

FOR QUESTIONS, CALL THE  
Long Island Office  
Tony Virga  
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PATENT NUMBERS  
EXHAUST HOODS ND-2/BD-2/SND-2 (CANADA) - CA PATENT 2520435 C.

**HOOD INFORMATION - JOB#4790090**

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	DIA		CFM	VEL	SP
1		4812 ESX-2	ECON-AIR	15' 0"	600 DEG	I	HEAVY	210	3150	4'	12'	1575	2005	-1.046"	430 SS	ALONE	ALONE

**HOOD INFORMATION**

HOOD NO	TAG	FILTER(S)				LIGHT(S)			UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT			
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM TYPE			SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY
1		CAPTRATE SOLID FILTER	11	16"	16"	85% SEE FILTER SPEC	4	RECESSED	NO	WALL MNT	12"x60"x24"	CAS ELECTRIC WET CHEMICAL	4.0/4.0/4.0	DCV-1111	1 LIGHT 1 FAN	YES	634 LBS

**HOOD OPTIONS**

HOOD NO	TAG	OPTION
1		FIELD WRAPPER 12.00" HIGH FRONT, LEFT, RIGHT.
		BACKSPLASH 68.00" HIGH X 180.00" LONG 430 SS VERTICAL.
		RISER SENSOR INSTALL 3IN DBL.
		RIGHT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 68" HIGH INSULATED 430 SS.
		LEFT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 68" HIGH INSULATED 430 SS.
		SENSOR-CV.
		DI-PSP 12" 425CFM.
		DI-PSP 12" 425CFM.
		DI-PSP 12" 425CFM.
		DI-PSP 12" 425CFM.
		DI-PSP 12" 425CFM.
		DI-PSP 12" 425CFM.

**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-12-24X24	12'	24 X 24	12	425	541	126	7.02'	0.117"	36		4812ESX-2
	DI-PSP-12-24X24	12'	24 X 24	12	425	541	126	7.02'	0.117"	36		4812ESX-2
	DI-PSP-12-24X24	12'	24 X 24	12	425	541	126	7.02'	0.117"	36		4812ESX-2
	DI-PSP-12-24X24	12'	24 X 24	12	425	541	126	7.02'	0.117"	36		4812ESX-2
	DI-PSP-12-24X24	12'	24 X 24	12	425	541	126	7.02'	0.117"	36		4812ESX-2
	DI-PSP-12-24X24	12'	24 X 24	12	425	541	126	7.02'	0.117"	36		4812ESX-2

**WALL-MOUNT UTILITY CABINET**

HOOD NO	LOCATION	SIZE	UTILITY CABINET(S)				WEIGHT
			FIRE SYSTEM TYPE	SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	
1	WALL MNT	12"x60"x24"	CAS ELECTRIC WET CHEMICAL	4.0/4.0/4.0	DCV-1111	1 LIGHT 1 FAN	440.00 LBS

**FIRE SYSTEM INFORMATION - JOB#4790090**

FIRE SYSTEM NO	TAG	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1		CAS ELECTRIC WET CHEMICAL	4.0/4.0/4.0	16	WALL UTILITY CABINET LEFT	N/A

**GAS VALVE(S)**

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

**FIRE SYSTEM PARTS LIST KEY**

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
		0 - 0 - 100-BW 2X4 BLANK PLATE FOR J-BOX.	2	0
		0 - 0 - 12-F28021-005360 DUCT FIRE THERMOSTAT. NO. CLOSE ON TEMP RISE AT 360°F.	2	0
		0 - 0 - 59361-1/2 2X4 EXTENSION RING.	2	0
		0 - 0 - 60-9196984-000 VENT PLUG FOR FIRE SYSTEM DISTRIBUTION PIPING, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5' BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	3	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.	6	0
		0 - 0 - A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	9	0
		0 - 0 - TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	3	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	3	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...		

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

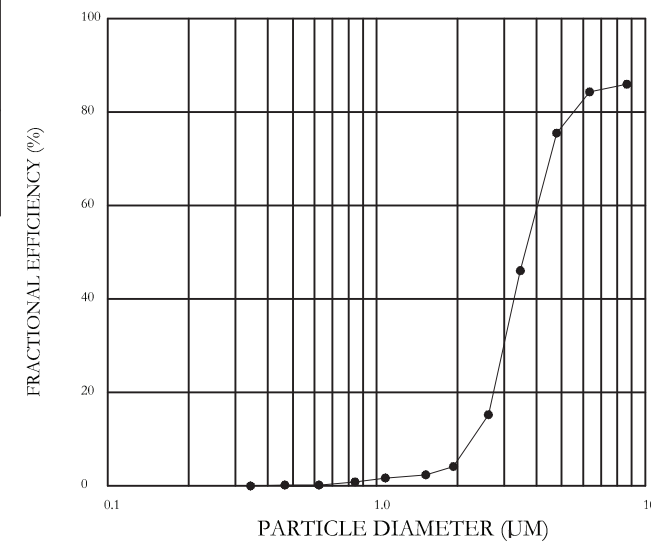
THE CAPTRATE GREASE-STOP SOLID FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

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

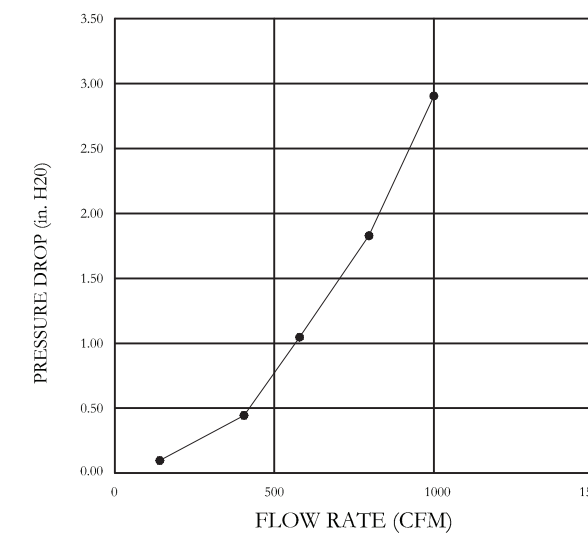
UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

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 CAPTRATE 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



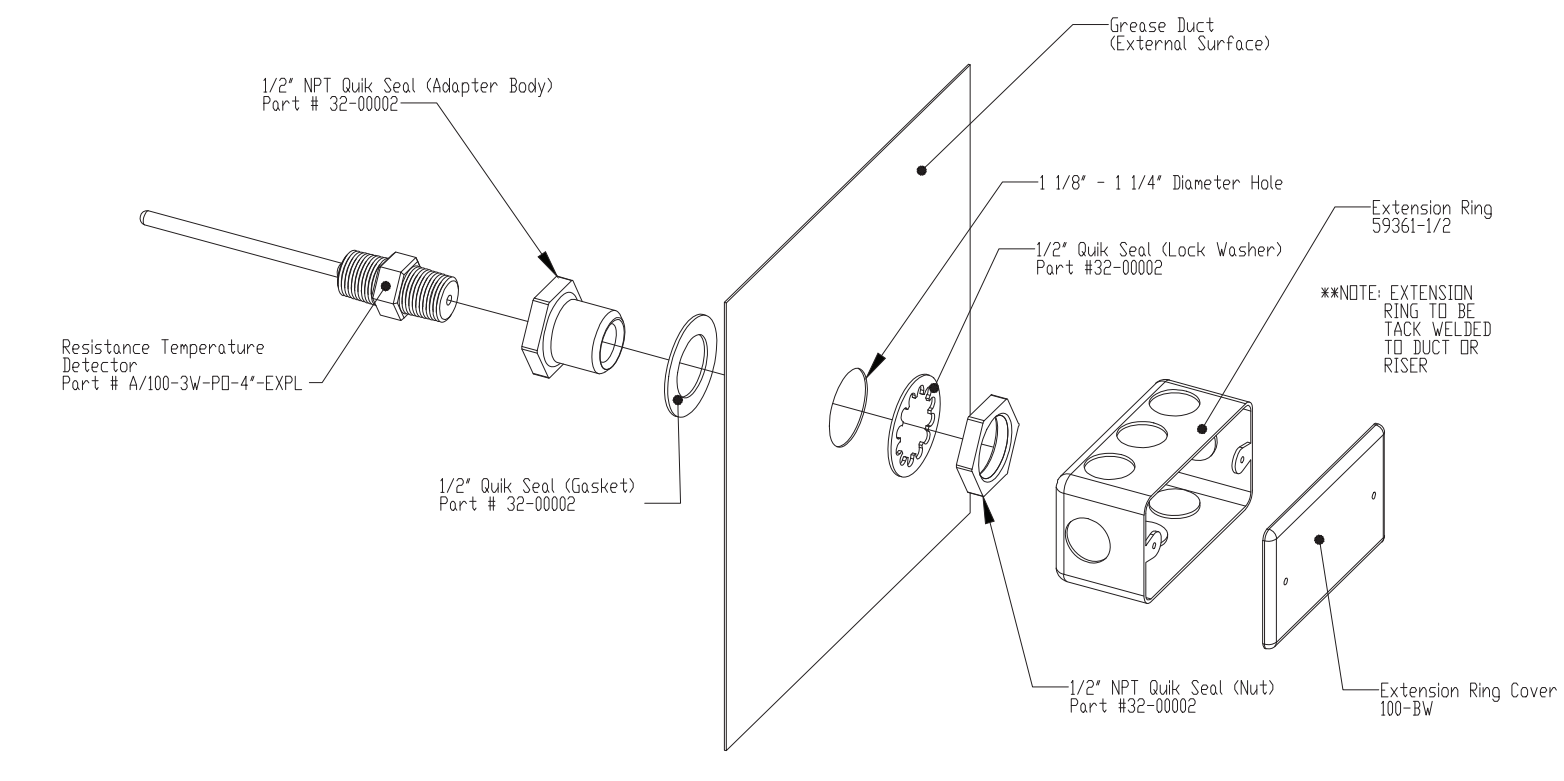
CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:

- NFPA #96
- NSF STANDARD #2
- UL STANDARD #1046
- INT. MECH. CODE (IMC)
- ULC-S649.



**RTD SENSOR INSTALLATION (IF NOT FACTORY INSTALLED)**

NOTES: One RTD per Exhaust Fan  
RTD has 3 wires that connect to control cabinet



**GREASE DUCT & CHIMNEY SPECIFICATIONS:**  
PROVIDE GREASE DUCT EQUAL TO ECON-AIR MODEL "EDW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "EDW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "EDW" 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 "EDW" 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 ECON-AIR MODEL "EDW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

ECON-AIR 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.

