

**HOOD INFORMATION - JOB#5661107**

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	ROW
1	HD1	4830 EX-2-PSP-F	ECON-AIR	12' 0"	600 DEG	I	HEAVY	240	2880			4'	18"	2880	1630	-0.876'	2200	430 SS WHERE EXPOSED	ALONE	ALONE

**PATENT NUMBERS**

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

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH UL 710 AND NFPA 96 AND ARE RECOGNIZED BY ONE OR MORE OF THE FOLLOWING:  
 ETL SANITATION LISTED  
 ETL LISTED FILE# 3054804-001  
 HOOD SYSTEM IS FABRICATED & DESIGNED PER UL-710 STANDARDS

**HOOD INFORMATION**

HOOD NO	TAG	FILTER(S)				LIGHT(S)			UTILITY CABINET(S)				FIRE SYSTEM	HOOD HANGING WEIGHT			
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	TYPE			SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY
1	HD1	CAPRATE SOLID FILTER	9	20"	16"	85% SEE FILTER SPEC	4	RECESSED ROUND	NO	LEFT	12"x48"x30"	TANK FS	4.0/4.0			YES	1025 LBS

**HOOD OPTIONS**

HOOD NO	TAG	OPTION
1	HD1	FIELD WRAPPER 17.00' HIGH FRONT, LEFT, RIGHT.
		BACKSPLASH 80.00" HIGH X 156.00" LONG 430 SS VERTICAL.
		BACKSPLASH 126.00" HIGH X 61.00" LONG 430 SS VERTICAL.
		BACKSPLASH 126.00" HIGH X 15.00" LONG 430 SS VERTICAL.
		BACKSPLASH 126.00" HIGH X 24.00" LONG 430 SS VERTICAL.
		BACKSPLASH - INSIDE CORNER 120.00" HIGH X 2.00" LEG LENGTH 430 SS VERTICAL.
		BACKSPLASH - OUTSIDE CORNER 120.00" HIGH X 2.00" LEG LENGTH 430 SS VERTICAL.
		BACKSPLASH - OUTSIDE CORNER 120.00" HIGH X 2.00" LEG LENGTH 430 SS VERTICAL.
		BACKSPLASH - OUTSIDE CORNER 120.00" HIGH X 2.00" LEG LENGTH 430 SS VERTICAL.
		RIGHT QUARTER END PANEL 23' TOP WIDTH, 0' BOTTOM WIDTH, 23' HIGH 430 SS.
		STRUCTURAL FRONT PANEL.
		RISER SENSOR INSTALL 3IN DBL.
		LEFT VERTICAL END PANEL 27' TOP WIDTH, 21' BOTTOM WIDTH, 80' HIGH INSULATED 430 SS.

**PERFORATED SUPPLY PLENUM(S)**

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1	HD1	Front	156'	14'	6'	MUA	12"	24"		733	0.236'
						MUA	12"	24"		733	0.236'
						MUA	12"	24"		733	0.236'

**SPECIFICATION: CAPRATE® GREASE-STOP® SOLID FILTER**

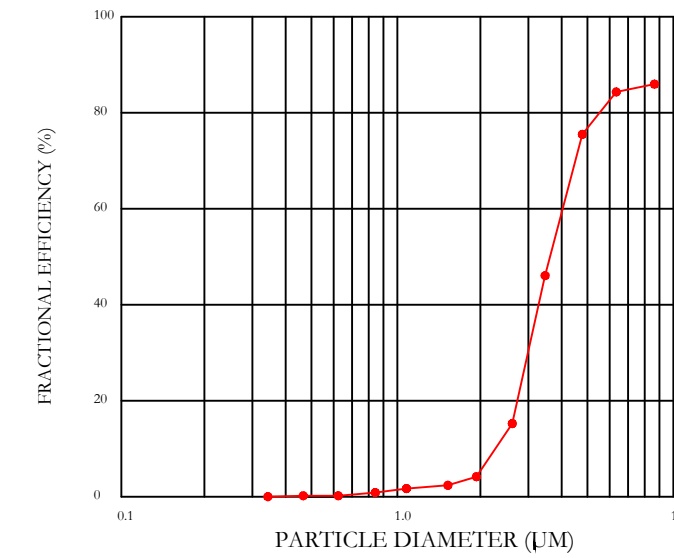
THE CAPRATE GREASE-STOP SOLID FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-Baffle DESIGN IN CONJUNCTION WITH A SLOTTED REAR Baffle DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

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

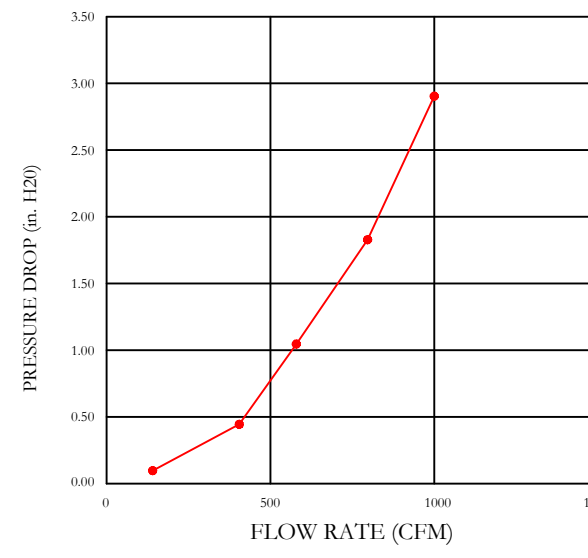
UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

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.

