

## DIVISION - 15 MECHANICAL SPECIFICATIONS

### GENERAL

A. THE GENERAL CONDITIONS OF THE GENERAL SPECIFICATIONS, ALONG WITH ALL APPLICABLE INSTRUCTIONS TO BIDDERS SHALL FORM A PART OF THIS SECTION OF THE SPECIFICATIONS.

B. REFERENCE IS MADE TO REQUISITES FOR BIDDERS AND CONTRACTORS UNDER OTHER SECTIONS OF THESE SPECIFICATIONS, WHICH SHALL BE CONSIDERED BINDING, UNLESS OTHERWISE NOTED UNDER THIS SECTION.

### SCOPE

EACH CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE CONSTRUCTION DETAILS, BOTH AS ON TENANT CONSTRUCTION DRAWINGS AND LANDLORD'S AS REFERRED TO, BEFORE SUBMITTING HIS BID AS NO ALLOWANCES WILL BE MADE BECAUSE OF THE CONTRACTOR'S UNFAMILIARITY WITH THESE DETAILS. ALL PERFORMANCE OF CONSTRUCTION SHALL BE AS REQUIRED BY THE PACE OF THE GENERAL CONSTRUCTION.

### INSPECTION OF SITE

ALL PROPOSALS SHALL PRECLUDE THAT CONTRACTOR IS FAMILIAR WITH JOB SITE CONDITIONS AND UTILITY LOCATIONS AND THE LACK OF SPECIFIC INFORMATION ON THE DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY.

### PERMITS

ALL PERMITS AND LICENSES NECESSARY FOR THE PROPER EXECUTION OF THE WORK SHALL BE SECURED AND PAID FOR BY THE SUBCONTRACTOR INVOLVED.

### CODE REQUIREMENTS

ALL WORK UNDER THIS CONTRACT SHALL COMPLY WITH THE PROVISIONS OF THE SPECIFICATIONS, DRAWINGS OR AS DIRECTED BY THE OWNER, AND SHALL SATISFY ALL APPLICABLE CODES, ORDINANCES, OR REGULATIONS OF THE GOVERNING BODIES, WHETHER SO SHOWN OR NOT, AND ALL MODIFICATIONS REQUIRED BY SUCH AUTHORITIES SHALL BE MADE BY THE CONTRACTOR WITHOUT ANY ADDITIONAL COST TO THE OWNER.

### MATERIALS AND WORKMANSHIP

A. ALL MANUFACTURED ARTICLES, MATERIALS, AND EQUIPMENT SHALL BE APPLIED AS RECOMMENDED BY THE MANUFACTURERS, AND UNLESS OTHERWISE SPECIFIED SHALL BE NEW, AND FREE FROM ANY DEFECTS. ALL LIKE MATERIALS USED SHALL BE OF THE SAME MANUFACTURE AND QUALITY UNLESS OTHERWISE SPECIFIED.

B. ALL WORK UNDER THIS CONTRACT SHALL BE PERFORMED BY COMPETENT WORKMEN AND EXECUTED IN A NEAT AND WORKMANLIKE MANNER. WORK SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION, AND ON COMPLETION, THE INSTALLATION SHALL BE THOROUGHLY CLEANED AND ALL DEBRIS PRESENT AS A RESULT OF THIS CONTRACT SHALL BE REMOVED FROM THE PREMISES. DO NOT JUST ABANDON.

### CODES AND REGULATIONS

EACH SUBCONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES AND REGULATIONS BEARING ON THE CONDUCT OF THE WORK AS DRAWN OR SPECIFIED. IF A SUBCONTRACTOR OBSERVES THAT THE DRAWINGS AND SPECIFICATIONS ARE AT A VARIANCE, HE SHALL PROMPTLY NOTIFY THE GENERAL CONTRACTOR AND THE TENANT IN WRITING. IF ANY SUBCONTRACTOR PERFORMS ANY WORK KNOWING IT TO BE CONTRARY TO LAWS, ORDINANCES, RULES AND REGULATIONS AND WITHOUT GIVING SUCH NOTICE, THE SUBCONTRACTOR SHALL BEAR ALL COSTS ARISING THEREFROM.

### PROTECTION OF WORK AND PROPERTY

A. EACH SUBCONTRACTOR SHALL CONTINUOUSLY MAINTAIN ADEQUATE PROTECTION OF ALL HIS WORK FROM DAMAGE AND SHALL PROTECT THE OWNER'S PROPERTY FROM INJURY OR LOSS ARISING FROM HIS WORK. HE SHALL MAKE GOOD ANY SUCH DAMAGE, INJURY, OR LOSS, EXCEPT SUCH AS MAY BE DIRECTLY DUE TO CAUSES BEYOND HIS CONTROL AND NOT TO HIS FAULT OR NEGLIGENCE. HE SHALL ADEQUATELY PROTECT ADJACENT PROPERTY AS WELL.

B. EACH SUBCONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE SAFETY OF THEIR EMPLOYEES ON THE WORK AND SHALL COMPLY WITH ALL PROVISIONS OF FEDERAL, STATE AND LOCAL BUILDING CODES AND SAFETY LAWS TO PREVENT ACCIDENTS OR INJURY TO PERSONS ON OR ADJACENT TO THE PREMISES WHERE THE WORK IS BEING PERFORMED. EACH SUBCONTRACTOR SHALL MAINTAIN ALL INSURANCE REQUIRED TO PROTECT HIMSELF, OWNER AND TENANT FOR THE DURATION OF THE WORK AGAINST PROPERTY DAMAGE AND PUBLIC LIABILITY.

### CHANGES IN THE WORK

THE TENANT, WITHOUT INVALIDATING THE CONTRACT, MAY ORDER EXTRA WORK OR MAKE CHANGES BY ALTERING, ADDING TO OR DEDUCTING FROM THE WORK, THE CONTRACT SUM BEING ADJUSTED ACCORDINGLY.

### COOPERATION

ALL WORK UNDER THESE SPECIFICATIONS SHALL BE ACCOMPLISHED IN CONJUNCTION WITH OTHER CONTRACTORS AND TRADES OF THIS PROJECT IN A MANNER WHICH WILL ALLOW EACH CONTRACTOR AND TRADE ADEQUATE TIME AT THE PROPER STAGE OF CONSTRUCTION TO FULFILL HIS CONTRACTS. REFERENCE SHALL BE MADE TO THE OWNER FOR INSTRUCTIONS SHOULD ANY QUESTIONS ARISE BETWEEN TRADES AS TO THE PLACING OF LINES, DUCTS, CONDUITS, FIXTURES, OR EQUIPMENT, OR SHOULD IT APPEAR DESIRABLE TO REMOVE ANY GENERAL CONSTRUCTION WHICH WOULD AFFECT THE APPEARANCE OR STRENGTH OF THE STRUCTURE.

### SUBSTITUTION OF MATERIALS

MANUFACTURER'S NAMES ARE LISTED HEREIN TO ESTABLISH A STANDARD. THE PRODUCTS OF OTHER MANUFACTURERS WILL BE ACCEPTABLE, IF IN THE OPINION OF THE TENANT, THE SUBSTITUTE MATERIAL IS OF A QUALITY AS GOOD OR BETTER THAN THE MATERIAL SPECIFIED, AND WILL SERVE WITH EQUAL EFFICIENCY AND DEPENDABILITY, THE PURPOSE FOR WHICH THE ITEMS SPECIFIED WERE INTENDED. CONTRACTOR ASSUMES ALL RESPONSIBILITIES AND COST IMPACTS OF SUBSTITUTIONS.

### SHOP DRAWINGS

SHOP DRAWINGS AND CATALOG DATA ON ALL MAJOR ITEMS OF EQUIPMENT AND SYSTEMS, AND SUCH OTHER ILLUSTRATIVE MATERIAL AS MAY BE CONSIDERED NECESSARY BY THE TENANT, SHALL BE SUBMITTED BY THIS CONTRACTOR IN ADEQUATE TIME TO PREVENT DELAY AND CHANGES DURING CONSTRUCTION.

### DRAWINGS AND SPECIFICATIONS

A. THE DRAWINGS SHOW DIAGRAMMATICALLY THE LOCATIONS OF THE VARIOUS LINES, DUCTS, CONDUITS, FIXTURES, AND EQUIPMENT AND THE METHOD OF CONNECTING AND CONTROLLING THEM. IT IS NOT INTENDED TO SHOW EVERY CONNECTION IN DETAIL AND ALL FITTINGS REQUIRED FOR A COMPLETE SYSTEM.

B. SHOULD ANY CHANGES BE DEEMED NECESSARY BY THE CONTRACTOR IN ITEMS SHOWN ON CONTRACT DRAWINGS, THE SHOP DRAWINGS, DESCRIPTIONS, AND THE REASON FOR THE PROPOSED CHANGES SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL.

### RESPONSIBILITY

A. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE SATISFACTORY AND COMPLETE EXECUTION OF ALL WORK INCLUDED IN HIS CONTRACT. HE SHALL PRODUCE COMPLETE FINISHED OPERATING SYSTEMS AND PROVIDE ALL INCIDENTAL ITEMS REQUIRED AS PART OF HIS WORK, REGARDLESS OF WHETHER SUCH ITEM IS PARTICULARLY SPECIFIED OR INDICATED.

B. CONTRACTOR SHALL SUPPLY TO LANDLORD AND TENANT A CERTIFIED BALANCE REPORT AT COMPLETION OF PROJECT. THIS IS REQUIRED FOR BOTH REMODELED AND NEW STORES.

### HEATING, VENTILATING AND AIR CONDITIONING

#### GENERAL

A. THE WORK COVERED BY THIS SECTION OF THESE SPECIFICATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE RESPECTIVE DRAWINGS, INFORMATION, OR INSTRUCTIONS TO BIDDERS, AND THE GENERAL CONDITIONS, ADDENDA, OR DIRECTIVES WHICH MAY BE ISSUED BY THE OWNER, HEREWITH, OR OTHERWISE, SHALL BE COMPLIED WITH IN EVERY RESPECT.

B. THE LISTING HEREIN OF AN ARTICLE OR MATERIAL, OPERATION OR METHOD, REQUIRES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL EACH ITEM LISTED, UNLESS SPECIFICALLY NOTED TO THE CONTRARY. THE CONTRACTOR SHALL PERFORM EACH OPERATION PRESCRIBED OR LISTED ACCORDING TO THE CONDITIONS STATED.

#### EXAMINATION OF SITE

ALL CONTRACTORS SUBMITTING PROPOSALS FOR THIS WORK SHALL FIRST EXAMINE THE SITE AND ALL CONDITIONS THEREON AND/OR THEREIN. ALL PROPOSALS SHALL TAKE INTO CONSIDERATION ALL SUCH CONDITIONS AS MAY AFFECT THE WORK UNDER THIS CONTRACT.

#### SCOPE

FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY FOR A COMPLETE FULLY OPERATIVE HEATING, VENTILATING, AND AIR CONDITIONING SYSTEM EXCEPT AS SPECIFICALLY EXCLUDED BY THE DRAWINGS, AND/OR TENANT'S DIRECTIONS.

#### EQUIPMENT

1. ROOFTOP UNITS: FURNISH HEATING AND AIR CONDITIONING AS SCHEDULED. UNIT TO BE COMBINED PACKAGED SYSTEM, ALL SEASON EQUIPMENT, CONSISTING OF GAS HEATING SECTION, BLOWER, DX COIL, COMPRESSOR(S), AND AIR COOLED CONDENSING SECTION. UNIT SHALL BE DESIGNED FOR DOWN FLOW ARRANGEMENT WITH ALL DUCT PENETRATIONS WITHIN FACTORY ROOF CURB.
  2. FEATURES: UNITS TO BE WOUND FOR VOLTAGE AND PHASE AS SCHEDULED. HEAVY GAUGE ALUMINIZED STEEL, STAINLESS STEEL OR COATED HEAT EXCHANGER WILL BE ACCEPTABLE. UNIT MUST BE A G.A. APPROVED FOR OUTDOOR APPLICATION. DIRECT EXPANSION COIL WITH FACTORY INSTALLED EXPANSION VALVE - BLOWER SHALL BE OF THE CENTRIFUGAL BELT DRIVEN OR MULTI-SPEED DIRECT DRIVE TYPE WITH FORWARD CURVED BLADES - BLOWER AND MOTOR ISOLATED FOR QUIET OPERATION - BUILT IN MOTOR STARTER WITH OVER VOLTAGE PROTECTION. HERMETICALLY SEALED COMPRESSOR WITH INHERENT OVERLOAD PROTECTION THERMOSTAT - NON-PRORATED 5-YEAR WARRANTY ON COMPRESSOR AND 10-YEAR WARRANTY ON HEAT EXCHANGER - CONDENSER COIL CONSTRUCTED OF COPPER TUBING WITH ALUMINUM FINS - CRANKCASE HEATERS - BUILT IN MOTOR STARTERS ELECTRIC IGNITION - HIGH, LOW PRESSURE CUTOUT ON COMPRESSOR - SHUTOFF VALVES ON LIQUID AND SUCTION LINES - SHORT CYCLE TIMER PROTECTION - FILTER - DRYER - VIBRATION ISOLATION. UNIT FACTORY CHARGED.
  3. ACCESSORIES: SUPPLY AND RETURN FILTER CASING ASSEMBLY, TWO COMPLETE SETS OF THROWAWAY TYPE FILTERS. FILTERS SHALL BE 2" THICK. ONE SET TO BE REMOVED AND REPLACED JUST PRIOR TO TEST & BALANCE - FULL ECONOMIZER PACKAGE WITH LOW LEAKAGE FRESH AIR STANDARD RETURN AIR DAMPERS AND DAMPER MOTOR - MINIMUM POSITION SETTING - PROVIDE MANUFACTURER'S INTERFACE AS REQUIRED FOR OPERATION WITH THERMOSTAT AS SPECIFIED. PROVIDE MOUNTING CURB APPROVED BY NATIONAL ROOF CONTRACTORS ASSOCIATION TO SUPPORT THE ENTIRE ASSEMBLY WITH NAILER STRIP AND AIR TIGHT GASKET.
- E. ALL HVAC UNITS WILL BE EQUIPPED WITH PROGRAMMABLE THERMOSTAT. DESIGN AND STANDARD CONDITIONS FOR THERMOSTAT OPERATION WILL BE AS FOLLOWS:  
  
COOLING: 75°F MAXIMUM OCCUPIED COOLING TEMPERATURE  
85°F COOLING NIGHT SETBACK.  
  
HEATING: 70°F MAXIMUM OCCUPIED HEATING TEMPERATURE  
60°F HEATING NIGHT SETBACK.  
  
FAN: CONTINUOUS IN OCCUPIED AND RECOVERY MODE AND WITH HEATING OR COOLING EQUIPMENT IN UNOCCUPIED MODE.  
  
DEADBAND: CAPABLE OF MAINTAINING A 5°F DEADBAND.  
  
CLOCK: 7 DAY CAPABLE OF 7 DIFFERENT DAY SCHEDULES.  
  
OVERNIGHT: HAVE A 2 HOUR OVERRIDE ACCESSIBLE TO MANAGER.  
  
BACKUP: CAPABLE OF MAINTAINING PROGRAMMED SETTING FOR AT LEAST 10 HOURS WITHOUT POWER.
- F. THE HVAC SUBCONTRACTOR SHALL IDENTIFY ALL ROOF MOUNTED HVAC EQUIPMENT AND APPARATUS WITH 2" HIGH PAINTED STENCILED STORE NAME ON ALL SIDES OF EQUIPMENT.

#### DUCTWORK

A. SQUARE AND RECTANGULAR DUCTWORK SHALL BE CONSTRUCTED OF NEW GALVANIZED PRIME GRADE SHEET STEEL OF THE FOLLOWING GAUGES:

DUCT SIZE	GAUGE
12" AND LESS	NO. 26 U.S. GAUGE
13" TO 30"	NO. 24 U.S. GAUGE
31" TO 54"	NO. 22 U.S. GAUGE
55" TO 84"	NO. 20 U.S. GAUGE
85" AND OVER	NO. 18 U.S. GAUGE

B. SQUARE AND RECTANGULAR DUCTWORK SHALL BE CONSTRUCTED AS FOLLOWS:

SIZE	METHOD
17" AND LESS	"S" AND DRIVE CLEATS
18" TO 30"	"L" STANDING SEAMS ON 3'-0" CENTERS
31" TO 54"	1-1/4" STANDING SEAMS ON 3'-0" CENTERS

ALL KITCHEN HOOD EXHAUST DUCTWORK SHALL BE SINGLE WALL, FACTORY-BUILT, GREASE DUCT FOR USE WITH TYPE I HOODS, WHICH CONFORMS TO NFPA-96. SEE ADDITIONAL SPECIFICATIONS ON SHEET MH1-01 OF HOOD DRAWINGS.

1. THE KITCHEN HOOD EXHAUST DUCTWORK SHALL BE ENCLOSED IN A RATED ENCLOSURE PER CODE, TWO (2) LAYERS OF 3M FIRE BARRIER DUCT WRAP 615+ OR SIMILAR.
2. THE CONTRACTOR SHALL INCLUDE IN HIS PRICE:
  - ALL NECESSARY TRANSITION AND CONNECTION FITTINGS TO THE HOOD AND EXHAUST FANS.
  - ALL CLEAN-OUT ACCESS PANELS AS REQUIRED BY CODE.
  - ALL ELBOW AND TRANSITION FITTINGS.
  - ALL HANGERS AND SUPPORTS.
  - SHOP DRAWINGS SHOWING PROPOSED FABRICATION AND INSTALLATION COORDINATED WITH EXISTING FIELD CONDITIONS AND OTHER TRADES.

ROUND SPIRAL DUCTWORK SHALL BE LINX FACTORY PAINTED SPIRAL DUCTWORK AND FITTINGS OR APPROVED EQUAL. INSTALLED AND SUSPENDED AS PER MANUFACTURER'S RECOMMENDATIONS. GAUGES FOR SHOP FABRICATED DUCTS SHALL BE AS FOLLOWS:

UP TO 12" IN DIAMETER	NO. 26 GAUGE
13" TO 30"	NO. 24 GAUGE
31" TO 42"	NO. 22 GAUGE
43" TO 60"	NO. 20 GAUGE

ELBOWS SHALL HAVE A CENTERLINE RADIUS OF 1-1/2 TIMES DUCT DIAMETER AND MAY BE SMOOTH ELBOWS OR 5 PIECE 90 DEGREE ELBOWS AND 3 PIECE 45 DEGREE ELBOWS. JOINTS OF ROUND DUCTS SHALL BE SLIP TYPE WITH A MINIMUM OF 3 SHEET METAL SCREWS.

