

### ABBREVIATIONS

[A]	EXISTING TO BE ABANDONED	FPI	FINS PER INCH
[D]	EXISTING TO BE DEMOLISHED	GC	GENERAL TRADES CONTRACTOR
[E]	EXISTING TO REMAIN	ID	INNER DIAMETER
[F]	FUTURE	LAT	LEAVING AIR TEMPERATURE
[R]	EXISTING TO BE RELOCATED	LWT	LEAVING WATER TEMPERATURE
AAV	AUTOMATIC AIR VENT	MAU	MAKEUP AIR UNIT
AFF	ABOVE FINISHED FLOOR	MC	MECHANICAL CONTRACTOR
AHJ	AUTHORITY HAVING JURISDICTION	MFR	MANUFACTURER
AMB	AMBIENT	N/A	NOT APPLICABLE
APD	AIR PRESSURE DROP	NC	NORMALLY CLOSED
BAS	BUILDING AUTOMATIC SYSTEM	NO	NORMALLY OPEN
BFP	BACKFLOW PREVENTER	NTS	NOT TO SCALE
BLDG	BUILDING	OA	OUTSIDE AIR
BOB	BOTTOM OF BEAM	OD	OUTSIDE DIAMETER
BOD	BOTTOM OF DUCT	PD	PRESSURE DROP
BOP	BOTTOM OF PIPE	PRV	PRESSURE REDUCING VALVE
BOS	BOTTOM OF STRUCTURE	RA	RETURN AIR
CL	CENTER LINE	REL	RELIEF AIR
DB	DRY BULB	RTU	ROOFTOP UNIT
DIA	DIAMETER	SA	SUPPLY AIR
DN	DOWN	SCC	SENSIBLE COOLING CAPACITY
EA	EXHAUST AIR	SP	STATIC PRESSURE
EAT	ENTERING AIR TEMPERATURE	TCP	TEMPERATURE CONTROL PANEL
EC	ELECTRICAL CONTRACTOR	TSP	TOTAL STATIC PRESSURE
EF	EXHAUST FAN	TYP	TYPICAL
EFF	EFFICIENCY	UNO	UNLESS NOTED OTHERWISE
EG	ETHYLENE GLYCOL	VFD	VARIABLE FREQUENCY DRIVE
ESP	EXTERNAL STATIC PRESSURE	WB	WET BULB
EWT	ENTERING WATER TEMPERATURE	WG	WATER GAUGE
EXH	EXHAUST	WPD	WATER PRESSURE DROP

### MECHANICAL LEGEND

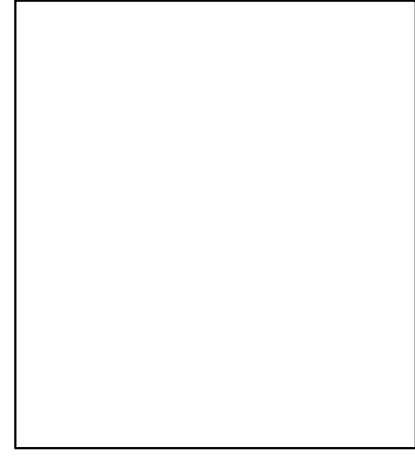
	SUPPLY DUCT UP		PIPING DOWN
	SUPPLY DUCT DOWN		PIPING UP
	RETURN DUCT UP		TURNING VANES
	RETURN DUCT DOWN		VOLUME DAMPER
	FIRE DAMPER		CONDENSATE DRAIN
	SMOKE DAMPER		MOTORIZED DAMPER
	COMB. FIRE/SMOKE DAMPER		REMOTE ANNUNCIATOR
	BACKDRAFT DAMPER		REMOTE TEMP. SENSOR
	SMOKE DETECTOR		THERMOSTAT
	SPIN-IN WITH VOLUME DAMPER		HUMIDISTAT
	45° RETURN DUCT TAP WITH VOL. DAMPER		FLEX DUCT
	DIFFUSER		LINEAR DIFFUSER WITH FLEX CONNECTION
	DIFFUSER WITH FLEX CONNECTION		ROUND DUCT UP
	GRILLE/REGISTER		ROUND DUCT DOWN
	SIDEWALL GRILLE/ REGISTER/ DIFFUSER		REDUCER

### GENERAL NOTES:

- ALL WORK TO BE PERFORMED TO MEET ALL STATE, CITY & LOCAL CODE REQUIREMENTS.
- ALL WALL PATCHING TO BE BY GC.
- MC IS TO COORDINATE WITH OTHER TRADES BEFORE INSTALLING DUCTWORK. IF THE MC FAILS TO COORDINATE WITH OTHER TRADES AND THE WORK MUST BE ALTERED THE MC WILL CHANGE IT AT HIS OWN EXPENSE.
- COORDINATE THE EXACT LOCATION OF ALL GRILLES, REGISTERS & DIFFUSER WITH ARCHITECTURAL REFLECTED CEILING PLAN.
- MECHANICAL CONTRACTOR IS TO VISIT THE SITE PRIOR TO SUBMITTING A BID & INCLUDE IN THE BID ANY ITEMS NECESSARY FOR A COMPLETE & OPERATIONAL SYSTEM.
- DRAWINGS ARE SCHEMATIC IN NATURE & MC IS TO INCLUDE ANY ITEMS REQUIRED FOR A COMPLETE & OPERATIONAL SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
- MC TO FURNISH ALL PERMITS REQUIRED FOR HIS PORTION OF THE WORK.
- MC TO COORDINATE WITH ELECTRICAL CONTRACTOR CONCERNING ELECTRICAL REQUIREMENTS BEFORE ORDERING ANY EQUIPMENT.
- CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE ENTIRETY OF THIS DRAWING SET, INCLUDING BUT NOT LIMITED TO: PLANS, ELEVATIONS, DETAILS, SCHEDULES, AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL DRAWINGS OF OTHER TRADES, INCLUDING BUT NOT LIMITED TO, ARCHITECTURAL, PLUMBING, ELECTRICAL, CIVIL, AND STRUCTURAL.
- ALL CUTTING AND PATCHING OF ROOF IS TO BE BY GC.

### SEQUENCE OF OPERATION

- PROVIDE STAND ALONE OR APPLICATION SPECIFIC CONTROLLERS AS REQUIRED TO PERFORM THE FOLLOWING SEQUENCES OF OPERATIONS.
- PACKAGED ROOFTOP UNITS
  - UNIT SHALL CONSIST OF SUPPLY AIR FAN, FILTERS, DX COOLING COIL, GAS-FIRED HEAT SECTION, AND A 7-DAY PROGRAMMABLE THERMOSTAT.
  - PROVIDE AN OVERRIDE SWITCH TO OPERATE THE UNIT DURING UNOCCUPIED HOURS. THIS SWITCH SHALL BE PART OF THE PROGRAMMABLE THERMOSTAT. OVERRIDE SWITCH ALLOWS THE UNIT TO OPERATE FOR TWO HOURS (ADJUSTABLE).
  - OCCUPIED MODE: BASED ON THE ROOFTOP UNITS HOURS OF OCCUPANCY, START THE UNIT AT THE BEGINNING OF OCCUPANCY AND SHUT DOWN THE UNIT AT THE END OF OCCUPANCY (NOTE: OUTSIDE AIR DAMPER WITHIN THE RTU SHALL OPEN AND THEN THE RTU SHALL START). THE UNIT SHALL START EARLIER AS DETERMINED BY THE PROGRAM FOR EARLY WARM-UP OR COOL DOWN. ON A SYSTEM STARTUP, THE RTU FAN SHALL START AND RUN CONTINUOUSLY AND THE INTERNAL FACTORY CONTROLS SHALL BE ENABLED. BASED ON THE SPACE TEMPERATURE SENSOR, THE UNIT SHALL CYCLE THE HEATING/COOLING TO MAINTAIN THE SPACE TEMPERATURE SETPOINT (COOLING 75 DEGREE F, HEATING 70 DEGREE F)
    - ECONOMIZER MODE: WHEN ENTHALPY OF OA IS BELOW 28 BTU/LB. ECONOMIZER MODE SHALL BE ENABLED. ECONOMIZER MODE SHALL LINEARLY MODULATE OUTDOOR AIR CFM FROM MINIMUM OA CFM TO 100% BASED ON ENTHALPY READINGS.
    - HUMIDITY CONTROL (WHEN NEEDED BASED ON CLIMATE): UPON DETECTION OF RELATIVE HUMIDITY ABOVE 55%, THE UNIT SHALL CYCLE INTO DEHUMIDIFICATION MODE IF NOT ALREADY IN COOLING.
  - UNOCCUPIED MODE: THE RTU INTERNAL OA DAMPERS SHALL REMAINED CLOSED WHEN THE BUILDING IS NOT OCCUPIED. THE RTU SHALL STOP HEATING/COOLING AND THE FAN SHALL STOP. IF THE SPACE TEMPERATURE FALLS BELOW 56 DEGREE F (ADJUSTABLE), THE UNIT SHALL START AND HEAT UNTIL THE SPACE TEMPERATURE IS 60 DEGREE F (ADJUSTABLE) AND THEN SHUTDOWN. IF THE SPACE TEMPERATURE RISES ABOVE 85 DEGREE F (ADJUSTABLE), THE UNIT SHALL START AND COOL UNTIL THE SPACE TEMPERATURE IS 80 DEGREE F (ADJUSTABLE) AND THEN SHUTDOWN.
  - UPON DETECTION OF SMOKE BY UNIT SMOKE DETECTOR BOTH RTUS SHALL SHUT DOWN AND AN ALARM SHALL BE SENT TO THE FIRE ALARM CONTROL PANEL (WHERE APPLICABLE). LOCAL REMOTE ANNUNCIATORS SHALL ALSO BE ACTIVATED.
- KITCHEN HOOD EXHAUST FAN (KEF-1)
  - THE KITCHEN HOOD EXHAUST FAN SHALL BE ENABLED WHEN ANY COOKING APPLIANCE LOCATED UNDER ITS RESPECTIVE HOOD, IS IN USE.
- MAKE UP AIR UNIT
  - THE MAKE UP AIR UNIT SHALL BE ENABLED WHEN THE KITCHEN HOOD EXHAUST FAN (KEF-1) IS ENERGIZED. THE INTERNAL MOTORIZED DAMPER WITHIN MAU-1 SHALL OPEN AND THE FAN SHALL RUN. IF OA IS LESS THAN 65° (ADJ.), THE MAU-1 GAS-FIRED HEAT SECTION SHALL BE ENABLED TO MAINTAIN A MINIMUM OF 65°.
  - WHEN KEF-1 IS OFF, MAU-1 SHALL BE DE-ENERGIZED AND THE INTERNAL MOTORIZED DAMPED SHALL CLOSE.
- ANSUL SYSTEM ACTIVATION
  - UPON ACTIVATION OF ANSUL SYSTEM, SHUT DOWN MAU-1, RTU-1 AND RTU-2. PROVIDE REALS CONTACTS, INTERLOCKS, TRANSFORMERS AND ALL ASSOCIATED WIRING TO ACCOMPLISH SEQUENCE. MAU-1 IS ALREADY PREWIRED TO SHUT DOWN IN HOOD CONTROL PANEL. MECHANICAL CONTRACTOR SHALL INTERLOCK RTU-1 AND RTU-2 TO ALSO SHUT DOWN.



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**CAVA**

CAVA #129 - DANBURY, CT  
 44 BACKUS AVE  
 DANBURY, CT 06810  
 FOR CAVA  
 702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

PROJECT NUMBER:  
CAV129

ISSUE	DATE
PERMIT SET	02.11.25
REVISION 1	04.15.25
CONSTRUCTION SET	05.02.25

GENERAL INFORMATION  
MECHANICAL

SHEET:

**M000**



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MECHANICAL  
DEMOLITION PLAN

SHEET:

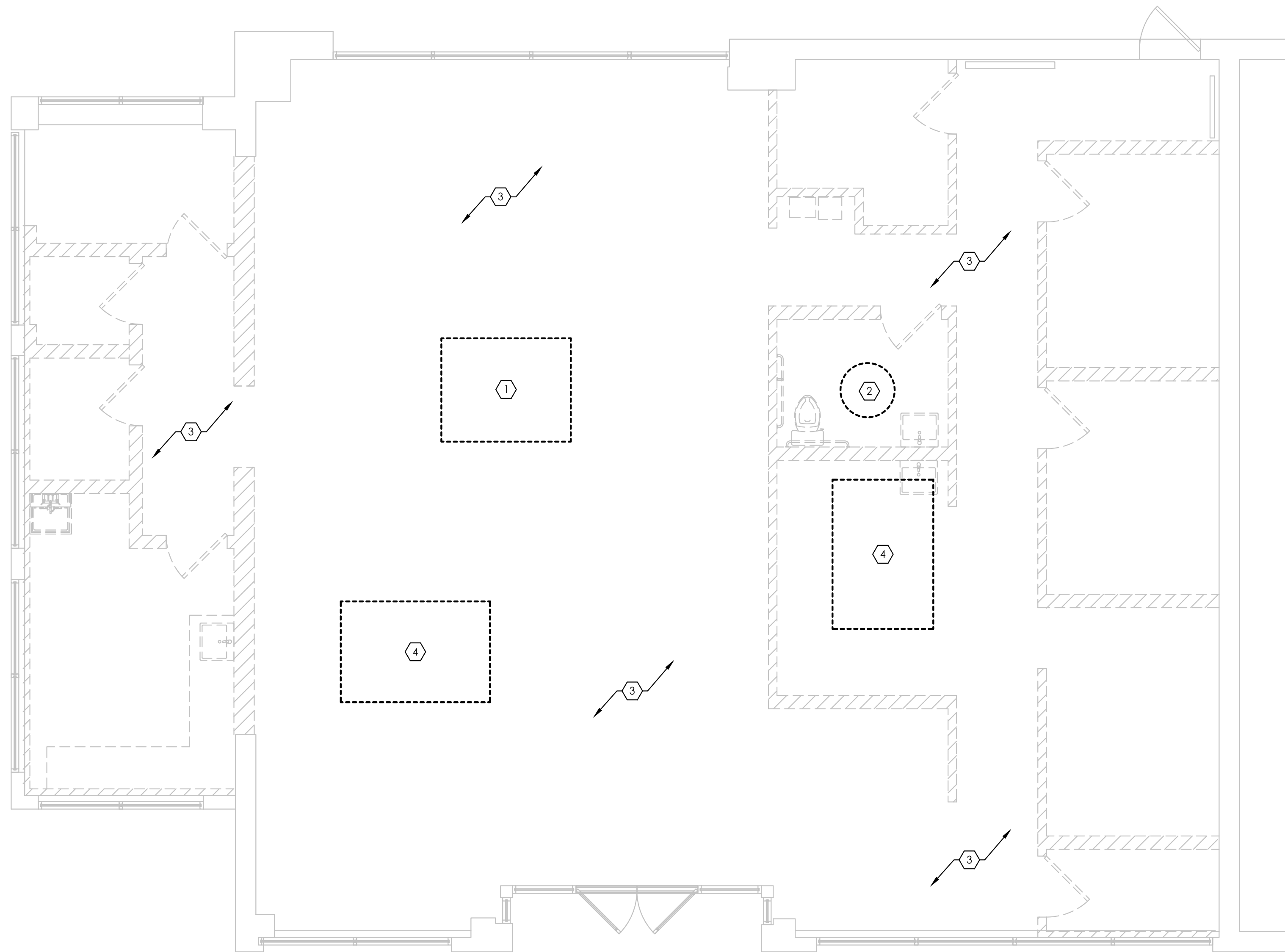
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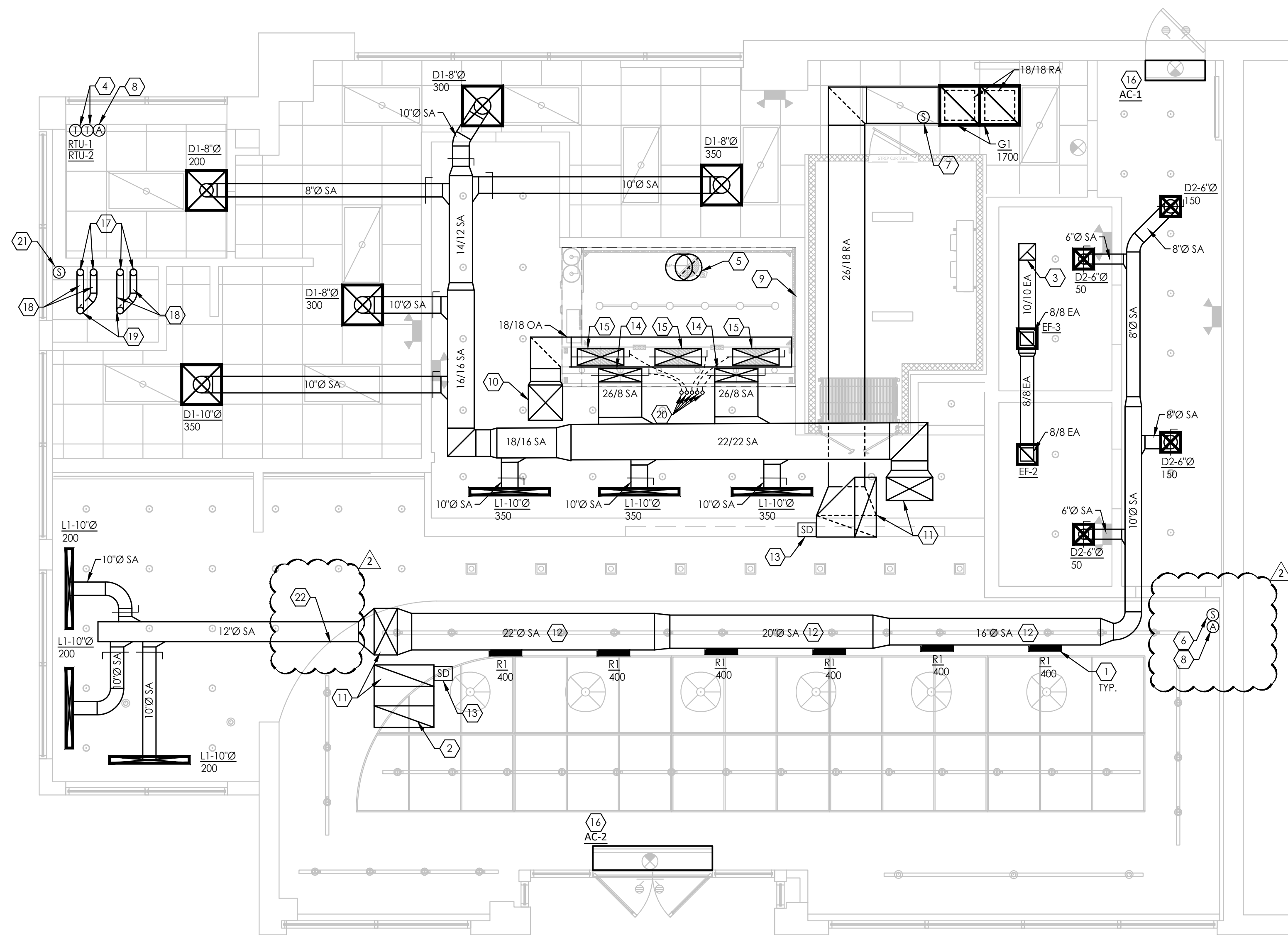
**GENERAL NOTES:**

- A. 'E' DENOTES EXISTING TO REMAIN. 'D' DENOTES TO DEMOLISH. 'R' DENOTES TO RELOCATE.
- B. DESIGN DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.
- C. THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.
- D. THE CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES. THE PLANS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.
- E. CONTRACTOR SHALL VERIFY ALL EXISTING DUCTWORK PRIOR TO START TO ANY WORK. IF EXISTING DUCTWORK IS ABLE TO BE REUSED, CONTACT FOR IMMEDIATELY FOR FURTHER INSTRUCTION.
- F. ALL ROOF PENETRATION SEAL WORK TO BE DONE BY LANDLORD'S ROOFING CONTRACTOR. DEAN TECHNOLOGIES, DONALD MINNICK, DMINNICK@DEANTECHNOLOGIES.NET.

