

HOOD INFORMATION – Job#3420302

HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	TOTAL EXH. CFM	EXHAUST PLENUM RISER(S)						MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG.		SWITCHES	
						WIDTH	LENG.	HEIGHT	DIA.	CFM	VEL.				S.P.	END TO END	ROW	QUANTITY
1	H-1L	5424 ND-2-ACPSP-F	10' 0"	600 Deg.	2750		4"	18"	2750	1556	-0.864"	2000	560	430 SS Where Exposed	LEFT	ALONE	FRONT LEFT FACE	
2	H-2M	5424 ND-2-ACPSP-F	10' 0"	600 Deg.	2250		4"	16"	2250	1611	-0.737"	2000	560	430 SS Where Exposed	MIDDLE	ALONE		
3	H-2M	5424 ND-2-ACPSP-F	10' 0"	600 Deg.	2500		4"	16"	2500	1790	-0.909"	2000	560	430 SS Where Exposed	RIGHT	ALONE		
4	H-4	4224 VHB-G-ND	7' 0"	700 Deg.	1050		4"	10"	525	963	-0.069"	0	0	430 SS 100%	ALONE	ALONE	1 FAN 1 LIGHT	FRONT LEFT FACE

PATENT NUMBERS

AC-PSP (United States) – US Patent 7963830 B2
AC-PSP Wall (Canada) – CA Patent 2820509
AC-PSP Island (Canada) – CA Patent 2520330

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.

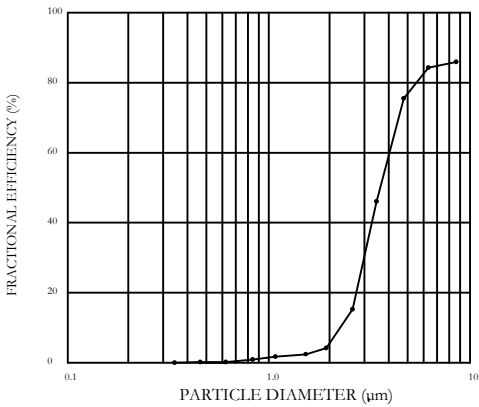
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

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

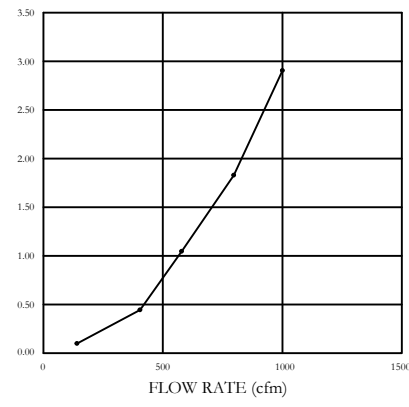
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05.