REVISIONS	
DESCRIPTION	DATE

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Harrison Fire Department  
206 Harrison Ave,  
Harrison, NY, 10528

DATE: 3/11/2021  
DWG.#: 4790090

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

MASTER DRAWING  
SHEET NO. 1

DATE: ISSUE  
04-21-21  
ISSUED FOR BIDDING

SEAL:

**SENDEWSKI ARCHITECTS PC**  
ARCHITECTS - PLANNERS  
215 ROANOKE AVENUE  
RIVERHEAD, NY 11901  
(631) 727-5352  
9 SELENA COURT  
WALDEN, NY 12586  
(845) 275-8859

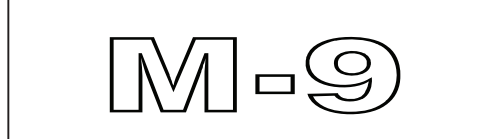
**HARRISON FIRE DEPT.**  
PROPOSED ADDITION  
206 HARRISON AVE  
HARRISON, NY 10528  
ADD/ALT KITCHEN HOOD SCHEDULES

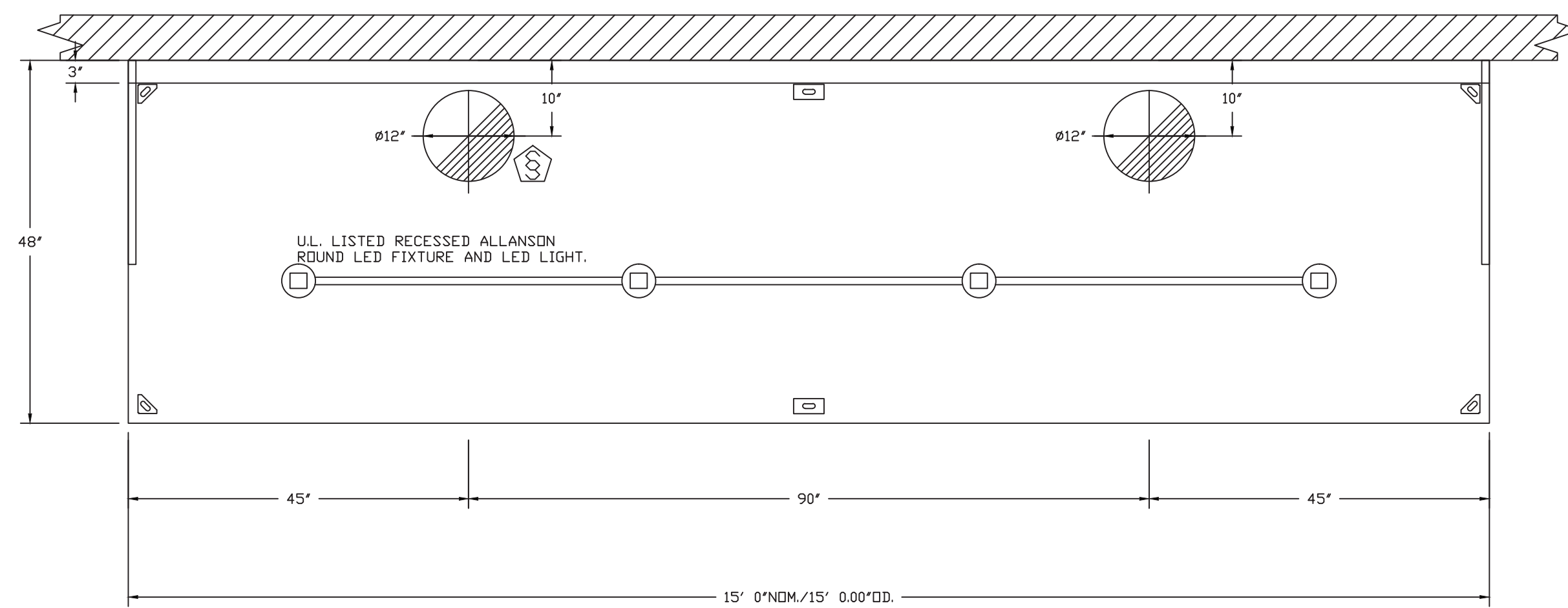
PROJECT #: 2020-04

DRAWN BY: SEND. ARCH.

CAD FILE: P/2020/HFD 2020-04

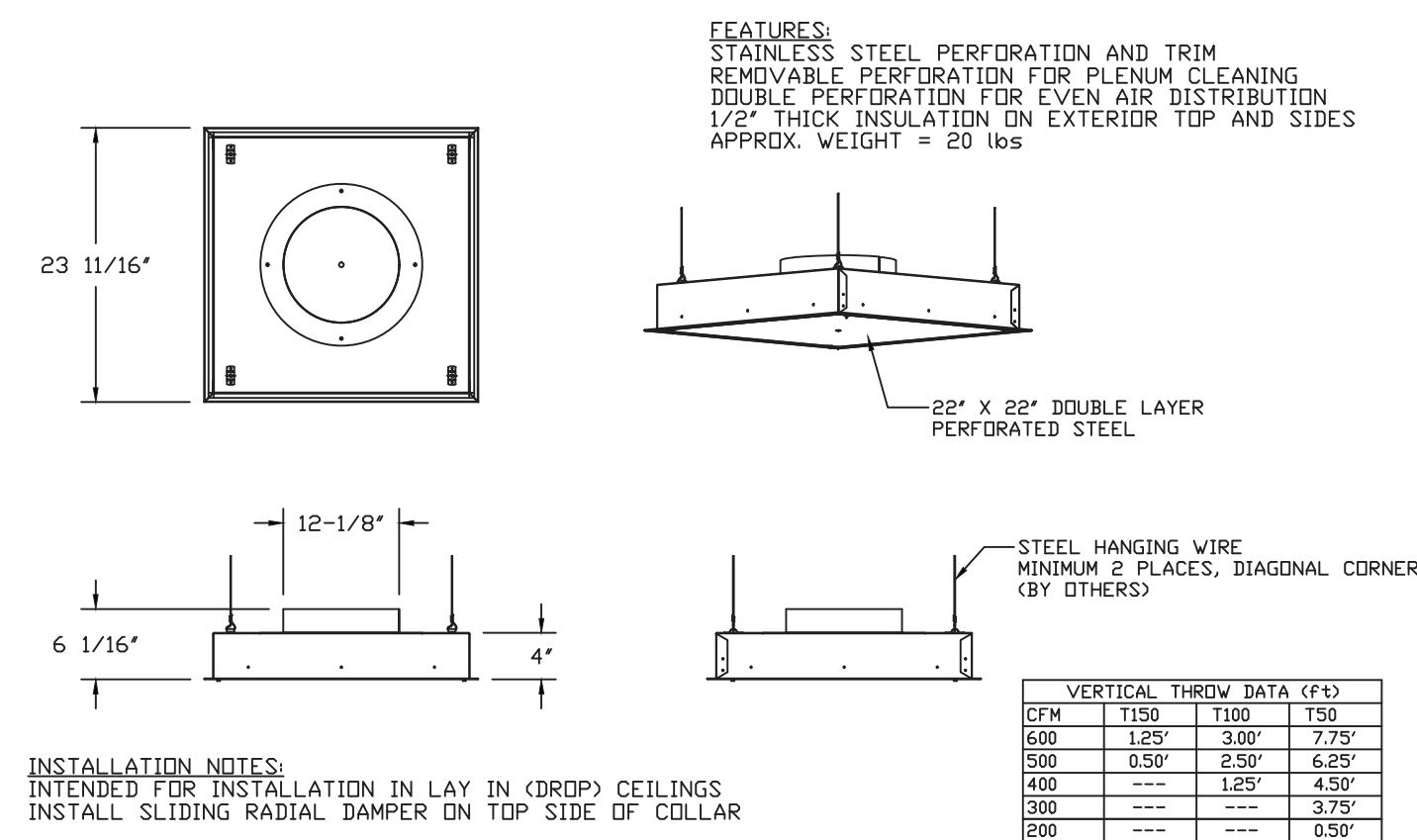
DRAWING#:





PLAN VIEW - HOOD #1  
15' 0.00" LONG 4812ESX-2  
NOTE: ADDITIONAL HANGING ANGLES PROVIDED FOR HOODS 12' AND LONGER.

QTY 6-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\"/>

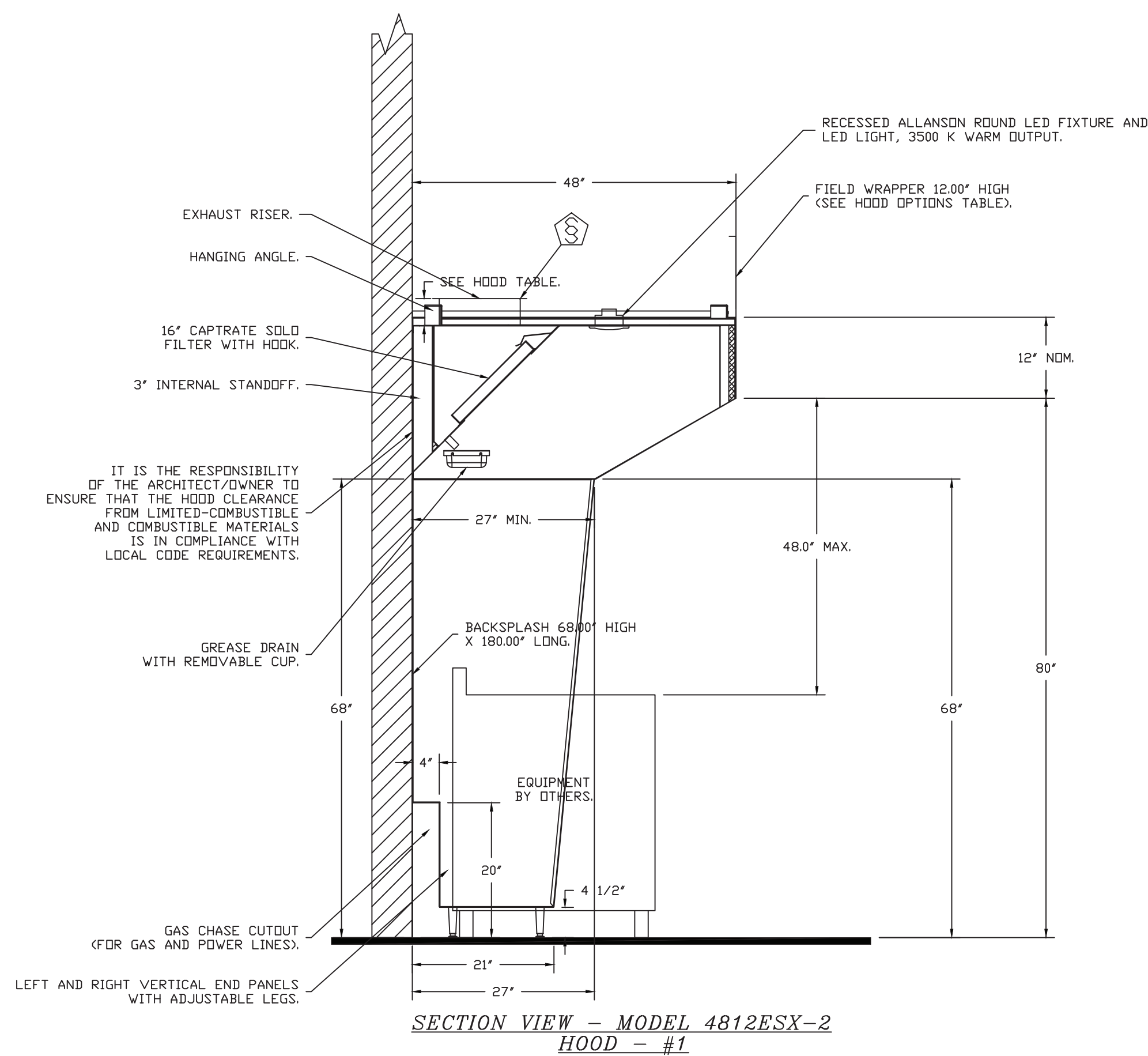
INSTALLATION NOTES:  
INTENDED FOR INSTALLATION IN LAY IN (DROP) CEILING  
INSTALL SLIDING RADIAL DAMPER ON TOP SIDE OF COLLAR

