

HANGING ANGLE DETAILS			
HOOD STYLE / MODEL	450 DEGREES	600 DEGREES	700 DEGREES
	cfm/ft.	cfm/ft.	cfm/ft.
CANOPY NO-2	150	200	250
CANOPY NO-2 W/ END PANELS	105	140	175
SLOPED SHD-2	228	294	-
ISLAND NO-2W	269	300	350
ISLAND NO-2I	346	422	475

ETL HOOD LISTING DETAIL			
EXHAUST CFM = LENGTH OF HOOD X CFM/UNIT. (600)			
SUPPLY CFM = EXHAUST CFM X PERCENTAGE REQUIRED			
TOTAL DUCT AREA (sq. in.) = 144 X (CFM)²			
DUCT LENGTH = TOTAL DUCT AREA / DUCT WIDTH			
*CAPTIVEAIRE VENTILATOR DUCT SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1000-1000 FPM AND A SUPPLY VELOCITY OF 300 FPM.			
CALCULATIONS UTILIZED			
CAPTIVEAIRE HOODS BUILT IN COMPLIANCE WITH			
ETL LISTED UNDER ETL File Number 3054804-001/002	STANDARDS TO		
UL 308A-2021	UL 308A-2021		
ASTM F2115			
NSF 5A			
BUILDING CODES			
CAPTIVEAIRE HOODS HAVE OPTIONAL CLEARANCE			
REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:			
MATERIAL	CLEARANCE REDUCTION SYSTEM		
NON-COMBUSTIBLE	NONE REQUIRED		
LIMITED-COMBUSTIBLE	3" UNINSULATED STANDOFF		
COMBUSTIBLE	1" INSULATED STANDOFF		

CLEARANCE TO COMBUSTIBLES			
INSTALLATION			
1. ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.			
2. ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.			
3. HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.			
4. ALL CONNECTIONS FROM CAPTIVEAIRE HOOD PER MECHANICAL CONTRACTOR'S PLANS.			
5. COOKING EQUIPMENT TO SHUT OFF IN EVENT OF FIRE.			
6. EXHAUST FANS TO TURN ON IN EVENT OF FIRE.			
7. ALL LIGHT FIXTURES SHOWN INSTALLED BY CAPTIVEAIRE ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES ARE BY ELECTRICAL CONTRACTOR.			
8. LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTOR.			
9. SEISMIC RESTRAINTS ARE RESPONSIBILITY OF RETAILING CONTRACTOR.			
10. INSTALLING CONTRACTORS ASSUME ALL RELATED RESPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.			
BALANCE			
11. KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.			
12. KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DRIVING AREA.			
13. RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.			
ADDITIONAL			
14. WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.			
15. SCHEMATIC AND "AS SHOWN" COPIES OF THIS DOCUMENT MUST BE REVIEWED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.			

GENERAL NOTES			
FILTER COLLECTION EFFICIENCY			
2" CaptiveAire Grease-Stop Solo Filter			
CaptiveAire Captrate Solo Filter ETL Listed Grease Extracting Filters Made From 430 Stainless Steel			

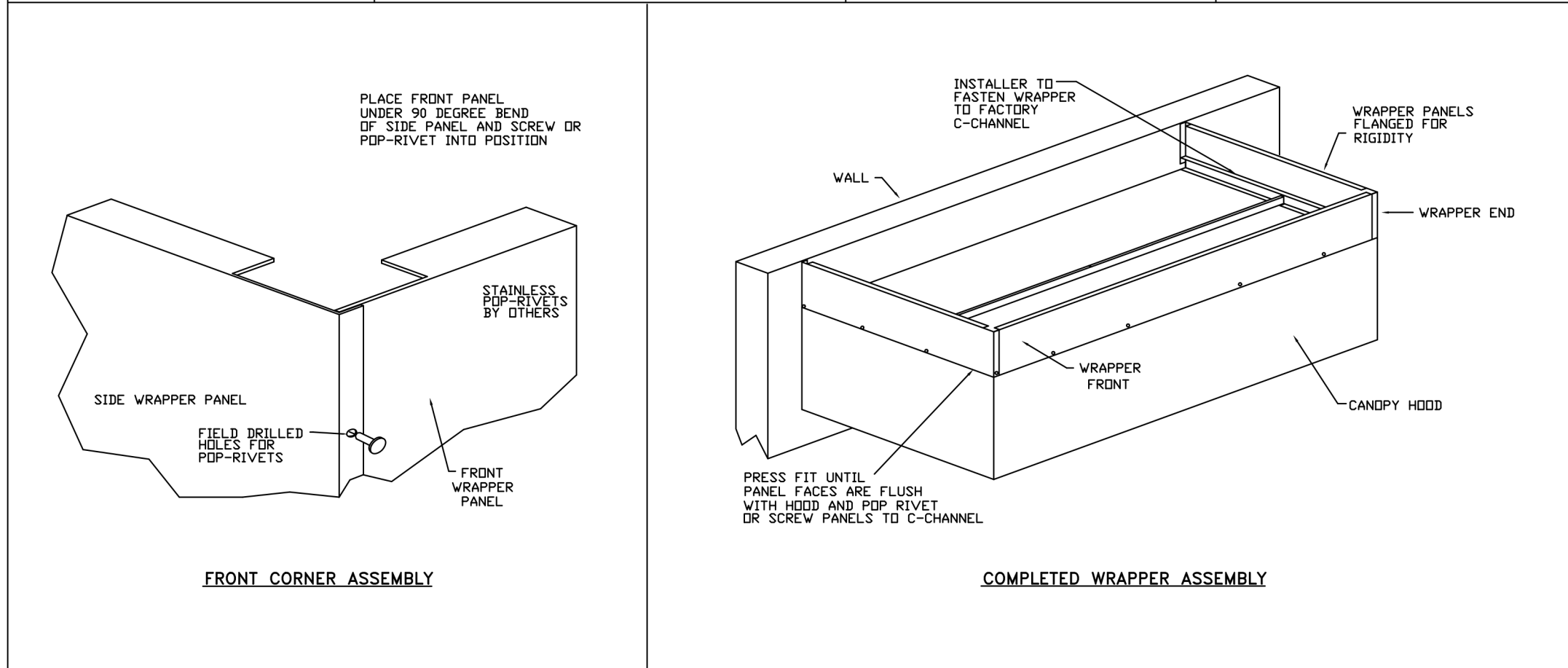
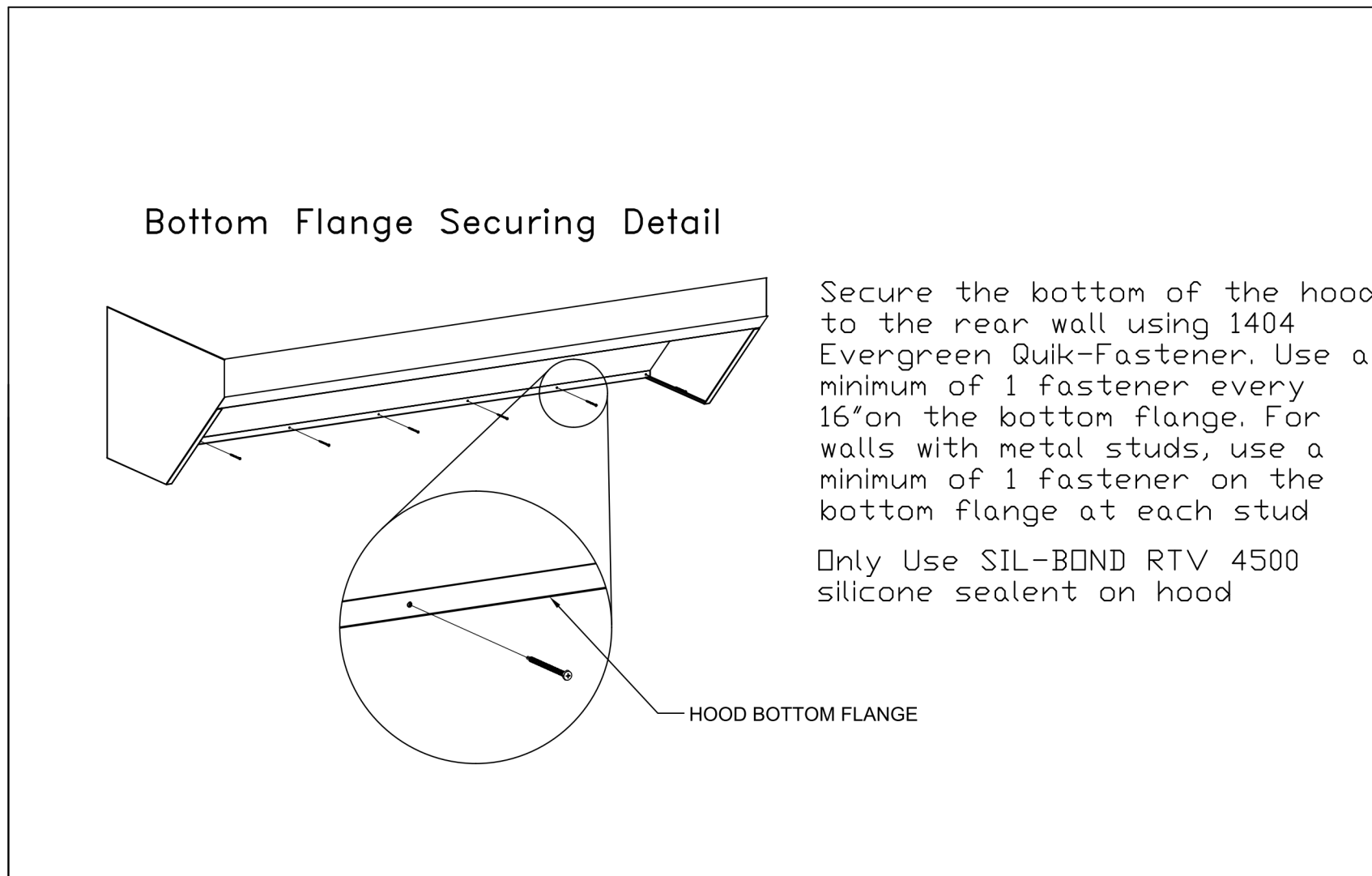
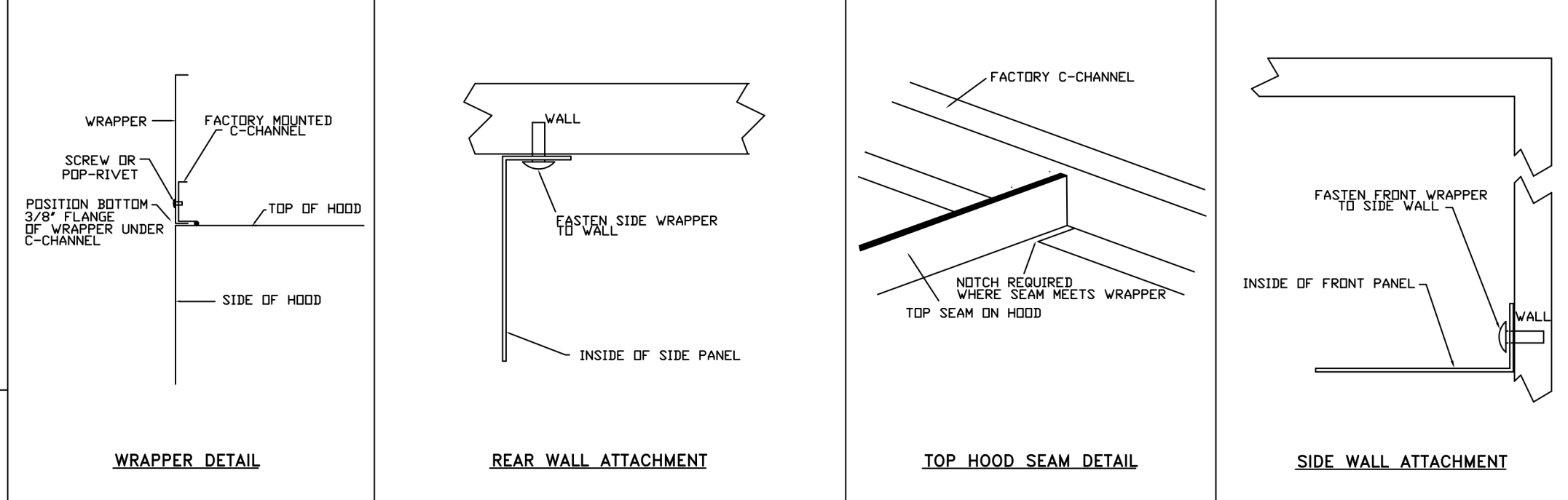
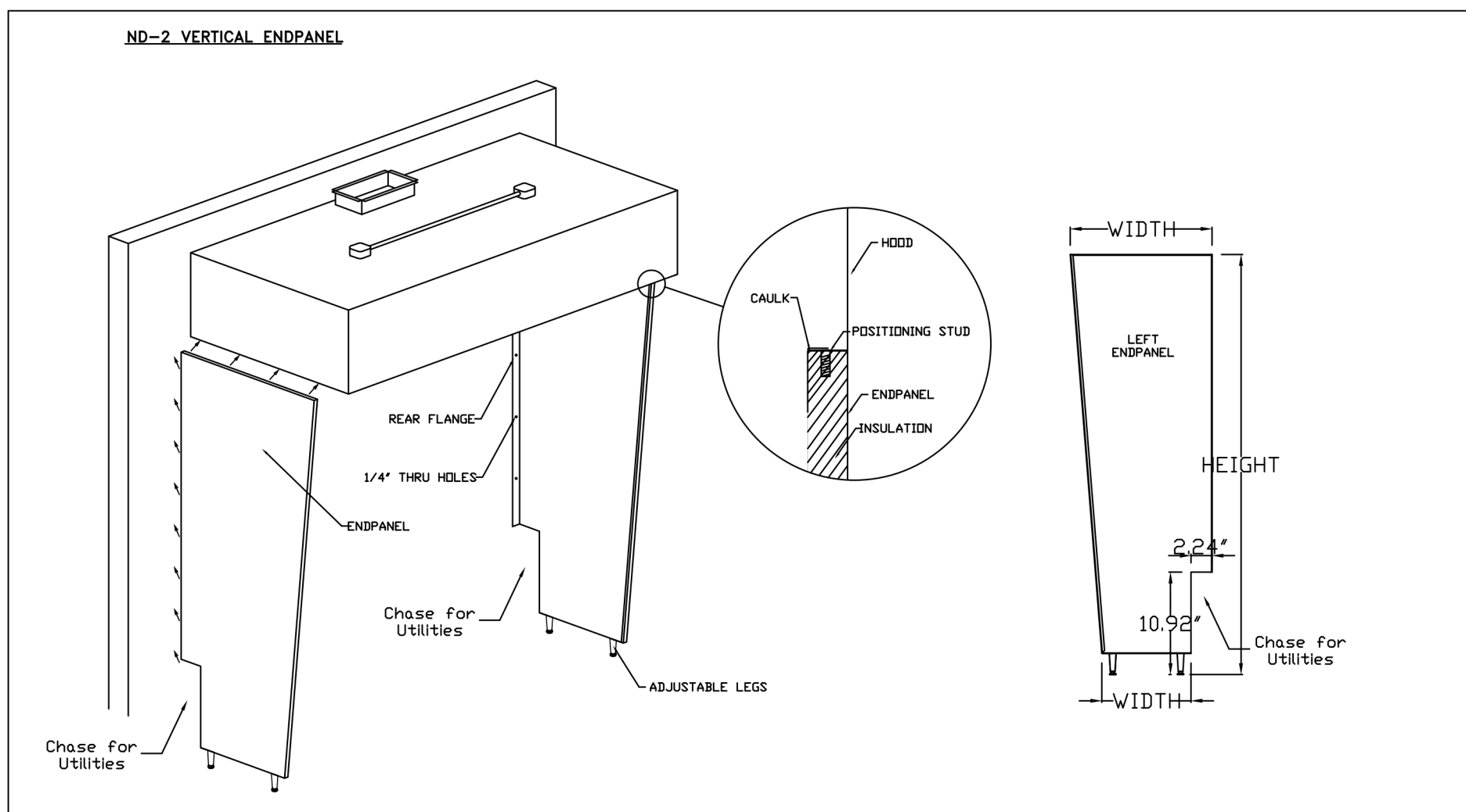
FILTER DETAIL			

