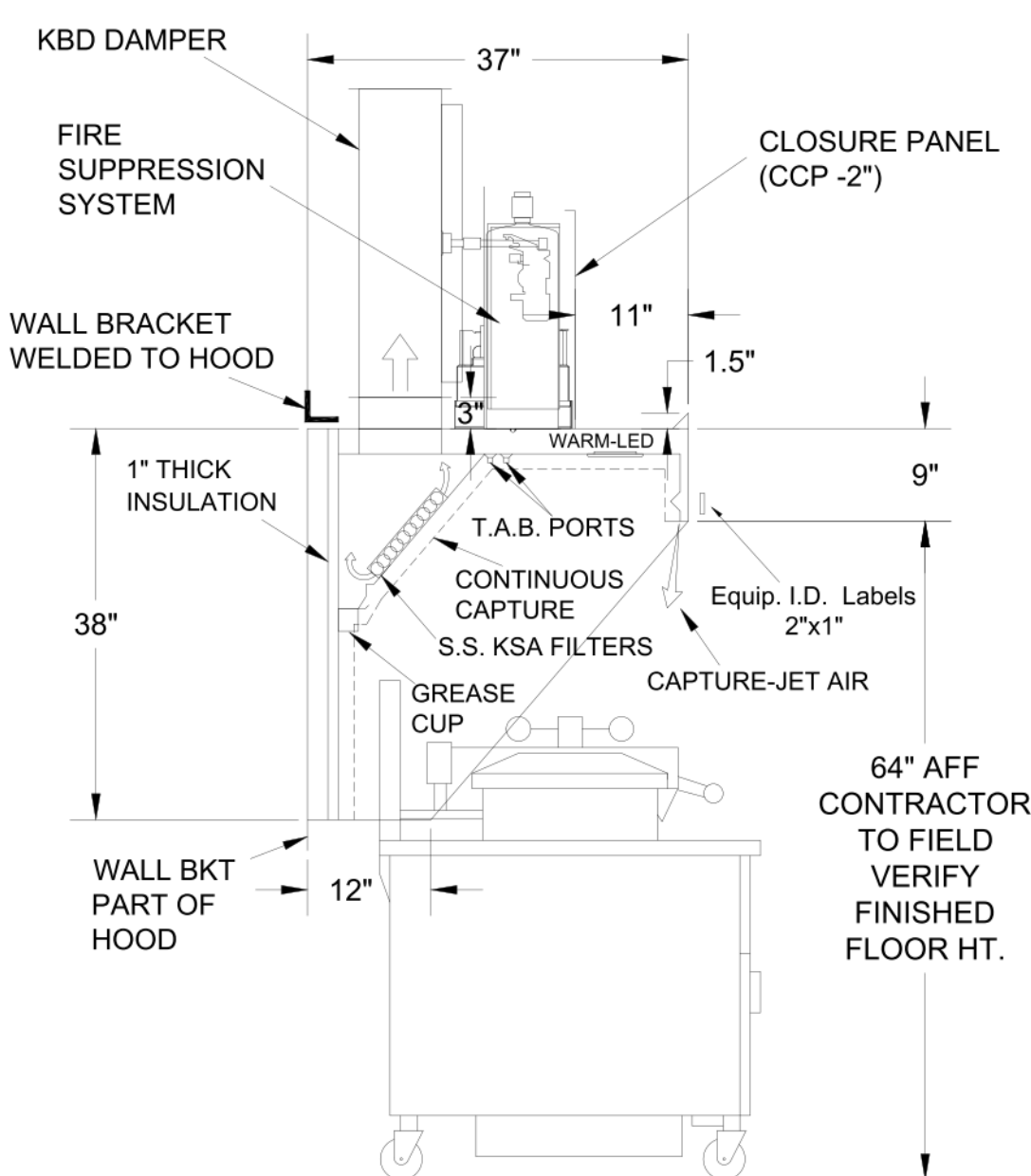
**MODEL:KBD  
CALIBRATED KBDs  
KITCHEN BALANCING DAMPER  
EXHAUST VOLUME DAMPER**

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

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

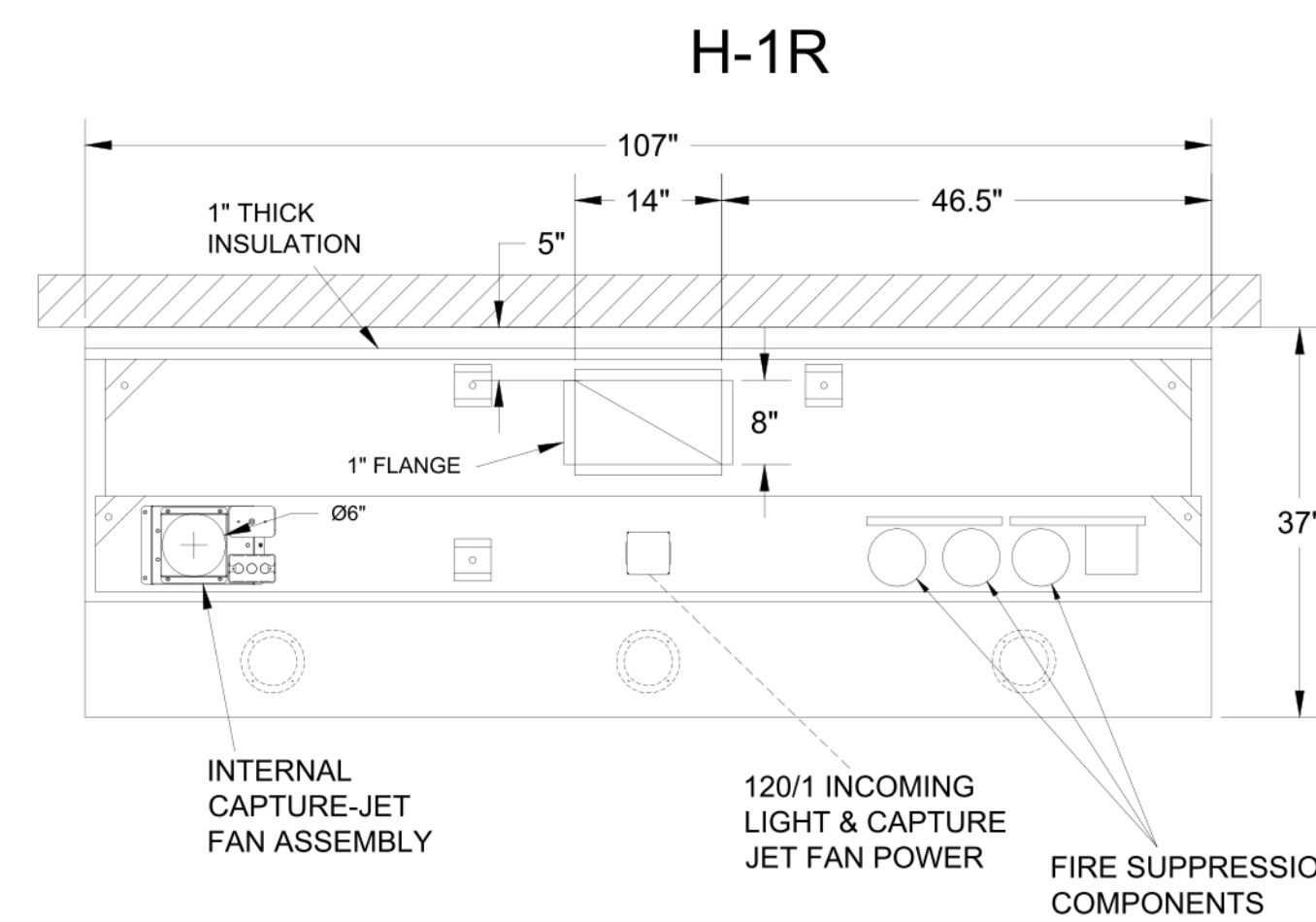


PLAN VIEW

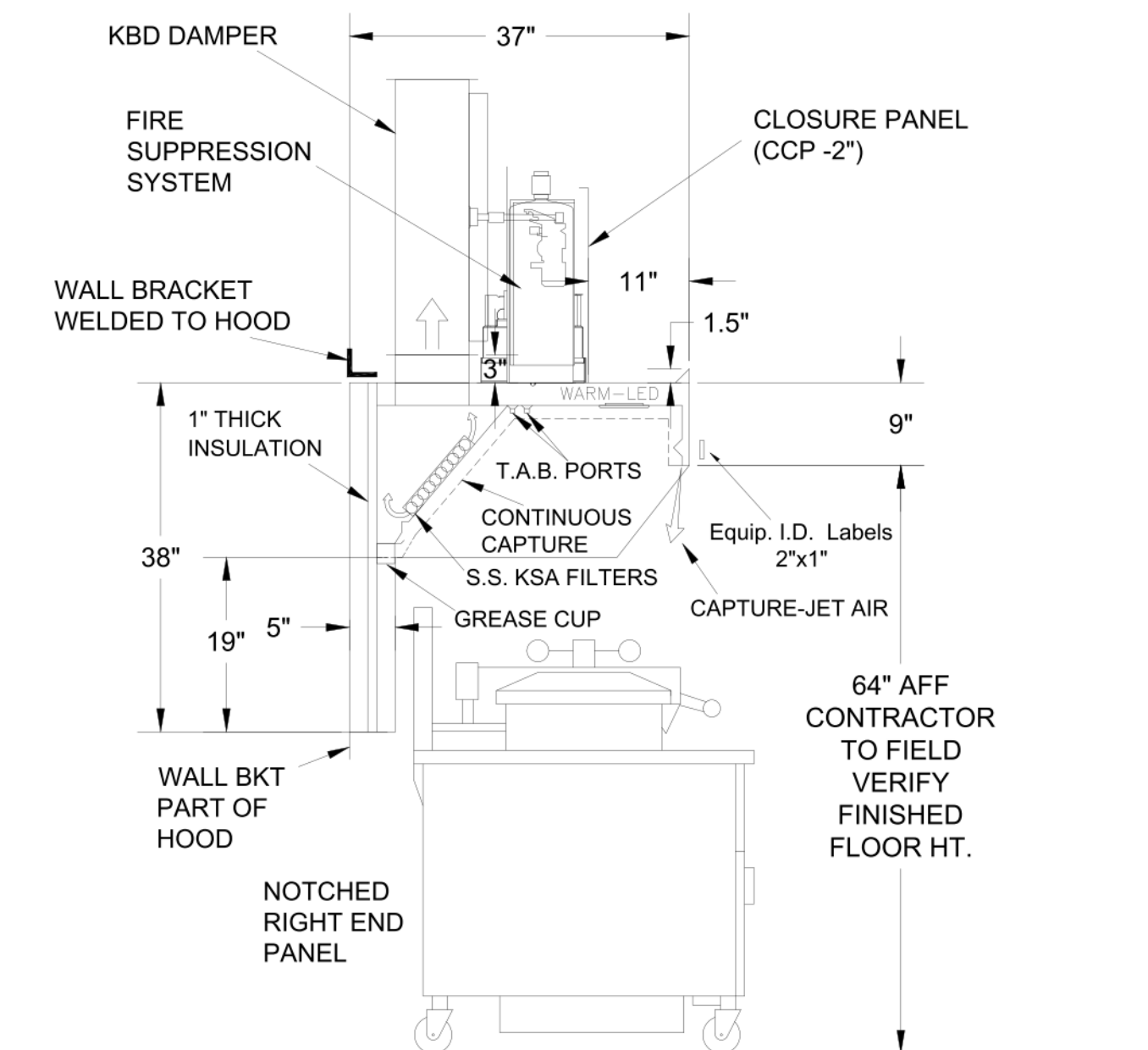


H-1L SECTION VIEW

- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- FRONT CLOSURE PANEL WITH 43"x24" ACCESS DOOR FOR ACCESS TO CAPTURE-JET AND FIRE SUPPRESSION
- CONTINUOUS CAPTURE INTERNAL RIGHT END CUTOUT
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- GREASE CUP RIGHT END