DIFFUSER SPECIFICATION

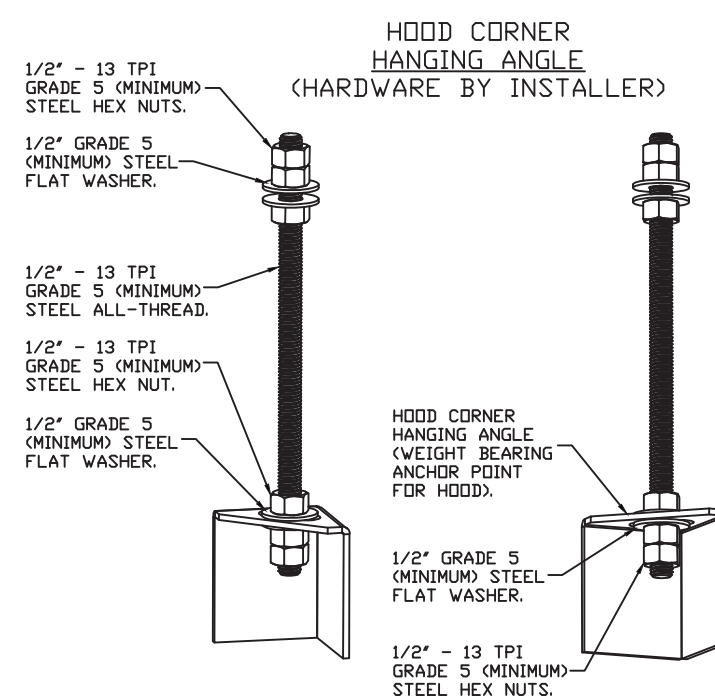
CFM	1150	1100	750
650	1.25"	3.00"	2.75"
500	0.50"	2.50"	6.25"
400	---	1.25"	4.50"
300	---	---	3.75"
200	---	---	0.50"

WALL-MOUNT UTILITY CABINET  
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 UTILITY CABINET HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

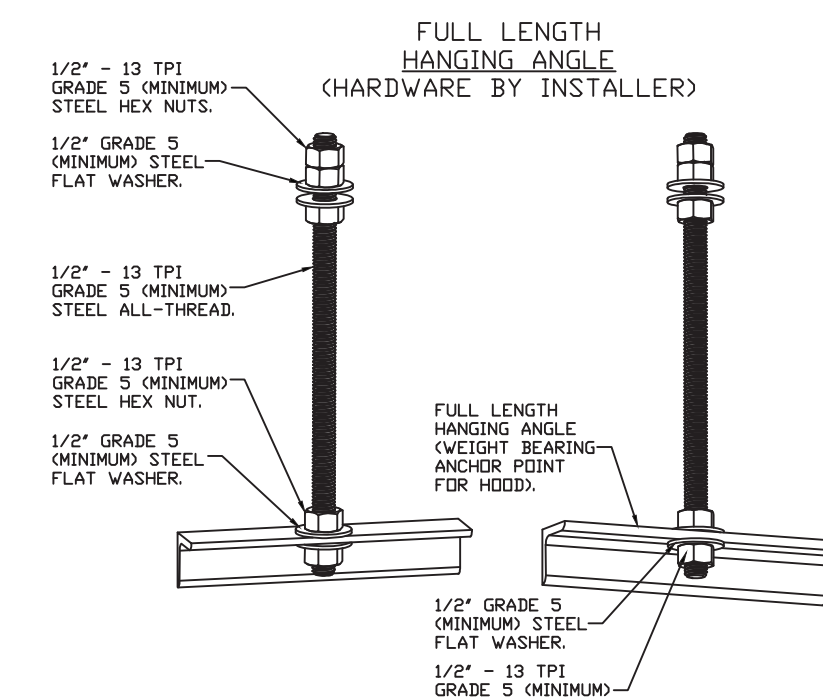


SECTION VIEW - MODEL 4812ESX-2  
HOOD - #1



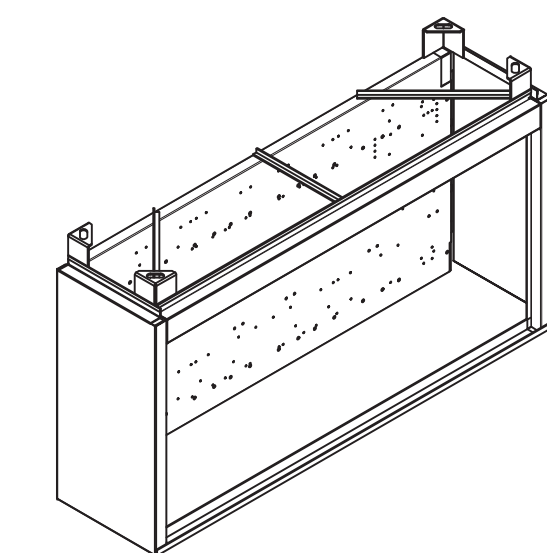
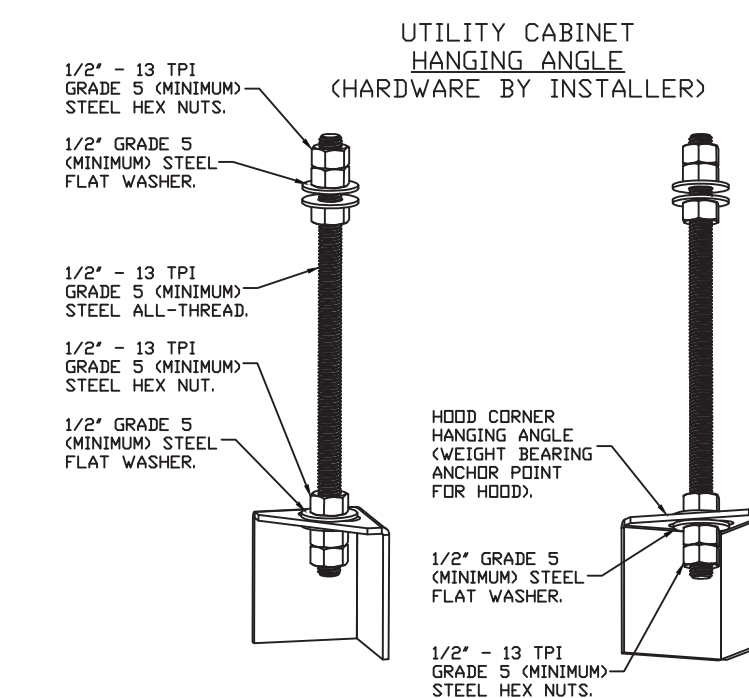
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DESCRIPTION	DATE



Harrison Fire Department  
206 Harrison Ave,  
Harrison, NY, 10528

DATE: 3/11/2021

DWG.#:  
4790090

DRAWN BY:

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

MASTER DRAWING

SHEET NO.  
2

DATE: ISSUE

04-21-21  
ISSUED FOR BIDDING

SEAL:

SENDEWSKI ARCHITECTS PC  
ARCHITECTS - PLANNERS  
215 ROANOKE AVENUE  
RIVERHEAD, NY 11901  
(631) 727-5352  
9 SELENA COURT  
WALDEN, NY 12586  
(845) 275-8859

HARRISON FIRE DEPT.  
PROPOSED ADDITION  
206 HARRISON AVE  
HARRISON, NY 10528  
AD/ALT KITCHEN HOOD DETAILS

PROJECT #: 2020-04

DRAWN BY: SEND. ARCH.

CAD FILE: P/2020/HFD  
2020-04

DRAWING#:

M-8

**EXHAUST FAN INFORMATION - JOB#4790090**

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		1	EA-USB118DD-RM	ECDN-AIR	3150	1.500	1320	DDP,PREMIUM	2.000	1.3570	3	208	8.3	1615 FPM	400	19.4

**MUA FAN INFORMATION - JOB#4790090**

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	WEIGHT (LBS)	SDNES
2		1	EA2-1BT-300-20D	20MF-2-MOD	A2-1BT-300	1200	2520	0.500	1058	DDP,PREMIUM	2.000	0.7620	3	208	6.1	7.7A	15A	1128	8.4

**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		239471	191577	63°F	7 IN. W.C. - 14 IN. W.C.	NATURAL	80

**FAN OPTIONS**

FAN UNIT NO	TAG	QTY	DESCRIPTION
1		1	UTILITY SET GREASE CUP.
		1	B118 - 24" DISCHARGE EXTENSION.
		1	BI - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE.
		1	UTILITY SET - SPRING VIBRATION ISOLATORS - B118 / EQUIVALENT SIZED UTILITY SET - INDOOR/OUTDOOR USE.
		1	B118 - INLET RING USED TO CONNECT NON-FACTORY DUCT.
		1	2 YEAR PARTS WARRANTY.
2		1	STANDARD ELECTRICAL CONNECTION (MAIN AND CONTROL PANEL) FOR STANDING POWER - SINGLE MODULE. IF A NON-DCV PREWIRE IS USED ON THE 1BT HEATER, THE #28, #47, #NS, #MA, OR #E2 OPTION PREWIRE MUST BE SELECTED. DO NOT PROVIDE SUPPLY STARTER IN PREWIRE.
		1	MOTORIZED BACKDRAFT DAMPER FOR A2-1 HOUSING. MEETS AMCA CLASS 1A RATING.
		1	INLET PRESSURE GAUGE, 0-35".
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE.
		1	1BT SIZE 1 & 2 SIDE DISCHARGE.
		1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK (SUPPLIED BY OTHERS).
		1	CLOGGED FILTER SWITCH WITH NOTIFICATION ON HMI.
		1	FREEZE/STAT.
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) - THREE PHASE ONLY.
		1	2 YEAR ENTIRE UNIT PARTS WARRANTY, 25 YEAR STAINLESS STEEL FURNACE 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		YES						
2					YES		YES	

**CURB ASSEMBLIES**

NO	DN FAN	WEIGHT	ITEM	SIZE
1	# 1	50 LBS	RAIL	4.000"W X 48.000"L X 18.000"H COMES AS A SET OF 2.
2	# 2	96 LBS	RAIL	6.000"W X 31.000"L X 18.000"H.
2	# 2	96 LBS	CURB	31.000"W X 79.000"L X 18.000"H INSULATED.

**SYSTEM DESIGN VERIFICATION (SDV)**

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

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

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

REVISIONS	
DESCRIPTION	DATE



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 625 Middle Country Rd., Suite 101B, Coram, NY, 11727  
 PHONE: (516) 513-5398 FAX: (919) 227-5967 EMAIL: reg43@econair.com

Harrison Fire Department  
 206 Harrison Ave,  
 Harrison, NY, 10528

**DATE:** 3/11/2021  
**DWG.#:** 4790090

**DRAWN BY:**

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

**MASTER DRAWING**

**SHEET NO.**  
3

DATE: ISSUE  
 04-21-21  
 ISSUED FOR BIDDING

SEAL:

**SENDEWSKI ARCHITECTS PC**  
 ARCHITECTS - PLANNERS  
 215 ROANOKE AVENUE  
 RIVERHEAD, NY 11901  
 (631) 727-5352  
 9 SELENA COURT  
 WALDEN, NY 12586  
 (845) 275-8859



**HARRISON FIRE DEPT.**  
 PROPOSED ADDITION  
 206 HARRISON AVE  
 HARRISON, NY 10528  
**ADD/ALT KITCHEN EXHAUST SYSTEM SCHEDULES**