FOR QUESTIONS, CALL THE
Eastern PA Mechanical
REGION 108
PHONE: (267) 504 - 4126
EMAIL: reg108@captiveaire.com

HOOD INFORMATION - JOB#6748687																		
HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)			HOOD CONSTRUCTION	HOOD CONFIG				
										WIDTH	LENG	HEIGHT		CFM	VEL	SP	END TO END	ROW
1	Hood (Grill)	5430 ND-2	CAPTIVEAIRE	7' 11"	450 DEG	I	MEDIUM	150	1188	10"	11"	4'	1188	1555	-0.462'	430 SS WHERE EXPOSED	ALONE	ALONE
2	Hood (Fryer)	5430 ND-2	CAPTIVEAIRE	4' 11"	600 DEG	I	HEAVY	175	860	9"	9'	4'	860	1529	-0.494'	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION																	
HOOD NO	TAG	TYPE	FILTER(S)			LIGHT(S)			UTILITY CABINET(S)			FIRE SYSTEM	ELECTRICAL	SWITCHES	FIRE SYSTEM HANGING PIPING	HOOD HANGING WEIGHT	
			QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE						TYPE
1	Hood (Grill)	CAPRATE SOLO FILTER	5	20"	16"	85% SEE FILTER SPEC	2	RECESSED ROUND	NO							YES	484 LBS
2	Hood (Fryer)	CAPRATE SOLO FILTER	3	20"	16"	85% SEE FILTER SPEC	2	RECESSED ROUND	NO	LEFT	12"x54"x30"	TANK FS	4.0/4.0/4.0	SC-32010MA	1 LIGHT 1 FAN	YES	747 LBS

HOOD OPTIONS		OPTION	
HOOD NO	TAG	FIELD WRAPPER	18.00' HIGH FRONT, LEFT, RIGHT.
		RIGHT END STANDOFF (FINISHED)	1' WIDE 54' LONG INSULATED.
		INSULATION FOR BACK OF HOOD.	
		RISER SENSOR INSTALL 6IN PLEN.	
1	Hood (Grill)	LEFT VERTICAL END PANEL	27' TOP WIDTH, 21' BOTTOM WIDTH, 80' HIGH INSULATED 430 SS.
		GFCI DUPLEX OUTLET, 20A 125V - HOOD FRONT LEFT - HORIZONTAL - DIST FROM END: 3.50 DIST FROM BOTTOM: 4.00.	
		RIGHT WALL AS END PANEL.	
2	Hood (Fryer)	FIELD WRAPPER	12.00' HIGH FRONT, LEFT, RIGHT.
		RIGHT QUARTER END PANEL	23' TOP WIDTH, 0' BOTTOM WIDTH, 23' HIGH 430 SS.
		LEFT QUARTER END PANEL	23' TOP WIDTH, 0' BOTTOM WIDTH, 23' HIGH 430 SS.
		INSULATION FOR BACK OF HOOD.	
		RISER SENSOR INSTALL 6IN PLEN.	



NOTE:
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REVISIONS	
DESCRIPTION	DATE:

CAPTIVEAIRE
Eastern PA Mechanical
www.captiveaire.com

PO Box 2520, 1 Union Ave, Bala Cynwyd, PA 19004 PHONE: (267) 504-4126 EMAIL: reg108@captiveaire.com

Shack Shack-1547-Short Pump, VA(Kitchen)
HENRICO, VA, 23233

DATE: 4/18/2024
DWG.#: 6748687
DRAWN BY: Joe.shiiba
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 1

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CONSULTANTS:

SEAL SIGNATURE:

FOR REFERENCE ONLY

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NO. BY DATE DESCRIPTION

SHAKE SHACK

SHAKE SHACK SHORT PUMP

12170 W BROAD ST
RICHMOND, VA 23233
SHACK #1547

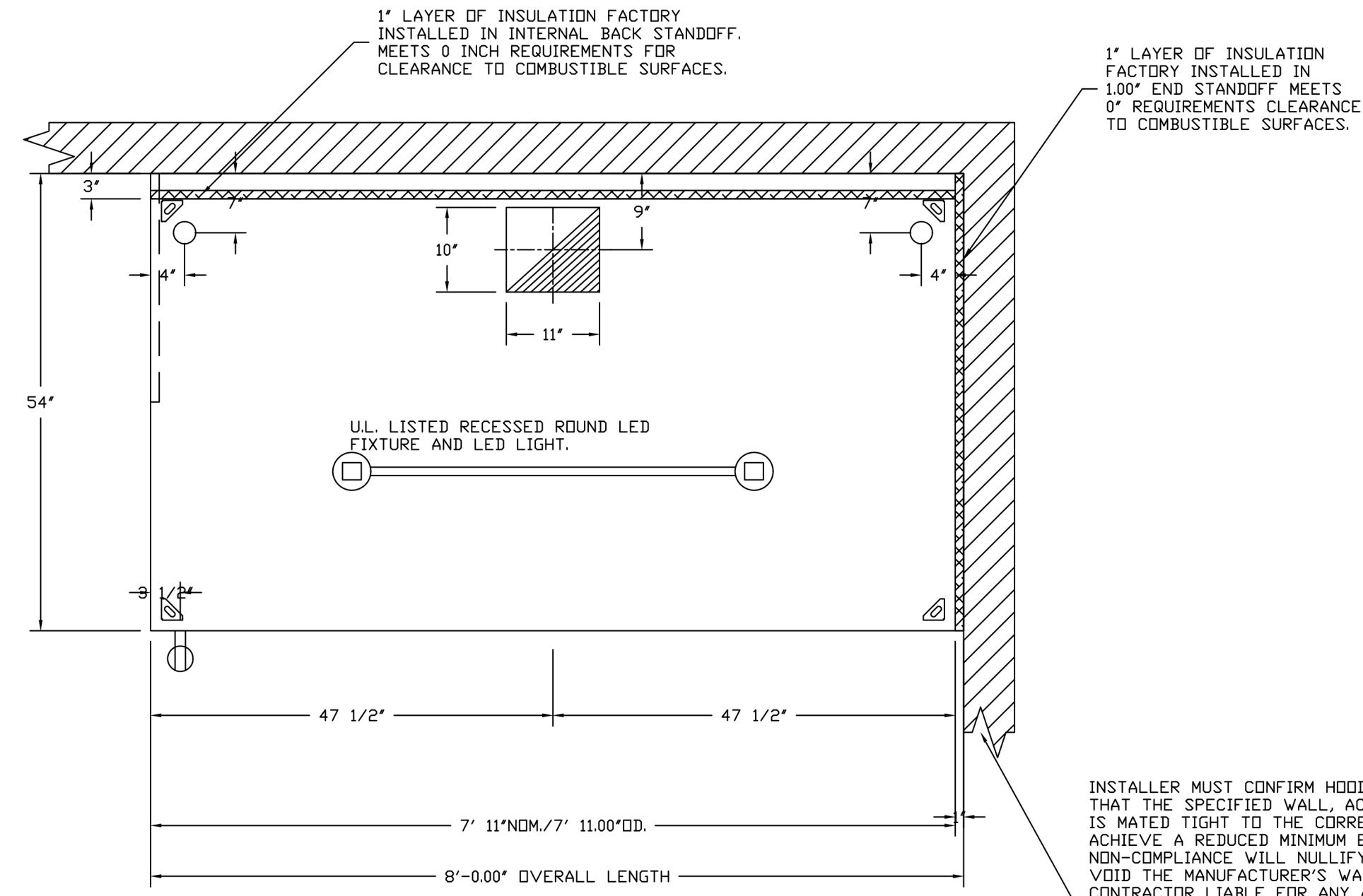
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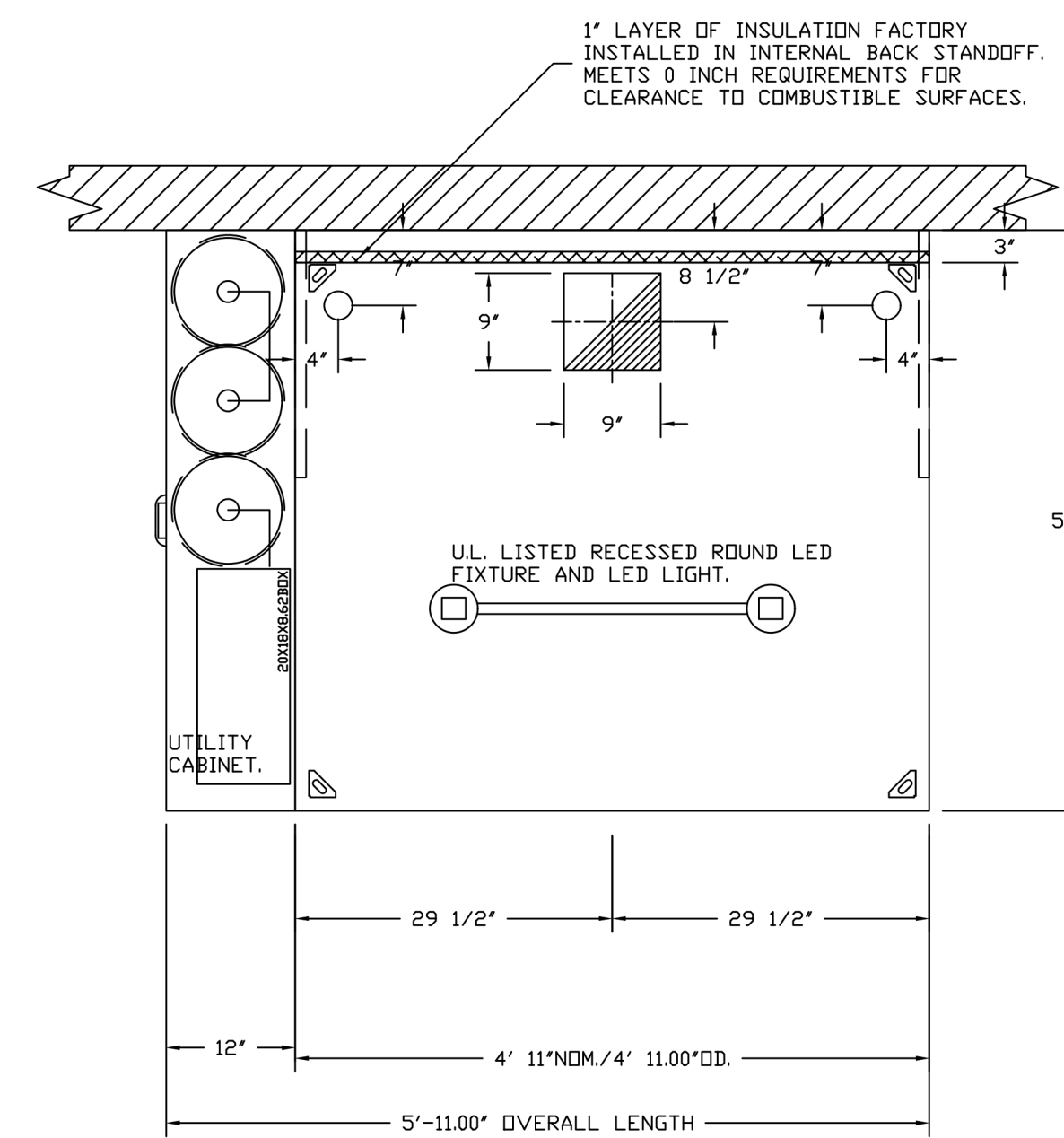
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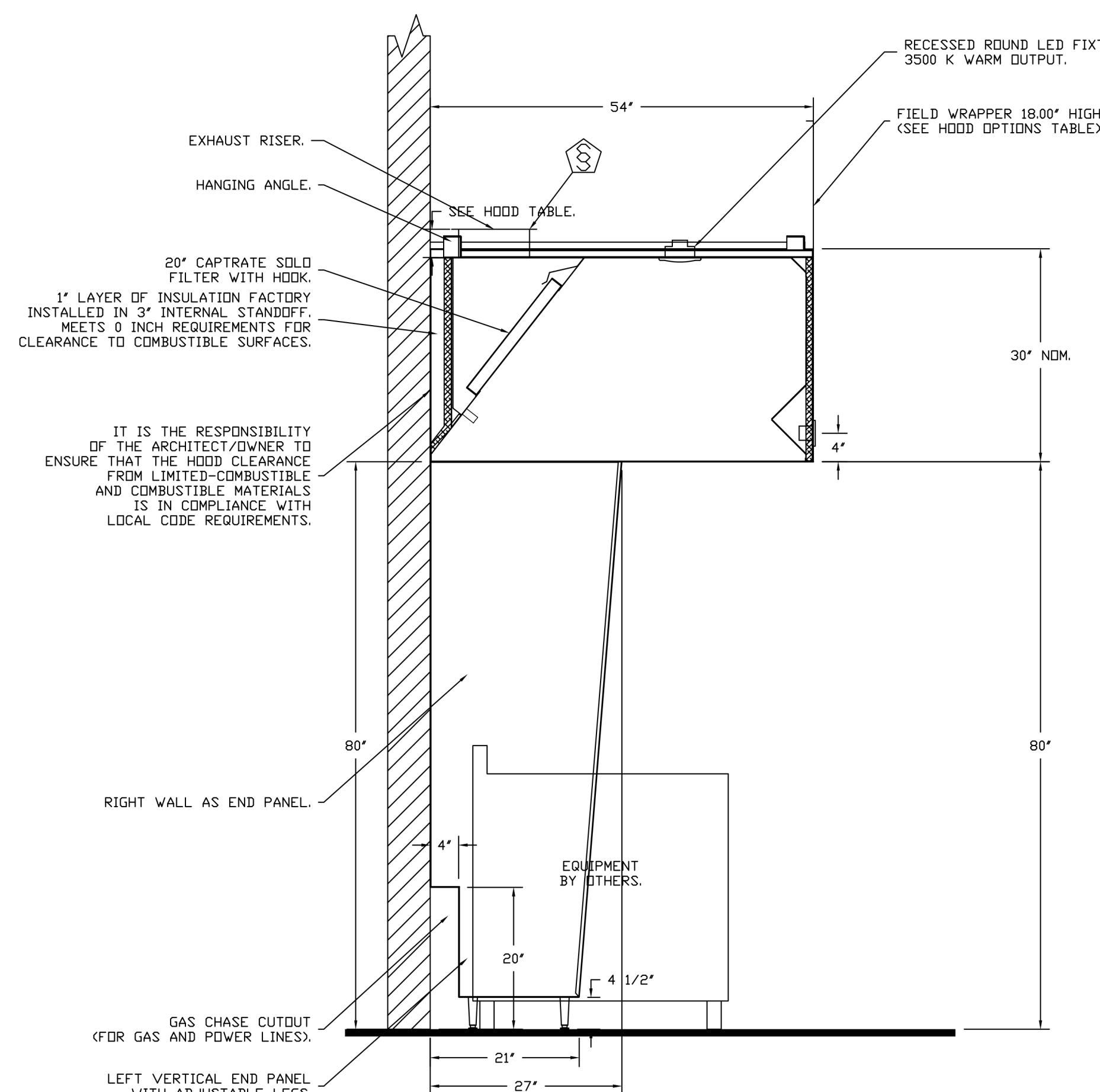


