



SUBMITTAL SHEET

Edifice, LLC
NC4205 . - CMS New Elementary School Hidden Valley JW Grier Newell (17)

Project: NC4205 .
CMS New Elementary School Hidden Valley JW Grier
Newell (17)
7515 The Plaza
Charlotte, NC
28215

Spec Section Num: 233813
Submittal: 233813.002
Revision: 4
Package:
Date: 10/26/2022 EDT

Submittal Title: Commercial-Kitchen Hoods Shop Drawings Resubmittal
Submittal Detail:
Response Due By: 10/28/2022 EDT

Contractor:
Malachi Alexander
Edifice, Inc.

Contractor's Stamp

THIS REVIEW IS FOR GENERAL COMPLIANCE WITH THE DESIGN CONCEPT THE SUBCONTRACTOR / VENDOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND COORDINATED IN THE FIELD AND REMAINS RESPONSIBLE FOR VERIFICATION OF ALL QUANTITIES. EDIFICE IS NOT RESPONSIBLE FOR ANY DEVIATION FROM THE CONTRACT DOCUMENTS. DEVIATIONS AND / OR SUBSTITUTIONS MUST BE CLEARLY IDENTIFIED. APPROVAL OF ANY DEVIATIONS / SUBSTITUTIONS MUST BE MADE BY OWNER OR DESIGN TEAM.

Architect:
Bill Nord
Optima Engineering, pa

Architect's Stamp

SHOP DRAWING REVIEW 

NO EXCEPTION TAKEN
 APPROVED AS NOTED
 REVISE AND RESUBMIT
 REJECTED

REVIEW IS FOR GENERAL COMPLIANCE WITH THE INTENT OF THE CONTRACT DOCUMENTS. MECHANICAL CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR CORRECTNESS, DIMENSIONS, DETAILS, QUANTITIES AND ALL COST ASSOCIATED WITH SUBSTITUTED EQUIPMENT, INCLUDING MAINTENANCE ACCESS, CLEARANCES, BUILDING ALTERATIONS, REPLACEMENT OF OTHER SYSTEM COMPONENTS, ETC.

BY **Bill Nord** DATE **10/26/2022**

Response:
Comment:

THIS REVIEW IS FOR GENERAL COMPLIANCE WITH THE DESIGN CONCEPT THE SUBCONTRACTOR / VENDOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND COORDINATED IN THE FIELD AND REMAINS RESPONSIBLE FOR VERIFICATION OF ALL QUANTITIES. EDIFICE IS NOT RESPONSIBLE FOR ANY DEVIATION FROM THE CONTRACT DOCUMENTS. DEVIATIONS AND / OR SUBSTITUTIONS MUST BE CLEARLY IDENTIFIED. APPROVAL OF ANY DEVIATIONS / SUBSTITUTIONS MUST BE MADE BY OWNER OR DESIGN TEAM.



Phone 704-280-4570

Email Address: Reg132@captiveaire.com

Project Name: CMS GRIER RELIEF

SUBMITTAL:

Date: 10/21/22

KITCHEN VENTILATION EQUIPMENT:

PLEASE NOTE:

- 1) 60" DEEP HOOD TO BE COORDINATED WITH CEILING GRID AND OTHER TRADES
- 2) UDS UPDATED TO 60A MCB TO MATCH BREAKER PROVIDED IN PANEL PPB107C.
- 3) KEF-1 5HP MOTOR TO BE COORDINATED WITH ELECTRICIAN.
- 4) FAN OPERATION ADJUSTED TO ON/OFF.

FOR QUESTIONS, CALL THE
Charlotte / Triad Mechanical
REGION 132
PHONE: (704) 280-4570
EMAIL: reg132@captivaire.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#5676413

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)				TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG				
										WIDTH	LENG	HEIGHT	DIA			CFM	VEL	SP	END TO END	RDW
1		6024 ND-2-PSP-F	CAPTIVEAIRE	11' 6"	600 DEG	I	HEAVY	225	2588			4'	16"	2588	1854	-1.272'	2070	304 SS WHERE EXPOSED	ALONE	FRONT
2		6024 ND-2-PSP-F	CAPTIVEAIRE	10' 6"	600 DEG	I	HEAVY	225	2363			4'	16"	2363	1692	-1.084'	1890	304 SS WHERE EXPOSED	ALONE	BACK

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	TYPE	SIZE			ELECTRICAL MODEL #
1		CAPRATE SOLID FILTER	8	16"	16"	85% SEE FILTER SPEC	3	RECESSED ROUND	NO						YES	665 LBS
2		CAPRATE SOLID FILTER	7	16"	16"	85% SEE FILTER SPEC	3	RECESSED ROUND	NO	LEFT	12" x 6.00" LONG	6024ND-2-PSP-F			YES	907 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		FIELD WRAPPER 17.00' HIGH FRONT, LEFT, RIGHT.
2		FIELD WRAPPER 17.00' HIGH FRONT, LEFT, RIGHT. BACK STANDOFF (FLAT) 12' WIDE 138' LONG.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1	Front	138'	16'	6'	MUA	12"	28"		690	0.180'	
					MUA	12"	28"		690	0.180'	
					MUA	12"	28"		690	0.180'	
2	Front	138'	16'	6'	MUA	8"	36"		630	0.177'	
					MUA	8"	36"		630	0.177'	

SPECIFICATION: CAPRATE® GREASE-STOP® SOLID FILTER

THE CAPRATE GREASE-STOP SOLID 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.

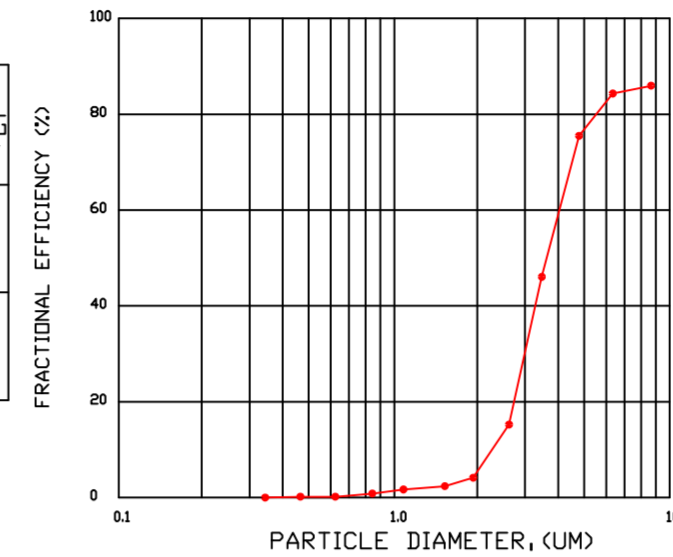
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

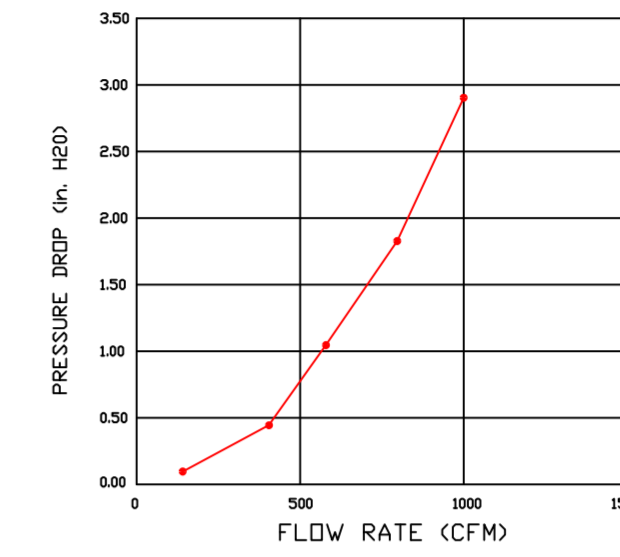
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPRATE GREASE-STOP SOLID WAS TESTED TO ASTM STANDARD ASTM F2519-05, MANUFACTURER APPROVED FOR USE IN SOLID FUEL APPLICATIONS AS A SPARK ARRESTER.

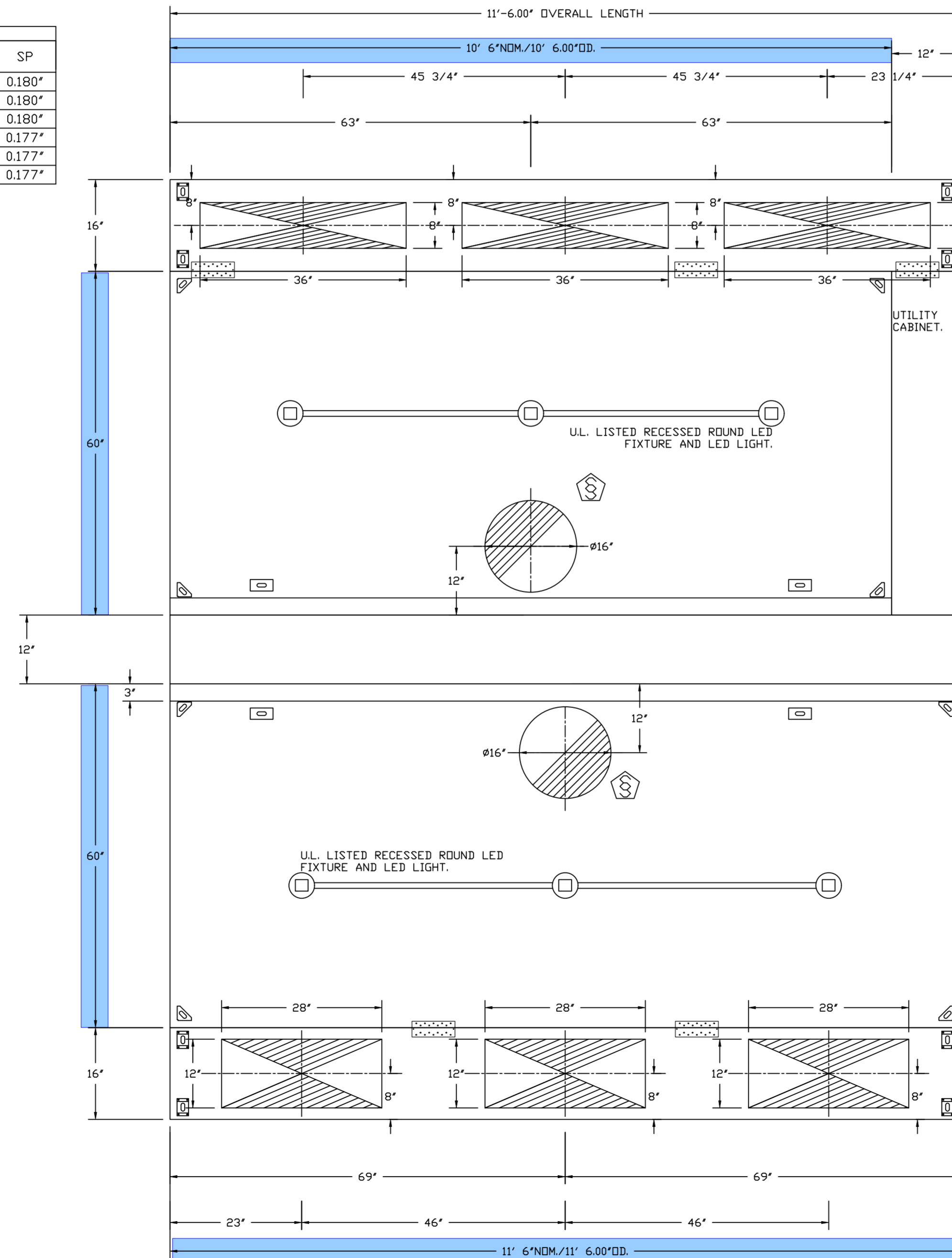
EFFICIENCY VS. PARTICLE DIAMETER



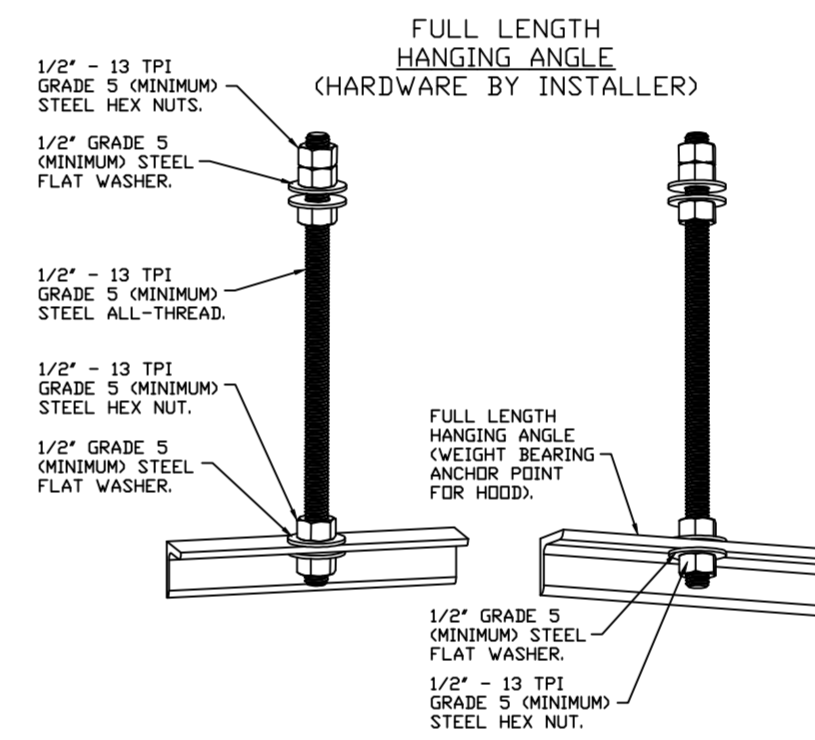
PRESSURE DROP VS. FLOW RATE



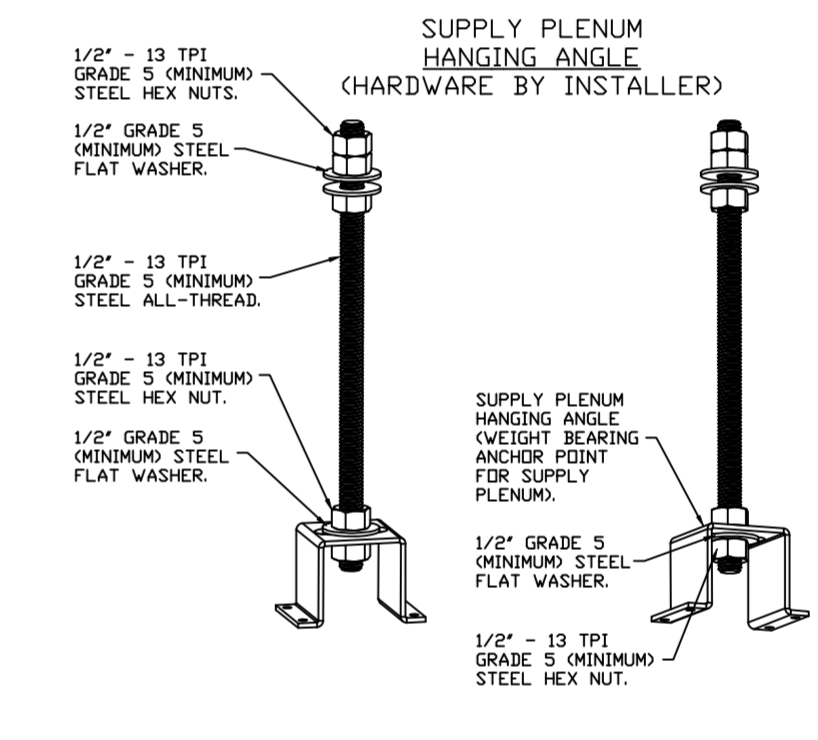
CAPRATE FILTERS ARE BUILT IN COMPLIANCE WITH:
NFPA #96.
NSF STANDARD #2.
UL STANDARD #1046.
INT. MECH. CODE (IMC).
ULC-S649.