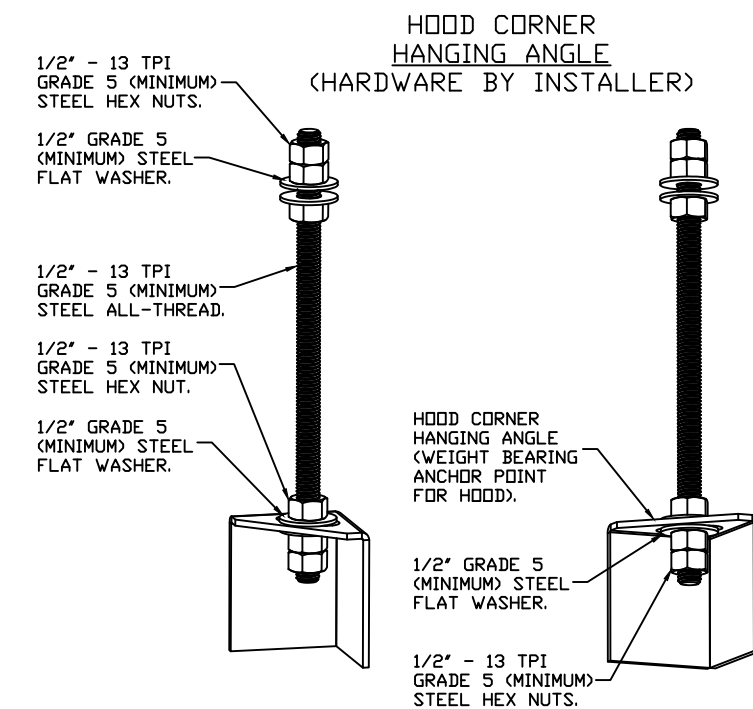
**EFFICIENCY VS. PARTICLE DIAMETER**



**PRESSURE DROP VS. FLOW RATE**

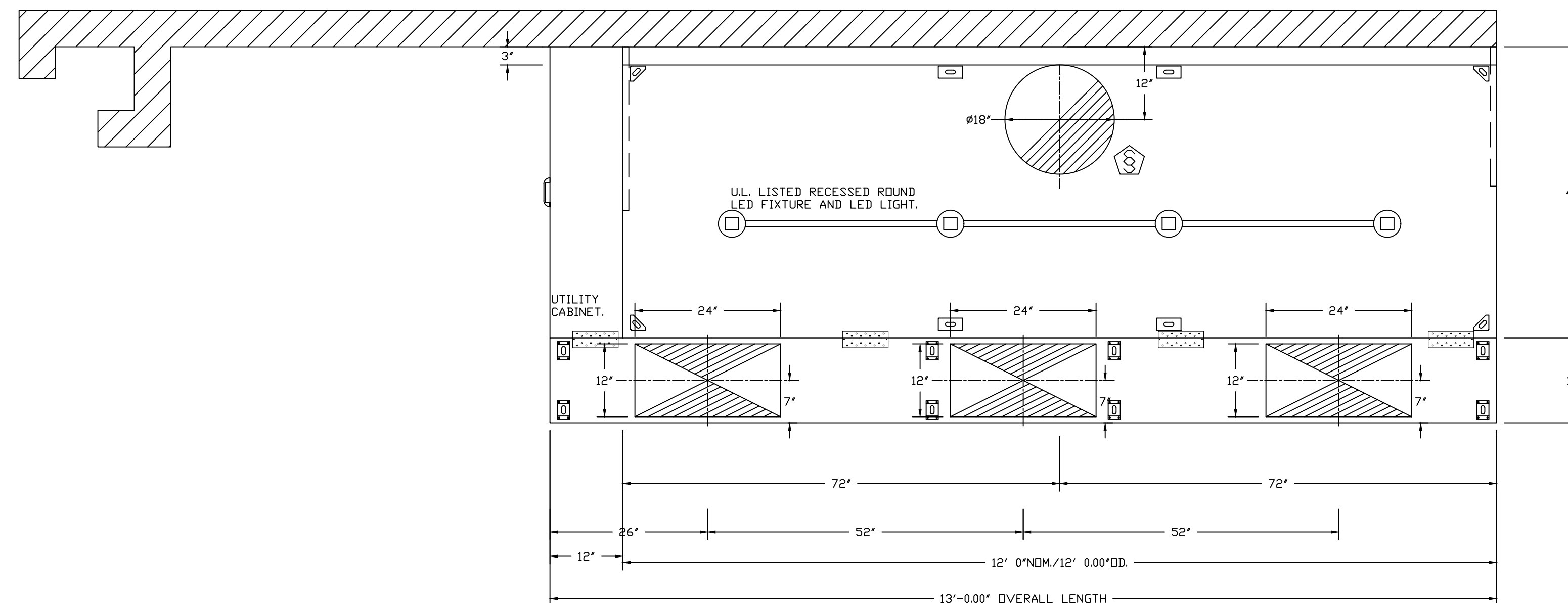


CAPRATE FILTERS ARE BUILT IN COMPLIANCE WITH:  
 NFPA #96.  
 NSF STANDARD #2.  
 UL STANDARD #1046.  
 INT. MECH. CODE (IMC).  
 ULC-S649.

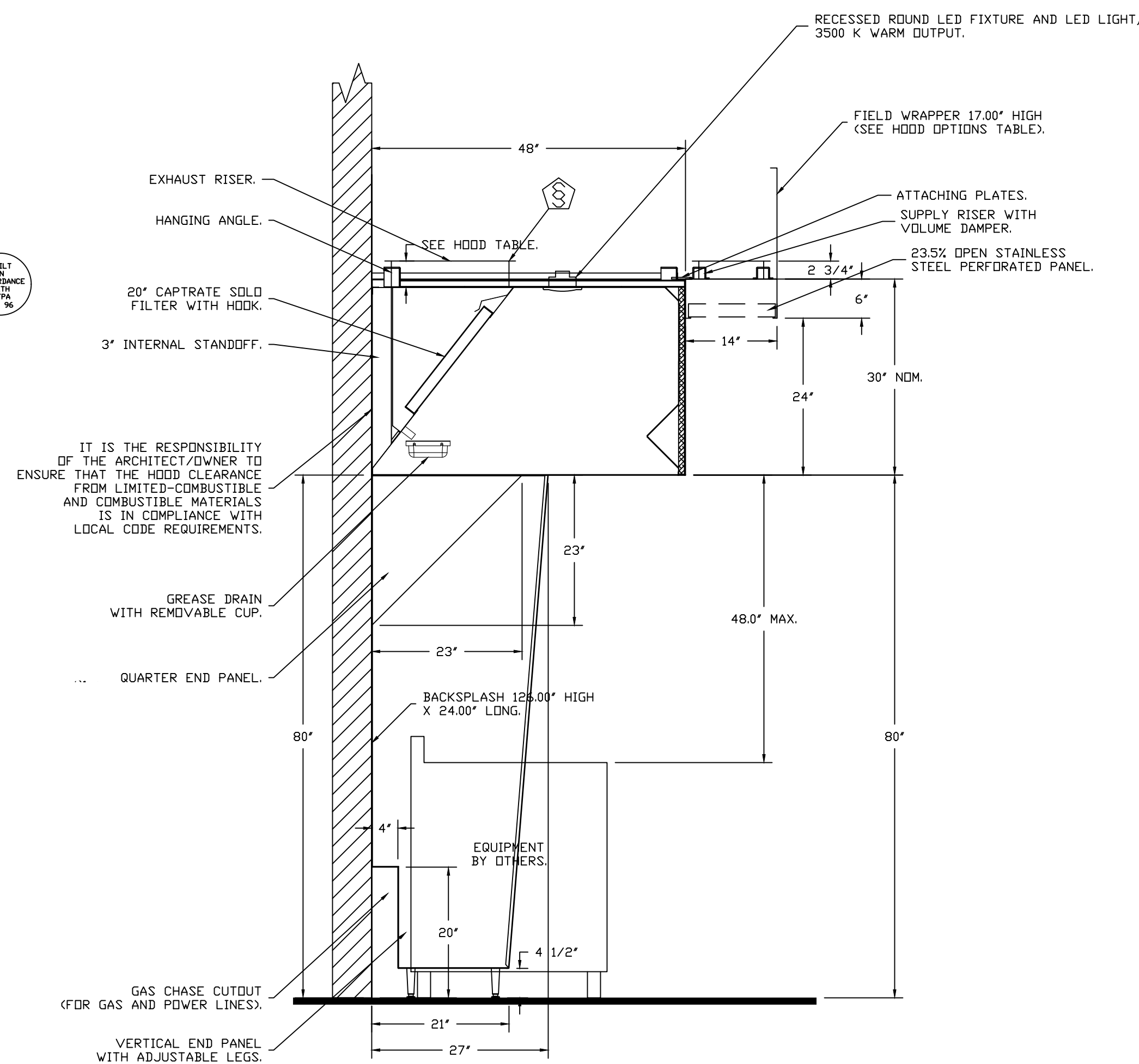


**ASSEMBLY INSTRUCTIONS**

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.



**PLAN VIEW - HOOD #1 (HD1)**  
 12' 0.00" LONG 4830EX-2-PSP-F  
 NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.