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-5649



HOOD INFORMATION

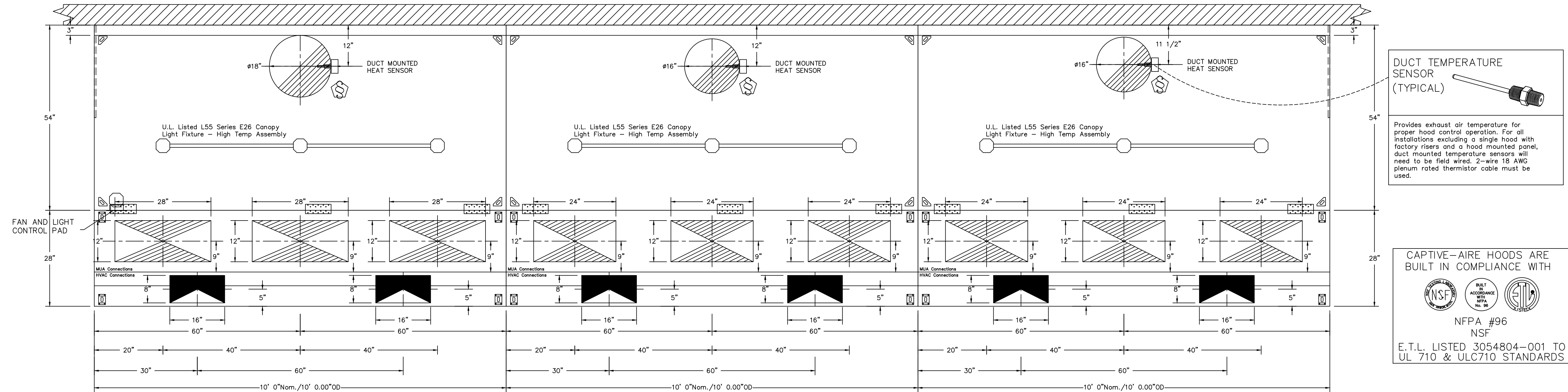
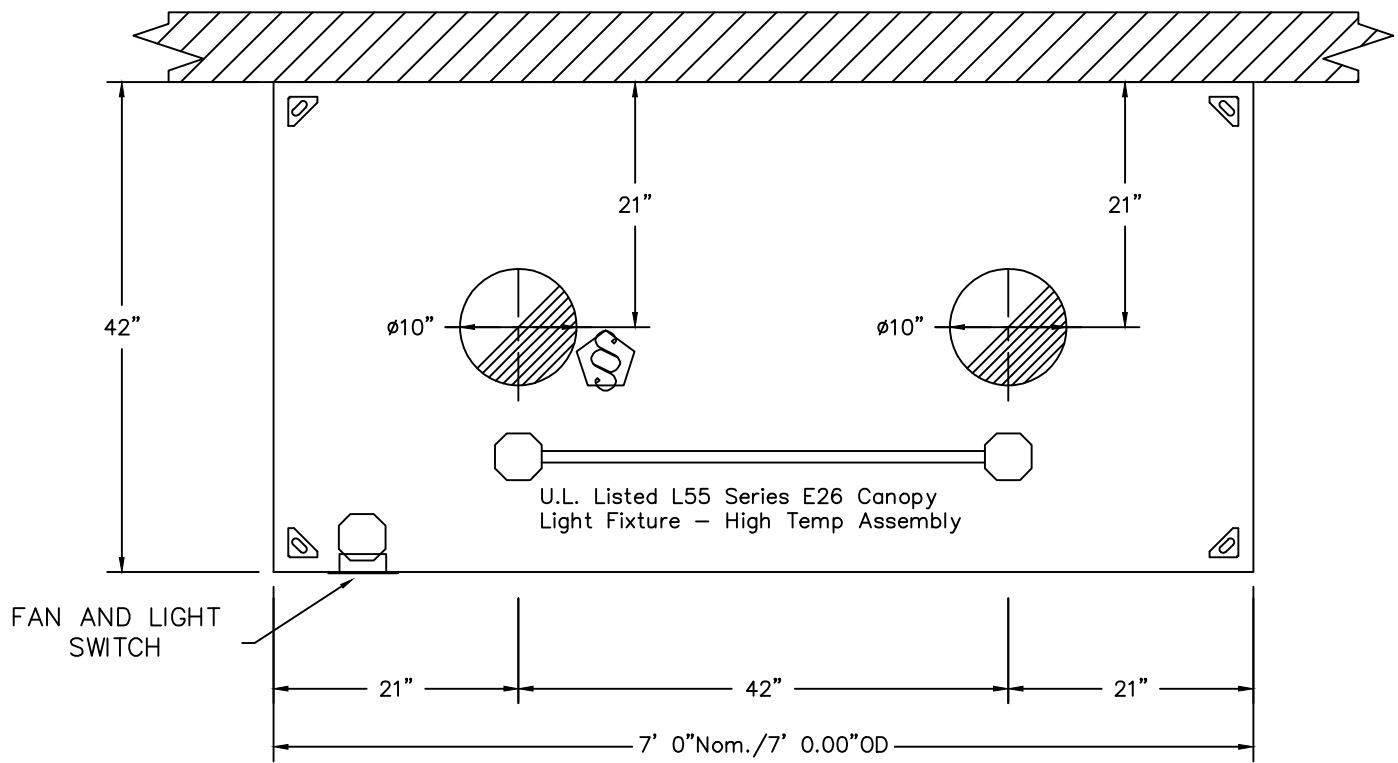
HOOD NO.	TAG	TYPE	FILTER(S)			EFFICIENCY @ 7 MICRONS	QTY.	TYPE	WIRE GUARD	LOCATION	SIZE	UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WGT
			QTY.	HEIGHT	LENGTH							FIRE SYSTEM		ELECTRICAL	SWITCHES		
												TYPE	SIZE				
1	H-1L	Captrate Solo Filter	7	20"	16"	85% See Filter Spec.	3	L55 Series E26	NO	Wall Mnt	12"x66"x24"	Ansul R102	3.0/3.0/3.0	DCV- 3111	1 Light 1 Fan	YES	746 LBS
2	H-2M	Captrate Solo Filter	7	20"	16"	85% See Filter Spec.	3	L55 Series E26	NO							YES	605 LBS
3	H-2M	Captrate Solo Filter	7	20"	16"	85% See Filter Spec.	3	L55 Series E26	NO							YES	670 LBS
4	H-4						2	L55 Series E26	NO						FRONT LEFT FACE	NO	255 LBS

HOOD OPTIONS

HOOD NO.	TAG	OPTION
1	H-1L	FIELD WRAPPER 18.00" High Front, Left
		FIELD WRAPPER 18.00" High Front, Left
		BACKSPLASH 80.00" High X 360.00" Long 430 SS Vertical
		LEFT VERTICAL END PANEL 27" Top Width, 21" Bottom Width, 80" High Insulated 430 SS
2	H-2M	FIELD WRAPPER 18.00" High Front
3	H-2M	FIELD WRAPPER 18.00" High Front, Right
		RIGHT VERTICAL END PANEL 27" Top Width, 21" Bottom Width, 80" High Insulated 430 SS
4	H-4	FIELD WRAPPER 18.00" High Front, Left, Right

PERFORATED SUPPLY PLENUM(S)

HOOD NO.	TAG	POS.	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG.	DIA.	CFM	S.P.
1	H-1L	Front	120"	28"	6"	MUA	12"	28"		666	0.169"
						MUA	12"	28"		666	0.169"
						MUA	12"	28"		666	0.169"
						AC	8"	16"		280	0.073"
						AC	8"	16"		280	0.073"
						MUA	12"	24"		666	0.197"
2	H-2M	Front	120"	28"	6"	MUA	12"	24"		666	0.197"
						MUA	12"	24"		666	0.197"
						MUA	12"	24"		666	0.197"
						AC	8"	16"		280	0.073"
						AC	8"	16"		280	0.073"
						MUA	12"	24"		666	0.197"
3	H-2M	Front	120"	28"	6"	MUA	12"	24"		666	0.197"
						MUA	12"	24"		666	0.197"
						MUA	12"	24"		666	0.197"
						AC	8"	16"		280	0.073"
						AC	8"	16"		280	0.073"
						MUA	12"	24"		666	0.197"