**PROJECT #:** 2020-04

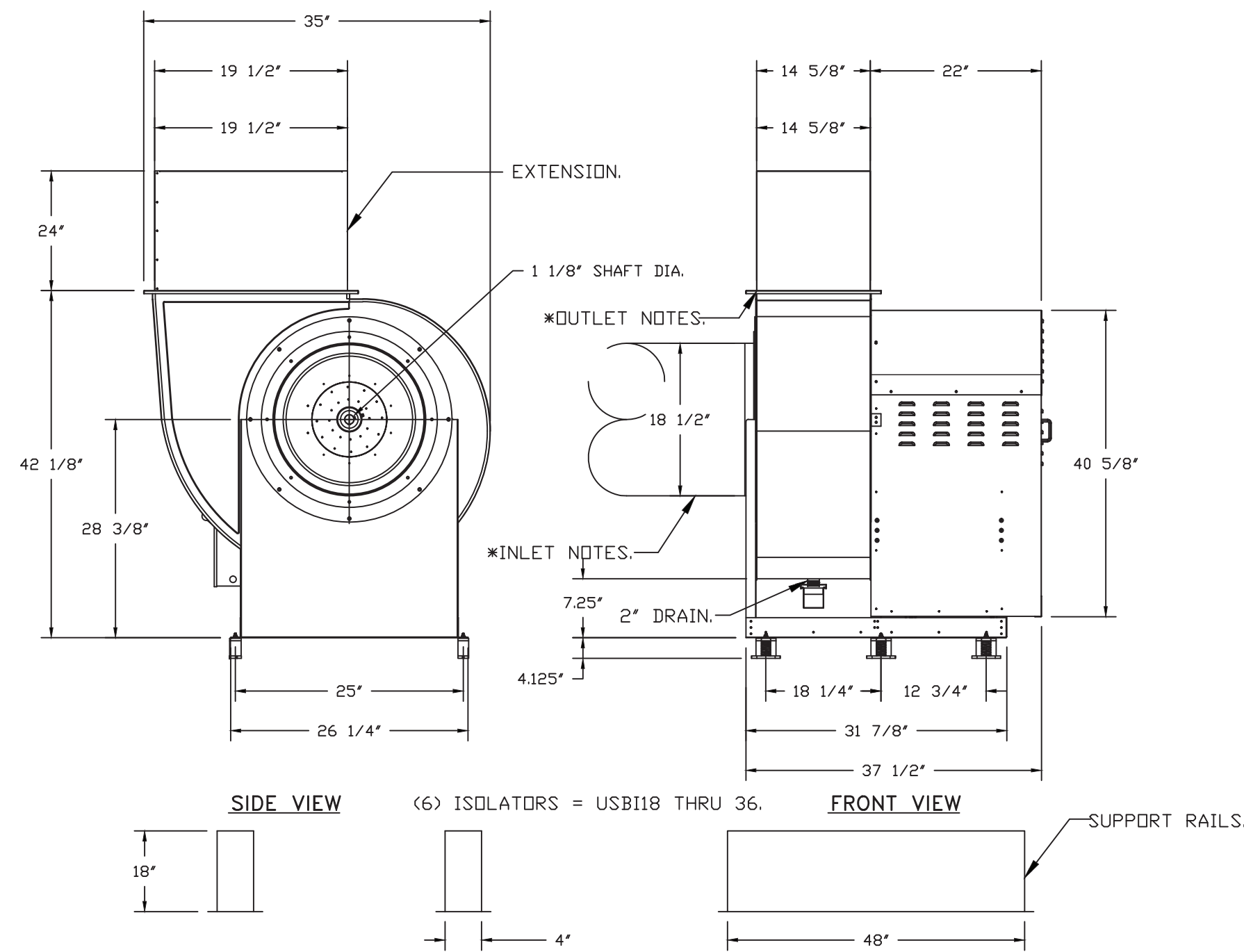
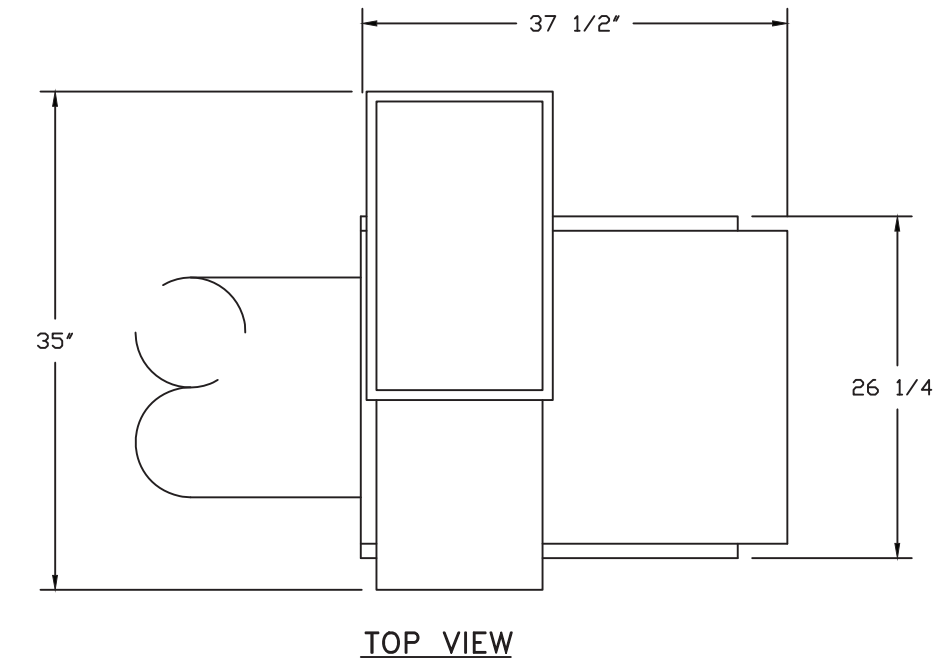
**DRAWN BY:** SEND. ARCH.

**CAD FILE:** P/2020/HFD 2020-04

**DRAWING#:**

**M-11**

FAN #1 EA-USB10DD-RM - EXHAUST FAN



**FEATURES:**

- ROOF MOUNTED FANS.
- UL705.
- UL762 AND ULC-S645 (RESTAURANT MODEL).
- HIGH HEAT OPERATION DIRECT DRIVE 350°F (176°C).
- HEAT SLINGER.
- NEMA 3R SAFETY DISCONNECT SWITCH.
- GREASE CLASSIFICATION TESTING.
- 2\"/>

**OPTIONS**

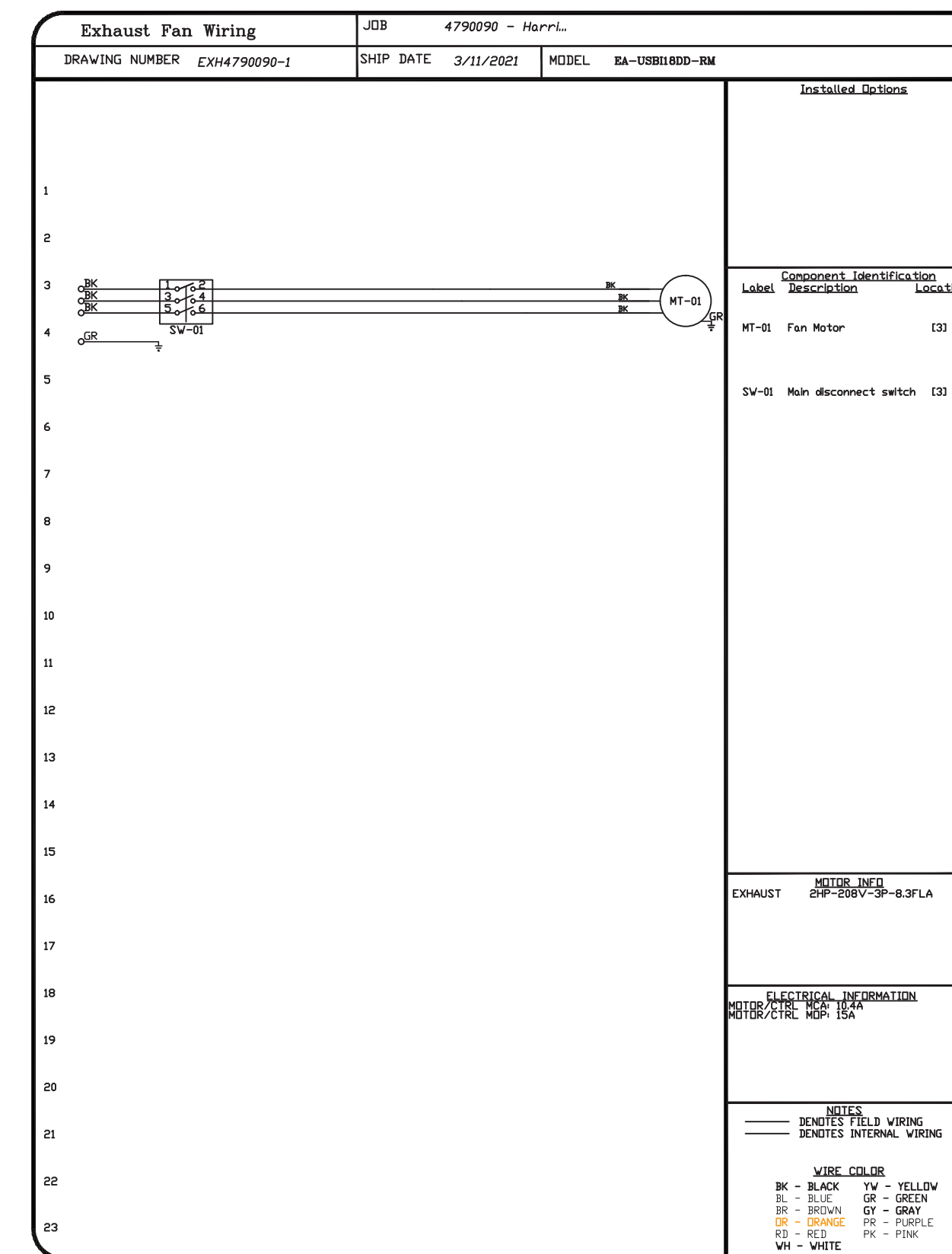
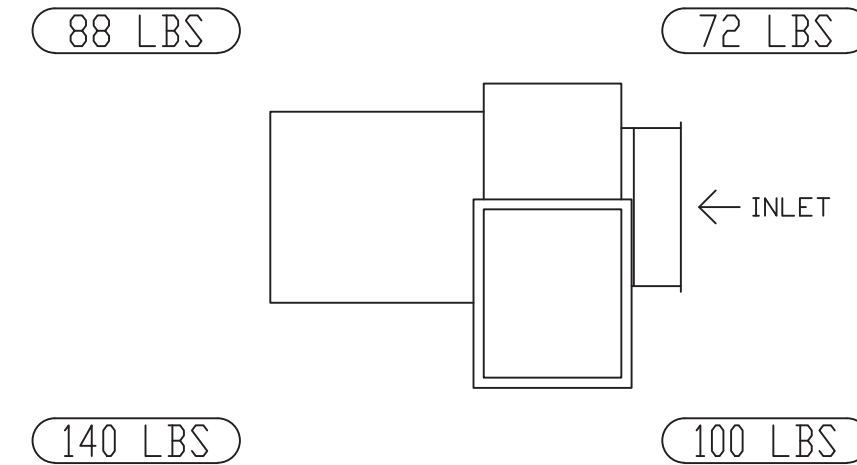
- UTILITY SET GREASE CUP.
- B18 - 24\"/>
- B1 - DISCHARGE ORIENTATION VERTICAL
- UPPER LEFT - CW INLET SIDE
- UTILITY SET - SPRING VIBRATION
- ISOLATORS - B118 / EQUIVALENT SIZED
- UTILITY SET - INDOOR/OUTDOOR USE.
- B19 - INLET RING USED TO CONNECT NON-FACTORY DUCT.
- 2 YEAR PARTS WARRANTY.

\* INLET/OUTLET NOTES:  
LENGTH OF THE STRAIGHT DUCT ON THE INLET AND OUTLET TO BE 3 TIMES THE EQUIVALENT DUCT DIAMETER BEFORE CONNECTING TO ANY FITTINGS SUCH AS ELBOWS TO AVOID SYSTEM EFFECT.

NORMAL TEMPERATURE TEST DIRECT DRIVE EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 350°F (176°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

CORNER WEIGHTS ARE CALCULATED BASED ON VERTICAL DISCHARGE. SUPPORT DUCT PROPERLY BEFORE FAN TO ENSURE CORNER WEIGHTS ARE NOT AFFECTED.

