PRCTI20242007

FOR QUESTIONS, CALL THE
Seattle Office
REGION 85
PHONE: (425) 212 - 5996
EMAIL: reg85@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#6479484

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG END TO END	ROW
1		3044 BD-2	CAPTIVEAIRE	12' 0"	600 DEG	I	HEAVY	200	2400			4"	16"	2400	1719	-1.220"	0	430 SS WHERE EXPOSED	ALONE	ALONE
2		206 MISC-PSP	CAPTIVEAIRE	12' 0"	300 DEG	I	N/A	0	0								1800	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1		CAPTRATE SOLO FILTER	9	16"	16"	85% SEE FILTER SPEC	3	RECESSED ROUND	NO							NO	506 LBS
2							0									NO	88 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		RIGHT QUARTER END PANEL 20" TOP WIDTH, 0" BOTTOM WIDTH, 20" HIGH 430 SS.
		LEFT QUARTER END PANEL 20" TOP WIDTH, 0" BOTTOM WIDTH, 20" HIGH 430 SS.
		INSULATION FOR TOP OF HOOD.
		STRUCTURAL FRONT PANEL.
		INSULATION FOR BACK OF HOOD.
		DI-PSP 10" 120CFM (QTY. 3).

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S) WIDTH	LENG	DIA	CFM	SP
2		Front	144"	20"	6"	MUA			18"	600	0.183"
						MUA			18"	600	0.183"
						MUA			18"	600	0.183"

DIFFUSER SCHEDULE

TAG	MODEL	CEILING HEIGHT	NOMINAL FACE SIZE	RISER DIA	CFM	DUCT VELOCITY (FPM)	FACE DISCHARGE VELOCITY (FPM)	T50 AFF	SP	NOISE CRITERIA	LINKED FAN	LINKED HOOD
	DI-PSP-10-24X24	8'	24 X 24	10	120	220	36	8.21'	0.012"	6		3044BD-2

(S) 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 ☐
APPROVED WITH NO EXCEPTION TAKEN ☐
REVISE AND RESUBMIT ☐
SIGNATURE _____
YOUR TITLE _____ DATE _____

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.

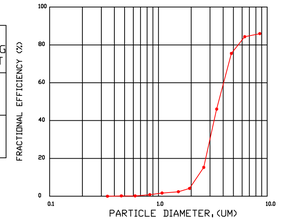
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

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

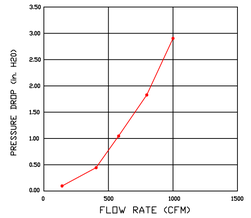
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

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.

EFFICIENCY VS. PARTICLE DIAMETER

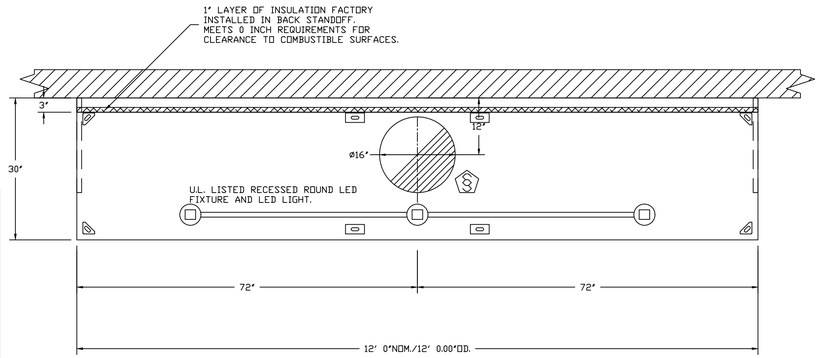


PRESSURE DROP VS. FLOW RATE

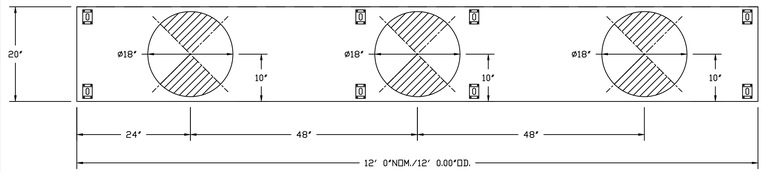


CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:
NFPA #96.
NSF STANDARD #2.
UL STANDARD #1046.
INT. MECH. CODE (IMC).
ULC-S649.

BUILT IN ACCORDANCE WITH NFPA No. 96

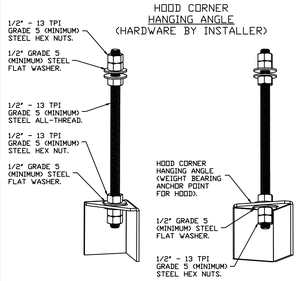


PLAN VIEW – HOOD #1
12' 0.00" LONG 3044BD-2
NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.



PLAN VIEW – HOOD #2
12' 0.00" LONG 206MISC-PSP

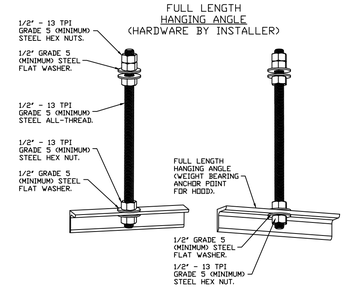
HOOD CORNER HANGING ANGLE (HARDWARE BY INSTALLER)



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.

FULL LENGTH HANGING ANGLE (HARDWARE BY INSTALLER)



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Dons Drive Inn - Puyallup - 12' Hood
925 South Meridian,
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DRAWN BY:
SCALE: 3/4" = 1'-0"
MASTER DRAWING
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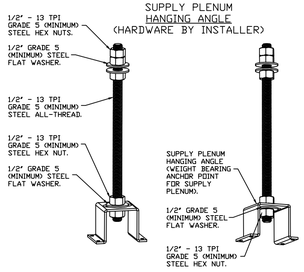
SUPPLY PLENUM
HANGING ANGLE
(HARDWARE BY INSTALLER)



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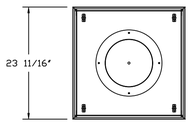
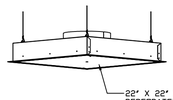
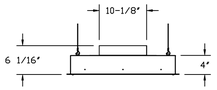
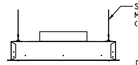
QTY 3-DROP-IN PERFORATED SUPPLY PLENUM DIFFUSER (DI-PSP)



FEATURES:
STAINLESS STEEL PERFORATION AND TRIM
REMOVABLE PERFORATION FOR PLENUM CLEANING
DOUBLE PERFORATION FOR EVEN AIR DISTRIBUTION
1/2" THICK INSULATION ON EXTERIOR TOP AND SIDES
APPROX. WEIGHT = 20 lbs