**SECTION VIEW - MODEL 4830EX-2-PSP-F**  
 HOOD - #1 (HD1)

**REVISIONS**

DESCRIPTION	DATE

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**Air Solutions**  
 1329 East Kemper Rd., Ste. 4210, Cincinnati, OH, 45246 PHONE: (513) 860-5555 EMAIL: reg120@econair.com

Buffalo Wild Wings - Albany NY  
 ALBANY, NY, 12208

**DATE:** 10/14/2022  
**DWG.#:** 5661107  
**DRAWN BY:** jcirilli  
**SCALE:** 3/4" = 1'-0"  
**MASTER DRAWING**

**SHEET NO.**  
 1

**EXHAUST FAN INFORMATION - JOB#5661107**

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	PCU-1	1	USBI24DD-RM	CAPTIVEAIRE	2880	2.300	1225	DDP,PREMIUM	7.500	4.0870	3	208	21.1	954 FPM	1539	30.3

**FAN OPTIONS**

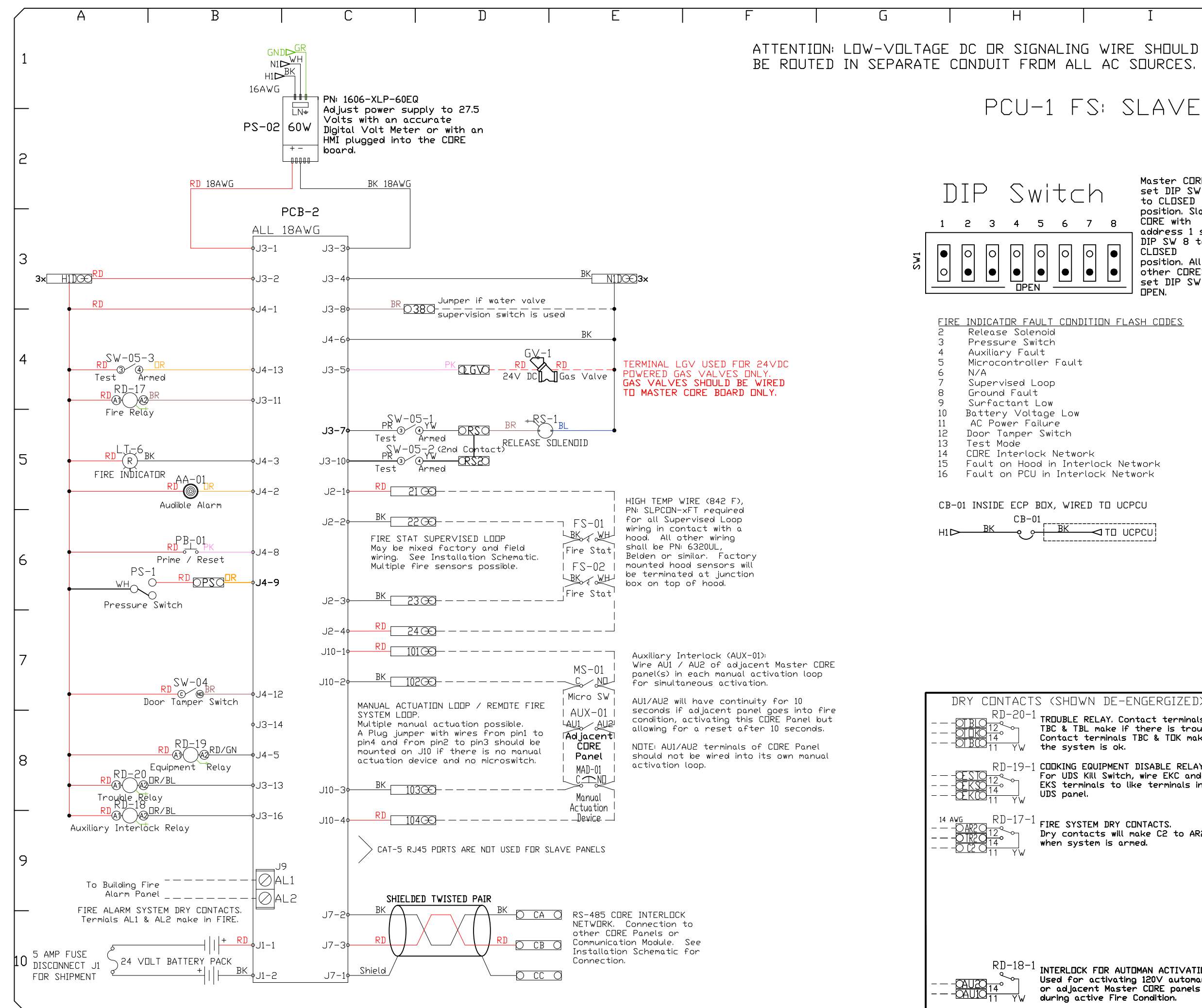
FAN UNIT NO	TAG	QTY	DESCRIPTION
1	PCU-1	1	UTILITY SET GREASE CUP
		1	BI24 - 24" DISCHARGE EXTENSION
		1	BI - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE
		1	BI24 - INLET CONNECTION STANDARD 24" FLANGED GREASE DUCT
		1	POLLUTION CONTROL UNIT WITH PREFILTER, HIGH EFFICIENCY, AND ODDR CONTROL WITH INSTALLED ELECTRIC DETECTION SYSTEM. PRESET TO ACTIVATE AT 360° F. SIZE 3
		1	PCU-SIZE 3 USBI-24 DD
2	KSF-1	1	BLUE RUBBER VIBRATION ISOLATORS FOR BI UTILITY SETS (SET OF 8)
		1	2 YEAR PARTS WARRANTY
		1	SIZE 2 DIRECT FIRED HEATER LOW CFM PROFILE PACKAGE - USED ON HEATERS UNDER 2500 CFM
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	LOW FIRE START
1	KSF-1	1	MOTORIZED BACKDRAFT DAMPER FOR A2-D HOUSING - MEETS AMCA CLASS 1A RATING
		1	INSULATION OPTION FOR V-BANK FILTER SECTION
		1	DF2 INDDOR HANGING OPTION - INCLUDES 2 HSA125 HANGING SPRING ISOLATORS PER UNI-STRUT
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) - THREE PHASE ONLY
		1	2 YEAR PARTS WARRANTY
		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	PCU-1	YES						
2	KSF-1				YES		YES	

**CURB ASSEMBLIES**

NO	ON FAN	WEIGHT	ITEM	SIZE
1		150 LBS	RAIL	6.000"W X 35.000"L X 20.000"H ALONG LENGTH, RIGHT.
			RAIL	6.000"W X 35.000"L X 20.000"H ALONG LENGTH, RIGHT.
			RAIL	6.000"W X 35.000"L X 20.000"H ALONG LENGTH, RIGHT.
			RAIL	6.000"W X 35.000"L X 20.000"H ALONG LENGTH, RIGHT.
			RAIL	6.000"W X 35.000"L X 20.000"H ALONG LENGTH, RIGHT.