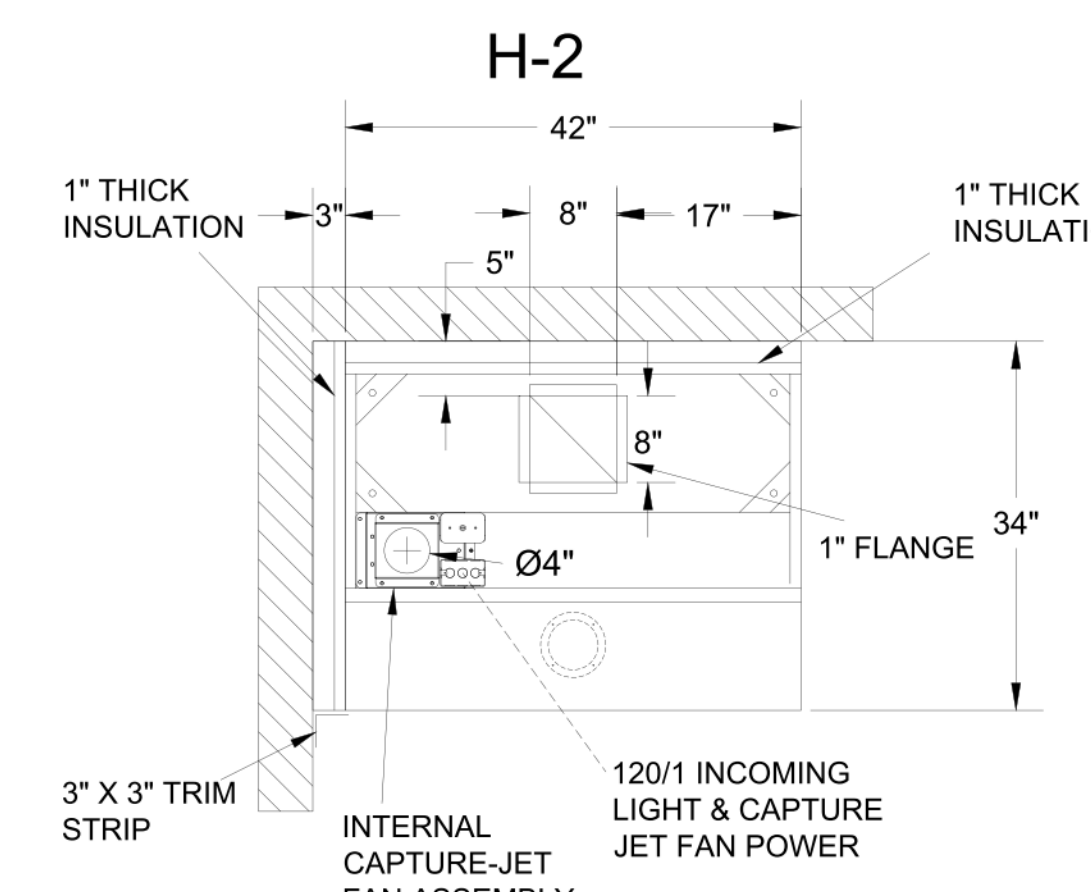


PLAN VIEW

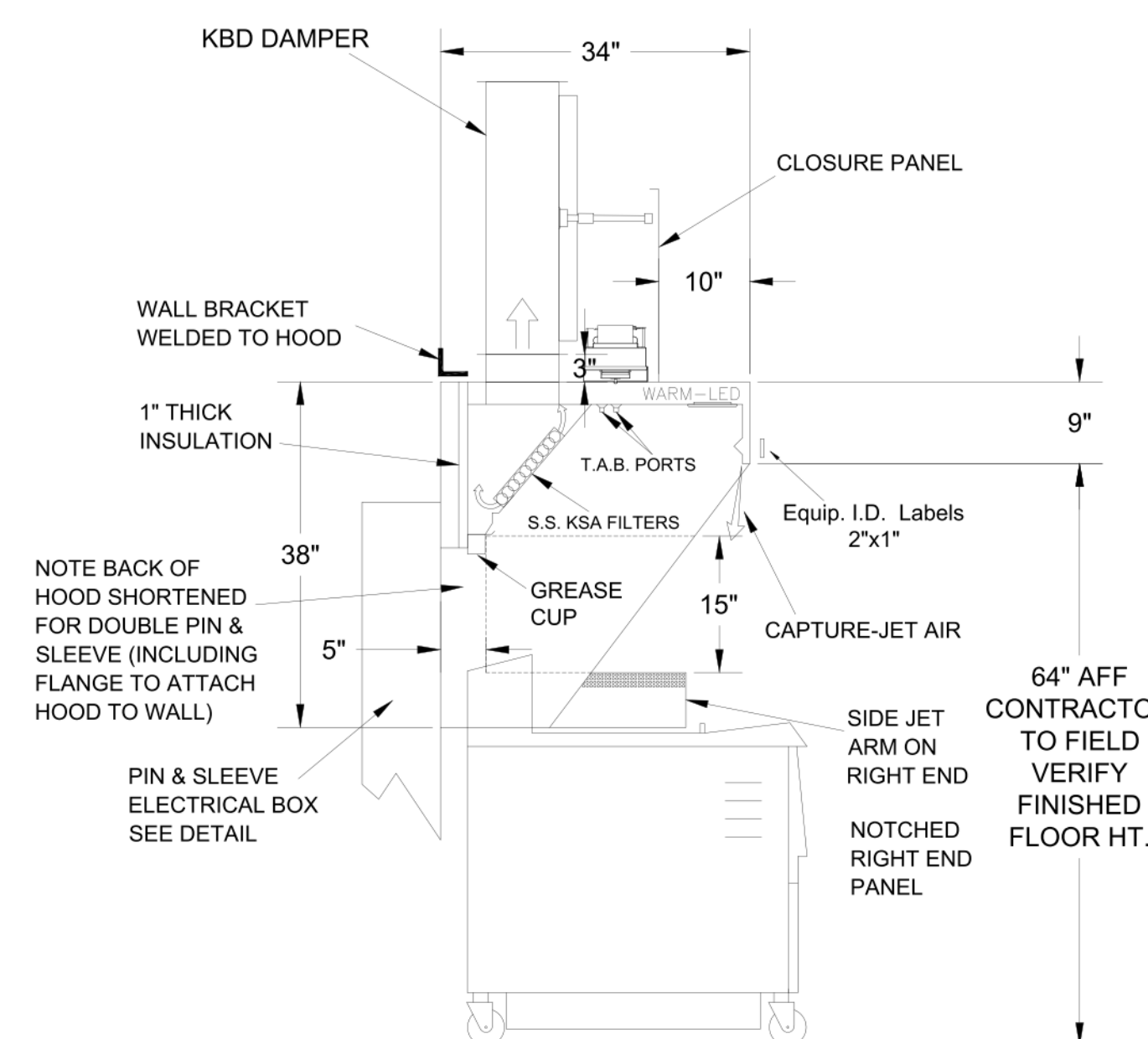


H-1R SECTION VIEW

- CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF
- FRONT CLOSURE PANEL WITH 40"x24" LIFT OUT DOOR RIGHT SIDE (ACCESS TO FIRE SUPPRESSION)
- 40"x24" LIFT DOOR LEFT SIDE AT CAPTURE-JET WITH FRONT CJ INTAKE
- CONTINUOUS CAPTURE INTERNAL LEFT END CUTOUT
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- NOTCHED RIGHT END PANEL
- GREASE CUP RIGHT END
- ANSUL WEIGHT = 328 LBS
- AMEREX WEIGHT = 264 LBS

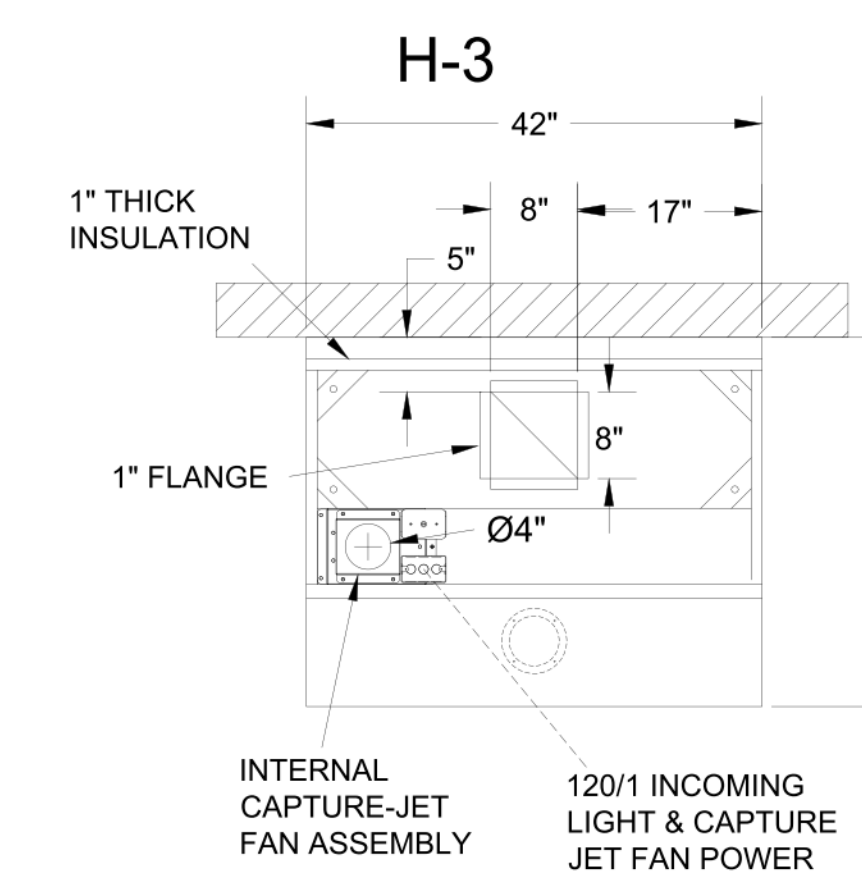


PLAN VIEW

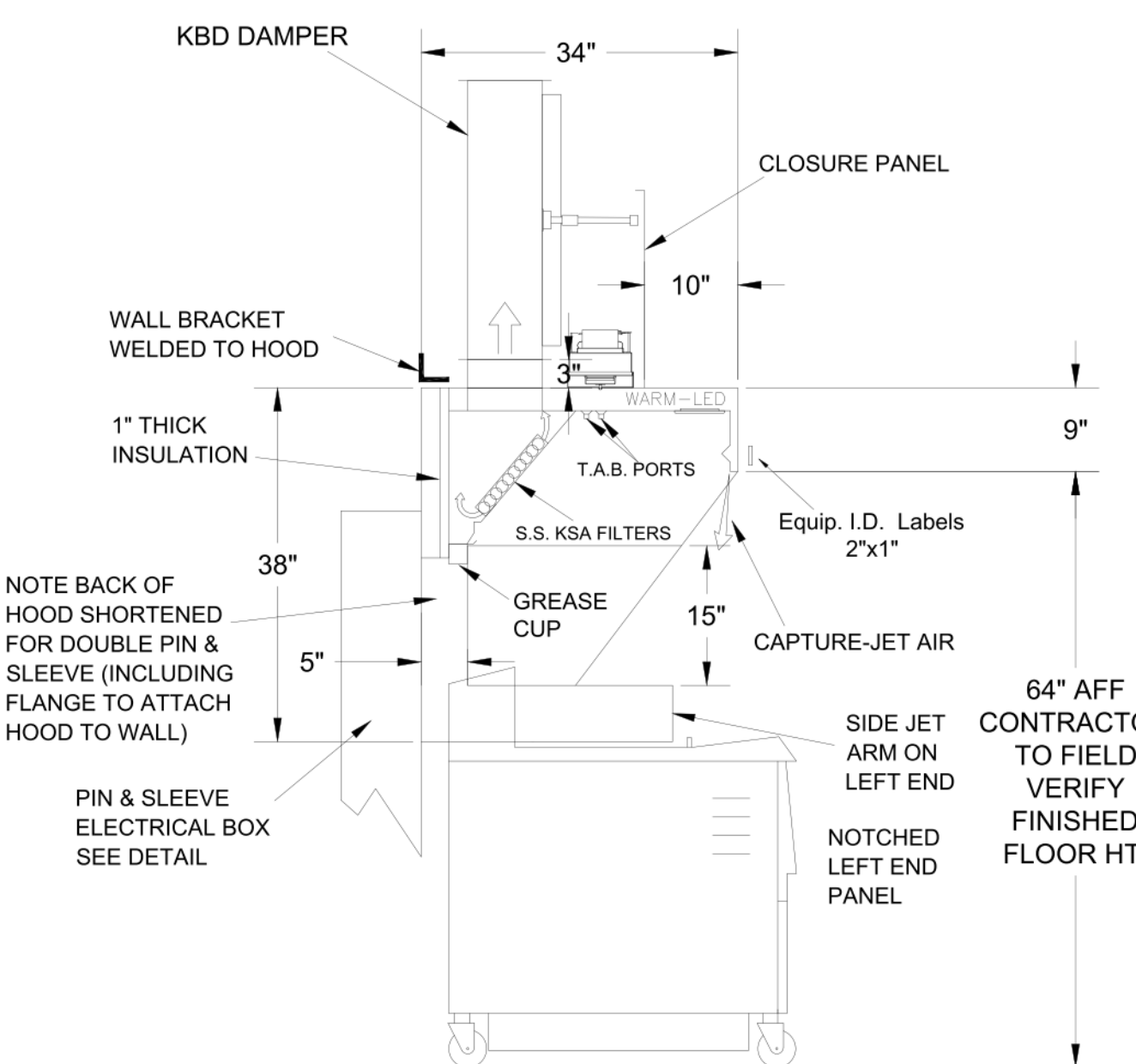


H-2 SECTION VIEW

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

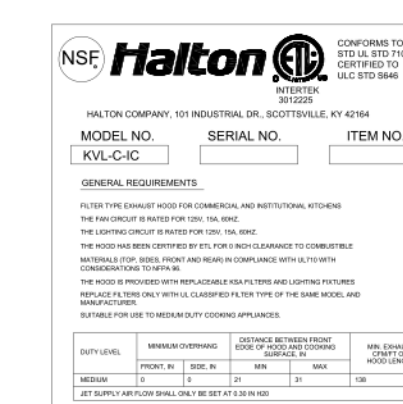


PLAN VIEW



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 LEFT END PANEL
- DOUBLE RECEPTACLE PIN & SLEEVE
- 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION
- GREASE CUP RIGHT END