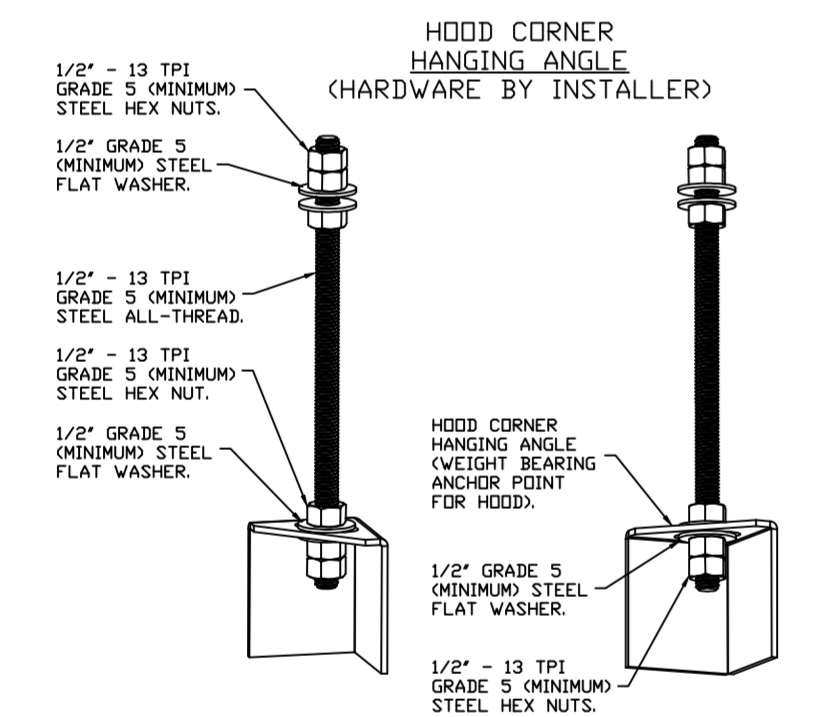
PLAN VIEW - HOOD #1
11' 6.00" LONG 6024ND-2-PSP-F



ASSEMBLY INSTRUCTIONS
HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.



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HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

REVISIONS

DESCRIPTION	DATE

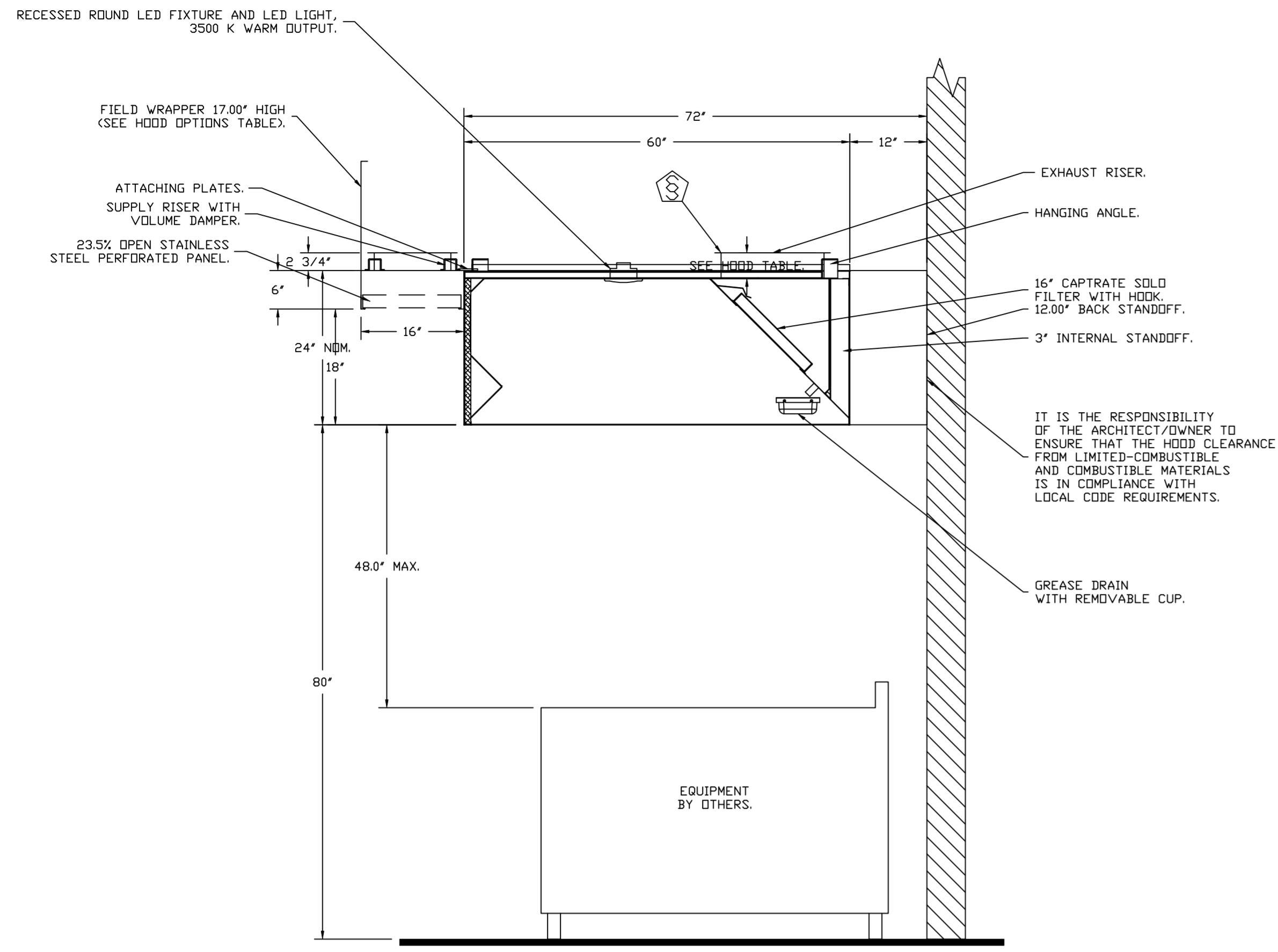
CAPTIVEAIRE
www.captiveaire.com

Charlotte / Triad Mechanical
2520 South Blvd, Charlotte, NC, 28203 PHONE: (704) 280-4570 EMAIL: reg132@captivaire.com

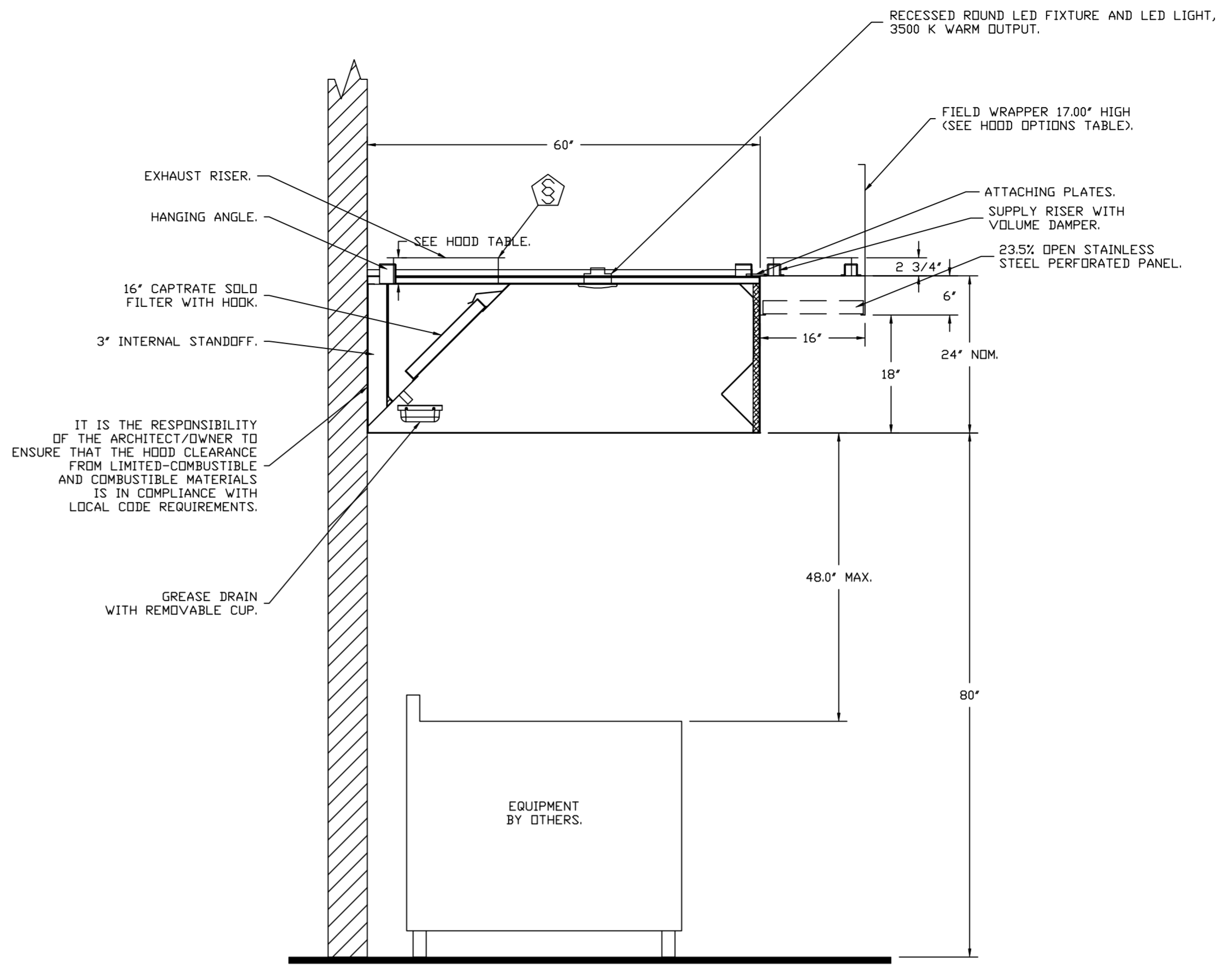
60" CMS Grier-Relief Elementary School-Plaza
CHARLOTTE, NC, 28215

DATE: 10/21/2022
DWG.#: 5676413
DRAWN BY: WRK
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO.
1



SECTION VIEW - MODEL 6024ND-2-PSP-F
HOOD - #2



SECTION VIEW - MODEL 6024ND-2-PSP-F
HOOD - #1

FIRE SYSTEM INFORMATION - JOB#5676413

FIRE SYSTEM NO	TAG	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	24	FIRE CABINET LEFT	LEFT, HOOD 2

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
1		0 - 0 - 12-F28021-32144-0T-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO, CLOSE ON TEMP RISE AT 360°F.	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 - 98694A115 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 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - SLPD0N-03FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 2' GAP. KIT CONTAINS 5 FEET OF BLACK MG WIRE, 5 FEET OF TAN MG WIRE, 3 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	1	0
		0 - 0 - SLPD0N-15FT SUPERVISED LOOP CONNECTION KIT. CONTAINS THE PARTS NEEDED TO CONNECT THE SUPERVISED LOOP BETWEEN END TO END HOODS WITH LESS THAN A 14' GAP OR BACK TO BACK HOODS. KIT CONTAINS 17 FEET OF BLACK MG WIRE, 17 FEET OF TAN MG WIRE, 15 FEET OF FLEXIBLE CONDUIT, AND TWO 7/8" CONNECTORS.	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
	34 - 34 - A0034331 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT. RED COLOR.	1	0	
	ADDITIONAL PARTS TO BE DETERMINED...			