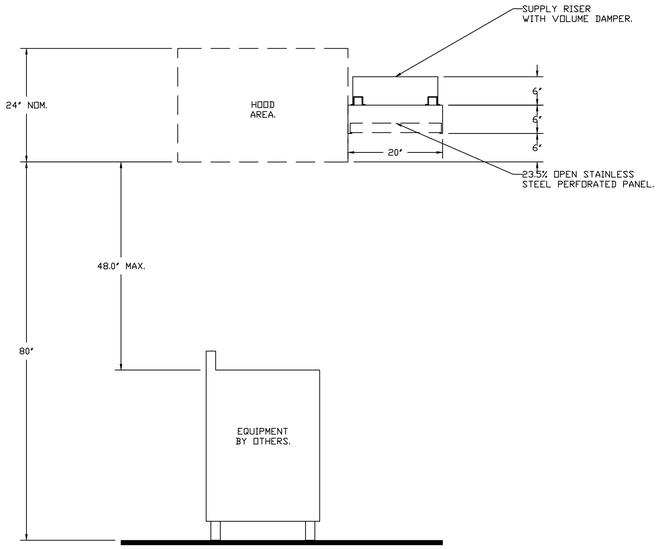




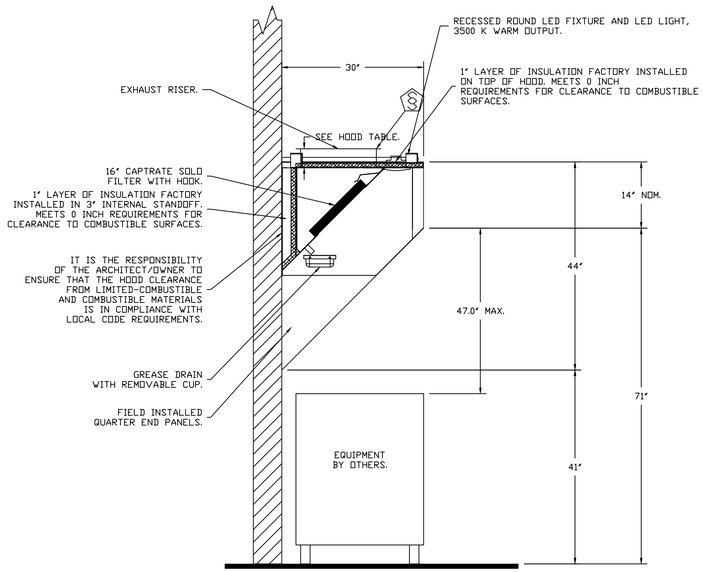
INSTALLATION NOTES:
INTENDED FOR INSTALLATION IN LAY IN (DROP) CEILINGS
INSTALL SLIDING RADIAL DAMPER ON TOP SIDE OF COLLAR

VERTICAL THROW DATA (Ft)			
CFM	T150	T100	T50
600	1.25'	3.00'	7.75'
500	0.50'	2.50'	6.25'
400	---	1.25'	4.50'
300	---	---	3.75'
200	---	---	0.50'

DIFFUSER SPECIFICATION



SECTION VIEW - MODEL 206MISC-PSP
HOOD - #2



SECTION VIEW - MODEL 3044BD-2
HOOD - #1

CAPTIVEAIRE
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Dons Drive Inn - Puyallup - 12' Hood
925 South Meridian,
Puyallup, WA, 98371

DATE: 2/6/2024

DWG.#: 6479484

DRAWN BY:

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

MASTER DRAWING

SHEET NO. 2

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City of Puyallup
Development & Permitting Services
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EXHAUST FAN INFORMATION – JOB#6479484

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	EF	1	DU180HFA	CAPTIVEAIRE	2400	1.250	1103	TEFC,PREMIUM	1.500	1.0430	3	208	6.5	554 FPM	185	12.2

MUA FAN INFORMATION – JOB#6479484

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOCP	EVAP FLOW RATE (Gal/Hr)	EVAP COOLER ENTERING DB TEMP	EVAP COOLER ENTERING WB TEMP	EVAP COOLER LEAVING DB TEMP	EVAP COOLER LEAVING WB TEMP	WEIGHT (LBS)	SONES
2	MAU	1	A1-D.250-18Z	18Z-1-MOD	A1-D.250	1000	2160	0.500	1898	ODP-ECM	1.675	1.5070	1	208	9.6	13.2A	20A	3.59	90.0°F	63.0°F	70.0°F	63.0°F	697	17.3

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	MAU	125220	115202	50°F	7 IN. W.C. – 14 IN. W.C.	NATURAL	92

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	EF	1	GREASE BOX
		1	FAN BASE CERAMIC SEAL – INSTALLED AT PLANT – FOR GREASE DUCTS
		1	2 YEAR PARTS WARRANTY
2	MAU	1	SIZE 1 TEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AHUS
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC
		1	SHIP LOOSE GAS STRAINER 3/4"
		1	MOTORIZED BACKDRAFT DAMPER FOR A1-D HOUSING – MEETS AMCA CLASS 1A RATING
		1	IBT/MUA EVAP INTERLOCK
		1	ECM WIRING PACKAGE-SUPPLY – PWM SIGNAL FROM ECPM03 PREWIRE (1 – PHASE ZIEHL MOTOR)
		1	2 YEAR PARTS WARRANTY

FAN ACCESSORIES

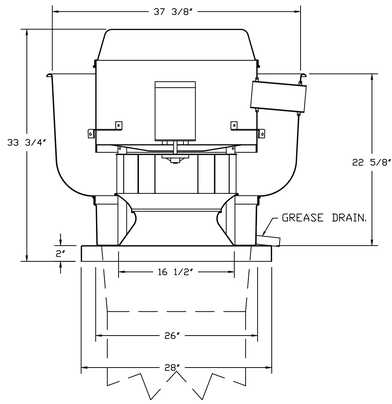
FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	EF	YES						
2	MAU						YES	

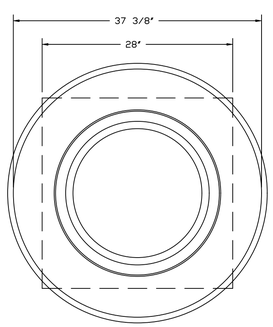
CURB ASSEMBLIES

NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	EF	52 LBS	CURB	26.500"W X 26.500"L X 24.000"H VENTED HINGED.
2	# 2		84 LBS	CURB	21.000"W X 71.000"L X 24.000"H INSULATED.
	# 2			RAIL	4.000"W X 4.000"L X 36.000"H.

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

FAN #1 DU180HFA – EXHAUST FAN (EF)





TOP VIEW

FEATURES:

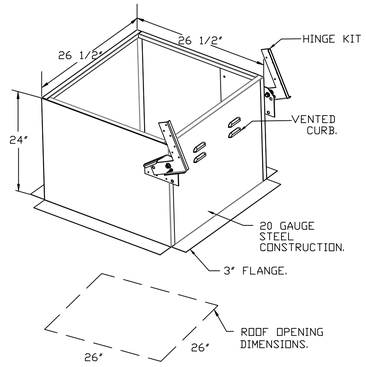
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT 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.
- FAN BASE CERAMIC SEAL – INSTALLED AT PLANT – FOR GREASE DUCTS.
- 2 YEAR PARTS WARRANTY.