**CODED NOTES:** (E)

- 1. EXISTING MAKE UP AIR UNIT ON ROOF TO BE DEMOLISHED, ALL ASSOCIATED DUCTWORK TO BE DEMOLISHED. PATCH ROOF TO MATCH EXISTING AND SEAL WEATHER TIGHT.
- 2. EXISTING RESTROOM EXHAUST FAN TO BE REMOVED ALONG WITH ALL ASSOCIATED DUCTWORK AND ACCESSORIES. PATCH ROOF TO MATCH EXISTING AND SEAL WEATHER TIGHT.
- 3. AIR TERMINALS, AND ALL ASSOCIATED DUCTWORK ACCESSORIES TO BE REMOVED.
- 4. EXISTING ROOFTOP UNIT TO BE DEMOLISHED ALONG WITH ALL ASSOCIATED DUCTWORK AND ACCESSORIES. PATCH ROOF TO MATCH EXISTING AND SEAL WEATHER TIGHT.





**GENERAL NOTES:**

- A. DO NOT PENETRATE KITCHEN EXHAUST HOODS OR DUCTWORK WITH ANY TYPE OF FASTENING ASSEMBLY (I.E. SCREWS, RIVETS).
- B. IF NOT PAINTED, ALL DUCTWORK SHALL HAVE A GASKET SEAL.
- C. EXPOSED DUCTWORK IN THE DINING AREA SHALL BE MADE OF ELECTRO-GALVANIZED STEEL (PAINTLOCK). SEE MECHANICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- D. GC TO PROVIDE ACCESS PANELS IN HARD LID CEILINGS FOR ACCESS TO DUCT MOUNTED SMOKE DETECTORS, SENSOR, BALANCING DAMPERS, ETC. LOCATION OF ACCESS PANEL TO BE CENTERED IN LINE WITH LIGHT FIXTURES AND DIFFUSERS. COORDINATE ACCESS PANEL LOCATIONS WITH ARCHITECTURAL SHEETS.

**CODED NOTES:**

1. MOUNT REGISTER AT 15° ANGLE ON SIDE OF DUCT. ADJUST DIFFUSER BLADES TO 45° PATTERN. BALANCE AIR SCOOP TO CFM INDICATED.
2. ANGLE RETURN UP WITH FULL METAL ANGLE AND BIRD SCREEN.
3. ROUTE 10"x10" EXHAUST DUCT UP THROUGH ROOF ABOVE AND CONNECT TO EXHAUST FAN. REFER TO SHEET M201 FOR CONTINUATION. SEAL WEATHER TIGHT.
4. INSTALL LED TOUCHSCREEN 24/7 PROGRAMMABLE THERMOSTAT (WITH CONTROLS LOCKED BY CODE) MOUNTED AT 48" AFF. COORDINATE EXACT LOCATION WITH OWNER.
5. ROUTE 16" Ø CUSTOM FABRICATED TYPE 1 KITCHEN EXHAUST DUCT FROM EXHAUST HOOD, UP THROUGH ROOF ABOVE AND CONNECT TO KITCHEN EXHAUST FAN. REFER TO SHEET M201 FOR CONTINUATION. COORDINATE WITH KES AND CAPTIVE AIRE DRAWINGS. SEAL WEATHER TIGHT. CONTRACTOR SHALL PROVIDE CLEANOUT EVERY 20' AND AT EVERY CHANGE OF DIRECTION IN TYPE 1 EXHAUST DUCT.
6. REMOTE TEMPERATURE AVERAGING SENSOR MOUNTED AT 72" AFF FOR RTU-2. WIRE BACK TO THERMOSTAT AT MANAGERS DESK.
7. REMOTE TEMPERATURE SENSOR MOUNTED WITHIN RETURN DUCT FOR RTU-1. WIRE BACK TO THERMOSTAT AT MANAGERS DESK.
8. PROVIDE AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET FOR SMOKE DETECTOR MOUNTED AT 72" AFF. ALIGN ANNUNCIATOR WITH THERMOSTAT SENSOR WHERE APPLICABLE.
9. TYPE 1 GREASE EXHAUST HOOD. REFER TO KES AND CAPTIVE AIRE DRAWINGS FOR ADDITIONAL INFORMATION.
10. ROUTE 18"x18" MAKE UP AIR DUCT UP THROUGH ROOF ABOVE AND CONNECT TO MAKE UP AIR UNIT. REFER TO SHEET M201 FOR CONTINUATION. COORDINATE WITH KES AND CAPTIVE AIRE DRAWINGS. SEAL WEATHER TIGHT.
11. ROUTE 26"x18" SUPPLY AND RETURN AIR DUCT UP THROUGH ROOF ABOVE AND CONNECT TO ROOF TOP UNIT. REFER TO SHEET M201 FOR CONTINUATION. SEAL WEATHER TIGHT.
12. MOUNT SPIRAL DUCT TIGHT TO BOTTOM OF STRUCTURE.
13. PROVIDE DUCT MOUNTED SMOKE DETECTOR IN RETURN AIR DUCT. UPON DETECTION OF SMOKE UNIT SHALL DE-ENERGIZE.
14. ROUTE 26"x8" SUPPLY AIR DUCT DOWN FROM CEILING SPACE AND CONNECT TO SUPPLY AIR PLENUM ON HOOD. PROVIDE BALANCING DAMPER AND BALANCE TO 428 CFM. REFER TO KES AND CAPTIVE AIRE DRAWINGS FOR ADDITIONAL INFORMATION.
15. ROUTE 28"x10" MAKEUP AIR DUCT DOWN FROM CEILING SPACE AND CONNECT TO MAKE UP AIR PLENUM ON HOOD. PROVIDE BALANCING DAMPER AND BALANCE TO 564 CFM. REFER TO KES AND CAPTIVE AIRE DRAWINGS FOR ADDITIONAL INFORMATION.
16. PROVIDE AIR CURTAIN ABOVE ENTRANCE DOOR. INSTALL PER MANUFACTURES RECOMMENDATIONS.
17. ROUTE 3" COMBUSTION AIR AND FLUE DOWN FROM CEILING SPACE AND CONNECT TO WATER HEATER. INSTALLATION SHALL BE PER MANUFACTURES RECOMMENDATIONS.
18. EXTEND 3" COMBUSTION AIR AND FLUE IN CEILING SPACE. FIELD VERIFY EXACT ROUTING.
19. EXTEND 3" COMBUSTION AIR AND FLUE UP TO CONCENTRIC VENT THROUGH ROOF ABOVE. REFER TO SHEET M201 FOR ADDITIONAL INFORMATION.
20. REMOTE BALANCING DAMPER, TYPICAL FOR BALANCING DAMPERS IN HARD CEILING APPLICATIONS.
21. PROVIDE CO2 MEASUREMENT SPECIALISTS RAD-0102-6 REMOTE CO2 STORAGE SAFETY ALARM (OR EQUAL), INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
22. DUCT THROUGH SOFFIT TO BE ROUTED AS HIGH AS POSSIBLE.

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



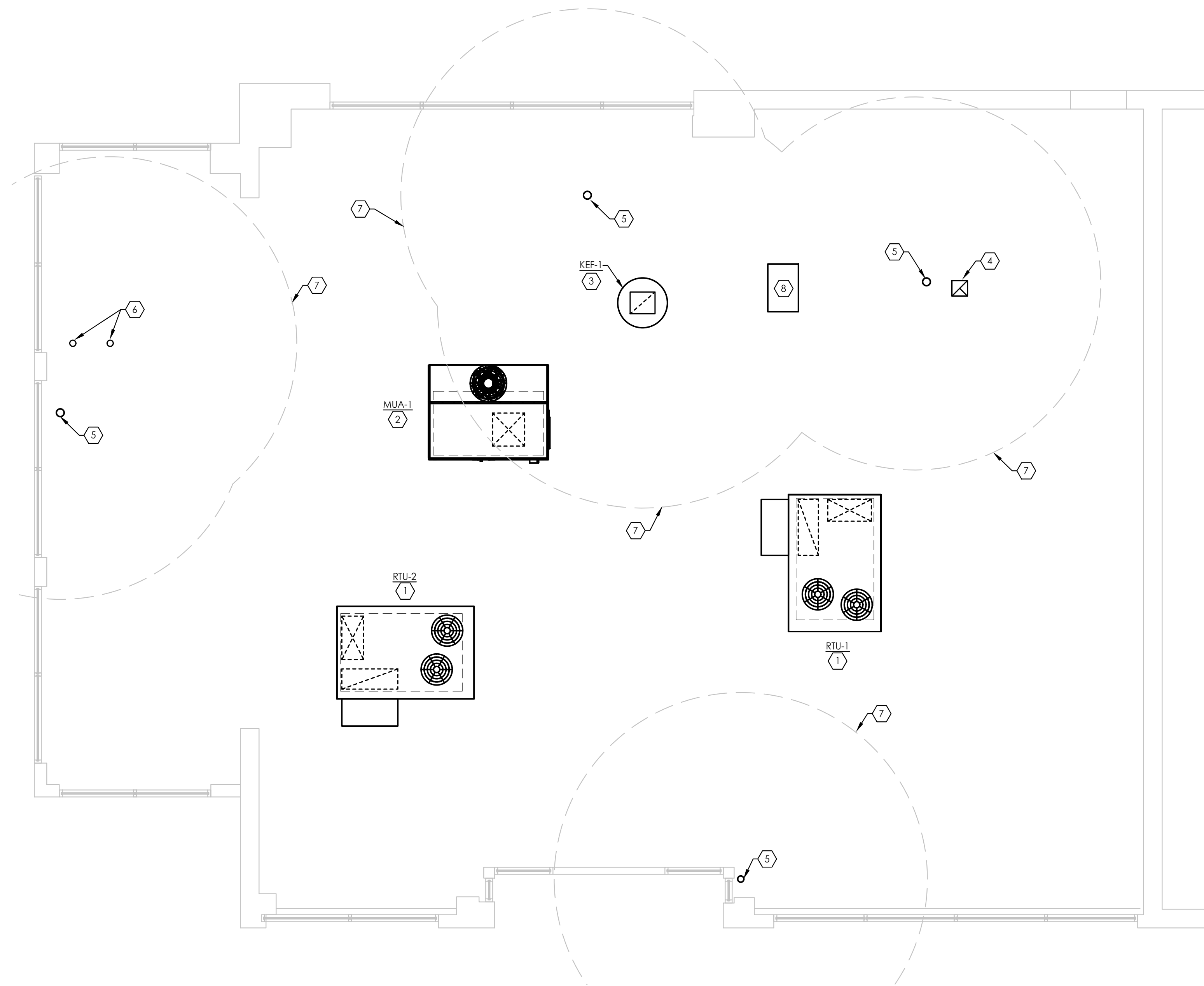
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MECHANICAL PLAN

SHEET:  
**M101**



**GENERAL NOTES:**

- A. DO NOT PENETRATE KITCHEN EXHAUST HOODS OR DUCTWORK WITH ANY TYPE OF FASTENING ASSEMBLY (I.E. SCREWS, RIVETS).
- B. IF NOT PAINTED, ALL DUCTWORK SHALL HAVE A GASKET SEAL.
- C. EXPOSED DUCTWORK IN THE DINING AREA SHALL BE MADE OF ELECTRO-GALVANIZED STEEL (PAINTLOCK). SEE MECHANICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

**CODED NOTES:** (#)

1. INSTALL ROOFTOP UNIT ON MANUFACTURERS ROOF CURB. CONTRACTOR SHALL CUT, PATCH, FLASH, AND AND COUNTER FLASH AROUND ROOF CURB TO MAINTAIN ANY APPLICABLE ROOF WARRANTY.
2. INSTALL MAKE-UP AIR UNIT ON MANUFACTURERS ROOF CURB. CONTRACTOR SHALL CUT, PATCH, FLASH, AND AND COUNTER FLASH AROUND ROOF CURB TO MAINTAIN ANY APPLICABLE ROOF WARRANTY.
3. INSTALL HOOD EXHAUST FAN ON MANUFACTURERS ROOF CURB. ENSURE LOCATION IS A MINIMUM OF 10' - 0" FROM ANY OUTSIDE AIR INTAKES. CONTRACTOR SHALL CUT, PATCH, FLASH, AND AND COUNTER FLASH AROUND ROOF CURB TO MAINTAIN ANY APPLICABLE ROOF WARRANTY.
4. INSTALL 10"x10" EXHAUST DUCT WITH GOOSENECK AND BIRDSCREEN. ENSURE LOCATION IS A MINIMUM OF 10' - 0" FROM ANY OUTSIDE AIR INTAKES. CONTRACTOR SHALL CUT, PATCH, FLASH, AND AND COUNTER FLASH AROUND ROOF PENETRATION TO MAINTAIN ANY APPLICABLE ROOF WARRANTY.
5. 4" VENT THROUGH ROOF. CONTRACTOR SHALL ENSURE LOCATION IS A MINIMUM OF 10' - 0" FROM ANY OUTSIDE AIR INTAKES.
6. COMBINATION AIR INTAKE AND FLUE EXHAUST FOR WATER HEATER. INSTALL PER MANUFACTURERS RECOMMENDATIONS. CONTRACTOR SHALL ENSURE LOCATION IS A MINIMUM OF 10' - 0" FROM ANY OUTSIDE AIR INTAKES.
7. ENSURE TO MAINTAIN 10'-0" CLEARANCE TO OUTSIDE AIR INTAKES.
8. INSTALL WALK-IN COOLER CONDENSER ON ROOF PER MANUFACTURER'S RECOMMENDATIONS.