REVISIONS

DESCRIPTION	DATE

CAPTIVEAIRE
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SHEET NO. 2

EXHAUST FAN INFORMATION - JOB#5676413

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-1&2	1	DJ200HFA	CAPTIVEAIRE	4951	1.500	1462	ODP,PREMIUM	5.000	3.1800	3	460	6.8	1205 FPM	213	41.7

MUA FAN INFORMATION - JOB#5676413

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MCCP	WEIGHT (LBS)	SDNES
2	HEATED MUA	1	A2-D.250-20D	20MF-2-MDD	A2-D.250	2000	3960	0.750	1587	ODP,PREMIUM	3.000	2.2420	3	460	4.3	5.4A	15A	674	15.8

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
2	HEATED MUA	223843	205936	50°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	92

FAN OPTIONS

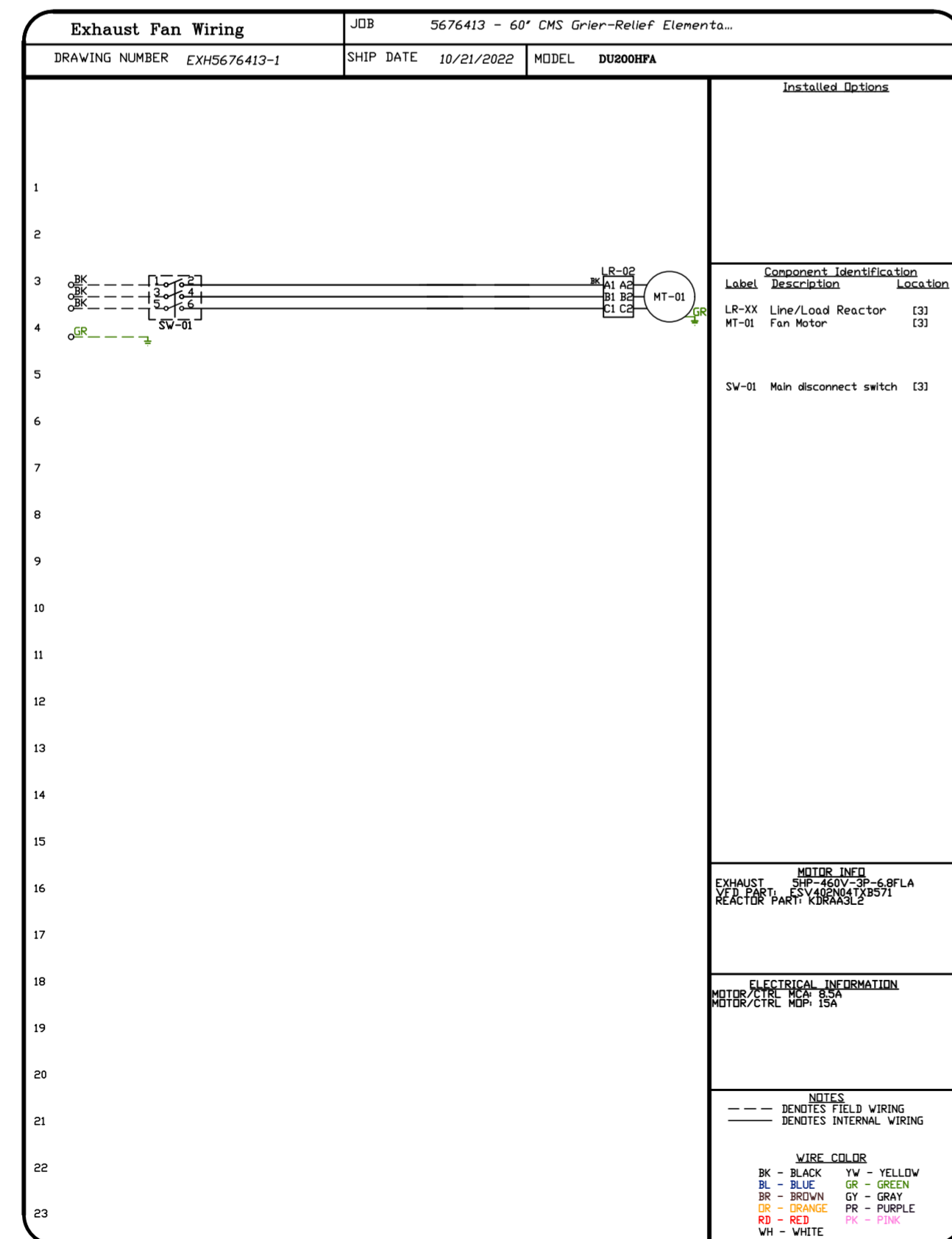
FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF-1&2	1	GREASE BOX
		1	LOAD REACTOR MOUNTED IN FAN
2	HEATED MUA	1	2 YEAR PARTS WARRANTY
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	LDW FIRE START
		1	AC INTERLOCK RELAY - 24VAC COIL
		1	MOTORIZED BACKDRAFT DAMPER FOR A2-D HOUSING - MEETS AMCA CLASS 1A RATING
		1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS
		1	SIZE 2 TEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AHUS
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV DR PREWIRE WITH VFD) - THREE PHASE ONLY
		1	SIZE 2 DIRECT FIRED HEATER LOW CFM PROFILE PACKAGE - USED ON HEATERS UNDER 2500 CFM
		1	LOAD REACTOR MOUNTED IN FAN
		1	2 YEAR PARTS WARRANTY

FAN ACCESSORIES

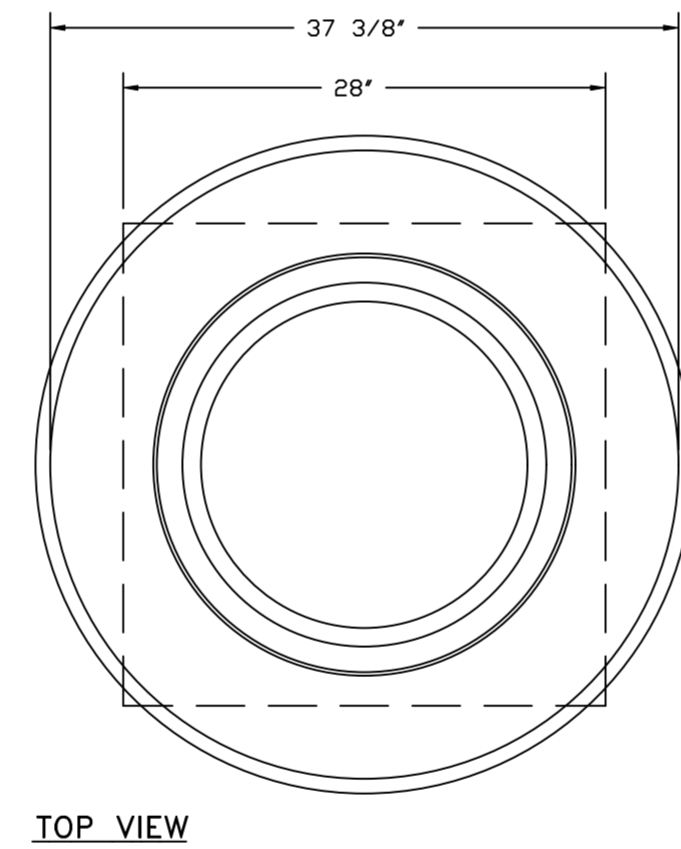
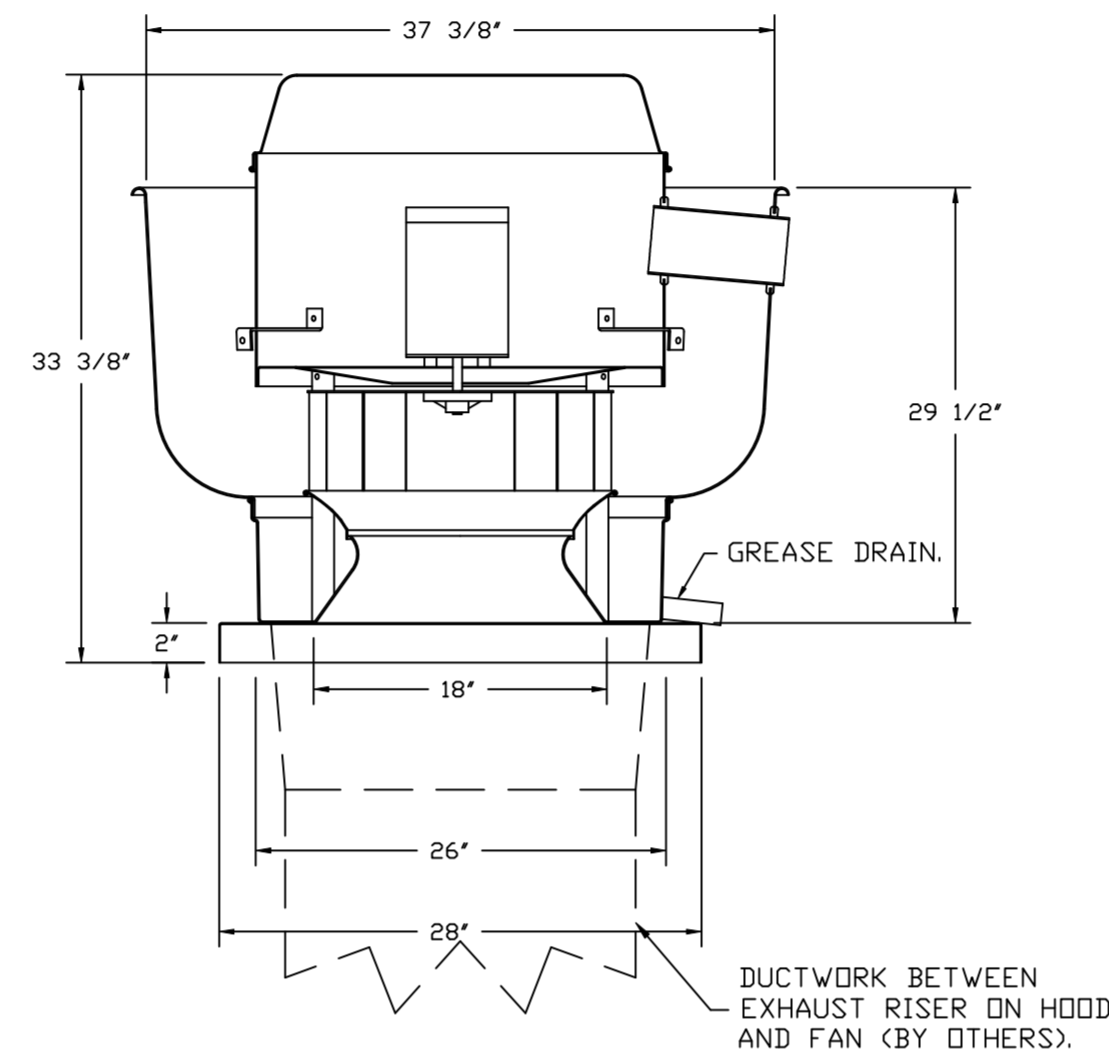
FAN UNIT NO	TAG	EXHAUST				SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT	
1	KEF-1&2	YES							
2	HEATED MUA						YES		

CURB ASSEMBLIES

NO	ON FAN	WEIGHT	ITEM	SIZE
1	# 1	37 LBS	CURB	26.500"W X 26.500"L X 20.000"H ALONG LENGTH, RIGHT VENTED.
2	# 2	76 LBS	CURB	31.000"W X 79.000"L X 14.000"H ALONG WIDTH, RIGHT INSULATED.



FAN #1 DJ200HFA - EXHAUST FAN (KEF-1&2)



TOP VIEW

FEATURES:

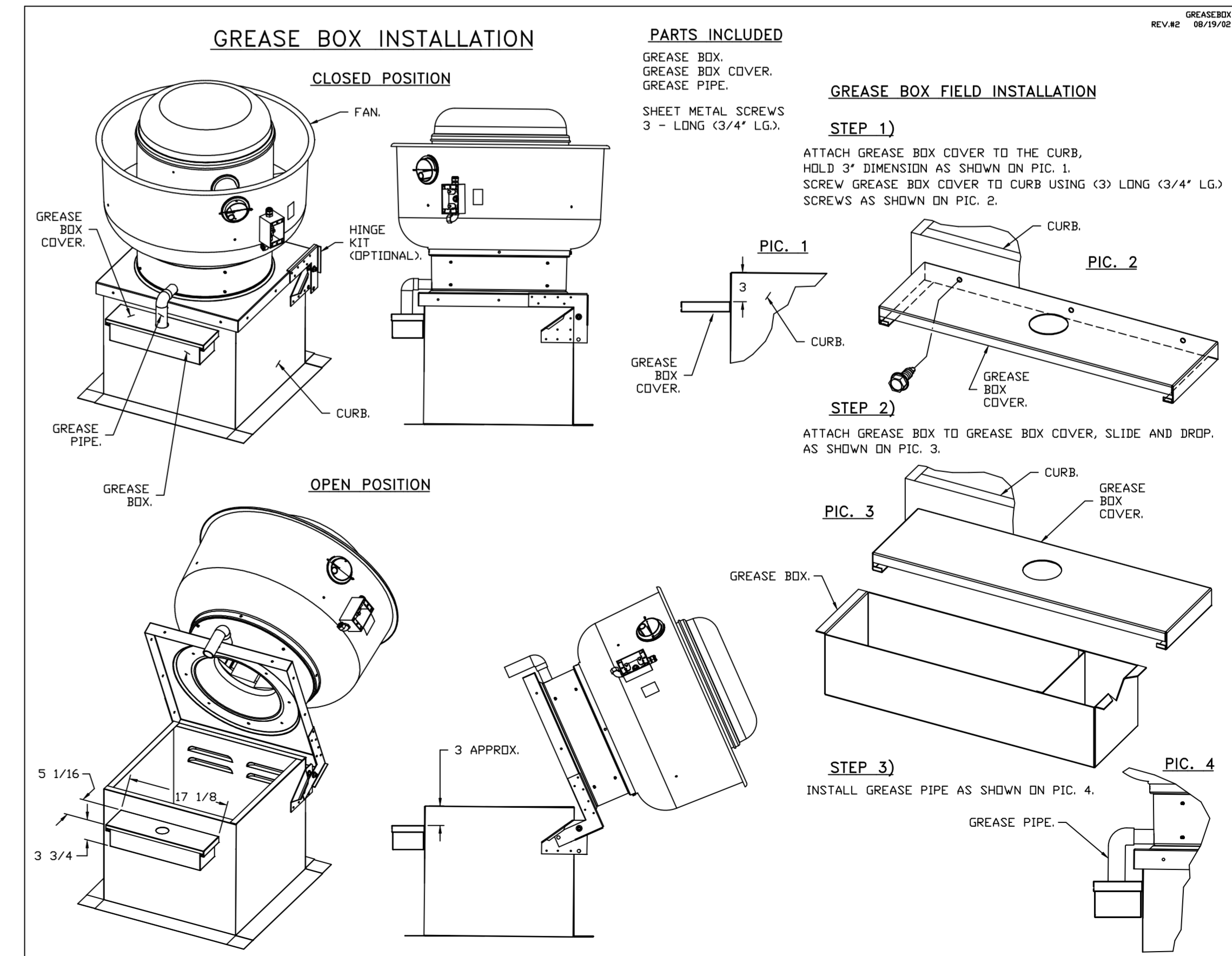
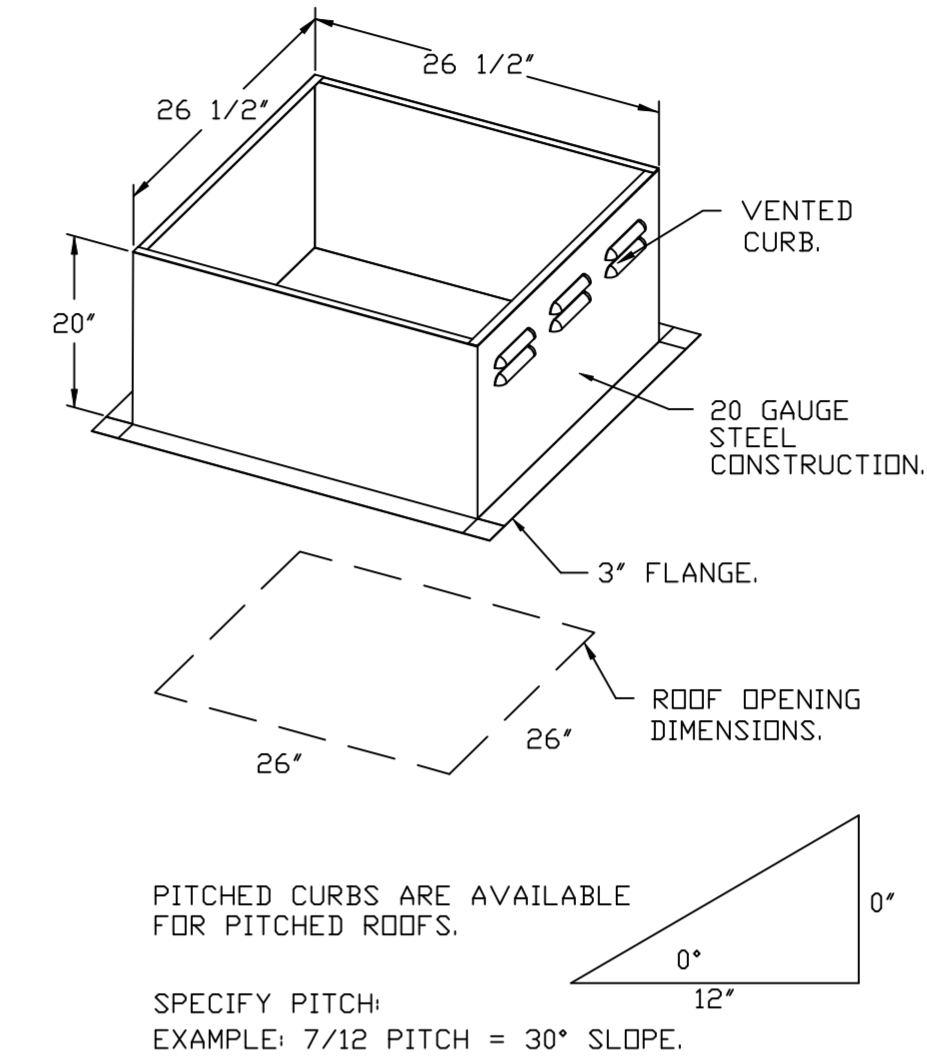
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT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