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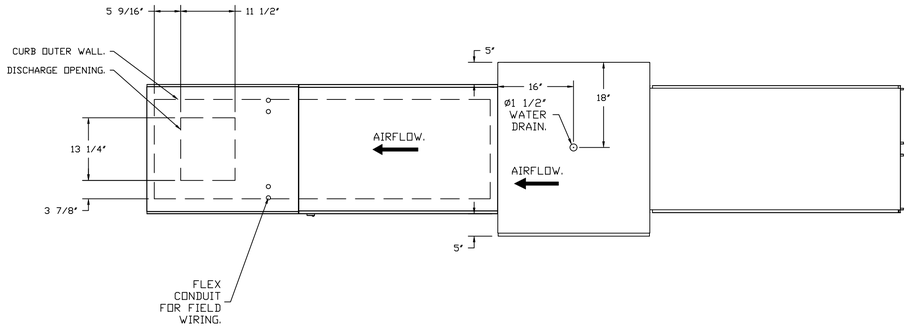
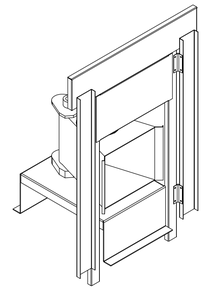
FAN #2 A1-D250-18Z - HEATER (MAU)
1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 18" DIRECT DRIVE FAN.
2. EVAP COOLER (LPD CELDEK) - W/INTAKE HOOD W/EZ FILTERS.
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
4. DOWN DISCHARGE CONSTRUCTION FOR SIZE 1 DIRECT DRIVE AHUS.
5. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
6. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE.
7. SHIP LOOSE GAS STRAINER. TO BE INSTALLED UPSTREAM OF UNIT CONNECTION. 3/4" CONNECTION.
8. MOTORIZED BACK DRAFT DAMPER 16" X 18" FOR SIZE 1 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, TF8120S ACTUATOR INCLUDED.
9. LAYER CONTROL FOR 1BT EVAP.
10. ECM WIRING PACKAGE FOR SINGLE PHASE ZIEHL SUPPLY MOTORS WITH PWM SIGNAL FROM ECPM03 PREWIRE.
11. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER/EVAP SECTION).
12. 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 14" x 14".

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. = 115381.
INPUT BTUs AT ALTITUDE OF 0.0 FT. = 125414.
OUTPUT BTUs AT ALTITUDE OF 43 FT. = 115202.
INPUT BTUs AT ALTITUDE OF 43 FT. = 125219.





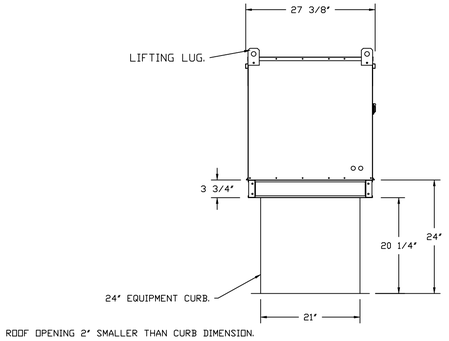
DIRECT FIRED (DF) PROFILE PLATE ASSEMBLY

DIRECT FIRED PROFILE PLATE SPECIFICATIONS:
DESCRIPTION:
DIRECT FIRED BURNERS SHALL HAVE PATENTED (US PATENT NO.: US6629523B2), 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 5PPM OF CARBON MONOXIDE (CO), AND 0.5PPM 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.

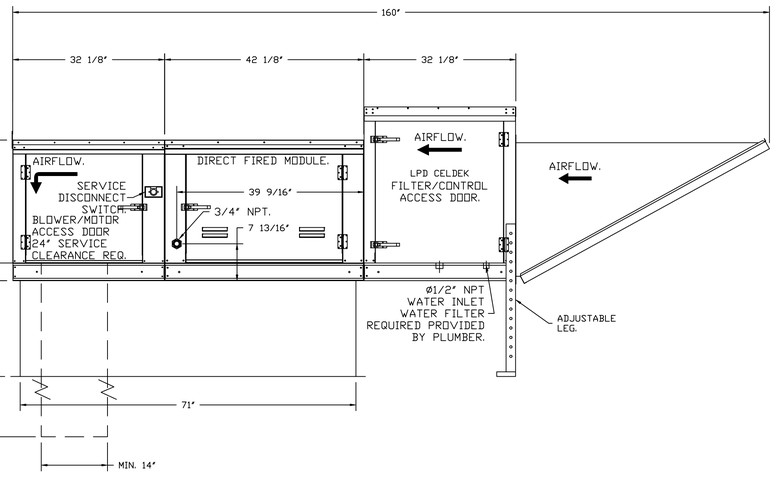
APPLICATION:
SPRING-LOADED BURNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MOMENTUM OF A FRESH AIR STREAM, WITHOUT THE NEED FOR ANY MOTORS OR ACTUATORS TO MECHANICALLY ADJUST THEM. WITH THIS FEATURE, ALL DF UNITS ARE DESIGNED FOR DEMAND CONTROL VENTILATION (DCV) REQUIREMENTS.

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 3.7 (NON-RECIRCULATING DF HEATERS) AND ANSI Z83.18 (RECIRCULATING DF HEATERS).

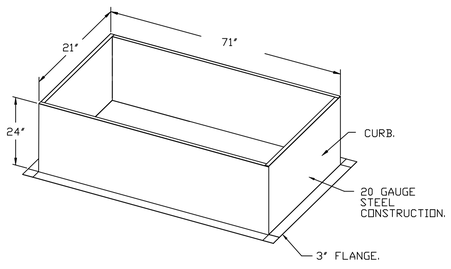
GENERAL CONSTRUCTION:
-PROFILE PLATES SHALL BE FORMED FROM G90 GALVANIZED STEEL.
-PROFILE PLATES SHALL VARY IN SIZE PER UNIT.
-PROFILE PLATES SHALL BE MOUNTED ALONG THE SAME PLANE AS THE DISCHARGE OF THE BURNER.
-DESIGN SHALL INCORPORATE PROPERLY TORQUED, PERMANENTLY MOUNTED SPRING HINGES.
-SPRING HINGES SHALL BE MADE FROM PLATED STEEL.



ROOF OPENING 2" SMALLER THAN CURB DIMENSION.



OPTIONS:
- FULL BOTTOM CORNERS.



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Dons Drive Inn - Puyallup - 12' Hood
925 South Meridian,
Puyallup, WA, 98371

DATE: 2/6/2024
DWG.#: 6479484
DRAWN BY:
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO.
4

PRCTI20242007

City of Puyallup
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Fire	Traffic

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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.

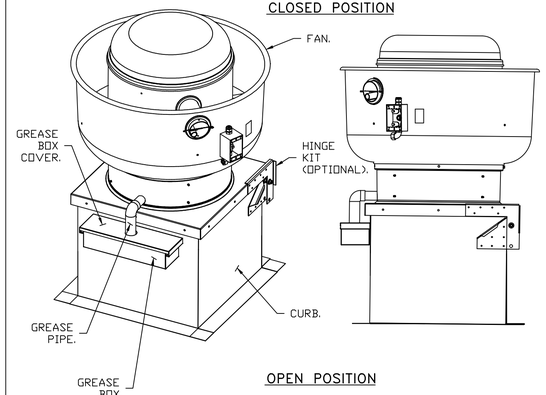
CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTED ☐
APPROVED WITH NO EXCEPTION TAKEN ☐
REVISE AND RESUBMIT ☐
SIGNATURE _____
YOUR TITLE _____ DATE _____ _____

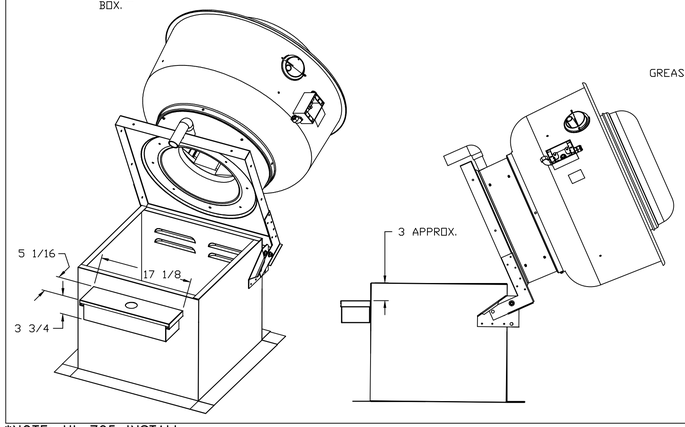
GREASEBOX
REV.#2 08/19/02

GREASE BOX INSTALLATION

CLOSED POSITION



OPEN POSITION



PARTS INCLUDED

GREASE BOX.
GREASE BOX COVER.
GREASE PIPE.