1. NOT USED.
2. ALL LOW PRESSURE DUCTWORK SHALL BE EXTERNALLY SEALED USING UNITED SHEET METAL, MMM EG-800, OR HARDCAST DUCT SEALER INSTALLED IN THE JOINTS PRIOR TO CLOSURE. ADDITIONALLY SEAL ALL EXTERNAL TRANSVERSE JOINTS AND FITTING CONNECTIONS EXTERNALLY.
- C. ALL SUPPLY AIR DUCTS (HEATING AND COOLING) AND RETURN AIR DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED STEEL WITH MIN. 1-1/2" (R-6) THICK EXTERNAL THERMAL INSULATION EXCEPT DUCT LINED FOR ACOUSTICAL PURPOSES. CONTINUE INSULATION TO TOP OF ALL DIFFUSERS, GRILLES, REGISTERS, ETC. ALL EXHAUST AND RELIEF AIR DUCTS SHALL BE GALVANIZED STEEL. ALL KITCHEN HOOD EXHAUST DUCTWORK SHALL HAVE FIRE BARRIER DUCT WRAP. DUCT WRAP SHALL BE TESTED IN ACCORDANCE WITH ASTM E 2336. 2 LAYERS OF 3M FIRE BARRIER DUCT WRAP 615+ OR SIMILAR TO BE USED.
- D. CONTRACTOR WILL INSTALL INSECT SCREENS ON ALL DUCT OPENINGS WHICH LEAD TO OR ARE OUTDOORS. INSECT SCREENS SHALL BE 10 GAUGE, ONE-HALF INCH (1/2") MESH IN REMOVABLE GALVANIZED STEEL FRAMES.
- E. ALL DUCTWORK SHALL BE DESIGNED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN THE AMERICAN SOCIETY OF HEATING REFRIGERATION AND AIR CONDITIONING ENGINEERS GUIDE (ASHRAE) AND FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST METHODS RECOMMENDED IN THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA) LOW VELOCITY DUCT MANUAL, LATEST EDITION.
- F. NOT USED.

#### HANGERS AND SUPPORTS

A. ALL HORIZONTAL DUCTS HAVING A DIMENSION OF 40 INCHES AND LESS SHALL BE SUPPORTED BY MEANS OF BAND IRON HANGERS OF NO. 18 U.S. GAUGE ATTACHED TO THE DUCT BY MEANS OF RIVETS, SCREWS, OR CLAMPS, AND FASTENED TO STRUCTURE ABOVE BY TOGGLE BOLTS OR OTHER MEANS. EACH SECTION OF DUCTWORK SHALL HAVE AT LEAST ONE PAIR OF SUPPORTS. VERTICAL DUCTS SHALL BE SUPPORTED WITH 1-1/4" x 1-1/4" x 1-1/4" ANGLES WHERE THEY PASS THROUGH THE FLOOR LINES.

B. ALL HORIZONTAL DUCTS HAVING A DIMENSION OF 40 INCHES AND MORE SHALL BE SUPPORTED BY MEANS OF ANGLE IRON TRAPEZE HANGERS. EACH SECTION OF DUCTWORK SHALL HAVE AT LEAST ONE PAIR OF SUPPORTS.

#### FLASHING

A. CONTRACTOR WILL PROVIDE WATER TIGHT 24 GA. SHEET METAL FLASHINGS AT ALL EXTERIOR WALLS AND ROOF PENETRATIONS.

B. ALL CUTTING OF ROOF OPENINGS, SUPPORTS FOR ROOF OPENINGS, PITCH PANS, ROOF CURBS, FLASHINGS, COUNTER FLASHINGS, REPAIR TO ROOF, ETC. ASSOCIATED WITH HVAC SUBCONTRACTOR SHALL BE THE RESPONSIBILITY AND PART OF THE CONTRACT HVAC SUB-CONTRACTOR. HE SHALL EMPLOY THE LANDLORD'S ROOFERS FOR THIS WORK SO AS TO MAINTAIN THE ROOF BOND.

#### DAMPERS

A. SPLITTER DAMPERS SHALL BE FABRICATED OF SHEET STEEL NOT LESS THAN NO. 16 U.S. GAUGE WITH THE LEADING EDGE HEMMED. EACH DAMPER SHALL BE LARGE ENOUGH TO COVER THE SMALLER OF THE TWO OPENINGS IT CONTROLS. DAMPERS SHALL BE CONTROLLED AS FOLLOWS:

EXPOSED OR ACCESSIBLE DUCTWORK - LOCKING QUADRANTS EQUAL TO YOUNG REGULATOR NO. 1 WITH DAMPER ROD END BEARINGS ON OPPOSITE END.

CONCEALED DUCTWORK - LOCKING QUADRANT EQUAL TO YOUNG REGULATOR NO. 315 (CHROMIUM PLATED WITH DAMPER ROD END BEARINGS ON BOTH ENDS).

B. VOLUME DAMPERS SHALL BE OF THE OPPOSED INTERLOCKING TYPE AS MANUFACTURED BY AMERICAN FOUNDRY AND FURNACES CO. (AFFCO) OR EQUAL. BLADES SHALL BE OF NO. 16 GAUGE SHEET METAL AND SHALL NOT EXCEED 48" IN LENGTH OR 12" IN WIDTH. BLADES SHALL BE ON ONE-HALF INCH (1/2") DIAMETER RUSTPROOF AXLE. BEARINGS SHALL BE OF THE SELF-LUBRICATING FERRULE TYPE.

C. FIRE DAMPERS SHALL BE SUPPLIED AND INSTALLED BY HVAC CONTRACTOR AT DUCT PENETRATIONS IN FIRE RATED WALLS, CEILINGS, AND ROOFS AS REQUIRED. COORDINATE WITH LANDLORD, LOCAL FIRE MARSHALL AND ALL CODES AND GOVERNING AUTHORITIES HAVING JURISDICTION.

D. JOB FABRICATED TURNING VANES SHALL BE ACCEPTABLE IN SQUARE ELBOWS. PROVIDE AND INSTALL BARBER-COLEMAN AIR TURNS OR EQUAL. TURNING VANES SHALL BE OF THE SAME GAUGE METAL AS THE DUCT IN WHICH THEY ARE INSTALLED. RADIUS ELBOWS SHALL HAVE A CENTERLINE RADIUS OF ONE AND ONE-HALF (1-1/2) TIMES THE DUCT WIDTH.

#### DUCTWORK - EXCEPTIONS

DUCTWORK FOR EXHAUSTING AIR OR OUTSIDE SUPPLY AIR SHALL BE ALL METAL AND CONSTRUCTED ACCORDING TO RECOMMENDED PRACTICES AS FOUND IN THE LATEST ISSUE OF ASHRAE.

#### SUPPORT OF DUCT SYSTEM

HANGER DESIGN SHALL BE AS DESCRIBED IN THE LATEST EDITION OF THE "SMACNA" MANUAL. REINFORCEMENT MEMBERS MAY BE USED TO SUPPORT DUCT SYSTEM PROVIDED DETAILS OUTLINED IN THE AFOREMENTIONED MANUAL ARE ADHERED TO. DUCTS SHALL BE SUPPORTED AT ALL TURNS AND TRANSITIONS AND NOT MORE THAN 8'-0" O.C. STRAIGHT DUCTS UP TO 59" MAX. DIMENSIONS SHALL BE SUPPORTED 8'-0" O.C. DUCTS OVER 60" MAX. DIMENSIONS SHALL BE SUPPORTED AT 4'-0" O.C.

#### REINFORCEMENT

ALL DUCTS REQUIRING REINFORCEMENT SHALL BE REINFORCED ACCORDING TO THE LATEST EDITION OF "SMACNA" MANUAL.

MATERIALS FOR REINFORCEMENT MEMBERS SHALL BE GALVANIZED STEEL. ALL SCREWS AND WASHERS SHALL BE PLATED OR GALVANIZED.

#### ACCESSORY ITEMS

ALL MANUAL DAMPERS, FIRE DAMPERS, TURNING VANES, REGISTER CONNECTIONS, ACCESS DOORS OR OTHER ASSOCIATED ACCESSORIES SHALL BE INSTALLED ACCORDING TO THE LATEST PUBLICATION OF "SMACNA" MANUAL.

#### TESTING AND ADJUSTING

CONTRACTOR WILL DEMONSTRATE OPERATION OF SYSTEM TO FULL SATISFACTION OF TENANT. WILL BALANCE AIR FLOW IN ACCORDANCE WITH AIR QUANTITIES ON DRAWINGS AND WILL RECORD VOLUME READINGS IN ACCORDANCE WITH ASHRAE AND PROVIDE SAME TO TENANT. ALL PIPING SHALL WITHSTAND AIR PRESSURE TESTING PER GOVERNING PLUMBING CODE.

#### A. AIR DISTRIBUTION SYSTEMS:

1. INSPECT INSTALLATION AND VERIFY CONFORMITY TO DESIGN. VERIFY THAT SUPPLY, RETURN, AND EXHAUST DUCTS HAVE BEEN PRESSURE-TESTED FOR LEAKAGE AS RECOMMENDED IN THE APPROPRIATE SMACNA STANDARDS.
2. VERIFY THAT VOLUME AND FIRE DAMPERS ARE PROPERLY LOCATED AND FUNCTIONAL.
3. VERIFY THAT SUPPLY, RETURN, EXHAUST AND TRANSFER GRILLES, REGISTERS AND DIFFUSERS ARE INSTALLED AND OPERATING PROPERLY.
- B. VERIFY THAT CONTROL COMPONENTS ARE INSTALLED IN ACCORDANCE WITH PROJECT REQUIREMENTS AND ARE FUNCTIONING AS INTENDED, INCLUDING ELECTRICAL POWER, CONTROL AND INTERLOCK WIRING, DAMPER SEQUENCES, SMOKE DETECTORS, ETC.
- C. UPON COMPLETION OF THE INSTALLATION AND START-UP OF THE MECHANICAL EQUIPMENT, TEST, ADJUST AND BALANCE SYSTEM COMPONENTS TO OBTAIN OPTIMUM CONDITIONS IN EACH CONDITIONED SPACE IN THE BUILDING.
- D. BEFORE FINAL ACCEPTANCE IS MADE, FURNISH TO THE ARCHITECT THE FOLLOWING DATA:
  1. SUMMARY OF MAIN SUPPLY, RETURN AND EXHAUST DUCT PILOT TUBE TRANSVERSES AND FAN SETTINGS.
  2. AIR QUANTITIES AT EACH SUPPLY, RETURN, RELIEF AND EXHAUST AIR HANDLING DEVICE.
  3. AIR PRESSURE READINGS ENTERING AND LEAVING EACH SUPPLY FAN AND EXHAUST FAN.
  4. MOTOR CURRENT AND VOLTAGE READINGS AT EACH EQUIPMENT MOTOR.
  5. TEST RESULTS SHALL BE RECORDED ON STANDARD FORMS CONFORMING TO AABC AND NEBB REQUIREMENTS. THE REPORT SHALL INCLUDE AIR FLOW SCHEMATIC DIAGRAMS INDICATING AND IDENTIFYING TEST LOCATIONS SUCH AS DUCT TRANSVERSE, OUTLET READINGS, PRESSURE READINGS AND TEMPERATURE READINGS, AND SHALL BE REFERENCED TO THE RECORDED DATA ON THE FORMS.
  - E. MAKE AN INSPECTION IN THE BUILDING DURING THE OPPOSITE SEASON FROM THAT IN WHICH THE INITIAL ADJUSTMENTS WERE MADE, AND AT THAT TIME MAKE ANY NECESSARY MODIFICATIONS TO THE INITIAL ADJUSTMENTS REQUIRED TO PRODUCE OPTIMUM OPERATION OF THE SYSTEM COMPONENTS, TO PRODUCE THE PROPER CONDITIONS IN EACH SPACE.
  - F. INSTRUCTION: THE CONTRACTOR SHALL INSTRUCT THE BUILDING OPERATING PERSONNEL IN THE CONSTRUCTION AND OPERATION OF ALL EQUIPMENT.

#### GUARANTEE

ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF ACCEPTANCE. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTANCE BY TENANT SHALL BE A CONDITION OF THIS CONTRACT. ALL WORK FOUND TO BE DEFECTIVE SHALL BE REPAIRED OR REPLACED BY THIS SUBCONTRACTOR WITHOUT ADDITIONAL CHARGE TO THE TENANT.

#### MECHANICAL

##### TEMPORARY SERVICES

THE CONTRACTOR SHALL PROVIDE THE FOLLOWING SPECIFIC ITEMS OF TEMPORARY SERVICES:

A. TELEPHONE - THE TENANT'S GENERAL CONTRACTOR SHALL INSTALL A JOB SITE TELEPHONE AND NOTIFY TENANT AS LISTED ON SHEET A-1 OF THE TELEPHONE NUMBER AND THE NAME OF THE SUPERINTENDENT.

B. TEMPORARY WATER - WATER REQUIRED IN THE PERFORMANCE OF THE CONTRACT SHALL BE PROVIDED AND PAID FOR BY THE CONTRACTOR. WATER USED FOR HUMAN CONSUMPTION SHALL CONFORM TO REQUIREMENTS OF STATE AND LOCAL AUTHORITIES FOR POTABLE WATER.

C. TEMPORARY ELECTRICITY - TEMPORARY ELECTRIC SERVICE REQUIRED IN THE PERFORMANCE OF THE CONTRACT SHALL BE FURNISHED AND PAID FOR BY THE CONTRACTOR WHO SHALL FURNISH, INSTALL, AND MAINTAIN ALL TEMPORARY OVERHEAD CONSTRUCTION, METERS, DROPS, AND OTHER WIRING AND FITTINGS FOR BOTH LIGHT AND POWER AT LOCATIONS REQUIRED IN THE WORK AND SHALL BEAR THE COST OF MAKING THE SERVICE CONNECTIONS. BEFORE FINAL ACCEPTANCE, TEMPORARY ELECTRICAL SERVICE FACILITIES INSTALLED BY THE CONTRACTOR SHALL BE REMOVED AND THE SERVICE CONNECTIONS SEVERED IN ACCEPTABLE MANNER.

D. TEMPORARY HEAT - WHEN REQUIRED FOR PROPER INSTALLATION OR PROTECTION OF ANY PORTION OF THE WORK, THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY HEATING UNITS AS APPROVED BY THE LANDLORD OR LOCAL AUTHORITY.

E. COST OF LANDLORD PROVIDED UTILITY SERVICES - IF THE LANDLORD ELECTS TO PROVIDE TEMPORARY UTILITY SERVICES, THE CONTRACTOR WILL BE SO INFORMED BY THE TENANT. THE CONTRACTOR SHALL MAKE TO PAY THE COST OF SAID TEMPORARY CONSTRUCTION AND UTILITY SERVICES.

#### NOTE FOR TENANT GENERAL CONTRACTOR

IT IS THE RESPONSIBILITY OF THE TENANT'S GENERAL CONTRACTOR TO MAKE USE OF APPLICABLE NOTES AND SPECIFICATIONS LISTED ON THIS SHEET AS THEY MAY PERTAIN TO THE SPECIFIC JOB.

MUNICIPAL APPROVAL STAMPS

ARCHITECT OF RECORD



ARCHITECTURE

CONSULTANT

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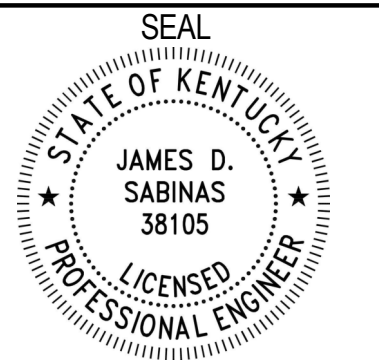
**FIVE GUYS**

**FIVE GUYS - NEW STORE**  
101 LAWSON DRIVE  
GEORGETOWN, KY 40324

PROJECT NUMBER: A2023\_096

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NOVEMBER 06, 2023		
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*James D. Sabinas*

SHEET TITLE

**MECHANICAL SPECIFICATIONS**

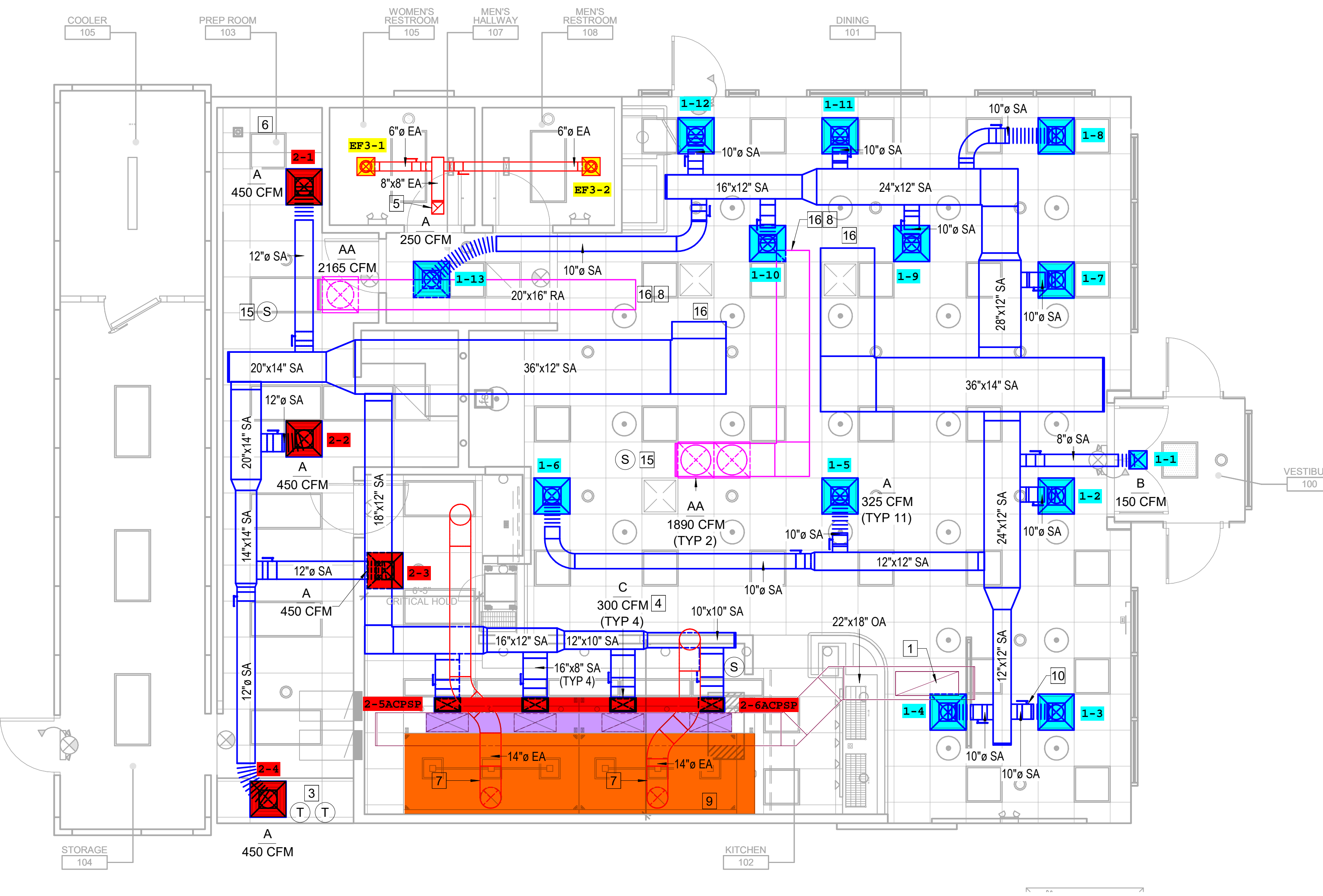
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**GENERAL NOTES:**

- DUCT/PIPING LAYOUT IS SCHEMATIC. EXACT LOCATION OF DUCT/PIPING AND EQUIPMENT SHALL BE COORDINATED WITH THE BUILDING STRUCTURE, EQUIPMENT, EXISTING CONDITIONS, ARCHITECTURAL DRAWINGS, AND ALL OTHER TRADES PRIOR TO INSTALLATION. ANY CONTRACTOR INSTALLING WORK PRIOR TO COORDINATION SHALL RELOCATE HIS WORK AT HIS EXPENSE TO ALLOW PROPER INSTALLATION OF ANY AND ALL OTHER TRADES' WORK. CONTRACTOR TO VERIFY THAT DUCTWORK SIZES, ELEVATIONS, EQUIPMENT WILL FIT ABOVE CEILING SYSTEM.
- ALL WORK SHALL COMPLY WITH LOCAL MECHANICAL CODE AND ALL OTHER APPLICABLE CODES.
- DUCT SIZES SHOWN ARE NET INSIDE CLEAR DIMENSIONS.
- ALL SUPPLY DUCTWORK ABOVE CEILING SPACES SHALL BE EXTERNALLY INSULATED WITH 1-1/2" THICK FIBERGLASS INSULATION.
- FLEXIBLE RUNOUTS TO AIR DEVICES SHALL BE NO MORE THAN 5'-0" IN LENGTH AND SHALL BE INSULATED.
- MANUAL DAMPERS SHALL BE PROVIDED AT ALL BRANCH TAPS FOR BALANCING.
- ALL MECHANICAL WORK SHALL BE IN STRICT COMPLIANCE WITH THE LOCAL MECHANICAL CODES AND APPLICABLE PROVISION OF THE LOCAL FUEL GAS CODES. ALL WORK IS SUBJECT TO ON-SITE APPROVAL BY THE LOCAL AUTHORITY.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE A COMPLETE SYSTEM BALANCE REPORT, HEAT GAIN, HEAT LOSS, AND COOLING CALCULATIONS TO LANDLORD'S REPRESENTATIVE TO VERIFY THAT THE REQUIRED VENTILATION AIR TO BE PROVIDED TO EACH SPACE HAS BEEN OBTAINED.
- REFER TO SHEET M2.0 FOR MECHANICAL LEGEND.