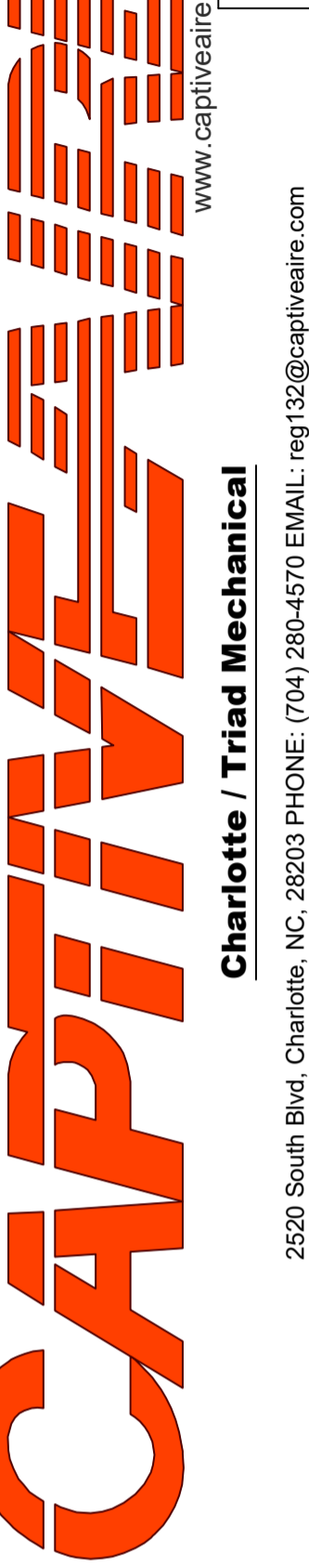
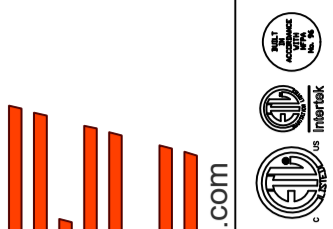
OPTIONS

- GREASE BOX.
- LOAD REACTOR MOUNTED IN FAN.
- 2 YEAR PARTS WARRANTY.



REVISIONS

DESCRIPTION	DATE



60" CMS Grier-Relief Elementary School-Plaza
CHARLOTTE, NC, 28215

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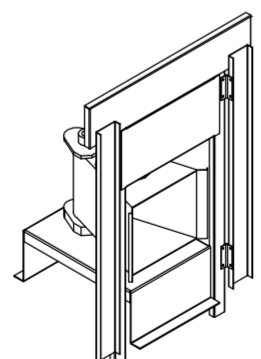
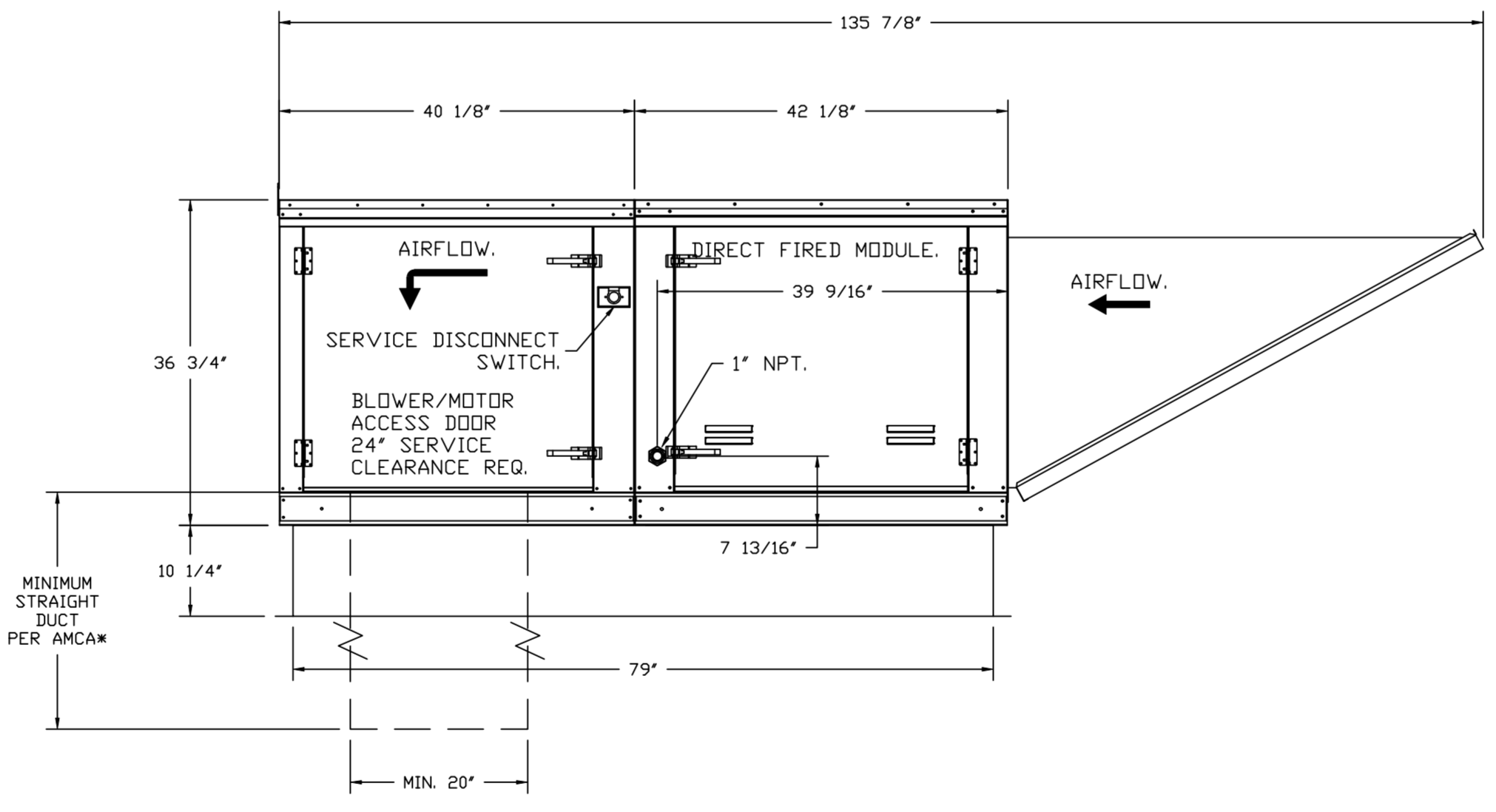
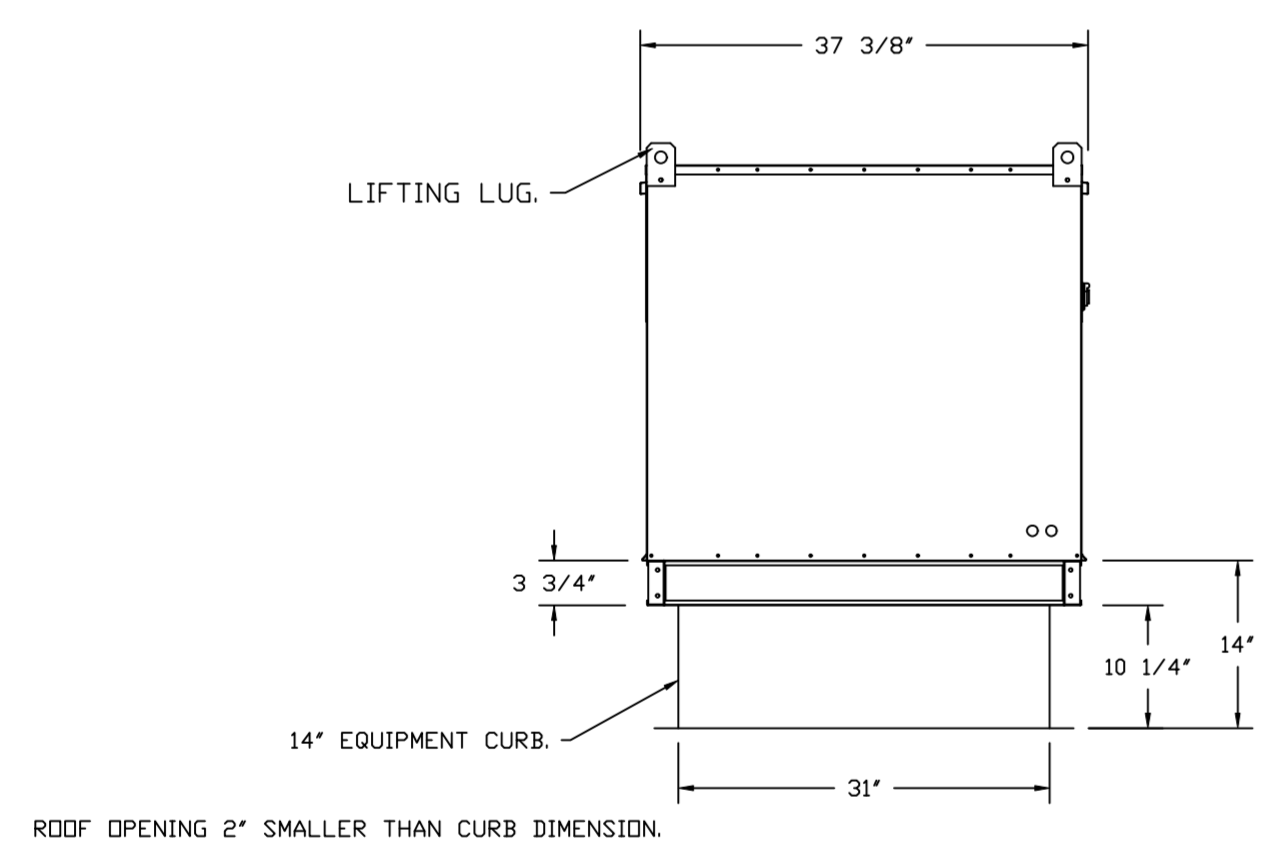
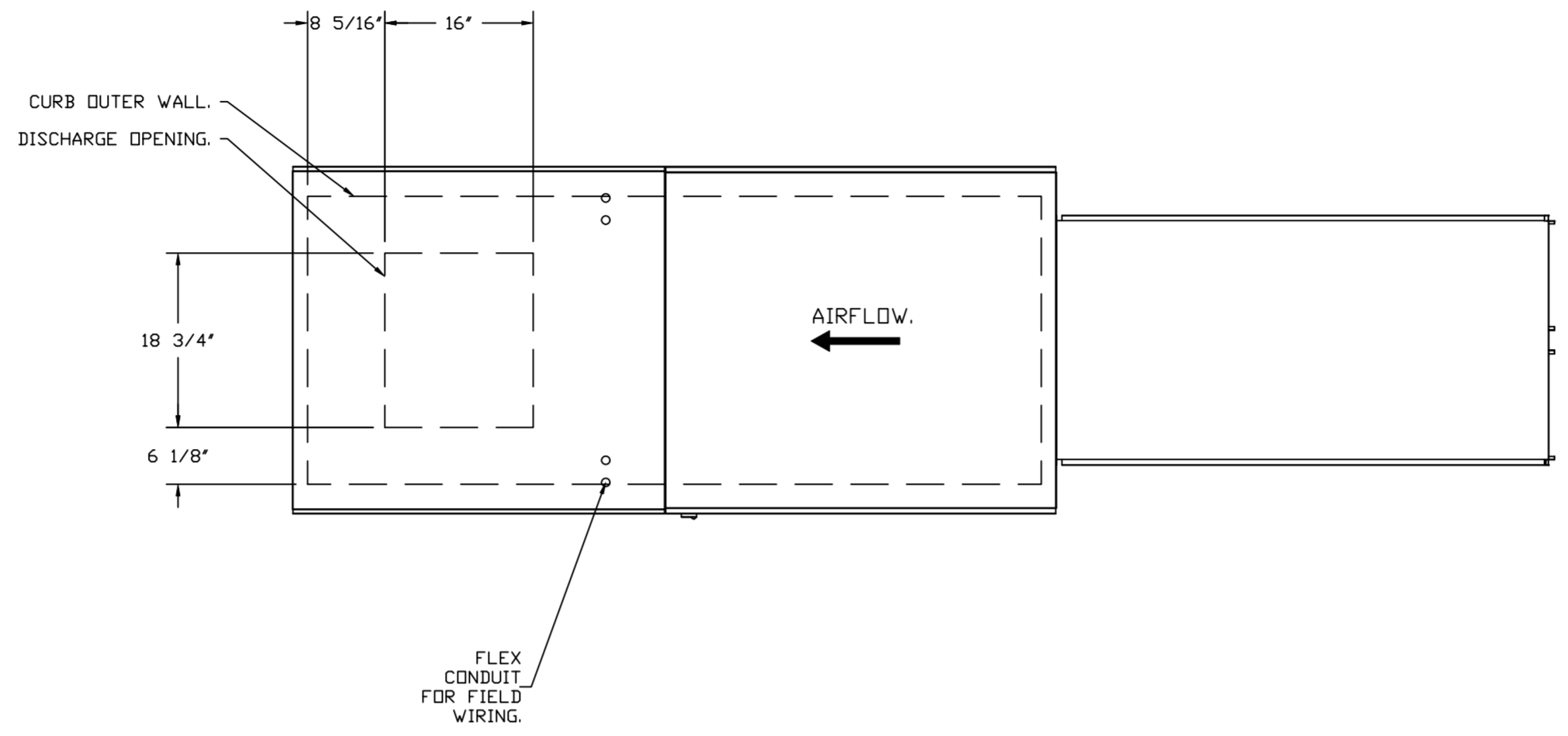
SHEET NO. 3