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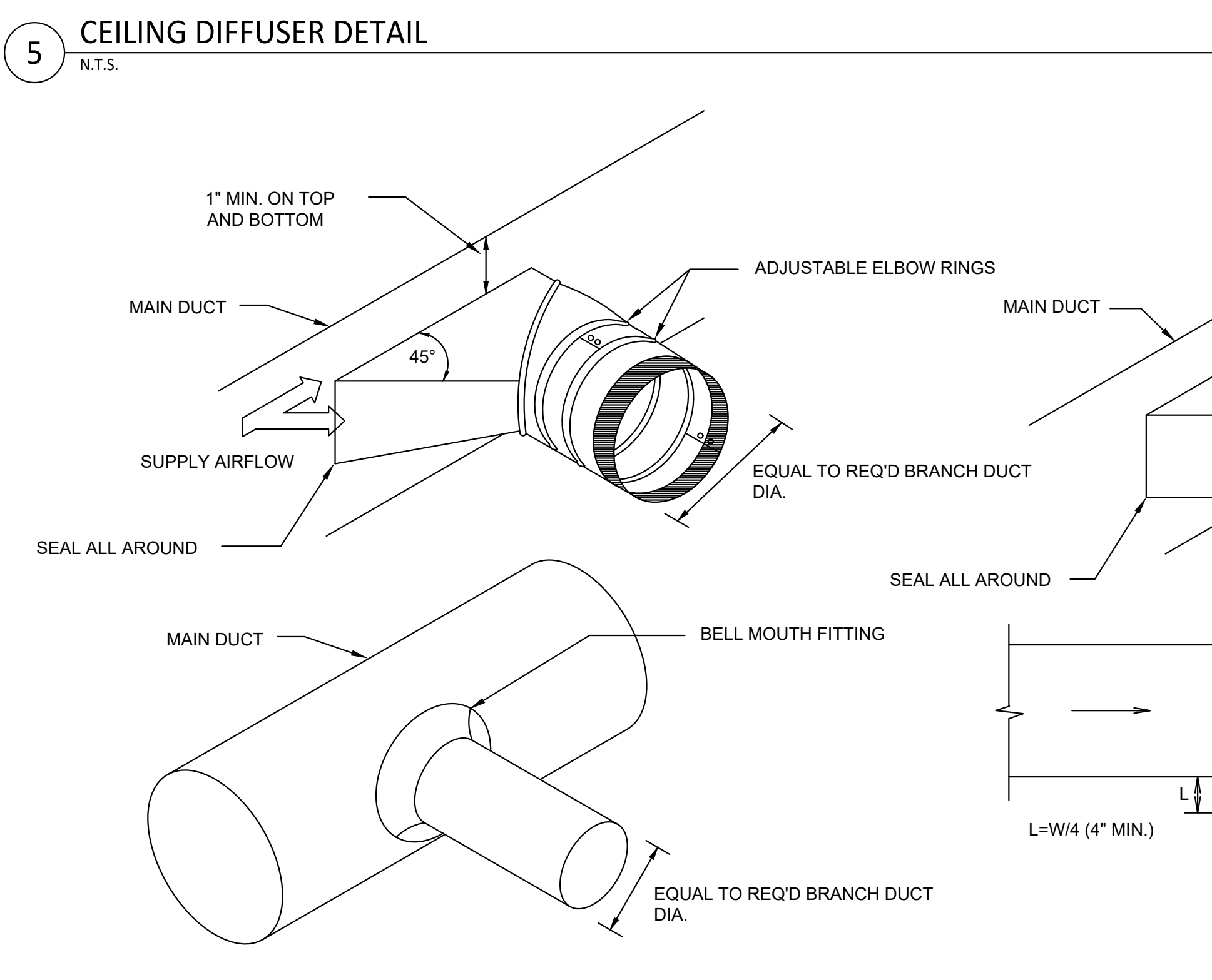
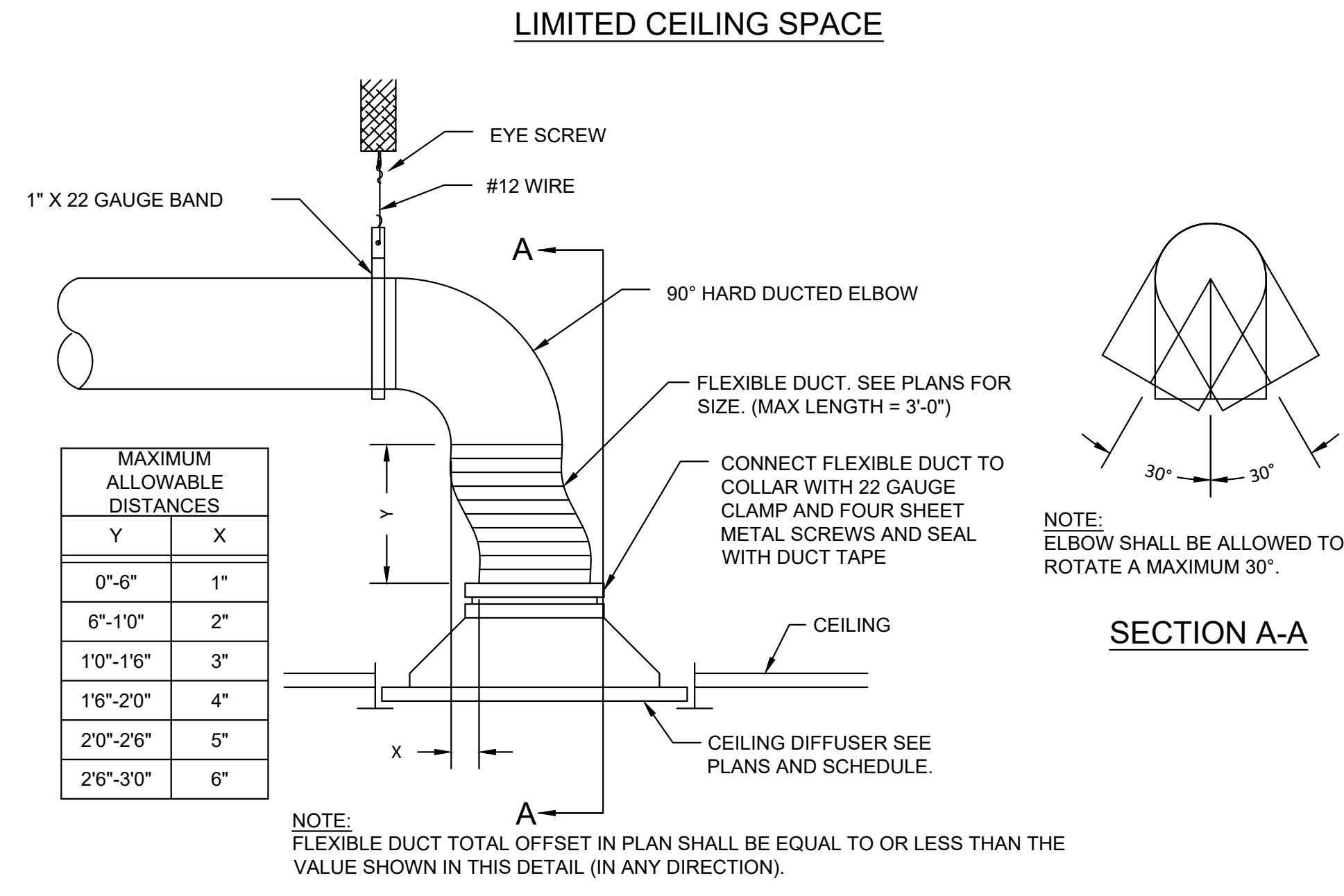
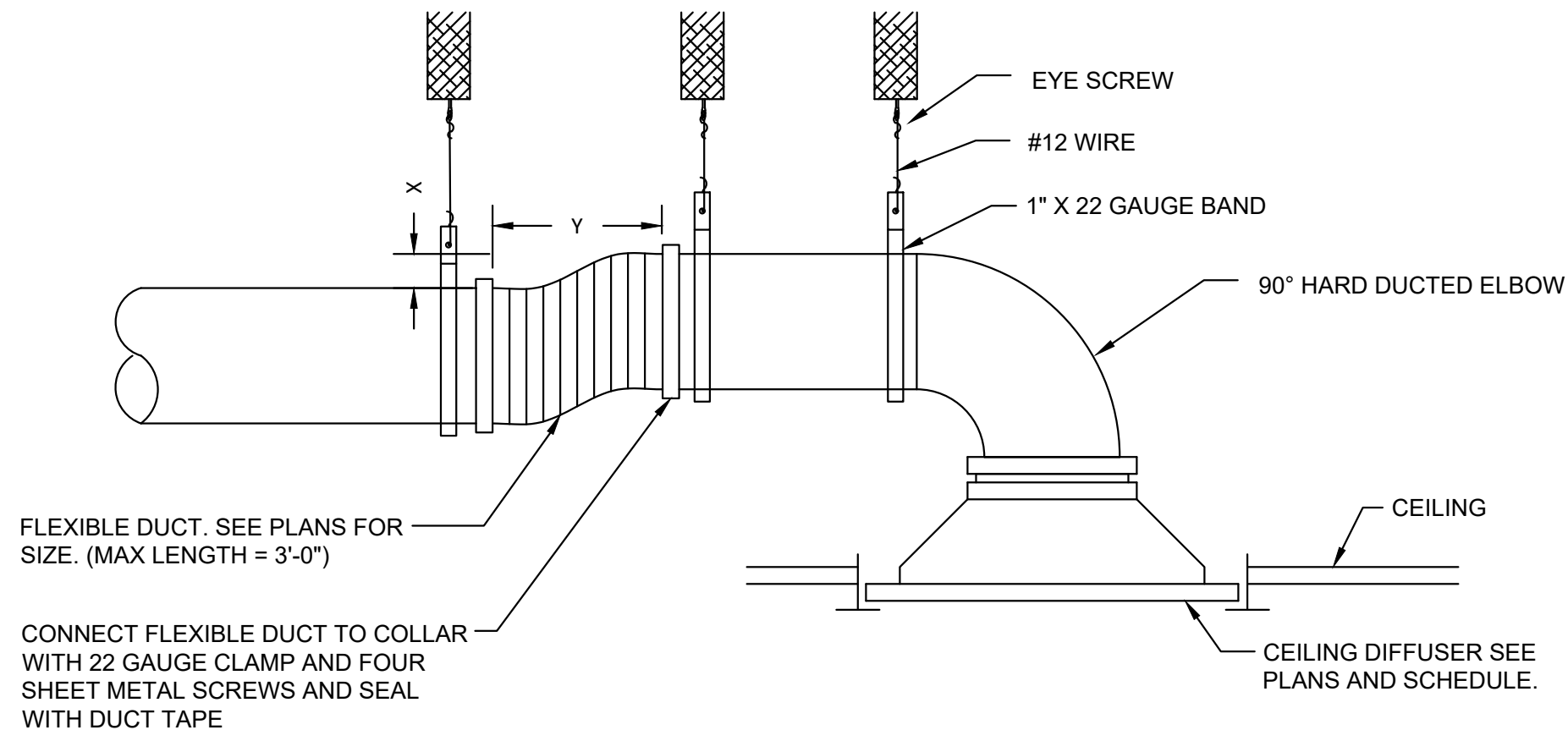
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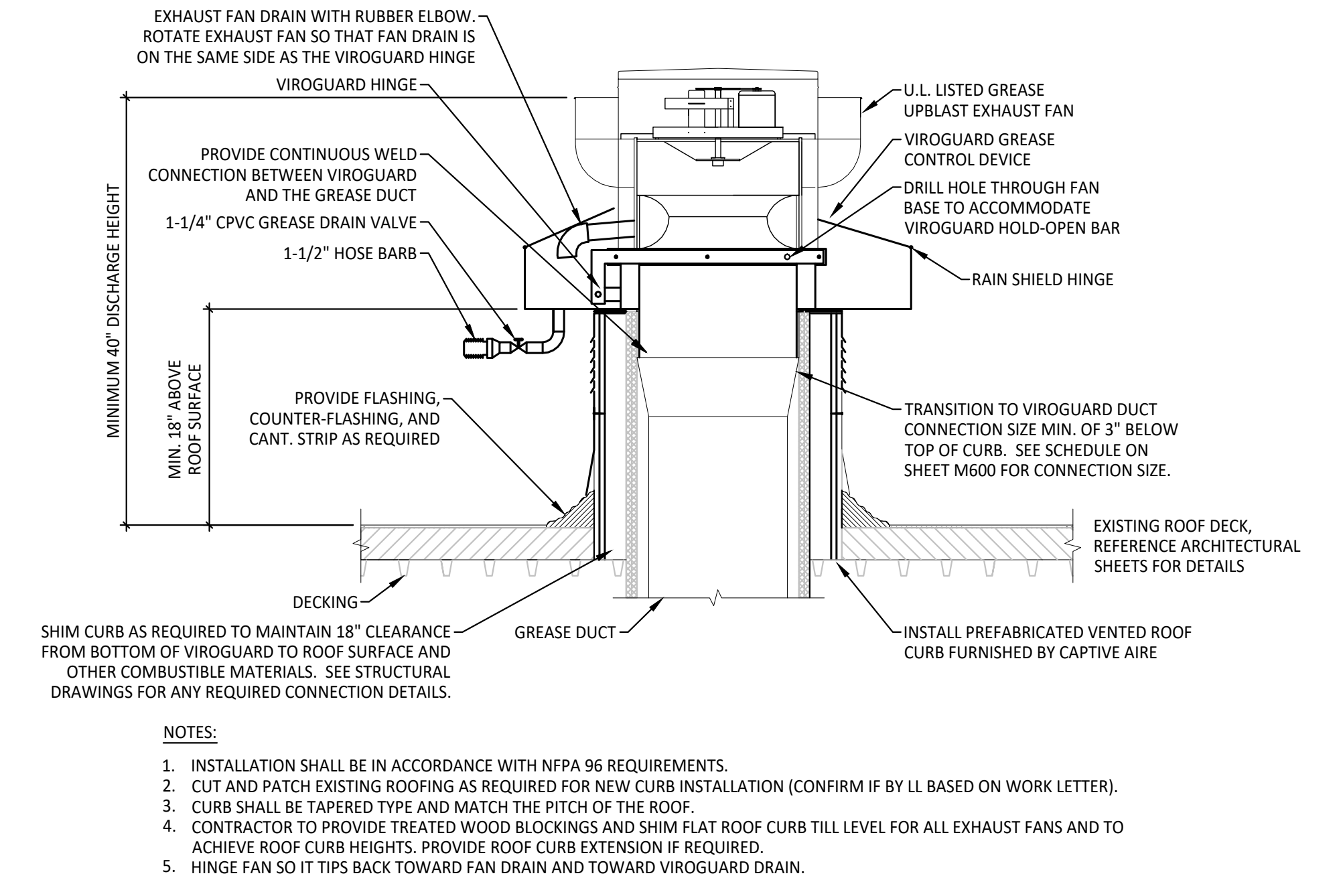
MECHANICAL ROOF PLAN

SHEET:

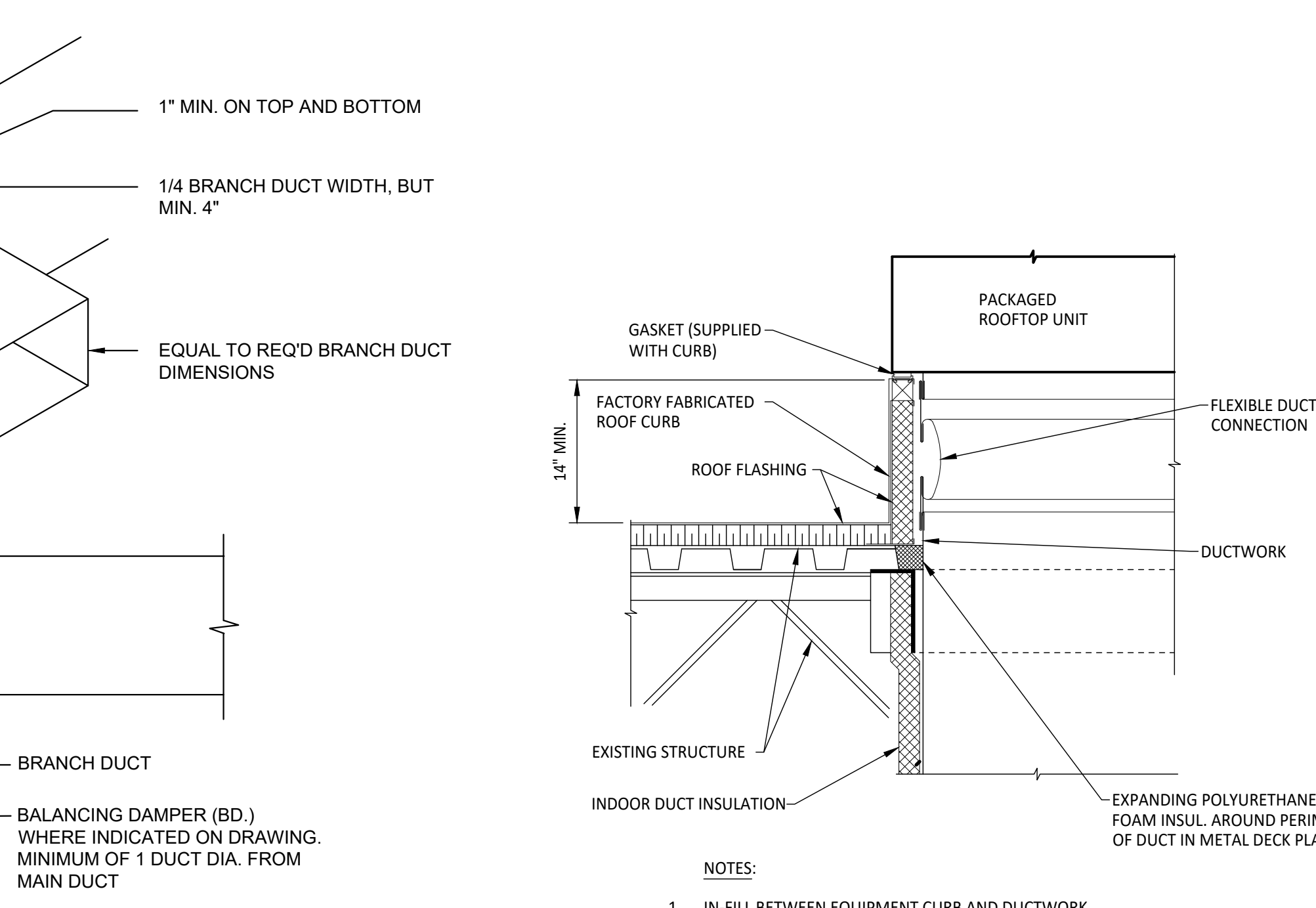
**M201**



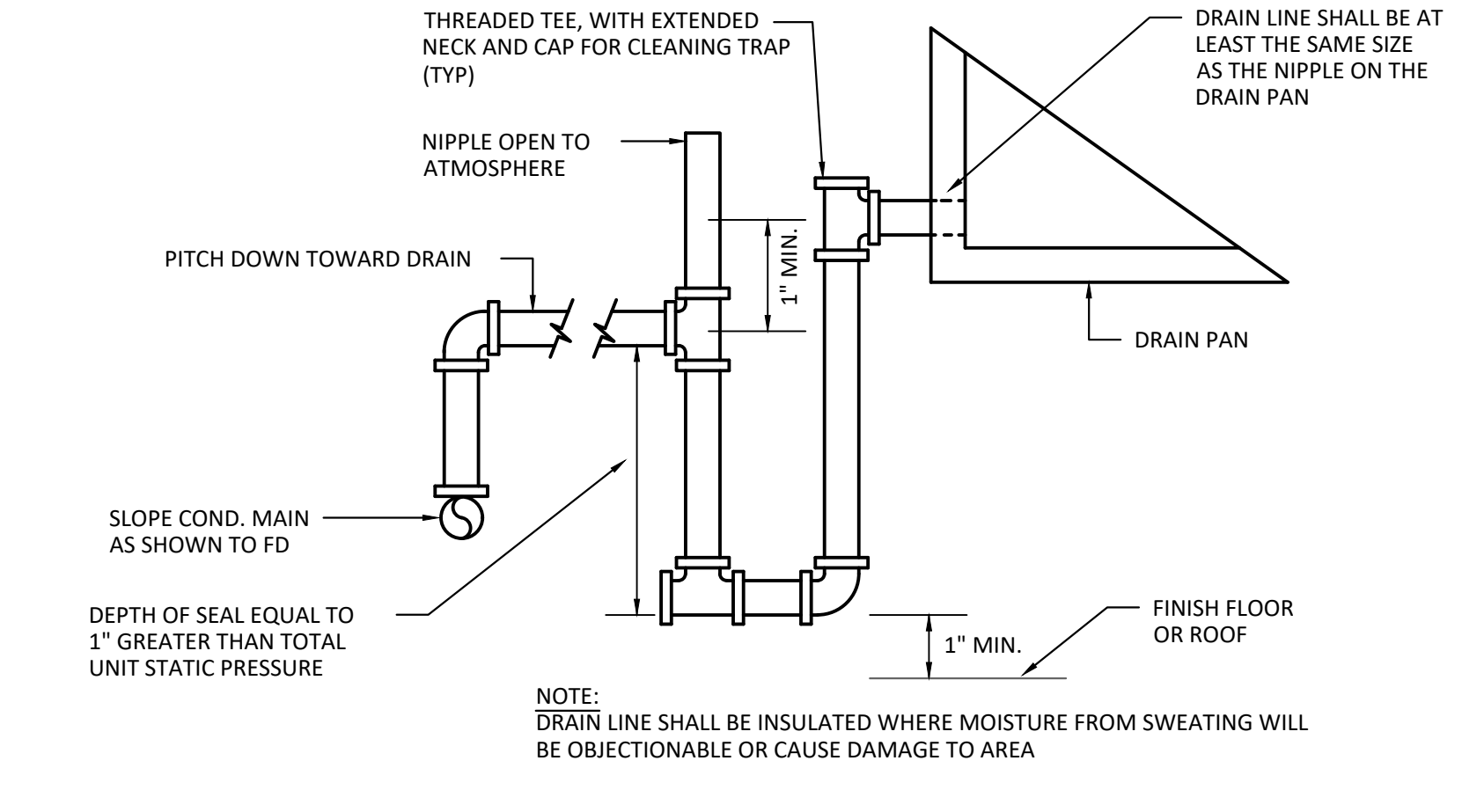
3 DUCT BRANCH DETAIL  
N.T.S.



4 GREASE EXHAUST FAN DETAIL  
N.T.S.



2 PACKAGED ROOFTOP UNIT DETAIL  
N.T.S.



1 CONDENSATE DRAIN DETAIL  
N.T.S.

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ROOFTOP AIR HANDLING UNIT SCHEDULE																				
OUTSIDE AIR CONDITIONS - SUMMER DB/WB: 86.0/73.0°F, WINTER DB: 8.0°F.																				
UNIT TAG	MANUF.	MODEL	TONS	AIR FLOW				HEATING (MBH)				COOLING (MBH)			COOLING DESIGN		ELECTRIC		WEIGHT (LBS)	NOTES
				CFM	OA MIN	ESP.	MOTOR HP	INPUT	OUTPUT	STAGES	AFUE %	TOTAL	SENS.	IEER	AMBIENT (95°F)	MCA/MOCP	VOLT			
RTU-1	CARRIER	48FEEN09	8.5	3,400	570	1.0	3	180/120	148/98	2	82	105.2	80.0	15.0	80db/67wb	42/50	208/3/60	1,199	1,2,3	
RTU-2	CARRIER	48FEEN09	8.5	3,400	680	1.0	3	180/120	148/98	2	82	105.2	80.0	15.0	80db/67wb	42/50	208/3/60	1,199	1,2,3	

NOTES:  
1. PROVIDE WITH 14" CURB. FIELD VERIFY EXACT REQUIREMENTS.  
2. INCLUDE WITH ENTHALPY CONTROLLED 100% MODULATING ECONOMIZER, HUMIDIFIER, POWERED EXHAUST, SMOKE DETECTOR IN RETURN AIR DUCT.  
3. PROVIDE WITH HONEYWELL VISIONPRO 8000 TOUCHSCREEN PROGRAMMABLE THERMOSTAT, MODEL TH8320. INTERLOCK WITH REMOTE TEMPERATURE SENSOR.

THIS EQUIPMENT HAS BEEN SELECTED AND APPROVED BY CAPTIVEAIRE. ALL INFORMATION PERTINENT TO THIS UNIT SHALL BE THE SOLE RESPONSIBILITY OF CAPTIVEAIRE.