UNIT PLAN VIEW CORNER WEIGHTS:



REVISIONS	
DESCRIPTION	DATE

www.eiconair.com  
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625 Middle Country Rd, Suite 101B, Coram, NY, 11727 PHONE: (516) 513-5398 FAX: (516) 513-5398 EMAIL: reg43@eiconair.com

Harrison Fire Department  
206 Harrison Ave,  
Harrison, NY, 10528

DATE: 3/11/2021  
DWG.#: 4790090  
DRAWN BY:  
SCALE: 3/4" = 1'-0"  
MASTER DRAWING  
SHEET NO. 4

DATE: ISSUE  
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RIVERHEAD, NY 11901  
(631) 727-5352  
9 SELENA COURT  
WALDEN, NY 12586  
(845) 275-8859

HARRISON FIRE DEPT.  
PROPOSED ADDITION  
206 HARRISON AVE  
HARRISON, NY 10528  
ADD/ALT KITCHEN EXHAUST FAN  
DETAILS

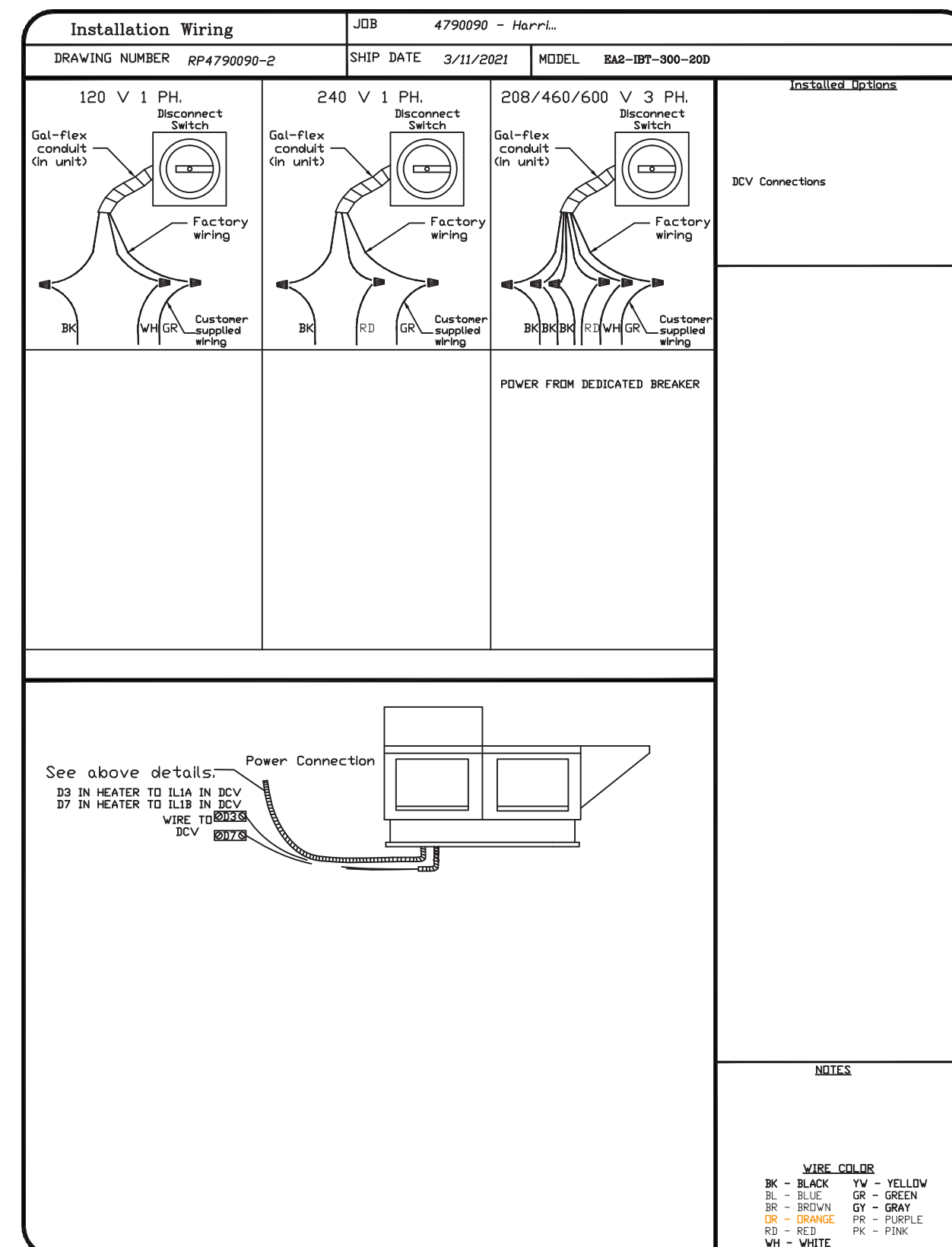
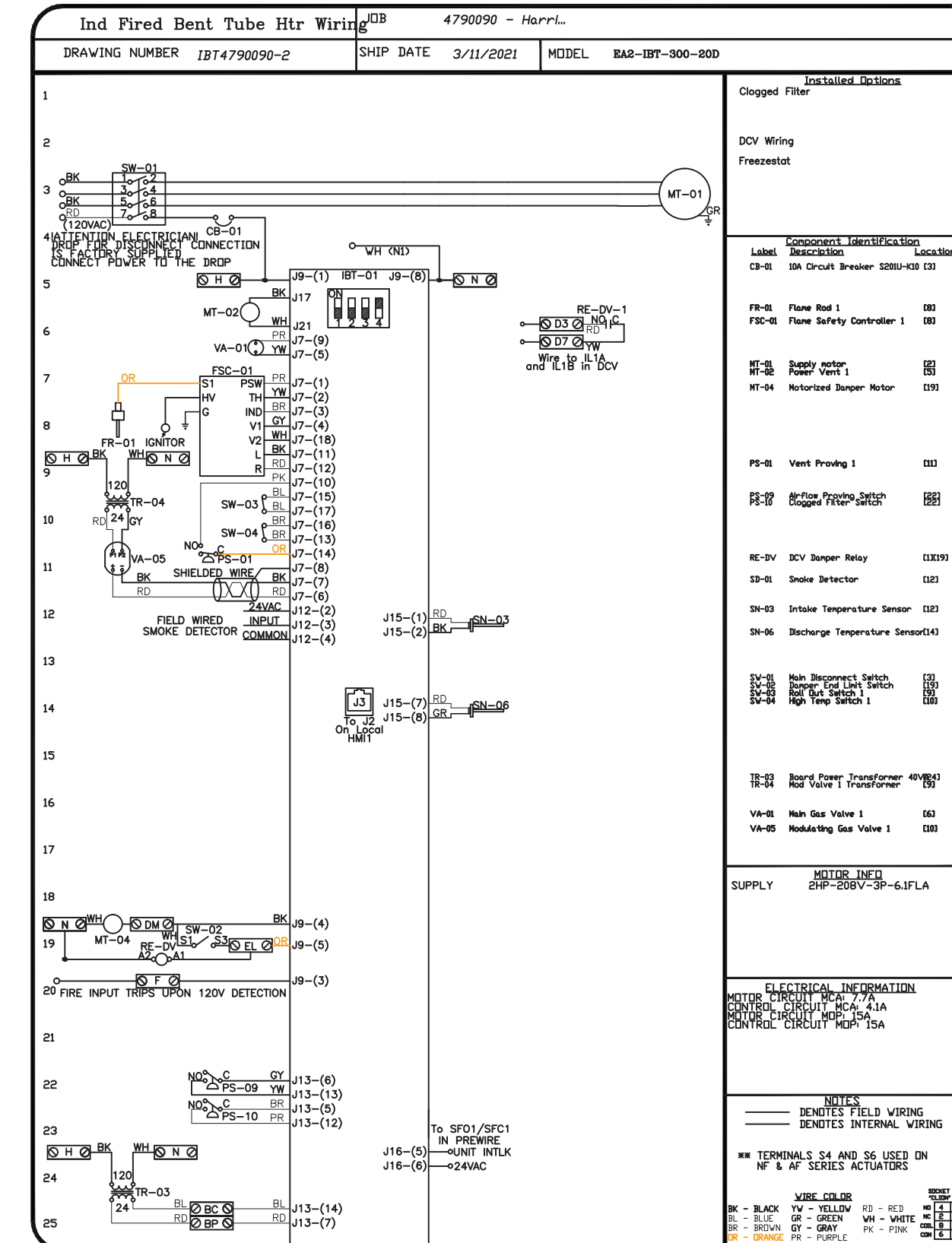
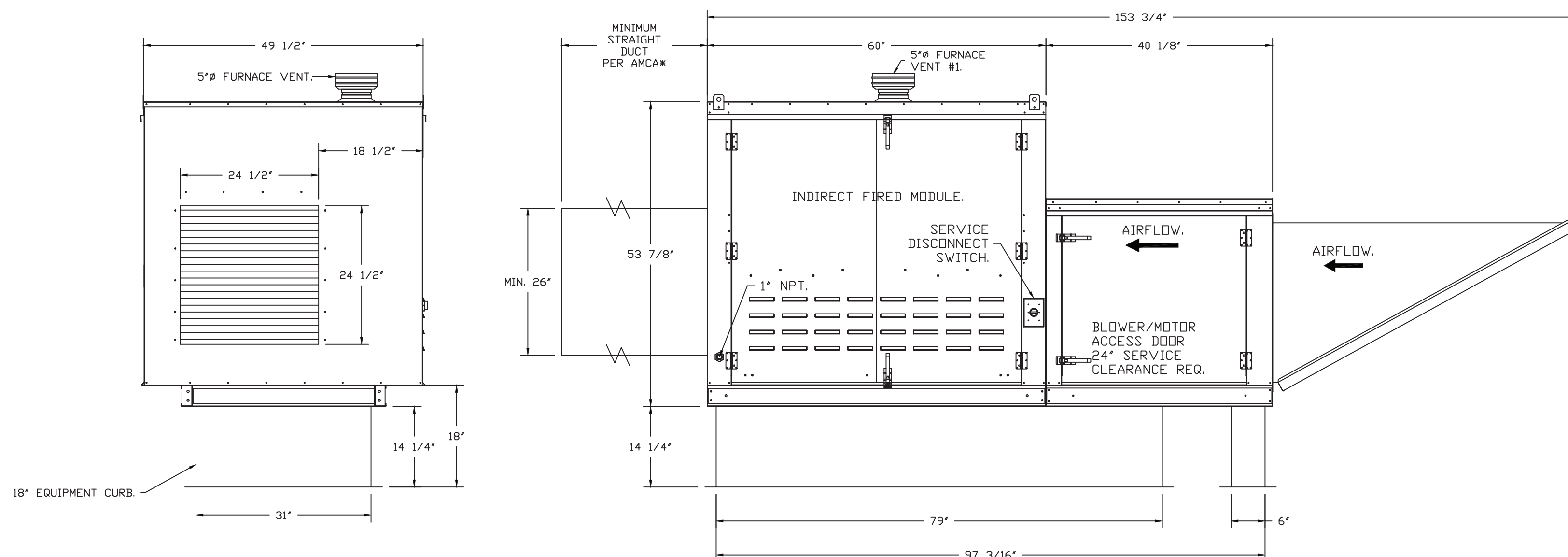
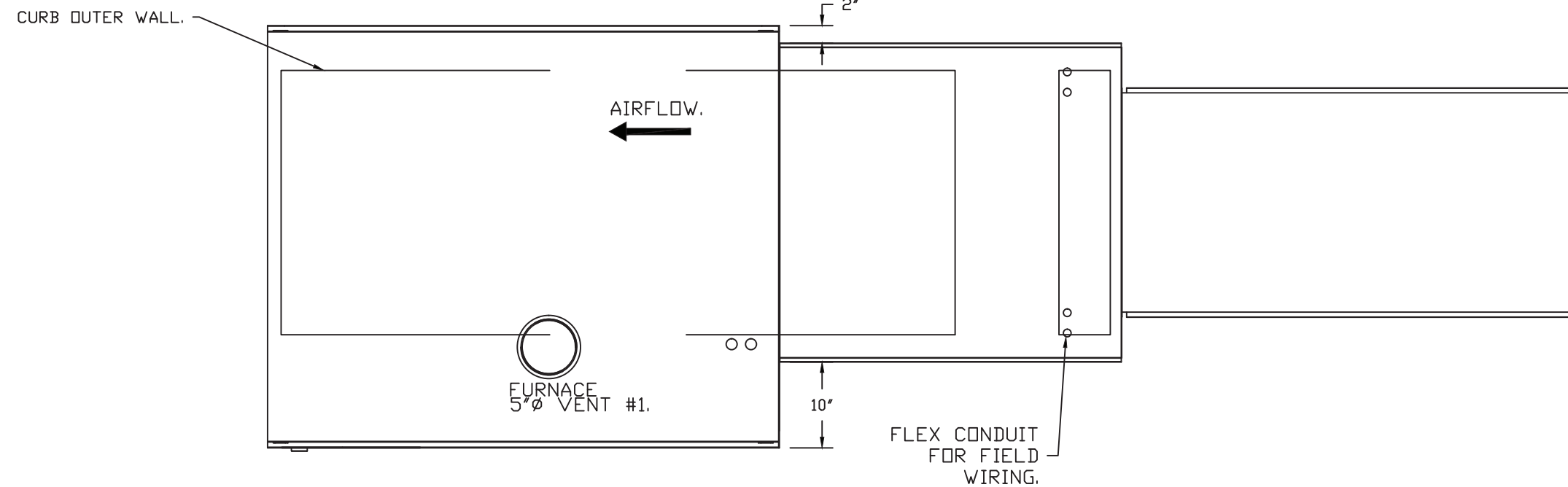
PROJECT #: 2020-04  
DRAWN BY: SEND. ARCH.  
CAD FILE: P/2020/HFD  
2020-04  
DRAWING#:  
M-12