PLAN VIEW – Hood #1 (H-1L)
10' 0.00" LONG 5424ND-2-ACPSP-F
ACPSP ships loose for field installation

PLAN VIEW – Hood #2 (H-2M)
10' 0.00" LONG 5424ND-2-ACPSP-F
ACPSP ships loose for field installation

PLAN VIEW – Hood #3 (H-2M)
10' 0.00" LONG 5424ND-2-ACPSP-F
ACPSP ships loose for field installation

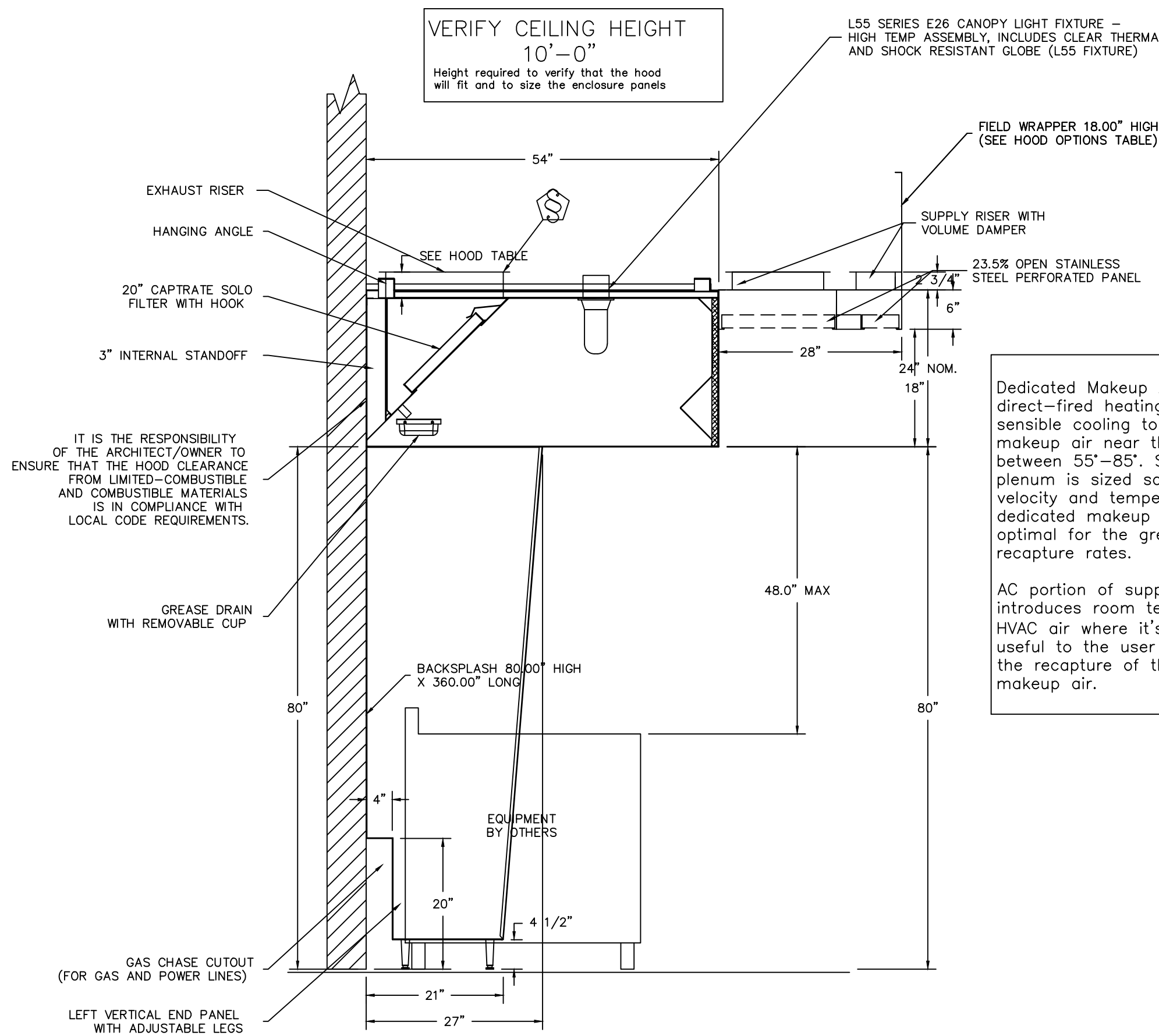
FOR HOOD DESIGN AND INSTALLATION QUESTIONS, CALL
NO. ILLINOIS FOOD SERVICE SALES/ENGINEERING OFFICE
1652 E. Main St., Suite 20 St. Charles, IL 60174
PHONE: 630-377-2611 FAX: 919-516-8738