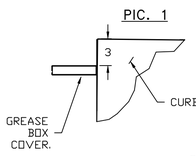
SHEET METAL SCREWS
3 - LONG (3/4" LG.).

GREASE BOX FIELD INSTALLATION

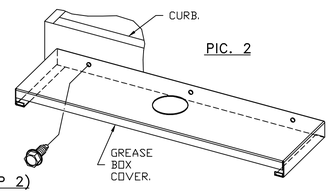
STEP 1)

ATTACH GREASE BOX COVER TO THE CURB, HOLD 3" DIMENSION AS SHOWN ON PIC. 1. SCREW GREASE BOX COVER TO CURB USING (3) LONG (3/4" LG.) SCREWS AS SHOWN ON PIC. 2.

PIC. 1



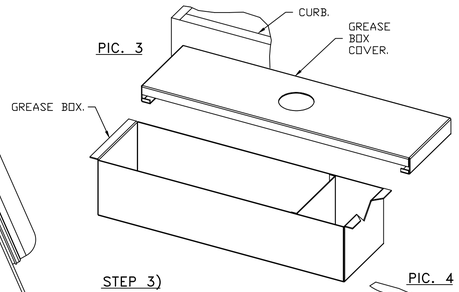
PIC. 2



STEP 2)

ATTACH GREASE BOX TO GREASE BOX COVER, SLIDE AND DROP. AS SHOWN ON PIC. 3.

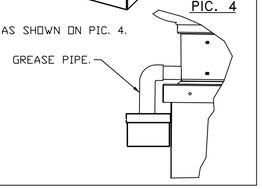
PIC. 3



STEP 3)

INSTALL GREASE PIPE AS SHOWN ON PIC. 4.

PIC. 4



*NOTE: UL 705 INSTALL.

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Dons Drive Inn - Puyallup - 12' Hood
925 South Meridian,
Puyallup, WA, 98371