FAN #2 AB-D250-20D - HEATER (HEATED MUA)

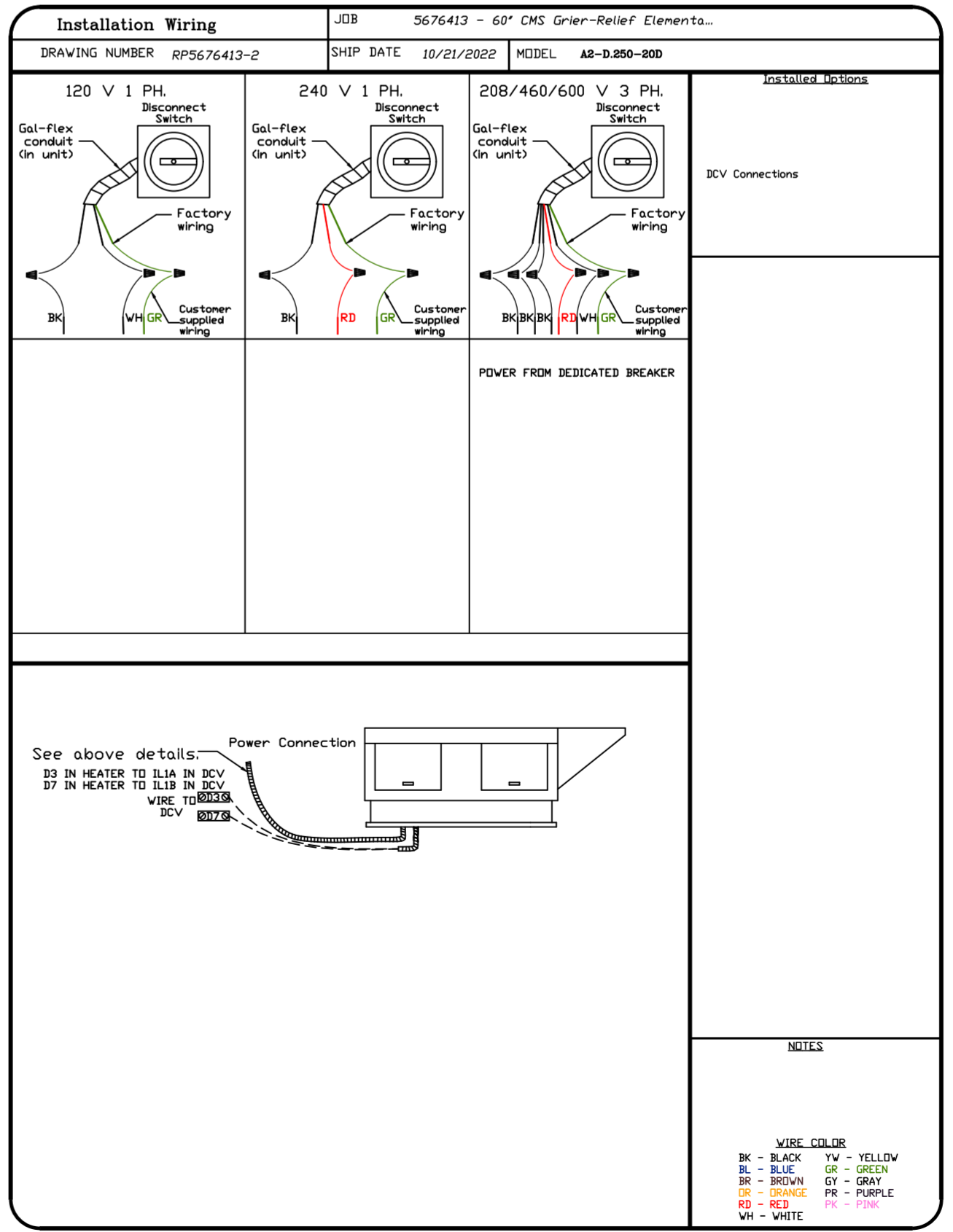
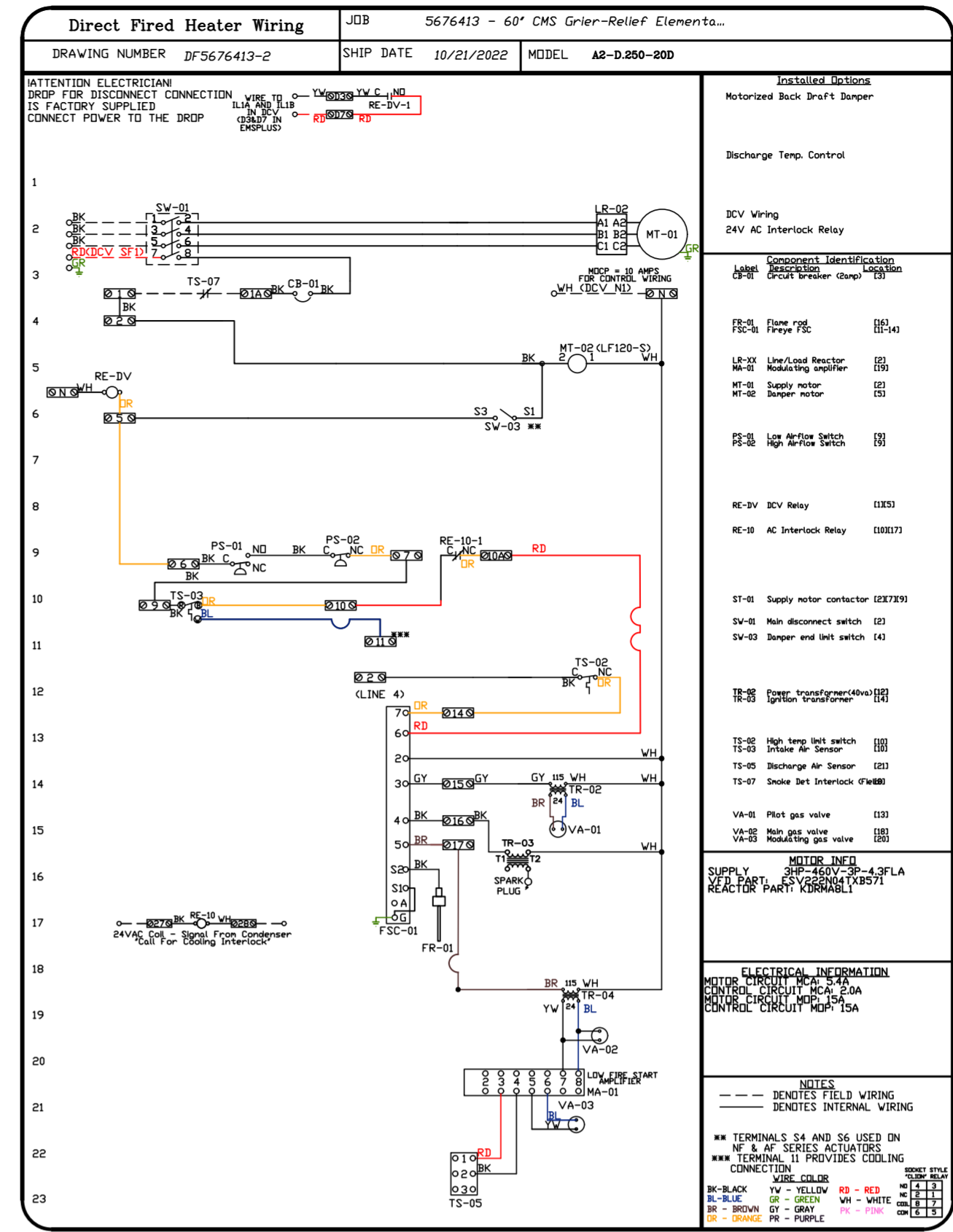
1. DIRECT GAS FIRED HEATED MAKE-UP AIR UNIT WITH 20" MIXED FLOW DIRECT DRIVE FAN.
2. INTAKE HOOD WITH EZ FILTERS.
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
4. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
5. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE.
6. LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
7. COOLING INTERLOCK RELAY. 24VAC COIL. 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
8. MOTORIZED BACK DRAFT DAMPER 22.75" X 24" FOR SIZE 2 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LDW LEAKAGE, LF120S ACTUATOR INCLUDED.
9. COMMERCIAL SMOKE DETECTOR INTERLOCK (DETECTOR BY OTHERS).
10. DOWN DISCHARGE CONSTRUCTION FOR SIZE 2 DIRECT DRIVE AHUS.
11. SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
12. PROFILE PLATE CONFIGURATION FOR SIZE 2 DIRECT FIRED UNIT FOR LOW CFM APPLICATIONS.
13. MOUNT LOAD REACTOR IN FAN.
14. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER SECTION).
15. 2 YEAR PARTS WARRANTY

NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRAMATICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 20" x 20".

SUPPLY SIDE HEATER INFORMATION:
 WINTER TEMPERATURE = 25°F. TEMP. RISE = 50°F.
 BTUS CALCULATED OFF ACTUAL AIR DENSITY.
 OUTPUT BTUS AT ALTITUDE OF 0.0 FT. = 211531.
 INPUT BTUS AT ALTITUDE OF 0.0 FT. = 229925.
 OUTPUT BTUS AT ALTITUDE OF 740 FT. = 205936.
 INPUT BTUS AT ALTITUDE OF 740 FT. = 223843.



DIRECT FIRED (DF) PROFILE PLATE SPECIFICATIONS:
DESCRIPTION:
 DIRECT FIRED BURNERS SHALL HAVE PATENTED (US PATENT NO. US6695638B2), SELF-ADJUSTING PROFILE PLATES DESIGNED TO ENSURE PROPER AIR VELOCITY AND PRESSURE DROP ACROSS THE BURNER. PROFILE PLATES SHALL ALLOW BURNERS TO ACHIEVE CLEAN COMBUSTION BY LIMITING BY-PRODUCT LEVELS TO A MAXIMUM OF 30PPM OF CARBON MONOXIDE (CO), AND 50PPM OF NITROGEN DIOXIDE (NO2). DIRECT FIRED UNITS SHALL BE CONFIGURED WITH THE BLOWER MOUNTED DOWNSTREAM OF THE BURNER. THIS ARRANGEMENT WILL ENSURE A CONSISTENT AIRFLOW, REGARDLESS OF INLET AIR TEMPERATURE.
APPLICATION:
 SPRING-LOADED BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MOMENTUM OF A FRESH AIR STREAM, WITHOUT THE NEED FOR ANY MOTORS OR ACTUATORS TO MECHANICALLY ADJUST THEM. WITH THIS FEATURE, ALL DF UNITS ARE DESIGNED FOR DEMAND CONTROL VENTILATION (DCV) REQUIREMENTS.
CERTIFICATIONS:
 ALL PROFILE PLATE ASSEMBLIES SHALL BE INCLUDED IN THE DF UNIT'S ETL LISTING AND COMPLY WITH COMBINED SAFETY STANDARDS ANSI Z83.4 AND CSA 5.7 (DNR-RECIRCULATING DF HEATERS) AND ANSI Z83.18 (RECIRCULATING DF HEATERS).
GENERAL CONSTRUCTION:
 -PROFILE PLATES SHALL BE FORMED FROM G90 GALVANIZED STEEL.
 -PROFILE PLATES SHALL VARY IN SIZE PER UNIT.
 -PROFILE PLATES SHALL BE MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.
 -DESIGN SHALL INCORPORATE PROPERLY TORQUED, PERMANENTLY MOUNTED SPRING HINGES.
 -SPRING HINGES SHALL BE MADE FROM PLATED STEEL.