PLAN VIEW - HOOD #1 (Hood (Grill))
7' 11.00\"/>

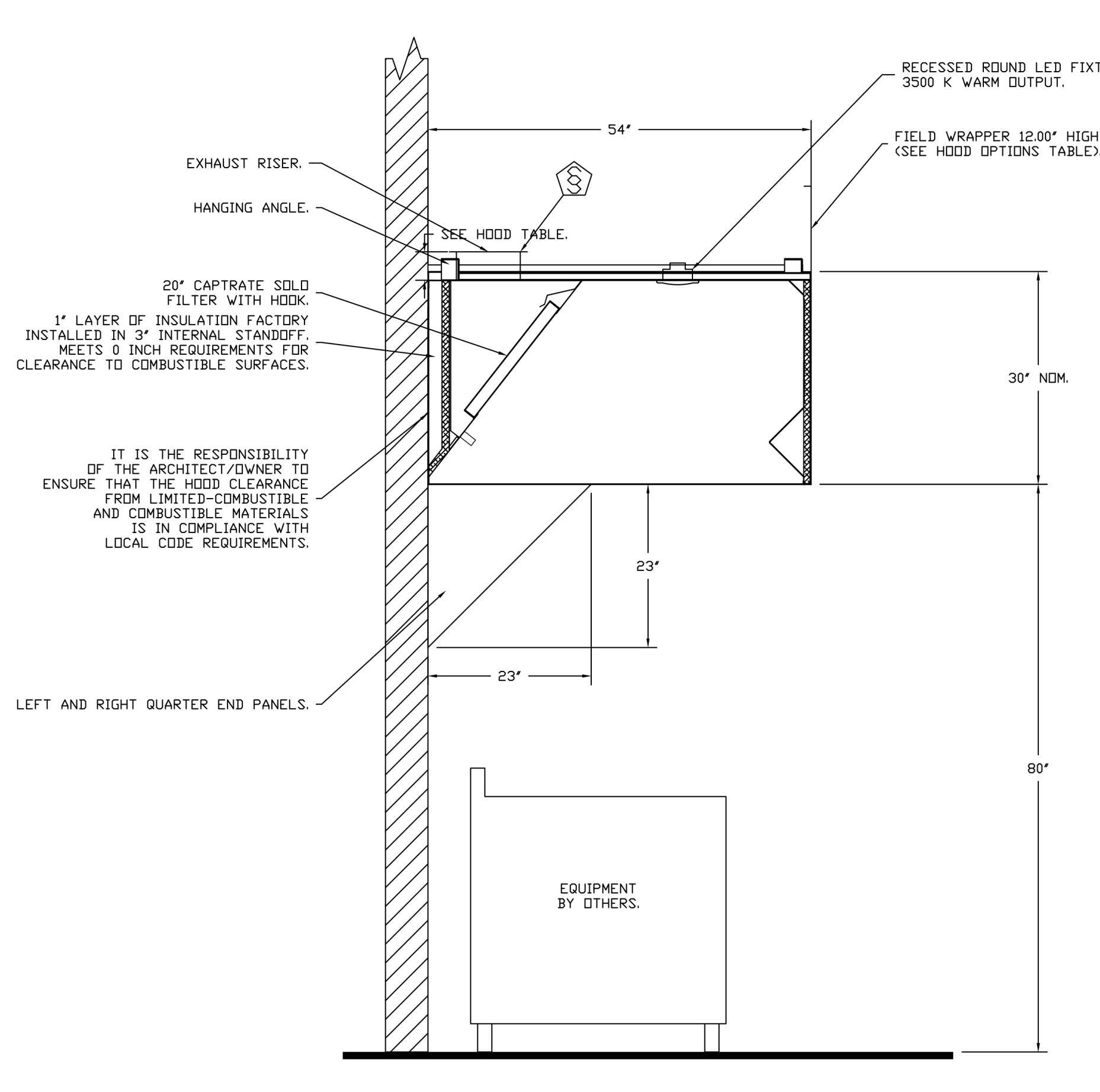


PLAN VIEW - HOOD #2 (Hood (Fryer))
4' 11.00\"/>

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\"/>



SECTION VIEW - MODEL 5430ND-2
HOOD - #1 (Hood (Grill))



SECTION VIEW - MODEL 5430ND-2
HOOD - #2 (Hood (Fryer))

IT IS THE RESPONSIBILITY OF THE ARCHITECT/OWNER TO ENSURE THAT THE HOOD CLEARANCE FROM LIMITED-COMBUSTIBLE AND COMBUSTIBLE MATERIALS IS IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS.

IT IS THE RESPONSIBILITY OF THE ARCHITECT/OWNER TO ENSURE THAT THE HOOD CLEARANCE FROM LIMITED-COMBUSTIBLE AND COMBUSTIBLE MATERIALS IS IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS.

REVISIONS	
DESCRIPTION	DATE

CAPTIVE
Eastern PA Mechanical
PO Box 2520, 1 Union Ave, Bala Cynwyd, PA 19004 PHONE: (267) 504-4126 EMAIL: reg108@captiveaire.com

Shake Shack-1547-Short Pump, VA(Kitchen)
HENRICO, VA, 23233

DATE: 4/18/2024
DWG.#: 6748687
DRAWN BY: Joe.shiiba
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 2

NOTE:
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CONSULTANTS:

SEAL SIGNATURE:

FOR REFERENCE ONLY

NO.	BY	DATE	PERMIT / BID SET	DESCRIPTION

SHAKE SHACK SHORT PUMP

12170 W BROAD ST
RICHMOND, VA 23233
SHACK #1547

PERMIT / BID SET

CAPTIVEAIRE DRAWINGS

DRAWN BY: Author
CHECKED BY: Checker
JOB NO: 20240154.00

M702

FIRE SYSTEM INFORMATION - JOB#6748687

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0/4.0	60	46	FIRE CABINET LEFT	LEFT, HOOD 2

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	1.000	CAPTIVEAIRE SYSTEMS

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 SHELVING, 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.
- DL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 6748566.
JOB NAME: SHAKE SHACK-1543-ST. LOUIS PARK,MN(KITCHEN).

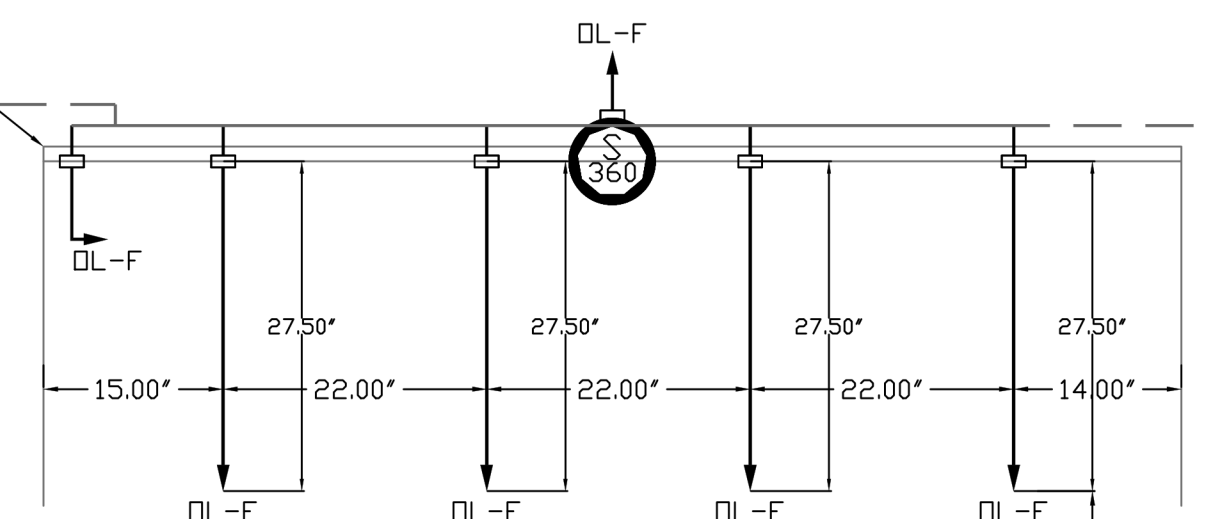
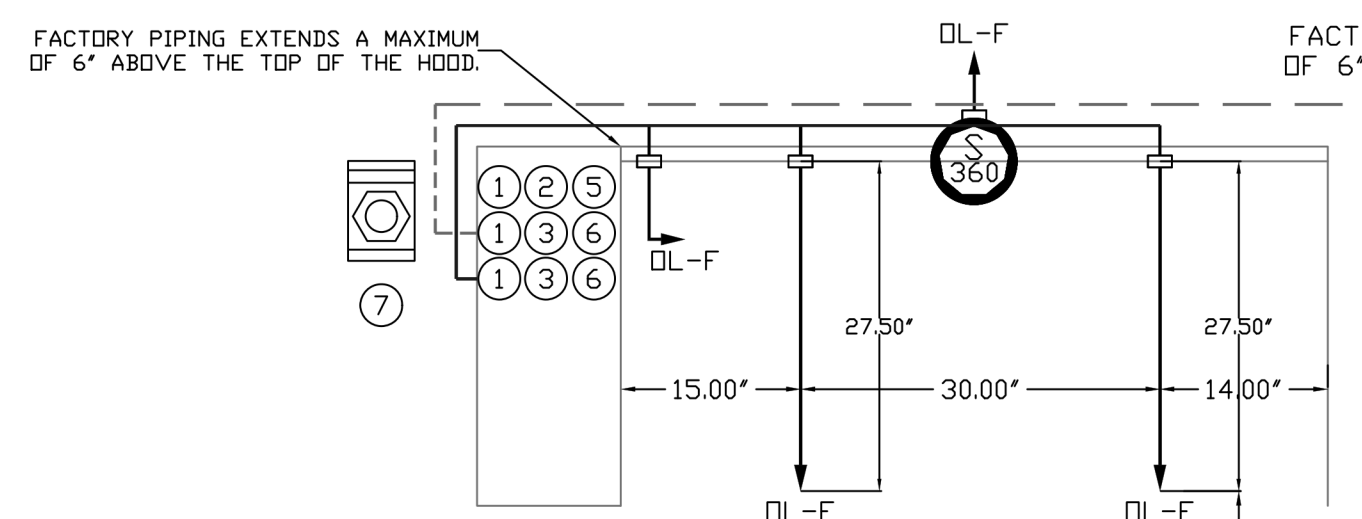
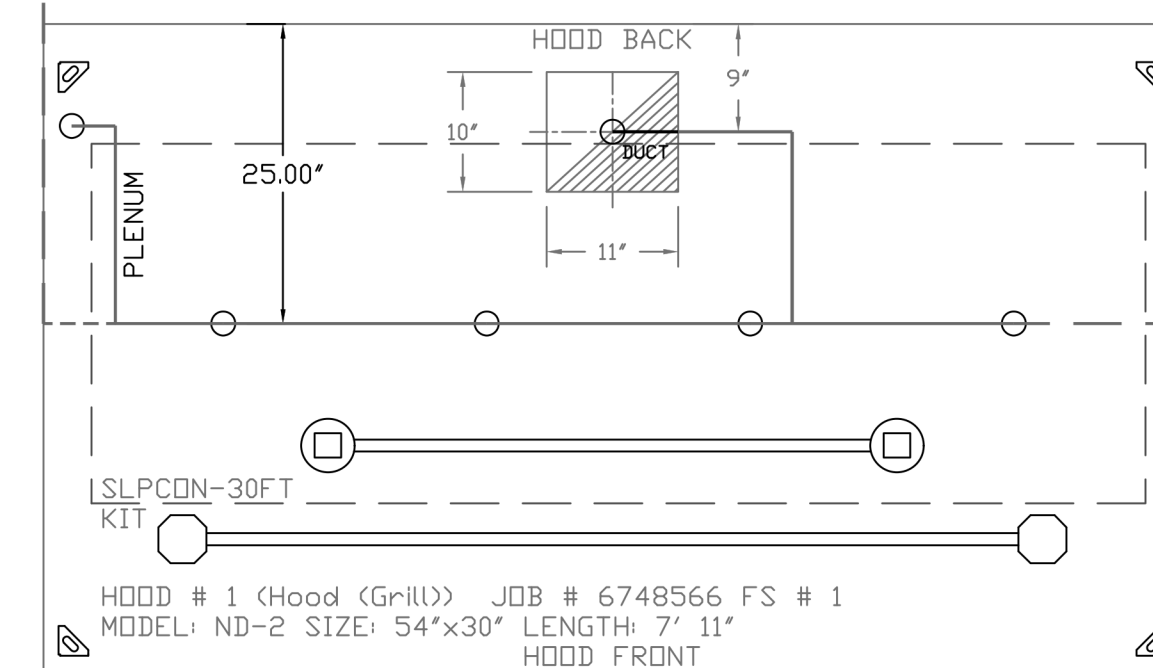
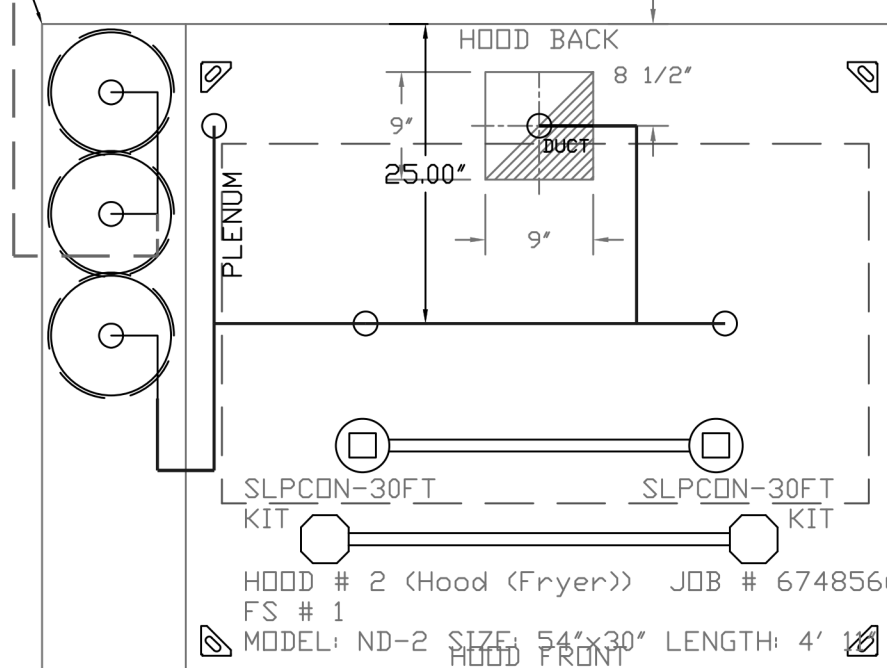
SYSTEM SIZE: TANK-SP-3 DESIGN FP: 46, MAXIMUM FP: 60.
HOOD # 1 7' 11.00" LONG x 54" WIDE x 30" HIGH.
RISER # 1 SIZE: 10" x 11".
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.
HOOD # 2 4' 11.00" LONG x 54" WIDE x 30" HIGH.
RISER # 1 SIZE: 9" x 9".
HOOD # 2 METAL BLOW-OFF CAPS INCLUDED.