CAPTIVE-AIRE
Chicago Foodservice Division
www.captiveaire.com

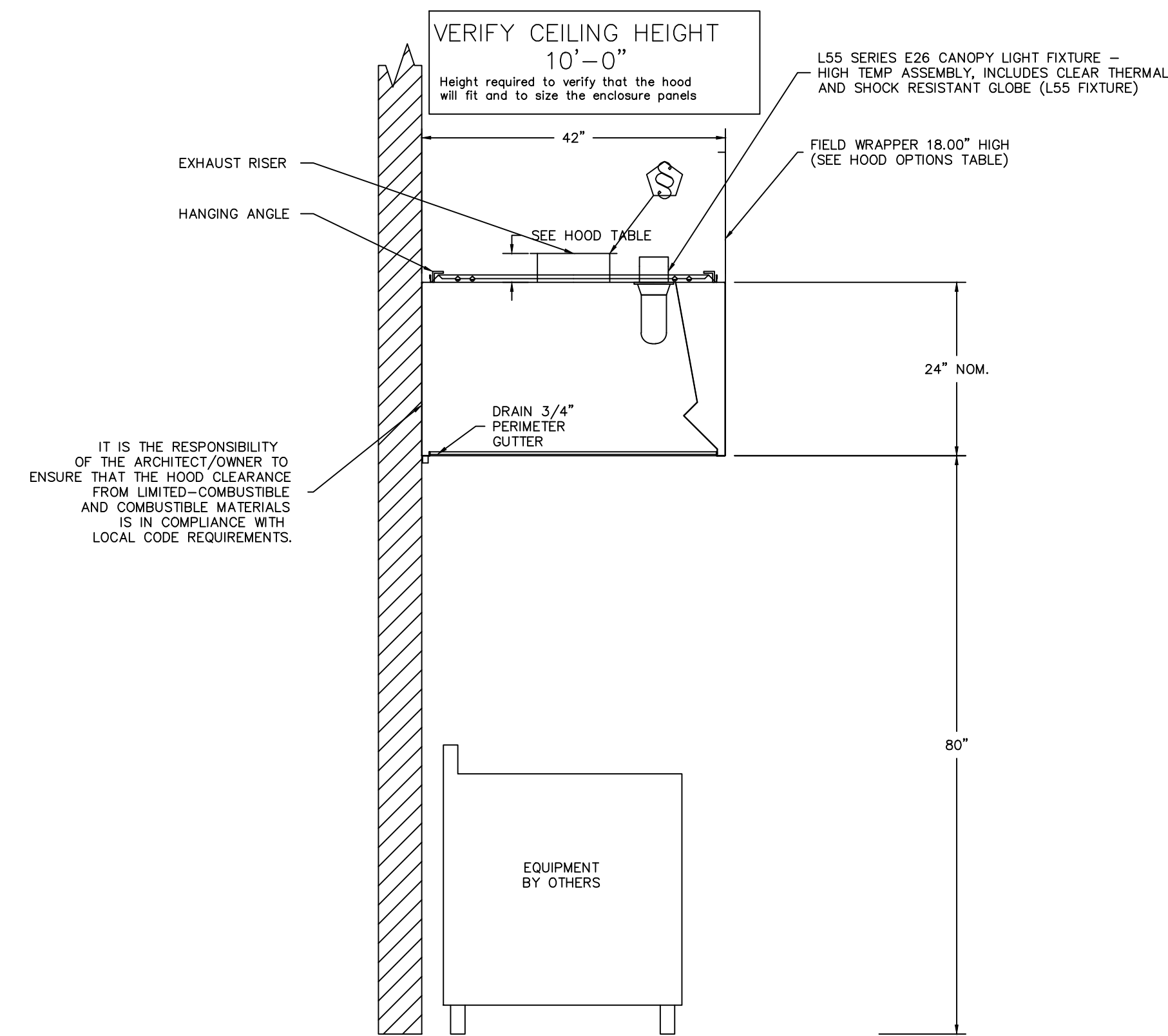
DWG.#:
3420302
DRAWN BY: WEM
CHECKED BY: JEM
DATE: 11/11/11

SHEET NO:

M3.0



SECTION VIEW - MODEL 5424ND-2-ACPSP-F
HOOD - #1 (H-1L)