- FAN #2 EA2-1BT-300-200 - HEATER
- INDIRECT BENT TUBE GAS FIRED HEATER WITH 20" MIXED FLOW DIRECT DRIVE FAN, 1 FURNACE, ELECTRONIC FULL MODULATION, CONSTANT 80% EFFICIENCY, AND 6:1 MAX TURNDOWN FOR NG, (5:1 MAX TURNDOWN FOR LP). STAINLESS STEEL BURNER AND HEAT EXCHANGER.
  - INTAKE HOOD WITH EZ FILTERS.
  - SIDE DISCHARGE - AIR FLOW RIGHT -> LEFT.
  - SEPARATE 120V ELECTRICAL CONNECTION FOR ALL 1BT HEATERS WITH 1 MODULE FOR STANDING POWER. 120V MUST BE RUN BY ELECTRICIAN FROM BUILDING PANEL TO MUA SWITCH.
  - 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.
  - GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE.
  - GAS PRESSURE GAUGE, 0 TO +10 INCHES WC, 2.5" DIAMETER, 1/8" THREAD SIZE, REAR THREAD.
  - USED WITH SIZE 1 AND SIZE 2 SIDE DISCHARGE 1BT MODULES.
  - COMMERCIAL SMOKE DETECTOR INTERLOCK (DETECTOR BY OTHERS).
  - CLOGGED FILTER SWITCH WITH NOTIFICATION ON HMI.
  - FREESTAT FACTORY SET AT 35°F AND 10 MINUTES.
  - SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREVIEW 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/BLOWER SECTION).
  - 2 YEAR ENTIRE UNIT PARTS WARRANTY, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY.
  - 1BT - US PATENT 877719 B2

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".

SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 12°F. TEMP. RISE = 63°F.  
 BTUS CALCULATED OFF ACTUAL AIR DENSITY  
 OUTPUT BTUS AT ALTITUDE OF 0.0 FT. = 192264.  
 INPUT BTUS AT ALTITUDE OF 99 FT. = 249330.  
 OUTPUT BTUS AT ALTITUDE OF 99 FT. = 191577.  
 INPUT BTUS AT ALTITUDE OF 99 FT. = 239472.



**REVISIONS**

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Harrison Fire Department  
 206 Harrison Ave,  
 Harrison, NY, 10528

DATE: 3/11/2021  
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 SCALE: 3/4" = 1'-0"  
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SHEET NO. 5

DATE: ISSUE  
 04-21-21  
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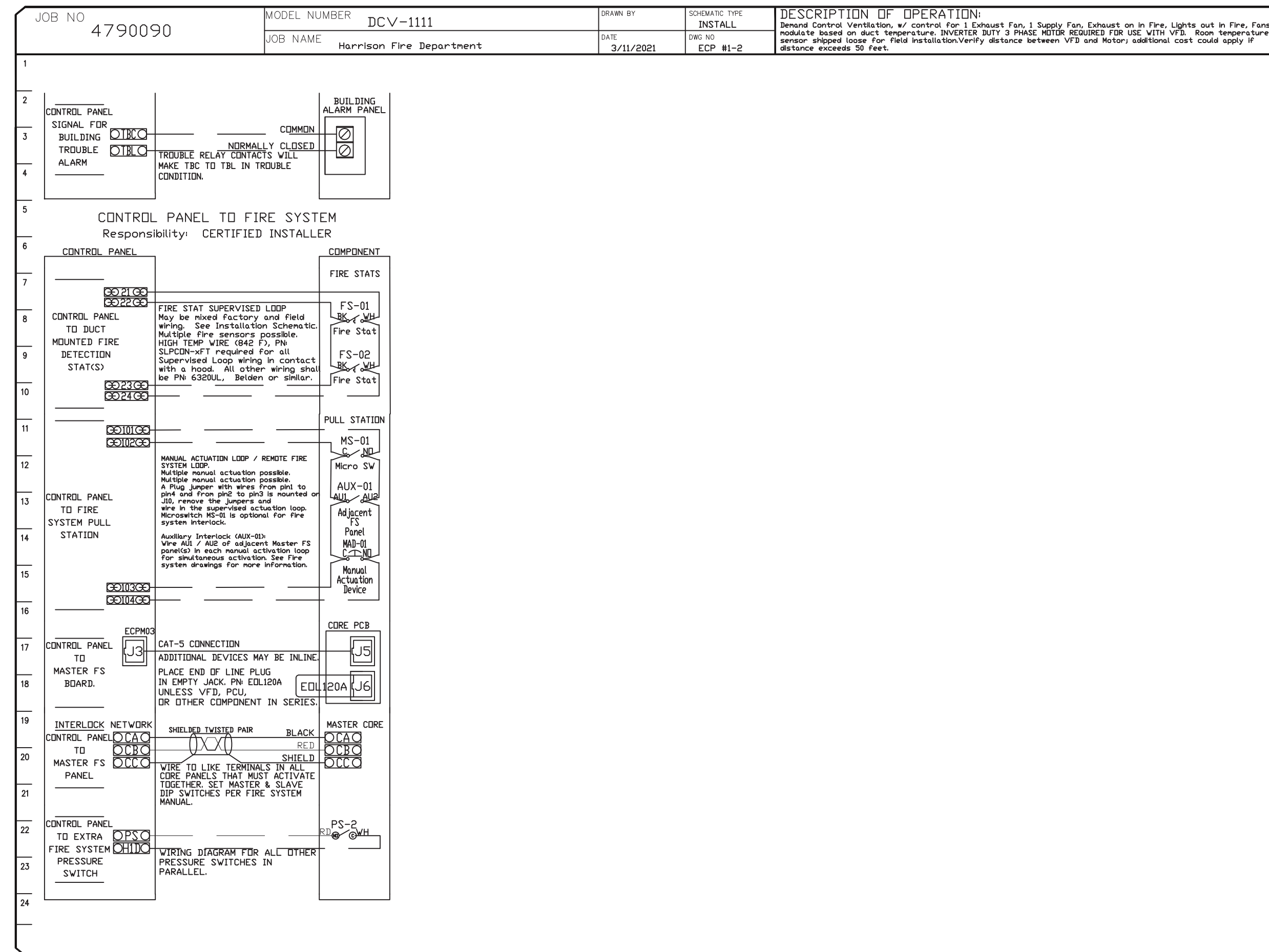
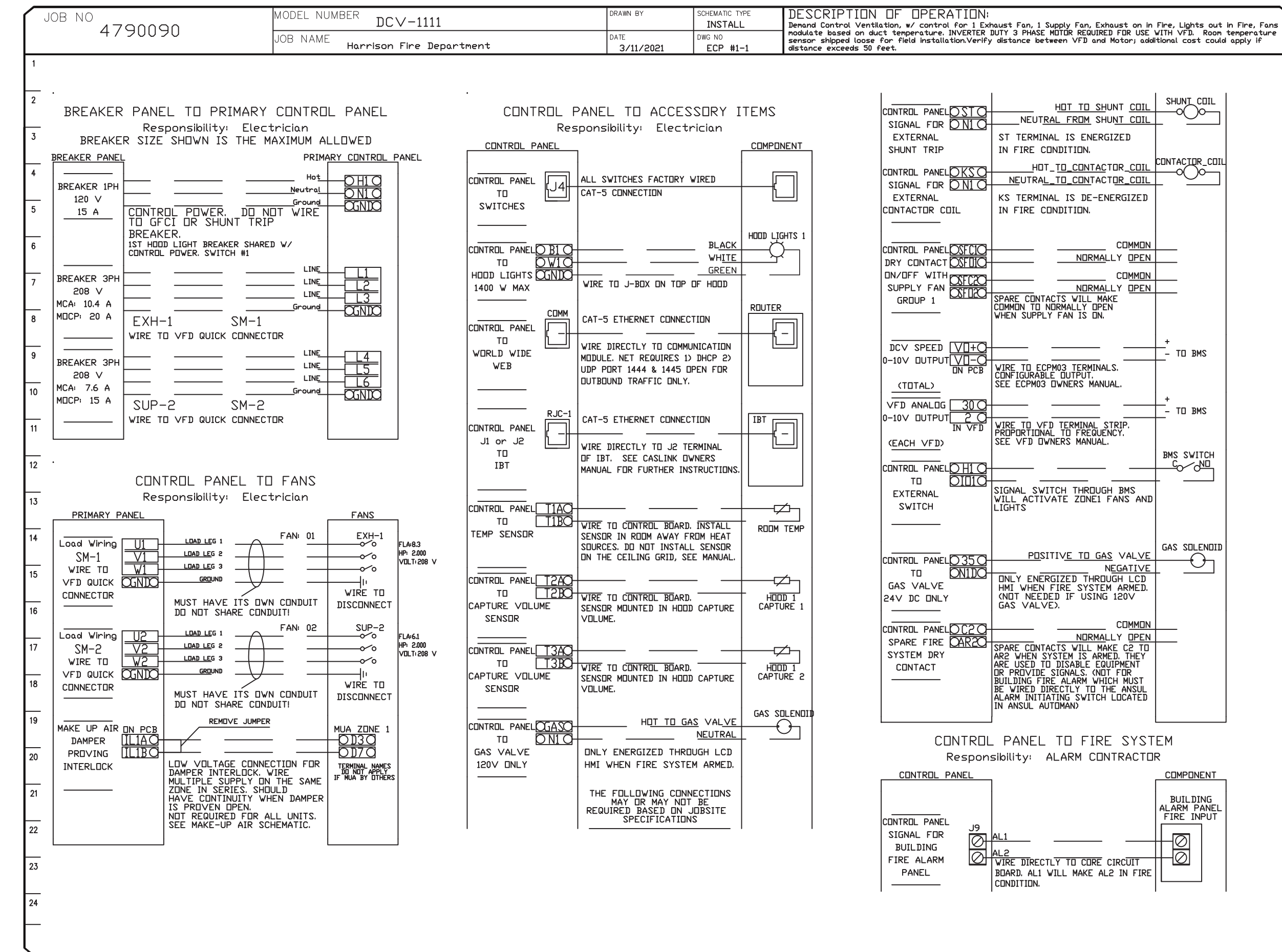
HARRISON FIRE DEPT.  
 PROPOSED ADDITION  
 206 HARRISON AVE  
 HARRISON, NY 10528  
 ADD/ALT MAKEUP AIR UNIT DETAILS