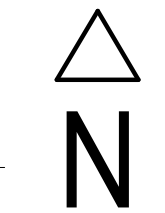
- SEE ARCHITECTURAL DRAWING A1.7 FOR FINISH SPECIFICATIONS.
- ALL KITCHEN HOOD EXHAUST WORK SHALL BE 14 GAUGE BLACK IRON OR 18 GAUGE 303 STAINLESS STEEL WITH CONTINUOUS WELDED SEAMS, OR CAPTIVEAIRE NON-WELDED FACTORY GREASE DUCT SYSTEM WHICH IS ETL LISTED TO STANDARD UL-1978 AND CAN/ULC-S662 WHEN INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND NFPA STANDARD 96. ACCESS DOORS SHALL BE PROVIDED EVERY 20'-0" AND AT ANY CHANGE IN DIRECTION. ALL SEAMS, JOINTS, AND PENETRATIONS SHALL BE LIQUID TIGHT AND CONTINUOUS.
- PROVIDE AND INSTALL ALL ADDITIONAL STEEL FOR ROOF STRUCTURE SUPPORT OF ALL EQUIPMENT ON ROOF. ALL ROOF WORK BY LANDLORD'S CONTRACTOR AT TENANT'S EXPENSE. ALL EQUIPMENT ON ROOF SHALL BE CURB OR RAIL MOUNTED AND FLASHED TO ROOF MEMBRANE.
- THE TOP OF ALL DIFFUSERS SHALL BE INSULATED TO PREVENT CONDENSATION AND RUST TO FORM.
- LINEAR DIFFUSERS TO BE PROVIDED WITH INSULATED PLENUM BOXES.
- NO RETURN AIR GRILLES TO BE LOCATED IN THE KITCHEN AREA, EXCEPT FOR TRANSFER GRILLE BETWEEN FRONT AND BACK OF HOUSE.



MECHANICAL SYMBOLS LEGEND	
(T)	THERMOSTAT
(S)	TEMPERATURE SENSOR
(SD)	SMOKE DETECTOR
~W~	FLEXIBLE DUCT
— —	VOLUME DAMPER
FD	FIRE DAMPER
⊠	CEILING SUPPLY AIR DIFFUSER
⊠	CEILING RETURN AIR GRILLE
— —	SIDEWALL AIR DIFFUSER OR GRILLE
— —	NEW DUCTWORK
— —	EXISTING DUCTWORK
—D—	CONDENSATE DRAIN
—G—	GAS PIPING
→	PIPE TURNING DOWN
↗	PIPE TURNING UP
⊥	BALL VALVE
⊥	GATE VALVE
⊕	CONNECTION OF NEW TO EXISTING
—Z—	CHECK VALVE
—G—	GAS COCK
— —	UNION
⊕	PRESSURE GAUGE
— —	STRAINER
AFF	ABOVE FINISHED FLOOR
⊠	AIR DEVICE #
100	CFM
S	S - SUPPLY
R	R - RETURN
E	E - EXHAUST

**KEYNOTES:**

- 24"x16" DUCT DOWN FROM MAU. PROVIDE (4) 24"x10" DUCT CONNECTIONS DOWN TO SUPPLY PLENUM AT HOOD. SEE CAPTIVEAIRE DRAWINGS FOR ADDITIONAL INFO.
- 15"Ø TRANSFER AIR DUCT ABOVE CEILING, CONNECTED TO RETURN GRILLES AS SHOWN.
- REMOTE THERMOSTATS (HMI'S) FOR RTU'S. THERMOSTATS LOCATED AT MANAGER'S STATION. SEE CAPTIVE-AIRE DRAWINGS FOR DETAILS. INSTALL THERMOSTATS AT 48" AFF.
- PROVIDE 16"x8" SUPPLY DUCT RUN OUT TO SUPPLY PLENUM AT KITCHEN HOOD. PROVIDE WITH VOLUME DAMPER AS SHOWN AND BALANCE TO 300 CFM. SEE CAPTIVEAIRE DRAWINGS FOR ADDITIONAL INFORMATION. TYPICAL OF 4.
- 8"x8" EXHAUST DUCT UP TO EF-3 ON ROOF.
- 4" PVC/CPVC INTAKE AND 4" PVC/CPVC EXHAUST FROM GAS WATER HEATER UP TO ROOF. COMBINE RIGHT BEFORE ROOF PENETRATION WITH CONCENTRIC VENT KIT. WATER HEATER PROVIDED AND INSTALLED BY OTHERS.
- 14"Ø GREASE EXHAUST DUCT UP TO EXHAUST FAN ON ROOF. SEE ROOF PLAN FOR ADDITIONAL DETAILS. TRANSITION DUCTWORK AS NECESSARY TO AVOID OBSTRUCTIONS.
- COORDINATE INSTALLATION OF NEW DUCT SMOKE DETECTOR IN RETURN AIR DUCT WITH ELECTRICAL CONTRACTOR. UNIT TO BE PROVIDED WITH ANNUNCIATOR BELOW UNIT WITH REMOTE TEST STATION LOCATED AT MANAGER'S DESK. VERIFY EXACT LOCATION IN FIELD WITH OWNER REPRESENTATIVE.
- ANSUL MANUAL PULL STATION. SEE SHEET ARCHITECTURAL SHEETS FOR EXACT LOCATION.
- MANUAL BALANCE DAMPER. TYPICAL OF ALL.
- INSTALL ROOM TEMPERATURE SENSOR (PROVIDED BY OTHERS) FOR KITCHEN HOOD. VERIFY EXACT MOUNTING HEIGHT IN FIELD.
- 24"Ø SPIRAL DUCT TO DROP IN CEILING SPACE ABOVE DINING, TOP OF DUCT 6" BELOW THE ACT CEILING. CEILING TO BE CUT AND SEALED AROUND SPIRAL DUCT WITH TRIM RING, PAINTED BLACK, TO GIVE CLEAN LOOK.
- EXPOSED DOUBLE WALL DUCTWORK. SEE DETAIL 5/M4.0 FOR ADDITIONAL INFORMATION.
- AIR CURTAIN, REFER TO ARCHITECTURAL EQUIPMENT PLANS FOR ADDITIONAL INFORMATION.
- RTU SPACE/RH SENSOR LOCATION. SEE CAPTIVE-AIRE DRAWINGS FOR DETAILS. LOCATE IN A SAFE SPACE AWAY FROM ANY HEATING/COOLING SOURCES AND AWAY FROM CEILING DIFFUSERS. INSTALL SENSOR AT 60" AFF.
- CONNECT TO EXISTING ROOFTOP UNIT.



**MECHANICAL FLOOR PLAN**

SCALE: 1/4" = 1' - 0"

1  
P2.0

MUNICIPAL APPROVAL STAMPS

ARCHITECT OF RECORD

ARCHITECTURE  
CONSULTANT

ProDeComm Engineering  
140 North Main Street  
North Liberty, IN 46554  
(574) 656-9956

**FIVE GUYS**

FIVE GUYS - NEW STORE  
101 LAWSON DRIVE  
GEORGETOWN, KY 40324

PROJECT NUMBER: A2023.096

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NOVEMBER 06, 2023		
REV	ISSUE	DATE

SEAL

JAMES D. SABINAS  
38105  
LICENSED PROFESSIONAL ENGINEER

James D. Sabinas

SHEET TITLE

**MECHANICAL FLOOR PLAN**

SHEET NUMBER

**M2.0**

**KEYNOTES:**

- 1 EXISTING ROOFTOP UNIT.
- 2 NEW EXHAUST FAN FOR RESTROOMS.
- 3 NEW MAKE UP AIR UNIT ON CURB.
- 4 NEW EXHAUST FAN PROVIDED BY CAPTIVEAIRE FOR THE KITCHEN HOOD. GENERAL CONTRACTOR TO COORDINATE GREASE GUARD SYSTEM INSTALLATION. REFER TO SHEET MH3.0 FOR MORE INFO.
- 5 4"Ø CONCENTRIC KIT FOR WATER HEATER. MAINTAIN 12" MIN. CLEARANCE ABOVE HIGHEST ANTICIPATED SNOW LEVEL. MAXIMUM OF 24" ABOVE ROOF.
- 6 SANITARY VENT THROUGH ROOF. VERIFY EXACT LOCATION IN FIELD, NOTIFY TENANT'S ENGINEER OF ANY MAJOR DISCREPANCIES.
- 7 REMOTE WALK-IN CONDENSER ON ROOF.

ARCHITECT OF RECORD



ARCHITECTURE

CONSULTANT

ProDeComm Engineering  
 140 North Main Street  
 North Liberty, IN 46554  
 (574) 656-9956

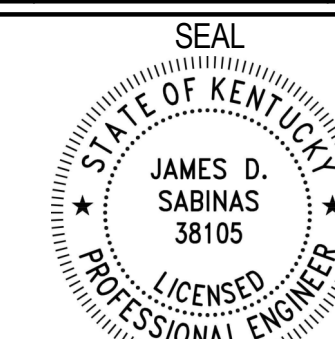
**FIVE GUYS**

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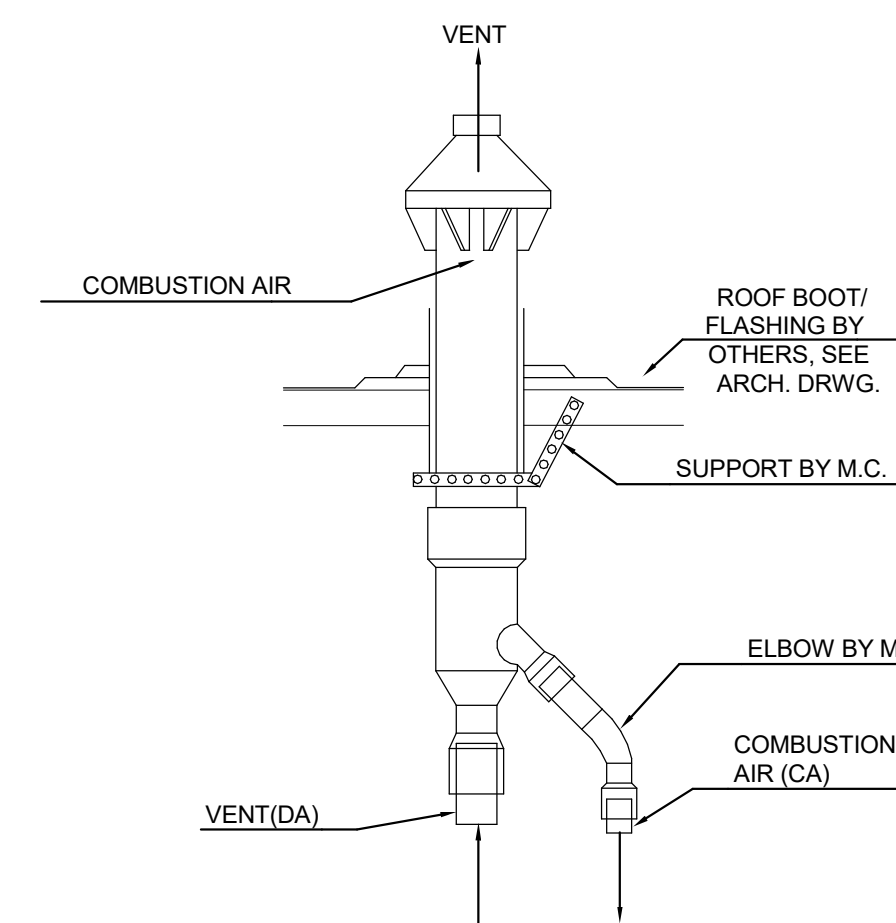
*James D. Sabinas*

SHEET TITLE

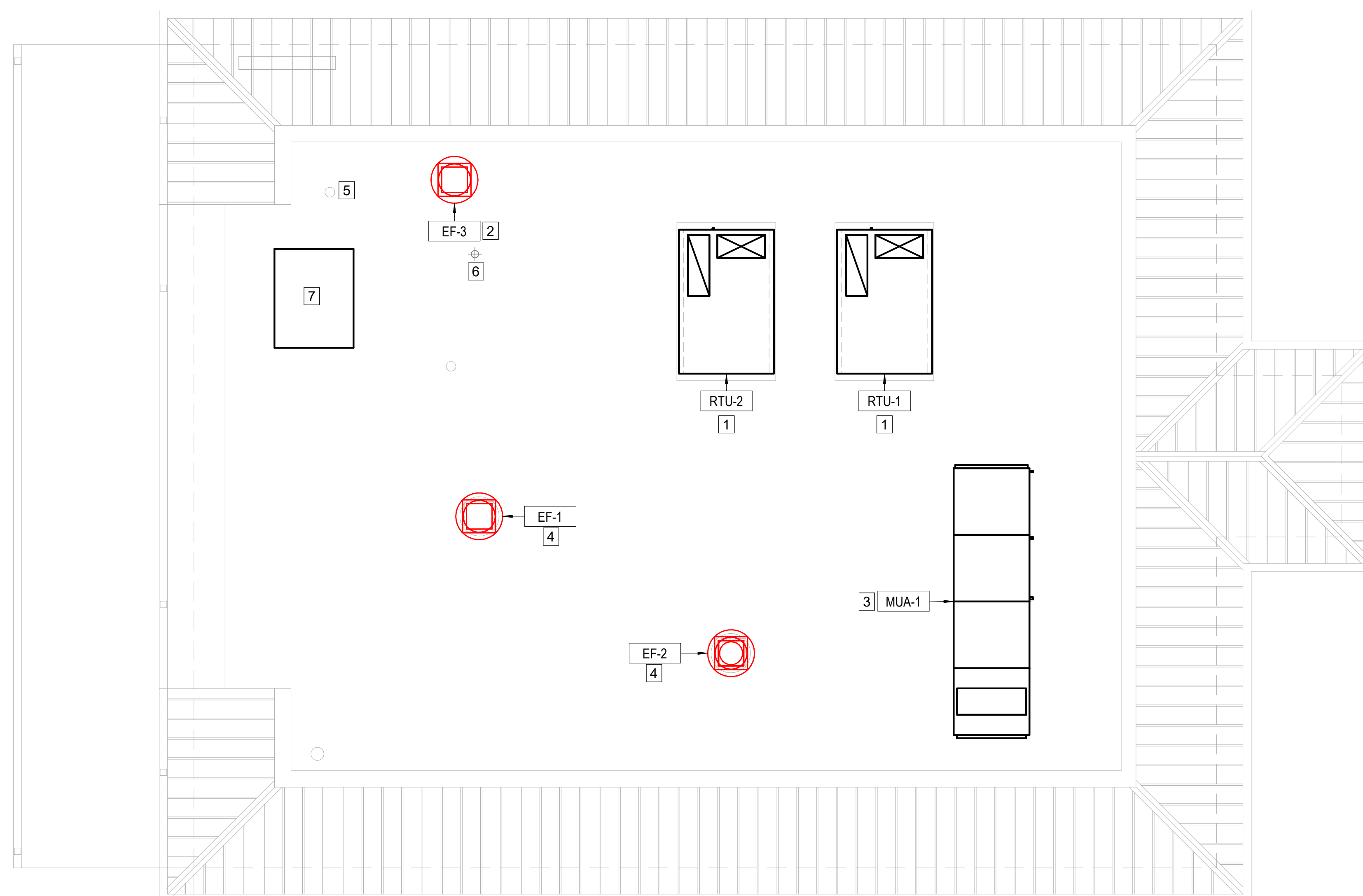
**MECHANICAL  
 ROOF PLAN**

SHEET NUMBER

**M2.1**



**2 CONCENTRIC VENT KIT DETAIL**  
 NO SCALE

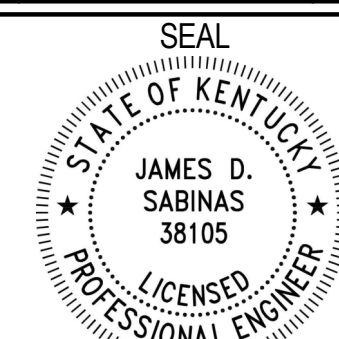


**1 MECHANICAL ROOF PLAN**  
 SCALE: 1/4" = 1' - 0"



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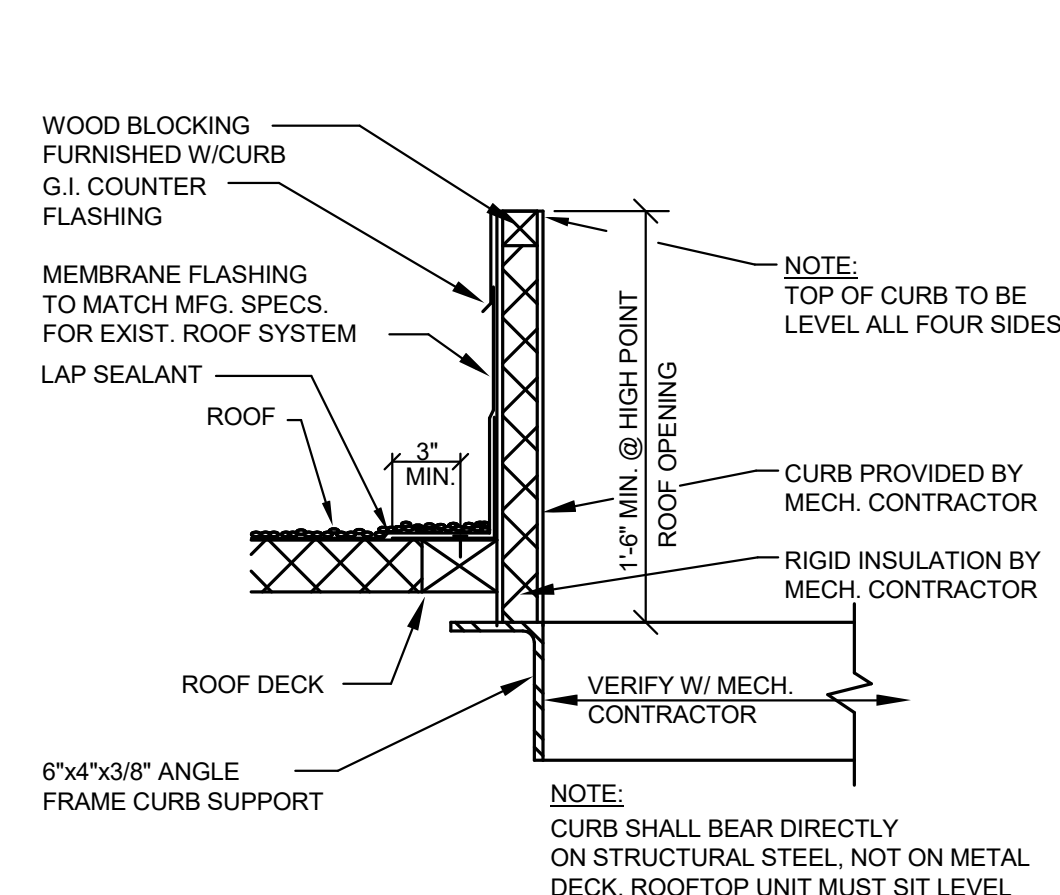
*James D. Sabinas*