MAKEUP AIR UNIT SCHEDULE																		
UNIT TAG	MODEL	TONS	AIR FLOW				HEATING (MBH)			COOLING (MBH)			COOLING DESIGN		ELECTRICAL DATA		WEIGHT (LBS)	NOTES
			CFM	OA MIN	ESP.	MOTOR HP	INPUT	OUTPUT	AFUE %	TOTAL	SENS.	IEER	AMBIENT (95°F)	MCA/MOCP	VOLT			
MUA-1	EARTU-1.200-15-5T-MPU	5	1,694	1,694	0.5	3	164.77	133.47	81	56.1	39.8	17.9	80db/67wb	32.6/40	208/3/60	1,215	1	

NOTES: 1. REFER TO KES AND CAPTIVEAIRE DRAWINGS FOR ADDITIONAL INFORMATION.

THIS EQUIPMENT HAS BEEN SELECTED AND APPROVED BY CAPTIVEAIRE. ALL INFORMATION PERTINENT TO THESE UNITS SHALL BE THE SOLE RESPONSIBILITY OF CAPTIVEAIRE.

KITCHEN HOOD SCHEDULE									
BASED ON CAPTIVEAIRE U.N.O.									
TAG	MODEL	HOOD LENGTH	MAX. COOKING TEMP.	TOTAL EXHAUST CFM	QTY.	LIGHTS TYPE	MISC.		COMMENTS
							FIRE SUPP. SYSTEM	HANGING WEIGHT (LBS.)	
H-1	6030 ND-2-ACSP-F	10' - 7"	600°	2117	6	RECESSED ROUND	YES	1132	1

NOTES: 1. REFER TO KES AND CAPTIVEAIRE DRAWINGS FOR ACCESSORY INFORMATION.

EXHAUST FAN SCHEDULE												
BASED ON GREENHECK U.N.O.												
UNIT DATA				PERFORMANCE DATA					MOTOR DATA			
TAG	MODEL	FUNCTION	FAN TYPE	CFM	ESP	DAMPER	BELT OR DIRECT	SONES RATING	HP	VOLT	PH	COMMENTS
KEF-1	DU85HFA	HOOD EXHAUST	UPBLAST	2400	1	--	BELT	17.3	1.00	115	1	1,2
EF-2	SP-A290	RESTROOM EXHAUST	CEILING	125	0.3	BDD	DIRECT	5.3	0.03	120	1	3
EF-3	SP-A290	RESTROOM EXHAUST	CEILING	125	0.3	BDD	DIRECT	5.3	0.03	120	1	3

NOTES: 1. FAN SHALL BE INTERLOCKED WITH HOOD CONTROLS. REFER TO KES AND CAPTIVEAIRE DRAWINGS FOR ADDITIONAL INFORMATION.  
2. PROVIDE FAN WITH ENVIROMATIC VIROGUARD HOOD EXHAUST FAN ROOFTOP CONTAINMENT SYSTEM.  
3. FAN SHALL OPERATE ON RESTROOM OCCUPANCY SENSOR. FAN SHALL TURN OFF 1 MINUTE AFTER RESTROOM IS UNOCCUPIED.

GRILLES, REGISTERS, AND DIFFUSERS SCHEDULE									
BASED ON TITUS U.N.O.									
UNIT DATA			PERFORMANCE DATA						
TAG	FUNCTION	MODEL	FACE SIZE	FRAME TYPE	MATERIAL	FINISH	BALANCE DAMPER	MAX N.C.	COMMENTS
D1	SUPPLY	PAS	24" X 24"	LAY-IN	STEEL	WHITE	-	25	1,2
D2	SUPPLY	OMNI	12" x 12"	SURFACE	STEEL	WHITE	-	25	1,4
R1	SUPPLY	S300FS	20" x 6"	DUCT	ALUMINUM	WHITE	AIR SCOOP	25	DUCT SIZE 18" x 6". NOTE 3
L1	SUPPLY	FL-20-22	48" x 4.75"	SURFACE	ALUMINUM	WHITE	-	25	1 SLOT, 2" SLOT WIDTH
G1	RETURN	350RL	24" x 24"	LAY-IN	STEEL	WHITE	-	25	

NOTES: 1. SUPPLY DIFFUSERS TO BE INSULATED VIA FACTORY SYSTEM. 2. WITH NO INTERNAL DEFLECTOR. 3. COORDINATE PAINT COLOR (PT-106) WITH ARCHITECTURAL SHEETS. 4. INCLUDE WITH BALANCING DAMPER IN NECK.

VENTILATION SCHEDULE												
BASED ON IMC 2015 AND ASHRAE 62.1 - 2010												
SPACE DATA				PEOPLE VENTILATION			AREA VENTILATION			TOTAL		
SPACE	ROOM	CATEGORY	RTU	PEOPLE	CFM	AREA	CFM	CFM	CFM	RTU		
DINING	100-103	DINING	RTU-2	30	7.5	225	1088	0.18	196	421		
HALL	109	CORRIDOR	RTU-2	0	0	0	138	0.06	8	8		
RESTROOM	110-111	RESTROOM	RTU-2	0	0	0	102	0	0	0		
									429	0.8	536	680

SPACE NAME	ROOM NUMBER	CATEGORY	RTU SERVED BY	OCC.	CFM PER PERSON	CFM TOTAL (PEOPLE)	AREA (SF)	CFM REQUIRED PER SF	CFM TOTAL (AREA)	TOTAL VENTILATION	RTU-1		
BACK OF HOUSE	108	KITCHEN	RTU-1	3	7.5	22.5	686	0.12	82	105			
OFFICE	107	OFFICE	RTU-1	1	5	5	53	0.06	3	8			
KITCHEN	104-106	KITCHEN	RTU-1	9	7.5	67.5	475	0.12	57	125			
										238	0.8	297	570

AIR BALANCE SCHEDULE				
COMPONENT	SUPPLY CFM	RETURN CFM	OUTDOOR AIR CFM	EXHAUST CFM
RTU-1	3400	2830	570	-
RTU-2	3400	2720	680	-
MAU-1	1694	-	1694	-
KEF-1	-	-	-	2400
EF-2	-	-	-	125
EF-3	-	-	-	125
<b>TOTAL</b>	<b>8494</b>	<b>5550</b>	<b>2944</b>	<b>2650</b>

**294 CFM**

AIR CURTAIN SCHEDULE									
UNIT TAG	MANUF.	MODEL	NOZZLE WIDTH	SERVICE	CFM	MOTOR HP	VOLT	WEIGHT (LBS)	NOTES
AC-1	BERNER	AE08-F-1036E	36"	ENTRANCE	951	(1) 1/5	208/1/60	57	1,2
AC-2	BERNER	AE08-F-1072E	72"	ENTRANCE	2,149	(1) 1/5	208/1/60	100	1,2

NOTES:  
1. PROVIDE WITH INTEGRAL DISCONNECT SWITCH AND WALL MOUNTING BRACKET.  
2. FINISH TO MATCH STOREFRONT.

**annex**  
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589 W. Nationwide Blvd., Ste. B  
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**CAVA**

CAVA #129 - DANBURY, CT  
44 BACKUS AVE  
DANBURY, CT 06810  
FOR CAVA  
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

PROJECT NUMBER:  
CAV129

ISSUE	DATE
PERMIT SET	02.11.25
REVISION 1	04.15.25
CONSTRUCTION SET	05.02.25

MECHANICAL SCHEDULES

SHEET:

**M501**





FOR QUESTIONS, CALL THE  
 Maryland Mechanical  
 REGION 76  
 PHONE: (800) 988 - 0881  
 EMAIL: reg76@captiveaire.com

**PATENT NUMBERS**  
 AC-PSP (UNITED STATES) - US PATENT 7963830 B2.  
 AC-PSP WALL (CANADA) - CA PATENT 2820509.  
 AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

**HOOD INFORMATION - JOB#7084742**

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)				MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG			
										WIDTH	LENG	HEIGHT	DIA				CFM	VEL	SP	END TO
1		6030 ND-2-AC-PSP-F	CAPTIVEAIRE	10' 7"	600 DEG	I	HEAVY	200	2117		4"	14"	2117	1980	-0.897"	1694	856	430 SS WHERE EXPOSED	ALONE	ALONE

**HOOD INFORMATION**

HOOD NO	TAG	FILTER(S)				LIGHT(S)				UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT		
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM	SIZE			ELECTRICAL	SWITCHES
1		CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	6	L55 SERIES E26	NO	LEFT	12"x60"x30"	TANK FS	4.0/4.0	DCV-1111	1 LIGHT 1 FAN	YES	1132 LBS

**HOOD OPTIONS**

HOOD NO	TAG	OPTION
1		FIELD WRAPPER 10.00" HIGH FRONT, LEFT. BACKSPLASH 80.00" HIGH X 140.00" LONG 430 SS VERTICAL. RIGHT END STANDOFF (FINISHED) 1" WIDE 60" LONG INSULATED. INSULATION FOR BACK OF HOOD. LEFT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS. RIGHT WALL AS END PANEL.

**PERFORATED SUPPLY PLENUM(S)**

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1		Front	140"	22"	6"	MUA	10"	28"		564	0.148"
						MUA	10"	28"		564	0.148"
						MUA	10"	28"		564	0.148"
						AC	8"	26"		428	0.098"
						AC	8"	26"		428	0.098"

**GREASE DUCT & CHIMNEY SPECIFICATIONS:**  
 PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE.  
 PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12".  
 DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.  
  
 IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

**HVAC DISTRIBUTION NOTE**  
 HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

**VERIFY CEILING HEIGHT**  
 \_\_\_\_\_' - \_\_\_\_\_"  
  
 HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

**CUSTOMER APPROVAL TO MANUFACTURE:**

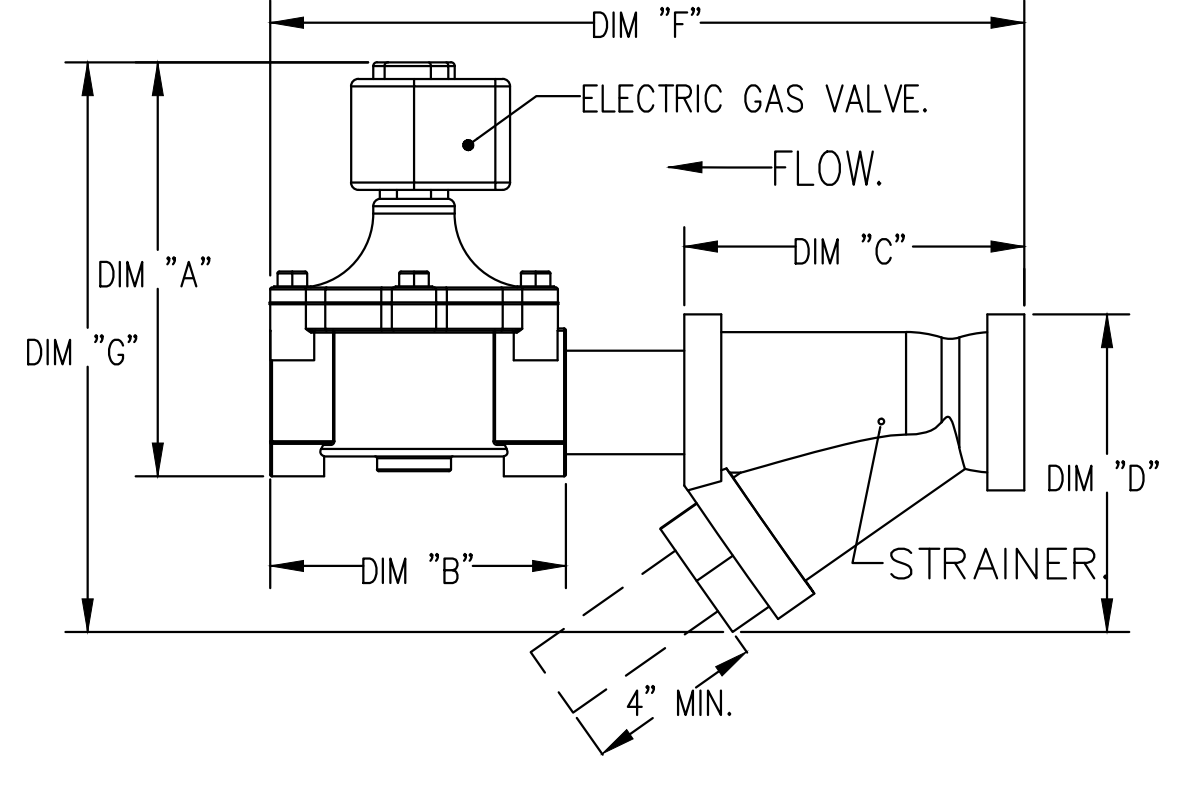
APPROVED AS NOTED	<input type="checkbox"/>
APPROVED WITH NO EXCEPTION TAKEN	<input type="checkbox"/>
REVISE AND RESUBMIT	<input type="checkbox"/>
SIGNATURE _____	
YOUR TITLE _____	DATE _____

GAS VALVE SIZING														GAS VALVE DIMENSIONS				INSTALLATION		PART NUMBERS		
TYPE	SIZE	VOLTAGE	MIN. INLET PRESSURE	MAX. INLET PRESSURE	FLOW AT 1 IN.W.C. DROP NATURAL GAS	FLOW AT 1 IN.W.C. DROP PROPANE	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "G"	MOUNTING ORIENTATION	GAS VALVE PART NUMBER	STRAINER PART NUMBER	GAS VALVE/STRAINER KIT						
ELECTRICAL	2"	120 VAC	0 PSI (0 IN.W.C.)	5 PSI (138 IN.W.C.)	2,940,500 BTU/HR	1,908,048 BTU/HR	7-5/8"	6-3/8"	7-1/4"	7-13-16"	15-5/8"	13-15/16"	HORIZONTAL	8214280	4417K68	(SC)EGVA2						

**ELECTRIC GAS VALVES ONLY:**  
 3/4"-2" 120VAC GAS VALVES CAN BE MOUNTED WITH THE SOLENOID IN ANY POSITION ABOVE HORIZONTAL.  
 2 1/2"-3" 120VAC GAS VALVES MUST BE MOUNTED WITH THE SOLENOID VERTICAL AND UPRIGHT.  
 24VDC GAS VALVES MUST BE MOUNTED WITH THE SOLENOID VERTICAL AND UPRIGHT.

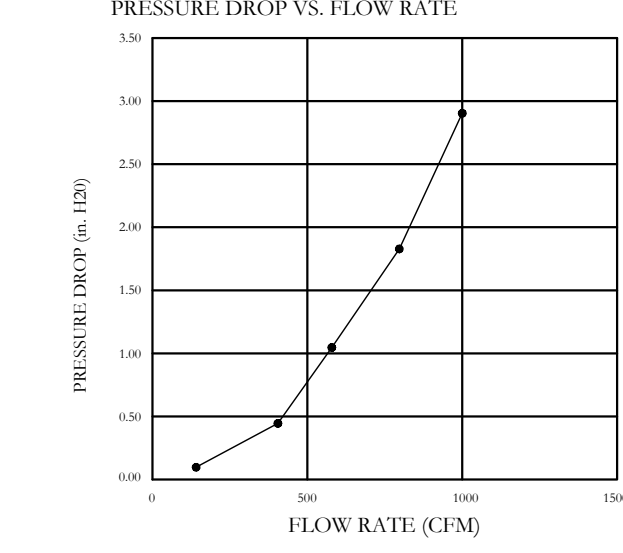
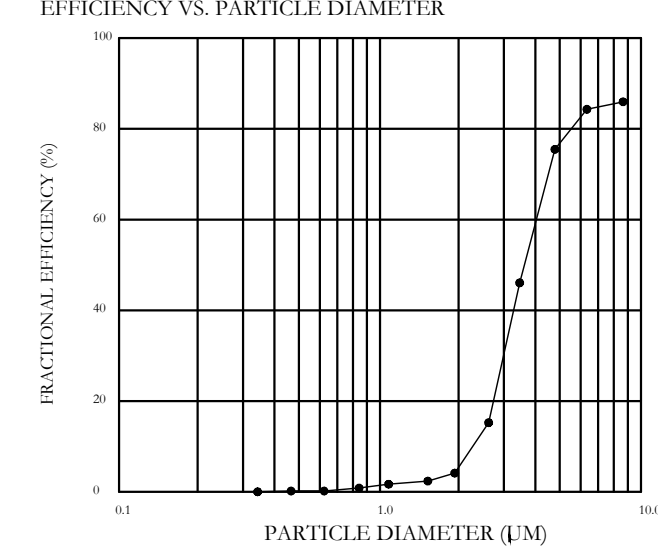
**ALL GAS VALVES/STRAINERS**  
 PROPER CLEARANCE MUST BE PROVIDED IN ORDER TO SERVICE THE STRAINERS A MINIMUM OF 4" CLEARANCE DISTANCE MUST BE PROVIDED AT THE BASE OF THE STRAINER CUSTOMER MUST VERIFY BTU CONSUMPTION AS WELL AS PRESSURE RATING SPECIFIC GRAVITY OF NATURAL GAS = 0.64, SPECIFIC GRAVITY OF LP = 1.52.

**CALCULATIONS**  
 TO CALCULATE GAS FLOW FOR OTHER THAN 1 IN.W.C. PRESSURE DROP  
 NEW BTU/HR = (BTU/HR AT 1 IN.W.C. PRESSURE DROP) X NEW PRESSURE DROP<sup>0.85</sup>  
 TO CALCULATE GAS FLOW FOR OTHER THAN 0.64 SPECIFIC GRAVITY  
 NEW BTU/HR = (BTU/HR AT 0.64) X (0.64 / NEW SPECIFIC GRAVITY)<sup>0.85</sup>



**SPECIFICATION: CAPTRATE GREASE-STOP SOLO FILTER**

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.  
 FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).  
 UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.  
 GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.  
 THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05. MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.



CAPTIVEAIRE FILTERS ARE BUILT IN COMPLIANCE WITH:  
 NFPA #96.  
 NSF STANDARD #2.  
 UL STANDARD #1046.  
 INT. MECH. CODE (IMC).  
 ULC-S649.