- 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.

LEGEND - FIRE CABINET TANK SYSTEM

- 4 GALLON TANK.
- PRIMARY ACTUATOR RELEASE.
- SECONDARY ACTUATOR RELEASE.
- PRESSURE SUPERVISION SWITCH.
- PRIMARY HOSE ASSEMBLY.
- SECONDARY HOSE ASSEMBLY.
- REMOTE MANUAL ACTUATION DEVICE.

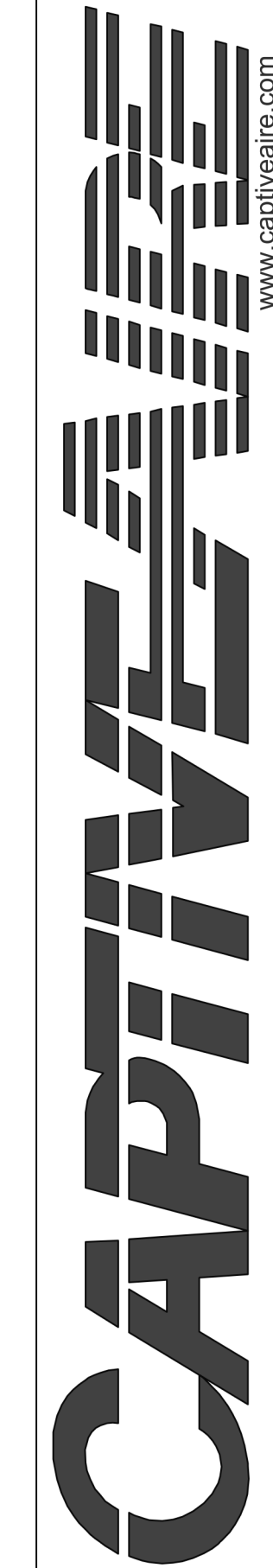
- SYSTEM REQUIRES A MINIMUM OF 7 FT OF EQUIVALENT PIPE LENGTH BETWEEN TANK AND NEAREST APPLIANCE NOZZLE FOR MOST APPLIANCES. EACH 90 DEGREE ELBOW ADDS 1.5 FT OF EQUIVALENT LENGTH. SEE MANUAL FOR DETAILS



TANK OVERLAPPING PROTECTION: 30" HIGH PROXIMITY: 54.00" L X30.00" D

TANK OVERLAPPING PROTECTION: 30" HIGH PROXIMITY: 54.00" L X30.00" D

REVISIONS	
DESCRIPTION	DATE



PO Box 2520, 1 Union Ave, Bala Cynwyd, PA 19004 PHONE: (267) 504-4106 EMAIL: req108@captivaire.com

Shake Shack-1547-Short Pump, VA(Kitchen)
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DWG.#: 6748687
DRAWN BY: Joe.shiiba
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 3

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CONSULTANTS:

SEAL SIGNATURE:

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SHAKE SHACK SHORT PUMP

12170 W BROAD ST
RICHMOND, VA 23233
SHACK #1547

PERMIT / BID SET

CAPTIVEAIRE DRAWINGS

DRAWN BY: Author
CHECKED BY: Checker
JOB NO: 20240154.00

M703

EXHAUST FAN INFORMATION - JOB#6748687

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL.	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SDNES
1	KEF(GRILL)	1	DU8SHFA	CAPTIVEAIRE	1188	1.500	1424	TEAD-ECM	0.750	0.4970	1	208	5.2	376 FPM	90	12.7
2	KEF(FRYER)	1	DU8SHFA	CAPTIVEAIRE	860	1.500	1354	TEAD-ECM	0.750	0.4270	1	208	5.2	272 FPM	90	11.4

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF(GRILL)	1	GREASE BOX
		1	FAN BASE CERAMIC SEAL - DU/DR8SHFA - INSTALLED AT PLANT - FOR GREASE DUCTS
		1	ECM WIRING PACKAGE - EXHAUST - MODBUS CONTROL -MSC- (TELCD), CCW ROTATION
		1	2 YEAR PARTS WARRANTY
2	KEF(FRYER)	1	GREASE BOX
		1	FAN BASE CERAMIC SEAL - DU/DR8SHFA - INSTALLED AT PLANT - FOR GREASE DUCTS
		1	ECM WIRING PACKAGE - EXHAUST - MODBUS CONTROL -MSC- (TELCD), CCW ROTATION
		1	2 YEAR PARTS WARRANTY

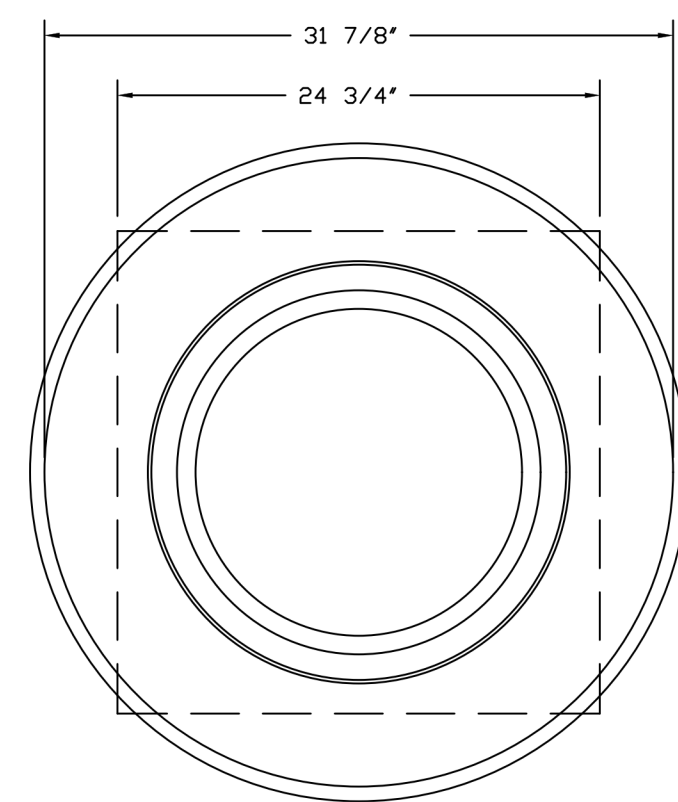
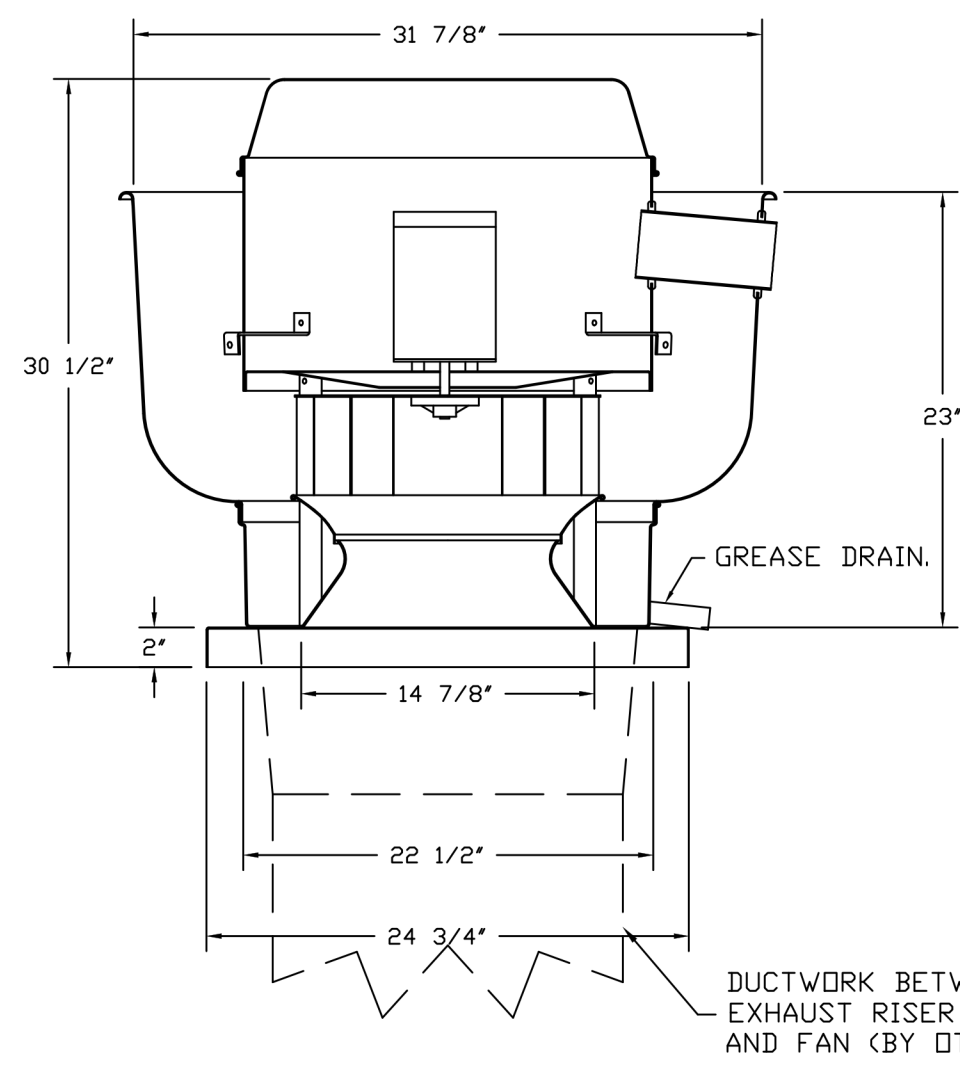
FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST				SUPPLY		
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF(GRILL)	YES						
2	KEF(FRYER)	YES						

CURB ASSEMBLIES

NO	DN FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	KEF-1	36 LBS	CURB	23.000"W X 23.000"L X 20.000"H HINGED.
2	# 2	KEF(FRYER)	36 LBS	CURB	23.000"W X 23.000"L X 20.000"H HINGED.