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

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

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

APPROVED FOR FABRICATION  
 WITH NO CHANGES  WITH CHANGES AS NOTED

APPROVED BY

DATE

WEBSITE: www.halton.com

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

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

| REV. | DATE     | BY  | DESCRIPTION  |
|------|----------|-----|--|
| 1    | 06.27.23 | SKK | CREATED HOOD BLOCKS                                |
| 2    | 09.18.23 | SKK | SHEET LAYOUT                                       |
| 3    | 02.23.24 | SKK | NO CHANGE  |
| 4    | 06.06.24 | SKK | ADDED GREASE CUP LOCATIONS, NEW PAPER SPACE LAYOUT |
| 5    | 06.06.24 | SKK | ADDED 1.5 GAL TANK TO ANSUL SYSTEM                 |
| 6    | 07.26.24 | SKK |  |
| 7    |          |     |  |

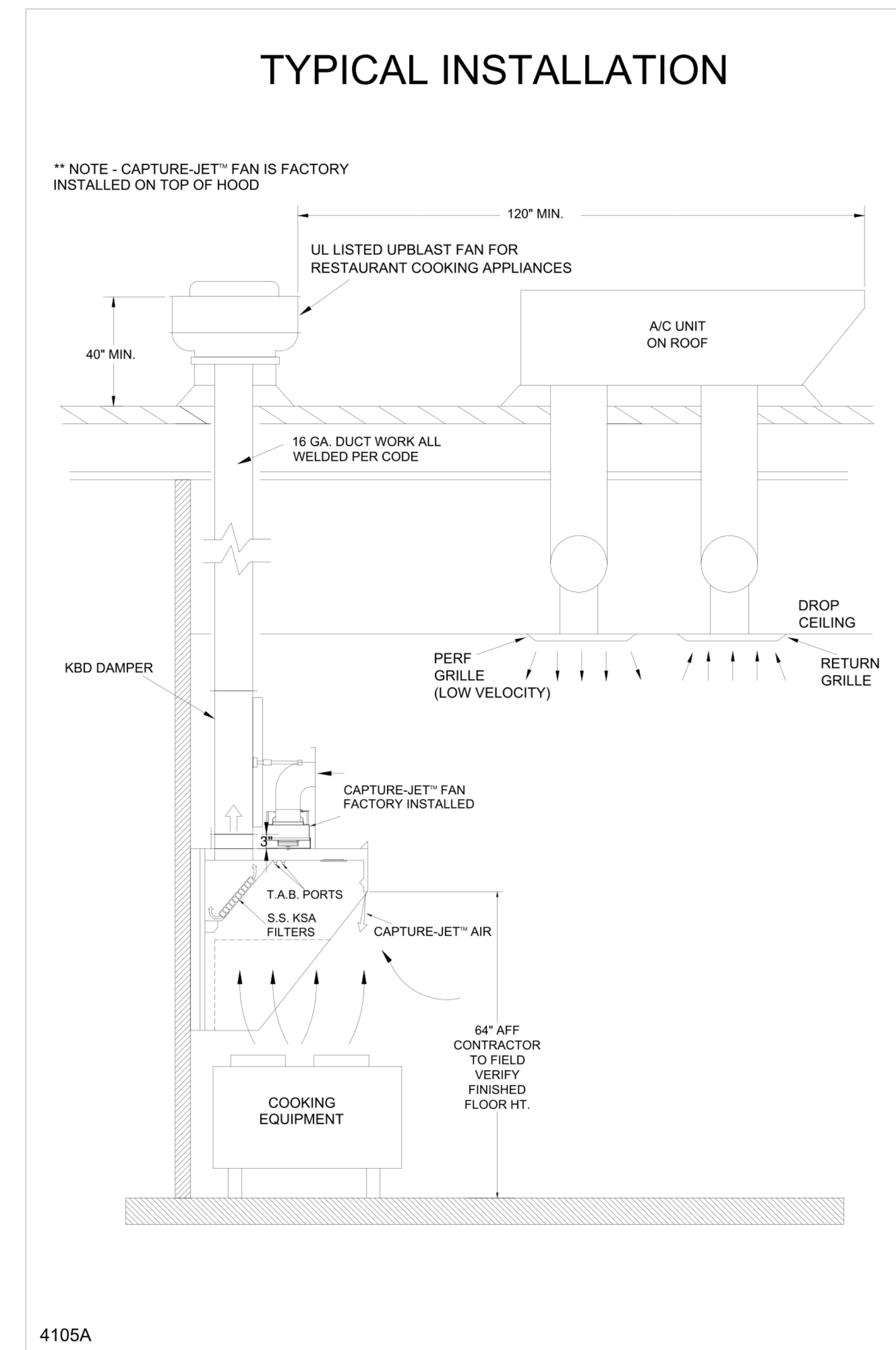
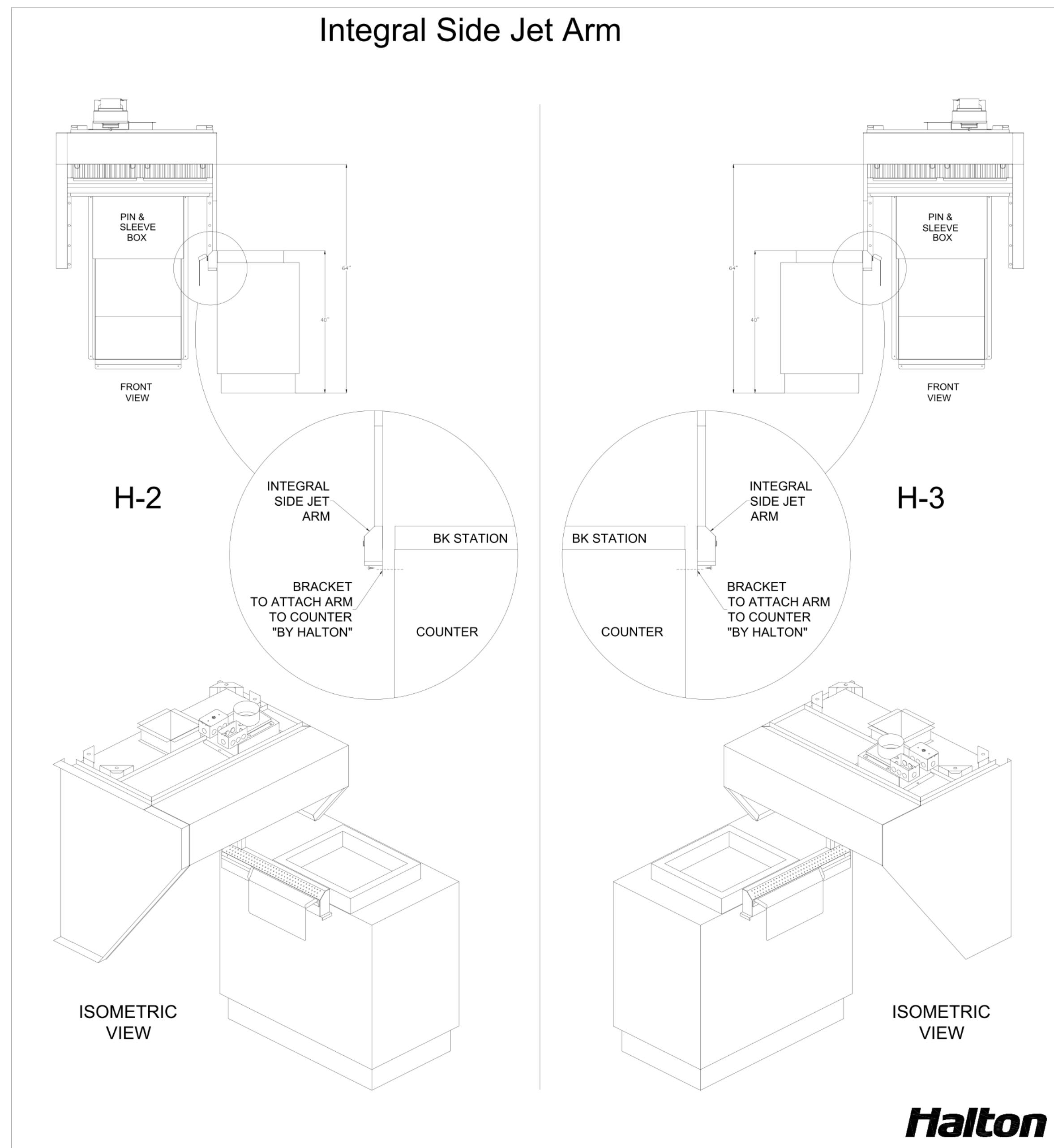
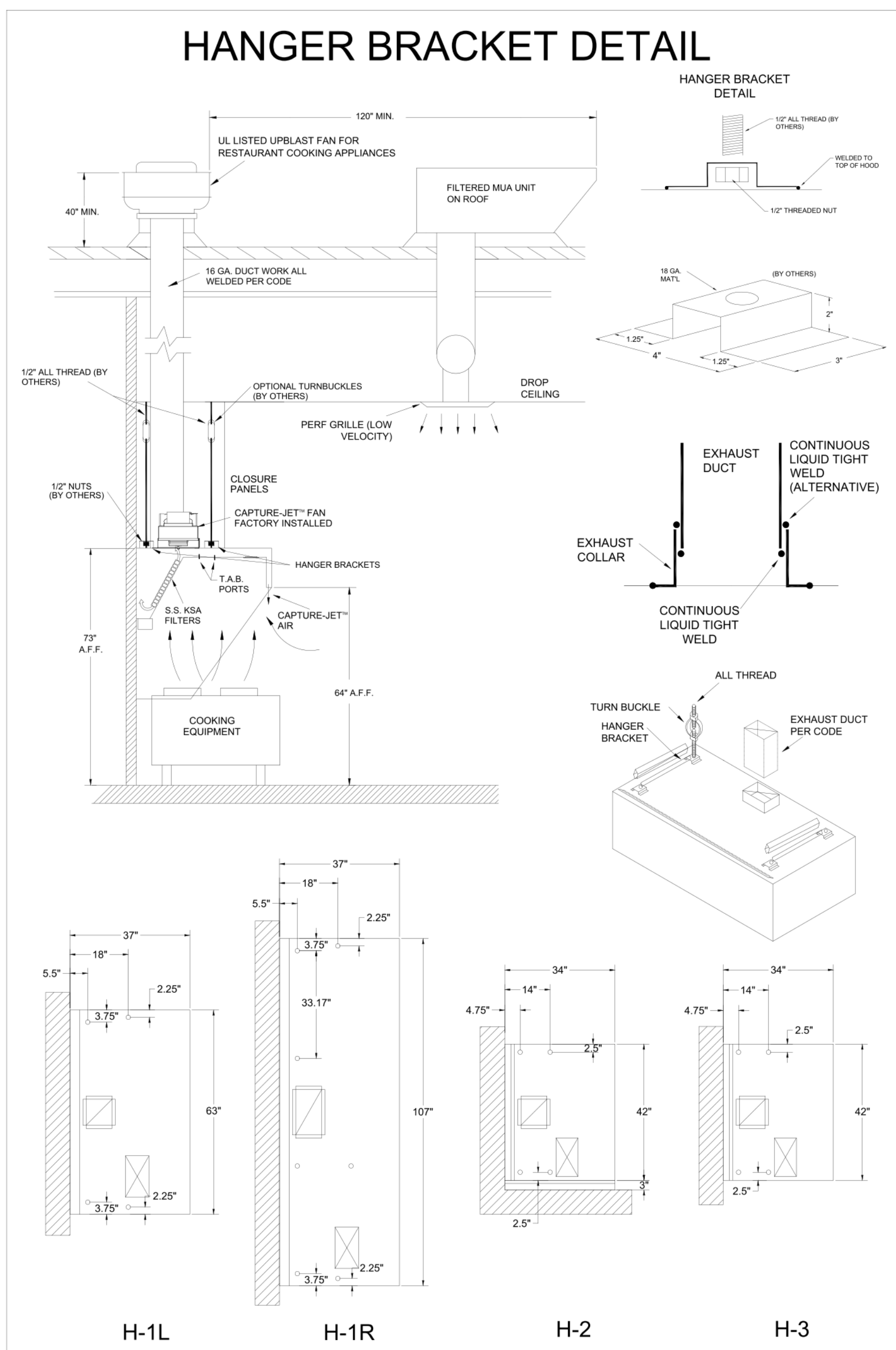
MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