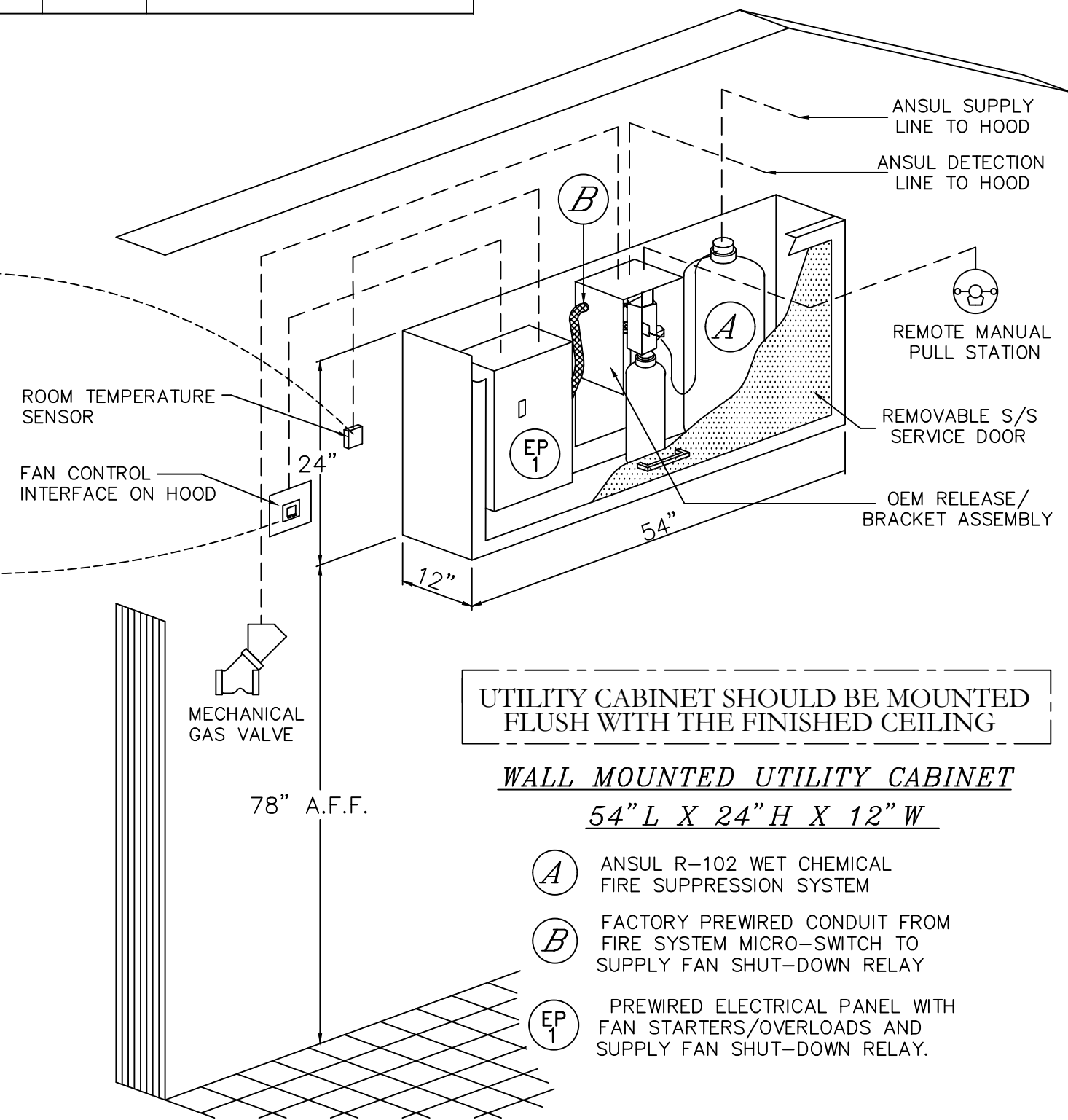
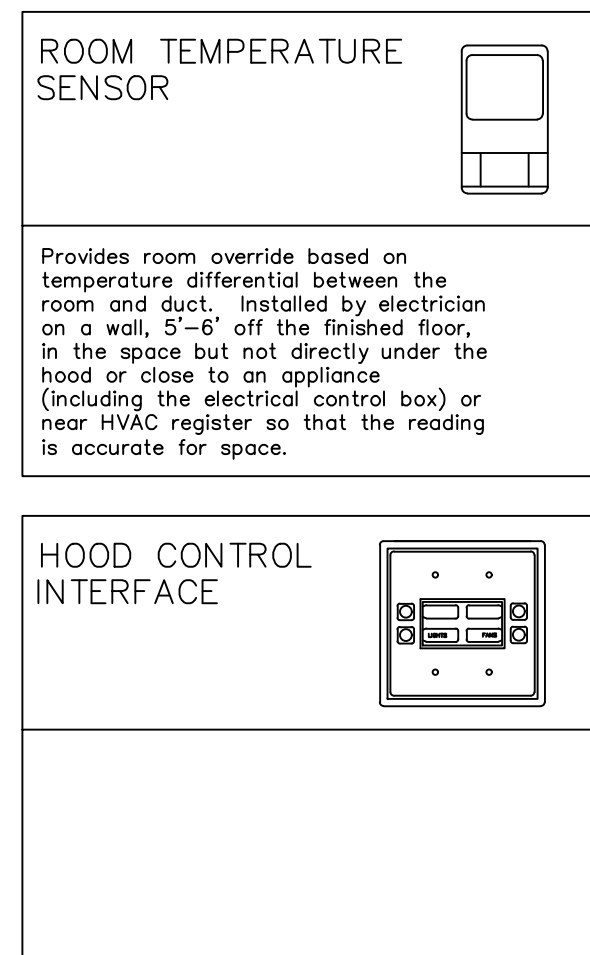
SECTION VIEW - MODEL 4224VHB-G-ND
HOOD - #4 (H-4)

Fire System Information - Job#3420302

FIRE SYSTEM NO.	Tag	TYPE	SIZE	FLOW POINTS	INSTALLATION	
					SYSTEM	LOCATION ON HOOD
1	FS-1	Ansul R102	3.0/3.0/3.0	7	Wall Utility Cabinet Left	N/A

GAS VALVE(S)