**FACTORY WIRING SCHEMATIC CORE FIRE PROTECTION**

RA-X 120 VAC RELAY	RD-X 24 VDC RELAY
NO 4 3	14 NO
NC 2 1	12 NC
COM 8 5	11 COM

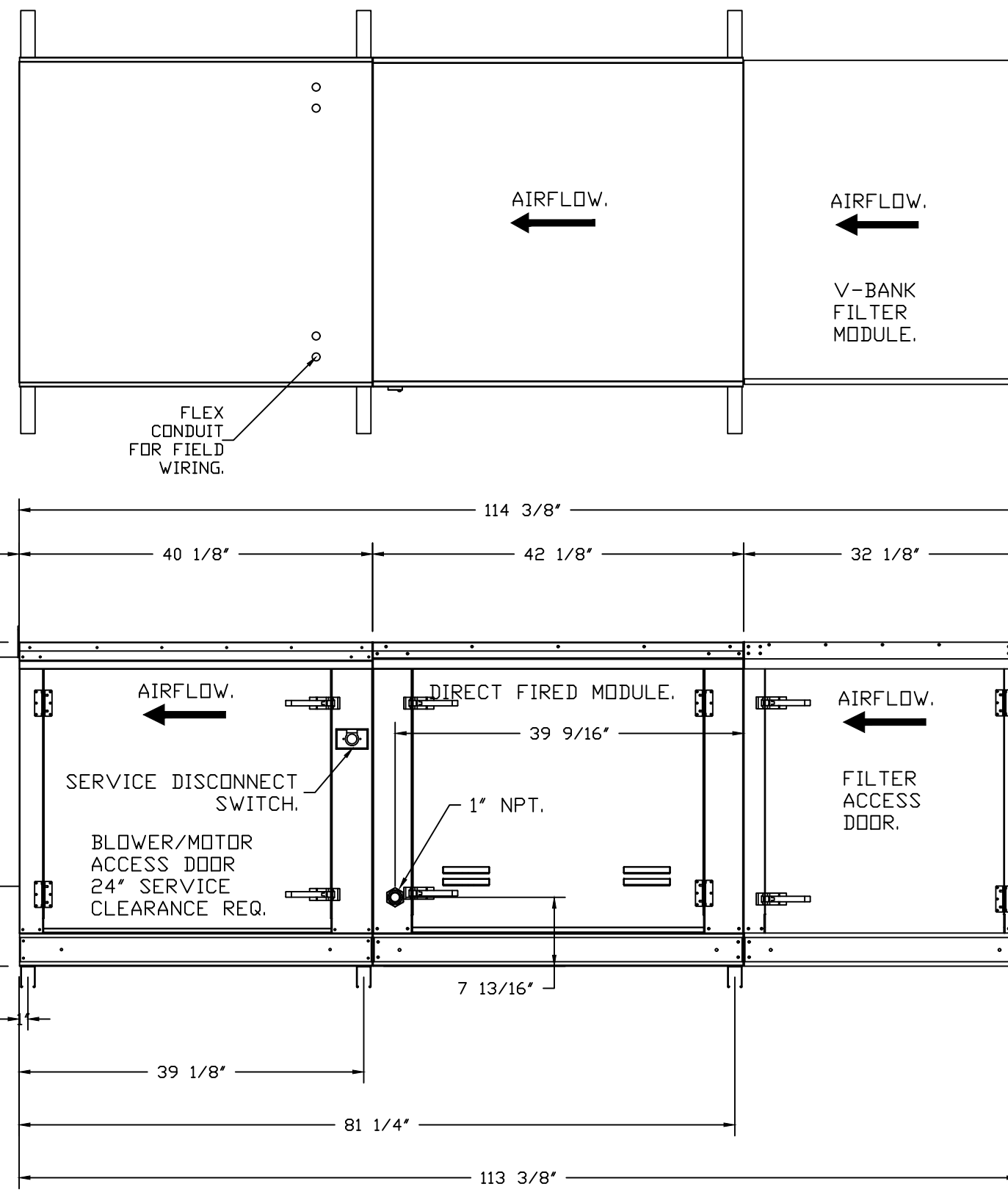
**COMPONENT LIST**

LABEL	DESCRIPTION
MAD-01	MANUAL ACTIVATION PNEUMATIC RELAY
PCB-2	CORE PCB
PS-02	CORE POWER SUPPLY
V5-X	Water Solenoid Valves
LT-06	Surf. Temp Ind. Light
LL-01	Surf. Level Sensor
AA-01	audible Alarm
PA-01	Pressure Switch
SW-05	TEST/ARM Switch
SW-04	Tester Switch
SP-1	Surfactant Pump
GV-1	24V DC Gas Valve
FS-XX	Fire Sensor
LT-05	Surf. Temp Ind. Light
PS-01	Remote Push/High Pressure Switch
RD-XX	24VDC Phoenix Relay
CB-01	ISA Contact Breaker
PS	Pressure Switch

**JOB NAME** Buffalo Wild Win

**DESCRIPTION OF OPERATION** Demand Control Ventilation w/ control for Exhaust Fan, 1 Supply Fan, Exhaust on In Fire. Lights out in Fire. Fans modulate based on room temperature. INVERTER RUN PHASE MOTOR REQUIRED FOR USE WITH VFD. Room temperature sensor shipped loose for field installation. Verify distance between VFD and Motor; additional cost could apply distance exceeds 50 feet.

DATE: 10/14/2022  
DRAWN BY: jcirilli  
FACTORY: 10/14/2022  
DWG NO: ECP-HI-8



**FAN #2 EA2-D500-20D - HEATER (KSF-1)**

- DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 20" MIXED FLOW DIRECT DRIVE FAN.
- V-BANK EZ FILTERS - INDDOR.
- SIDE DISCHARGE - AIR FLOW RIGHT -> LEFT.
- PROFILE PLATE CONFIGURATION FOR SIZE 2 DIRECT FIRED UNIT FOR LOW CFM APPLICATIONS.
- GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
- GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE.
- LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
- 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, LOW LEAKAGE, LF120S ACTUATOR INCLUDED.
- INSULATION\* FOR V-BANK INTAKE OPTION.
- INDOOR HANGING CRADLE FOR THE SIZE 2 DIRECT FIRED UNIT. 2 HSA125 HANGING ISOLATORS PER UNI-STRUT INCLUDED.
- 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.
- HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER BLU/DR SECTION).
- 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 DRASTICALLY 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 26" x 26".

**REVISIONS**

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**Buffalo Wild Wings - Albany NY**

**ALBANY, NY, 12208**

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

**MASTER DRAWING**

**SHEET NO.** 2

**recon-air**

**Air Solutions**

www.reconair.com

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MUA FAN INFORMATION - JOB#5661107

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MDTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOCP	WEIGHT (LBS)	SDNES
2	KSF-1	1	EA2-D.500-20D	20MF-2-MDD	A2-D.500	2000	2200	0.500	1020	DDP,PREMIUM	1.000	0.5820	3	208	3.8	4.8A	15A	752	7.1