PROJECT: CHICK-FIL-A P14 - REVERSE NAME

LOCATION: CG DATE: 08.09.22  
DRAWN BY: CG  
SCALE: NOT TO SCALE

DRAWING No.: U22-606-01  
SHEET NO.: MH-1.1

**Halton**



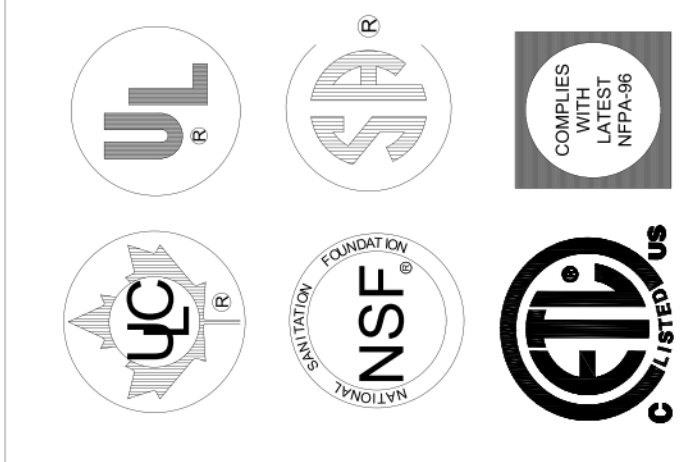
THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFY THE FOLLOWING:

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

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

APPROVED FOR FABRICATION:  WITH NO CHANGES     WITH CHANGES AS NOTED

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

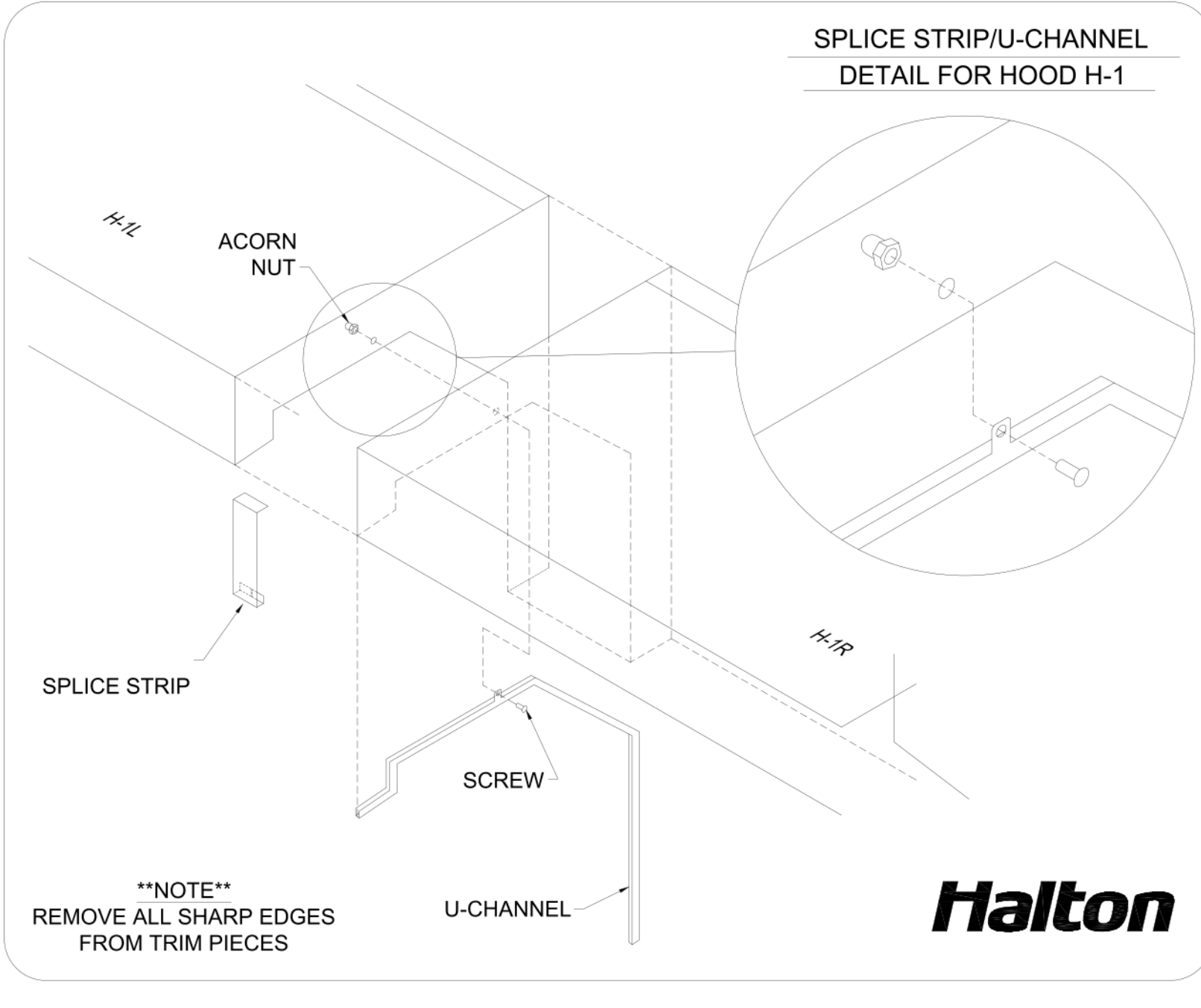
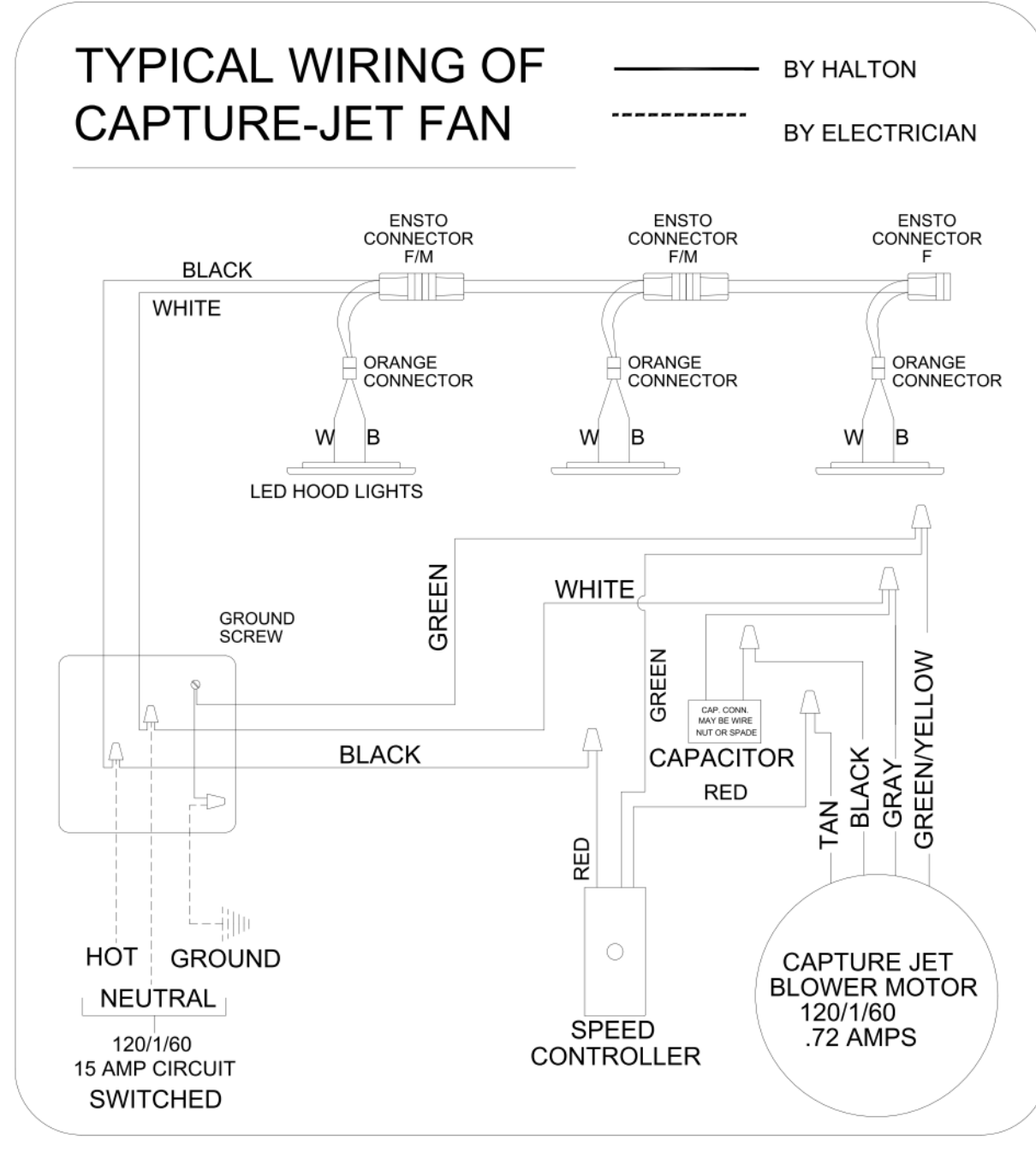
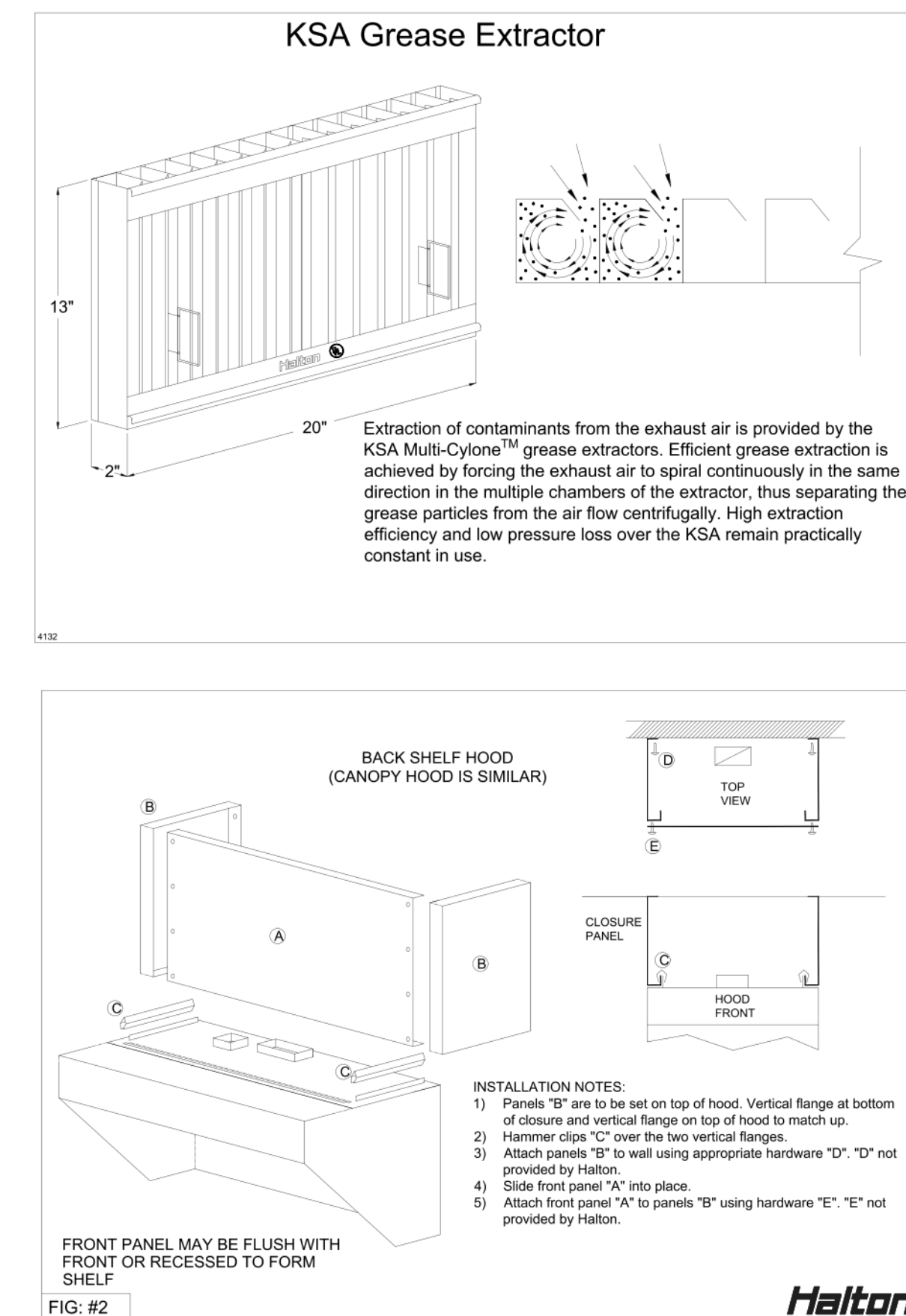
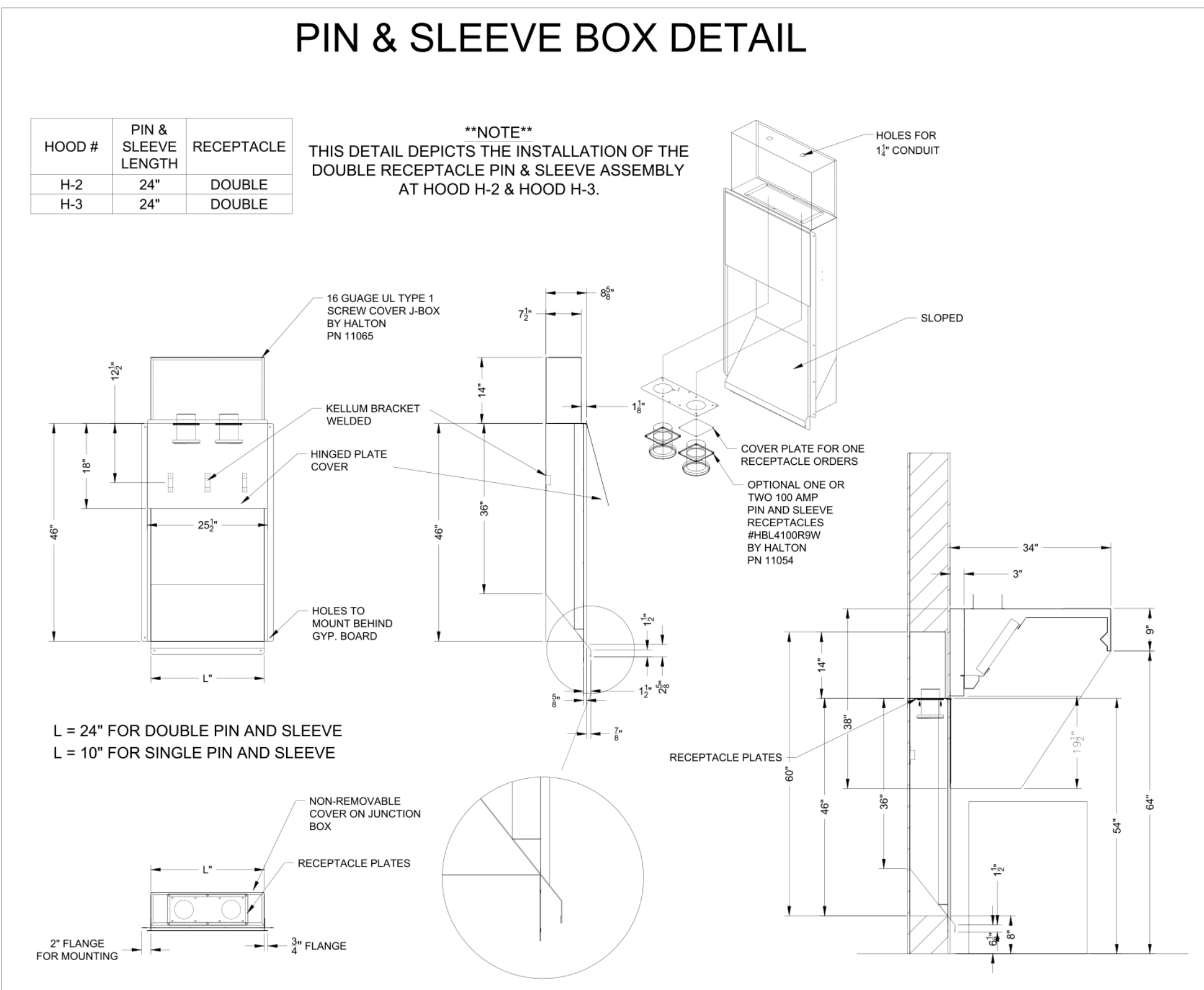