DATE: 2/6/2024

DWG.#: 6479484

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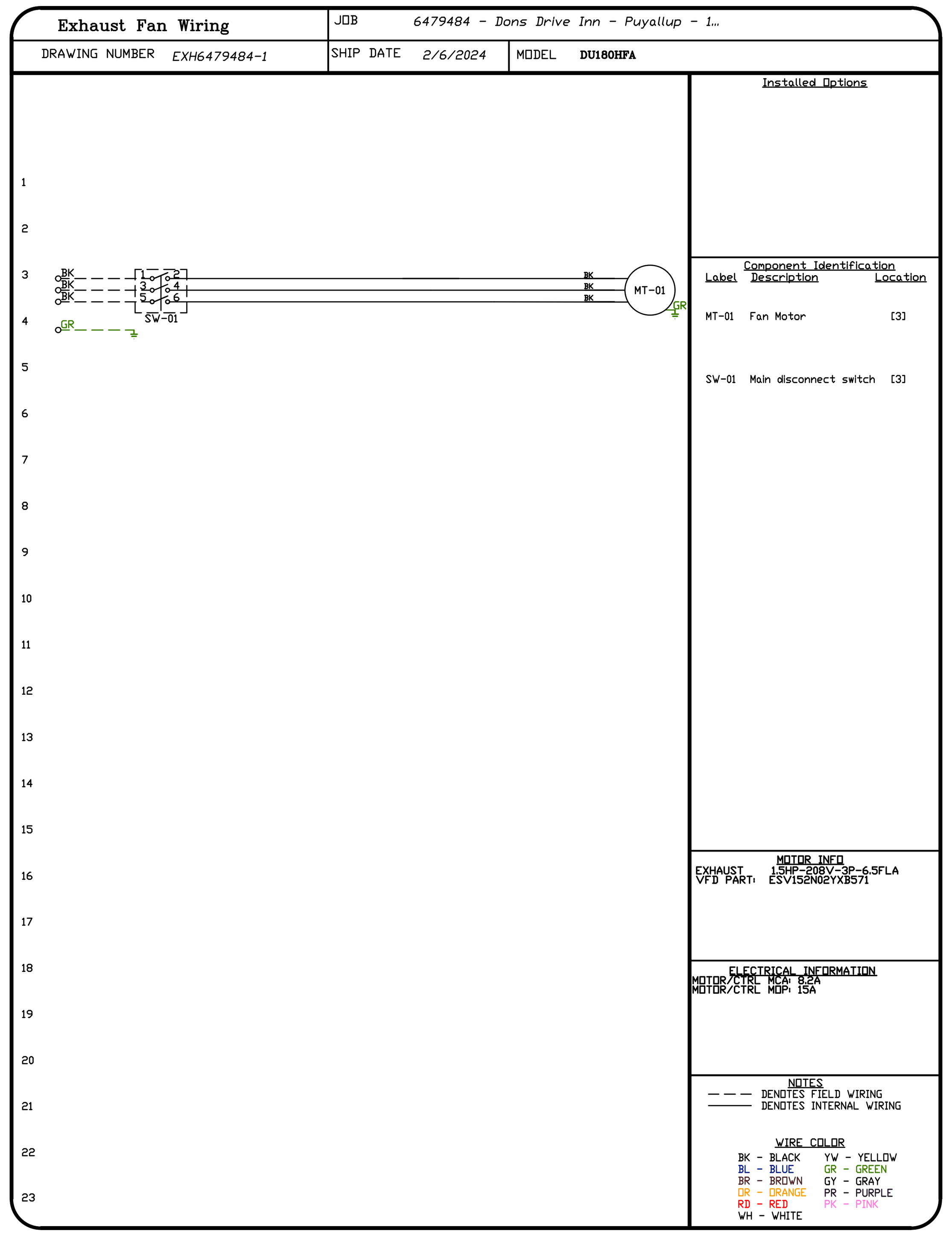
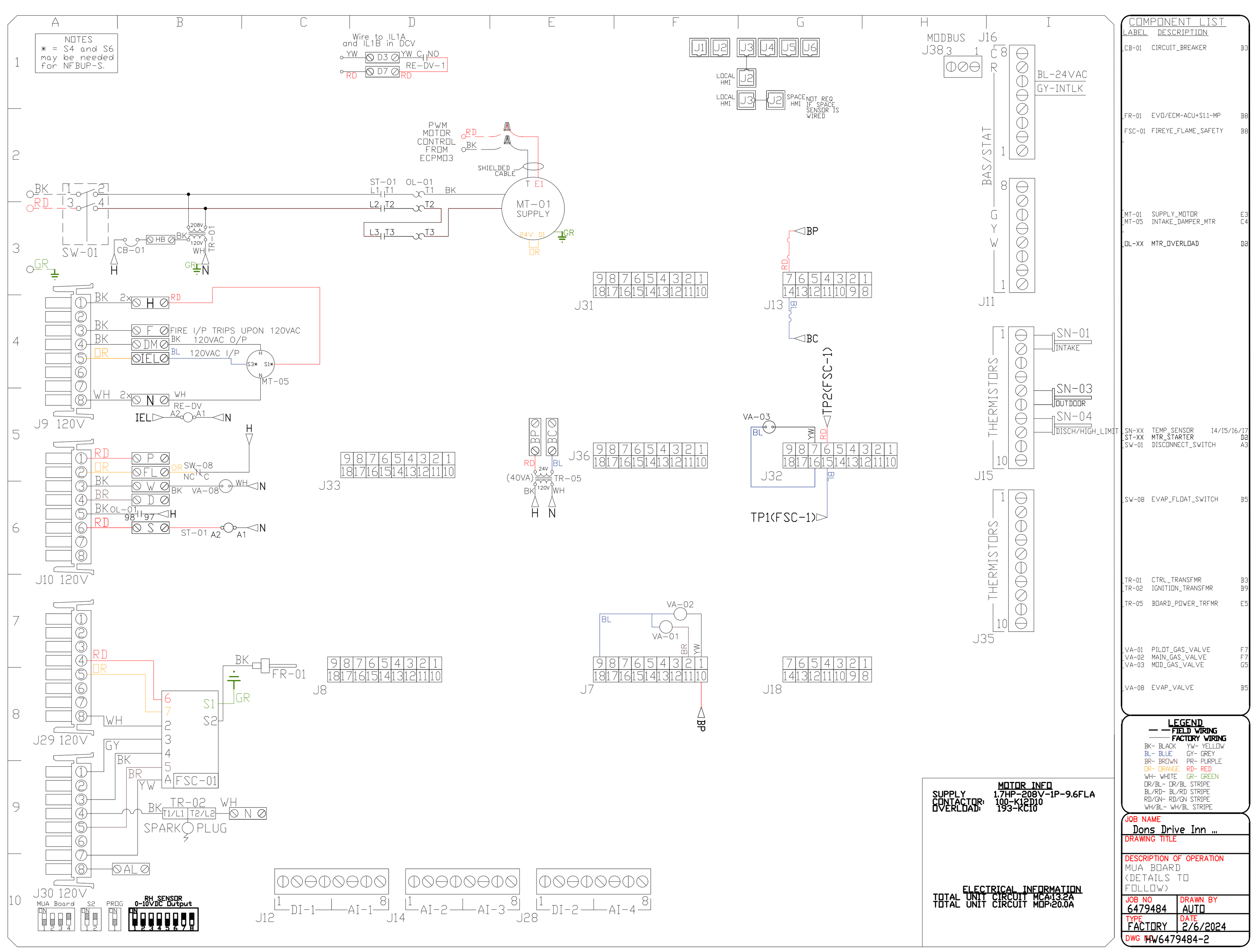
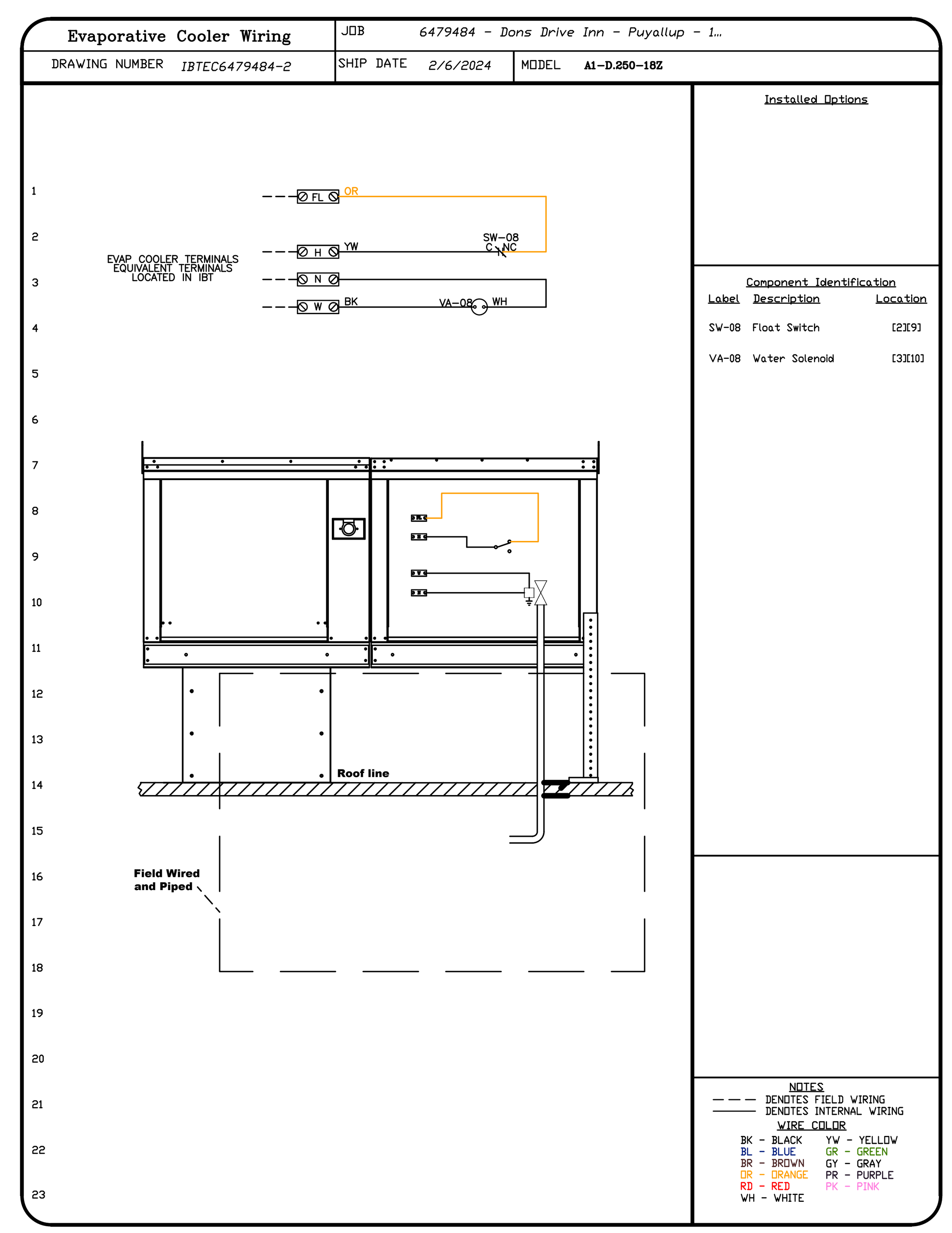
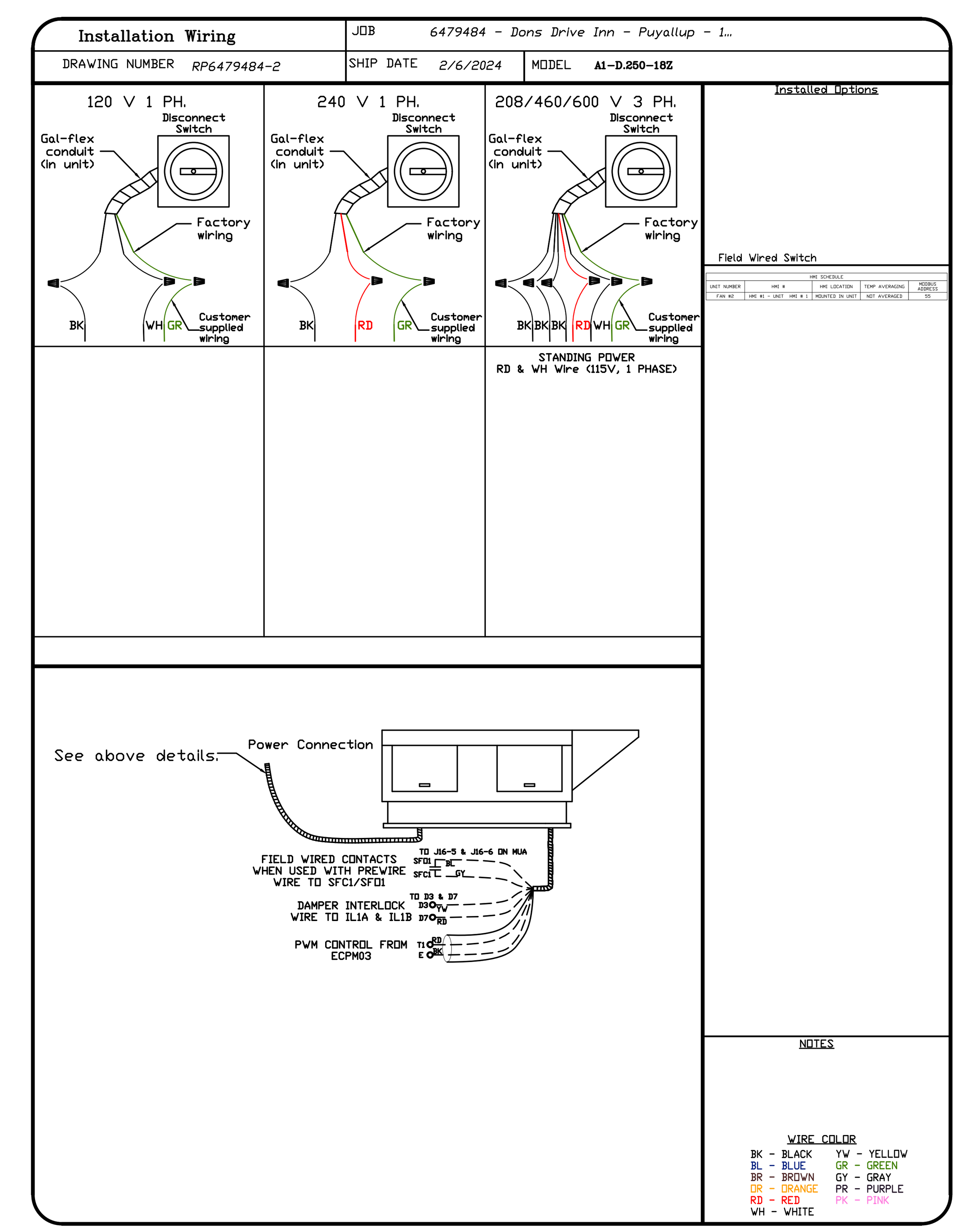