PROJECT #: 2020-04  
 DRAWN BY: SEND. ARCH.  
 CAD FILE: P/2020/HFD  
 2020-04  
 DRAWING#:

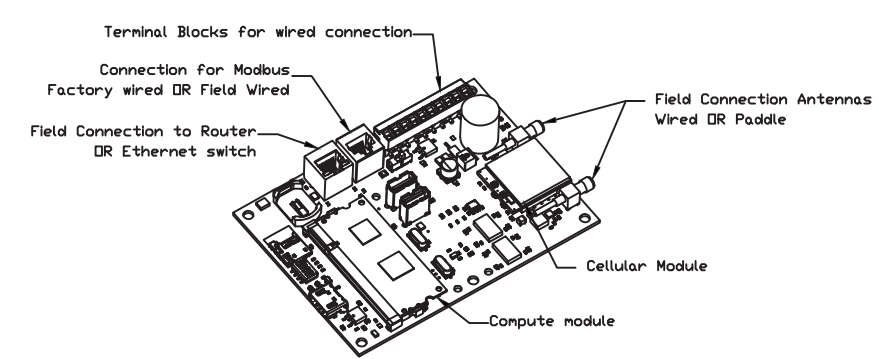
**M-13**

**ELECTRICAL PACKAGE - JOB#4790090**

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		TYPE	HP	VOLTS	FLA	
1		DCV-1111	WALL UTILITY CABINET RIGHT	13 = WALL UTILITY CAB. ON RIGHT END HOOD # 1	1 LIGHT	SMART CONTROLS DCV	EXHAUST	3	2,000	208	8.3
					1 FAN		SUPPLY	3	2,000	208	6.1



\*\*\*\*\*ATTENTION ELECTRICIAN\*\*\*\*\*  
LOAD SIDE WIRING FOR EACH FAN MUST BE RUN IN SEPARATE CONDUIT FROM EMS SYSTEM TO EACH FAN ON ROOF.

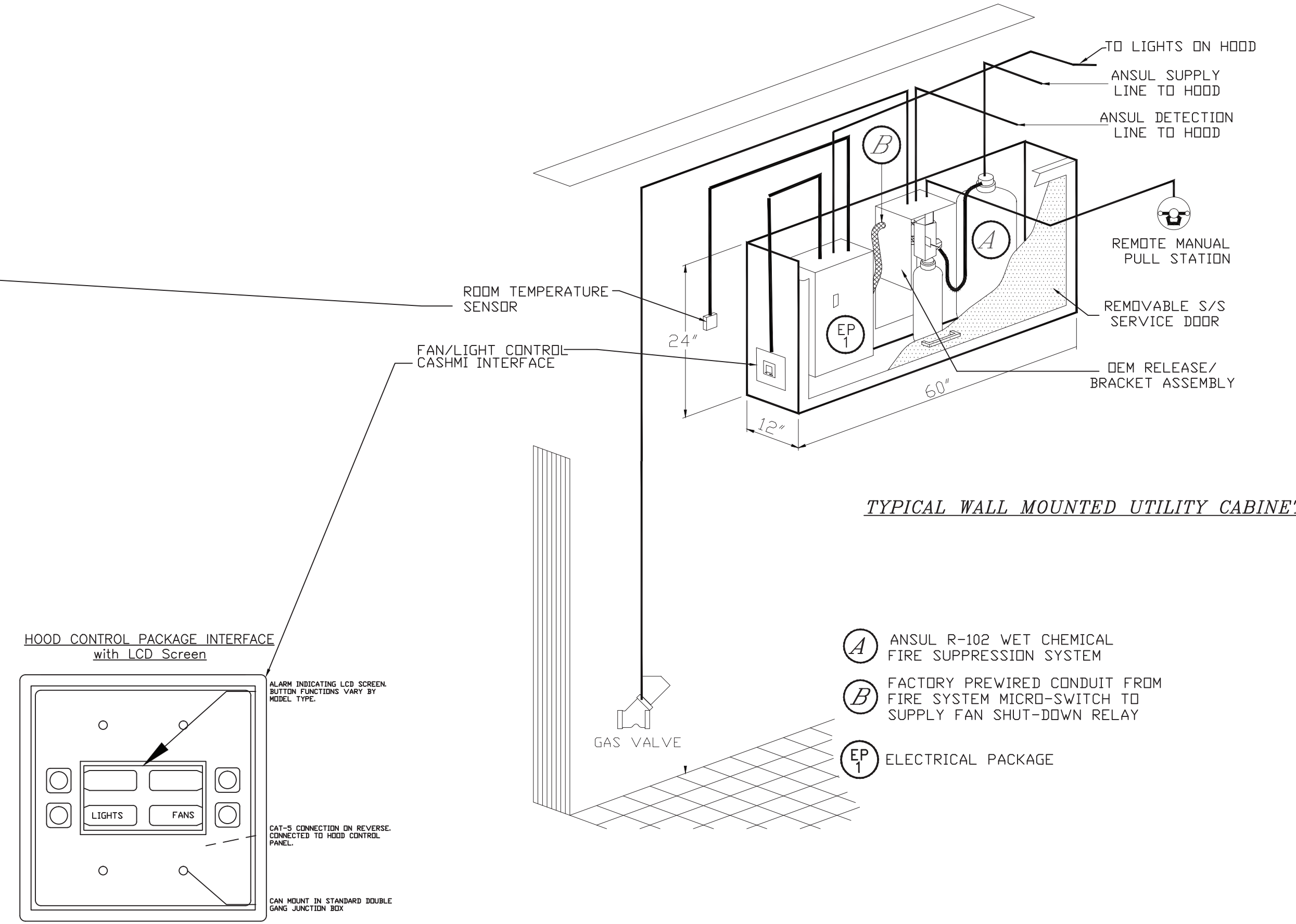


**CASlink Monitor and Control**  
- Hood control panel to support communications to cloud-based Building Management System  
- Hood Control Panel to allow cloud-based Building Management System to monitor real time parameters outlined as MONITOR in the points list.  
- Hood Control Panel to allow cloud-based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

**MONITORING AND CONTROL POINTS LIST**

DCV Packages	Function	SC Packages	Function
Room Temperature	MONITOR	Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR	Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR	MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR	Kitchen RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR	Control Panel Fans	MONITOR
Fan Amperage	MONITOR	Fan Faults	MONITOR
Fan Phase	MONITOR	Fan Status	MONITOR
VFD Faults	MONITOR	PCU Faults	MONITOR
Control Panel Fans	MONITOR	PCU Filter Clog Percentages	MONITOR
Fan Status	MONITOR	Fire Condition	MONITOR
PCU Status	MONITOR	COSE Fire System	MONITOR
PCU Filter Clog Percentages	MONITOR	Building Pressure	MONITOR
Fire Condition	MONITOR	Fans Button(s)	MONITOR & CONTROL
COSE Fire System	MONITOR	Lights Button(s)	MONITOR & CONTROL
Building Pressure	MONITOR	Flash Button	MONITOR & CONTROL
Prep Time Button	MONITOR & CONTROL		
Fans Button	MONITOR & CONTROL		
Lights Button	MONITOR & CONTROL		
Flash Button	MONITOR & CONTROL		

**Room Temperature Sensor**  
-Install on wall in a safe location, free of influence from external heat sources. Should be of average kitchen temperature away from appliances.  
Operation  
-If exhaust duct sensor detects a temperature rise of 10 degrees (adjustable) over the kitchen space temp, the fans will automatically turn on.  
Automatic Mode  
-Preferred method of operation instead of manually activating the FANS button



**REVISIONS**

DESCRIPTION	DATE

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Harrison Fire Department  
206 Harrison Ave,  
Harrison, NY, 10528

**DATE:** 3/11/2021  
**DWG.#:** 4790090  
**DRAWN BY:**  
**SCALE:** 3/4" = 1'-0"  
**MASTER DRAWING**

**SHEET NO.**  
6

DATE: ISSUE  
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**HARRISON FIRE DEPT.**  
PROPOSED ADDITION  
206 HARRISON AVE  
HARRISON, NY 10528  
ADD/ALT KITCHEN HOOD WIRING  
DIAGRAMS

**PROJECT #:** 2020-04  
**DRAWN BY:** SEND. ARCH.  
**CAD FILE:** P/2020/HFD 2020-04  
**DRAWING#:**

**M-14**

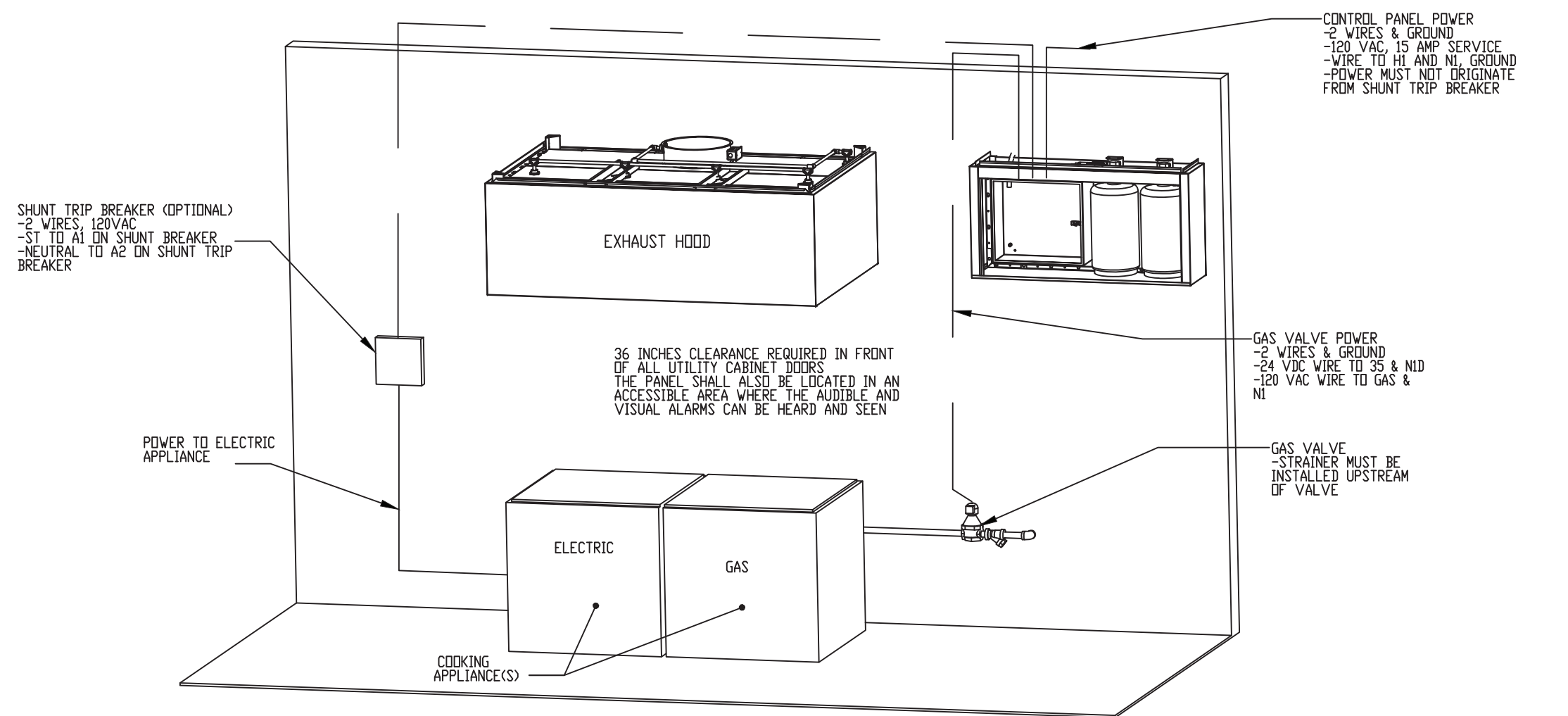
JOB NO 4790090	MODEL NUMBER DCV-1111	DRAWN BY Harrison Fire Department	DATE 3/11/2021	DESCRIPTION OF OPERATION Fire System w/ Gas Electric Wet Chemical - 45A/45.0. Tonn-based Fire Protection System equipped with Electronic Detector utilizing CO2 board as a Listed Release Mechanism. Installed in Wall Mounted Utility Cabinet with Integral Hood pressure panel.
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WALL MOUNT UTILITY CABINET GAS ELECTRIC WET CHEMICAL PROTECTION ELECTRICAL DETAIL