SHEET TITLE

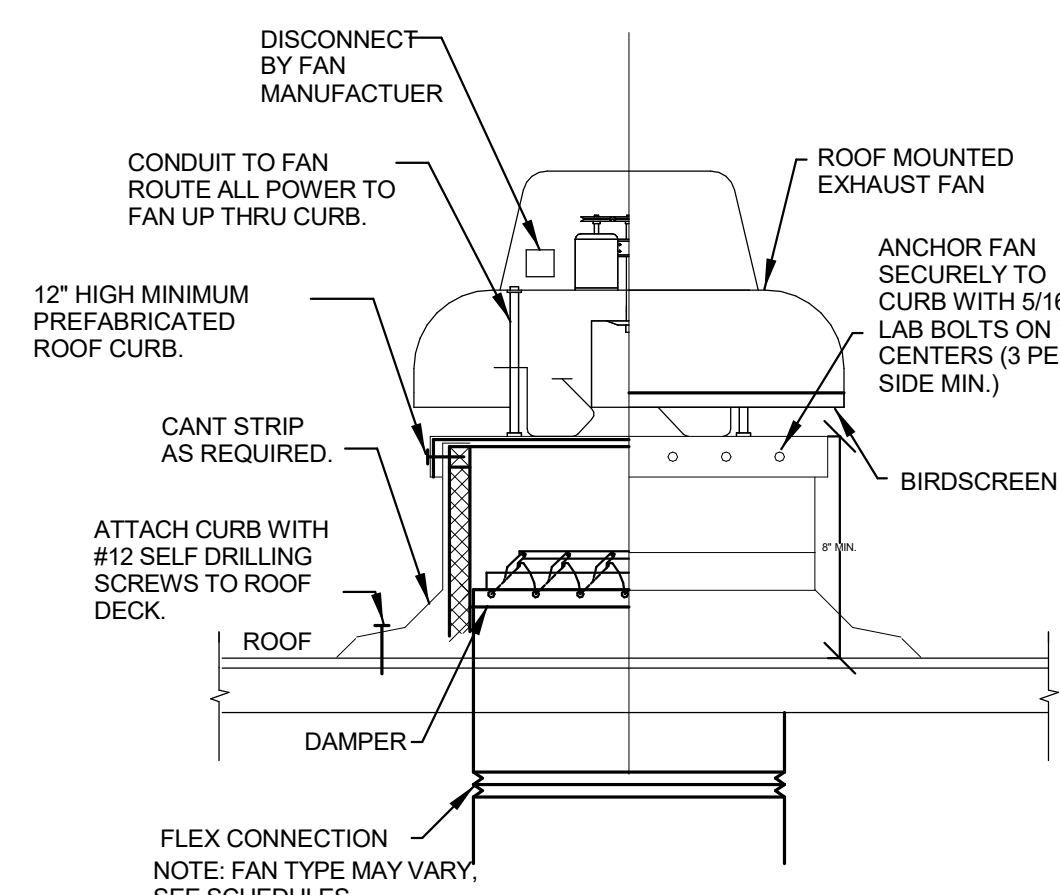
**MECHANICAL SCHEDULES**

SHEET NUMBER

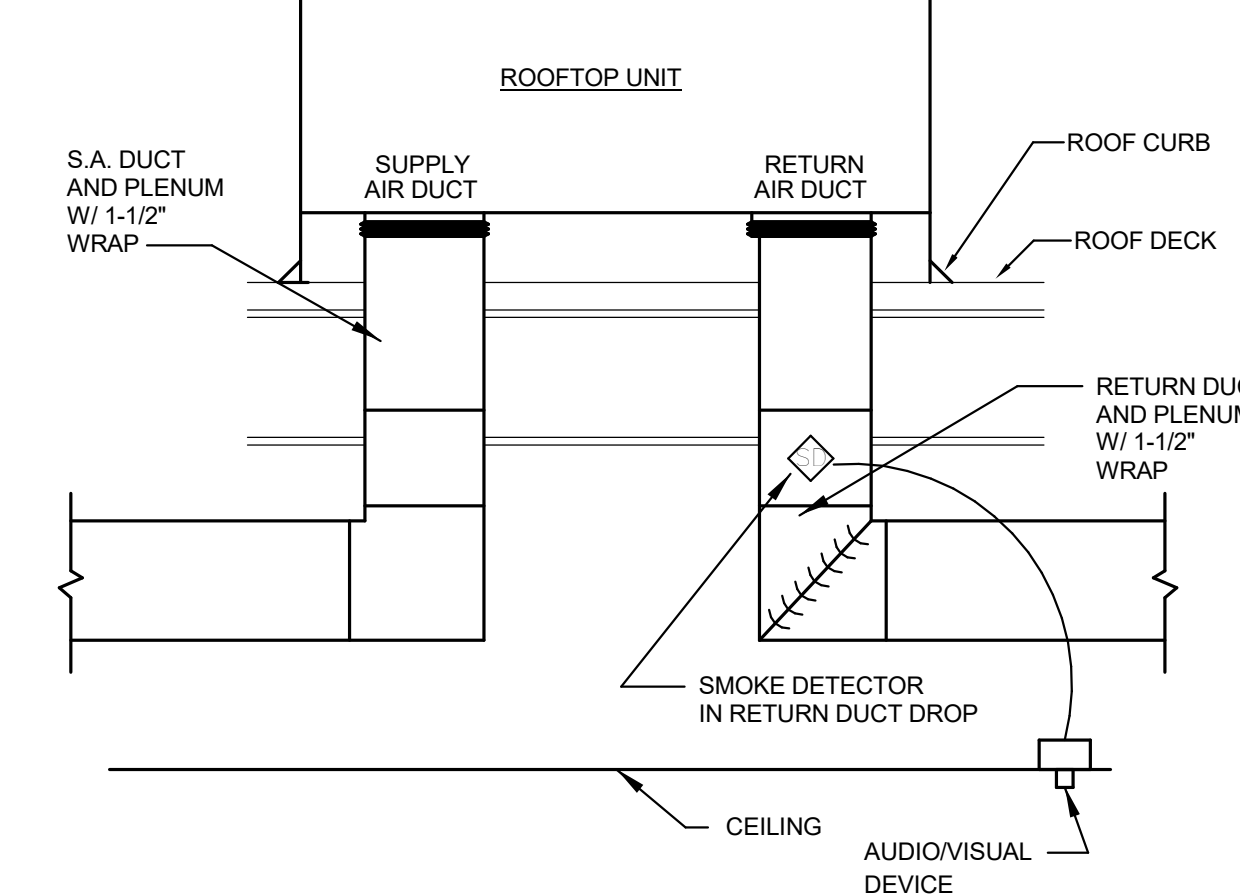
**M4.0**



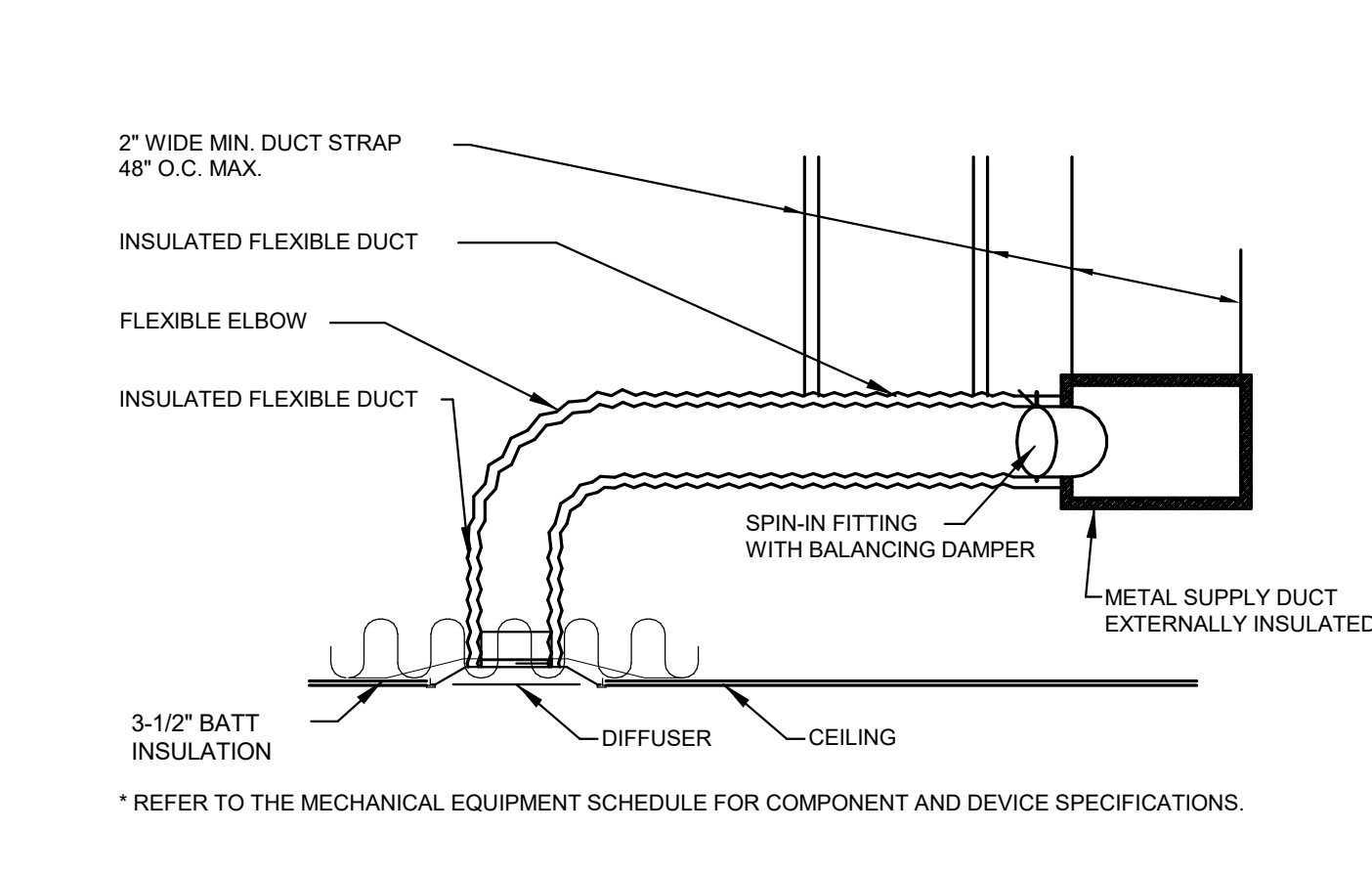
**1** ROOF CURB SECTION  
 NO SCALE



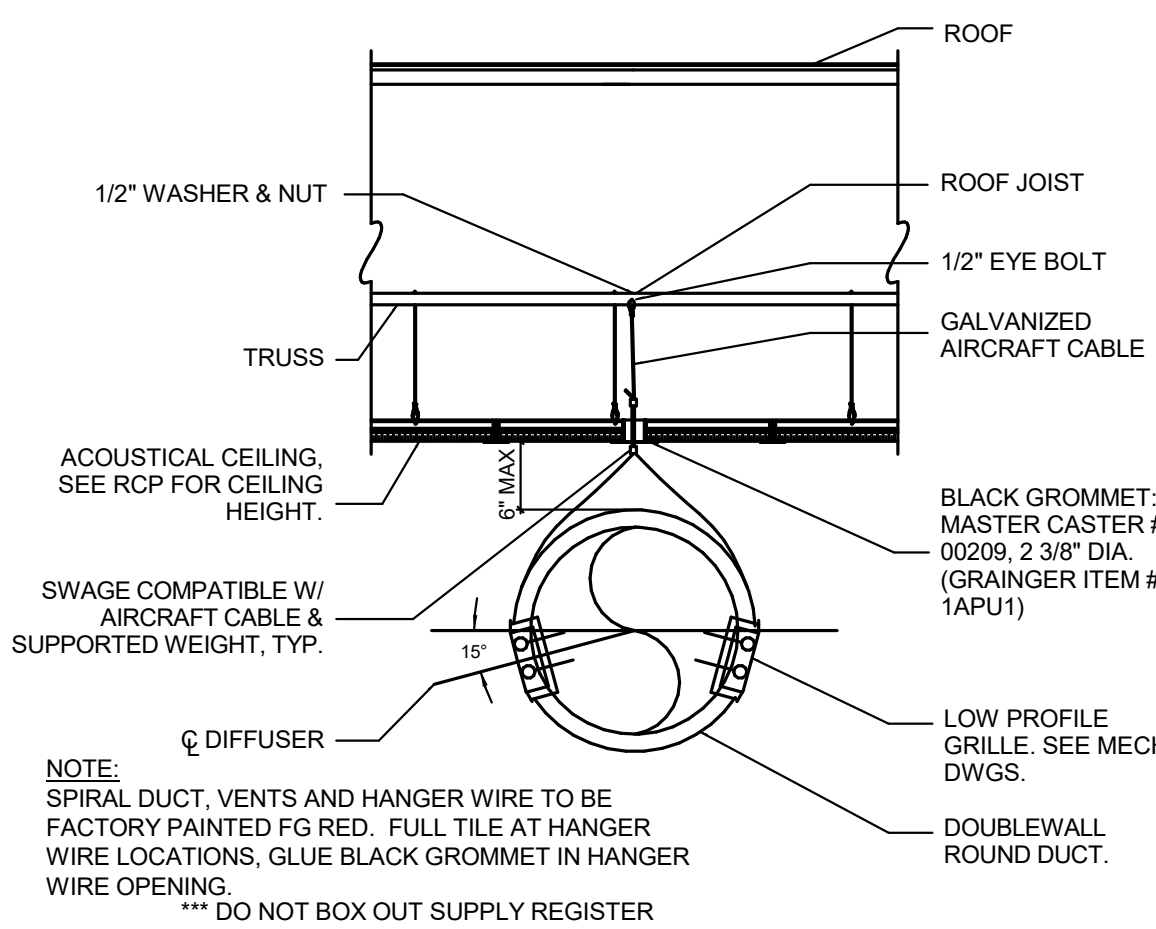
**2** ROOF MOUNTED FAN  
 NO SCALE



**3** ROOFTOP UNIT MOUNTING DETAIL  
 NO SCALE

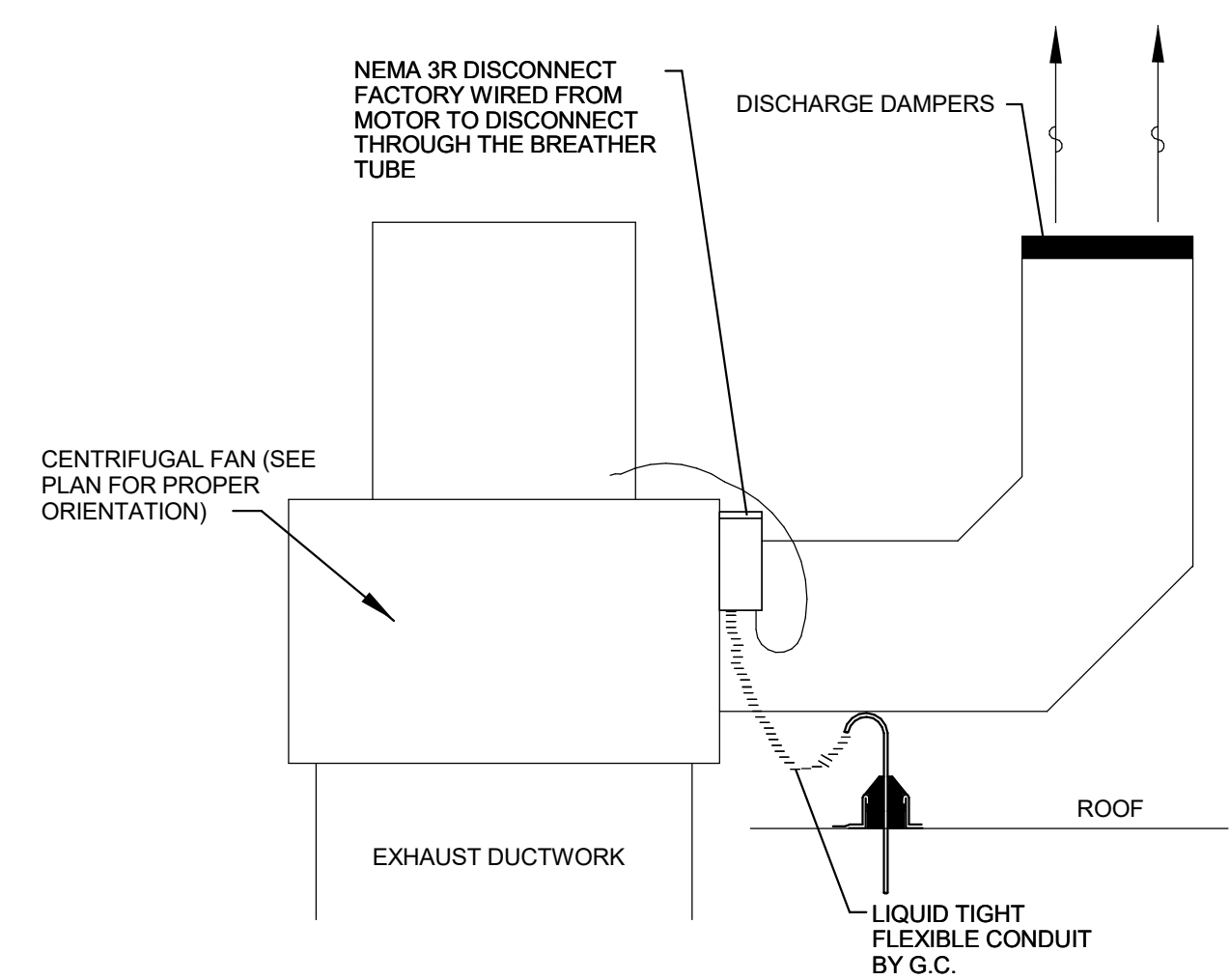


**4** HVAC DUCTWORK DETAIL  
 NO SCALE

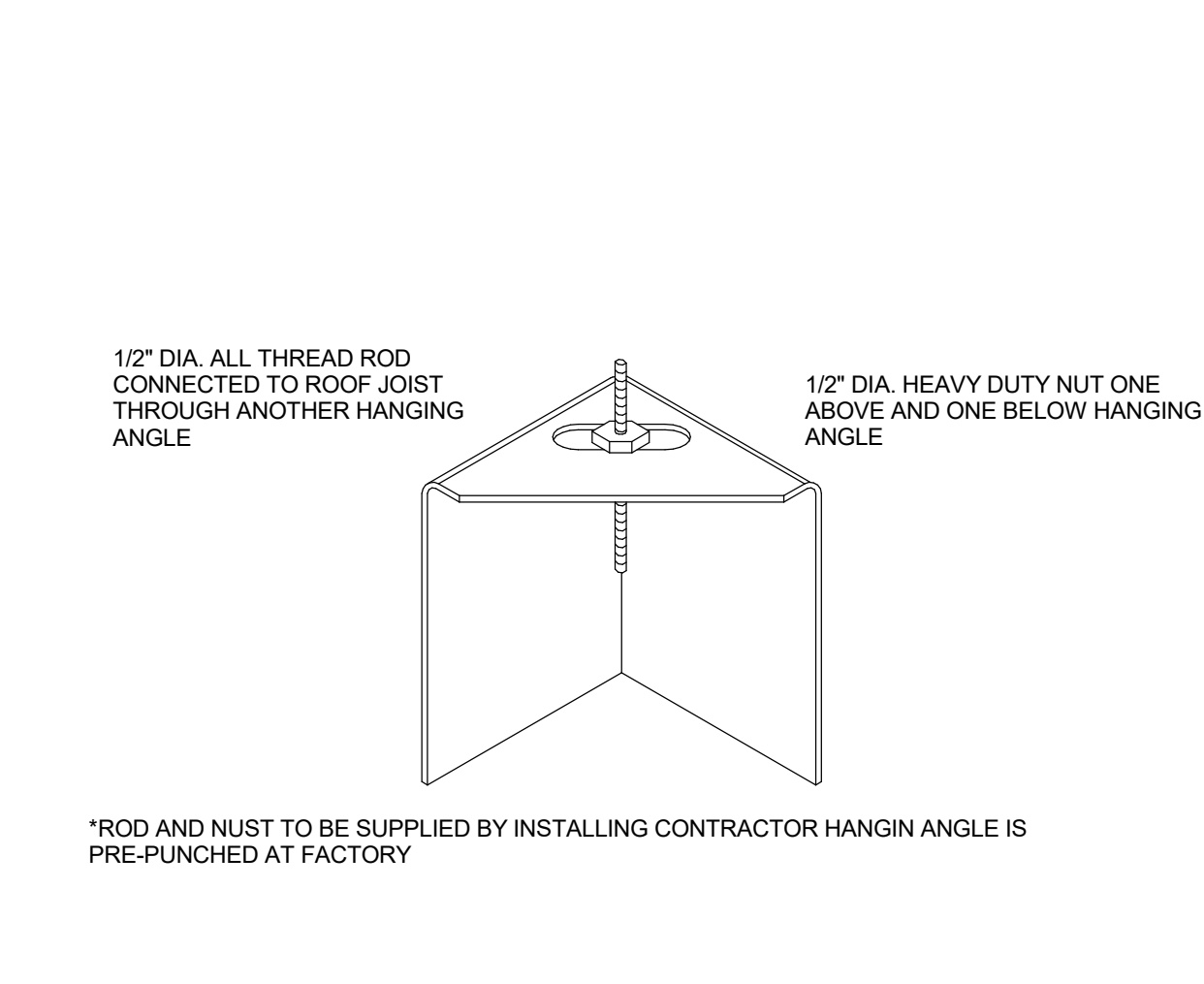


**5** EXPOSED DUCT DTL  
 NO SCALE

NATIONAL ACCOUNT INFO:  
 LINX INDUSTRIES  
 2600 AIRLINE BLVD.  
 PORTSMOUTH, VA 23701  
 CONTACT: KARIN ANDERSON  
 PHONE: 757-392-3222  
 EMAIL: KARINA@LI-HVAC.COM



**6** GRILL HOOD EXHAUST FAN DETAIL  
 NO SCALE



**7** HOOD HANGING ANGLE DETAIL  
 NO SCALE

AIR BALANCE SCHEDULE						
UNIT MARK	SUPPLY AIR	OUTSIDE AIR	MAKE-UP AIR	EXHAUST AIR	RETURN AIR	NOTES
RTU-1	3975	415			3775	
RTU-2	3000	835			2165	
MAU-1			2820			
EF-1				-1852		
EF-2				-1662		
EF-3				-200		
BLDG. TOTAL	6975	1250	2820	-3714	5940	

FAN SCHEDULE												
MARK	TYPE	CFM	E.S.P. (IN.W.G.)	DRIVE	MOTOR DATA			SERVES	MFR	MODEL	UNIT WT.	NOTES
					HP	VOLTS	PH					
EF-1	ROOF	1,852	1.375	DIRECT	3.0	208	3	FRYERS	CAPTIVEAIRE	DU180HFA	181	3,4,5,6,8
EF-2	ROOF	1,662	1.375	DIRECT	3.0	208	3	GRILL	CAPTIVEAIRE	CASRE15DD	252	3,4,5,7,8
EF-3	ROOF	225	0.3	DIRECT	0.03	115	1	TOILET	GREENHECK	G-080-VG	28	1,2

NOTES:  
 1. NEW EXHAUST FAN.  
 2. FAN SHALL BE INTERLOCKED WITH RTU THERMOSTATS SO THAT EXHAUST FAN RUNS CONTINUOUSLY DURING OCCUPIED MODE.  
 3. HOOD EXHAUST FAN TO BE CONNECTED TO HOOD CONTROL PANELS AND ANSUL SYSTEM.  
 4. HOOD EXHAUST FAN TO BE PROVIDED BY KITCHEN EQUIPMENT SUPPLIER.  
 5. REFER TO MECHANICAL HOOD DRAWINGS FOR MORE INFORMATION.  
 6. GREASE GUARD TO EXTEND 15" ON ALL SIDES OF EXHAUST FAN, INSTALL BEFORE EXHAUST FAN IS ACTIVATED, CALL JAY MAHON AT 331.229.3460.  
 7. DRIP GUARD TO BE INSTALLED UNDER FAN, CONTACT JAY MAHON AT 331.229.3460.  
 8. REFER TO ARCHITECTURAL SHEET A2-15 FOR MORE INFORMATION ON GREASE GUARDS FOR EXHAUST FANS.

MAKEUP AIR UNIT SCHEDULE												
MARK	CFM	E.S.P. (IN.W.G.)	MOTOR DATA			HEATING DATA		MFR	MODEL	UNIT WT.	NOTES	
			HP	VOLTS	PH	TYPE	MBH IN					MBH OUT
MAU-1	2821	0.375	3.0	208	3	DIRECT	242	222	CAPTIVEAIRE	A2-D.250-20D-MPU	1536	1

AIR CURTAIN SCHEDULE						
MARK	LENGTH	COLOR	MFG	ELEC	AMPS	NOTES
L810	36"	BLACK	MARS	120/1	2.4 A	
L811	72"	BLACK	MARS	120/1	26.6 A	
L812	36"	WHITE	MARS	120/1	5.1 A	

REMOTE CONDENSING UNIT SCHEDULE												
MARK	MFG	MODEL	REFRIG.	CAPACITY MBH	RL PIPE	RS PIPE	WEIGHT	ELEC	MCA/MOP	NOTES		
E250	BALLY	BEZA009HA-HS2D	R448A	9.181	3/8"	5/8"	188 LBS	208-230/1	11.0 / 15.0	1. PROVIDE WITH UNIT MOUNTED DISCONNECT.		

AIR DEVICE SCHEDULE						
PLAN MARK	MFR	MODEL	FACE SIZE	NECK SIZE	TYPE	NOTES
S1	TITUS	TMS	24"x24"	SCHEDULE	DIFF.	1,2,3,7
S2	LINDAB	RGS-3	33"x6"	32"x6"	DIFF.	1,4,6
S3	TITUS	350FL	10"x4"	SCHEDULE	DIFF.	2,3,5,7
S4	TITUS	TDC	24"x24"	SCHEDULE	DIFF.	2,3,7,8
R1	TITUS	50F	24"x24"	SCHEDULE	R.G.	2,3,7
E1	TITUS	350FL	12"x12"	SCHEDULE	E.G.	3,5,7

NOTES:  
 1. 4-WAY THROW UNLESS OTHERWISE NOTED.  
 2. PROVIDE ADAPTOR BOOTS AS REQUIRED.  