Exhaust Fan Wiring
JOB 6479484 - Dons Drive Inn - Puyallup - 1...
DRAWING NUMBER EXH6479484-1
SHIP DATE 2/6/2024
MODEL DU180HFA
Installed Options
Component Identification
Label Description Location
MT-01 Fan Motor (3)
SV-01 Main disconnect switch (3)
MOTOR INFO
ELECTRICAL INFORMATION
NOTES
DENOTES FIELD WIRING
DENOTES INTERNAL WIRING
WIRE COLOR
BK = BLACK YW = YELLOW
BL = BLUE GR = GREEN
BR = BROWN GY = GRAY
OR = ORANGE PR = PURPLE
RD = RED PK = PINK
WH = WHITE





Evaporative Cooler Wiring
JOB 6479484 - Dons Drive Inn - Puyallup - 1...
DRAWING NUMBER IBTEC6479484-2
SHIP DATE 2/6/2024
MODEL A1-D.250-16Z
Installed Options
Component Identification
Label Description Location
SV-08 Float Switch (2)(9)
VA-08 Water Solenoid (3)(10)
EVAP COOLER TERMINALS EQUIVALENT TERMINALS LOCATED IN IBT
Roof line
Field Wired and Piped
NOTES
DENOTES FIELD WIRING
DENOTES INTERNAL WIRING
WIRE COLOR



Installation Wiring
JOB 6479484 - Dons Drive Inn - Puyallup - 1...
DRAWING NUMBER RP6479484-2
SHIP DATE 2/6/2024
MODEL A1-D.250-16Z
Installed Options
120 V 1 PH.
240 V 1 PH.
208/460/600 V 3 PH.
Disconnect Switch
Gal-flex conduit (in unit)
Factory wiring
Customer supplied wiring
STANDING POWER RD & WH Wire (115V, 1 PHASE)
See above details.
Power Connection
Field Wired Switch
NOTES
WIRE COLOR