**REVISIONS**

NO.	DESCRIPTION	DATE

**CAPTIVEAIRE**  
 Maryland Mechanical  
 8120 Woodmont Avenue, Suite 720, Bethesda, MD, 20814  
 PHONE: (800) 988 - 0881 FAX: 9192275931 EMAIL: reg76@captiveaire.com

Cava - Danbury, CT  
 4A Backus Avenue,  
 Danbury, CT, 06810

**DATE:** 10/4/2024  
**DWG.#:** 7084742  
**DRAWN BY:** ABS-76  
**SCALE:** NTS  
**MASTER DRAWING**  
  
**SHEET NO.**  
 1

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**CAVA**

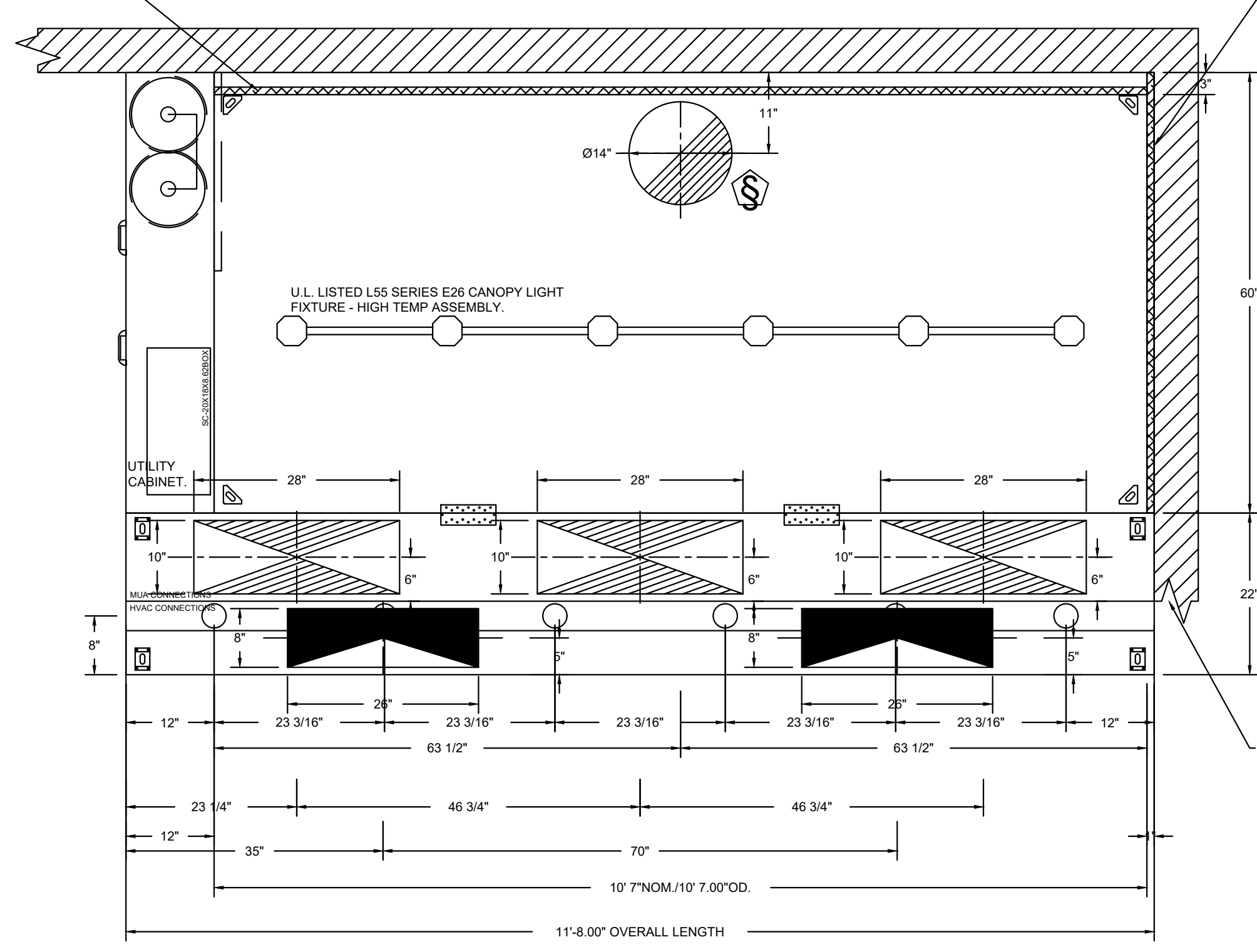
PROJECT NUMBER:  
 CAV129  
  
 ISSUE DATE  
 PERMIT SET 02.11.25  
 REVISION 1 04.15.25  
 CONSTRUCTION SET 05.02.25  
  
 FOR CAVA  
 702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

ISSUE	DATE
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REVISION 1	04.15.25
CONSTRUCTION SET	05.02.25

CAPTIVEAIRE HOOD DRAWINGS FOR REFERENCE ONLY

SHEET:  
**H1.1**

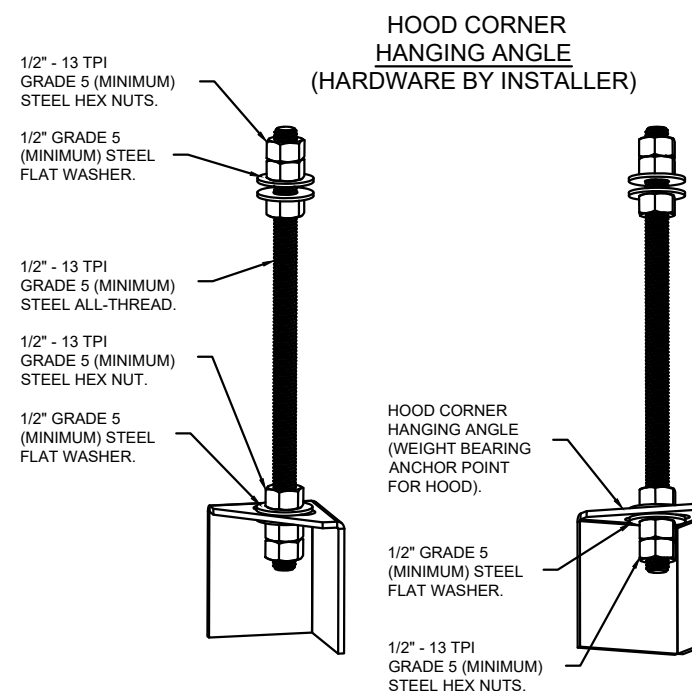
1" LAYER OF INSULATION FACTORY INSTALLED IN INTERNAL BACK STANDOFF MEETS 0 INCH REQUIREMENTS FOR CLEARANCE TO COMBUSTIBLE SURFACES.



PLAN VIEW - HOOD #1  
10' 7.00\"/>

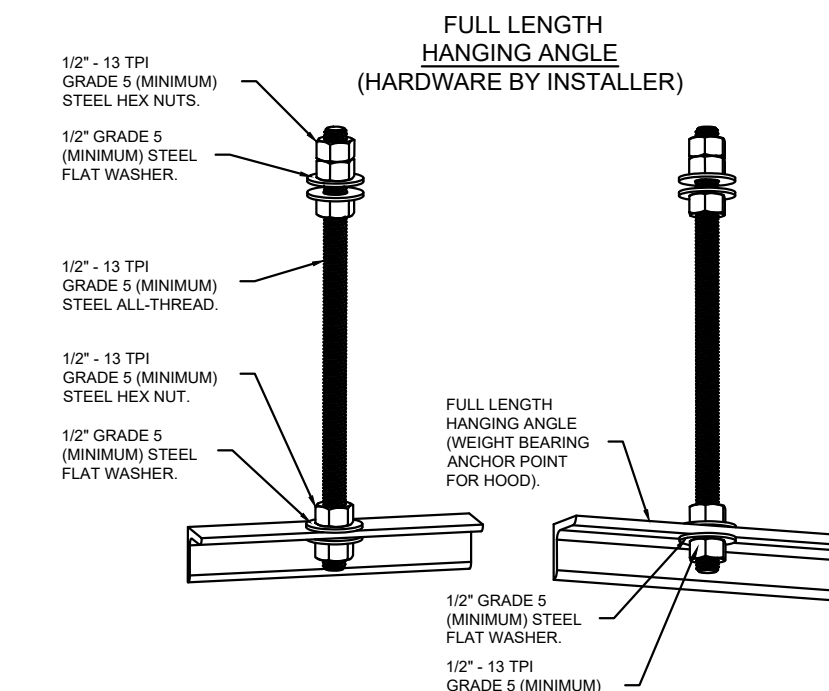
1" LAYER OF INSULATION FACTORY INSTALLED IN 1.00\"/>

INSTALLER MUST CONFIRM HOOD IS INSTALLED SUCH THAT THE SPECIFIED WALL, ACTING AS AN END PANEL, IS MATED TIGHT TO THE CORRECT END OF HOOD TO ACHIEVE A REDUCED MINIMUM EXHAUST CFM LISTING. NON-COMPLIANCE WILL NULLIFY THE ETL LISTING, VOID THE MANUFACTURER'S WARRANTY, AND HOLD THE CONTRACTOR LIABLE FOR ANY AND ALL LOSSES, COSTS, AND EXPENSES RELATED TO THE NON-COMFORMANCE OF THE MANUFACTURER'S SPECIFIED INSTRUCTION. THE WALL ACTING AS AN END PANEL MUST EXTEND NO LESS THAN 20\"/>



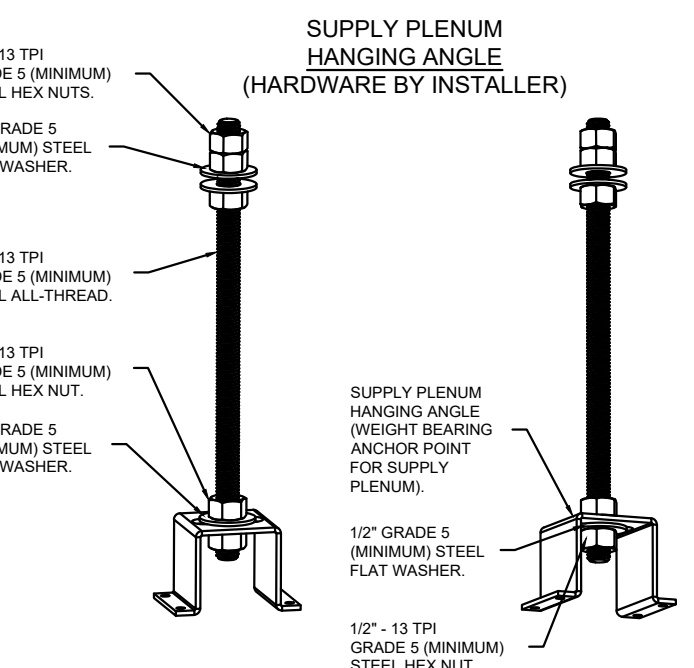
ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2\"/>



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2\"/>



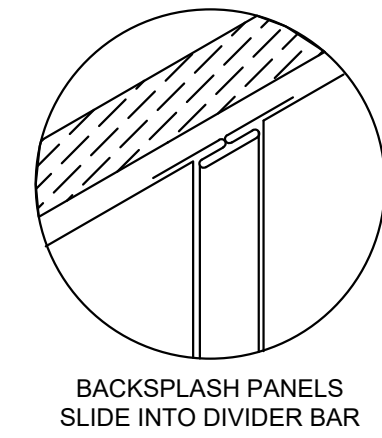
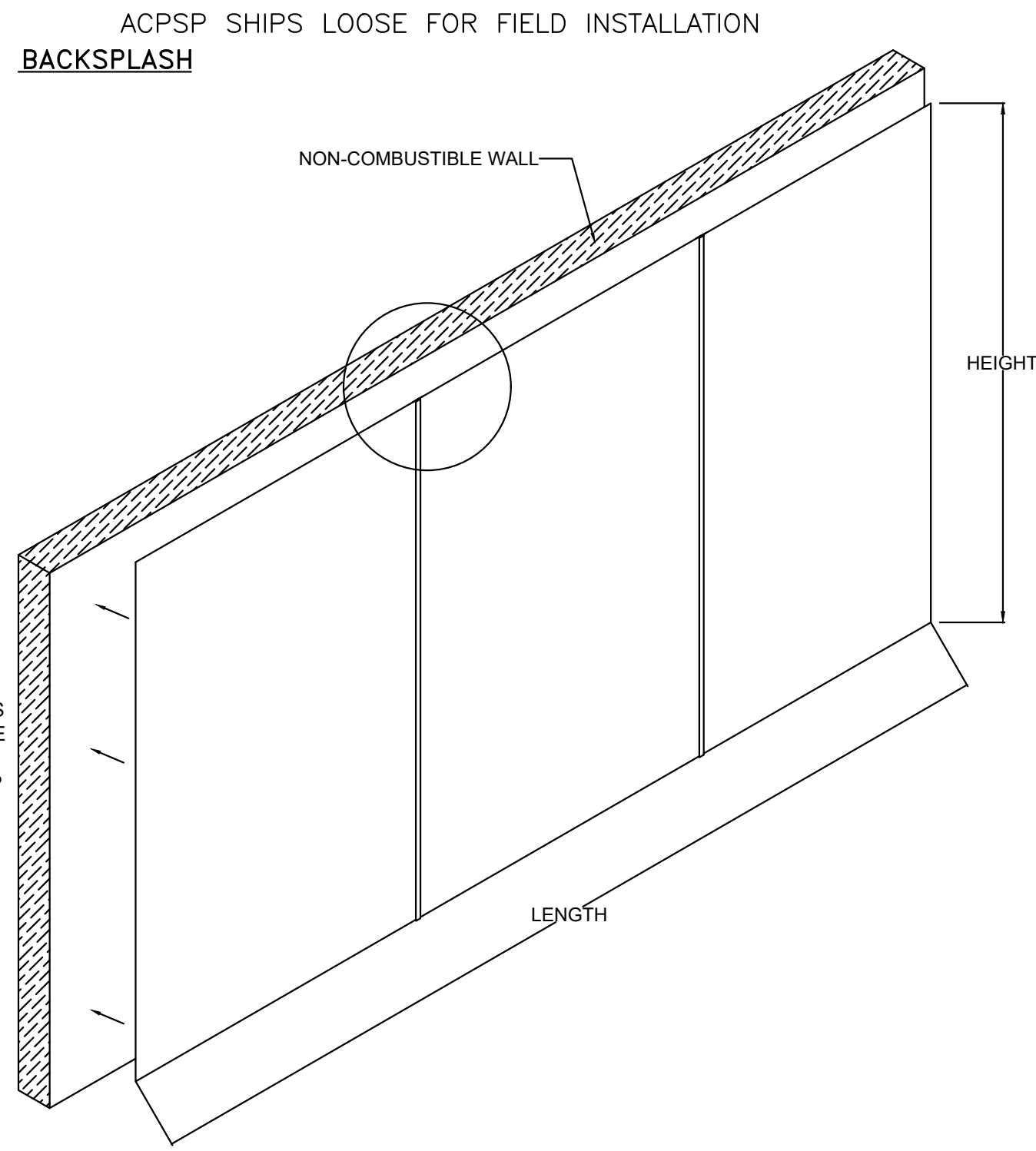
ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2\"/>

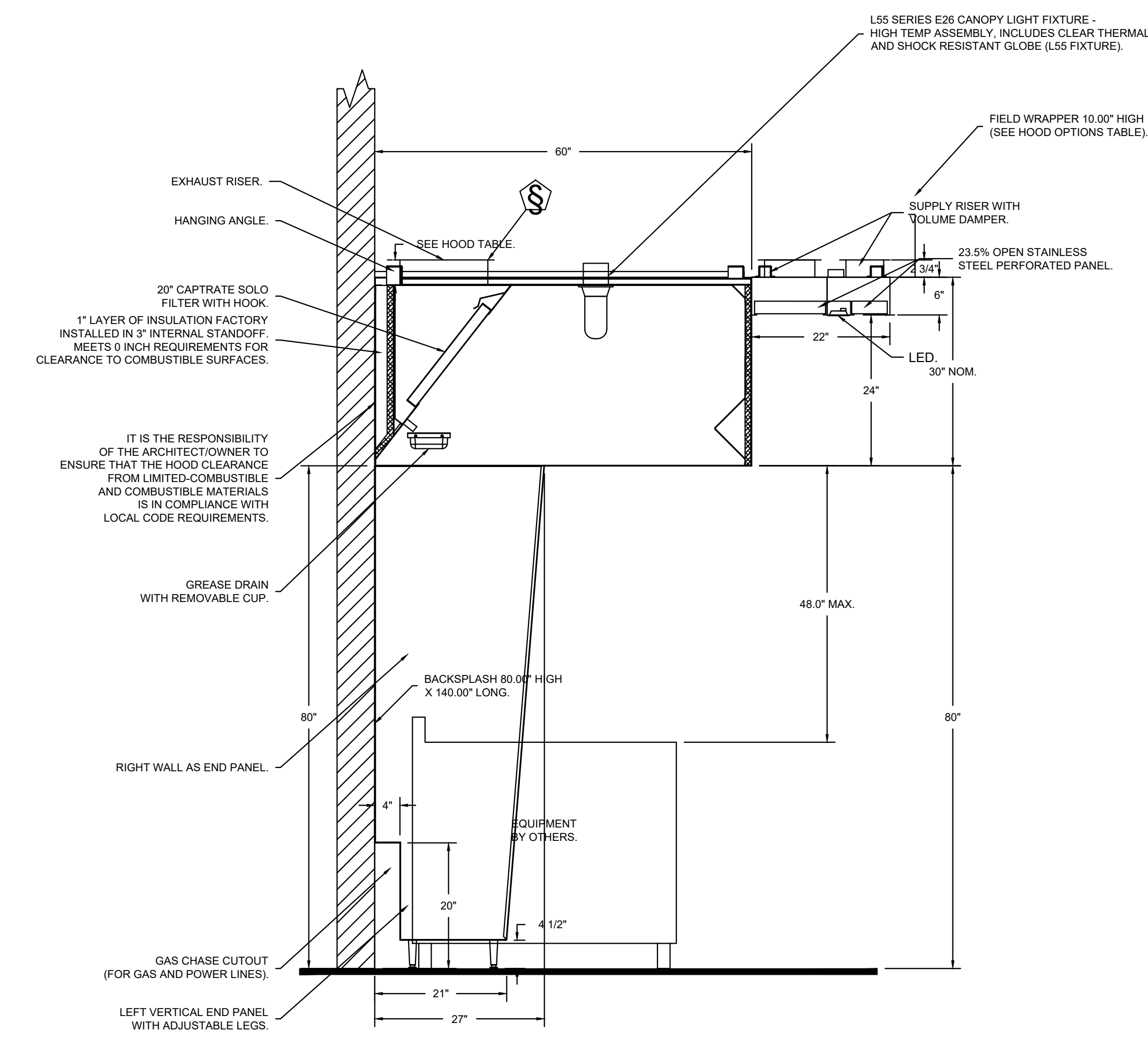
CLEARANCE TO COMBUSTIBLES

HOODS #	SURFACE	*CLEARANCE
1	TOP	18"
	FRONT	0"
	BACK	0"
	LEFT	0"
	RIGHT	0"

- 0\"/>



- BACKSPASH IS NOT INSULATED AND IS UNSUITABLE FOR INSTALL AGAINST COMBUSTIBLE WALLS



SECTION VIEW - MODEL 6030ND-2-ACPSP-F  
HOOD - #1

REVISIONS	
DESCRIPTION	DATE

**CAPTIVE**

Maryland Mechanical  
8120 Woodmont Avenue, Suite 720, Bethesda, MD, 20814 PHONE: (800) 988-0881 FAX: 9192279501 EMAIL: reg76@captivemechanical.com

Cava - Danbury, CT  
4A Backus Avenue,  
Danbury, CT, 06810

DATE: 10/4/2024

DWG.#: 7084742

DRAWN BY: ABS-76

SCALE: NTS

MASTER DRAWING

SHEET NO. 2

CAPTIVE AIR HOOD DRAWINGS FOR REFERENCE ONLY

**annex**  
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tel: 614.481.2292

**CAVA**  
PROJECT NUMBER: CAV129

ISSUE	DATE
PERMIT SET	02.11.25
REVISION 1	04.15.25
CONSTRUCTION SET	05.02.25

CAPTIVE AIR HOOD DRAWINGS FOR REFERENCE ONLY

SHEET: **H1.2**

**FIRE SYSTEM INFORMATION – JOB#7084742**

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	40	37	FIRE CABINET LEFT	LEFT, HOOD 1

**GAS VALVE(S)**

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	2.000	CAPTIVEAIRE SYSTEMS

**FIRE SYSTEM PARTS LIST KEY**

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
		0 - 0 - TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - 12-F28021-32144-OT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO. CLOSE ON TEMP RISE AT 360°F. (A0034310).	1	0
		0 - 0 - 32-00002 QUIK SEAL - 1/2" (UL).	1	0
		0 - 0 - 4429K153 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	2	0
		0 - 0 - 4429K422 1/2" X 1/4" BRASS REDUCING BUSHING.	1	0
		0 - 0 - 79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2" NPT FEMALE CONNECTION, VIEGA.	1	0
		0 - 0 - 79580 1/2" X 1/2" PRO-PRESS TEE X 1/2" NPT FEMALE CONNECTION, VIEGA.	2	0
		0 - 0 - 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5' BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	8	0
		0 - 0 - 9055455PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	6	0
		0 - 0 - 9097200PC PRO PRESS PC611 1/2 PRESS TEE LD.	7	0
		0 - 0 - 98694A 115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - A31484 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES. 1/4" FLARE X 1/4" MPT HALF UNION. USED ON TANK SERVICE PORT.	1	0
		0 - 0 - B1145 3/8" BLACK IRON 90 ELL.	3	0
		0 - 0 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	6	0
		0 - 0 - TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	2	0
		16 - 16 - 79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	8	0
		16 - 16 - OL-F NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE).	8	0
		26 - 26 - QSA-3/8 QUIK SEAL - 3/8" (UL).	8	0
		34 - 34 - A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT, RED COLOR.	1	0

**NOTES**

- FIELD PIPE DROPS AS SHOWN PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVEING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- OL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 7084742  
JOB NAME: CAVA - DANBURY, CT.