 3. FINISH SHALL MATCH CEILING FINISH UNLESS OTHERWISE SPECIFIED. VERIFY FINISHES WITH ARCHITECTURAL DRAWINGS PRIOR TO ORDERING.  
 4. EXTRACTOR DAMPER.  
 5. PROVIDE SQUARE TO ROUND ADAPTOR AS REQUIRED.  
 6. SPRAY PAINT RED TO MATCH DUCTWORK.  
 7. #26 WHITE IN KITCHEN, PREP, VESTIBULE, AND RESTROOMS, #84 FACTORY BLACK IN DINING ROOM AND HALL.  
 8. 3-WAY AIR THROW PATTERN.

AIR DEVICE RUNOUT SCHEDULE	
DUCT CFM	DUCT SIZE
0 - 100	6" ROUND
101 - 240	8" ROUND
241 - 449	10" ROUND
450 - 680	12" ROUND
681 - 1030	14" ROUND
1031 - 1250	15" ROUND
1251 - 1450	16" ROUND
1451 - 2000	18" ROUND

GENERAL NOTES  
 1. AIR DEVICE NECK SIZE SHALL BE THE SAME AS RUNOUT SIZE.  
 2. RECTANGULAR DUCT SIZES OF EQUIVALENT FREE AREA MAY BE SUBSTITUTED FOR ROUND DUCT.  
 3. RUNOUTS MAY BE RIGID OR FLEX DUCT PER SPECIFICATIONS.

**HOOD INFORMATION**

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST PLENUM					MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG.		FILTER(S)					LIGHT(S)		UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WGT				
					TOTAL EXH. CFM	HEIGHT	DIA.	CFM	VEL.				S.P.	END TO END	ROW	TYPE	QTY.	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRON	STY.	TYPE	WIRE GUARD	LOCATION	SIZE			FIRE SYSTEM TYPE	SIZE	MODEL #	SWITCHES QUANTITY
1	GRILLS	5424 ND-2-ACPSP-F	8' 9"	600 Deg.	1662	4"	14"	1662	1555	-0.594"	1413	584	430 SS Where Exposed	LEFT	ALONE	Captrate Solo Filter	6	20"	16"	85% See Filter Spec.	3	12" x 12" LED	NO	Left	12"x54"x24"	Ansul R102	3.0/3.0	DCV-2111	1 Light 1 Fan	NO	763 LBS
2	FRYERS	5424 ND-2-ACPSP-F	9' 9"	600 Deg.	1852	4"	14"	1852	1732	-0.705"	1408	584	430 SS Where Exposed	RIGHT	ALONE	Captrate Solo Filter	7	20"	16"	85% See Filter Spec.	3	12" x 12" LED	NO						NO	639 LBS	

HOOD NO.	TAG	OPTION
1	GRILLS	FIELD WRAPPER 18.00" High Front, Left BACKSPASH 80.00" High X 234.00" Long 430 SS Vertical LEFT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High 430 SS
2	FRYERS	FIELD WRAPPER 18.00" High Front, Right RIGHT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High 430 SS

HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG.	DIA.	CFM	S.P.
1	GRILLS	Front	117"	24"	6"	MUA	12"	28"		706	0.162"
						MUA	12"	28"		706	0.162"
						AC	8"	16"		292	0.079"
2	FRYERS	Front	117"	24"	6"	MUA	12"	28"		704	0.161"
						MUA	12"	28"		704	0.161"
						AC	8"	16"		292	0.079"

**BALANCING NOTES:**

Exhaust Requirements  
100-105% OF DESIGN PER HOOD  
MEASURED AT THE EXHAUST FILTER WHILE THE FILTER IS INSTALLED

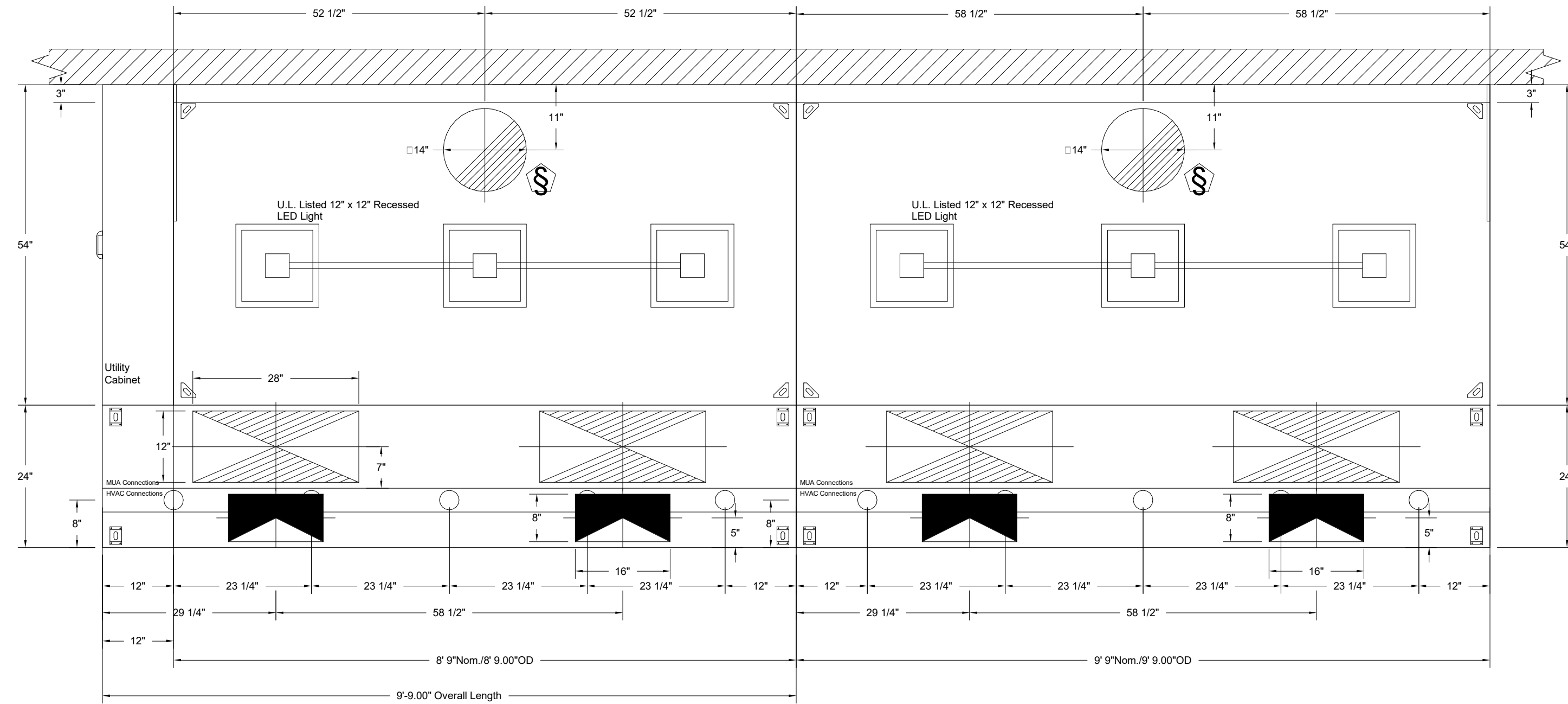
Supply Requirements  
95-100% OF DESIGN PER SUPPLY PLENUM  
MEASURED AT THE BOTTOM FACE OF THE PERFORATION (DISCHARGE POINT)

**SCOPE OF WORK**

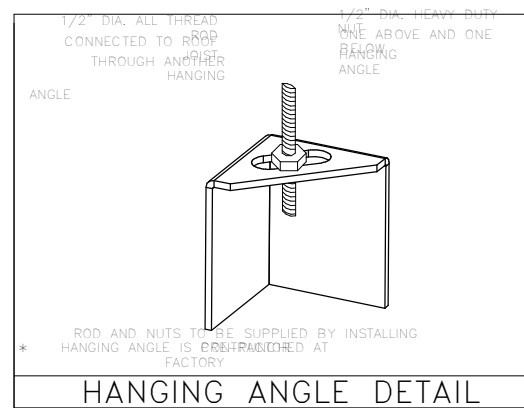
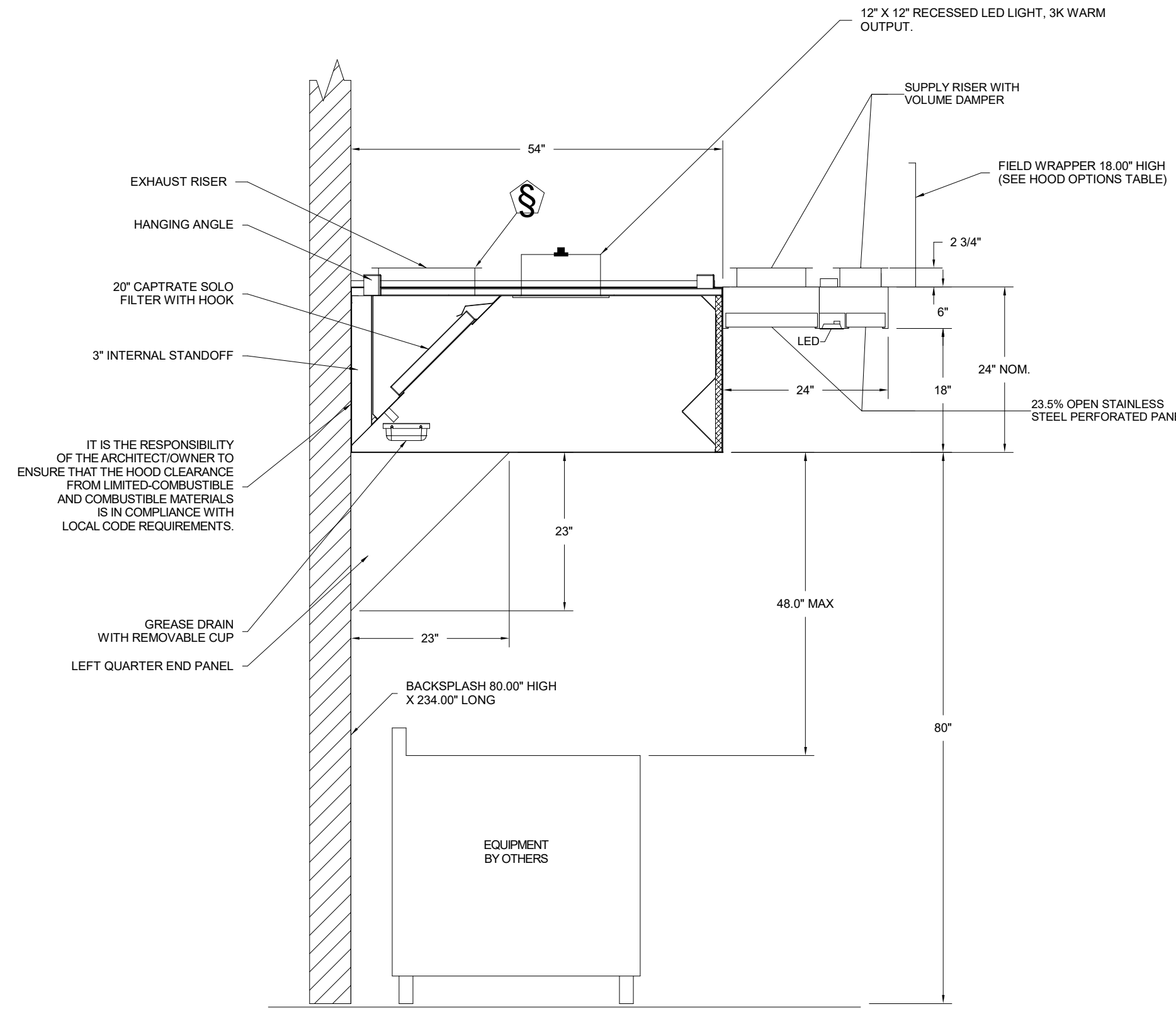
HOOD(S): PROVIDED BY OWNER. INSTALLED BY GC.  
FIRE SYSTEM(S): PROVIDED & INSTALLED BY OWNER.  
EXHAUST FAN(S): PROVIDED BY OWNER. INSTALLED BY GC.  
MAKEUP AIR UNIT(S): PROVIDED BY OWNER. INSTALLED BY GC.  
ELECTRICAL CONTROL(S): PROVIDED BY OWNER. INSTALLED BY GC.  
GC IS RESPONSIBLE FOR COMPLETE START-UP OF EXHAUST FANS AND MAKEUP AIR UNIT PER CAPTIVEAIRE OPERATION & INSTALLATION MANUAL