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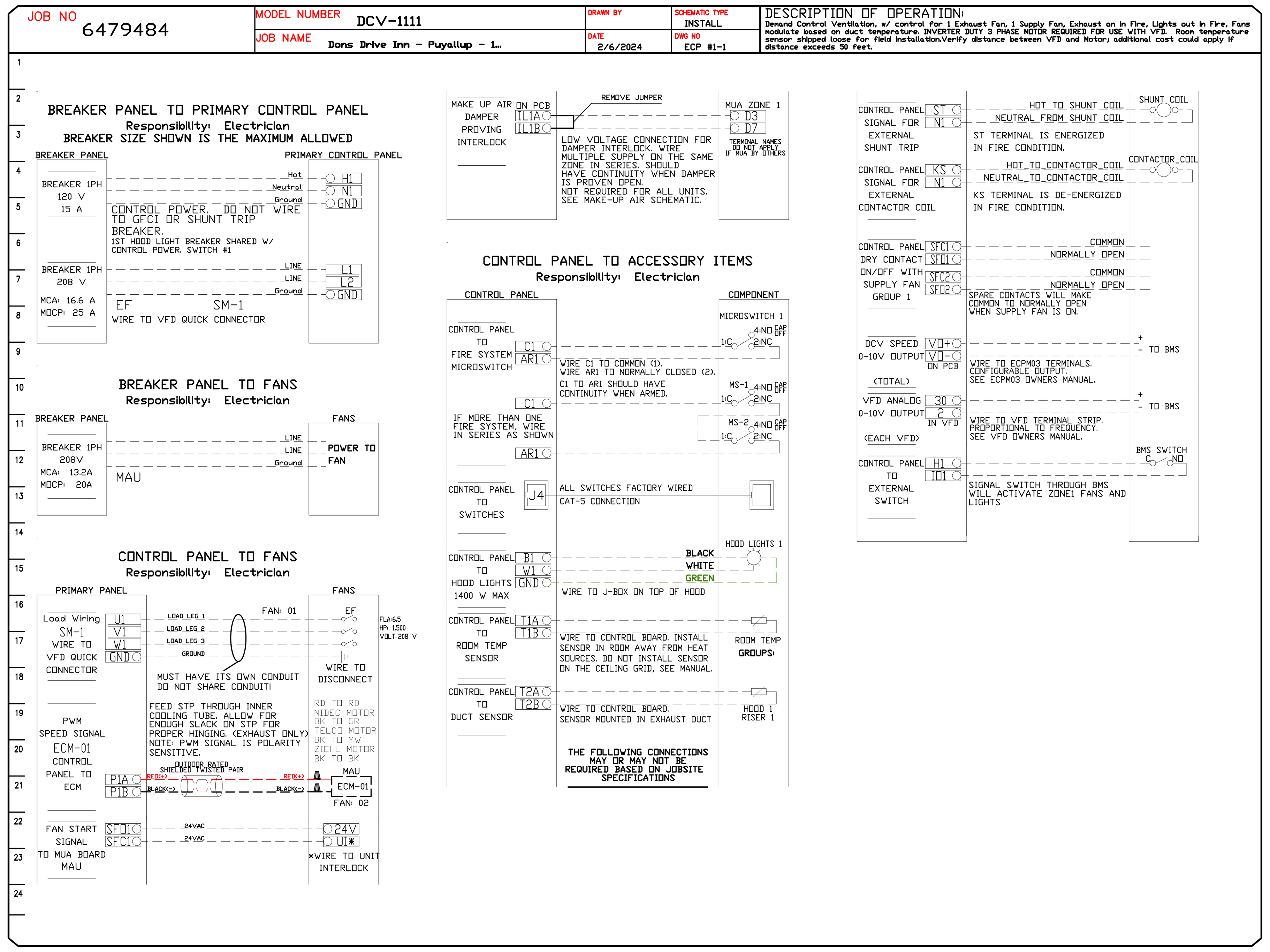
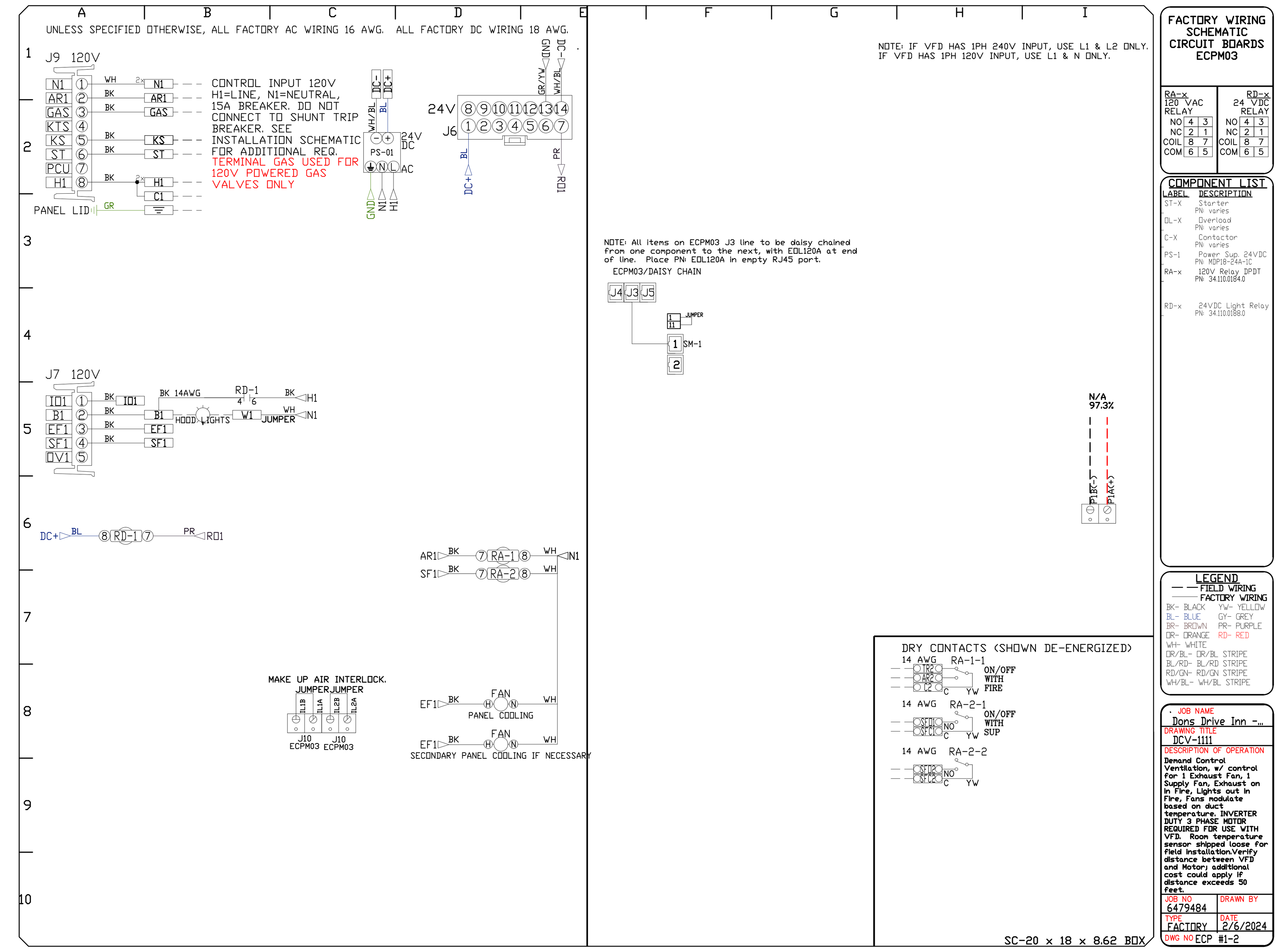
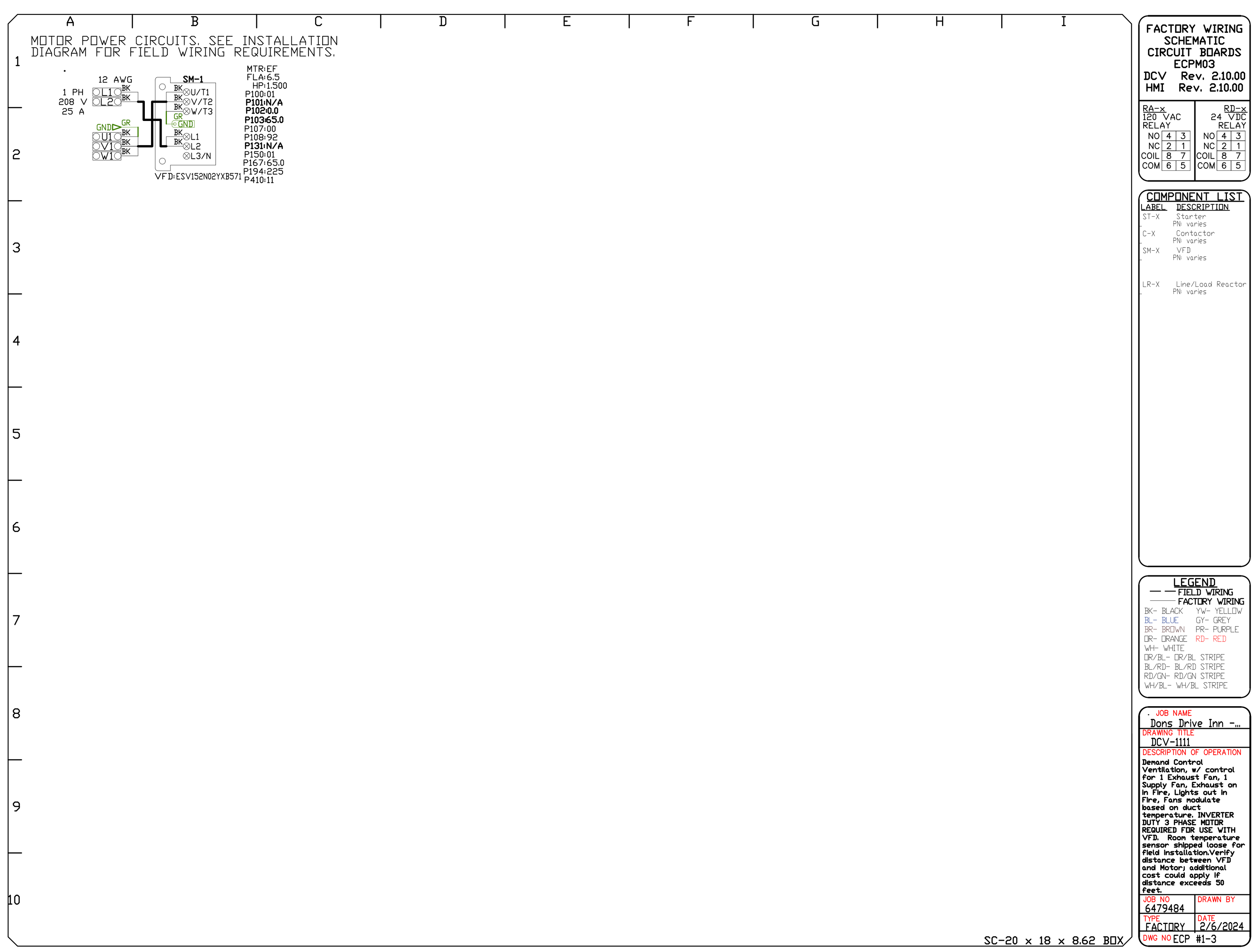
ELECTRICAL PACKAGE – JOB#6479484