FANS #1 (KEF(GRILL)), #2 (KEF(FRYER)) - DU8SHFA EXHAUST FAN



TOP VIEW

FEATURES:

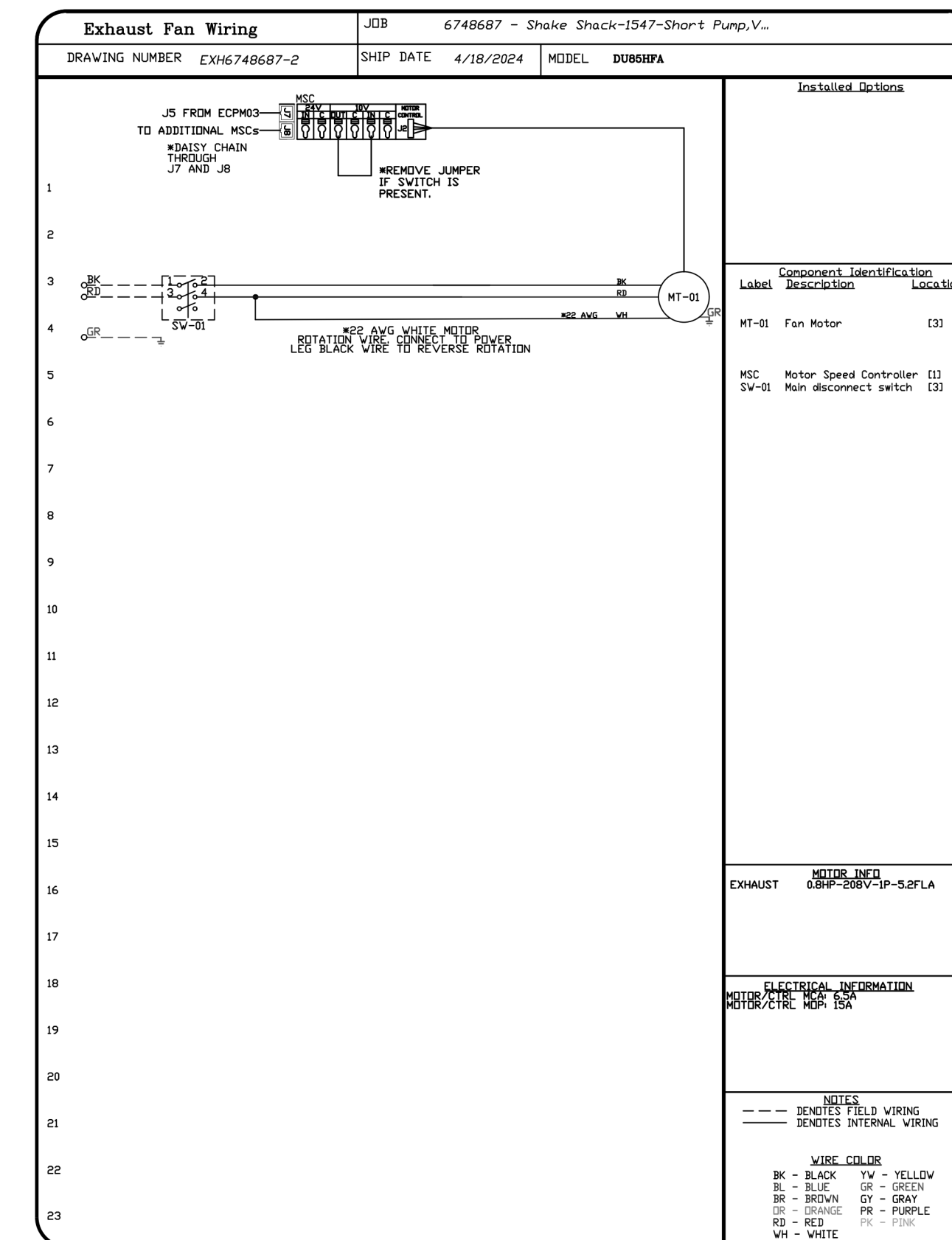
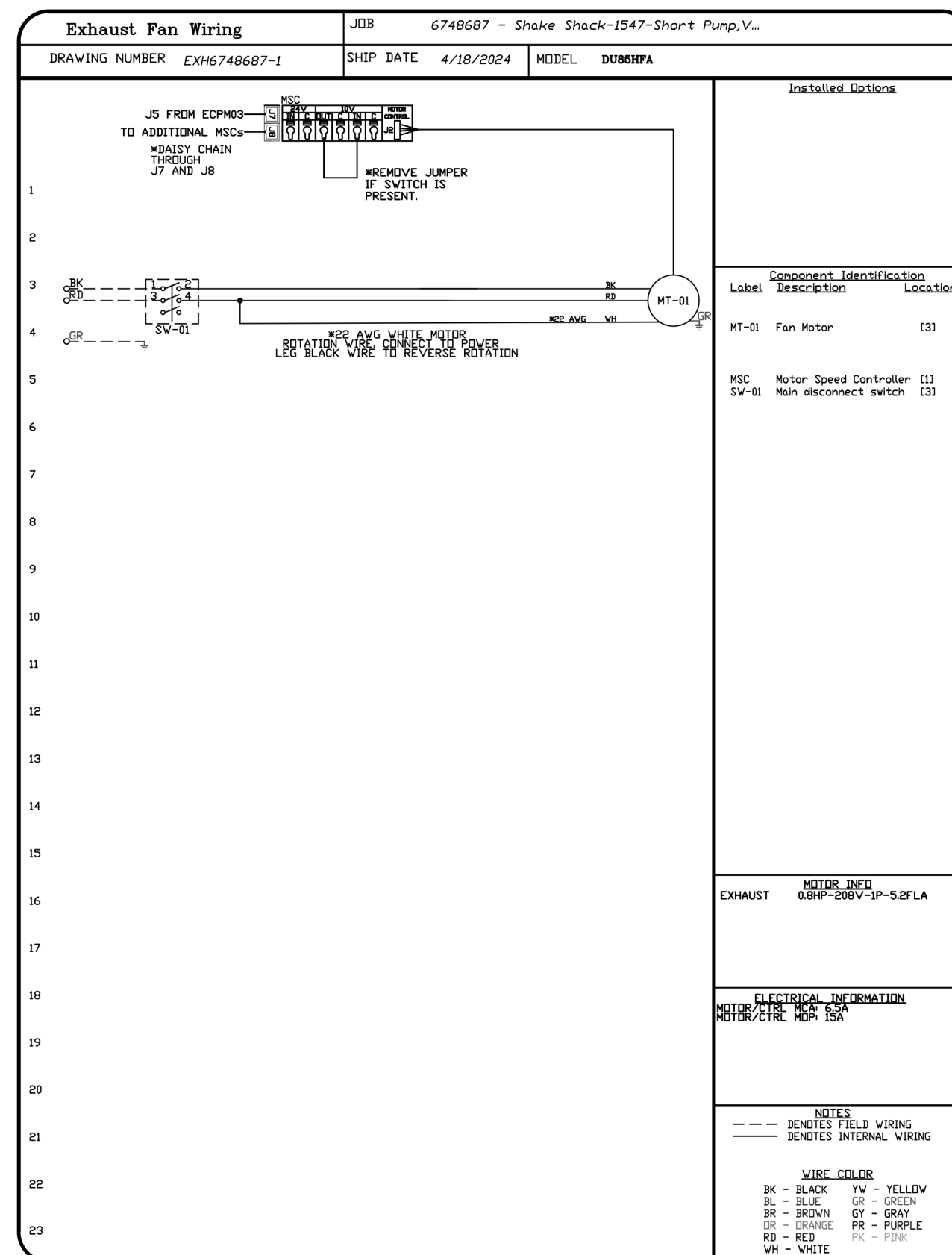
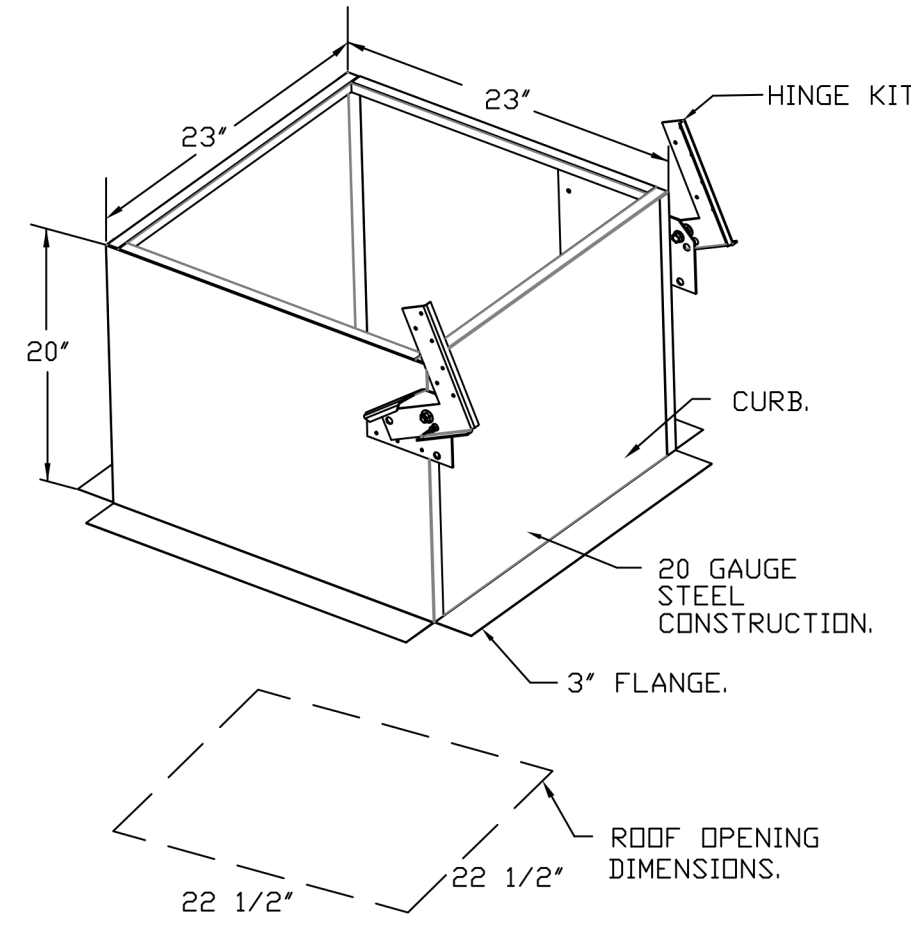
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND UL-C-5645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT 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 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 CONDITION.

OPTIONS

- GREASE BOX.
- FAN BASE CERAMIC SEAL - DU/DR8SHFA - INSTALLED AT PLANT - FOR GREASE DUCTS.
- ECM WIRING PACKAGE - EXHAUST - MODBUS CONTROL -MSC- (TELCD), CCW ROTATION.
- 2 YEAR PARTS WARRANTY.



REVISIONS

NO.	DESCRIPTION	DATE

CAPTIVEAIRE
Eastern PA Mechanical
www.captiveaire.com
www.captiveaire.com

Shake Shack-1547-Short Pump, VA(Kitchen)
HENRICO, VA, 23233

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DRAWN BY: Joe.shiiba
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 4

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CONSULTANTS:

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NO. BY DATE DESCRIPTION

SHAKE SHACK

SHAKE SHACK SHORT PUMP

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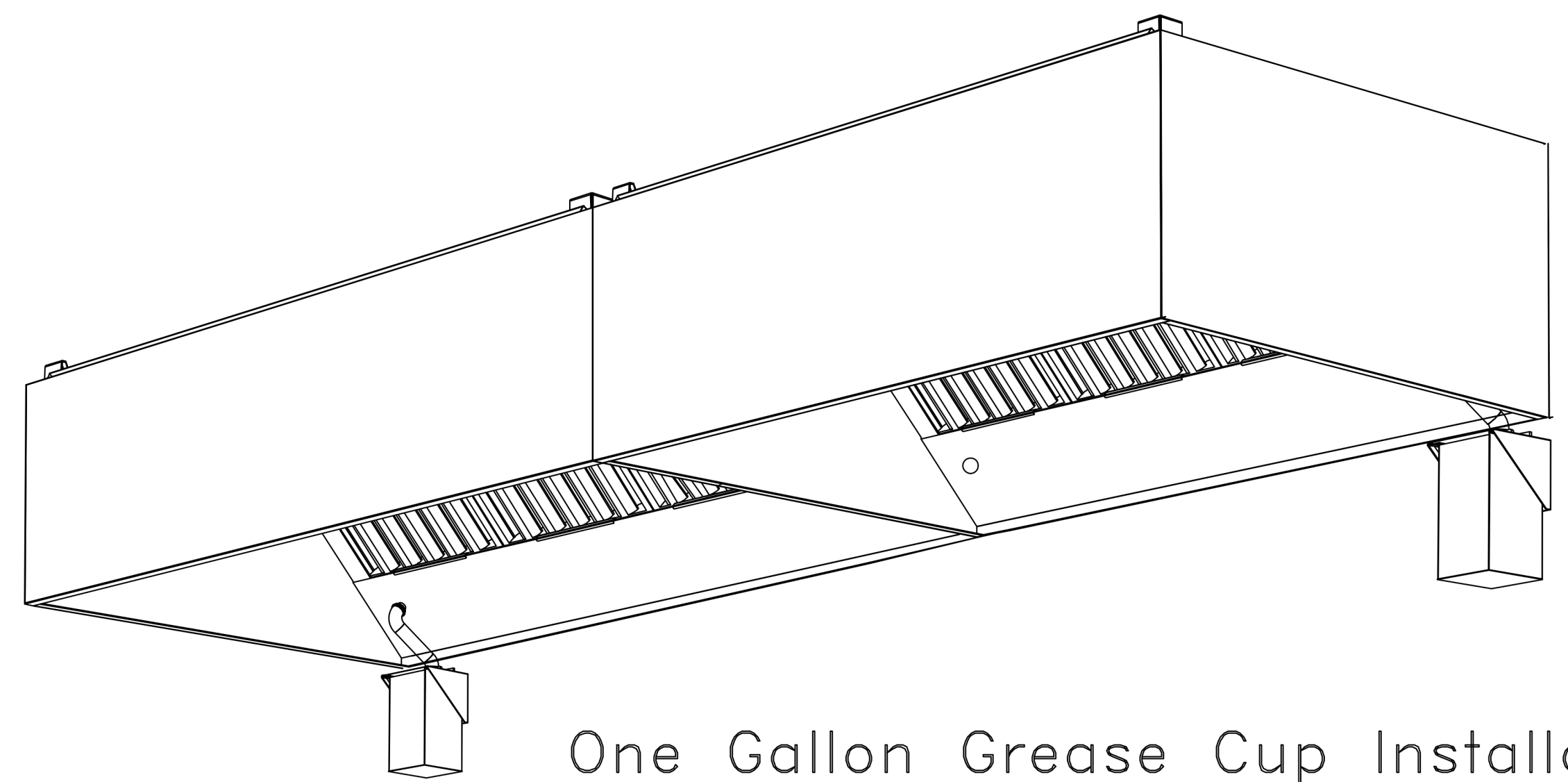
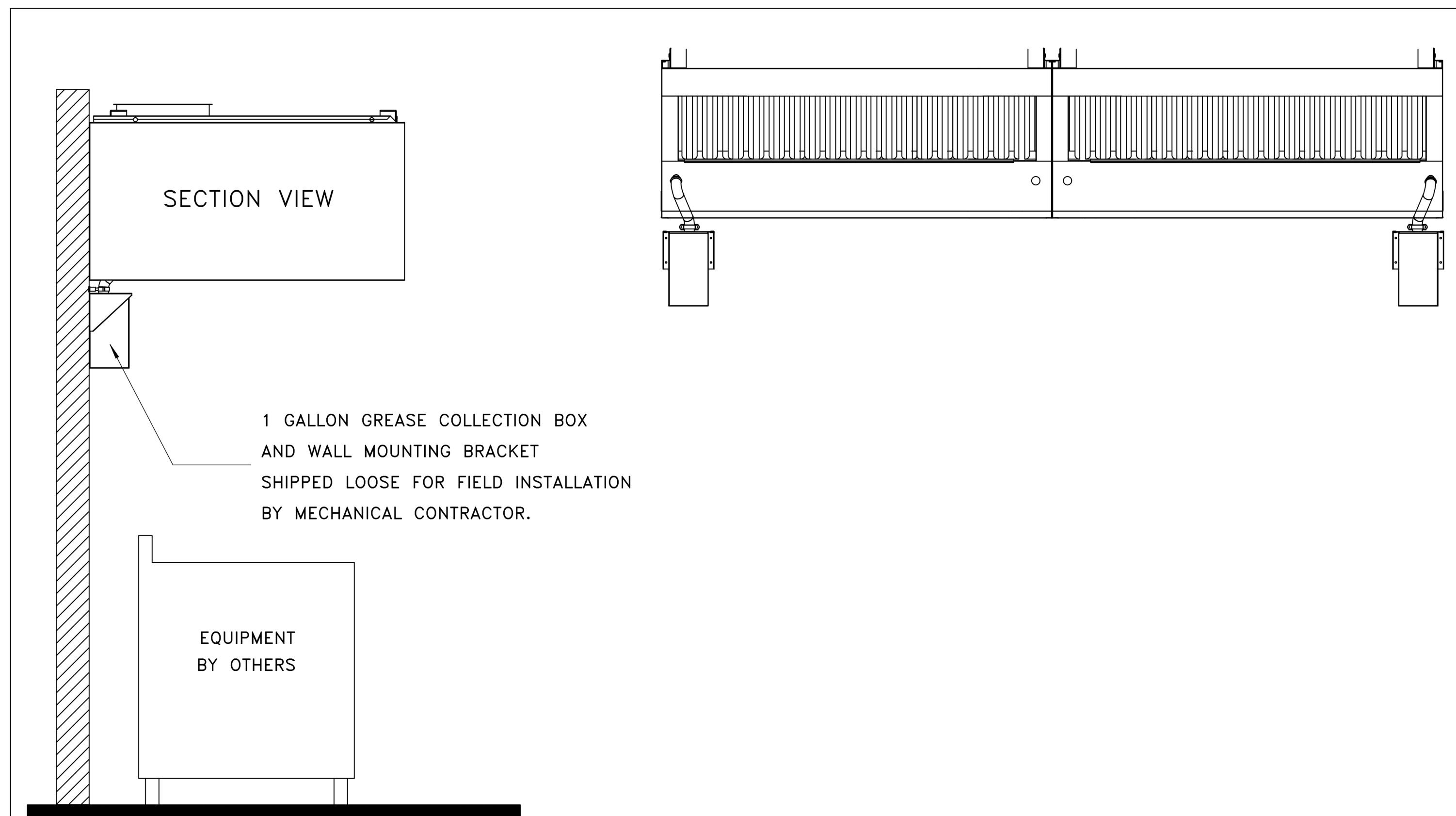
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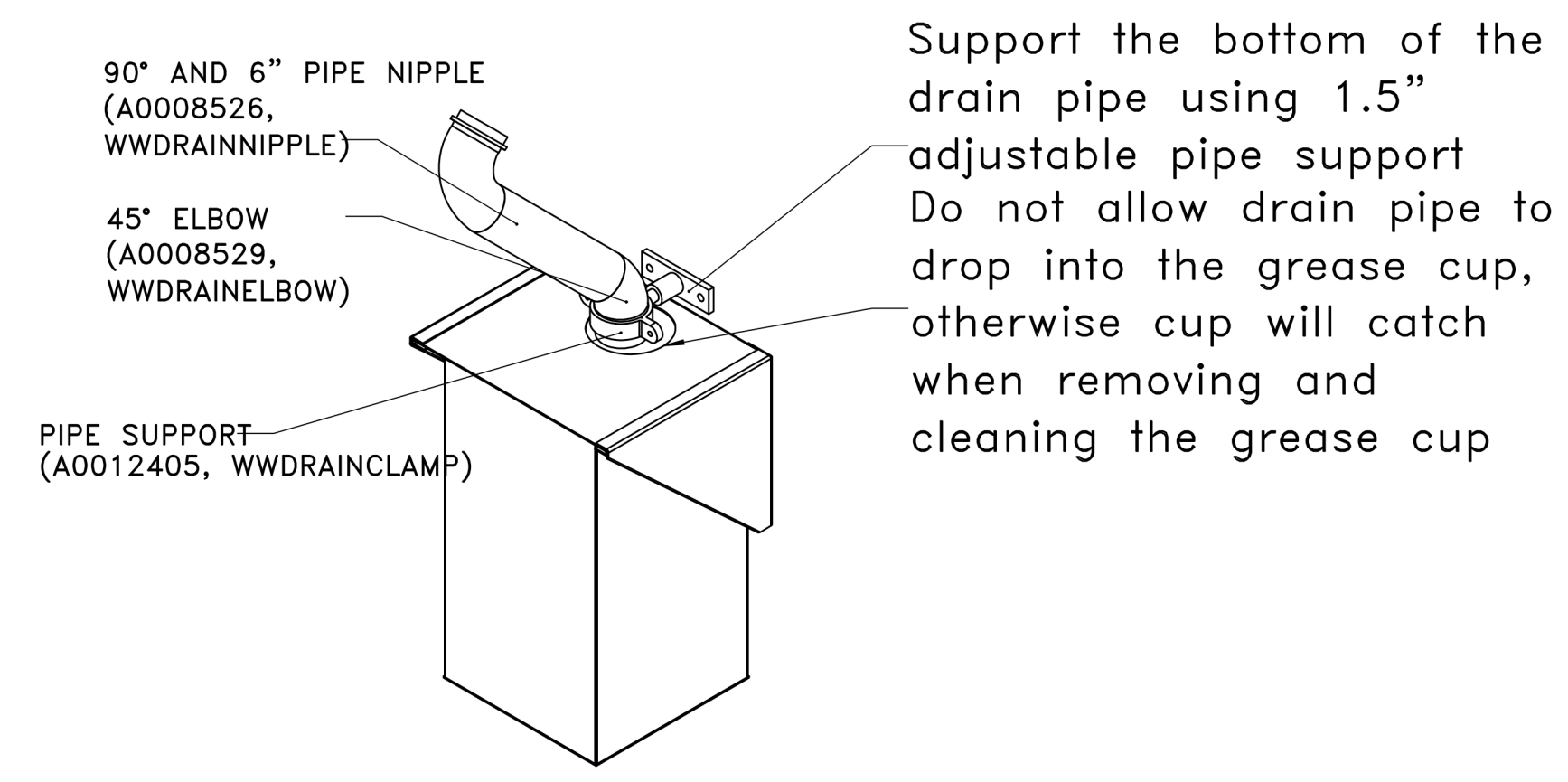
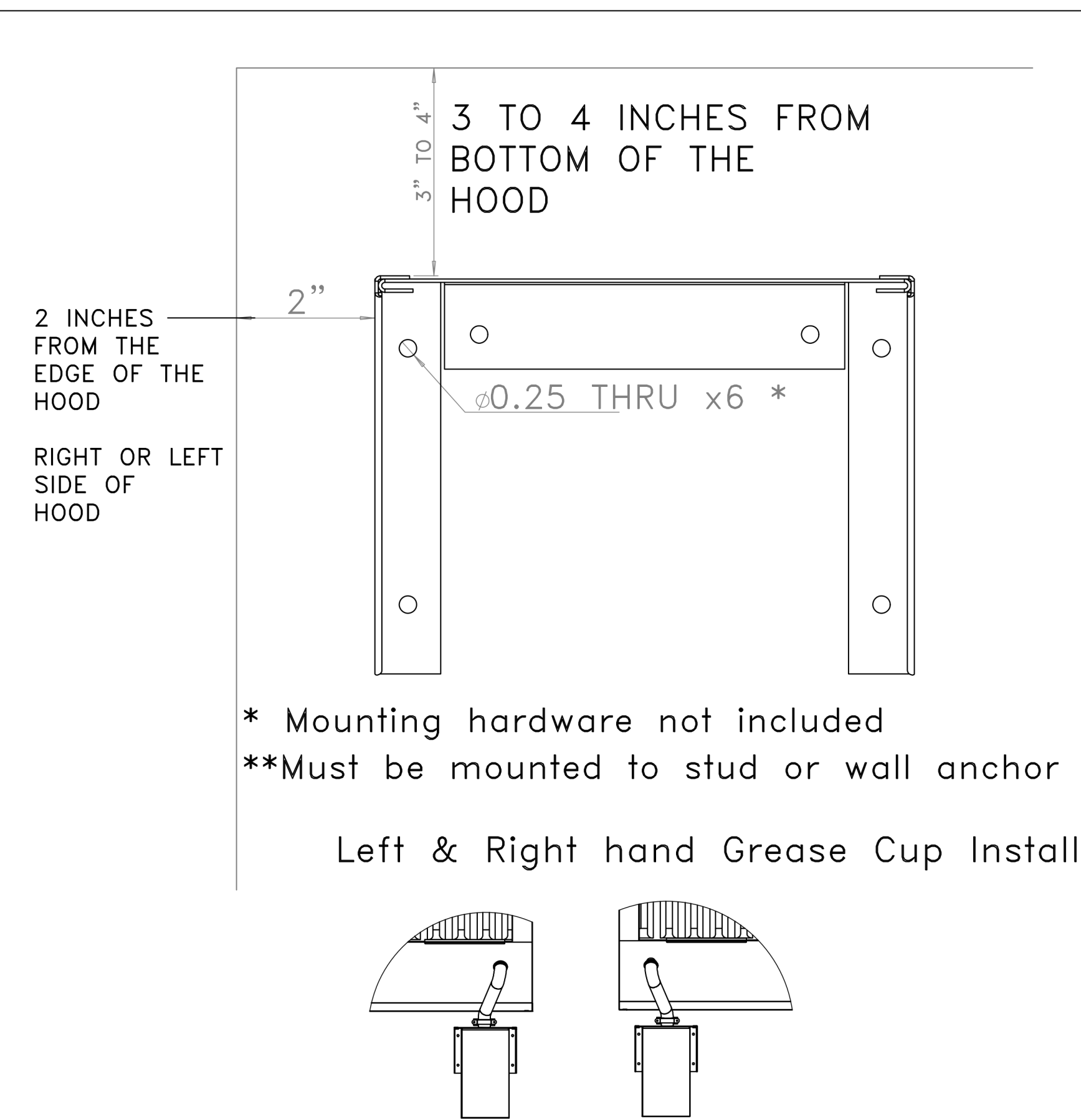


One Gallon Grease Cup Installation

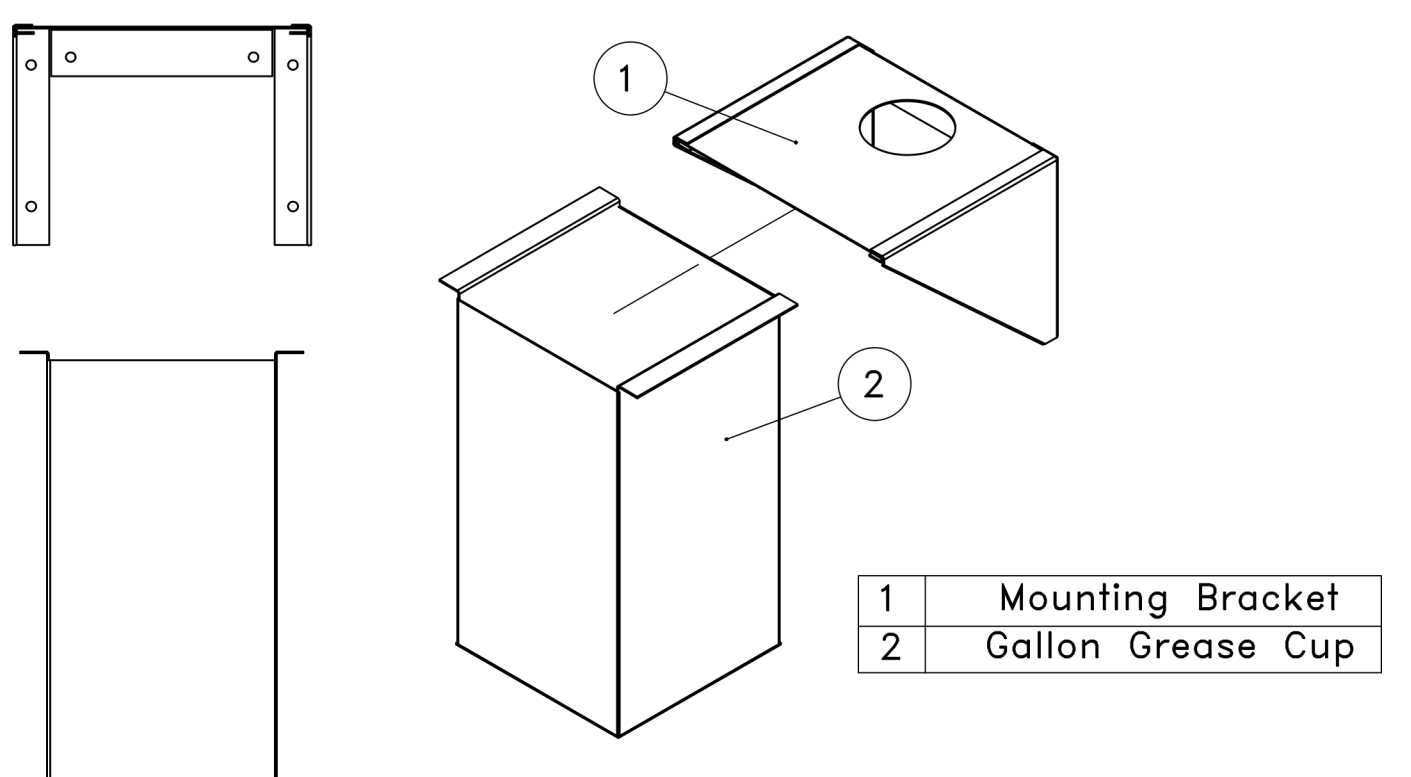
Instructions below outline single, or dual, one gallon grease cup installation for ND-2 hood models.