**IMPORTANT INSTALLATION NOTES:**

- LEFT MOUNTED UTILITY CABINET WILL BE PRE-INSTALLED ON HOOD
- IF CEILING HEIGHT IS NOT 10' AFF CONTACT CAPTIVE-AIRE FOR REVISED DRAWINGS AND TO DETERMINE IF THE UTILITY CABINET IS POSSIBLE.
- DO NOT INSTALL QUARTER END PANELS BETWEEN HOODS



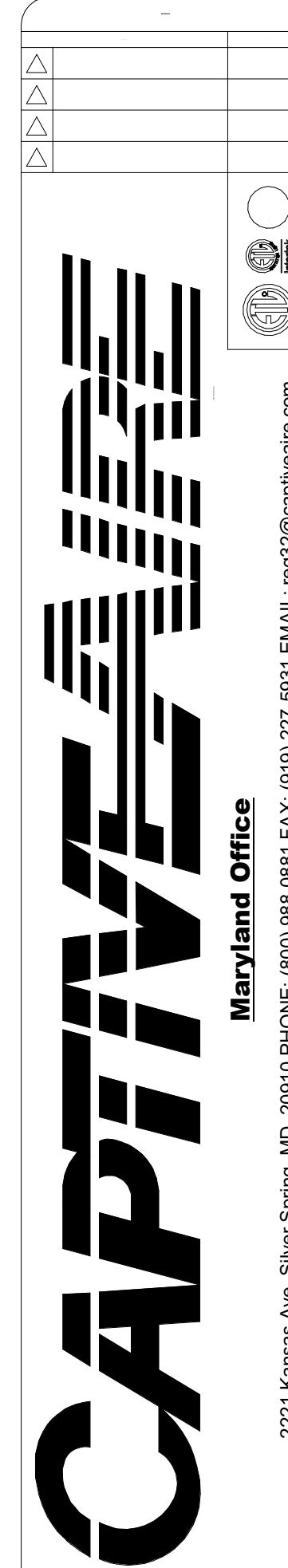
LIGHTING FOR ACPSP Job # 3195529 - Hoods #1, #2  
INPUT: 120V AC, 1 Phase, 50/60Hz, 3.5 Watts per light.  
TO CONTROL LIGHTS WITH HOOD LIGHT SWITCH, WIRE PER HOOD ELECTRICAL CONTROL PANEL SCHEMATIC.  
TO CONTROL LIGHTS WITH BUILDING LIGHT SWITCH, WIRE BLACK AND WHITE WIRE TO A 120VAC SERVICE.  
END TO END ACPSPS REQUIRE 120VAC FIELD WIRING FROM J-BOX TO J-BOX. REPLACE LIGHTS WITH LED LIGHTS ONLY.



**ETL LISTING DESCRIPTION BLOCK**  
THE CAPTIVEAIRE MODEL ND-2 HAS BEEN U.L. 710 TESTED, LISTED, AND APPROVED TO EXHAUST A MINIMUM OF 40 CFM PER LINEAR FOOT OVER 600 DEGREE COOKING EQUIPMENT WHEN QUARTER END PANELS ARE INSTALLED.

**CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH**  
NFPA #96 Intertek  
ETL SANITATION LISTED  
ETL LISTED #3054804-001

**FOR QUESTIONS, CONTACT: CAPTIVE-AIRE SYSTEMS, INC.**  
STORES NORTH OF FAIRFAX, VA CONTACT: MARK PROFET  
PHONE (800) 988-0881  
EMAIL: REG32@CAPTIVEAIR.COM  
STORES SOUTH OF FAIRFAX, VA CONTACT: JAYSON NEWMAN  
PHONE (800) 419-1447  
EMAIL: REG28@CAPTIVEAIR.COM



Five Guys - Davenport, IA (Utica Ridge)\_R1  
4860 Utica Ridge Rd,  
Davenport, IA, 52807

8/24/2020  
4492751  
AD-32  
NTS  
MASTER DRAWING

MUNICIPAL APPROVAL STAMPS

ARCHITECT OF RECORD  
**CG**  
ARCHITECTURE  
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140 North Main Street  
North Liberty, IN 46554  
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**FIVE GUYS**  
FIVE GUYS - NEW STORE  
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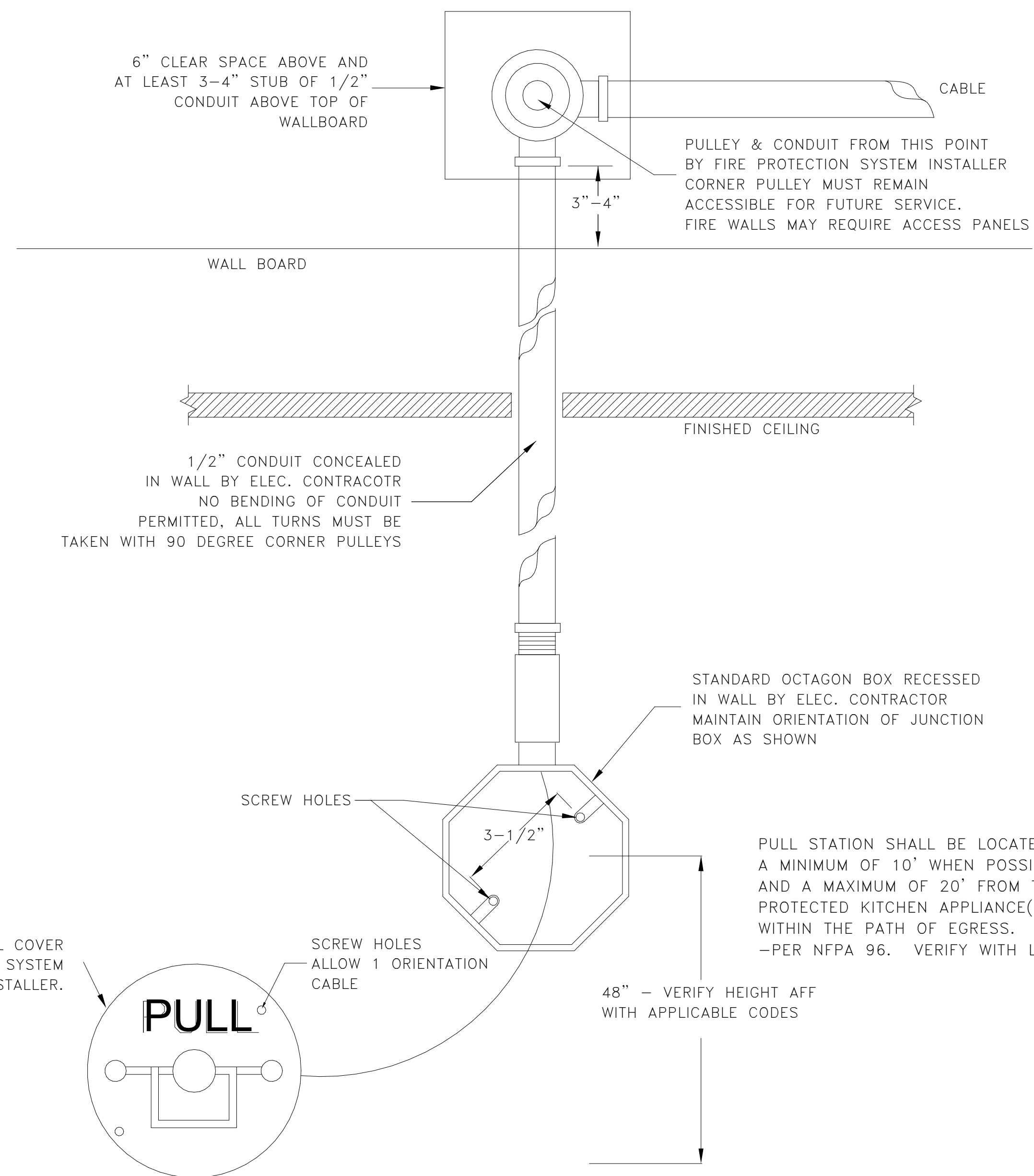
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SEAL  
STATE OF KENTUCKY  
JAMES D. SABINAS  
38105  
LICENSED PROFESSIONAL ENGINEER

SHEET TITLE  
**HOOD DRAWING**

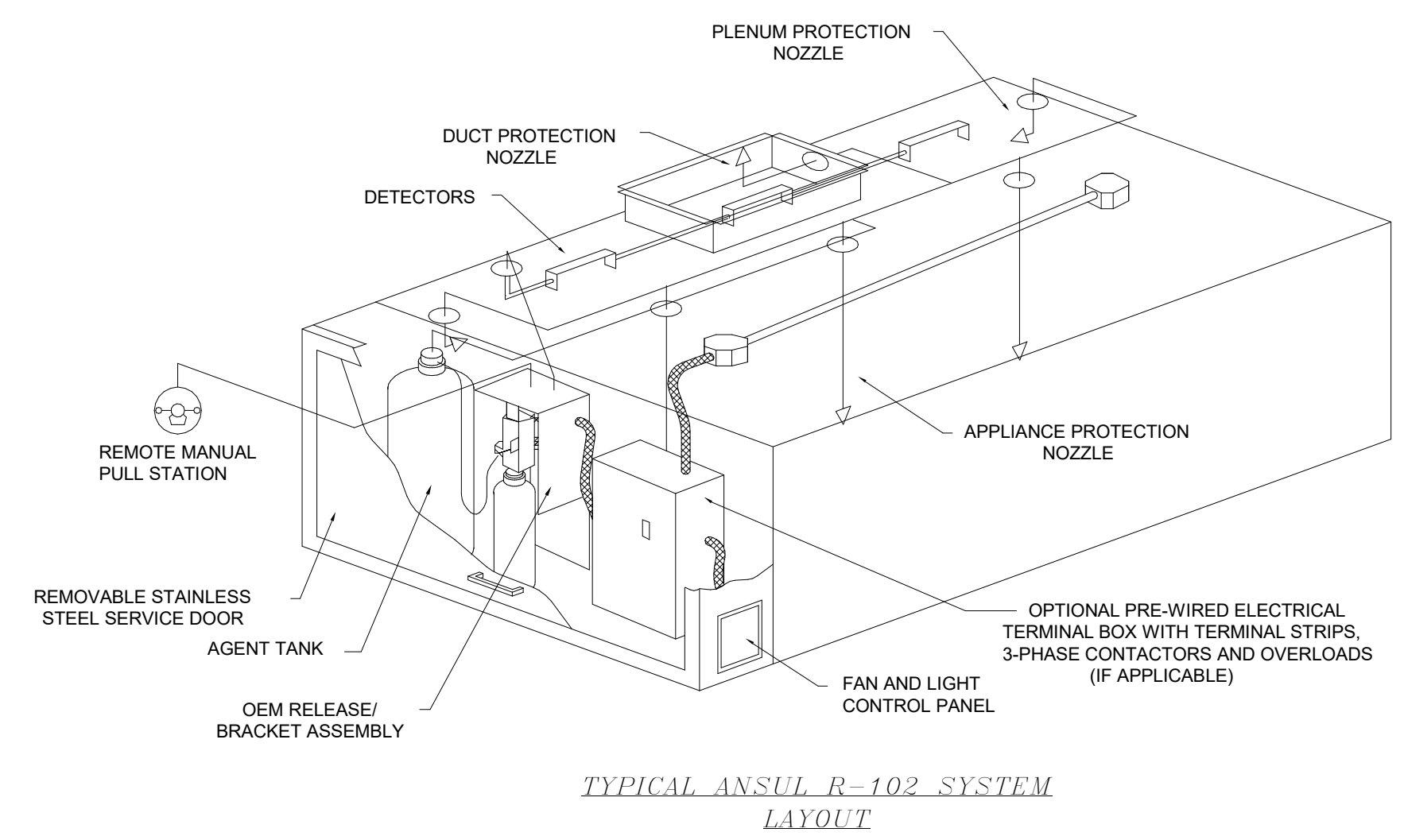
SHEET NUMBER  
**MH1.0**

PROJECT NUMBER: A2023.096



## RECESSED REMOTE FIRE PROTECTION PULL STATION DETAIL

BOX AND CONDUIT INSTALLED & SECURED BY ELECTRICAL TRADE  
FIRE SYSTEM INSTALLATION TO BE BY AUTHORIZED ANSUL DISTRIBUTOR



**TYPICAL ANSUL R-102 SYSTEM LAYOUT**  
NOTE: FIRE SYSTEM TO INCLUDE ALL NECESSARY PERMITS, FIELD HOOKUP, AND FINAL TEST.  
NOTE: FIRE SYSTEM ENCLOSURE WILL BE FACTORY-MOUNTED ON RIGHT SIDE OF THE LEFT HOOD

CAPTIVE

Maryland Office  
2221 Kansas Ave, Silver Spring, MD, 20910 PHONE: (800) 988-0881 FAX: (919) 227-5931 EMAIL: reg32@captivair.com

Five Guys - Davenport, IA (Utica Ridge)\_R1  
4860 Utica Ridge Rd,  
Davenport, IA, 52807

8/24/2020

4492751

AD-32

NTS

MASTER DRAWING

2

MUNICIPAL APPROVAL STAMPS

---

ARCHITECT OF RECORD

ARCHITECTURE

CONSULTANT

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ProDeComm Engineering  
140 North Main Street  
North Liberty, IN 46554  
(574) 656-9956

FIVE GUYS

FIVE GUYS - NEW STORE  
101 LAWSON DRIVE  
GEORGETOWN, KY 40324

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NOVEMBER 06, 2023		
REV	ISSUE	DATE

SEAL

James D. Sabinas

SHEET TITLE  
**ANSUL SYSTEM**

SHEET NUMBER  
**MH2.0**

PROJECT NUMBER: A2023.096

**EXHAUST FAN INFORMATION**

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	□	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)	SONES
1	FRYERS	DU180HFA	1852	1.375	1103	3.000	0.6680	3	208	9.5	428 FPM	181	13.2
2	GRILL	CASRE15DD	1662	1.375	1601	3.000	1.0120	3	208	8.7	1221 FPM	252	23

**CONDENSER**

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CONDENSER NO.	TONNAGE	VOLTAGE	PHASE	FREQUENCY	MCA	RLA	MAX FUSE SIZE	MIN WIRE SIZE	SEER
3	MAU	A2-D.500-20D-MPU	1	5	208-230	3 PHASE	60 Hz	21.4 Amps	17.4 Amps	30 Amps	12 AWG	14

**MUA FAN INFORMATION**

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP.	RPM	H.P.	B.H.P.	□	VOLT	FLA
3	MAU	A2-D.500-20D-MPU	20MF-2-MOD	A2-D.500	2000	2821	0.375	1425	3.000	1.5250	3	208	9.5

**MUA FAN INFORMATION**

FAN UNIT NO.	TAG	COOLING COIL ENTERING DB TEMP.	COOLING COIL LEAVING DB TEMP.	COOLING COIL LEAVING WB TEMP.	COOLING COIL TOTAL CAPACITY	COOLING COIL SENSIBLE CAPACITY	COOLING COIL LATENT CAPACITY	WEIGHT (LBS.)	SONES
3	MUA	91.0°F	75.0°F	70.2°F	69.2°F	60.0 MBH	60.0 MBH	0.0 MBH	1420

**GAS FIRED MAKE-UP AIR**

FAN UNIT NO.	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
3	MUA	237803	218779	75°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	92

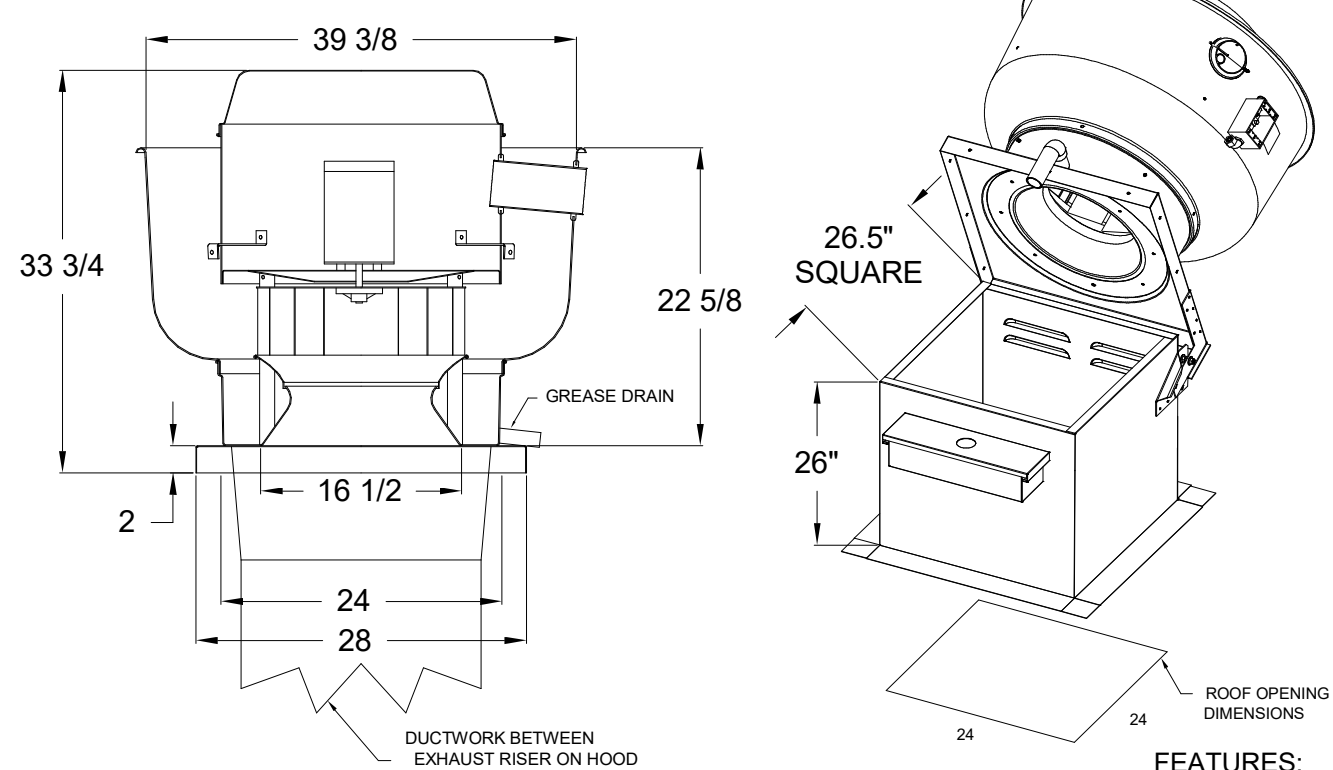
**FAN OPTIONS**

FAN UNIT NO.	TAG	OPTION (Qty. - Descr.)
1	FRYERS	1 - Grease Box
2	GRILL	1 - RE15 - Rain Cap Assembly - Includes Hardware And Gasket. 1 - AC Interlock Relay - 24VAC Coil 1 - Motorized Backdraft Damper for A2-D Housing 1 - Low Fire Start 1 - Inlet Pressure Gauge, 0-35" 1 - Manifold Pressure Gauge, -5 to 15" wc 1 - Control panel enclosure heater. Recommended for winter design temperature less than 0°F. 1 - Convenience Outlet (GFCI), 15 amp - Requires Separate 120V Connection. Includes receptacle and J box. 1 - Freezestat (10)
3	MUA	1 - Cooling Thermostat and Relay (Not req for evap) 1 - 5 Ton Single Circuit Modular Packaged AC Cooling Option for Size 2 MUA (1000 to 2750 cfm), 208V/230V, 3 phase. Cooling Thermostat or Programmable Stat Required for Proper Operation. 1 - Downturn Plenum for Size 2 DX Coil Module 1 - Size 2 MPU-AC Moisture Eliminator Option - allows cooling coil face velocity to increase to 650 fpm. Increases cooling coil max cfm to 3250 cfm. 1 - Separate 120V Wiring Package (Required and used only for DCV or Prewire with VFD) - Three Phase Only 1 - Size 2 Direct Fired Heater Low CFM Profile Package. Used on Heaters under 2500 cfm.