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE	ϕ	HP	VOLT	FLA
1		DCV-1111	WALL MOUNT IN SS BOX	SS WALL MOUNT BOX	1 LIGHT 1 FAN	SMART CONTROLS DCV	EF	EXHAUST	3	1.500	208	6.5
							MAU	SUPPLY	1	1.675	208	9.6







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

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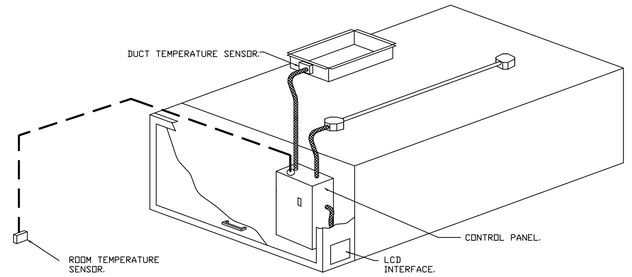
3		
4		

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 TEMPERATURES 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 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.

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

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SHEET NO. 8

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DUCTWORK #1 PARTS – JOB#6479484 DOUBLE WALL

TAG	PART #	CFM	GPM	ZONE	COVEREDBY	SP	WEIGHT	VELOCITY	QTY	DESCRIPTION
H1-E1	DW20DWRISER-2R-S	2400				-1.22	8.36	0.00	1	DOUBLE WALL RISER COVER - USED ON 16' INNER RISER, 4' LONG - 2 LAYERS REDUCED CLEARANCE - 20' STAINLESS STEEL OUTER RISER SHELL ASSEMBLY. INCLUDES INSULATION & SINGLE V CLAMPS FOR INNER & OUTER CONNECTIONS.
P1	DW1623DWLT-2R-S	2400				-0.009	34.30	1718.87	1	DOUBLE WALL DUCT - 16' INNER DUCT, 23' LONG - 2 LAYERS REDUCED CLEARANCE - 20' STAINLESS STEEL OUTER SHELL.
P2 ASSEMBLED W/P3	DW1635DWLTTP-2R-S	2400				-0.013	53.98	1718.87	1	DOUBLE WALL DUCT - 16' INNER DUCT, 35' LONG - 2 LAYERS REDUCED CLEARANCE - 20' STAINLESS STEEL OUTER SHELL - USED WITH TRANSITION PLATE.
P3 ASSEMBLED W/P2 O=B	DW2316TP	2400					8.03	1718.87	1	DUCT TO CURB TRANSITION, 23' CURB TO 16' DUCT, 16 GA ALUMINIZED. USED ON BDU15, DU75 & 85.
SYSTEM AT P3						-1.242	0.00			
RC1	DW20DWRISER-2R-S						8.36		1	DOUBLE WALL RISER COVER - USED ON 16' INNER RISER, 4' LONG - 2 LAYERS REDUCED CLEARANCE - 20' STAINLESS STEEL OUTER RISER SHELL ASSEMBLY. INCLUDES INSULATION & SINGLE V CLAMPS FOR INNER & OUTER CONNECTIONS.
	3M-2000PLUS						0.80		1	DUCT - 3M FIRE BARRIER 2000 PLUS SILICONE - USED AS SEALANT TO SEAL DUCT JOINTS.
	DW16DWCLASY-2R-S						7.96		1	DUCT - 16' DUCT - 20' DOUBLE 'V' CLAMP - 2R INSULATION & SINGLE 'V' CLAMP INCLUDED - REDUCED CLEARANCE.
TOTAL WEIGHT							121.79			

DOUBLE WALL FACTORY BUILT DUCTWORK

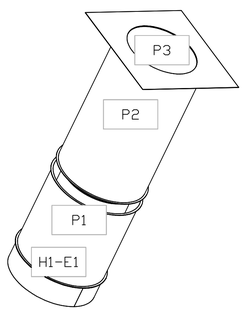
- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE ENTIRE INSTALLATION AND OPERATION MANUAL
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

HORIZONTAL	
DUCT DIAMETER	SUPPORT SPACING (FT)
5"	7'
6"	7'
7"	7'
8"	7'
10"	7'
12"	7'
14"	7'
16"	7'
18"	5'
20"	5'
22"	5'
24"	5'
26"	5'
28"	5'
30"	5'
32"	5'
34"	5'
36"	5'

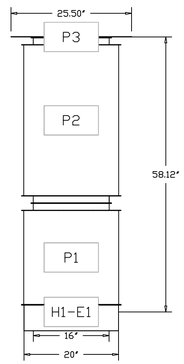
VERTICAL			
TYPE	WALL SUPPORT (FT)	CURB SUPPORT (FT)	FLOOR SUPPORT (FT)
2R & 2R HT (5"-16")	20'	24'	24'
2R (18")	18'	24'	24'
3R & 3Z (5"-24")	10'	24'	24'
3Z (26" -36")	10'	20'	20'

DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES. CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.

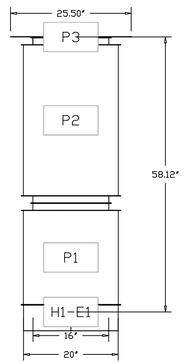
DUCTWORK #1 SE VIEW



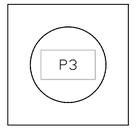
DUCTWORK #1 FRONT VIEW



DUCTWORK #1 SIDE VIEW



DUCTWORK #1 TOP VIEW



City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

REVISIONS	
DESCRIPTION	DATE:

CAPTIVEAIRE
Seattle Office
www.captiveaire.com
114 NW Canal St, #300, Seattle, WA, 98107 PHONE: (425) 212 - 5998 FAX: 4252125998 EMAIL: rag85@captiveaire.com

Dons Drive Inn - Puyallup - 12' Hood
925 South Meridian,
Puyallup, WA, 98371

DATE: 2/6/2024

DWG.#: 6479484

DRAWN BY:

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

MASTER DRAWING

SHEET NO. 9