REVISIONS

DESCRIPTION	DATE

CAPTIVE

Charlotte / Triad Mechanical

2520 South Blvd, Charlotte, NC, 28203 PHONE: (704) 280-4570 EMAIL: reg.132@captiveme.com

60" CMS Grier-Relief Elementary School-Plaza

CHARLOTTE, NC, 28215

DATE: 10/21/2022

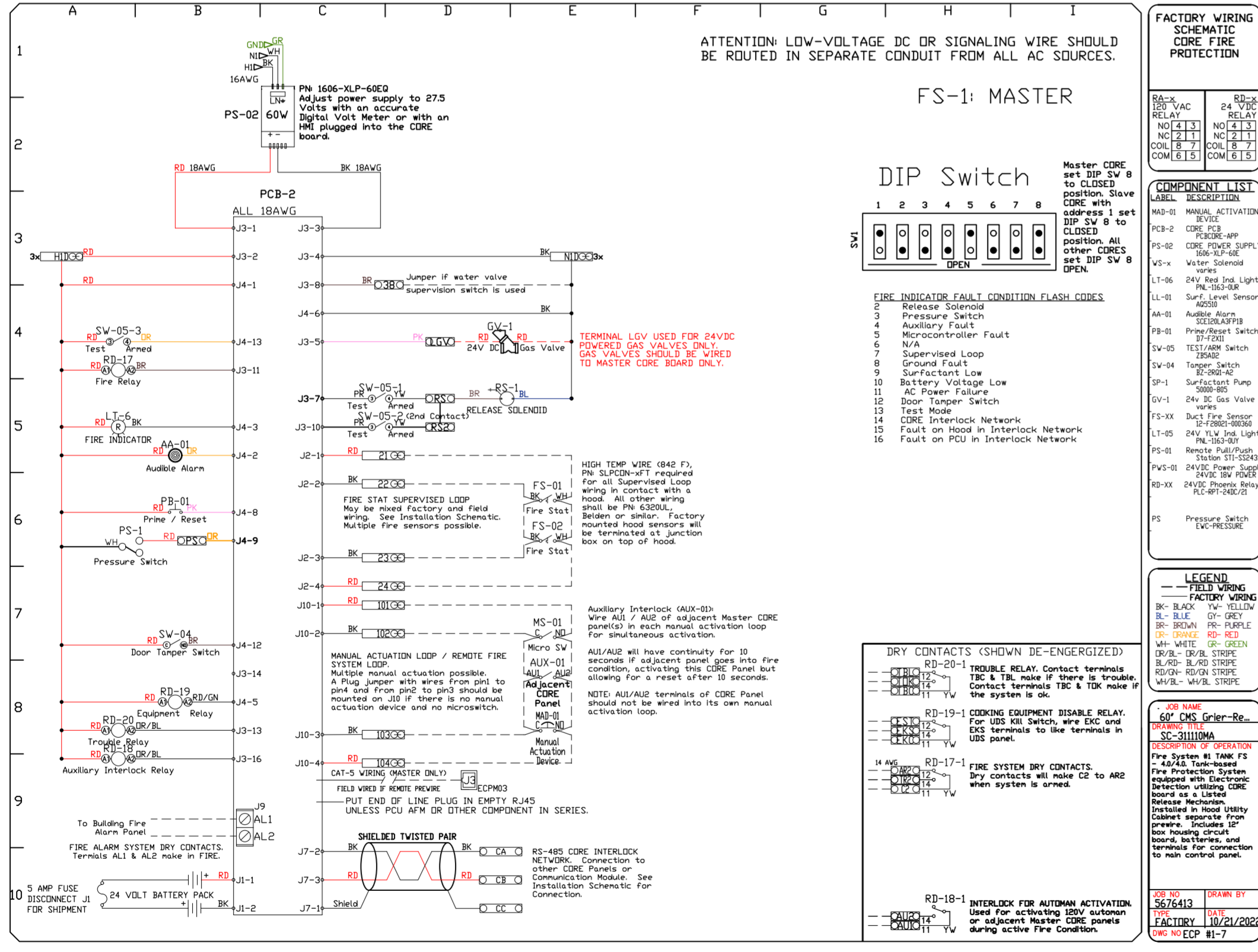
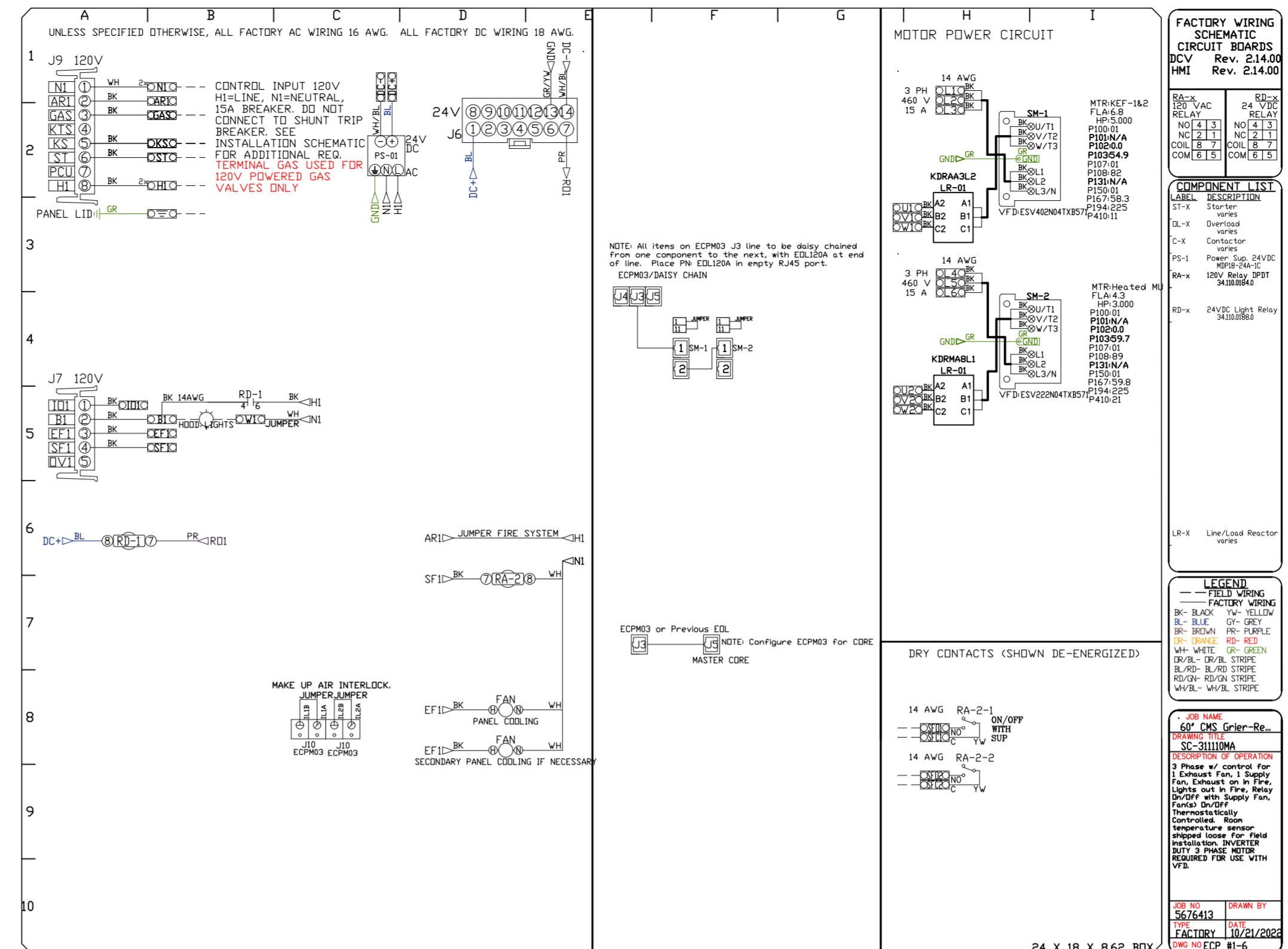
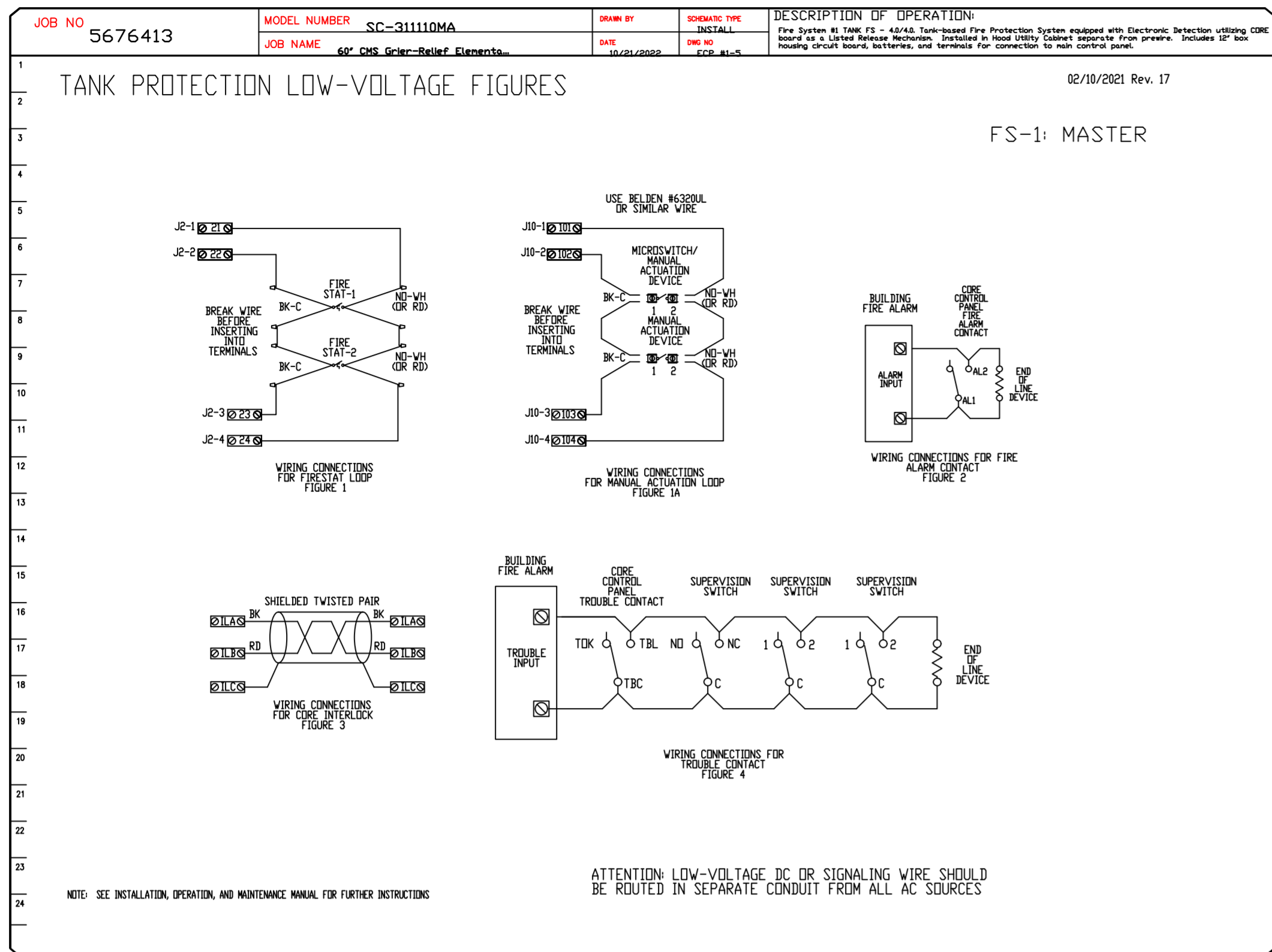
DWG.#: 5676413

DRAWN BY: WRK

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 4



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MASTER DRAWING

SHEET NO.
6

IMPORTANT SPECIAL UDS PARTS/NOTES

☆	ONE (1) EV-9797-40 WATER FILTER WITH WINDOW.
☆	TWO (2) 3/4" WATTS BACK FLOW PREVENTER, AIR GAP & DRAIN TO BE SUPPLIED BY CAPTIVE-AIRE SYSTEMS.

STANDARD FLAG NOTES

- 1 ELECTRICAL SERVICE FROM ABOVE, SEE SCHEDULE FOR DETAILS. PROVIDED BY ELECTRICAL CONTRACTOR.
- 2 120V/1PH/15A DEDICATED ELECTRICAL CIRCUIT INTO UDS TERMINALS "HI, NI" FOR FUEL/SHUNT CONTROL. (PROVIDED BY ELECTRICAL CONTRACTOR) SEE SCHEMATIC BELOW.
- 3 3-WIRE ELECTRICAL CIRCUIT FROM HOOD CONTROL PACKAGE TERMINALS "GAS, ST & KTS" TO UDS LIKE TERMINALS "GAS, ST & KTS" FOR UDS SHUT DOWN IN A FIRE CONDITION. (PROVIDED BY ELECTRICAL CONTRACTOR). SEE SCHEMATIC BELOW.
- 4 GAS SERVICE FROM ABOVE, SEE SCHEDULE FOR SERVICE SIZE AND STYLE (PROVIDED BY PLUMBING CONTRACTOR)
- 5 COLD WATER SERVICE FROM ABOVE, SEE SCHEDULE FOR SERVICE SIZE (PROVIDED BY PLUMBING CONTRACTOR)
- 6 HOT WATER SERVICE FROM ABOVE, SEE SCHEDULE FOR SERVICE SIZE (PROVIDED BY PLUMBING CONTRACTOR)
- 7 SERVICE MAIN BREAKER W/SHUNT TRIP AND RESET HANDLE, SEE SCHEDULE FOR DETAILS.
- 8 STATUS INDICATOR LIGHTS.
- 9 EMERGENCY KILL SWITCH.
- 10 DCD RECEPTACLE W/ BREAKER & WEATHERPROOF COVER.
- 11 ELECTRICAL LOAD CENTER WITH INDIVIDUAL CIRCUIT BREAKERS.
- 12 ELECTRICAL WIRING TO APPLIANCES.
- 13 ELECTRICAL CONNECTION W/WEATHERPROOF COVER AS SPECIFIED ON THE EQUIPMENT SCHEDULE, SEE THIS SHEET.
- 14 PLUMBING CONNECTION AS SPECIFIED ON THE EQUIPMENT SCHEDULE, SEE THIS SHEET.
- 15 MANUAL SHUT OFF VALVE.
- 16 120V ELECTRICAL GAS VALVE.
- 17 REMOVABLE ACCESS DOORS.