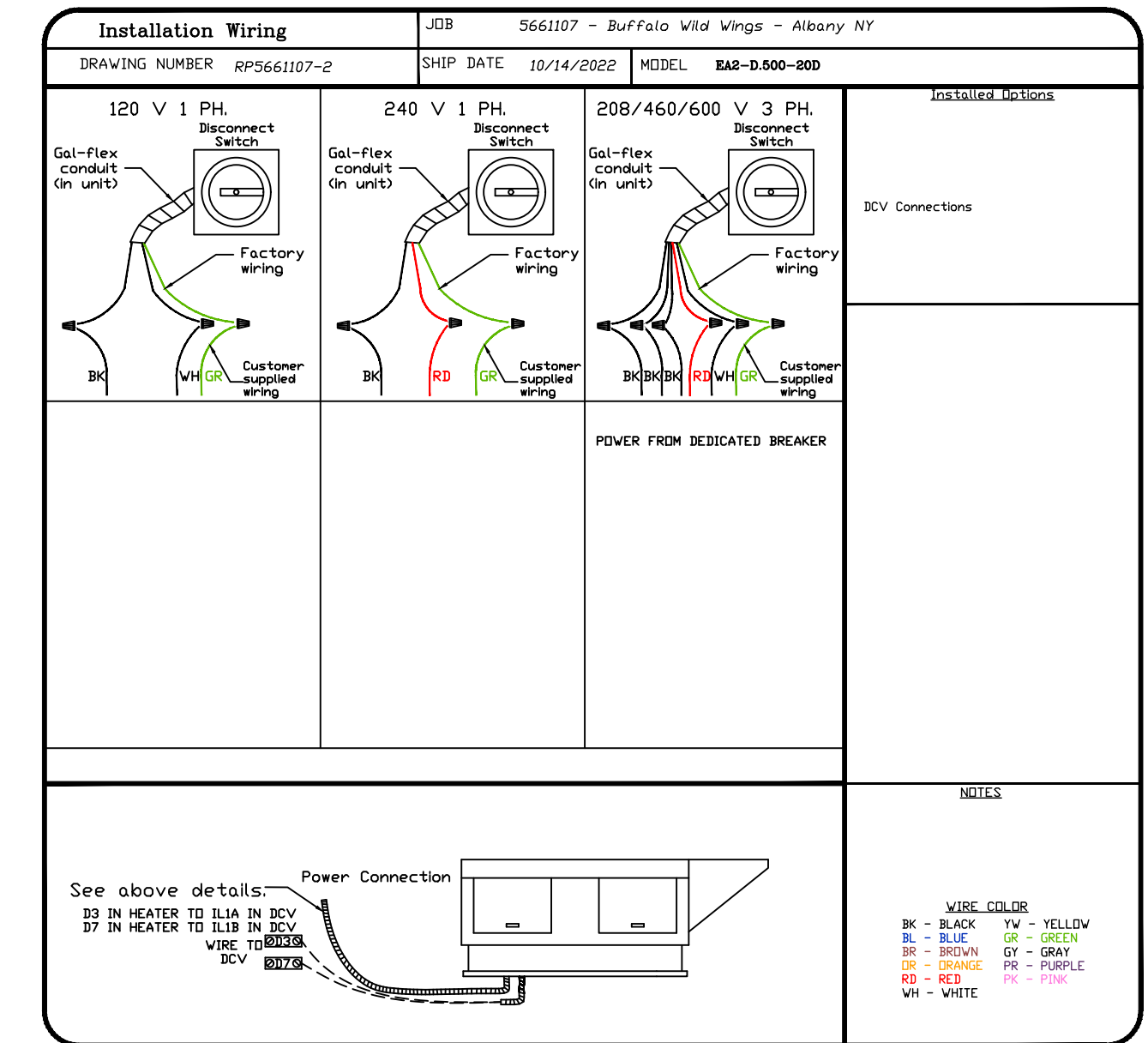
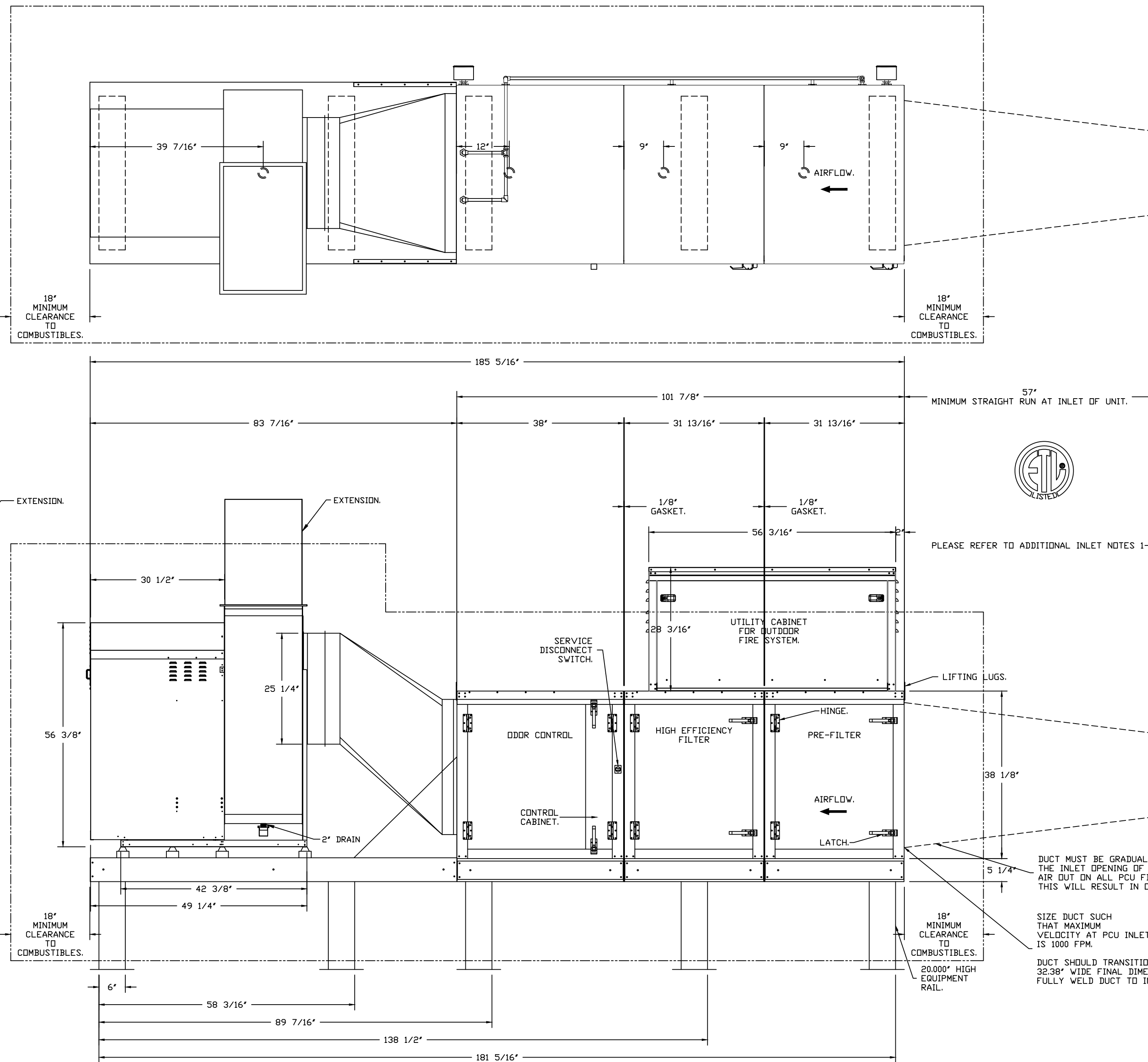
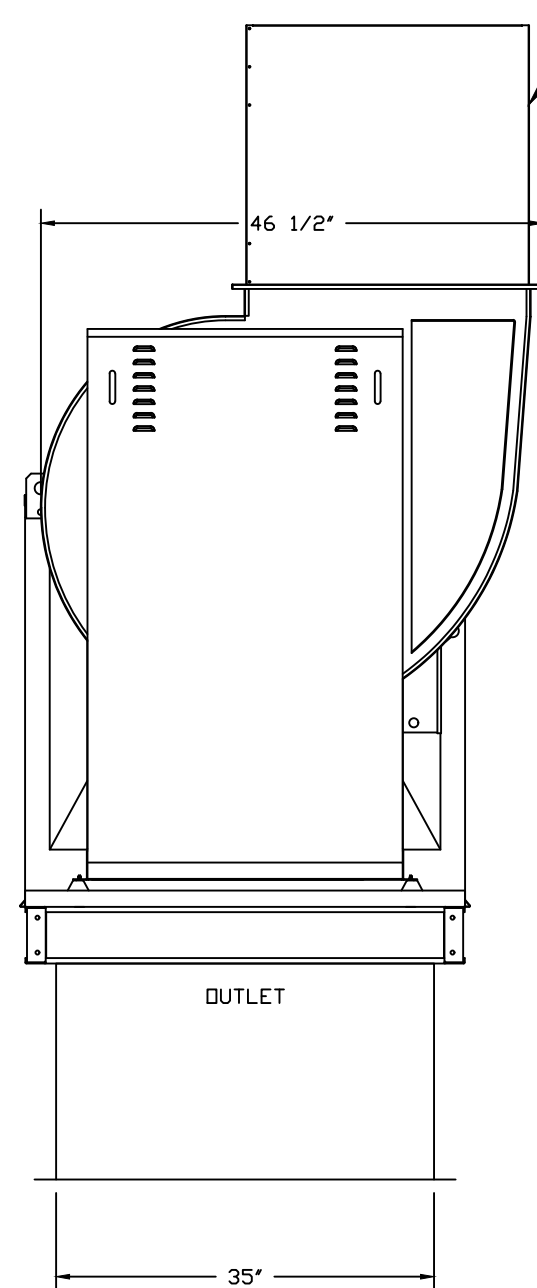
GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	TEMP RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE	BURNER EFFICIENCY(%)
2	KSF-1	182423	167829	72°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	92

**DESCRIPTION:**  
 FAN #1 USB24DD-RM-S - EXHAUST FAN (PCU-1) - POLLUTION CONTROL UNIT WITH FIRE SYSTEM PIPING AND DETECTION INSTALLED. INCLUDES STEEL PRE FILTER MODULE, HIGH EFFICIENCY MERV 15 FILTER MODULE, AND ODOR CONTROL MODULE. PREPARED WITH DOWNSTREAM PROTECTION. ELECTRIC FIRE DETECTOR AND NOZZLES ARE INCLUDED.  
 - PCU/MF WITH HMI SCREEN, BACK PLATE WITH LABEL, AIRLINES/QUICK CONNECTS/AIR PROBES, CONDUIT/FITTINGS/WIRING HARNESS.  
 - CABINET FOR THE POLLUTION CONTROL UNIT. FOR USE WITH ANSUL R-102 SYSTEMS AND MOUNTED ON TOP OF UNIT. INCLUDES HEATERS AND COOLING FANS. MAX. 3 TANK SYSTEM.