WEBSITE: [www.halton.com](http://www.halton.com)

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1-270-237-5600

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

| REV. | DATE     | BY  | REVISION DESCRIPTION   |
|------|----------|-----|------------------------|
| 1    | 09.18.23 | SKK | ADDED THIS SHEET       |
| 2    | 02.23.24 | SKK | NO CHANGE              |
| 3    | 06.06.24 | SKK | NEW PAPER SPACE LAYOUT |
| 4    | 07.26.24 | SKK | NO CHANGE              |
| 5    |          |     |                        |
| 6    |          |     |                        |
| 7    |          |     |                        |



**NSF Halton** CONFORMS TO UL STD UL STD 710 CERTIFIED TO UL STD 5846

INTERTEK 3012225

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

MODEL NO. SERIAL NO. ITEM NO.

**KVL-C-IC**

**GENERAL REQUIREMENTS**

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

| DUTY LEVEL | MINIMUM OVERHANG | FRONT IN | MIN | MAX | MIN EXHAUST DUCT CHASE HOOD LENGTH |
|------------|------------------|----------|-----|-----|------------------------------------|
| MEDIUM     | 6 (1)            | 0        | 20  | 30  | 121                                |
| MEDIUM     | 6                | 0        | 20  | 32  | 150                                |
| MEDIUM     | 6                | 0        | 20  | 34  | 133                                |
| HEAVY      | 0                | 2        | 20  | 25  | 191                                |
| HEAVY      | 0                | 2        | 20  | 30  | 216                                |

1. SETBACK/DOWNDRAFT DISTANCE  
JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.2 IN HOOD

**NSF Halton** CONFORMS TO UL STD UL STD 710 CERTIFIED TO UL STD 5846

INTERTEK 3012225

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

MODEL NO. SERIAL NO. ITEM NO.

**KVL-2-IC**

**GENERAL REQUIREMENTS**

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

| DUTY LEVEL | MINIMUM OVERHANG | FRONT IN | MIN | MAX | MIN EXHAUST DUCT CHASE HOOD LENGTH |
|------------|------------------|----------|-----|-----|------------------------------------|
| MEDIUM     | 6 (1)            | 0        | 20  | 30  | 121                                |
| MEDIUM     | 6                | 0        | 20  | 32  | 150                                |
| MEDIUM     | 6                | 0        | 20  | 34  | 133                                |
| HEAVY      | 0                | 2        | 20  | 25  | 191                                |
| HEAVY      | 0                | 2        | 20  | 30  | 216                                |

1. SETBACK/DOWNDRAFT DISTANCE  
JET SUPPLY AIR FLOW SHALL ONLY BE SET AT 0.2 IN HOOD

PROJECT: **CHICK-FIL-A P14 - REVERSE NAME**

LOCATION: --

DRAWN BY: SKK DATE: 08.09.22

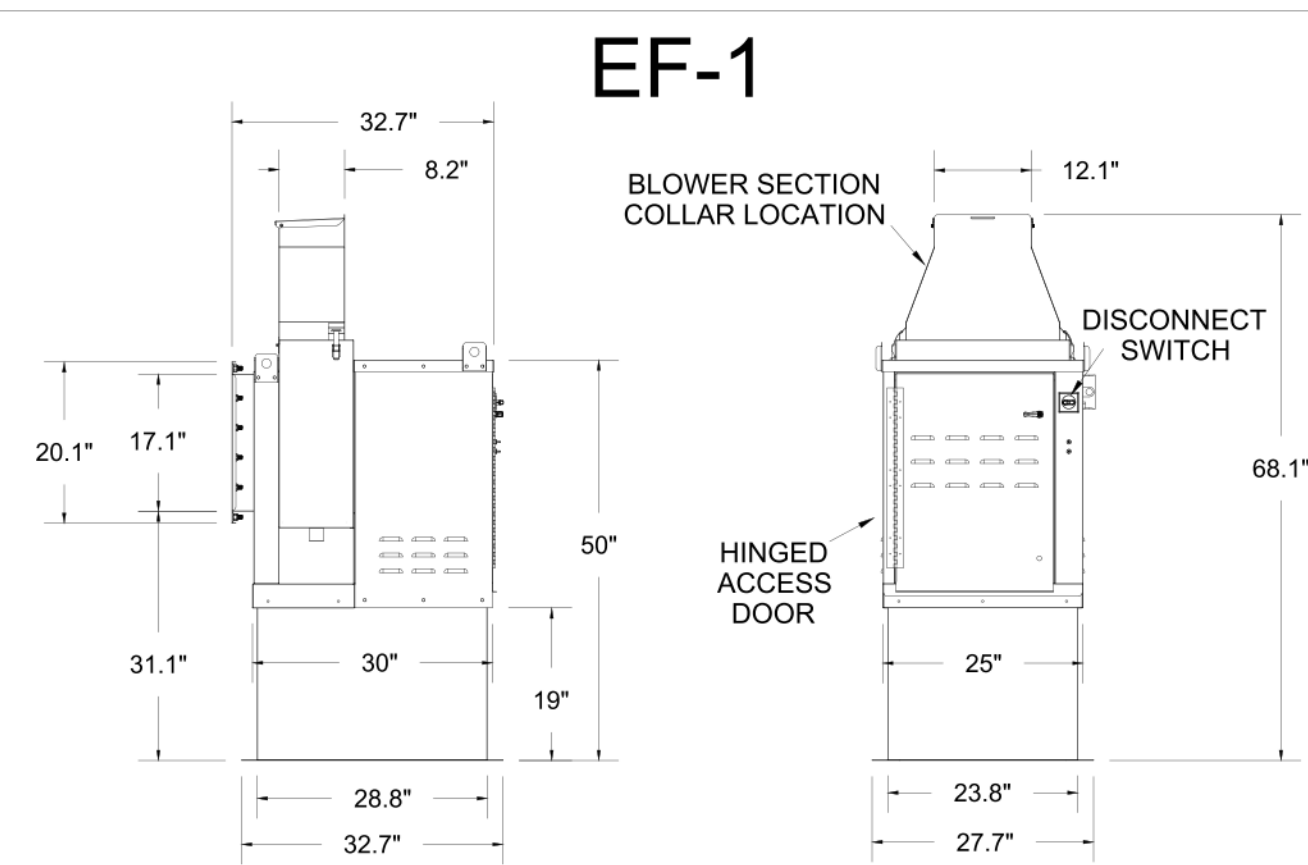
SCALE: NOT TO SCALE

DRAWING NO.: **U22-606-02**

SHEET NO.: **MH-1.2**

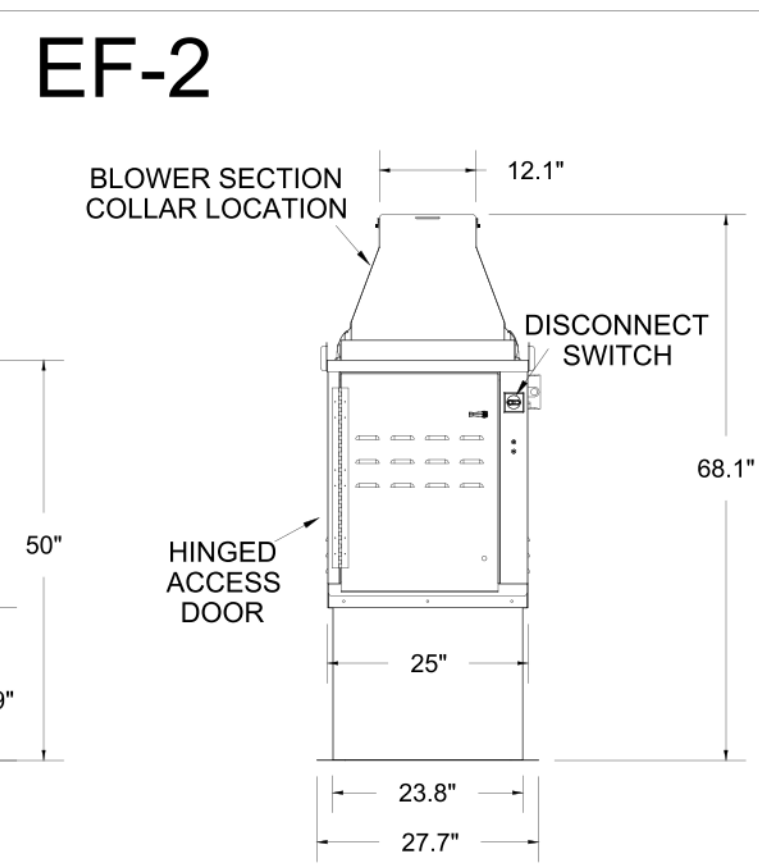
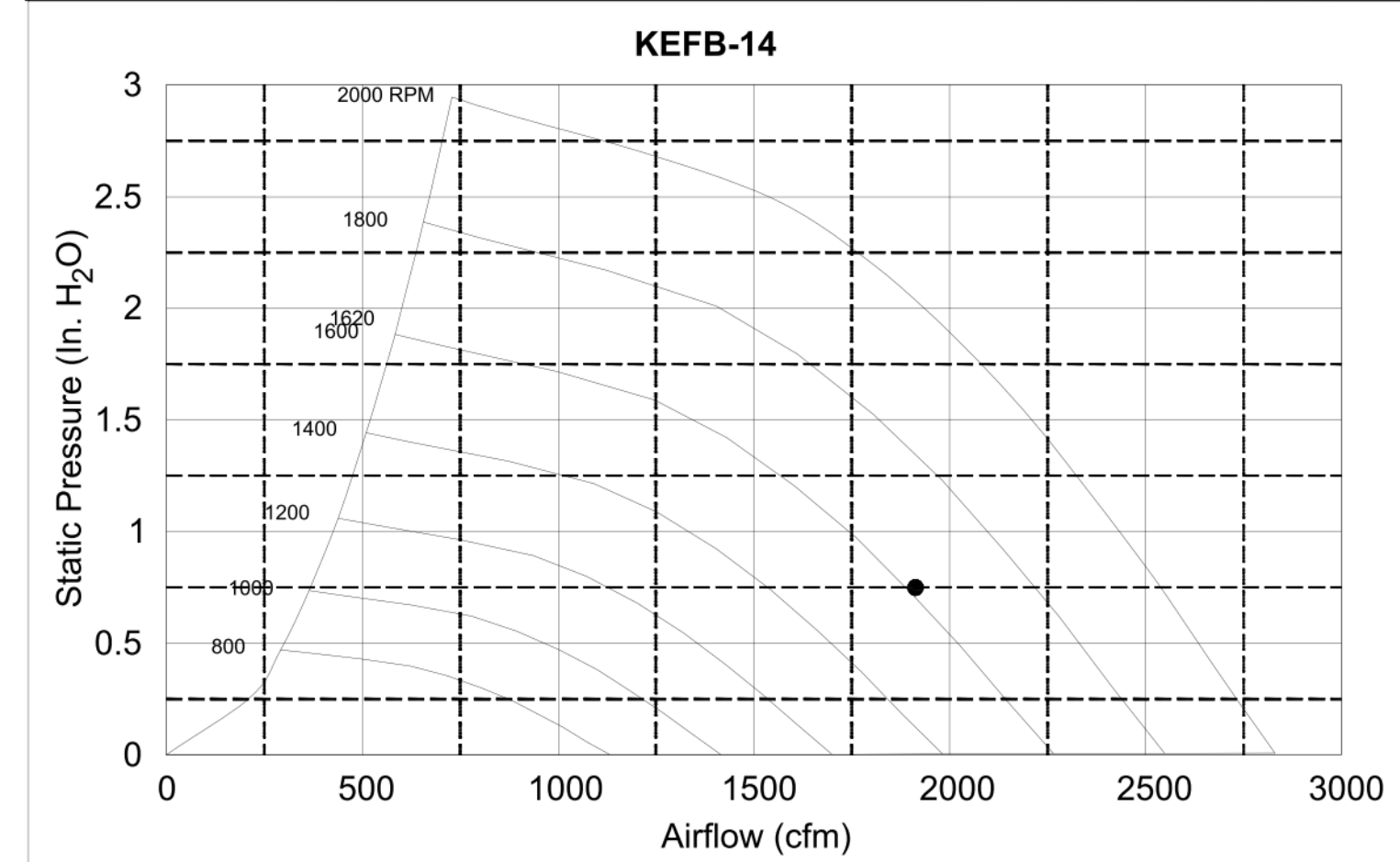
**Halton**