UDS CONSTRUCTION TO BE 18 GA., TYPE 304 STAINLESS STEEL

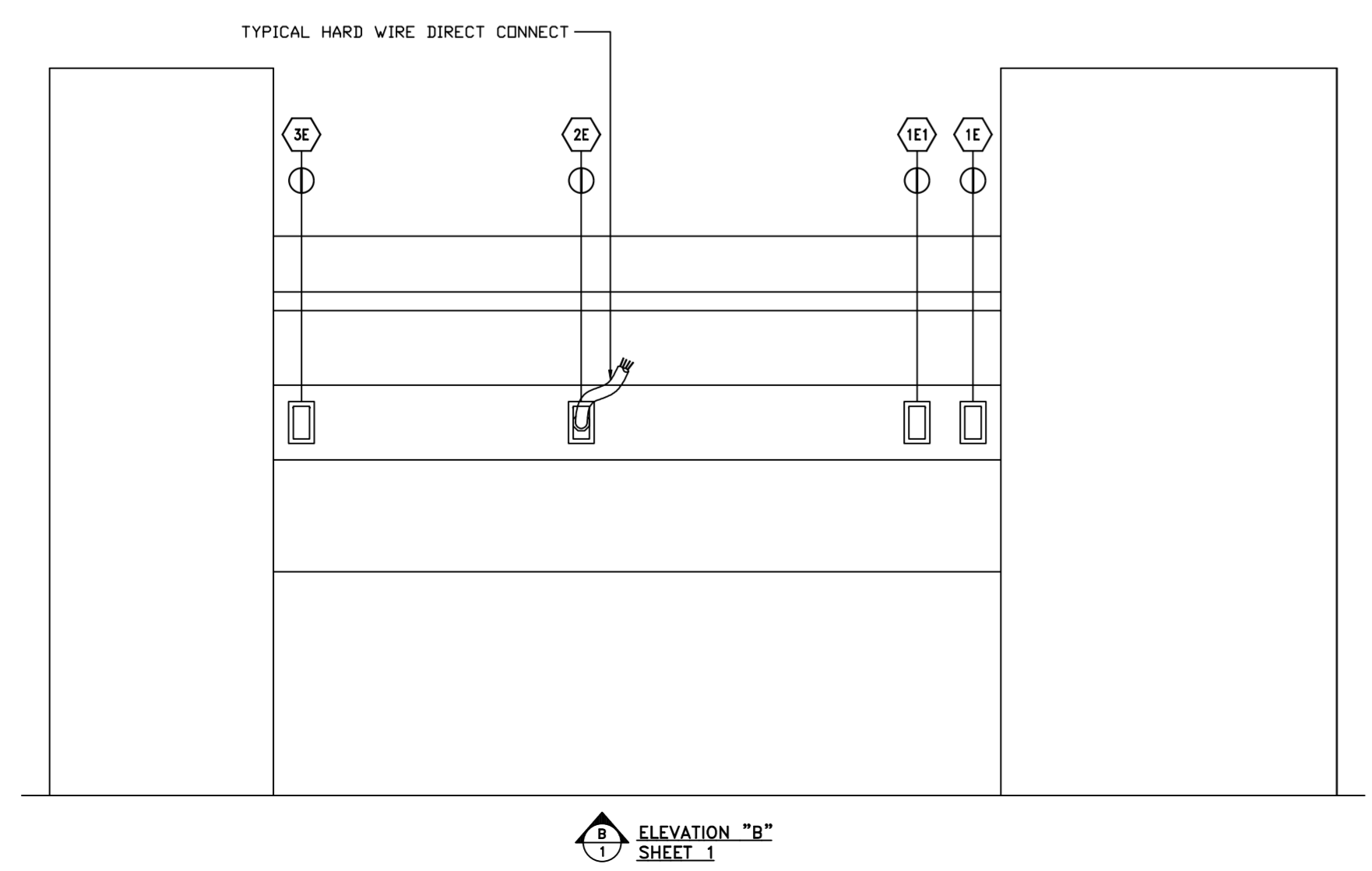
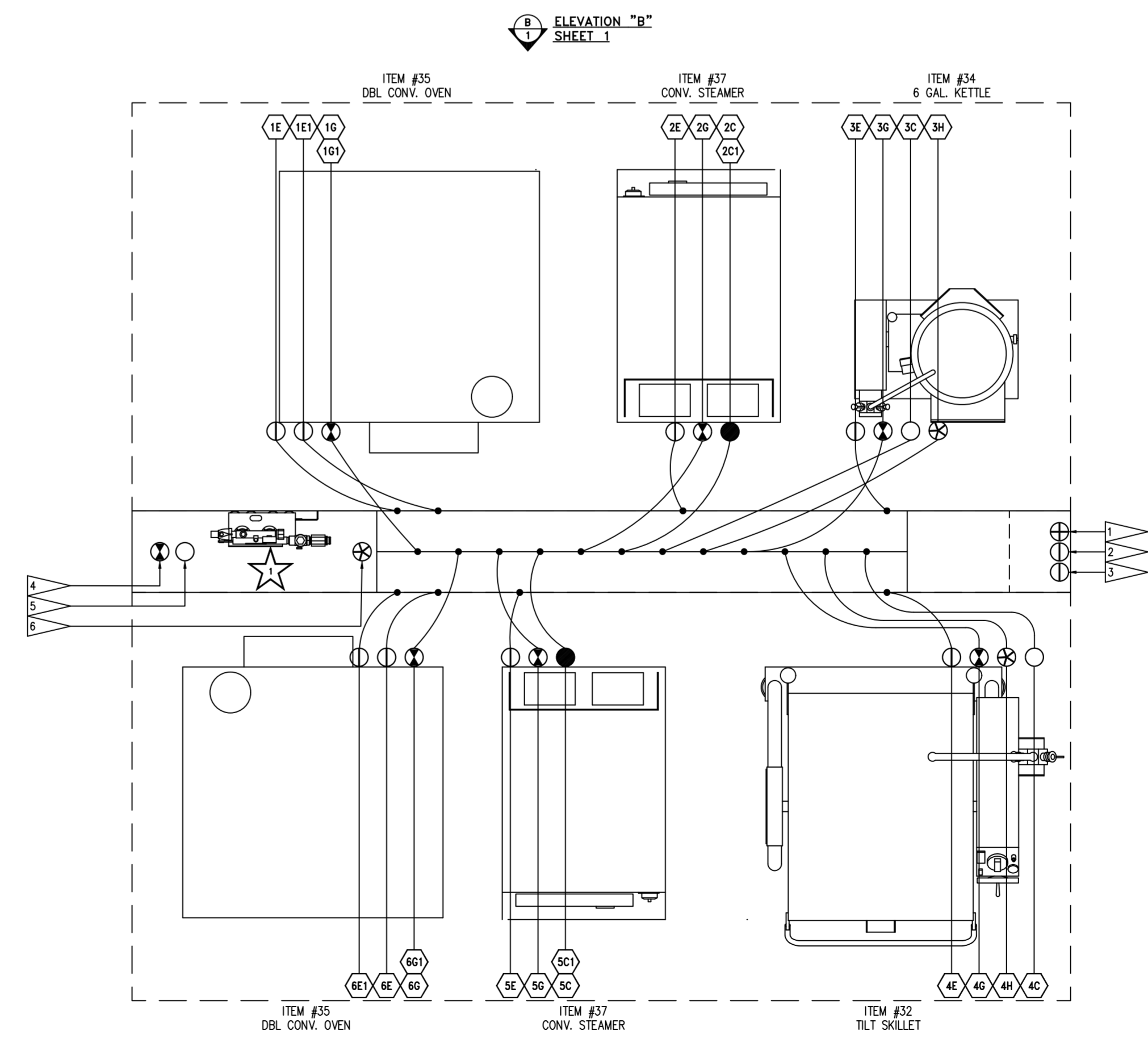
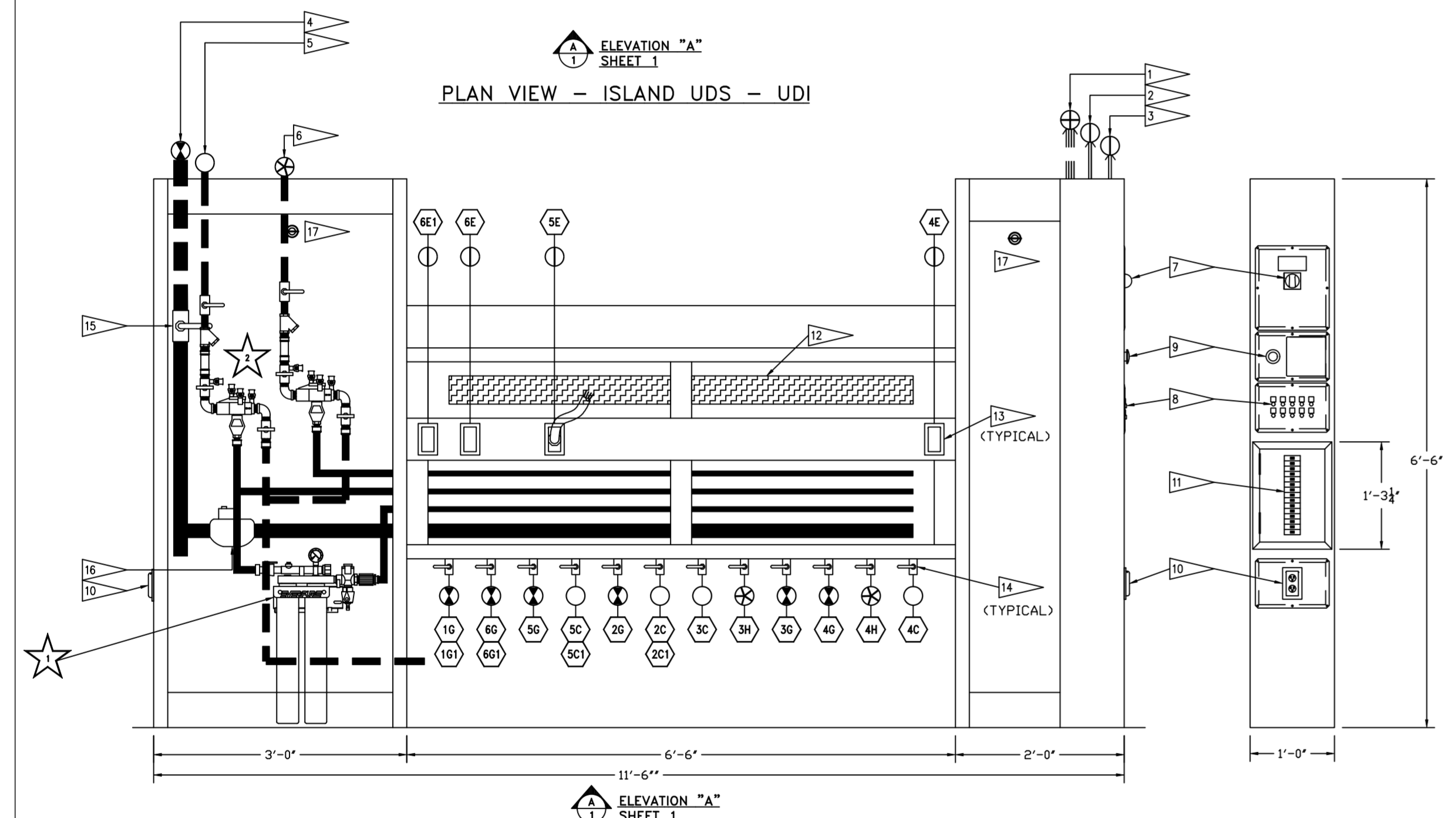
UTILITY DISTRIBUTION SYSTEM MODEL UDI IS LISTED UNDER ETL FILE NUMBER 3054803 CONFORMS TO UL STD 891 CERTIFIED TO CAN/CSA C22.2 No. 31-M89

PRIOR TO SCHEDULING UDS FOR PRODUCTION PLEASE PROVIDE APPROVED SUBMITTAL CUTSHEETS ON FINAL KITCHEN EQUIPMENT ASSOCIATED WITH THE UDS (NEW & USED) SO THAT CONNECTION SIZES, TYPES AND LOCATIONS CAN BE VERIFIED

ANY CHANGES TO SUBMITTAL DRAWING MAY AFFECT PRICE AND PRODUCTION TIME PLEASE FORWARD CHANGES ASAP

-----NOTE-----
 NEC REQUIRES 36" OF FIELD CLEARANCE IN FRONT OF CIRCUIT BREAKERS FOR ACCESS

○	COLD WATER
⊗	HOT WATER
●	FILTERED WATER
⊕	NATURAL GAS
⊖	PROPANE
⊙	120 VAC 1 PHASE
⊚	208 VAC 1 PHASE
⊛	208 VAC 3 PHASE
⊜	480 VAC 3 PHASE
⊝	STEAM SUPPLY
⊞	STEAM CONDENSATE RETURN