SYSTEM SIZE: TANK-SP-2 DESIGN FP: 37. MAXIMUM FP: 40.  
HOOD # 1 10' 7.00" LONG x 60" WIDE x 30" HIGH.  
RISER # 1 SIZE: 14" DIA.  
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

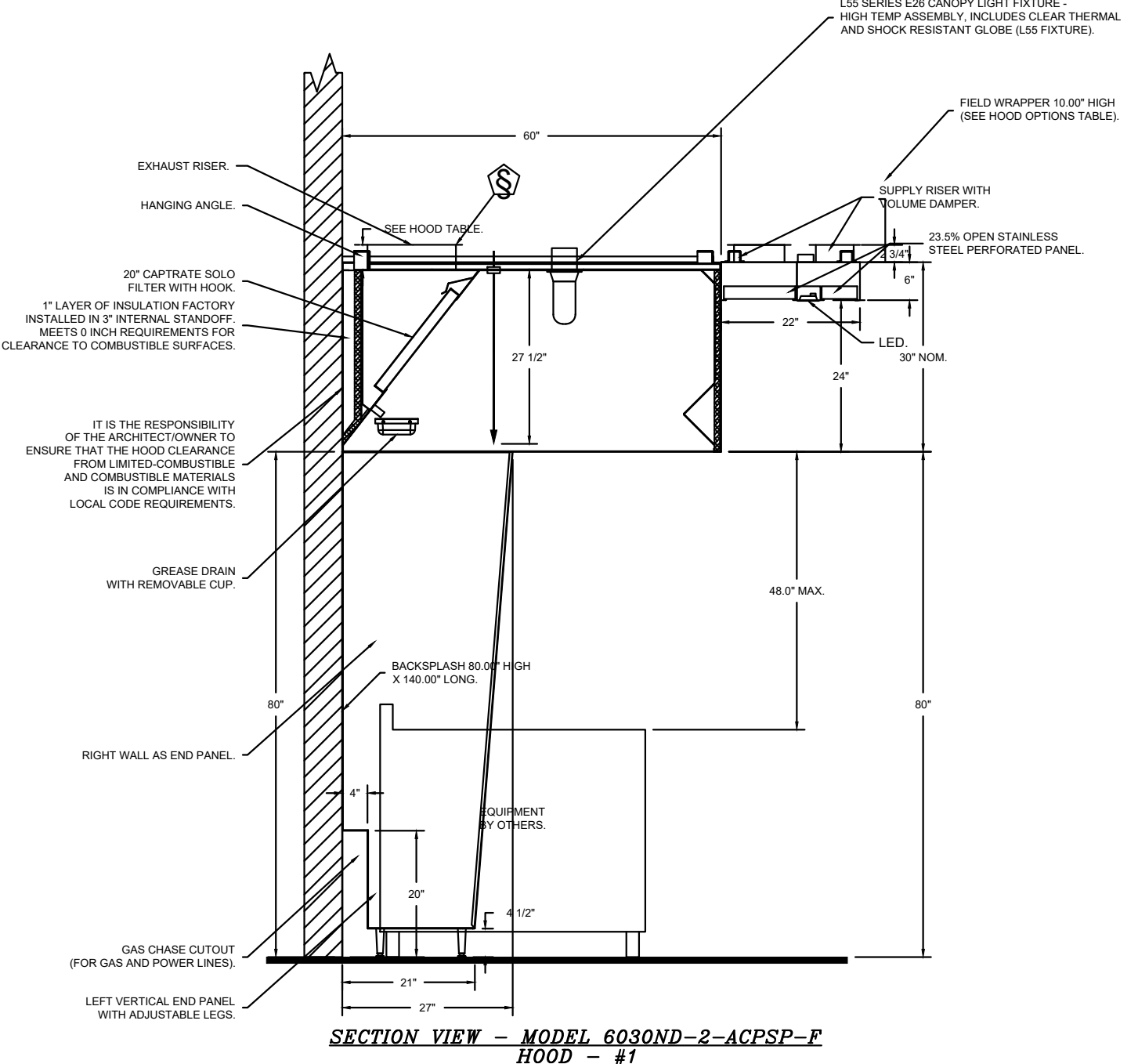
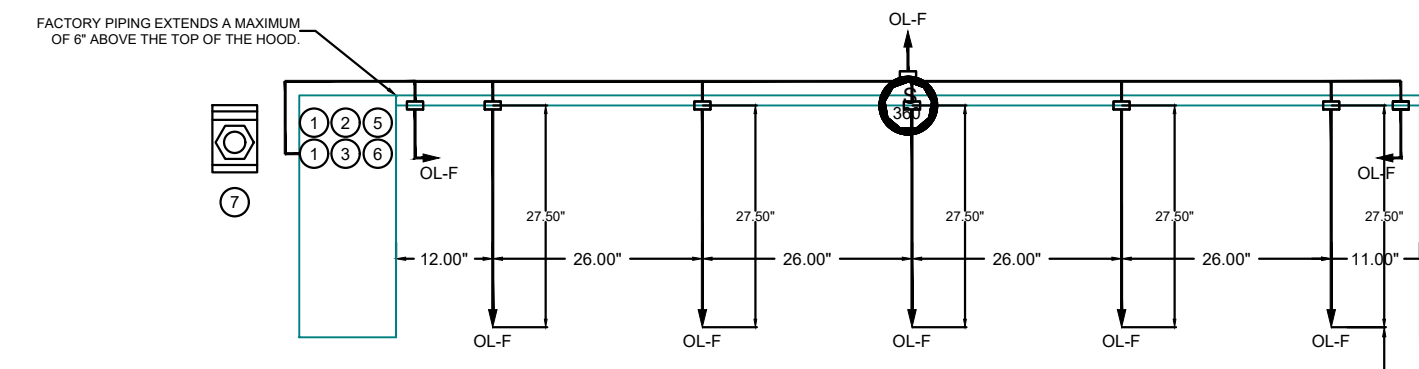
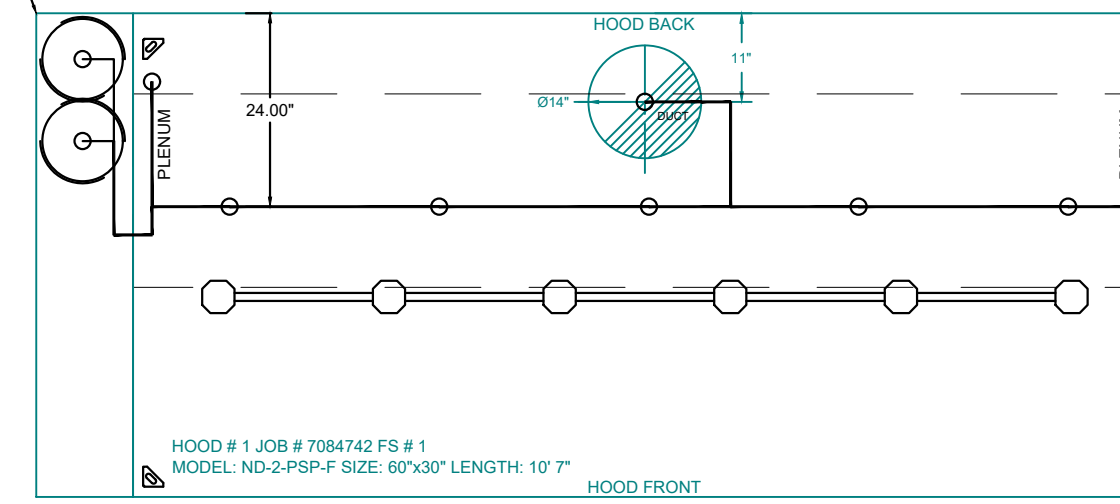
- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

AGENT DISTRIBUTION PIPING LIMITATIONS	
PIPE SECTION	MAX PIPE LENGTH (FT)
MAX SUPPLY LINE TO FIRST OVERLAPPING NOZZLE	42
OVERLAPPING NOZZLE APPLIANCE BRANCH	10
DEDICATED NOZZLE APPLIANCE BRANCH	10

**LEGEND – FIRE CABINET TANK SYSTEM**

- 1 4 GALLON TANK.
- 2 PRIMARY ACTUATOR RELEASE.
- 3 SECONDARY ACTUATOR RELEASE.
- 4 PRESSURE SUPERVISION SWITCH.
- 5 PRIMARY HOSE ASSEMBLY.
- 6 SECONDARY HOSE ASSEMBLY.
- 7 REMOTE MANUAL ACTUATION DEVICE.

SYSTEM REQUIRES A MINIMUM OF 7 FT OF EQUIVALENT PIPE LENGTH BETWEEN TANK AND NEAREST APPLIANCE NOZZLE FOR MOST APPLIANCES. EACH 90 DEGREE ELBOW ADDS 1.3 FT OF EQUIVALENT LENGTH. SEE MANUAL FOR DETAILS.



**REVISIONS**

DESCRIPTION	DATE

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**DATE:** 10/4/2024

**DWG.#:** 7084742

**DRAWN BY:** ABS-76

**SCALE:** NTS

**MASTER DRAWING**

**SHEET NO.**  
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CAVA #129 - DANBURY, CT  
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FOR CAVA  
702 H STREET, 2ND FLOOR, WASHINGTON, DC 20001

PROJECT NUMBER:  
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SHEET:  
**H1.3**

**EXHAUST FAN INFORMATION - JOB#7084742**

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	KEF	1	DU85HFA	CAPTIVEAIRE	2400	1.000	1576	TEAO-ECM	1.000	0.7060	1	115	11.6	759 FPM	94	17.3

**DOAS/RTU FAN SCHEDULE - JOB#7084742**

FAN UNIT NO	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	FAN INFORMATION										ELECTRICAL INFORMATION						COOLING INFORMATION						GAS HEAT INFORMATION				NOTES	
					BLOWER	RETURN AIR CFM	MAX OUTSIDE AIR CFM	TOTAL CFM	WEIGHT (LBS)	ESP	HP	PHASE	VOLT	MCA	MOCP	OUTSIDE AIR		MIXED AIR		LEAVING AIR		CAPACITY		IEER	ISMRE	GAS TYPE	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE		
																DB	WB	DB	WB	DB	WB	DP	TOTAL									SENS.
2	MAU	1	EARTU1-1200-15-ST-MPU	ECON-AIR	15P-1	0	1694	1694	1215	0.500	3.00	3	208	32.6A	40A	84.0°F	71.0°F	84.0°F	71.0°F	61.5°F	61.0°F	60.8°F	56.1 MBH	39.8 MBH	17.9	6.1	NATURAL	164774	133467	66°F	7 IN. W.C. - 14 IN. W.C.	1,2,3,4,5,6,7,8,9,10,11,12,13

- NOTES:**
1. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL
  2. DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE
  3. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER
  4. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE
  5. EC MOTOR CONDENSING FANS
  6. ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE
  7. SUCTION LINE ACCUMULATOR
  8. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER
  9. AVERAGING INTAKE, EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT)
  10. 81% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP
  11. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE
  12. 1" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-4.3 INSULATION-MINIMUM 24GA EXTERIOR W/ 18GA BASE
  13. DOWN DISCHARGE/NO RETURN

**FAN OPTIONS**

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF	1	GREASE BOX
		1	ECM WIRING PACKAGE - PWM SIGNAL FROM ECPM03 PREWIRE (TELCO MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
		1	TOTAL CFM MONITORING
		1	INTAKE FIRESTAT SET TO 135°F
		1	FREEZESTAT
		1	DISCHARGE FIRESTAT SET TO 240°F
		1	SHIP LOOSE GAS STRAINER 3/4"
2	MAU	1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU. 750VA TRANSFORMER USED. IF A NON-DCV PREWIRE CONTROLS THIS UNIT, THE #28, #47, "MA", OR "E2" PREWIRE OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREWIRE
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	CONSTRUCTION MODE - MODIFIES START-UP SETTINGS TO ALLOW TEMPERING A BUILDING STILL UNDER CONSTRUCTION
		1	2" MERV 13 FILTERS FOR RTU1 (QTY. 4)
		1	2" MERV 8 FILTERS FOR RTU1 (QTY. 4)
		1	RTU1 DOWN DISCHARGE
		1	RTU1 FIXED 100% OA INTAKE CONTROL
		1	RTU1 NO RETURN - 100% OA - MPU
		1	RTU1 CURB DUCT HANGER
		1	120V FIRE INPUT
		1	R454B LEAK DETECTOR OPTION FOR RTUS
		1	R454B - 5 TON MODULATING COOLING OPTION, 208/230V, R454B REFRIGERANT, VARIABLE SPEED COMPRESSOR, DL ECM CONDENSING FAN
		1	NO REHEAT
		1	UNIT MOUNTED VFD CONFIGURED FOR DCV
		1	LOAD REACTOR MOUNTED IN FAN
1	5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS)		
1	EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET		

**FAN ACCESSORIES**

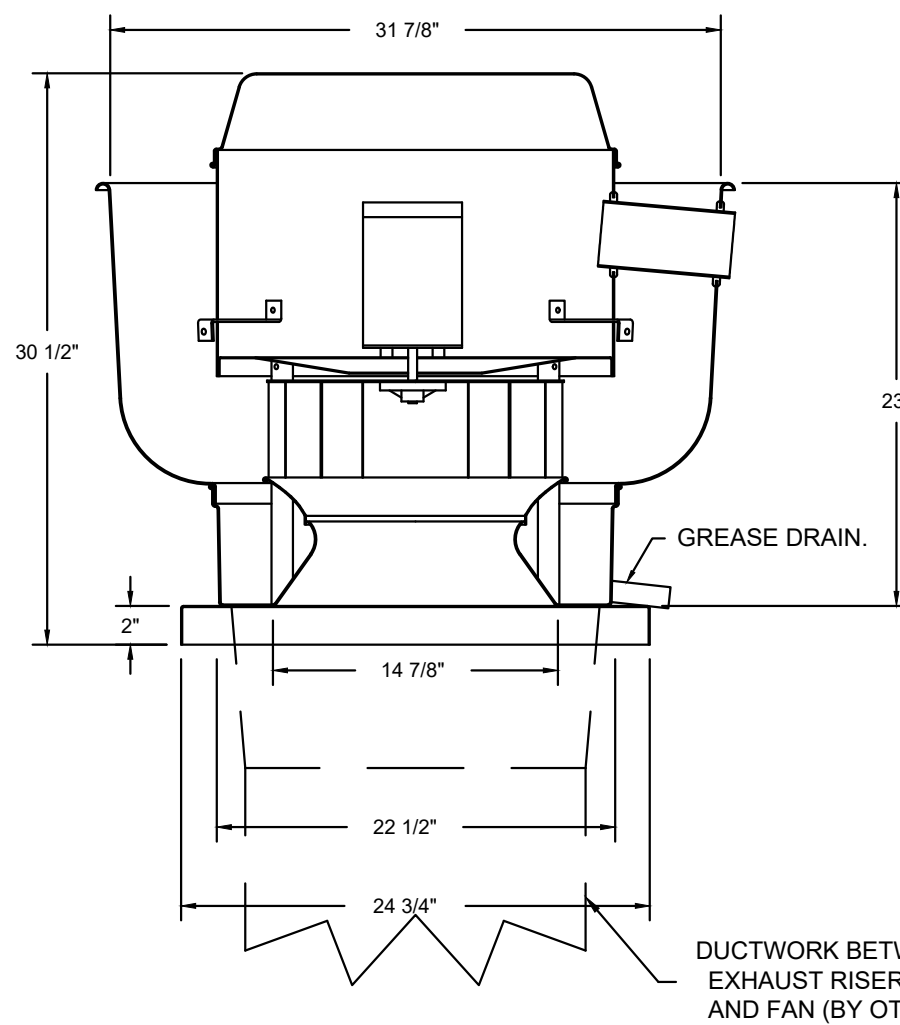
FAN UNIT NO	TAG	EXHAUST				SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT	
1	KEF	YES							

**CURB ASSEMBLIES**

NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	#1	KEF	41 LBS	CURB	23.000"W X 23.000"L X 24.000"H VENTED HINGED.
2	#2	MAU	103 LBS	CURB	41.000"W X 71.000"L X 20.000"H INSULATED.