**CURB ASSEMBLIES**

NO.	FAN	WEIGHT	ITEM	SIZE
1	#1	34 LBS	Curb	26.500"W x 26.500"L x 26.000"H Vented Hinged
2	#2	37 LBS	Curb	23.000"W x 23.000"L x 24.000"H Vented
3	#3	27 LBS	Rail	6.000"W x 31.000"L x 20.000"H
3	#3	76 LBS	Curb	31.000"W x 79.000"L x 20.000"H Insulated

FAN #1 DU180HFA  
\*\*\*EXHAUST FAN FOR HOOD COVERING FRYERS\*\*\*



**ATTENTION**  
INSTALLER MUST READ LABEL NEAR DISCONNECT SWITCH! MESSAGE ON LABEL: "INSTALLER SHOULD SUPPLY ENOUGH ELECTRICAL CORD TO LET FAN MAKE COMPLETE SWING"

- FEATURES:**
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
  - ROOF MOUNTED FANS
  - RESTAURANT MODEL
  - UL705 AND UL762
  - VARIABLE SPEED CONTROL
  - INTERNAL WIRING
  - WEATHERPROOF DISCONNECT
  - THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
  - HIGH HEAT OPERATION 300°F (149°C)
  - GREASE CLASSIFICATION TESTING

**NORMAL TEMPERATURE TEST**  
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

**ABNORMAL FLARE-UP TEST**  
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE OPERATION.

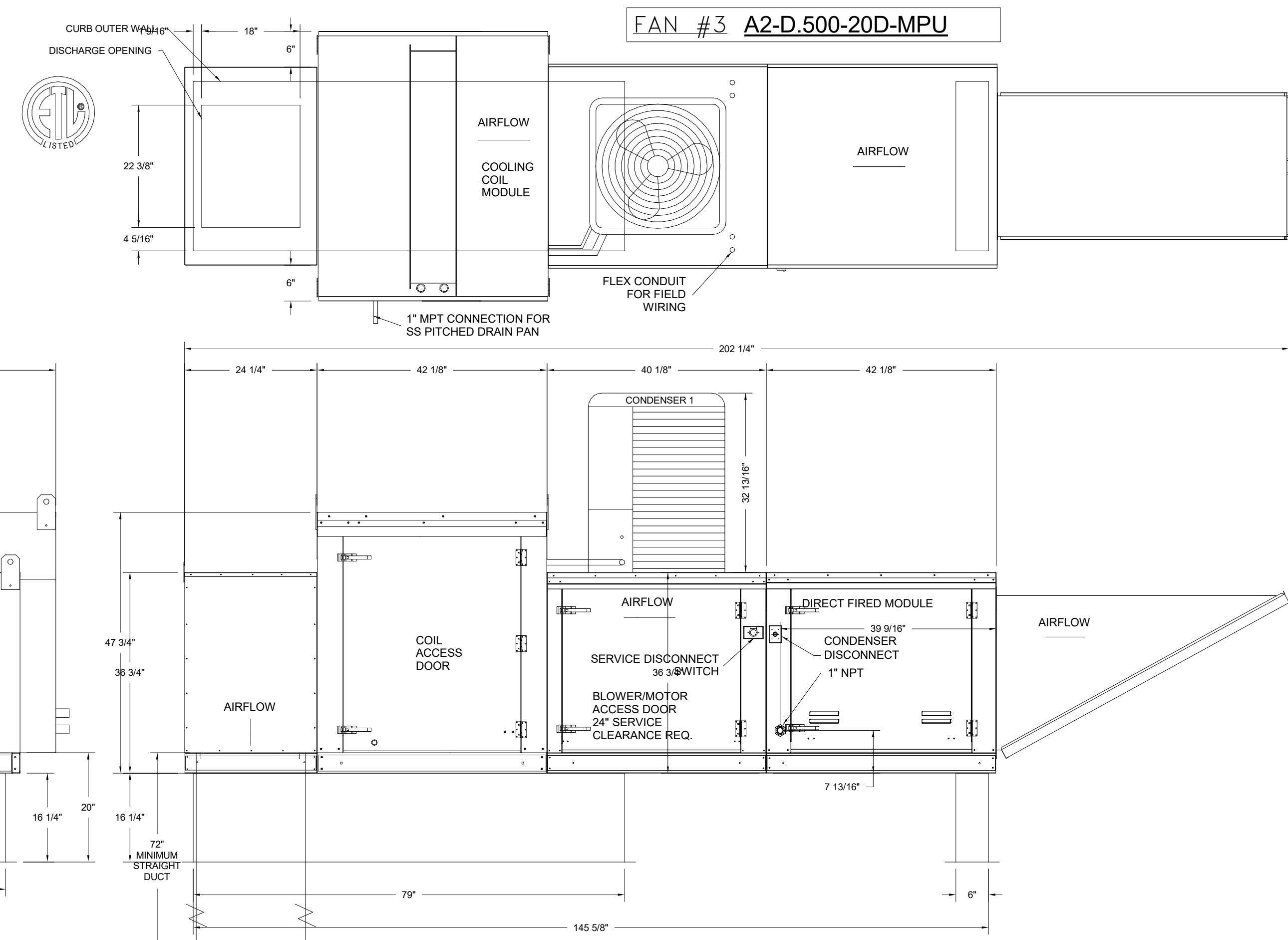
- FEATURES:**
- ROOF MOUNTED FANS
  - RESTAURANT MODEL
  - UL762
  - HIGH HEAT OPERATION DIRECT DRIVE 300°F (149°C)
  - HIGH HEAT OPERATION BELT DRIVE 500°F (260°C)
  - HEAT SLINGER
  - GREASE CLASSIFICATION TESTING
  - TILT OUT WHEEL
  - LOCKING PIN FOR POWER PACK
  - MOTOR WEATHER COVER
  - INTERLOCKED DISCONNECT SWITCH

**NORMAL TEMPERATURE TEST DIRECT DRIVE**  
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

**ABNORMAL FLARE-UP TEST BELT & DIRECT DRIVE**  
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE OPERATION.

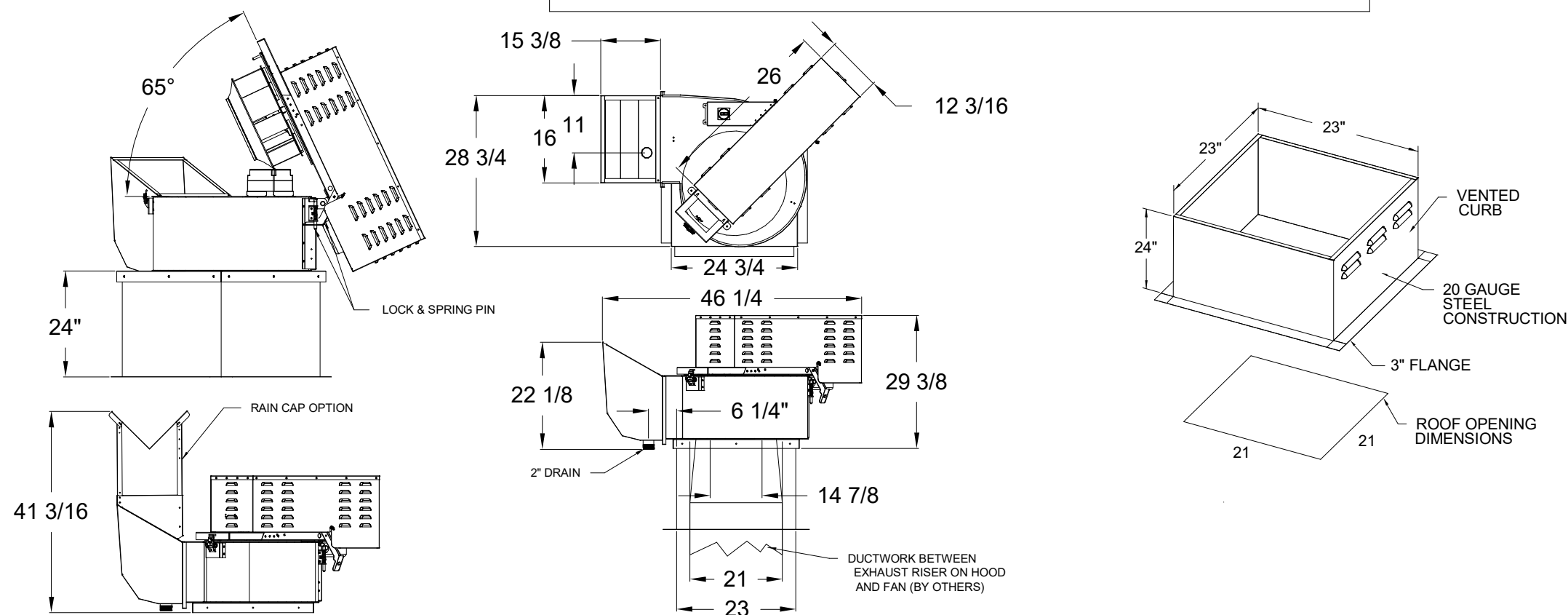
**OPTIONS**  
RE15 - RAIN CAP ASSEMBLY - INCLUDES HARDWARE AND GASKET.

**HEATER SETTINGS:**  
SET INTAKE TEMPERATURE TO 58°F  
SET DISCHARGE TEMPERATURE TO 65°F



**WEATHER DESIGN DATA**  
BASED ON DAVENPORT, IA REGION

FAN #2 CASRE15DD  
\*\*\*EXHAUST FAN FOR HOOD COVERING GRILLS\*\*\*



**IMPORTANT INSTALLATION NOTES:**

- ELECTRICAL CONNECTION SHOULD BE MADE ON THE HINGE SIDE OF THE EXHAUST FANS TO ENSURE FANS CAN BE HINGED FOR CLEANING
- RAIN CAP MUST BE FIELD INSTALLED ON FAN #2 AT THE HEIGHT AND ORIENTATION SHOWN ON DETAIL

**SCOPE OF WORK**  
HOOD(S): PROVIDED BY OWNER. INSTALLED BY GC.  
FIRE SYSTEM(S): PROVIDED & INSTALLED BY OWNER.  
EXHAUST FAN(S): PROVIDED BY OWNER. INSTALLED BY GC.  
MAKEUP AIR UNIT(S): PROVIDED BY OWNER. INSTALLED BY GC.  
ELECTRICAL CONTROL(S): PROVIDED BY OWNER. INSTALLED BY GC.  
GC IS RESPONSIBLE FOR COMPLETE START-UP OF EXHAUST FANS AND MAKEUP AIR UNIT PER CAPTIVEAIRE OPERATION & INSTALLATION MANUAL

**CAPTIVEAIRE**  
Maryland Office  
2221 Kansas Ave. Silver Spring, MD, 20910 PHONE: (800) 988-0881 FAX: (919) 227-5931 EMAIL: reg32@captiveaire.com

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MUNICIPAL APPROVAL STAMPS

ARCHITECT OF RECORD  
**GC ARCHITECTURE**  
CONSULTANT  
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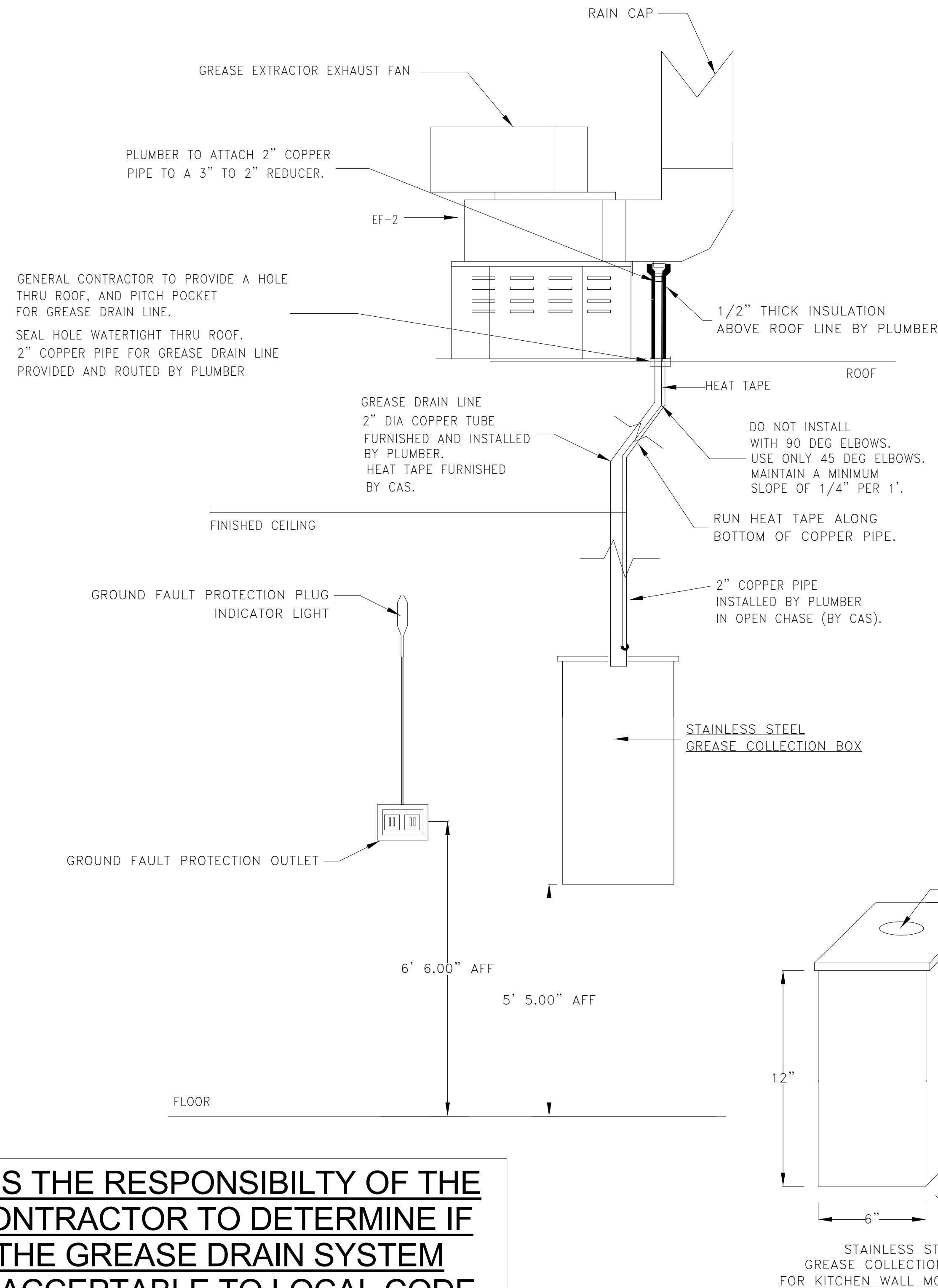
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STATE OF KENTUCKY  
JAMES D. SABINAS  
38105  
LICENSED PROFESSIONAL ENGINEER

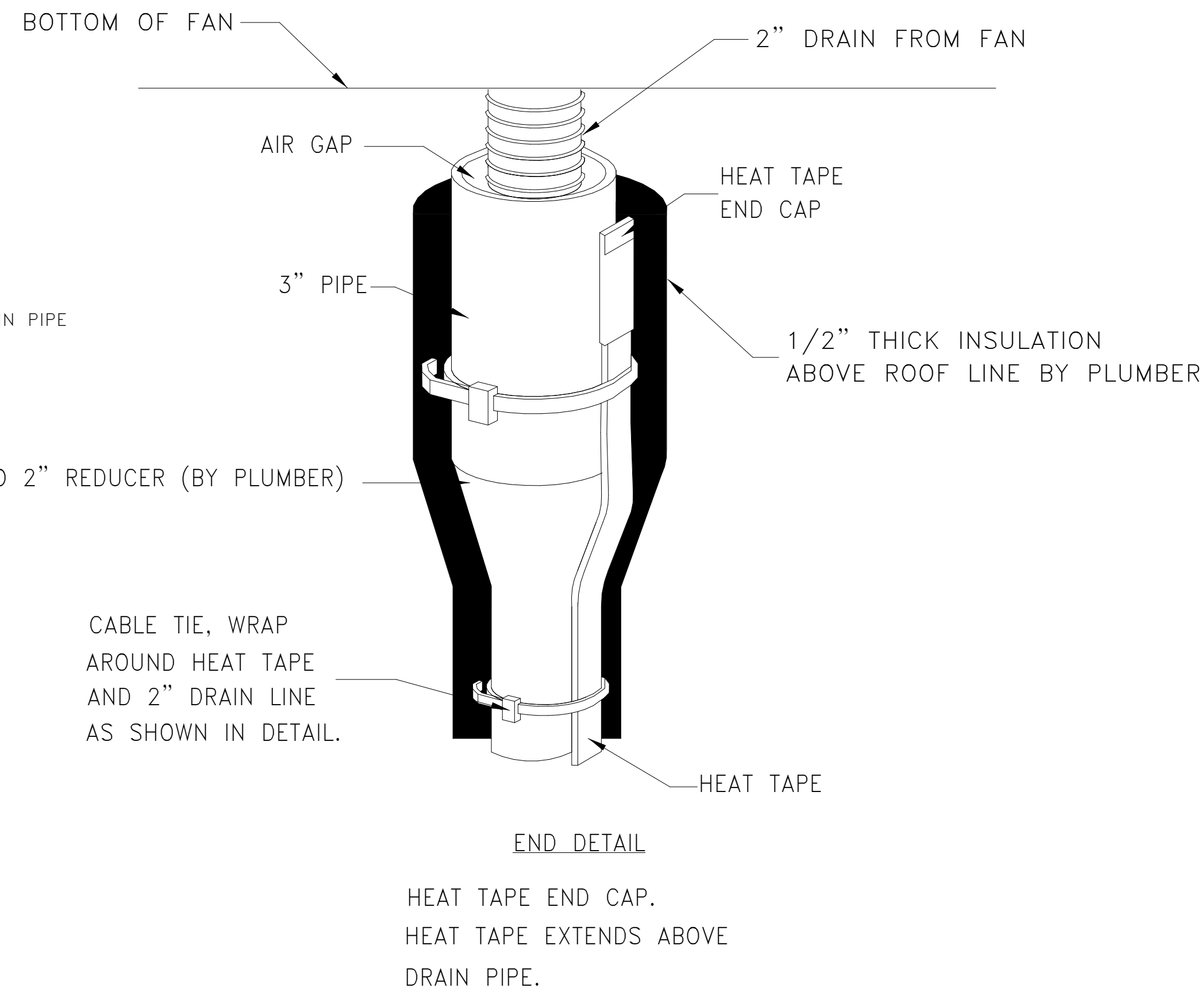
SHEET TITLE  
**ROOFTOP UNITS**  
SHEET NUMBER  
**MH3.0**