FIRE SYSTEM NO.	TAG	TYPE	SIZE	SUPPLIED BY
1	FS-1	Mechanical	2.000	Distributor

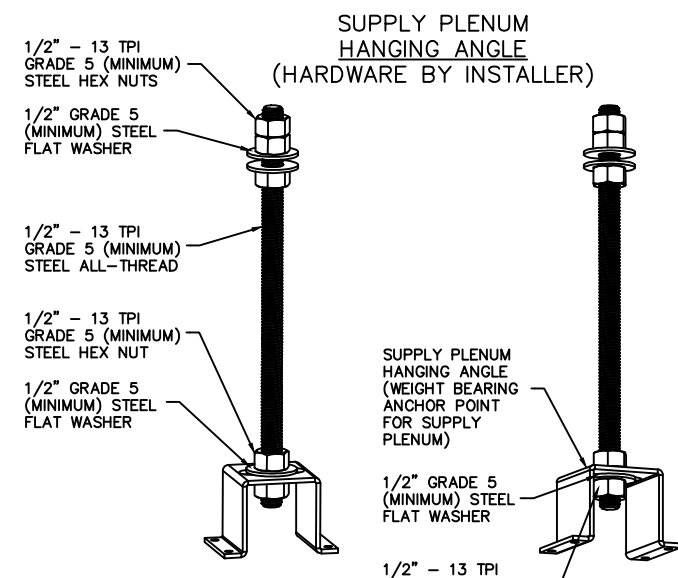


UTILITY CABINET SHOULD BE MOUNTED FLUSH WITH THE FINISHED CEILING

WALL MOUNTED UTILITY CABINET

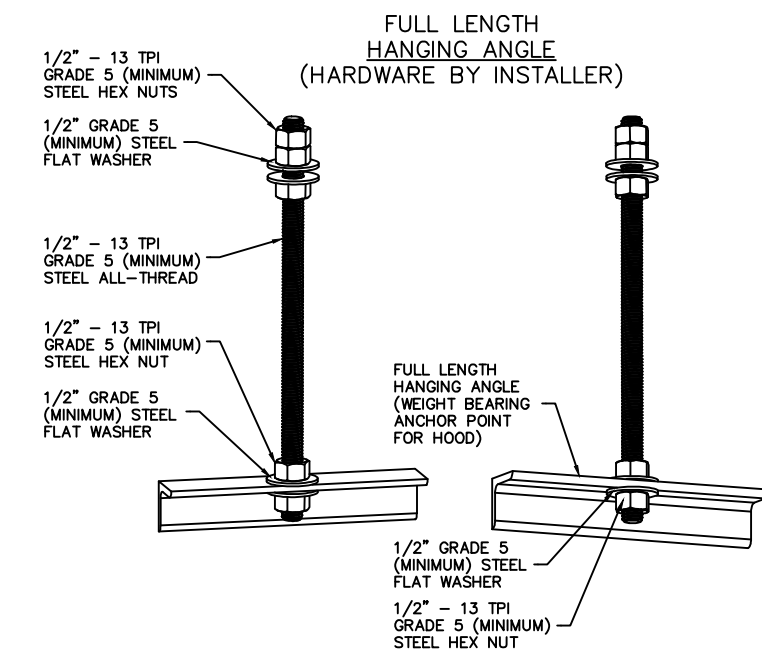
54" L X 24" H X 12" W

- A** ANSUL R-102 WET CHEMICAL FIRE SUPPRESSION SYSTEM
- B** FACTORY PREWIRED CONDUIT FROM FIRE SYSTEM MICRO-SWITCH TO SUPPLY FAN SHUT-DOWN RELAY
- EP** PREWIRED ELECTRICAL PANEL WITH FAN STARTERS/OVERLOADS AND SUPPLY FAN SHUT-DOWN RELAY.