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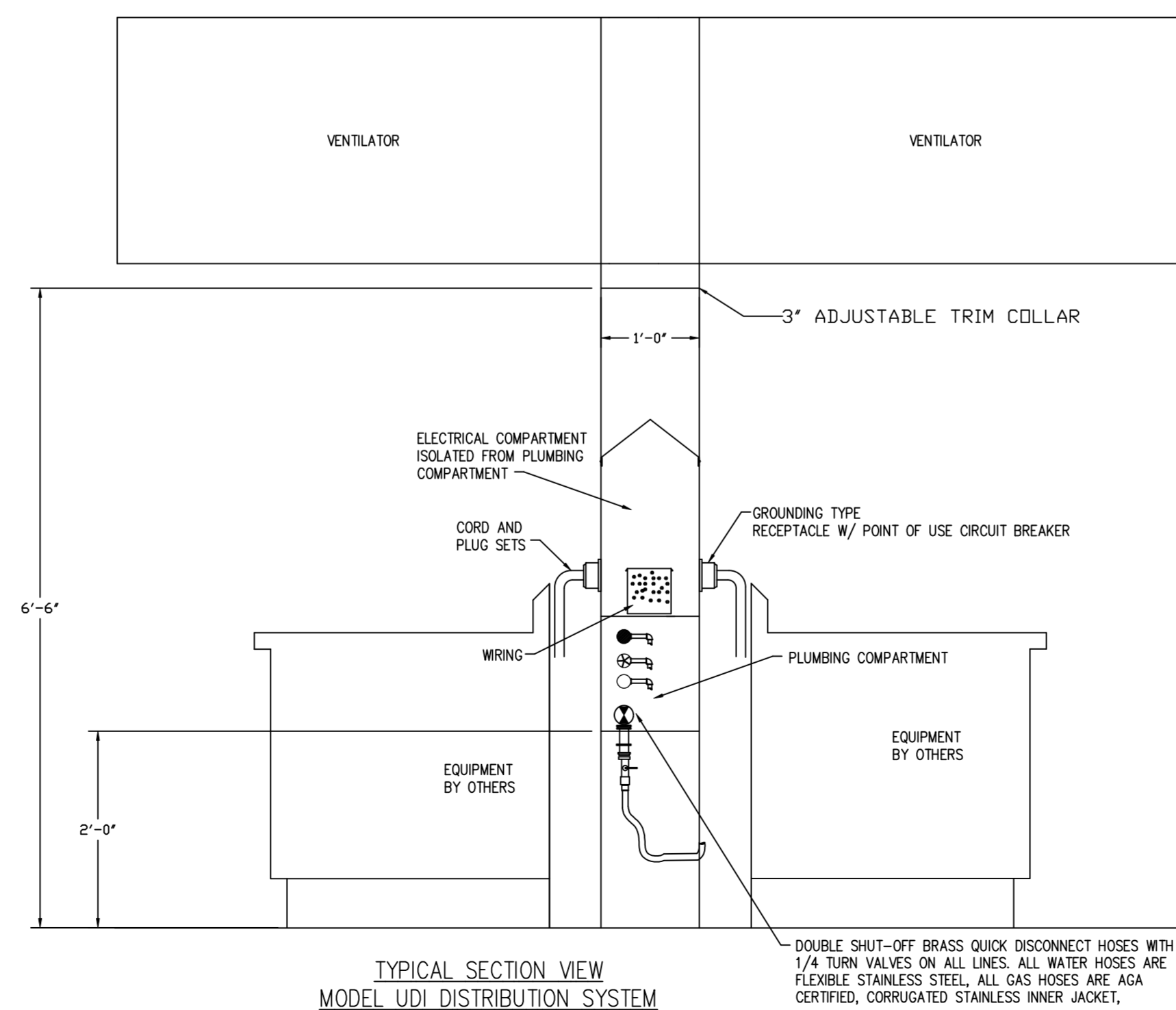
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SYMBOL SCHEDULE	
○	COLD WATER
⊗	HOT WATER
⊙	FILTERED WATER
⊕	NATURAL GAS
⊖	PROPANE
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⊝	480 VAC 3 PHASE
⊞	STEAM SUPPLY
⊟	STEAM CONDENSATE RETURN

STANDARD FLAG NOTES

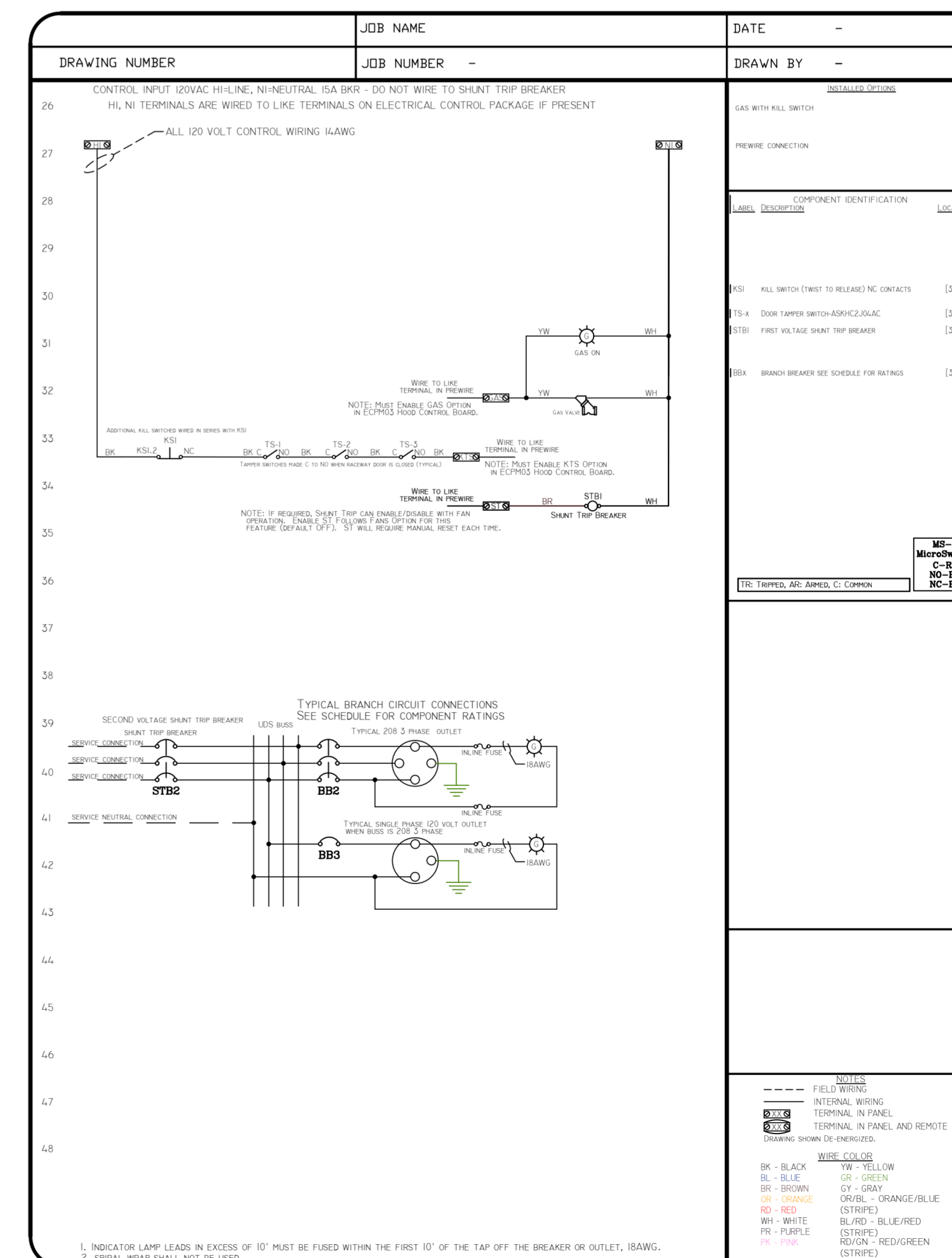
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- 120V ELECTRICAL GAS VALVE.
- REMOVABLE ACCESS DOORS.



UTILITY DISTRIBUTION SYSTEM EQUIPMENT SCHEDULE

EQUIPMENT				ELECTRICAL				CIRCUIT BREAKER		RECEPTACLE	GAS		WATER		STEAM		CONNECTION		NOTES				
CONN.#	ITEM	DESCRIPTION	MANUFACTURER	MODEL #	KW.	AMPS	HP	VOLT	PH	AMPS	POLES	PART #	SIZE	MBH	HOT	COLD	SUPPLY	COND. RETURN		LBS/HR	TYPE	LENGTH	
1E	35	DBL CONV. OVEN	BLOGGETT	DFG-100-ES-DBL	1.0	8.0	-	120	1	20	1	DR20	-	-	-	-	-	-	-	-	SUPPLIED W/ EQUIP.	-	GFI BREAKER
1E1	35	DBL CONV. OVEN	BLOGGETT	DFG-100-ES-DBL	1.0	8.0	-	120	1	20	1	DR20	-	-	-	-	-	-	-	-	SUPPLIED W/ EQUIP.	-	GFI BREAKER
1G	35	DBL CONV. OVEN	BLOGGETT	DFG-100-ES-DBL	-	-	-	-	-	-	-	-	3/4"	45	-	-	-	-	-	-	QUICK DISCONNECT	5'	-
1G1	35	DBL CONV. OVEN	BLOGGETT	DFG-100-ES-DBL	-	-	-	-	-	-	-	-	3/4"	45	-	-	-	-	-	-	QUICK DISCONNECT	5'	-
2E	37	CONV. STEAMER	CLEVELAND	24-CGA-10.2ES	0.2	1.3	-	120	1	20	-	-	-	-	-	-	-	-	-	-	DIRECT	8'	-
2G	37	CONV. STEAMER	CLEVELAND	24-CGA-10.2ES	-	-	-	-	-	-	-	-	3/4"	100	-	-	-	-	-	-	QUICK DISCONNECT	5'	-
2C	37	CONV. STEAMER	CLEVELAND	24-CGA-10.2ES	-	-	-	-	-	-	-	-	-	-	1/2"	-	-	-	-	-	QUICK DISCONNECT	5'	-
2C1	37	CONV. STEAMER	CLEVELAND	24-CGA-10.2ES	-	-	-	-	-	-	-	-	-	-	3/8"	-	-	-	-	-	QUICK DISCONNECT	5'	FILTERED
3E	34	6 GAL. KETTLE	CLEVELAND	KGT6T	0.6	5.0	-	120	1	20	1	DR20	-	-	-	-	-	-	-	-	CORD & PLUG	6'	GFI BREAKER
3G	34	6 GAL. KETTLE	CLEVELAND	KGT6T	-	-	-	-	-	-	-	-	3/4"	34	-	-	-	-	-	-	QUICK DISCONNECT	5'	-
3C	34	6 GAL. KETTLE	CLEVELAND	KGT6T	-	-	-	-	-	-	-	-	-	-	1/2"	-	-	-	-	-	QUICK DISCONNECT	5'	-
3H	34	6 GAL. KETTLE	CLEVELAND	KGT6T	-	-	-	-	-	-	-	-	-	-	1/2"	-	-	-	-	-	QUICK DISCONNECT	5'	-
4E	32	TILT SKILLET	CLEVELAND	SGL-30-T1	0.2	1.4	-	120	1	20	1	DR20	-	-	-	-	-	-	-	-	SUPPLIED W/ EQUIP.	5'	GFI BREAKER
4G	32	TILT SKILLET	CLEVELAND	SGL-30-T1	-	-	-	-	-	-	-	-	3/4"	125	-	-	-	-	-	-	QUICK DISCONNECT	5'	-
4C	32	TILT SKILLET	CLEVELAND	SGL-30-T1	-	-	-	-	-	-	-	-	-	-	1/2"	-	-	-	-	-	QUICK DISCONNECT	5'	-
4H	32	TILT SKILLET	CLEVELAND	SGL-30-T1	-	-	-	-	-	-	-	-	-	-	1/2"	-	-	-	-	-	QUICK DISCONNECT	5'	-
5E	37	CONV. STEAMER	CLEVELAND	24-CGA-10.2ES	0.2	1.3	-	120	1	20	-	-	-	-	-	-	-	-	-	-	DIRECT	8'	-
5G	37	CONV. STEAMER	CLEVELAND	24-CGA-10.2ES	-	-	-	-	-	-	-	-	3/4"	100	-	-	-	-	-	-	QUICK DISCONNECT	5'	-
5C	37	CONV. STEAMER	CLEVELAND	24-CGA-10.2ES	-	-	-	-	-	-	-	-	-	-	1/2"	-	-	-	-	-	QUICK DISCONNECT	5'	-
5C1	37	CONV. STEAMER	CLEVELAND	24-CGA-10.2ES	-	-	-	-	-	-	-	-	-	-	3/8"	-	-	-	-	-	QUICK DISCONNECT	5'	FILTERED
6E	35	DBL CONV. OVEN	BLOGGETT	DFG-100-ES-DBL	1.0	8.0	-	120	1	20	1	DR20	-	-	-	-	-	-	-	-	SUPPLIED W/ EQUIP.	-	GFI BREAKER
6E1	35	DBL CONV. OVEN	BLOGGETT	DFG-100-ES-DBL	1.0	8.0	-	120	1	20	1	DR20	-	-	-	-	-	-	-	-	SUPPLIED W/ EQUIP.	-	GFI BREAKER
6G	35	DBL CONV. OVEN	BLOGGETT	DFG-100-ES-DBL	-	-	-	-	-	-	-	-	3/4"	45	-	-	-	-	-	-	QUICK DISCONNECT	5'	-
6G1	35	DBL CONV. OVEN	BLOGGETT	DFG-100-ES-DBL	-	-	-	-	-	-	-	-	3/4"	45	-	-	-	-	-	-	QUICK DISCONNECT	5'	-
D1	-	DUPLEX OUTLET	-	-	-	-	-	120	1	20	1	DR20	-	-	-	-	-	-	-	-	FACTORY	-	GFI BREAKER
D2	-	DUPLEX OUTLET	-	-	-	-	-	120	1	20	1	DR20	-	-	-	-	-	-	-	-	FACTORY	-	GFI BREAKER
TOTAL CONNECTED LOAD:				4.9	KW.	13.7	AMP	0.0	KW.	0.0	AMP	539	MBH	H.W.	STEAM SUPPLY								
FUTURE AVAILABLE LOAD CAPACITY:				12.4	KW.	34.3	AMP	0.0	KW.	0.0	AMP	251	MBH	3/4"									
SYSTEM CAPACITY:				17.3	KW.	48.0	AMP	0.0	KW.	0.0	AMP	790	MBH	C.W.	COND. RETURN								
SERVICE SIZE:				120/208 V/ 3 PH/ 60 AMP				V/ PH/ AMP				1-1/2" IPS SINGLE		3/4"									

LEGEND
MBH = BTU PER HOUR (1000)
SB = STRAIGHT BLADE PLUGS
TL = TILT LOCK PLUGS
PS = PIN & SLEEVE PLUGS
DCO = DUAL CONVENIENCE OUTLET
DIRECT = CONDUIT & WIRE



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