02/05/2018 Rev. 1  
FS-1: MASTER

- ELECTRICIAN  
1. WIRE MAIN CONTROL PANEL PER INCLUDED SCHEMATIC  
2. WIRE ALL FANS PER INCLUDED SCHEMATIC  
3. WIRE SHUNT TRIP BREAKER (OPTIONAL)  
4. WIRE UPS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)  
5. WIRE GAS VALVE

ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & NI	BREAKER COIL (A1 & A2)	120 VAC	< 4 AMPS	ST TO A1 ON SHUNT BREAKER COIL, AND NEUTRAL TO A2 ON SHUNT TRIP BREAKER COIL.
CONTROL PANEL POWER	HI & NI + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UPS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & NI	KTS & NI	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE 120VAC ANSUL AUTOMAN (OPTIONAL)	AUL, AL2	SOLENOID	120 VAC	< 6 AMPS	120V TO AUL, AL2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	25 & NI OF 24 VDC (GAS & NI OF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 10 AMPS	IF 24 VDC - 2 WIRES & GROUND, NI TO RED, 25 TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, NI TO RED, AND GREEN TO GROUND



NOTE: SEE INSTALLATION, OPERATION, AND MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS

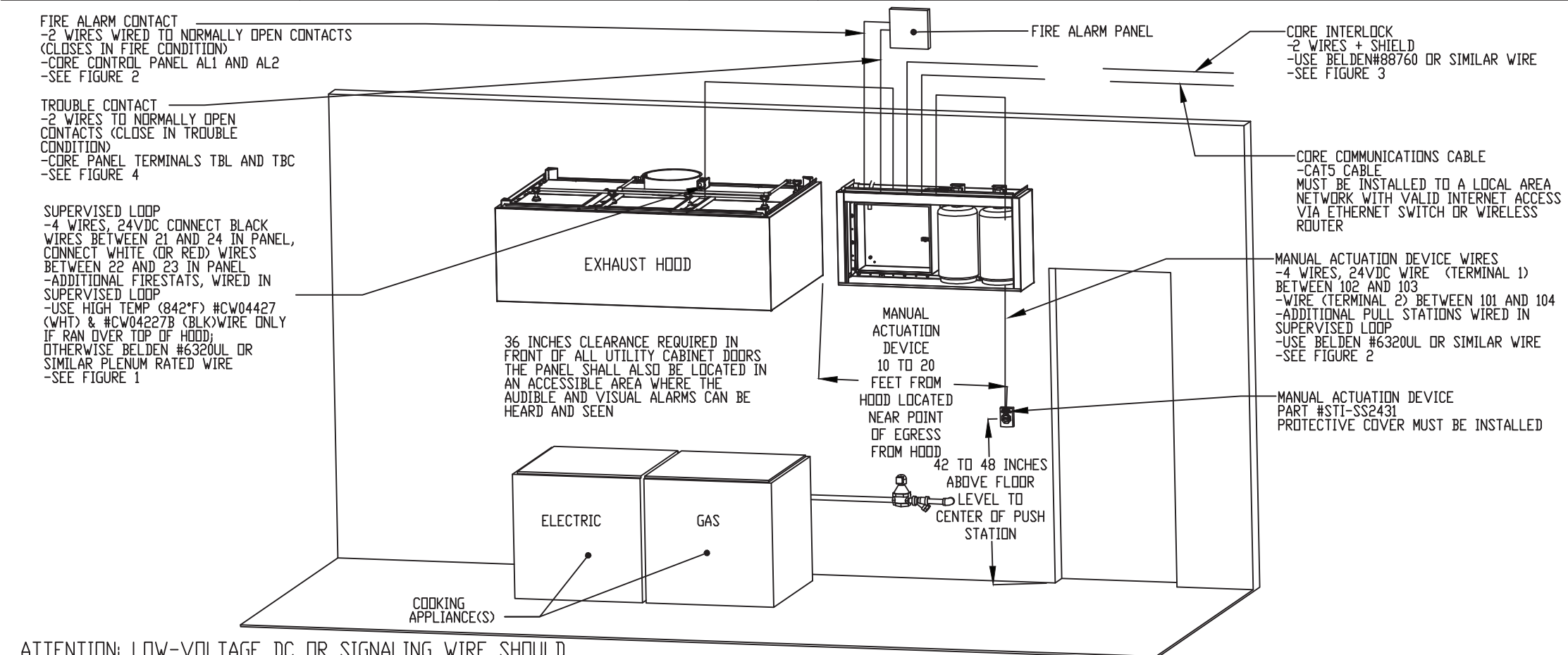
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WALL MOUNT UTILITY CABINET GAS ELECTRIC WET CHEMICAL PROTECTION LOW-VOLTAGE DETAIL

02/05/2018 Rev. 1  
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- ALARM CONTRACTOR:  
1. WIRE MANUAL ACTUATION DEVICES(S), REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS  
2. COMPLETE FINAL WIRING OF SYSTEM  
3. VERIFY FINAL FIRE SYSTEM TEST

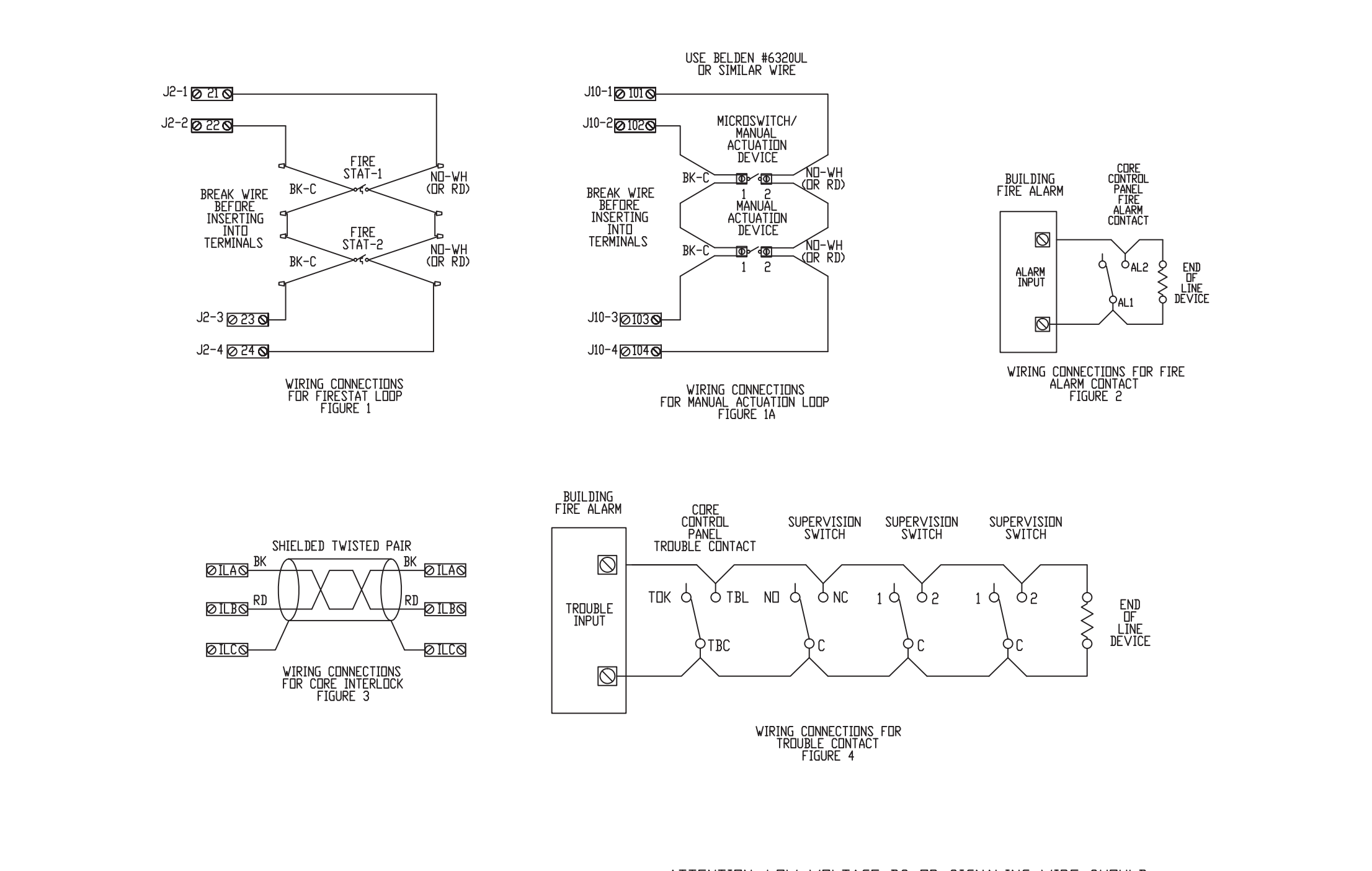
ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICES(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 10 AMPS	WIRE MANUAL ACTUATION DEVICE TERMINAL 1 BETWEEN CORE PANEL TERMINALS 102 AND 103 WIRE MANUAL ACTUATION DEVICE TERMINAL 2 BETWEEN CORE PANEL TERMINALS 101 AND 104 JUMPER 101 TO 104 AND 102 TO 103 IF NO MANUAL ACTUATION DEVICES IS INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	IF SURFACE MOUNTED, USE COVER EXTENSION ST-65318 MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED
REMOTE FIRESTAT SENSOR(S)	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 10 AMPS	WIRE FIRE SENSOR WHITE WIRES BETWEEN HOOD CORE PANEL TERMINALS 22 AND 23 WIRE FIRE SENSOR BLACK WIRE BETWEEN HOOD CORE PANEL TERMINALS 21 AND 24 HIGH TEMP (642°F) (404°C) (767°F) & 404/427/278 (LOW/TEMP) SIMILAR ONLY IF RUN OVER TOP OF HOOD, OTHERWISE BELDEN #6320UL OR SIMILAR PLENUM RATED WIRE, SEE FIGURE 1 FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
FIRE ALARM CONTACT	ALL, AL2	VARIES	50V MAX (DC/DC)	UP TO 1 AMP	
CORE INTERLOCK(S)	ILA, ILB, ILC	ILA, ILB, ILC	RS-485 COMMUNICATIONS SIGNAL		CORE SYSTEM (1) ILA, TO CORE SYSTEM (2) ILA, CORE SYSTEM (3) ILB, TO CORE SYSTEM (2) ILB CORE SYSTEM (4) ILC, TO CORE SYSTEM (2) ILC, USE BELDEN# 88760 OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TDK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSURES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	< 10 AMPS	TYPICAL CONNECTION CAT5 CABLE TO LOCAL AREA NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION



		DESCRIPTION OF OPERATION: Fire System w/ Gas Electric Wet Chemical - 45A/45.0. Tonn-based Fire Protection System equipped with Electronic Detector utilizing CO2 board as a Listed Release Mechanism. Installed in Wall Mounted Utility Cabinet with Integral Hood pressure panel.
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WALL MOUNTED GAS ELECTRIC WET CHEMICAL PROTECTION LOW-VOLTAGE FIGURES

02/05/2018 Rev. 1  
FS-1: MASTER



REVISIONS	
DESCRIPTION	DATE

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HARRISON FIRE DEPT.  
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CAD FILE: P/2020/HFD  
2020-04

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