- NOTES:**
- ALL DIMENSIONS ARE NOMINAL AND GIVEN IN INCHES.
  - C/US UL710 LISTED FOR GREASE DUCT INSTALLATION.
  - DIRECT DRIVE EXHAUST ONLY UNIT WITH 24.750" STEEL WHEEL. UTILITY SET EXHAUST FAN W/ 2" GREASE DRAIN. CLOCKWISE ROTATION WHEN LOOKING AT INLET.
  - WHEN USED IN KITCHEN GREASE DUCT, UNIT MUST BE INSTALLED DOWNSTREAM OF A LISTED HOOD ASSEMBLY OF A UL710 LISTED HOOD ASSEMBLY OR A NFPA 96 COMPLIANT HOOD AS LONG AS IT IS INSTALLED WITH A FIRE SUPPRESSION SYSTEM THAT IS INTERLOCKED WITH THE NFPA 96 COMPLIANT HOOD FIRE SYSTEM.
  - CLEARANCE ON FILTER ACCESS SIDE OF THE PCU SHOULD BE A MINIMUM OF 36" FOR PROPER SERVICE OF THE UNIT. ALL OTHER SIDES SHOULD FOLLOW CLEARANCE TO COMBUSTIBLE GUIDELINES PER CODE.
  - UNIT CONTAINS PRESSURE MONITORING SWITCH. REFER TO ELECTRICAL SCHEMATIC OR OPERATION MANUAL FOR MORE INFORMATION.
  - 1.5" NPT DRAIN SUPPLIED IN EACH MODULE BASE. CONNECT INDIVIDUAL DRAINS TO A COMMON 2 1/2" DRAIN AND ROUTE TO GREASE INTERCEPTOR.
  - FIRE SYSTEM TO BE INSTALLED INDOORS OR IN A WEATHERTIGHT ENCLOSURE MAINTAINED BETWEEN 32° AND 130° F.

PCU OPTIONS:

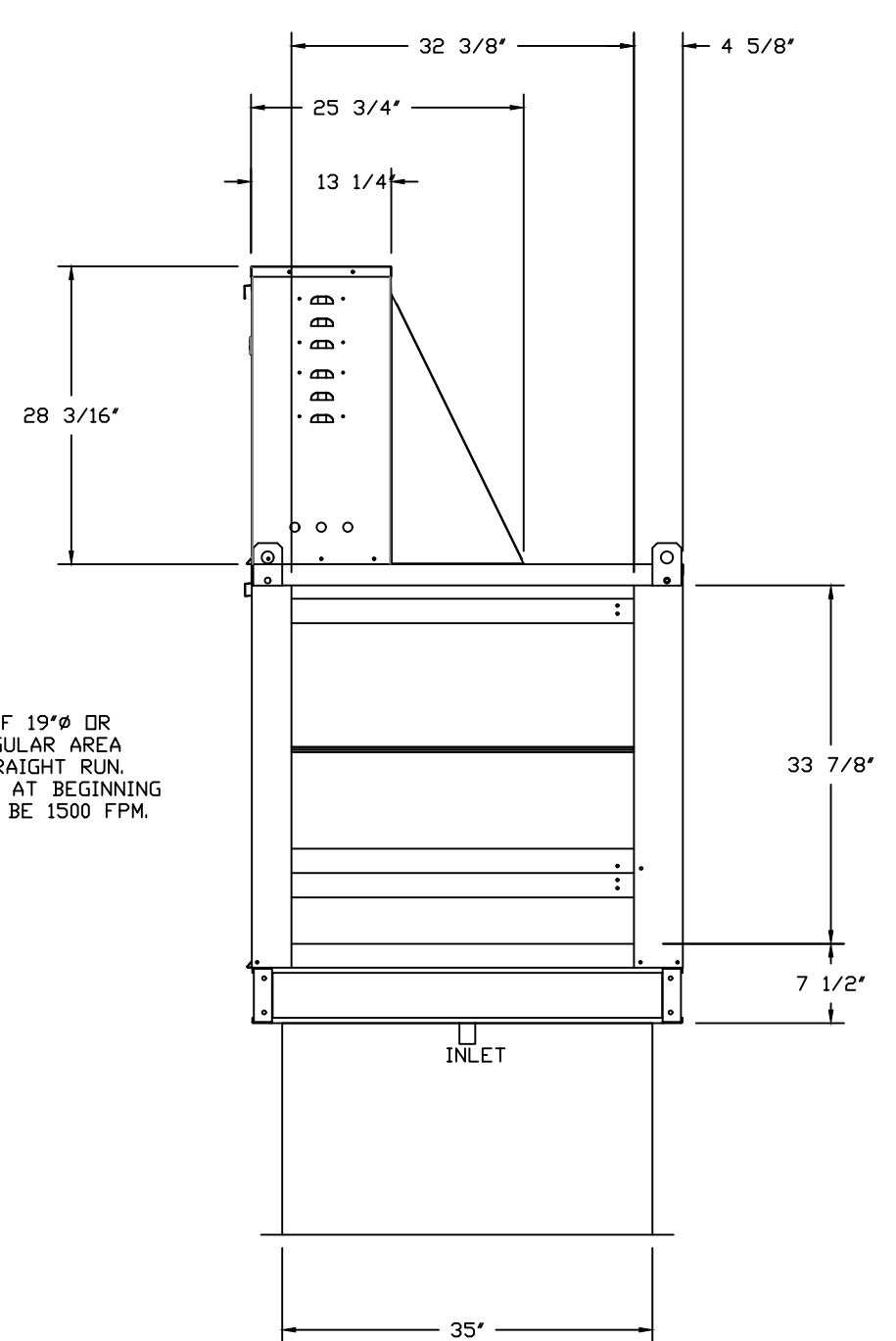


FAN OPTIONS:

- UTILITY SET GREASE CUP
- B24 - 24" DISCHARGE EXTENSION.
- B1 - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE.
- B124 - INLET CONNECTION STANDARD 24" FLANGED GREASE DUCT
- POLLUTION CONTROL UNIT WITH PREFILTER, HIGH EFFICIENCY, AND ODOR CONTROL. WITH INSTALLED ELECTRIC DETECTION SYSTEM. PRESET TO ACTIVATE AT 360° F.
- PCU-SIZE 3 US91-24 ID
- BLUE RUBBER VIBRATION ISOLATORS FOR BI UTILITY SETS (SET OF 8)
- 2 YEAR PARTS WARRANTY

INLET NOTES:

- LENGTH OF STRAIGHT DUCT ON INLET OF PCU TO BE 3 TIMES THE EQUIVALENT DUCT DIAMETER TO AVOID SYSTEM EFFECT.
- MAX INLET DUCT VELOCITY TO BE 1000 FPM INTO THE PCU. DUCTWORK SHOULD BE SIZED APPROPRIATELY.
- DUCT MUST BE GRADUALLY TRANSITIONED TO THE INLET OPENING OF THE PCU TO SPREAD AIR DUT ON ALL PCU FILTERS. FAILURE TO DO THIS WILL RESULT IN ODOR AND SMOKE BYPASS.



FAN #1 USB24DD-RM-S - EXHAUST FAN (PCU-1) - PCU #1 PCU-PF-HE-OC-REFS-3  
 FAN WEIGHT = 1539LBS / CURB WEIGHT = 150LBS  
 PCU LOCATION: OUTDOOR.