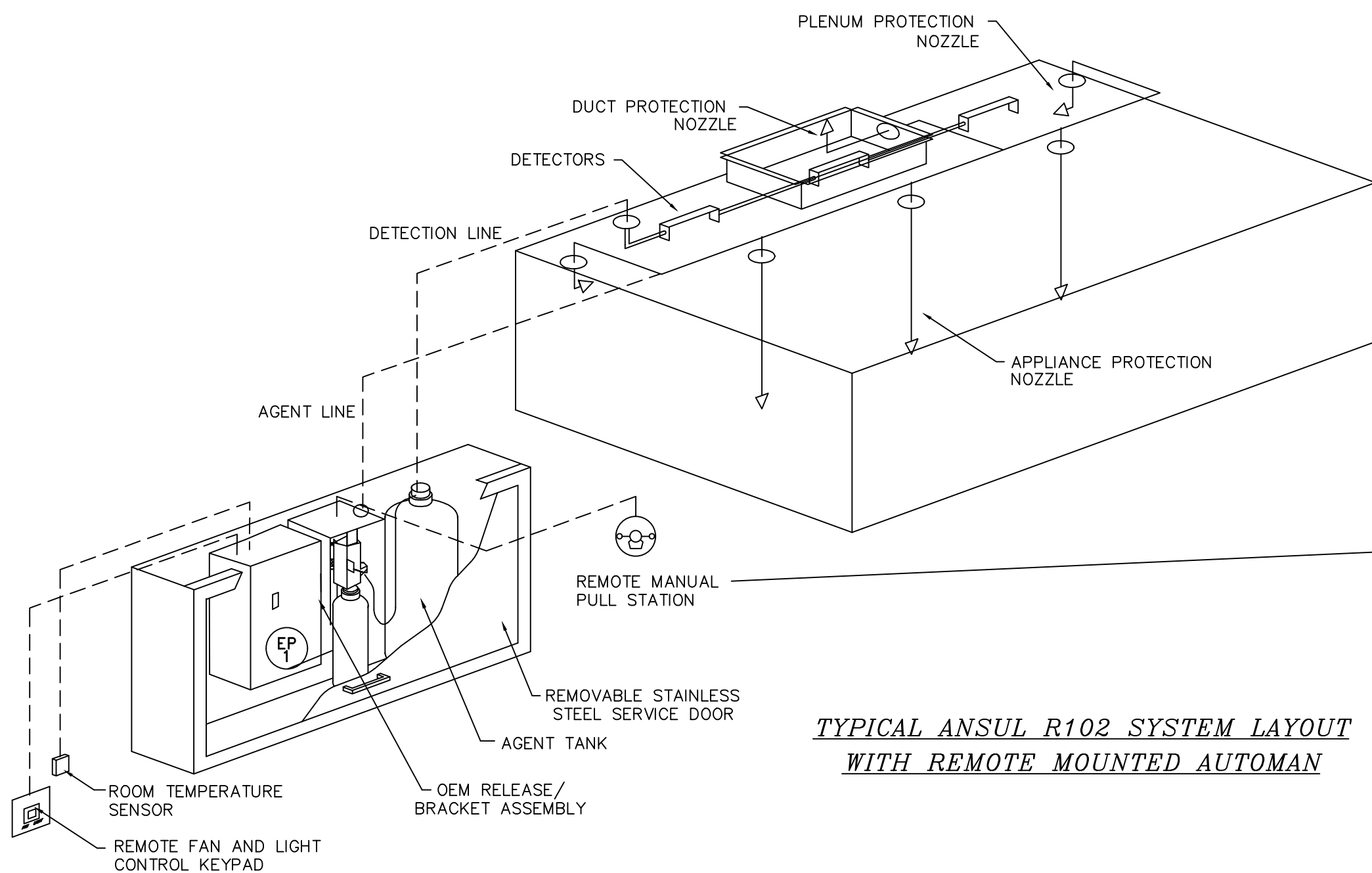
ASSEMBLY INSTRUCTIONS

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 ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.



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 ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR FULL LENGTH HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

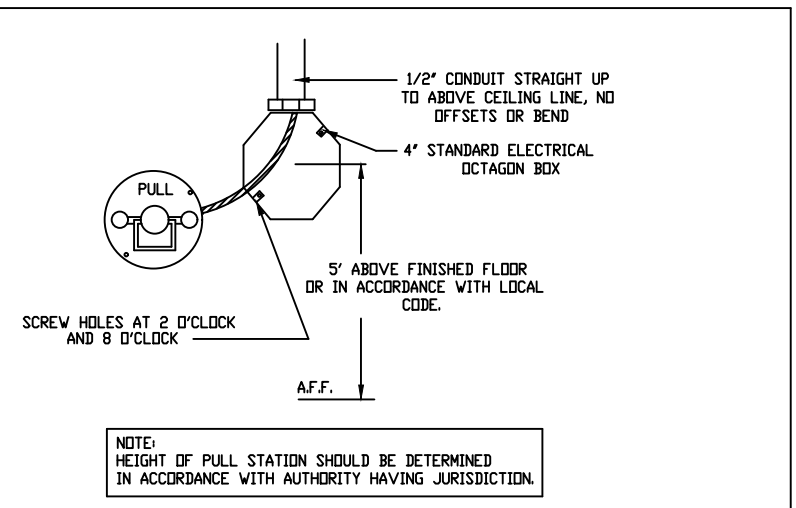


TYPICAL ANSUL R102 SYSTEM LAYOUT
WITH REMOTE MOUNTED AUTOMAN

ACTUAL FIRE SYSTEM PIPING SCHEMATIC TO BE PROVIDED BY CONTRACTED FIRE SYSTEM DISTRIBUTOR AT TIME OF PERMITTING

NOTE:
AS PER NFPA 17A, PULL STATION SHALL BE NO LESS THAN 10' FROM HOOD AND NOT FARTHER THAN 20' FROM HOOD AND MUST BE LOCATED IN PATH OF EGRESS.

ANSUL PULL STATION DETAIL



NOTE:
HEIGHT OF PULL STATION SHOULD BE DETERMINED IN ACCORDANCE WITH AUTHORITY HAVING JURISDICTION.