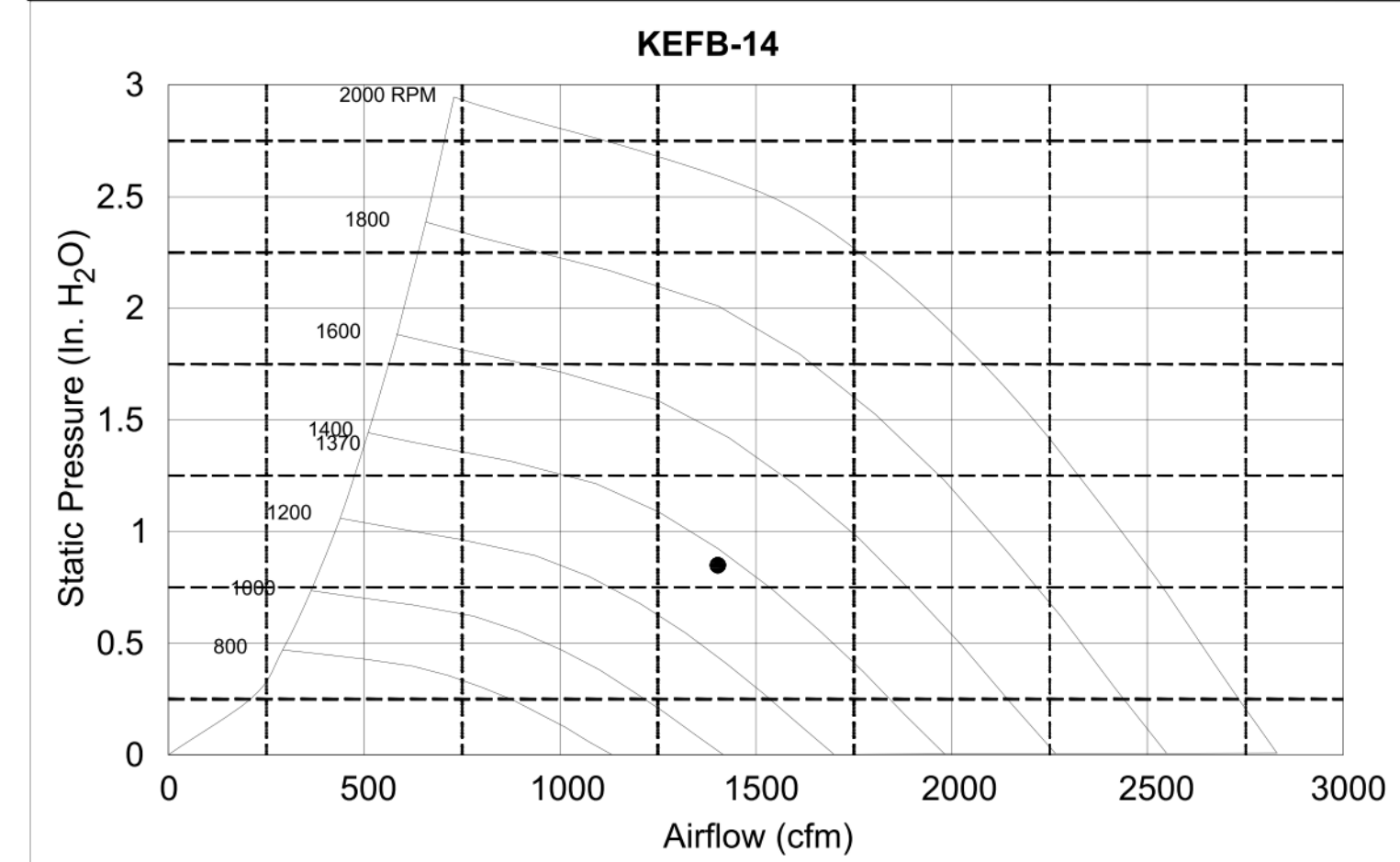
Halton KEFB Exhaust Fan

|                        |             |         |         |         |                 |
|------------------------|-------------|---------|---------|---------|-----------------|
| Job Name               | Chick-fil-A | Item No | Qty     | Fan RPM | Volts/Ph/Amps   |
| Location               | EF-1        | KEFB-14 | 1,620   | 1,620   | 115/1/60        |
| Date                   | 1/26/2023   |         | Fan BHP | 0.55    | Motor HP        |
| Model                  |             |         | dB      | 85.3    | TAB Port, in WC |
| Airflow, cfm           | 1,912       |         |         |         |                 |
| Static Pressure, in WC | 0.75        |         |         |         |                 |



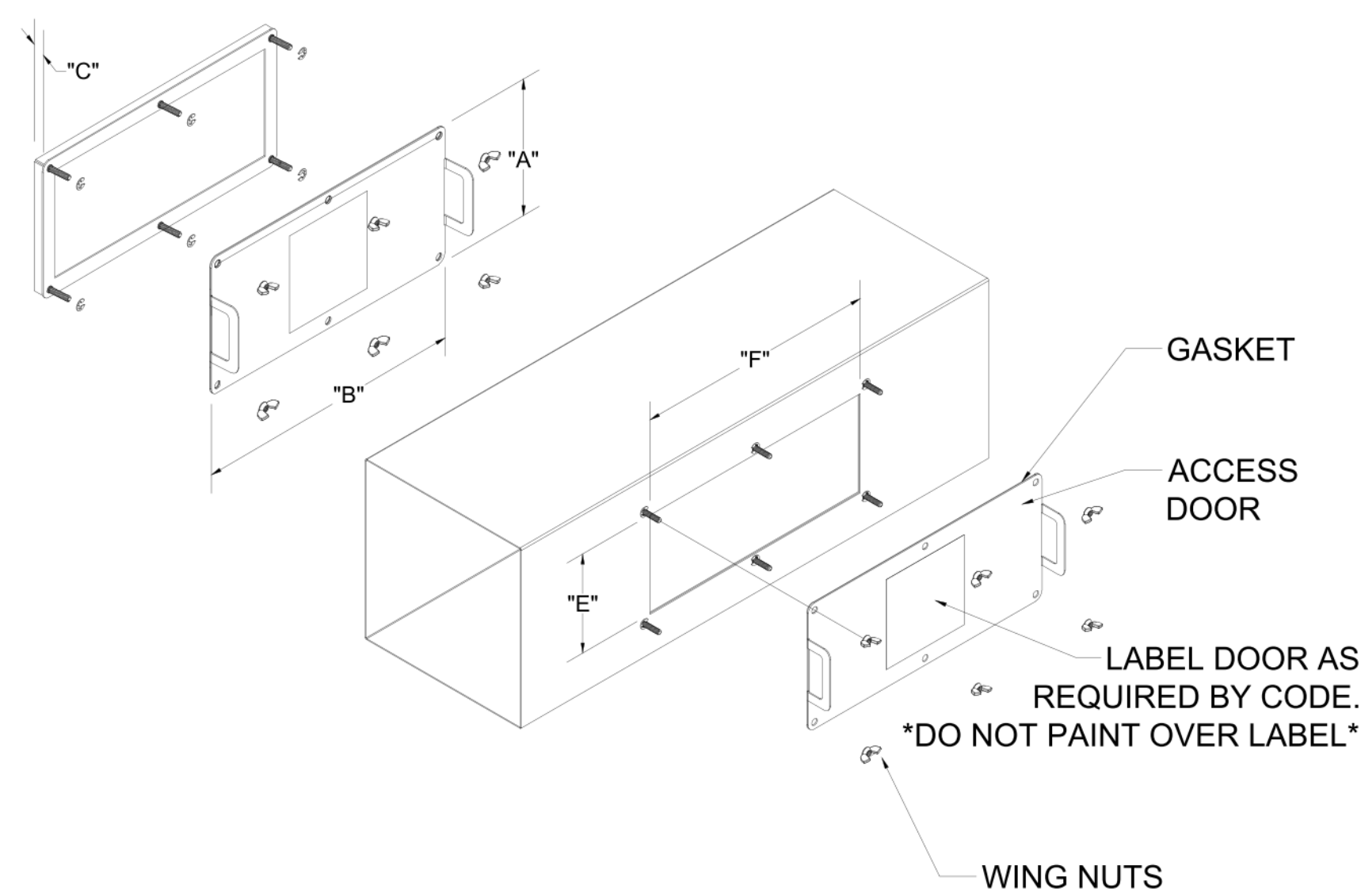
Halton KEFB Exhaust Fan

|                        |             |         |         |         |                 |
|------------------------|-------------|---------|---------|---------|-----------------|
| Job Name               | Chick-fil-A | Item No | Qty     | Fan RPM | Volts/Ph/Amps   |
| Location               | EF-2        | KEFB-14 | 1,370   | 1,370   | 115/1/60        |
| Date                   | 1/26/2023   |         | Fan BHP | 0.34    | Motor HP        |
| Model                  |             |         | dB      | 81      | TAB Port, in WC |
| Airflow, cfm           | 1,402       |         |         |         |                 |
| Static Pressure, in WC | 0.65        |         |         |         |                 |

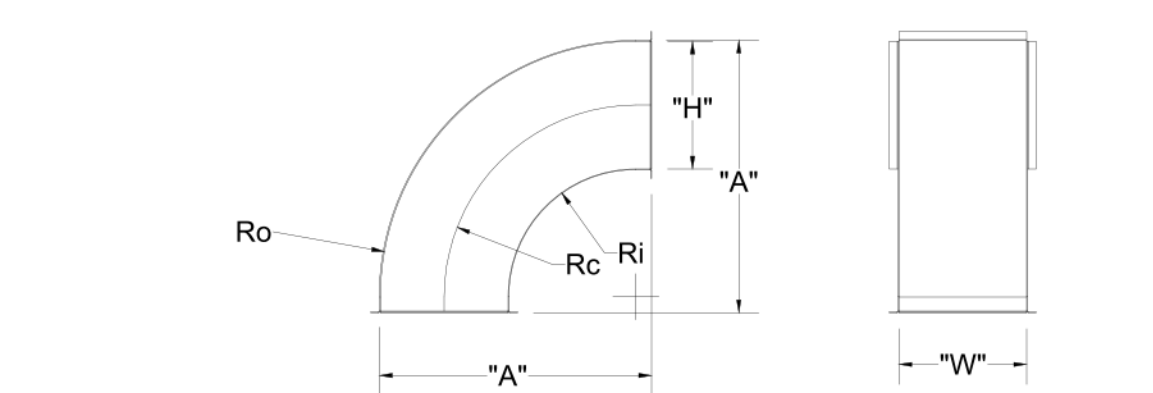


| MODEL   | GREASE ACCESS DOOR SCHEDULE |                 |              |     |      |
|---------|-----------------------------|-----------------|--------------|-----|------|
|         | DOOR SIZE                   | OPTIONAL FLANGE | OPENING SIZE |     |      |
| KAP0715 | "A"                     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