The one gallon grease cup comes as an assembly of stainless steel wall mounting bracket and one gallon cup. The mounting bracket should be installed 2" from the edge of the containment plenum and 3"-4" below the bottom of the hood.

Piping from the hood grease drain should route to the opening of the grease cup, but not into the cup, otherwise the cup will not be able to be removed and emptied.



Gallon Grease Cup Assembly



1 GALLON GREASE COLLECTION BOX AND WALL MOUNTING BRACKET SHIPPED LOOSE FOR FIELD INSTALLATION BY MECHANICAL CONTRACTOR.

REVISIONS	
DESCRIPTION	DATE

CAPTIVE
Eastern PA Mechanical
PO Box 2520, 1 Union Ave, Bala Cynwyd, PA 19004 PHONE: (267) 504-4106 EMAIL: reg108@captivemechanical.com

Shake Shack-1547-Short Pump, VA(Kitchen)
HENRICO, VA, 23233

DATE: 4/18/2024
DWG.#: 6748687
DRAWN BY: Joe.shiiba
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 6

NOTE:
THE DOCUMENTATION CONTAINED ON THIS SHEET WAS NOT PREPARED BY HENDERSON ENGINEERS AND IS INCLUDED IN THIS SET FOR REFERENCE ONLY. HENDERSON ENGINEERS REVIEWED THE DOCUMENTATION ON THIS SHEET FOR GENERAL COMPLIANCE WITH DESIGN INTENT. SUPPLIER IS RESPONSIBLE THAT ALL FURNISHED EQUIPMENT ON THIS SHEET COMPLIES WITH APPLICABLE LOCAL, STATE, AND FEDERAL LAWS, CODES, AND REGULATIONS.

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CONSULTANTS:

SEAL SIGNATURE:

FOR REFERENCE ONLY

NO.	BY	DATE	PERMIT / BID SET	DESCRIPTION

SHAKE SHACK SHORT PUMP

12170 W BROAD ST
RICHMOND, VA 23233
SHACK #1547

PERMIT / BID SET

CAPTIVEAIRE DRAWINGS

DRAWN BY: Joe.shiiba Author
CHECKED BY: Joe.shiiba Checker
JOB NO: 20240154.00

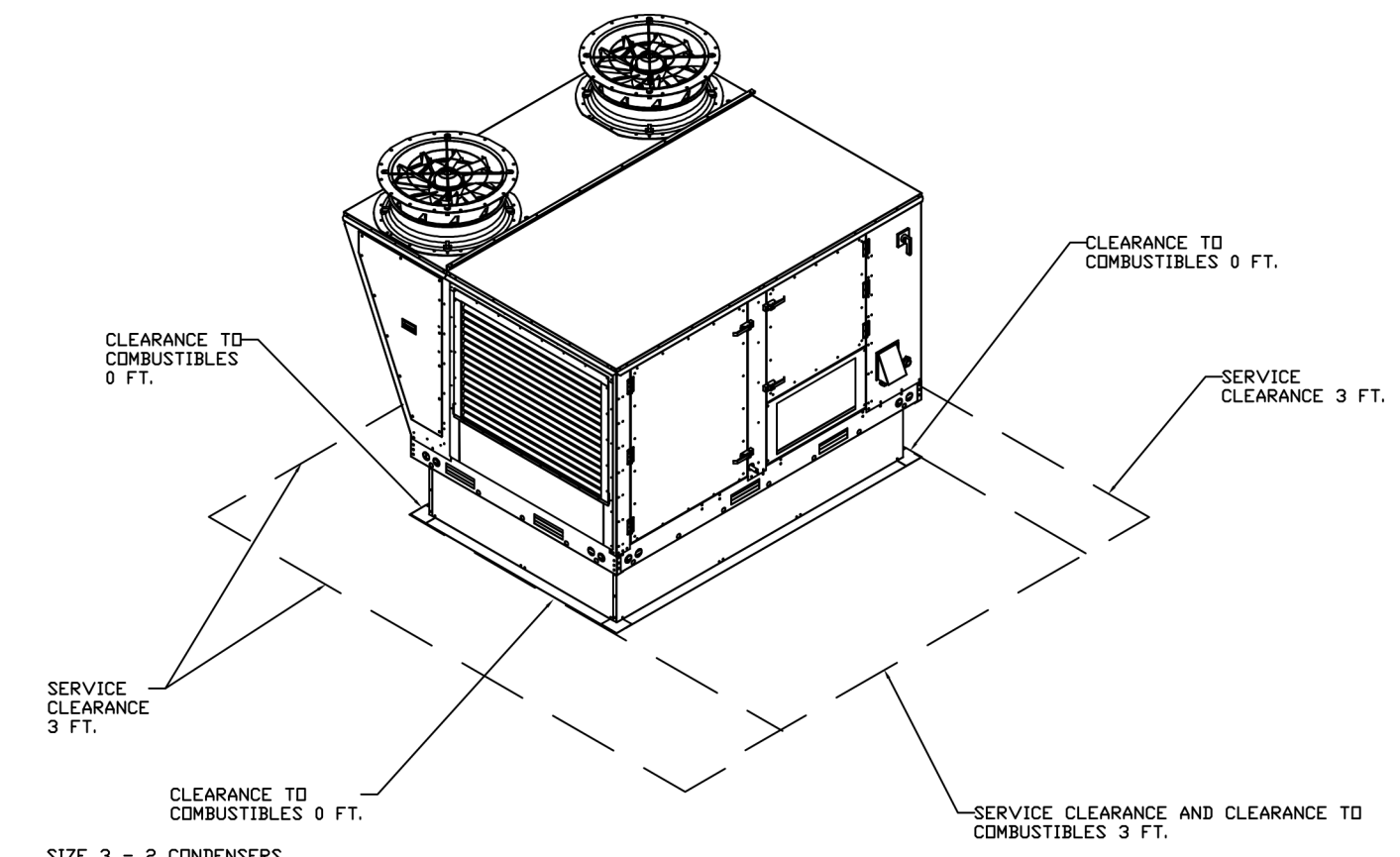
M706

DOAS/RTU FAN SCHEDULE - JOB#6974874										FAN INFORMATION										ELECTRICAL INFORMATION										COOLING INFORMATION										REHEAT INFORMATION										GAS HEAT INFORMATION										NOTES
FAN UNIT NO.	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	BLOWER	RETURN AIR CFM	MAX OUTSIDE AIR CFM	TOTAL CFM	WEIGHT (LBS)	ESP	HP	PHASE	VOLTS	MCA	MDCP	DB	WB	DB	WB	DB	WB	DB	WB	DP	TOTAL	SENS.	TEER	ISMRE	DB	WB	DESIRED	MAX	MOISTURE REMOVAL RATE	GAS TYPE	INPUT BTUH	OUTPUT BTUH	TEMP RISE	REQUIRED INPUT GAS PRESSURE	REQUIRED INPUT GAS PRESSURE																					
1	RTU-KIDNING	1	CAS-HVAC3-1200-24-15T	CAPTIVEAIRE	24MF-3-RTU	3000	1300	4300	2583	0.800	5.00	3	208	71.9A	80A	94.9°F	75.3°F	81.1°F	66.8°F	50.2°F	50.1°F	50.1°F	210.3 MBH	144.5 MBH	18.8	5.7	74.0°F	62.0°F	115 MBH	129.6 MBH	50.5 LBS/HR	NATURAL	187935	152827	32°F	7 IN. W.C. - 14 IN. W.C.	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17																							
2	RTU-RKITCHEN	1	CAS-HVAC3-1300-24-15T	CAPTIVEAIRE	24MF-3-RTU	3800	1300	5100	2660	0.800	5.00	3	208	75.2A	90A	94.9°F	75.3°F	80.1°F	66.1°F	52.4°F	52.2°F	52.1°F	210.3 MBH	154.1 MBH	18.8	5.7	70.0°F	61.2°F	100.5 MBH	129.6 MBH	50.5 LBS/HR	NATURAL	207873	168377	30°F	7 IN. W.C. - 14 IN. W.C.	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18																							

- NOTES:**
- INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL.
 - DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE.
 - INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER.
 - REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE.
 - EC MOTOR CONDENSING FANS.
 - ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE.
 - SUCTION LINE ACCUMULATOR.
 - FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER.
 - AVERAGING INTAKE EXHAUST AND DISCHARGE TEMPERATURE SENSORS DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT.
 - 8" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-13 INSULATION-MINIMUM 80GA EXTERIOR W/ 14GA BASE.
 - 80% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP.
 - SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE.
 - FULLY MODULATING REHEAT GAS HEATER.
 - 15 DEGREE LOW AMBIENT OPERATION.
 - HAIL GUARD FOR CONDENSING COIL.
 - RTU ECONOMIZER WITH DIFFERENTIAL ENTHALPY CONTROL.
 - DOWN DISCHARGE/DOWN RETURN.
18. BAROMETRIC RELIEF DAMPER

FOR QUESTIONS, CALL THE
Eastern PA Mechanical
REGION 108
PHONE: (267) 504 - 4126
EMAIL: reg108@captveaire.com

FAN UNIT NO.	TAG	QTY	DESCRIPTION
1	RTU-KIDNING	1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" W.C. 1 FURNACE
		1	TOTAL CFM MONITORING
		1	INTAKE FIRESTAT SET TO 135°F
		1	FREEZESTAT
		1	DISCHARGE FIRESTAT SET TO 240°F
		1	SHIP LUDGE GAS STRAINER 3/4"
		1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU. 750VA TRANSFORMER USED. IF A NON-DCV PREVIEW CONTROLS THIS UNIT, THE #88, #47, "MAX" OR "EB" PREVIEW OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREVIEW.
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	RTU3 DOWN DISCHARGE
		1	2" MERV 13 FILTERS FOR RTU3 (QTY. 4)
		1	2" MERV 8 FILTERS FOR RTU3 (QTY. 4)
		1	OVERHEAT STAT
		1	VFD FACTORY MOUNTED AND WIRED IN RTU COMMERCIAL CONTROL VESTIBULE
		1	15 TON MODULATING COOLING OPTION, 208/230V, R410A REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FANS
		1	15 TON MODULATING REHEAT OPTION - SPACE DEWPOINT CONTROL - R410A
		1	RTU3 CURB DUCT HANGER
		1	120V FIRE INPUT
		1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS
		1	OCCUPIED SCHEDULING
		1	LDW AMBIENT COOLING OPERATION - DOWN TO 0F AMBIENT
		1	CLOGGED FILTER SWITCH - NOTIFICATION ON HMI
		1	RTU3 CONVENIENCE OUTLET (GFCD), 15 AMP - REQUIRES SEPARATE 120V CONNECTION
		1	INCLUDES RECEPTACLE, COVER AND J-BOX
		2	RTU-RKITCHEN
1	RTU3 HAIL GUARD		
1	VAV PACKAGE W/ MANUAL/BDC CONTROL (S7) VFD INCLUDED		
1	LOAD REACTOR MOUNTED IN FAN		
1	RTU3 DOWN RETURN		
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		
1	INLET PRESSURE GAUGE, 0-35"		
1	MANIFOLD PRESSURE GAUGE, 0 TO 10" W.C. 1 FURNACE		
1	TOTAL CFM MONITORING		
1	INTAKE FIRESTAT SET TO 135°F		
1	FREEZESTAT		
1	DISCHARGE FIRESTAT SET TO 240°F		
1	SHIP LUDGE GAS STRAINER 1"		
1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU. 750VA TRANSFORMER USED. IF A NON-DCV PREVIEW CONTROLS THIS UNIT, THE #88, #47, "MAX" OR "EB" PREVIEW OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREVIEW.		
1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED		
1	RTU3 DOWN DISCHARGE		
1	2" MERV 13 FILTERS FOR RTU3 (QTY. 4)		
1	2" MERV 8 FILTERS FOR RTU3 (QTY. 4)		
1	OVERHEAT STAT		
1	VFD FACTORY MOUNTED AND WIRED IN RTU COMMERCIAL CONTROL VESTIBULE		
1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS		
1	120V FIRE INPUT		
1	OCCUPIED SCHEDULING		
1	CLOGGED FILTER SWITCH - NOTIFICATION ON HMI		
1	RTU3 CONVENIENCE OUTLET (GFCD), 15 AMP - REQUIRES SEPARATE 120V CONNECTION		
1	INCLUDES RECEPTACLE, COVER AND J-BOX		
1	RTU ECONOMIZER - DIFFERENTIAL ENTHALPY CONTROL		
1	RTU3 ECONOMIZER BAROMETRIC RELIEF		
1	RTU INTAKE/RETURN DAMPER - MANUAL CONTROL VIA HMI		
1	2" DIA. POKERED EXHAUST FOR RTU3 - MANUAL CONTROL. 3000 CFM MAX AT 0"		
1	RTU3 DOWN RETURN		
1	RTU3 HAIL GUARD		
1	VAV PACKAGE W/ MANUAL/BDC CONTROL (S7) VFD INCLUDED		
1	LOAD REACTOR MOUNTED IN FAN		
1	LDW AMBIENT COOLING OPERATION - DOWN TO 0F AMBIENT		
1	RTU3 CURB DUCT HANGER		
1	15 TON MODULATING COOLING OPTION, 208/230V, R410A REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FANS		
1	15 TON MODULATING REHEAT OPTION - SPACE DEWPOINT CONTROL - R410A		
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		



NO.	FN	TAG	WEIGHT	ITEM	SIZE
1	# 1	RTU-KIDNING	193 LBS	CURB	59.500"W X 91.000"L X 22.000"H INSULATED 16 GAUGE.
2	# 2	RTU-RKITCHEN	193 LBS	CURB	59.500"W X 91.000"L X 22.000"H INSULATED 16 GAUGE.