**REVISIONS**

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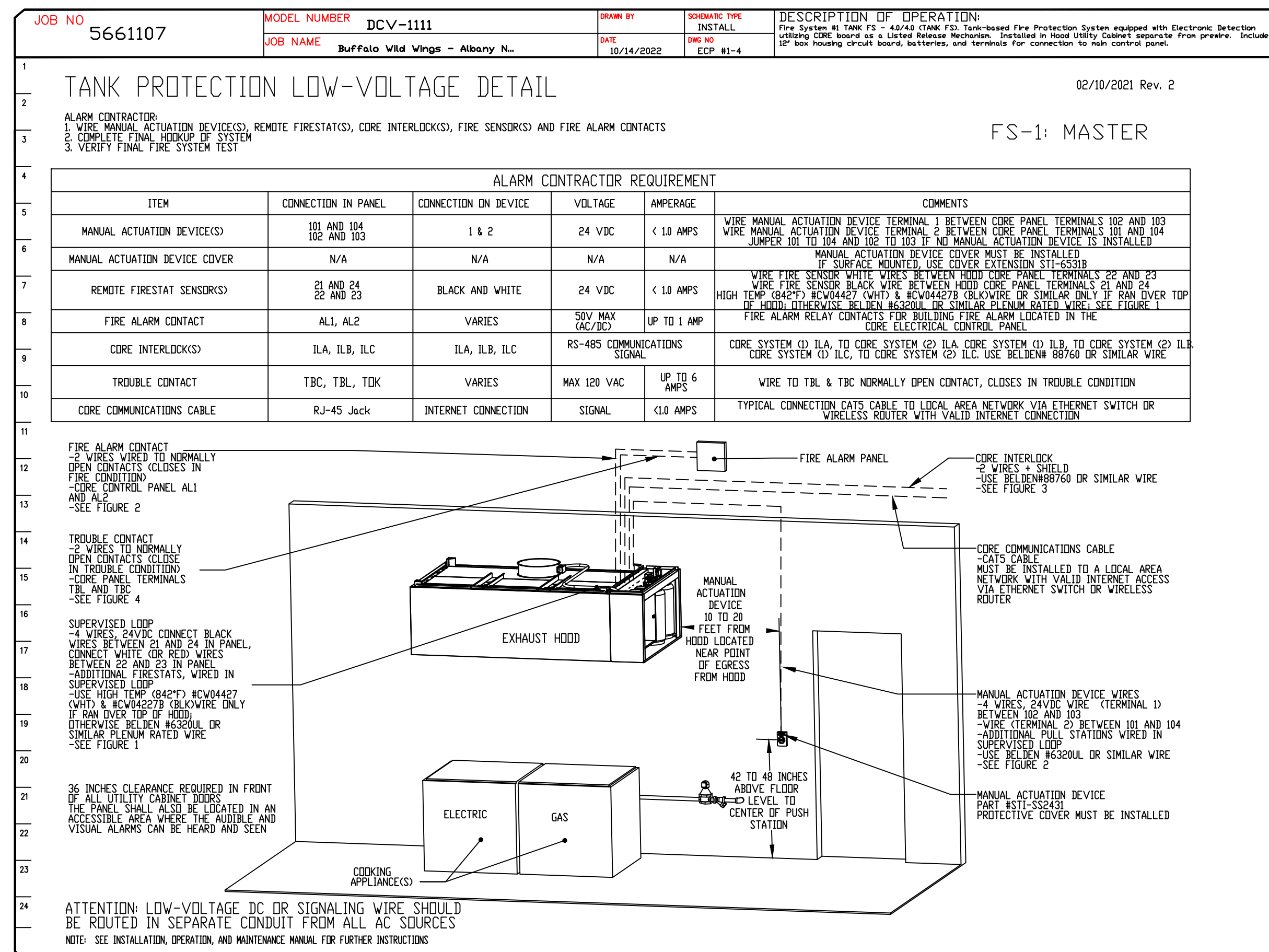
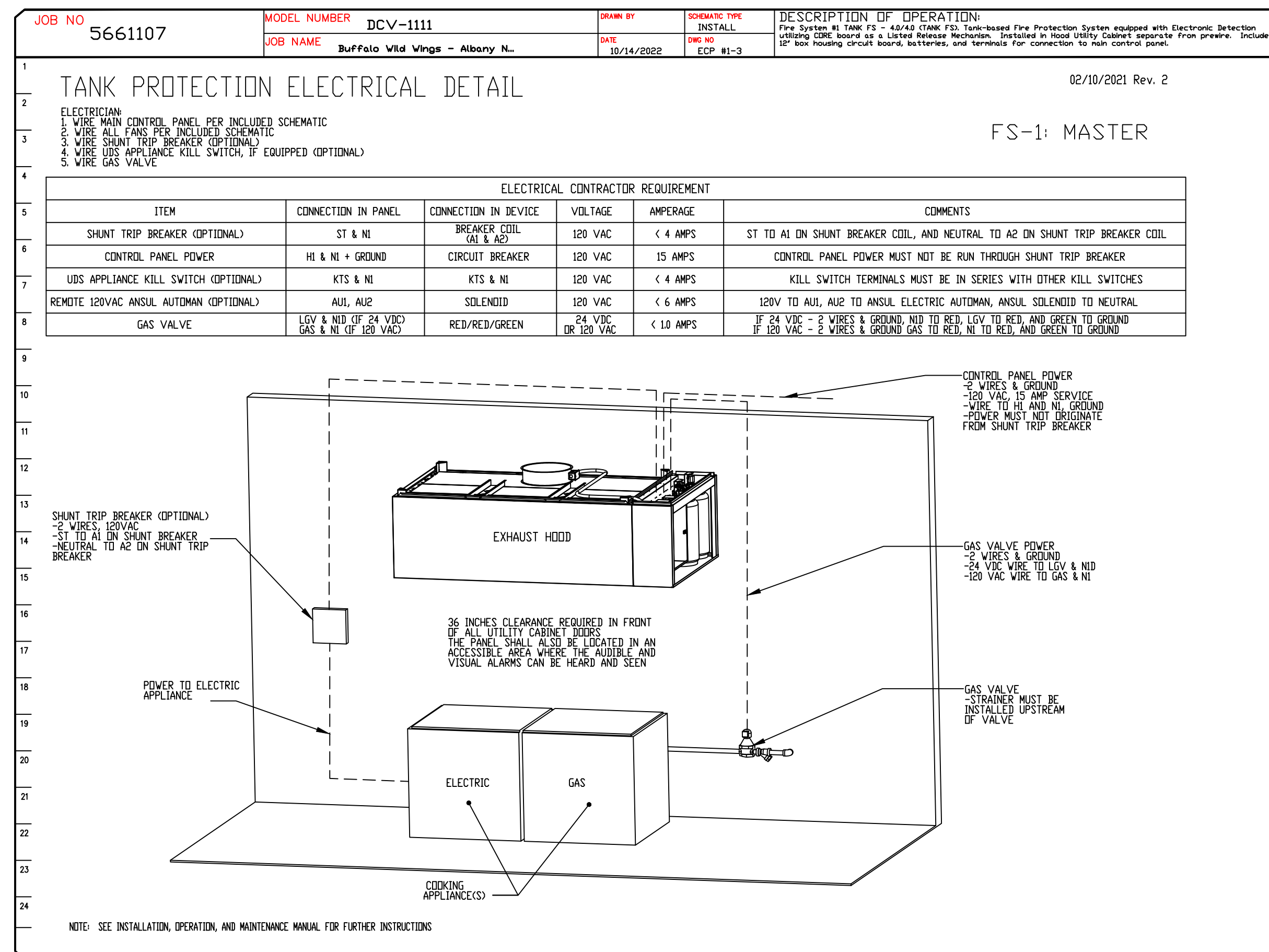
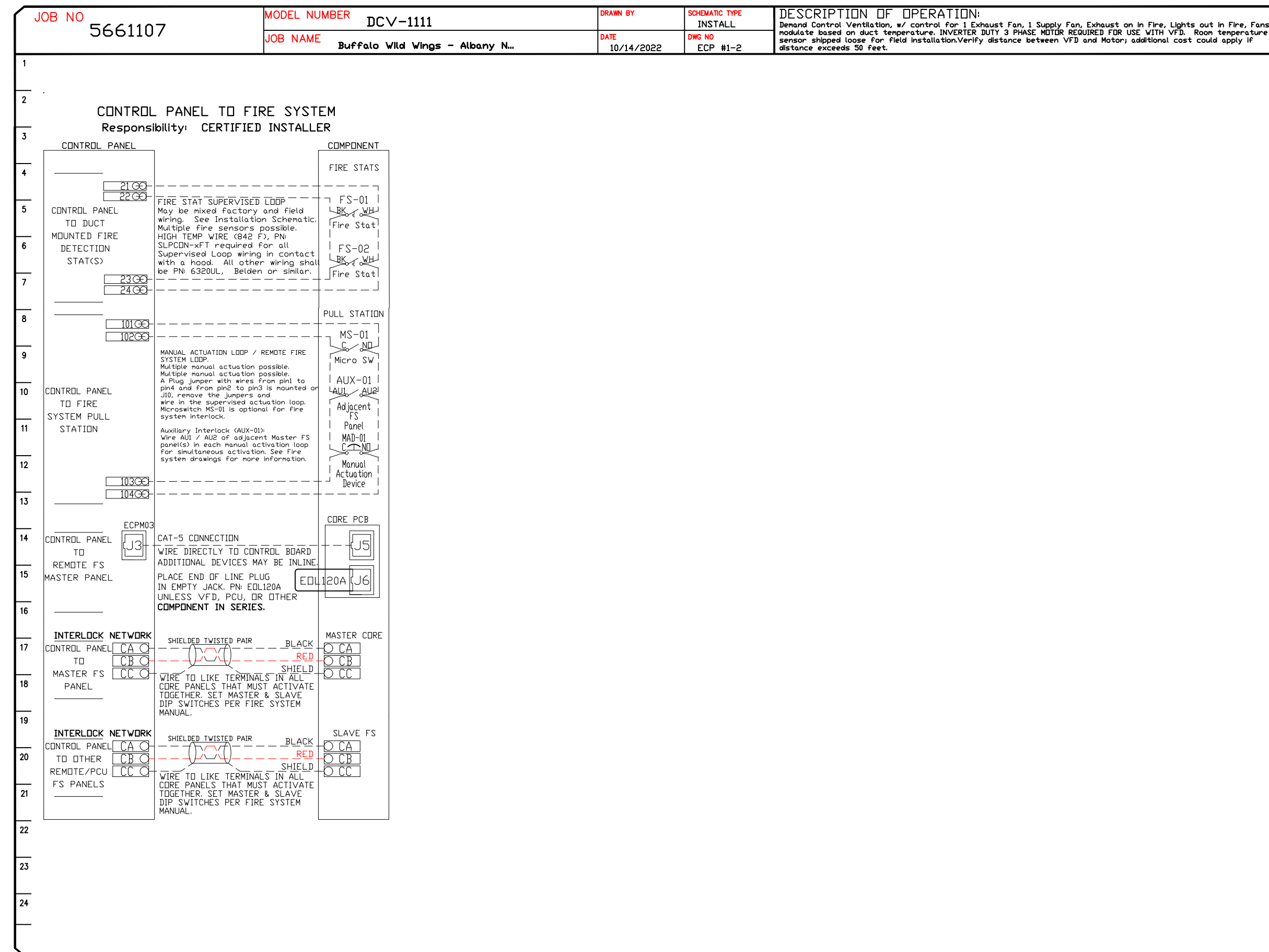
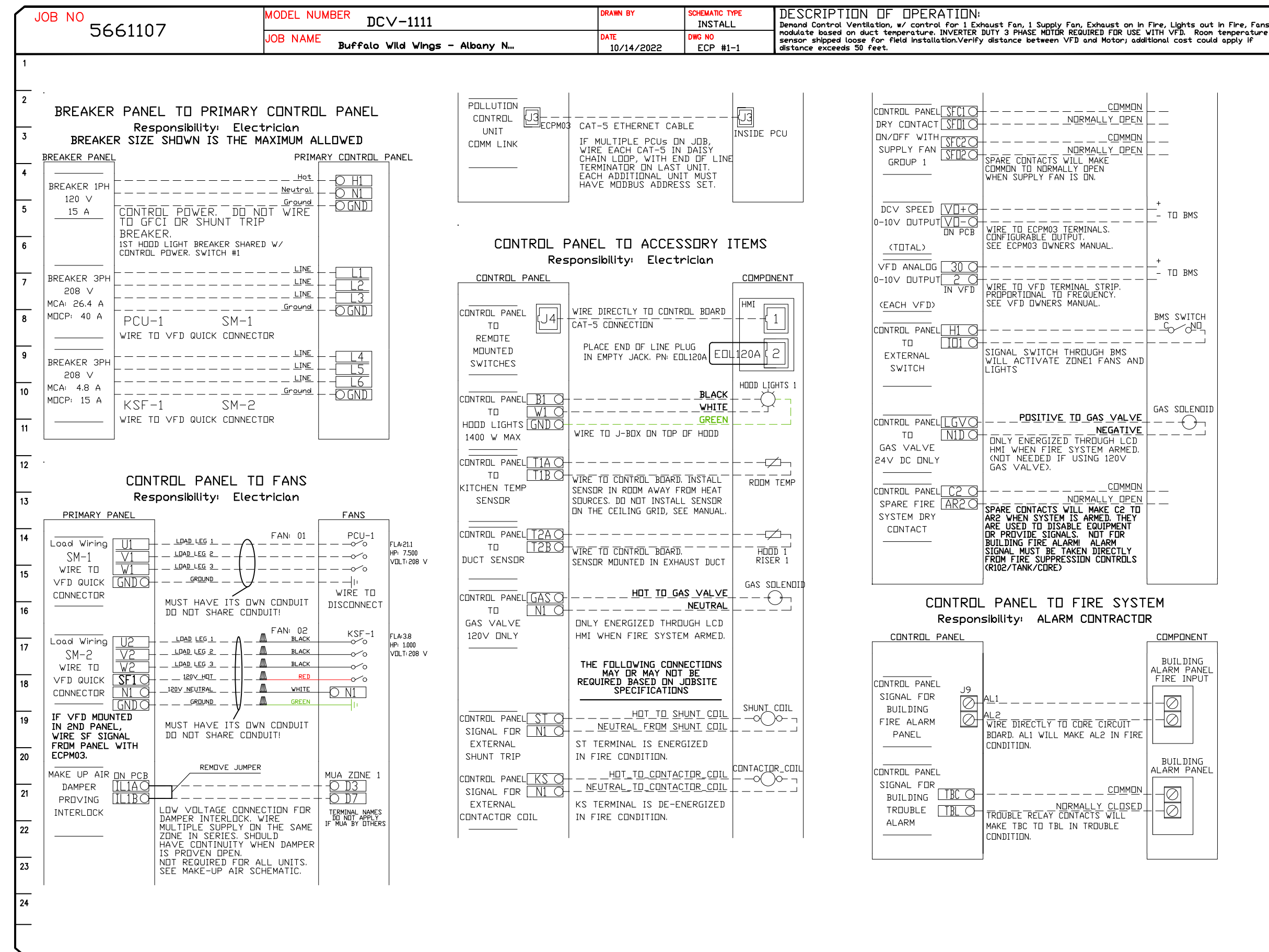
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 3

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**ELECTRICAL PACKAGE - JOB#5661107**

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	HP	VOLTS	FLA	
1	EPI	DCV-1111	WALL MOUNT IN SS BOX	03 - UTILITY CABINET LEFT	1 LIGHT 1 FAN	SMART CONTRLS DCV	PCU-1	EXHAUST	3	7.500	208	21.1
							KSF-1	SUPPLY	3	1.000	208	3.8



**REVISIONS**

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**CAPTIVE**

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