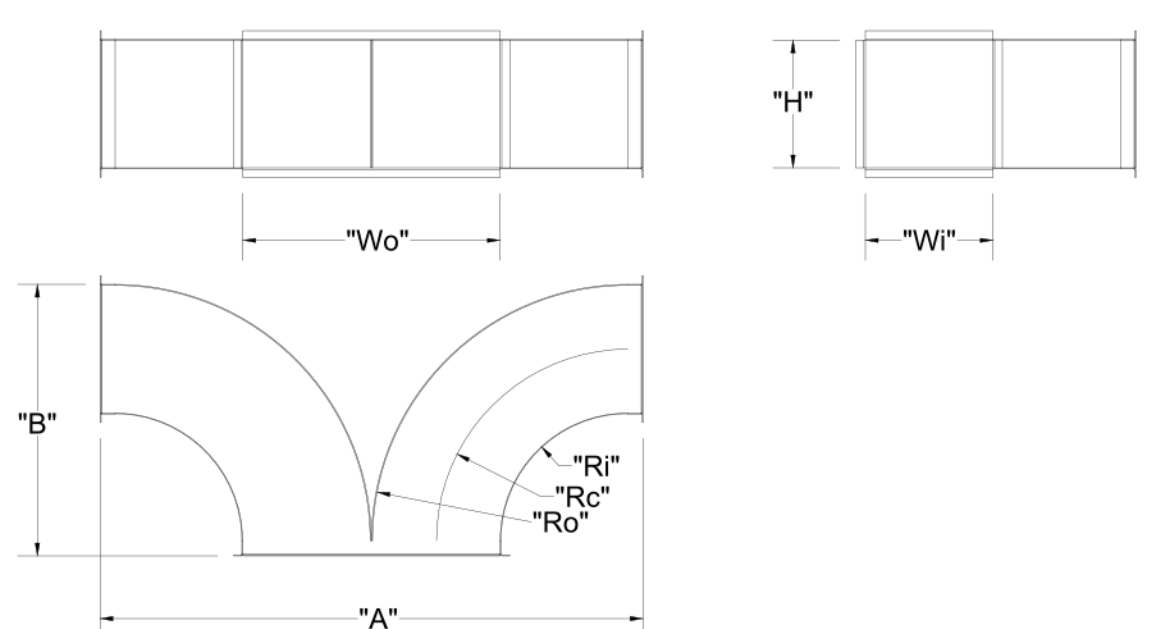
ACCESS DOORS SHALL BE U.L. 1978 LISTED OR FIELD FABRICATED, REQUIRE NO TOOLS FOR REMOVAL AND MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE IMC. ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOORS SHALL BE SEALED WITH A MINIMUM 1500 DEGREE GASKET MATERIAL



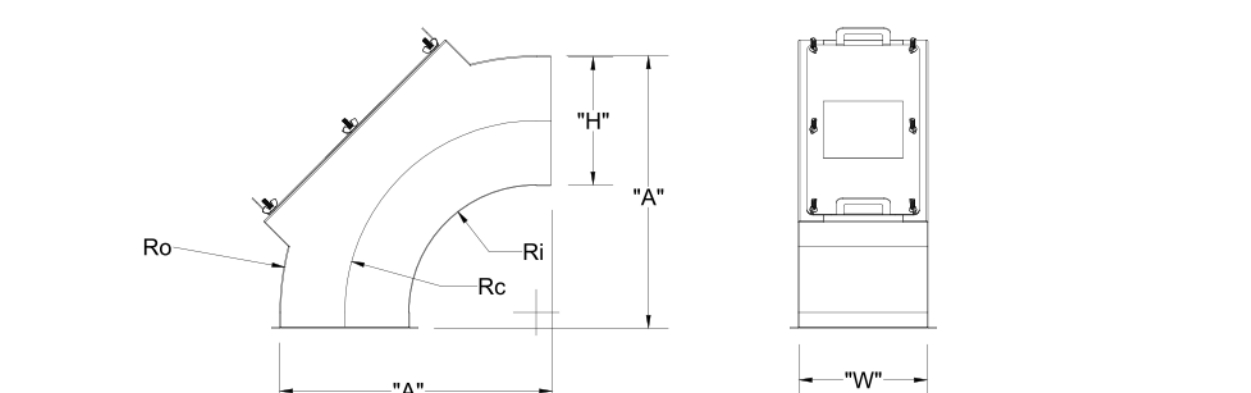
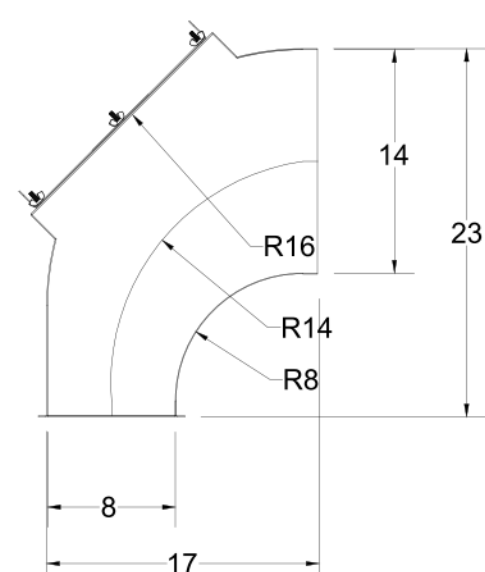
INSTALL PER MANUFACTURER'S INSTRUCTIONS



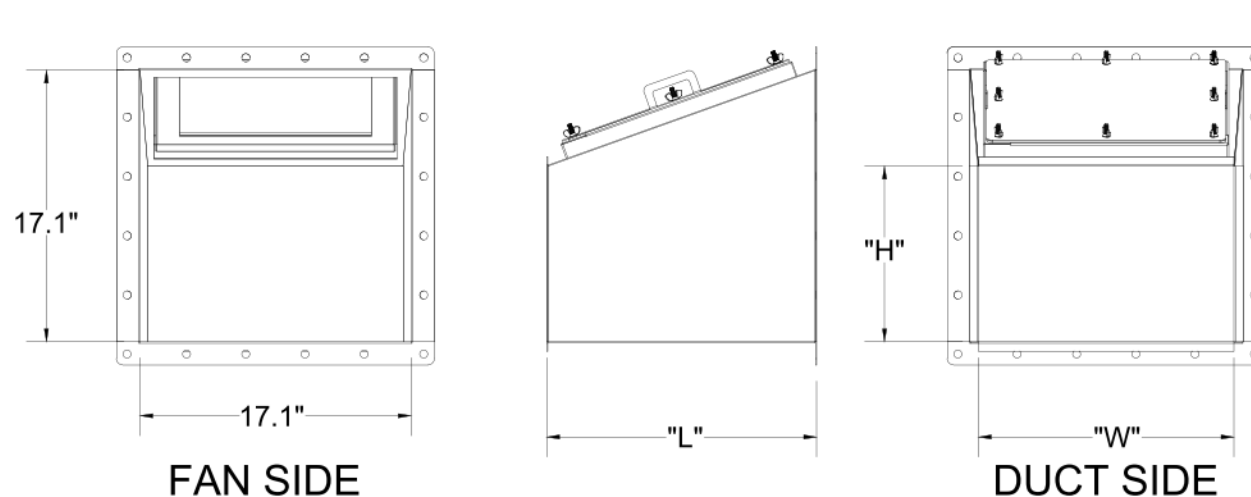
|      | "H" | "W" | "A" | Ro | Rc | Ri |
|------|-----|-----|-----|----|----|----|
| EF-2 | 8   | 8   | 17  | 16 | 12 | 8  |
| EF-2 | 8   | 10  | 17  | 16 | 12 | 8  |



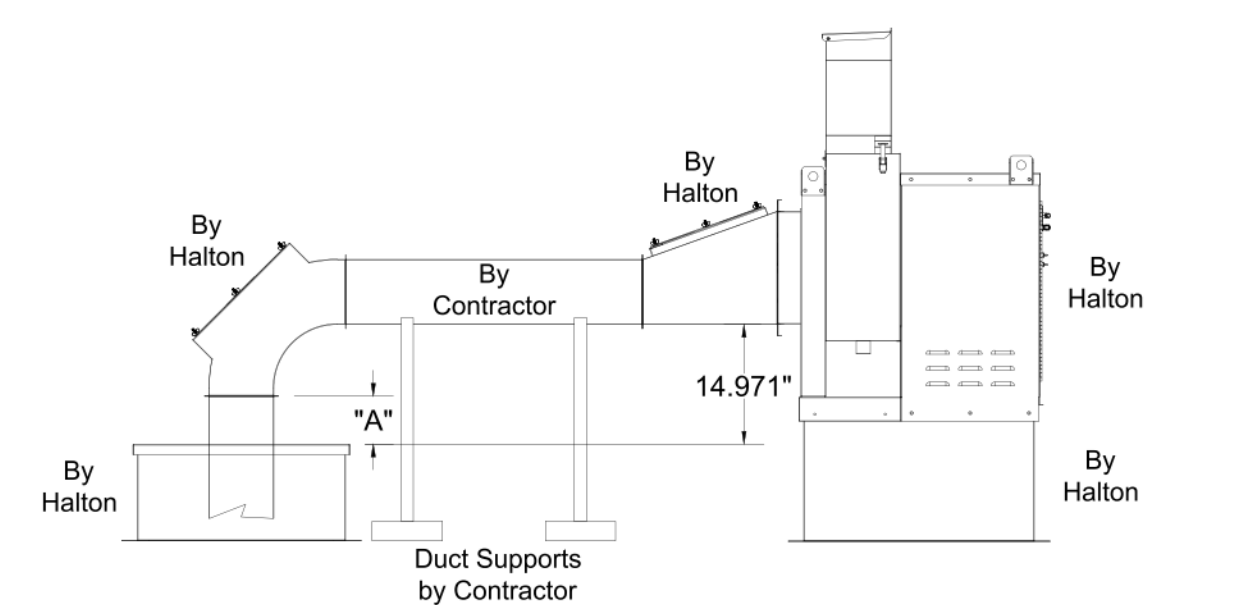
|      | "W" | "H" | Wo | Ro | Rc | Ri | "A" | "B" |
|------|-----|-----|----|----|----|----|-----|-----|
| EF-1 | 8   | 14  | 16 | 16 | 12 | 8  | 34  | 17  |
| EF-2 | 8   | 10  | 16 | 16 | 12 | 8  | 34  | 17  |



|      | "H" | "W" | "A" | Ro | Rc | Ri |
|------|-----|-----|-----|----|----|----|
| EF-1 | 14  | 8   | 29  | 28 | 21 | 14 |
| EF-2 | 8   | 8   | 17  | 16 | 12 | 8  |



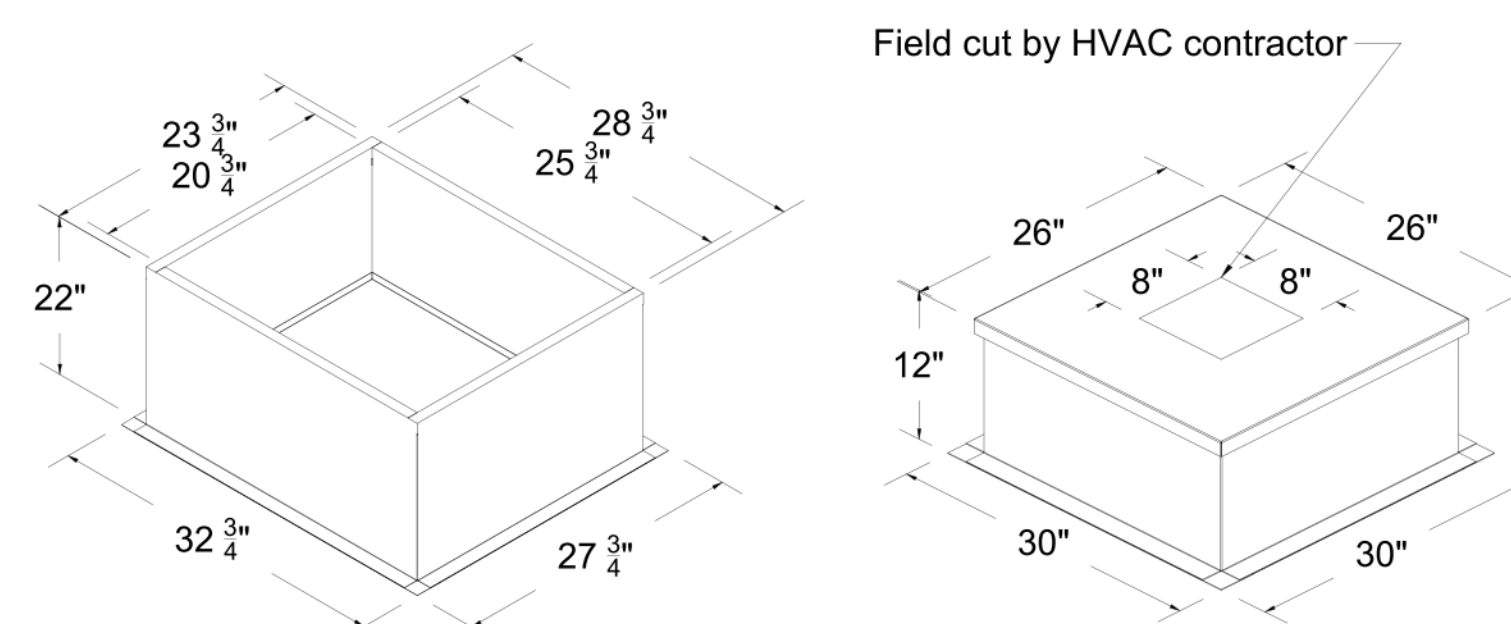
| TRANSITION | "H" | "W" | "L" |
|------------|-----|-----|-----|
| EF-1       | 5   | 14  | 16  |
| EF-2       | 6   | 10  | 17  |



"A" DISTANCE AVAILABLE FOR DUCT SLOPE

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

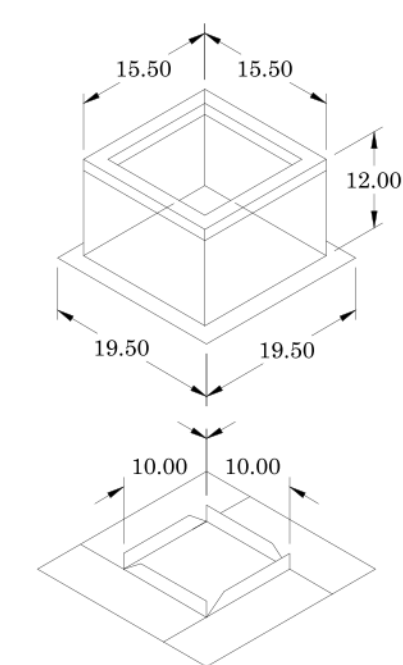
Halton Kitchen Exhaust Fan Curb Insulated Duct Curb



**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 Sides 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 Sides 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 | INSULATION LINER | INSULATION | INSULATION R VALUE |
| GALVANIZED  | NO            | NO               | 1          | R4.3               |

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

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

\*MAY NOT BE APPLICABLE

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

1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS
  2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.
- NOTE TO APPROVER: ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR. A RECALCULATION EXHAUST APPLICATION MAY BE REQUIRED.