UNIT NUMBER	HMI #	UNIT	IN UNIT	TEMP AVERAGING	MODBUS ADDRESS
FAN #1	HMI #1	- UNIT	IN UNIT	NOT AVERAGED	55
FAN #1	HMI #2	- SPACE		AVERAGED	56
FAN #2	HMI #1	- UNIT	IN UNIT	NOT AVERAGED	55
FAN #2	HMI #2	- SPACE		AVERAGED	56

REVISIONS

NO.	DESCRIPTION	DATE

CAPTIVEAIRE
www.captiveaire.com

Eastern PA Mechanical
225 E City Line Avenue, Suite #103, Bala Cynwyd, PA, 19004 PHONE: (267) 504 - 4126 EMAIL: reg108@captveaire.com

Shack Shack-1547-Short Pump VAV(HVAC)-R2
HENRICO, VA, 23233

DATE: 8/13/2024
DWG.#: 6974874
DRAWN BY: Joe.shiiba
SCALE: 1/2" = 1'-0"
MASTER DRAWING

SHEET NO. 1

NOTE:
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CONSULTANTS:

SEAL SIGNATURE:

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NO. BY DATE DESCRIPTION

SHAKE SHACK

SHAKE SHACK SHORT PUMP

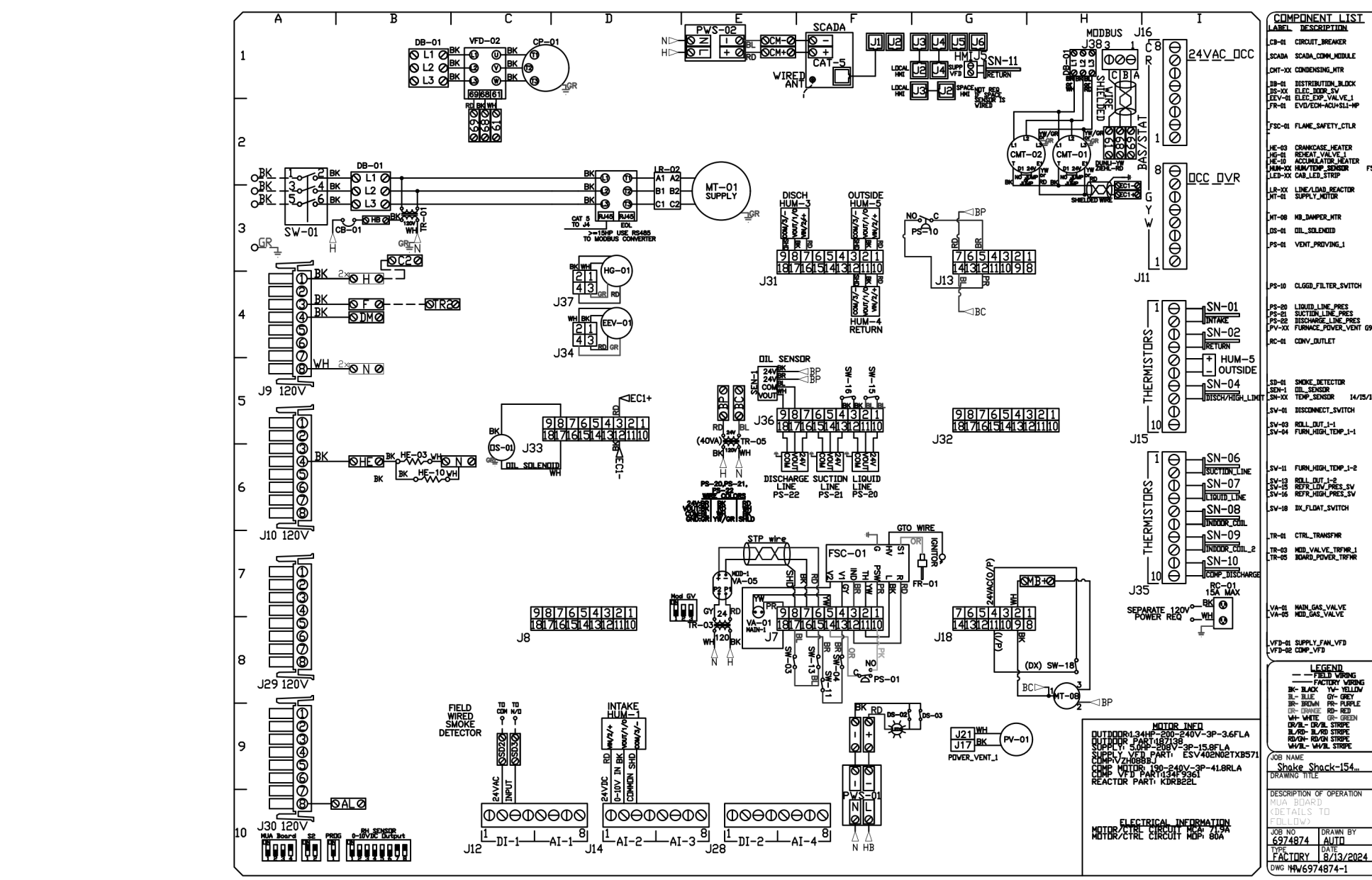
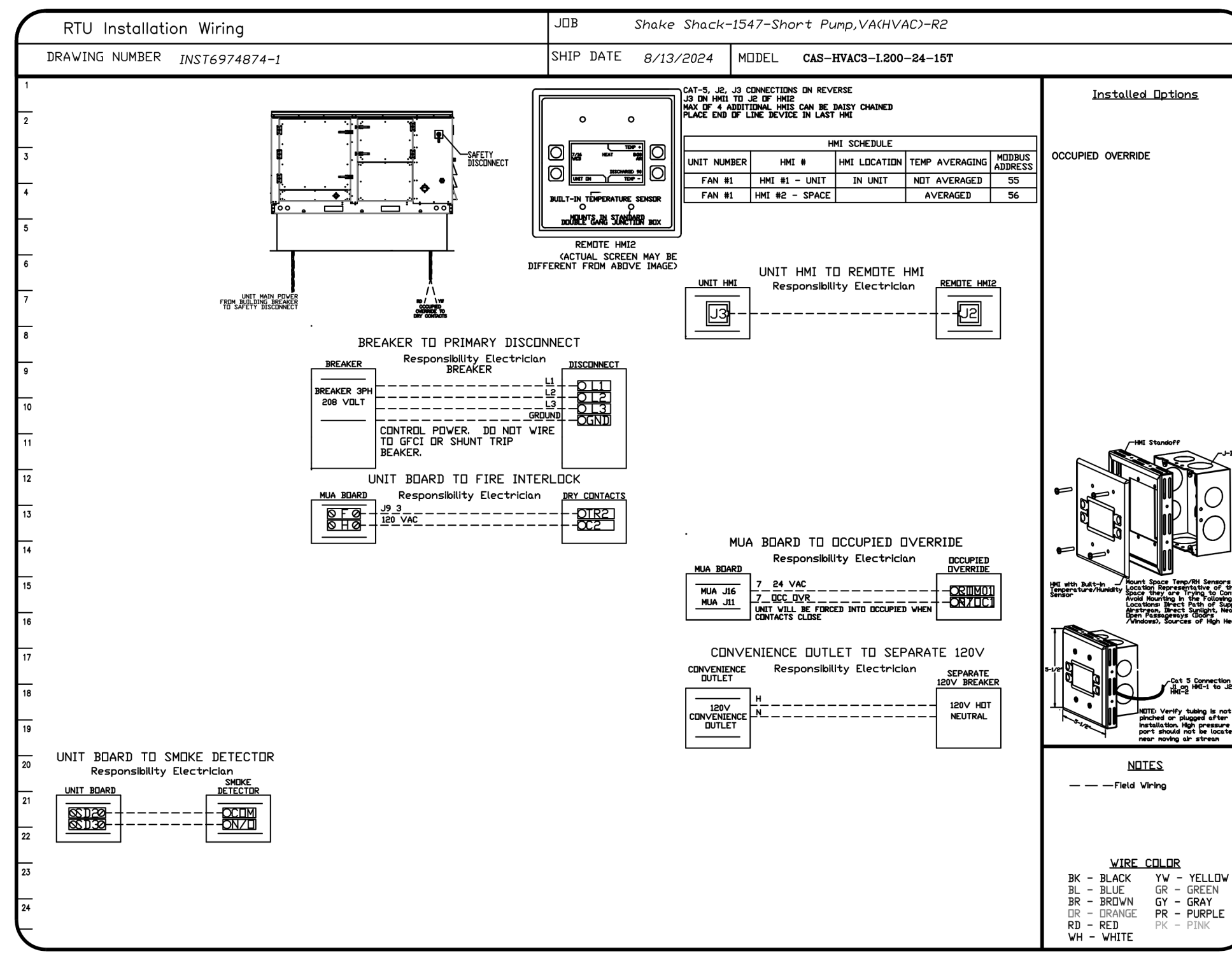
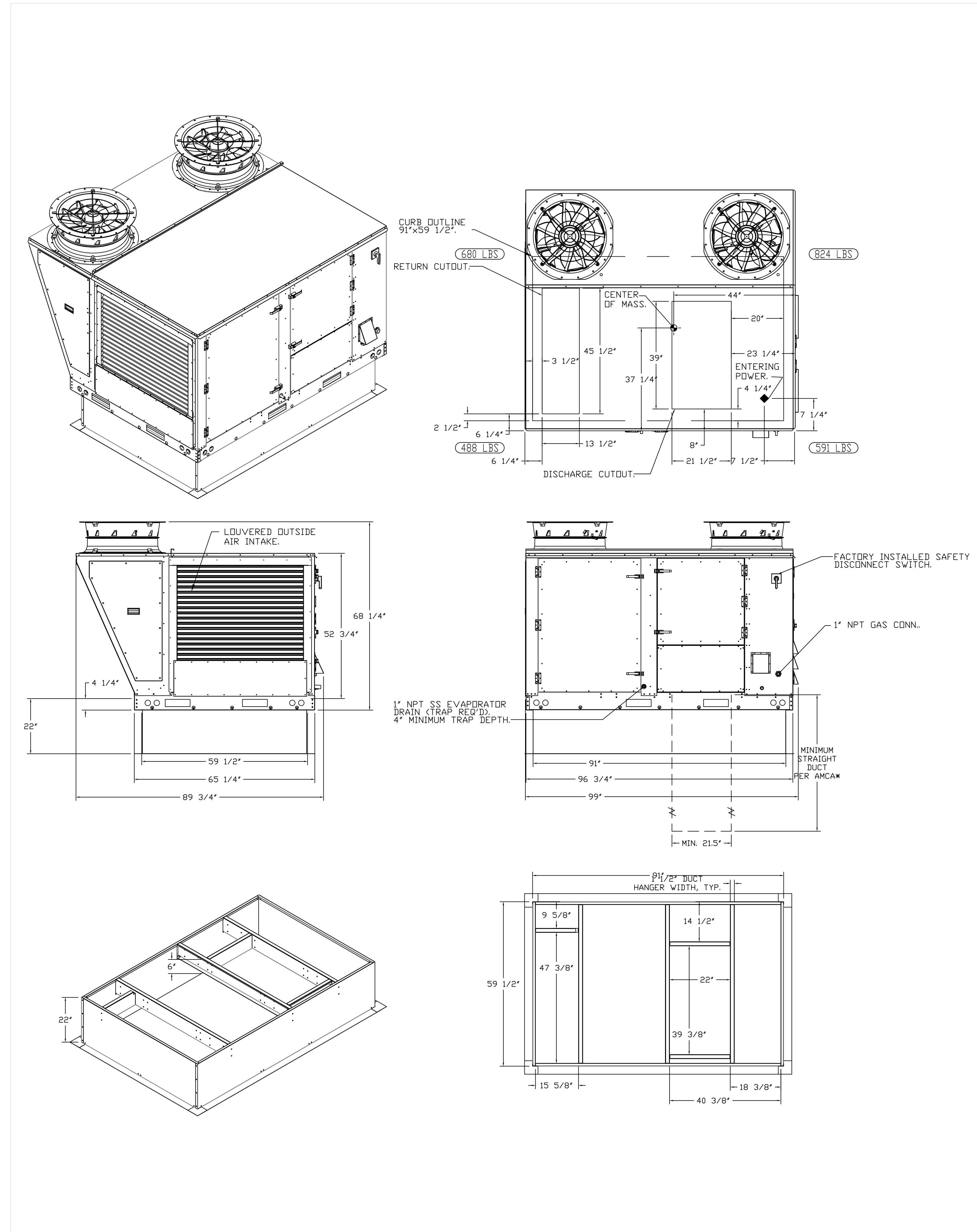
12170 W BROAD ST
RICHMOND, VA 23233
SHACK #1547

PERMIT / BID SET

CAPTIVEAIRE DRAWINGS

DRAWN BY: Author
CHECKED BY: Checker
JOB NO: 20240154.00

M707



CAPTIVE
 Eastern PA Mechanical
 225 E City Line Avenue, Suite #103, Bala Cynwyd, PA 19004
 PHONE: (267) 904-4126
 EMAIL: reg108@captiveme.com

Shake Shack-1547-Short Pump,VA(HVAC)-R2
 HENRICO, VA, 23233

DATE: 8/13/2024
DWG.#: 6974874
DRAWN BY: Joe.shiiba
SCALE: 1/2" = 1'-0"
MASTER DRAWING

SHEET NO.
 2

Bergmeyer
 800 South Figueroa St.
 Los Angeles, CA 90017
 310.900.8887
 www.bergmeyer.com

CONSULTANTS:

SEAL SIGNATURE:

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 NO. BY DATE DESCRIPTION

SHAKE SHACK

SHAKE SHACK SHORT PUMP

12170 W BROAD ST
 RICHMOND, VA 23233
 SHACK #1547

PERMIT / BID SET

CAPTIVEAIRE DRAWINGS

DRAWN BY: Author
 CHECKED BY: Checker
 JOB NO: 20240154.00

M708