HMI SCHEDULE				
UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #2	HMI #1 - UNIT	IN UNIT	NOT AVERAGED	55

FAN #1 DU85HFA - EXHAUST FAN (KEF)



TOP VIEW

**FEATURES:**

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

**NORMAL TEMPERATURE TEST**

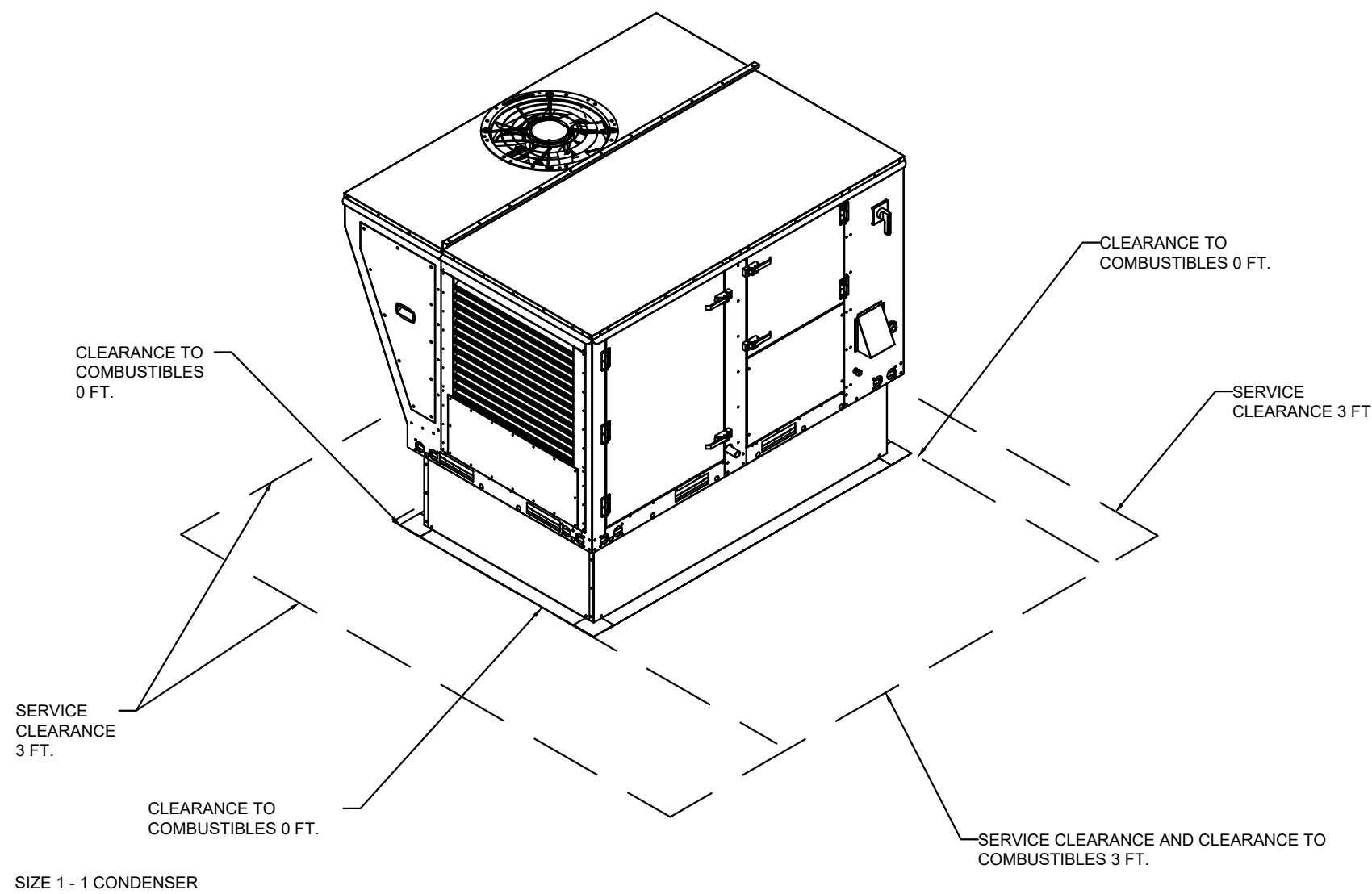
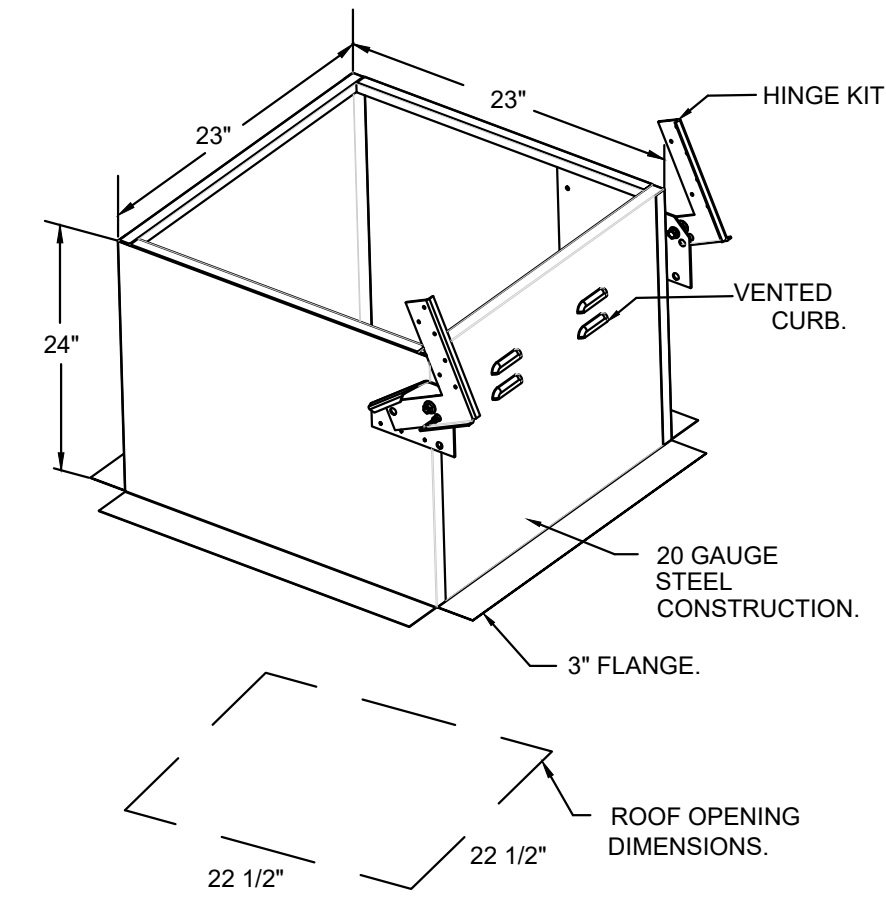
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETEIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

**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 CONDITION.

**OPTIONS**

- GREASE BOX.
- ECM WIRING PACKAGE - PWM SIGNAL FROM ECPM03 PREWIRE (TELCO MOTOR), CCW ROTATION.
- 2 YEAR PARTS WARRANTY.



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**DRAWN BY:** ABS-76

**SCALE:** NTS

**MASTER DRAWING**

**SHEET NO.** 5

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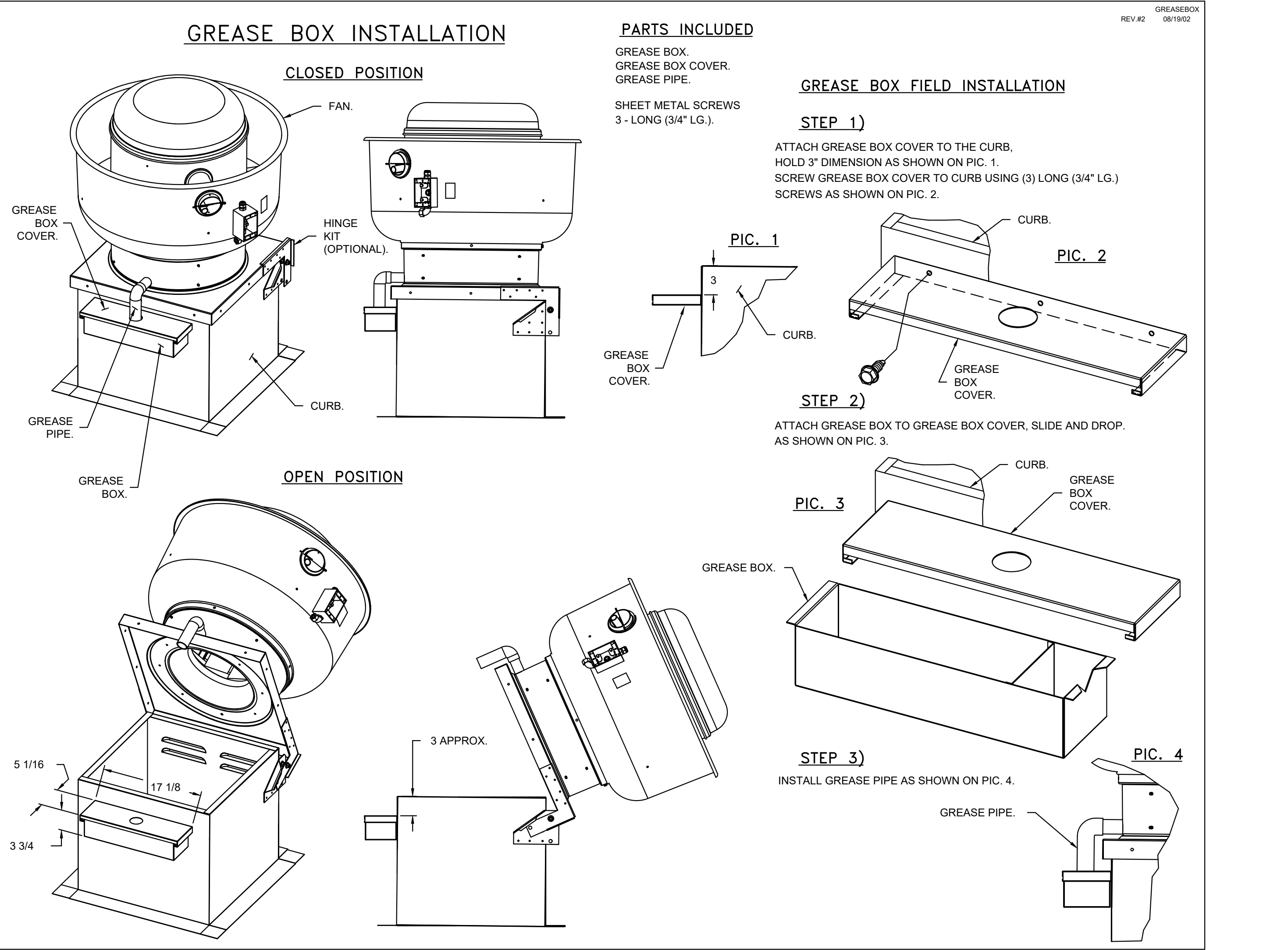
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**H1.4**



**GREASE DUCT & CHIMNEY SPECIFICATIONS:**  
 PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE.  
 PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12".  
 DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.  
 IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

**CUSTOMER APPROVAL TO MANUFACTURE:**

APPROVED AS NOTED   
 APPROVED WITH NO EXCEPTION TAKEN   
 REVISE AND RESUBMIT   
 SIGNATURE \_\_\_\_\_  
 YOUR TITLE \_\_\_\_\_ DATE \_\_\_\_\_

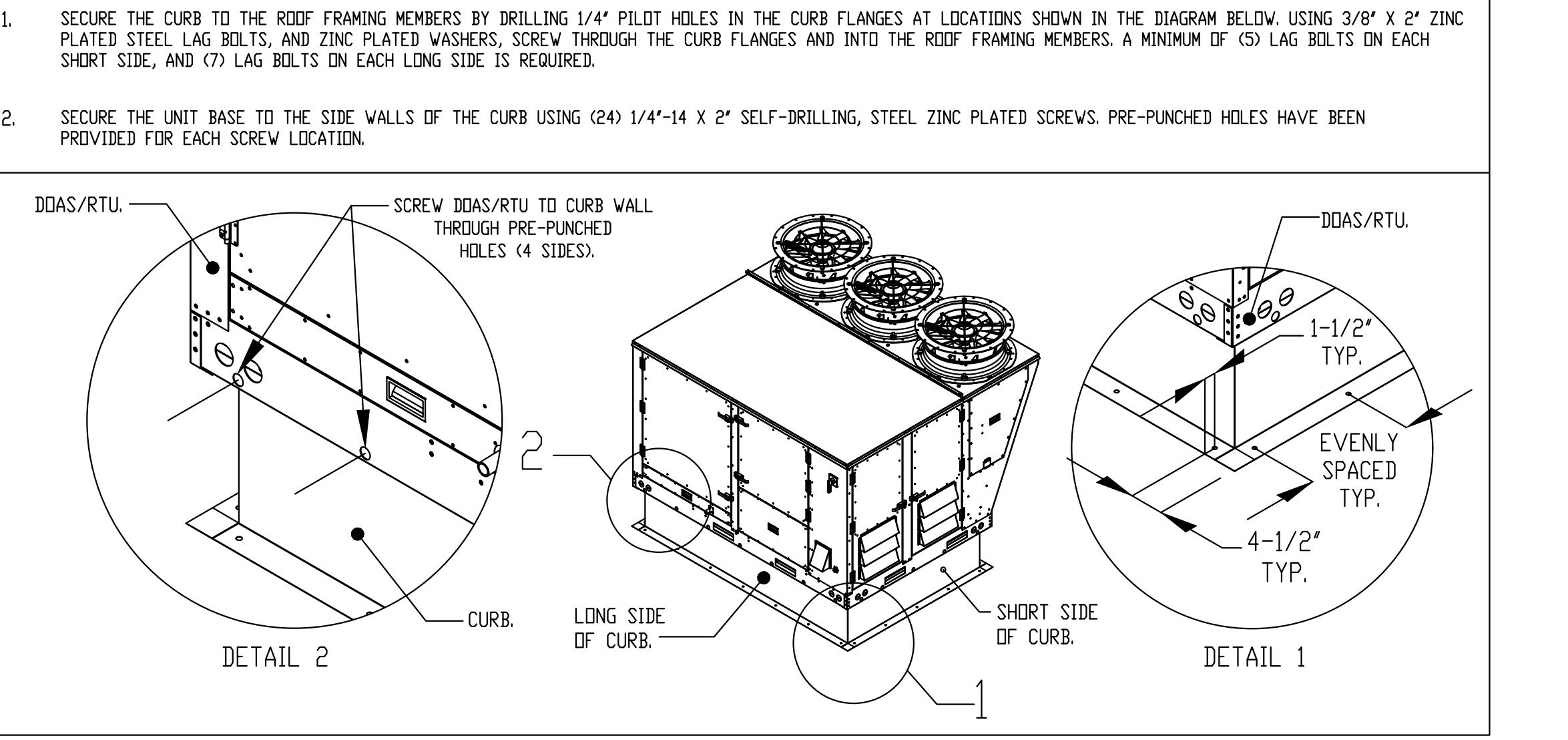


**AIR DIFFUSION SUPPLY DUCT SPECIFICATIONS:**  
 PROVIDE AIR DIFFUSION SUPPLY DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL DW-S0(HC), DW-S90(HC), & DW-S180(HC). THREE DISTINCT HOLE PATTERN OPTIONS TO COVER A VARIETY OF CEILING HEIGHTS. NO ADDITIONAL DIFFUSERS REQUIRED, AS THE DUCT ITSELF PROVIDES AIR DIFFUSION. MADE OF HIGH QUALITY STAINLESS STEEL DESIGNED TO LAST 20+ YEARS. HIGH INDUCTION SUPPLY DUCT IS CONSTRUCTED USING 24 GAUGE, 430 SS - 5" THRU 24". HIGH INDUCTION SUPPLY DUCT IS CONSTRUCTED USING 20 GAUGE, 430 SS - 26" THRU 36". QUICK ONSITE ASSEMBLY USING EPDM GASKETS & UNIVERSAL V-BANDS. DOUBLE WALL SUPPLY DUCT AVAILABLE FOR INTERIOR AND EXTERIOR SPACES, EITHER CONDITIONED OR UNCONDITIONED. DOUBLE WALL SUPPLY DUCT AVAILABLE IN DW-1S, DW-2S, & DW-3S TO MEET SPECIFIC REGIONAL "R" VALUE REQUIREMENTS.

Insulation R-Value Recommendations		
Supply Duct Type	Minimum R-value	Space Type
Single Wall - S & -HC	N/A	Conditioned Space Only
Double Wall - 1S	R-4	Unconditioned Interior Space Only
Double Wall - 2S	R-8	Unconditioned Space Climate Zones 1-4
Double Wall - 3S	R-12	Unconditioned Space Climate Zones 5-8

DOUBLE WALL SUPPLY DUCT IS INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL. AIR DIFFUSION SUPPLY DUCT COMPLIES WITH SMACNA (SHEET METAL AND AIR CONDITIONING CONTRACTORS) BEST PRACTICES. POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTION TO DISCHARGE, SEE NFPA 13, TABLE 8.12.5.1.1.

**TYPICAL DOAS/RTU ROOF MOUNTING INSTALLATION INSTRUCTIONS**



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**SCALE:** NTS

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7

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**H1.6**

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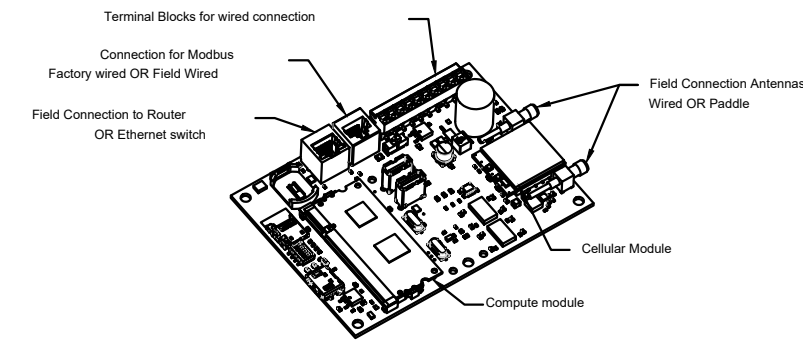
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**ELECTRICAL PACKAGE -- JOB#7084742**

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	Ø	HP	VOLT	FLA
1		DCV-1111	UTILITY CABINET LEFT	UTILITY CABINET LEFT	1 LIGHT	SMART CONTROLS DCV	MAU	SUPPLY	3	3,000	208	9.5