REVISION AND RESUBMIT  WITH NO CHANGES  WITH CHANGES AS NOTED

APPROVED FOR FABRICATION

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



WEBSITE: www.halton.com

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

| REV. | DESCRIPTION   | BY  | DATE     |
|------|---|-----|----------|
| 1    | ADDED 8" TO 1/4" ELBOW TRANSITION (USED CHUCK OF EF-1, 5" OF EF-2, 1/4" AND MODEL NUMBER OF EF-3) | ACF | 05.22.23 |
| 2    | REMOVED 4/5 FROM CHART  | ACF | 10.06.23 |
| 3    | REMOVED UPPER FLANGES FROM ELBOWS WITH ACCESS PANEL   | ACF | 10.18.23 |
| 4    | CHANGED EF-1 & 2 RPM MIRRORRED END VIEW, MODEL NUMBER OF EF-3 & 4                                 | ACF | 01.08.24 |
| 5    | REVISED EF-1 & 2 IMAGE & RPM  | SKK | 05.02.24 |

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:

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

PROJECT: CHICK-FIL-A FAN DETAILS

LOCATION: PROTO SE, LE, LS, LSR, DR, DS, BTS

DRAWN BY: ACF DATE: 05.10.23

SCALE:

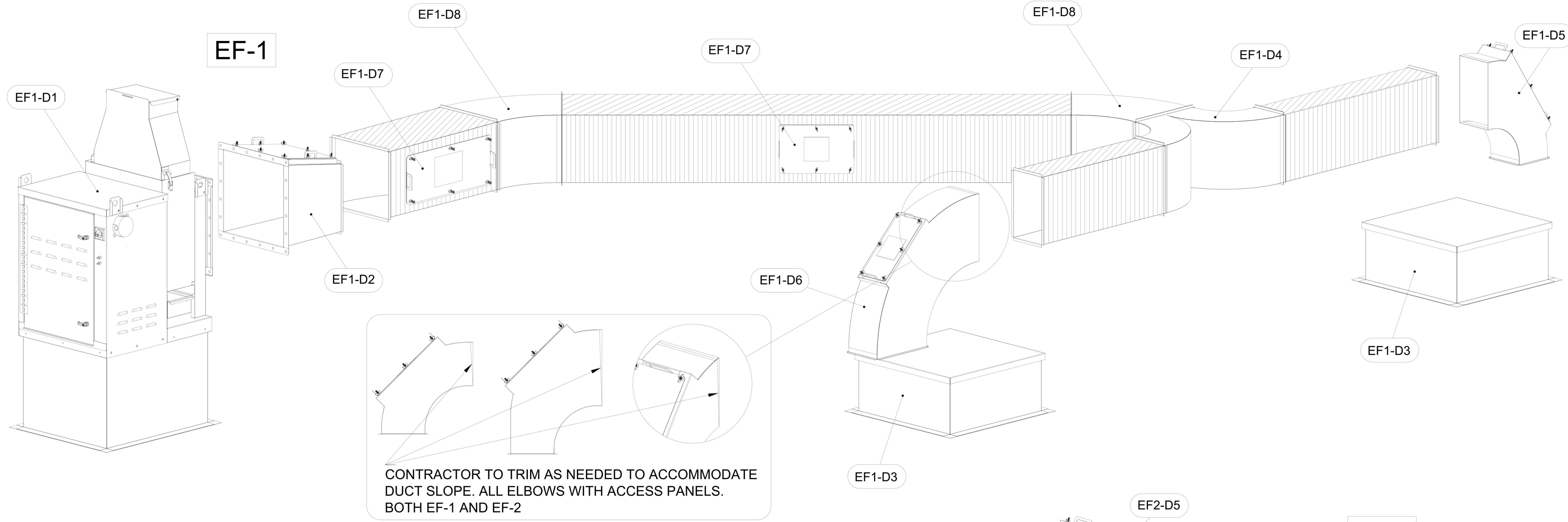
CONSULTANT:

DRAWING TITLE: CFA FAN DETAILS

DRAWING No.: MH-1.4

REV. NO.: 5 SHEET NO.: 1 of 4





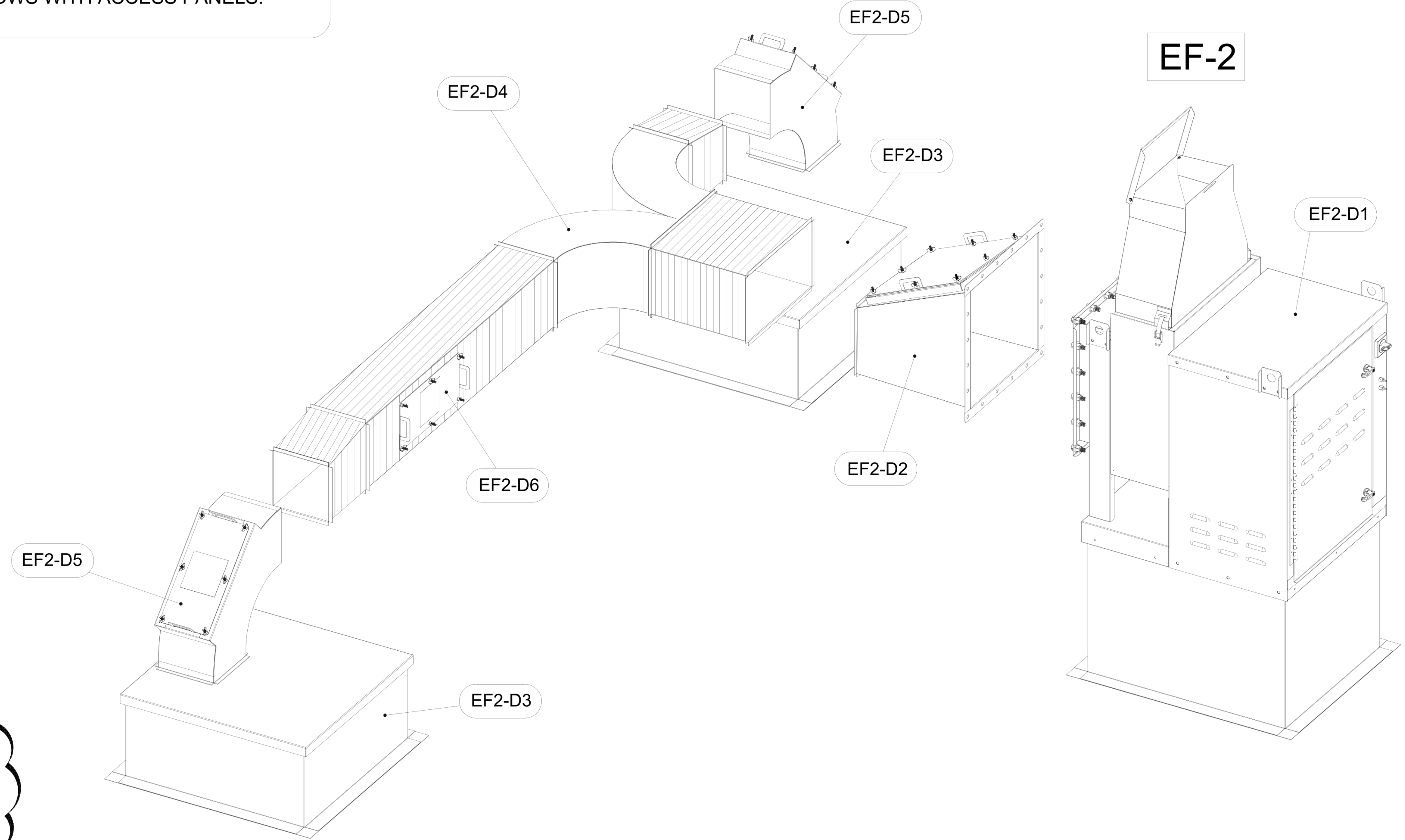
| EXHAUST FAN #1 (EF-1) |   |     |
|-----------------------|---|-----|
| ITEM                  | DESCRIPTION   | QTY |
| EF1-D1                | KEFB EXHAUST FAN W/ ROOF CURB                                   | 1   |
| EF1-D2                | FAN TRANSITION W/ UL LISTED ACCESS PANEL 14X16                  | 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   |

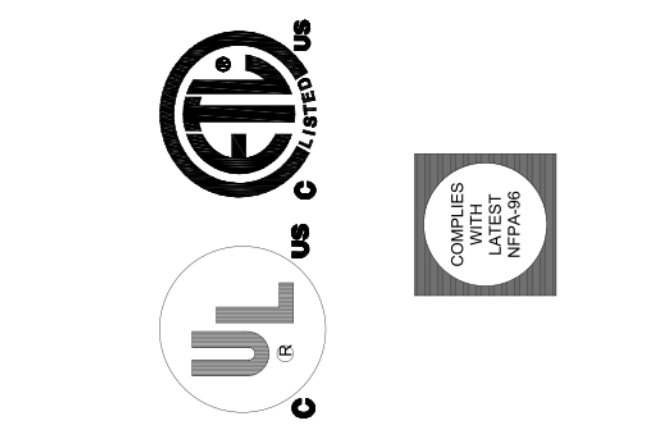
-CONTACT HALTON CUSTOMER SERVICE FOR HALTON PROVIDED ITEMS ONLY. DUCT SECTIONS SPECIFIED BY NUMBERS AND SHOWN IN THE ABOVE CHART ARE PROVIDED BY HALTON.

-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.**



THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY. PLEASE VERIFY THE FOLLOWING:  
 1. ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS AND CLEARANCES.  
 2. THE LOCATION AND TYPE OF COOKING EQUIPMENT.  
 NOTE TO APPROVER: ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT CHANGES OCCUR, A RECALCULATION EXHAUST FLOW MAY BE REQUIRED.  
 REVISE AND RESUBMIT  
 APPROVED FOR FABRICATION  
 WITH NO CHANGES  
 WITH CHANGES AS NOTED



| REV. | DATE     | BY  | DESCRIPTION  |
|------|----------|-----|--|
| 1    | 05.22.23 | ACF | ADDED 8" TO 14" ELBOW TRANSITION, REVISED DUCT DEPICTIONS FOR EF-1   |
| 2    | 10.06.23 | ACF | REMOVED DUCT SUPPORT DEPICTION                                       |
| 3    | 10.18.23 | ACF | REMOVED UPPER FLANGES FROM ELBOWS WITH ACCESS PANEL, ADDED TRIM NOTE |
| 4    | 01.08.24 | SKK | NO CHANGE  |
| 5    | 05.07.24 | SKK | NO CHANGE  |

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW:  
 WEBSITE: [www.halton.com](http://www.halton.com)  
 HALTON CO. (USA)  
 101 INDUSTRIAL DRIVE  
 SCOTTSVILLE, KY 42164  
 1-270-237-5800  
 HALTON CO. (CANADA)  
 1021 BREVIK PLACE  
 MISSISSAUGA, ON L4W 3R7  
 1-905-624-0301

PROJECT: CHICK-FIL-A FAN DETAILS  
 LOCATION: PROTO 30-L8R 102LBP  
 DRAWN BY: ACF DATE: 05.10.23  
 SCALE:  
 CONSULTANT:  
 DRAWING TITLE: CFA FAN DETAILS  
 DRAWING No.: MH-1.5  
 REV. NO.: 5 SHEET NO.: 1 of 5