PROJECT NUMBER: A2023\_096

# DRAIN LINE HEATER INSTALLATION DETAIL



	INSTALLATION PROCEDURE:	TRADE RESPONSIBLE
1.	THE HEAT TAPE ASSEMBLY IS SHIPPED LOOSE FROM THE EXHAUST FAN.	CAS
2.	THE GENERAL CONTRACTOR IS TO PROVIDE HOLE IN ROOF AND SEAL THE HOLE (SEE DIAGRAM).	GENERAL CONTRACTOR
3.	INSTALL THE COPPER GREASE LINE DRAIN PIPE, SUPPLIED BY THE PLUMBER.	PLUMBER / ELECTRICIAN
4.	REMOVE (AND SAVE) THE END CAP AND GROUND FAULT PLUG. (GIVE PARTS TO ELECTRICIAN)	PLUMBER
5.	ROUTE THE HEAT TAPE ON THE OUTSIDE OF THE COPPER TUBE.	PLUMBER
6.	SECURE HEAT TAPE AND END CAP TO DRAIN USING CABLE TIE AS SHOWN IN END DETAIL.	PLUMBER
7.	INSULATE COPPER DRAIN LINE ABOVE THE ROOF LINE.	PLUMBER
8.	THE ELECTRICIAN IS TO SUPPLY GROUND FAULT PROTECTION OUTLET LOCATED NEAR GREASE COLLECTION BOX (15 AMP, 120 VOLT CIRCUIT) THE POWER SOURCE SHOULD BE A SEPERATE CIRCUIT. THE HEAT TAPE IS TO BE PROTECTED BY G.F.C.I. CIRCUIT BREAKER. THE HEAT TAPE STAYS ON ALL THE TIME, AND IS NOT CONTROLLED BY THE FAN ON-OFF SWITCH.	ELECTRICIAN
9.	PLUMBER TO MOUNT GREASE COLLECTION BOX ON THE WALL IN PREP AREA. GREASE COLLECTION BOX PROVIDED BY CAS.	PLUMBER
10.	ELECTRICIAN TO MAKE FINAL CONNECTION BETWEEN GROUND FAULT PLUG AND HEAT TAPE. GROUND FAULT PLUG PROVIDED BY CAS.	ELECTRICIAN
11.	ELECTRICIAN TO MAKE FINAL CONNECTION BETWEEN END CAP AND HEAT TAPE (ON ROOF). END CAP PROVIDED BY CAS.	ELECTRICIAN



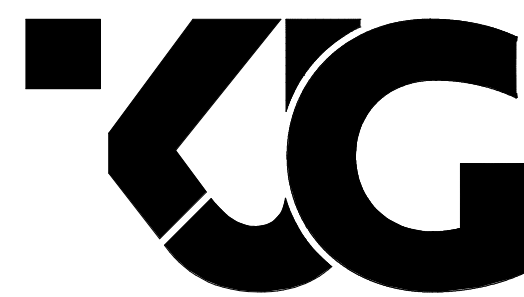
**IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE IF THE GREASE DRAIN SYSTEM IS ACCEPTABLE TO LOCAL CODE AUTHORITIES**

MUNICIPAL APPROVAL STAMPS

**CAPTIVE**

Maryland Office  
2221 Kansas Ave, Silver Spring, MD, 20910 PHONE: (800) 988-0881 FAX: (919) 227-5931 EMAIL: reg32@captive.com

ARCHITECT OF RECORD



**ARCHITECTURE**

CONSULTANT

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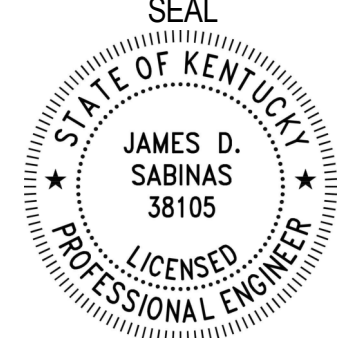
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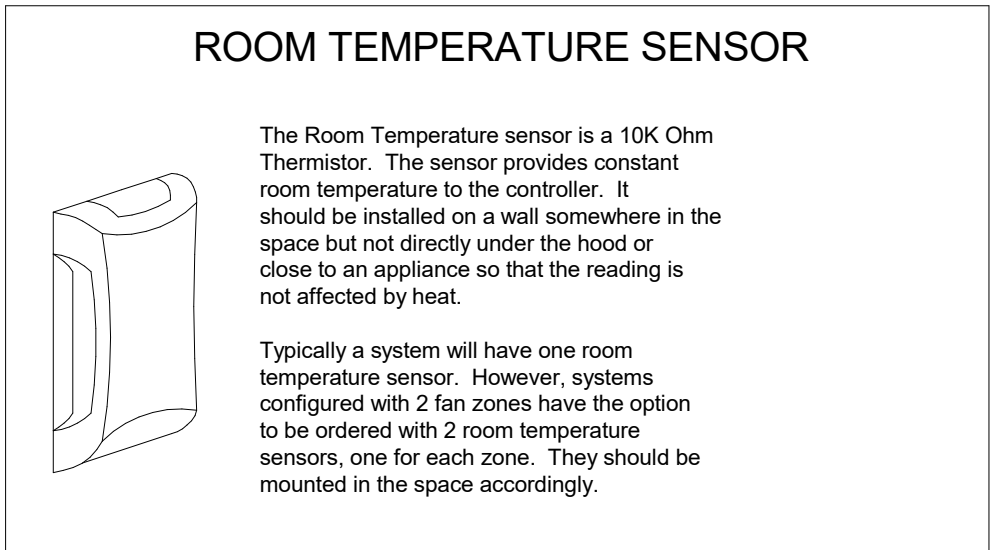
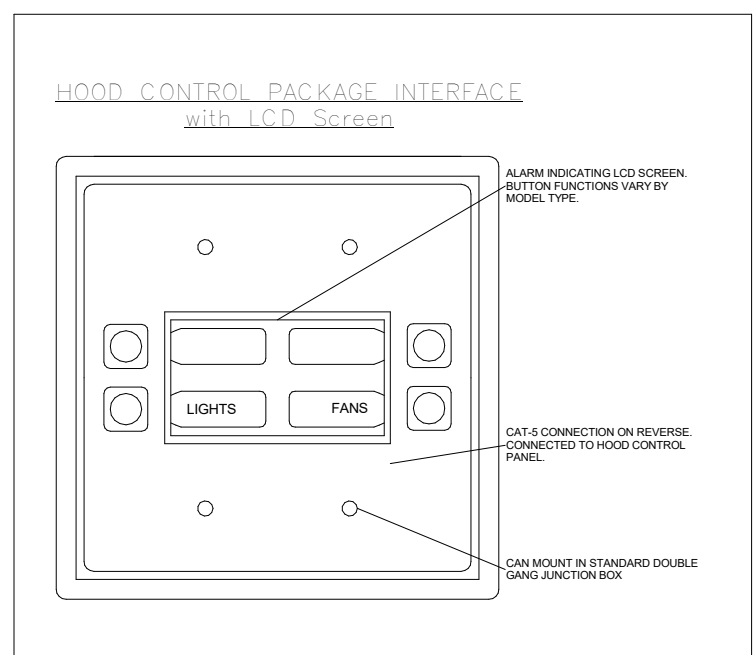
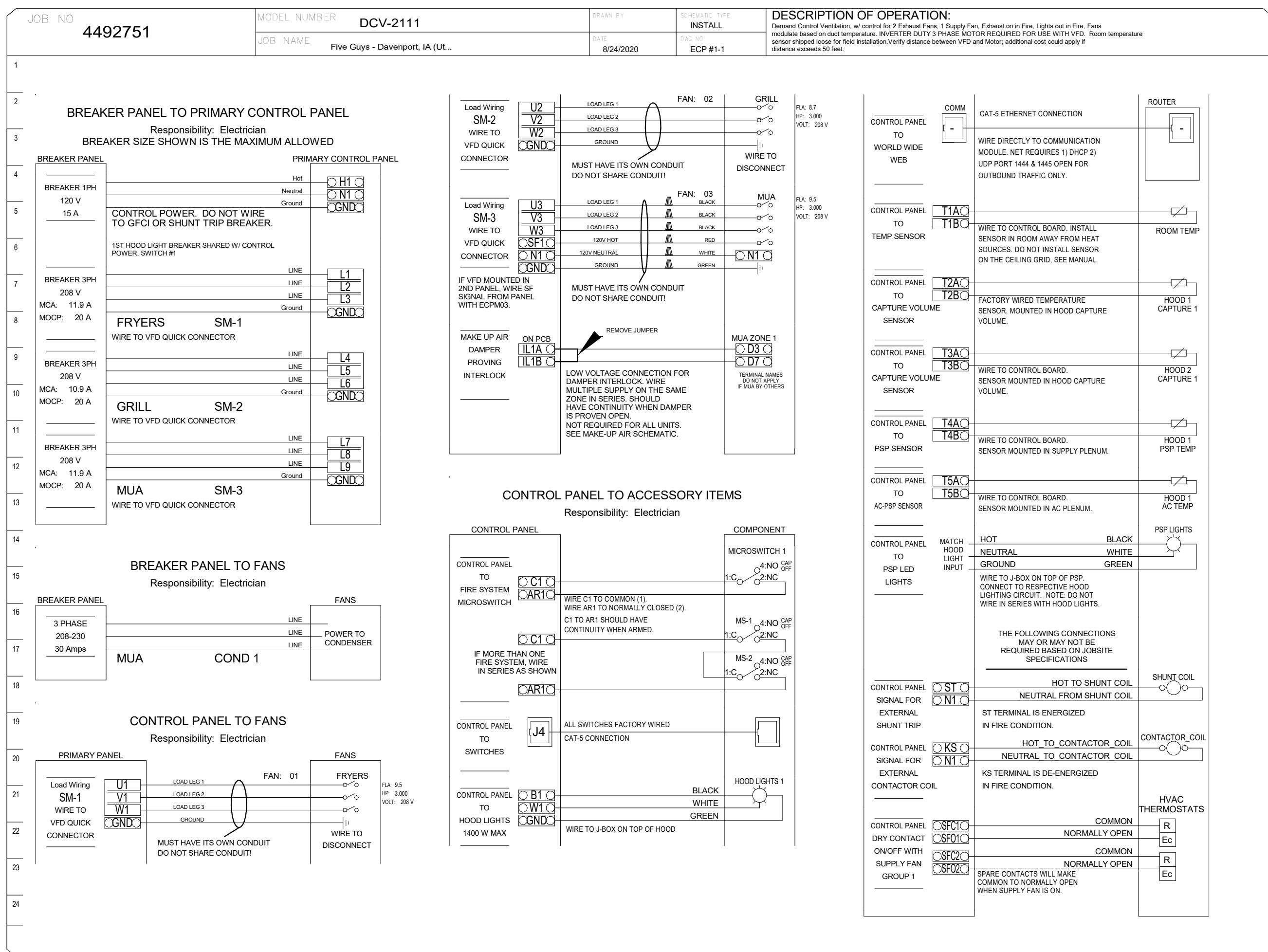
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**ROOFTOP UNITS**

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ELECTRICAL PACKAGE

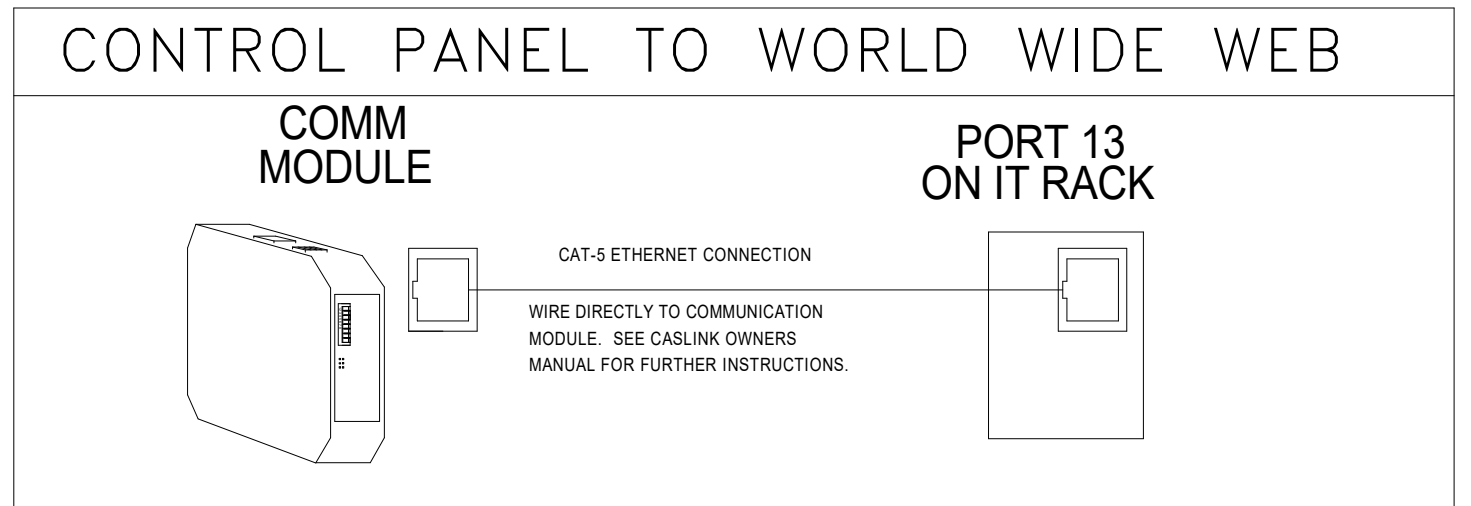
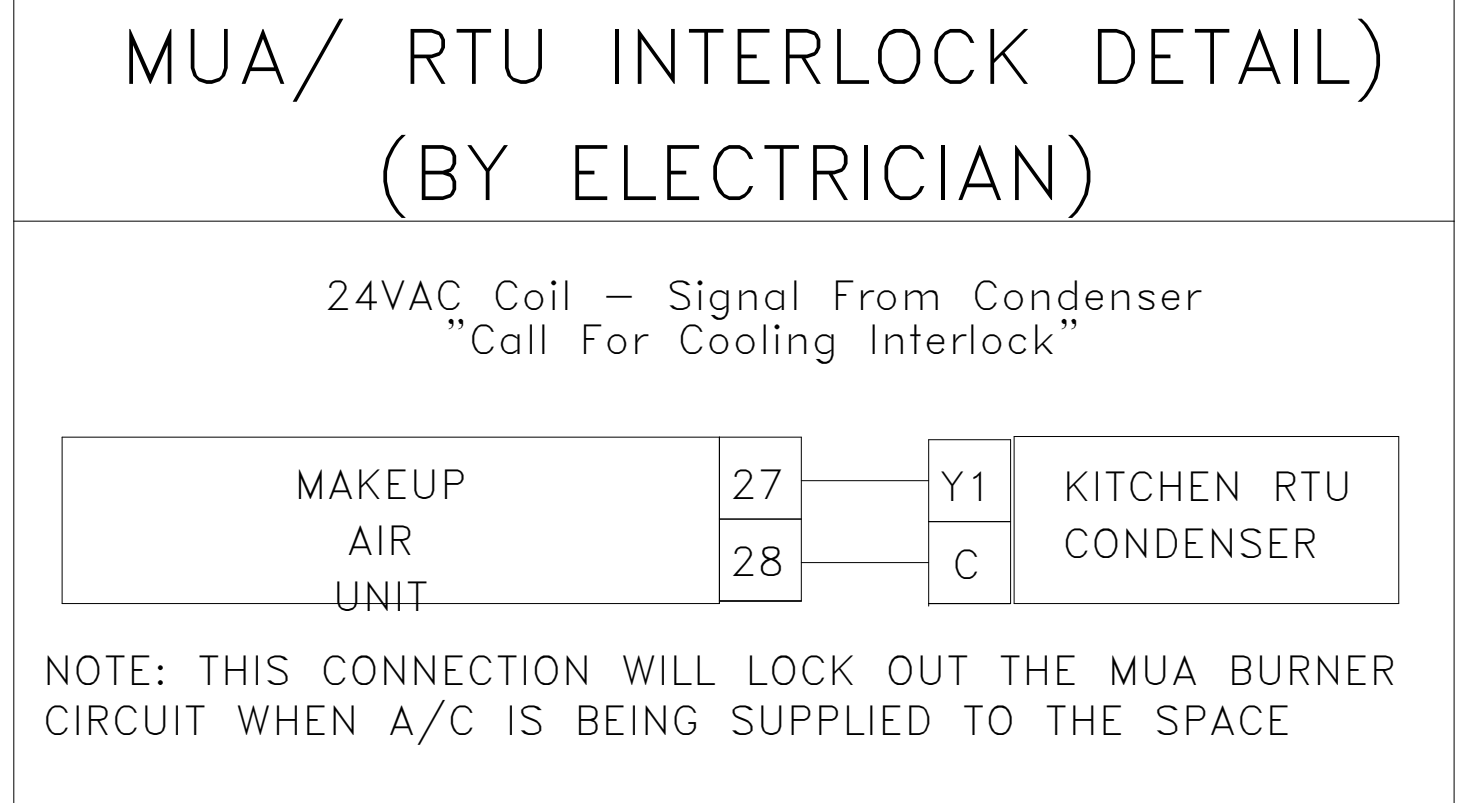
JOB #	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
			LOCATION	QUANTITY		FAN TAG	TYPE	HP	VOLTS	FLA	
1	DCV-2111	UTILITY CABINET LEFT	03 - UTILITY CABINET LEFT	1 LIGHT	SMART CONTROLS DCV	FRYERS	EXHAUST	3	3,000	208	9.5
			HOOD # 1	1 FAN		GRILL	EXHAUST	3	3,000	208	8.7
						MUA	SUPPLY	3	3,000	208	9.5



**SCOPE OF WORK**

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**SEQUENCE OF OPERATION – APPLIANCE INTERLOCK**

- IN AUTO POSITION, FANS WILL TURN ON WHEN TEMPERATURE IS ABOVE 85 DEGREES AND WILL SHUT DOWN WHEN TEMPERATURE COOLS BELOW 85 DEGREES.
- IN ON POSITION, FANS WILL REMAIN ON CONSTANTLY
- IN FIRE CONDITION, EXHAUST WILL TURN ON OR REMAIN ON. MAKEUP AIR WILL SHUT DOWN AUTOMATICALLY.

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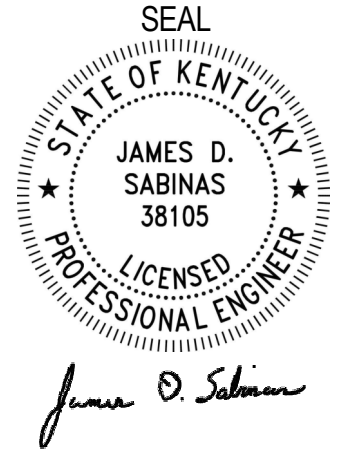
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SHEET TITLE  
**WIRING DIAGRAM**

SHEET NUMBER  
**MH5.0**

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