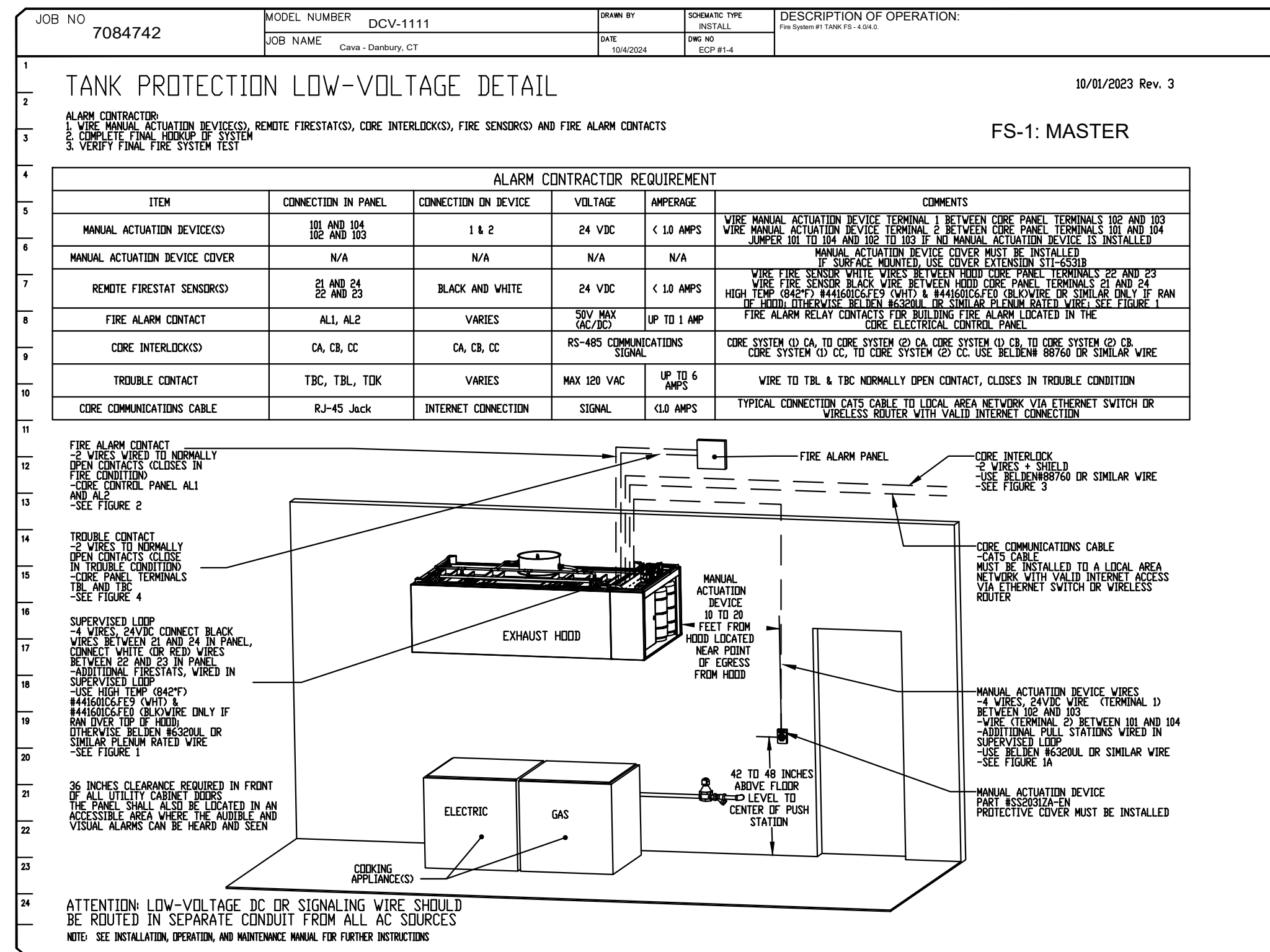
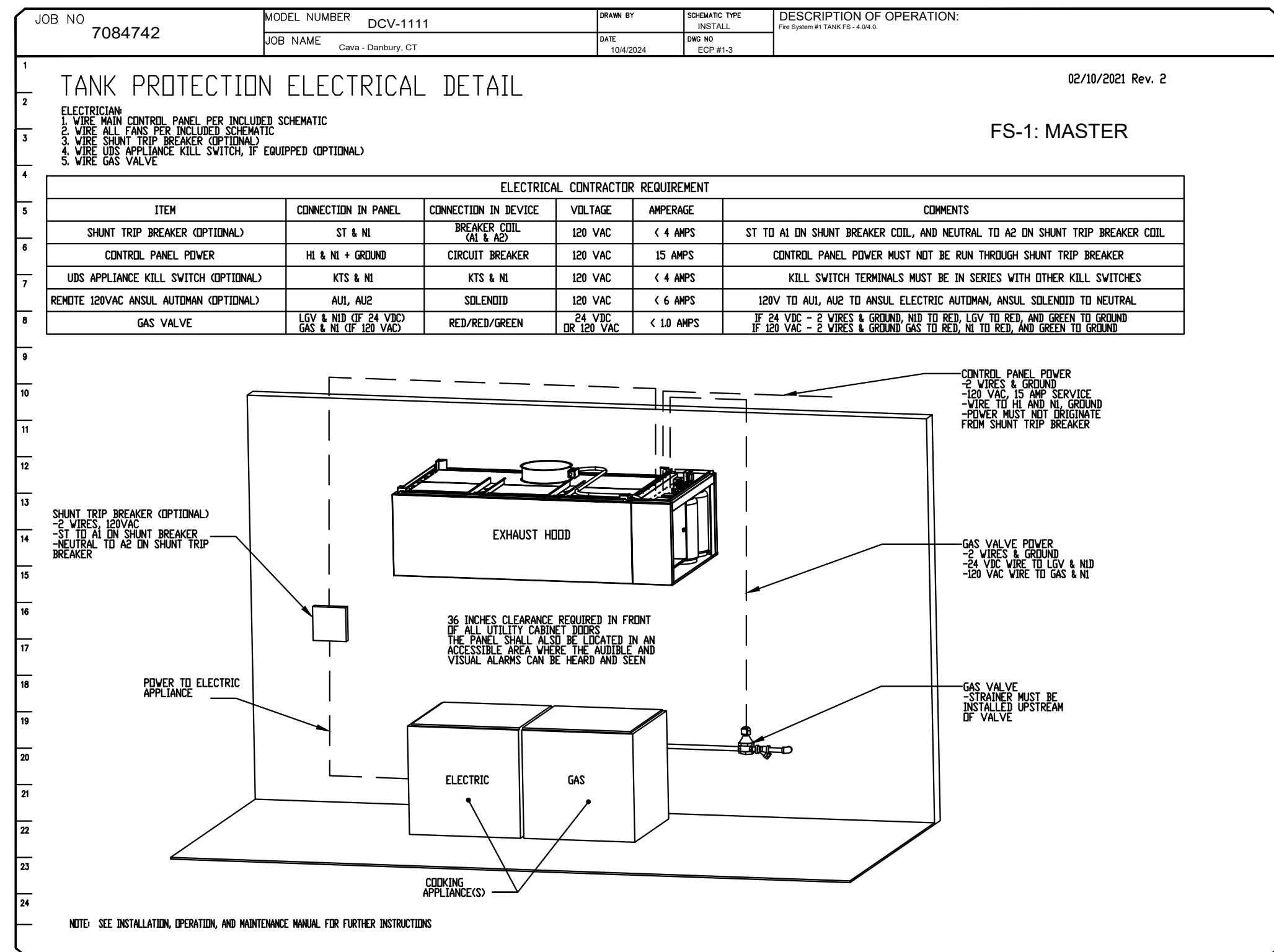
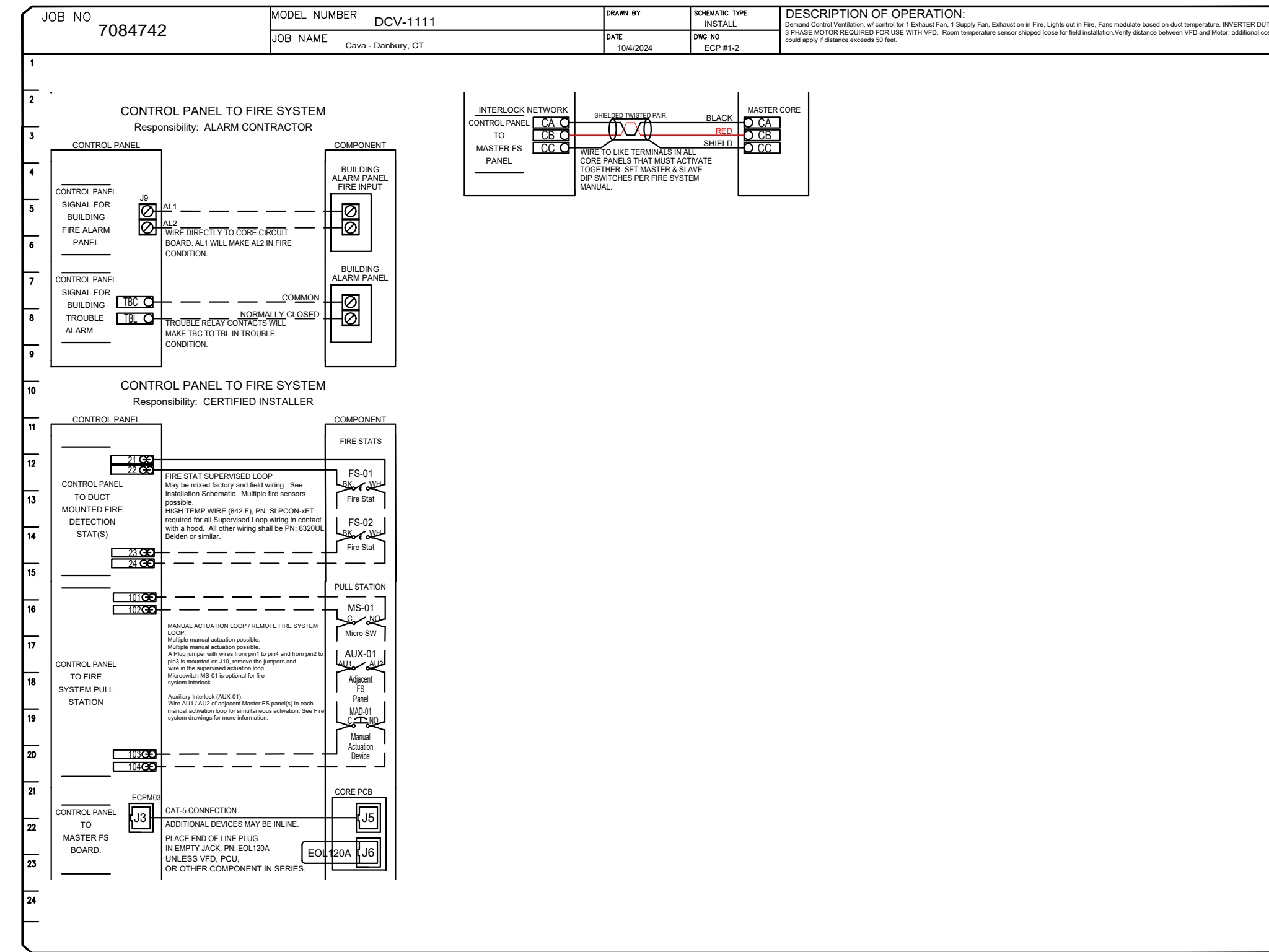
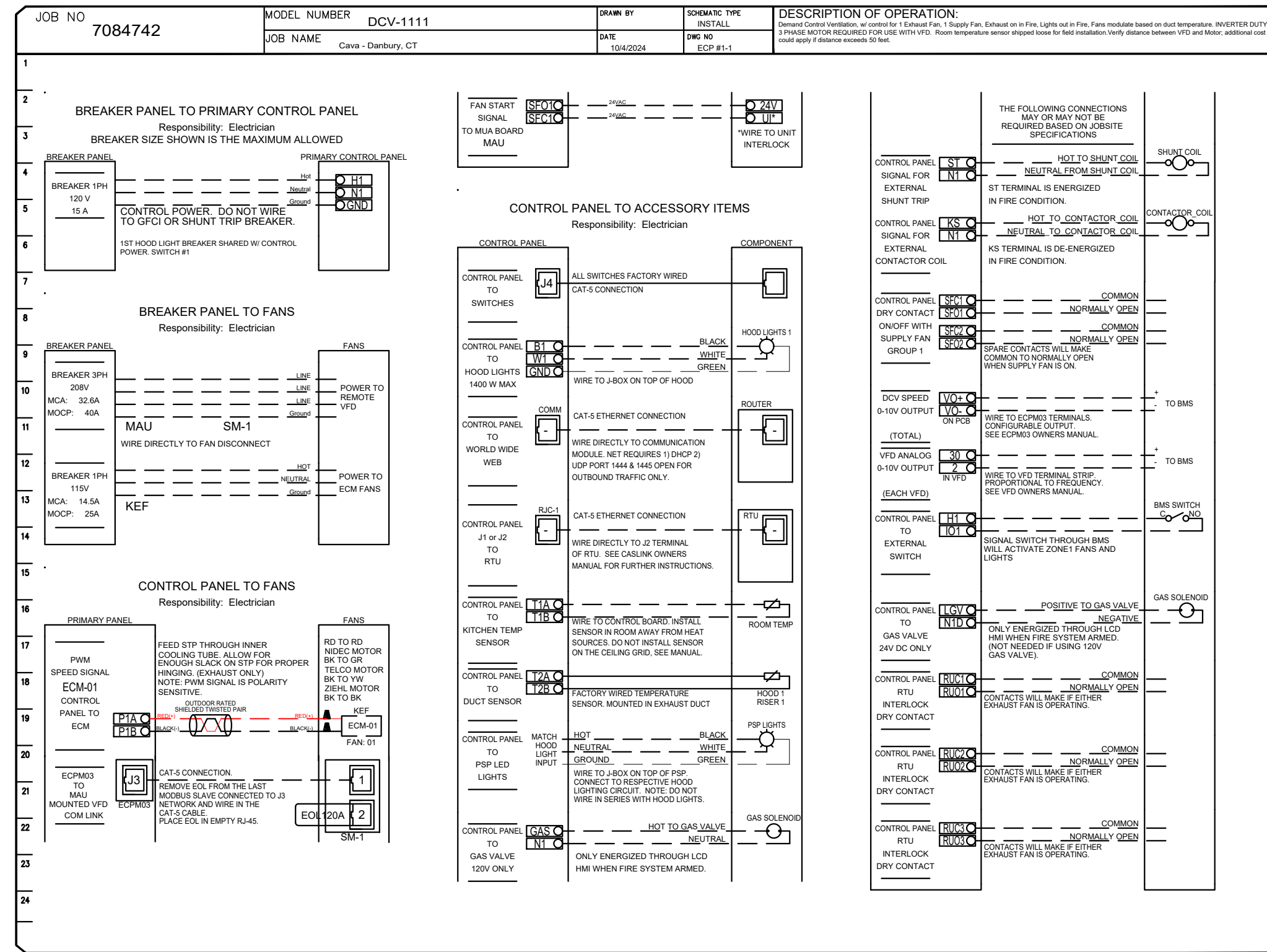


**CASlink Monitor and Control**

- Hood control panel to support communications to cloud-based Building Management Systems.  
 - Hood Control Panel to allow cloud-based Building Management System to monitor real time parameters outlined as MONITOR on the points list.  
 - Hood Control Panel to allow cloud-based Building Management System to control parameters outlined as CONTROL on the points list.  
 - Hood Control Panel to allow cloud-based Building Management System to implement SYSTEM ECONOMIZER control strategies for fully integrated Building Management.

**MONITORING AND CONTROL POINTS LIST**

DCV Packages	Function	AC Packages	Function
Room Temperature	MONITOR	Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR	Duct Temperature(s)	MONITOR
MHA Discharge Temperature	MONITOR	MHA Discharge Temperature	MONITOR
Blower RTU Discharge Temperature	MONITOR	Blower RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR	Controller Faults	MONITOR
Fan Amperage	MONITOR	Fan Faults	MONITOR
Fan Power	MONITOR	Fan Status	MONITOR
VFD Faults	MONITOR	FCV Faults	MONITOR
Controller Faults	MONITOR	FCV Filter Cap Percentages	MONITOR
Fan Faults	MONITOR	Fan Condition	MONITOR
Fan Status	MONITOR	Build Fire System	MONITOR
FCV Filter Cap Percentages	MONITOR	Coil Drive Pressures	MONITOR
FCV Filter Cap Percentages	MONITOR	Fans Button(s)	MONITOR & CONTROL
Fire Condition	MONITOR	Light Button(s)	MONITOR & CONTROL
Core Fire System	MONITOR	Flush Button	MONITOR & CONTROL
Building Pressures	MONITOR		
Prep Time Button	MONITOR & CONTROL		
Fans Button	MONITOR & CONTROL		
Light Button	MONITOR & CONTROL		
Flush Button	MONITOR & CONTROL		



**REVISIONS**

NO	DESCRIPTION	DATE

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DRAWN BY: ABS-76

SCALE: NTS

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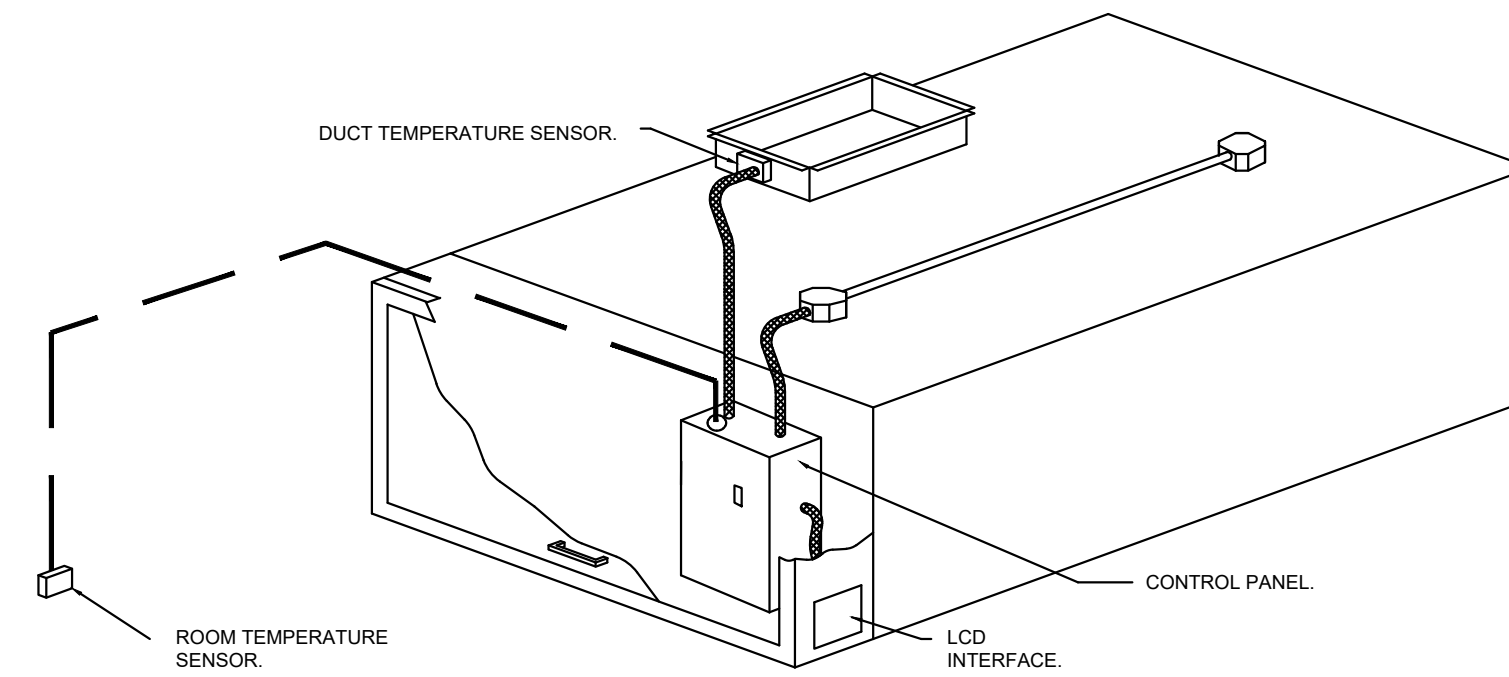
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SHEET: **H1.8**



**DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:**

- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
- THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.
- TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL.
- A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURE SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
- A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
- A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
- VARIABLE FREQUENCY DRIVES (VFDs) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDs BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL.
- THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
- AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.
- THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED. OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
- A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FAN(S), ACTIVATE THE EXHAUST FAN(S), ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD.
- A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
- AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:
  - A. ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION.
  - B. INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED).
  - C. VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  - D. DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  - E. MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  - F. A SINGLE LOW VOLTAGE CAT-5 RJ45 WIRING CONNECTION.
  - G. AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDs.



**TYPICAL HOOD CONTROL PANEL INSTALLATION**

**SEQUENCE OF OPERATIONS:**

- THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME:
- **AUTOMATIC:** THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
  - **MANUAL:** THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.
  - **SCHEDULE:** A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.
  - **OTHER:** THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).
  - **FIRE:** UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

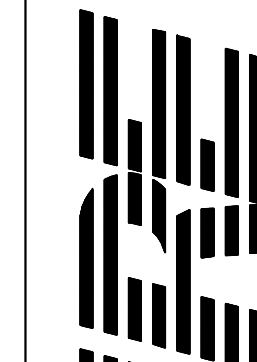
**SYSTEM DESIGN VERIFICATION (SDV)**

IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK. SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.

DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

REVISIONS	
DESCRIPTION	DATE



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ISSUE	DATE
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REVISION 1	04.15.25
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CAPTIVE AIRE HOOD DRAWINGS FOR REFERENCE ONLY

SHEET:  
**H1.10**

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