EXPOSED REMOTE FIRE PROTECTION
PULL STATION DETAIL

FOR HOOD DESIGN AND INSTALLATION QUESTIONS, CALL
NO. ILLINOIS FOOD SERVICE SALES/ENGINEERING OFFICE
1652 E. Main St., Suite 20 St. Charles, IL 60174
PHONE: 630-377-2611 FAX: 919-516-8738

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DATE: 11/11/11

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EXHAUST FAN INFORMATION – Job#3420302

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	ø	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)	SONES
1	EF-1	DU180HFA	2750	1.100	1166	1.500	0.8310	3	208	4.4	635 FPM	163	16.1
2	EF-2	DU180HFA	2250	1.000	1042	1.000	0.5890	3	208	3.8	520 FPM	153	12
3	EF-3	DU180HFA	2500	1.100	1118	2.000	0.7300	3	208	6.1	577 FPM	161	13.6
4	EF-4	DU50HFA	1050	0.375	1118	0.500	0.1540	1	115	5.6	399 FPM	70	9.1

MUA FAN INFORMATION – Job#3420302

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP.	RPM	H.P.	B.H.P.	ø	VOLT	FLA	WEIGHT (LBS.)	SONES	BURNER EFFICIENCY(%)
5	MUA-1	A3-D.500-24D	24MF-3-MOD	A3-D.500	3500	6000	0.500	1425	10.000	5.5640	3	208	27.0	1064	14.7	92

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	TAG	INPUT BTUs	OUTPUT BTUs	TEMP. RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE
5	MUA-1	536942	493987	80 deg F	7 in. w.c. – 14 in. w.c.	Natural

FAN OPTIONS

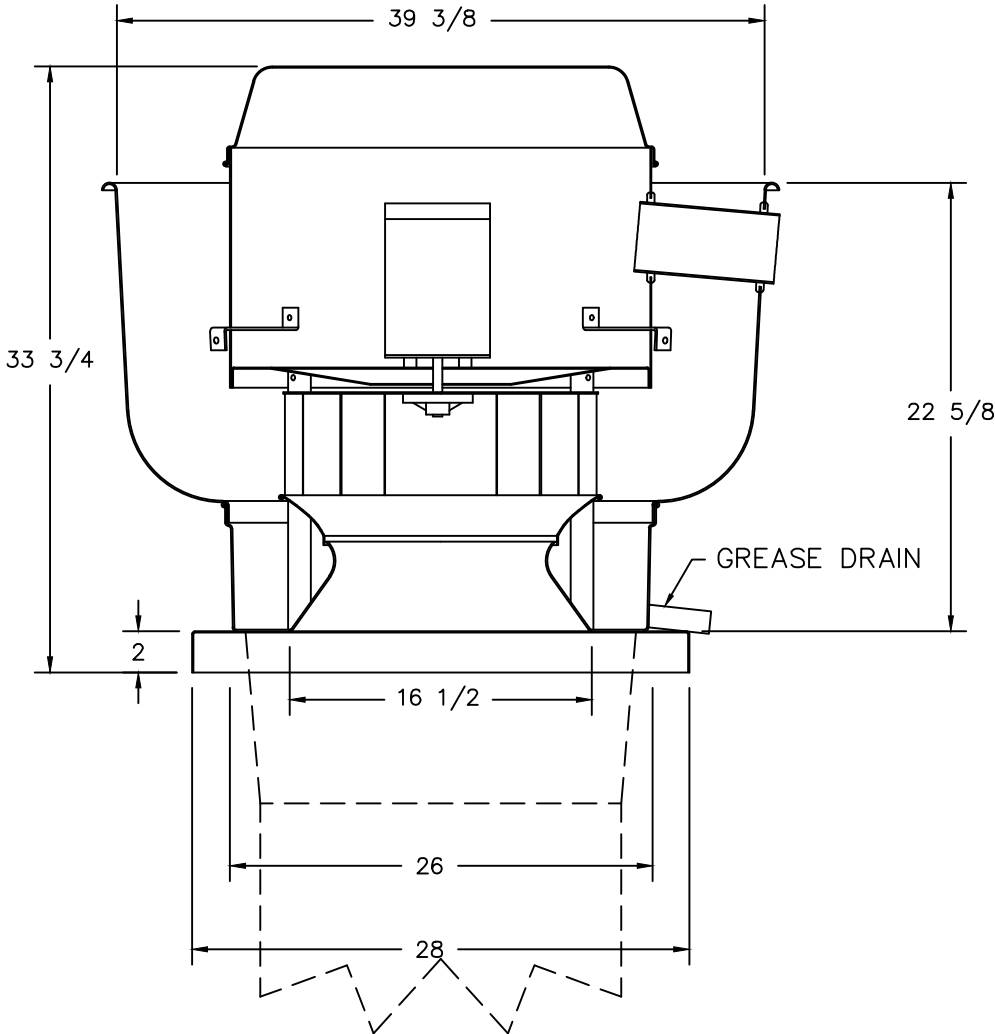
FAN UNIT NO.	TAG	OPTION (Qty. – Descr.)
1	EF-1	1 – Grease Box 1 – Fan Base Ceramic Seal – Ship Loose – For Grease Ducts
2	EF-2	1 – Grease Box 1 – Fan Base Ceramic Seal – Ship Loose – For Grease Ducts
3	EF-3	1 – Grease Box 1 – Fan Base Ceramic Seal – Ship Loose – For Grease Ducts
4	EF-4	1 – ECM Wiring Package-Exhaust – Manual or 0-10VDC Reference Speed Control (NIDEC Motor)
5	MUA-1	1 – AC Interlock Relay – 24VAC Coil 1 – Motorized Backdraft Damper for A3-D Housing 1 – Low Fire Start 1 – Inlet Pressure Gauge, 0-35" 1 – Manifold Pressure Gauge, -5 to 15" wc 1 – Separate 120V Wiring Package (Required and used only for DCV or Prewire with VFD) – Three Phase Only

FAN ACCESSORIES

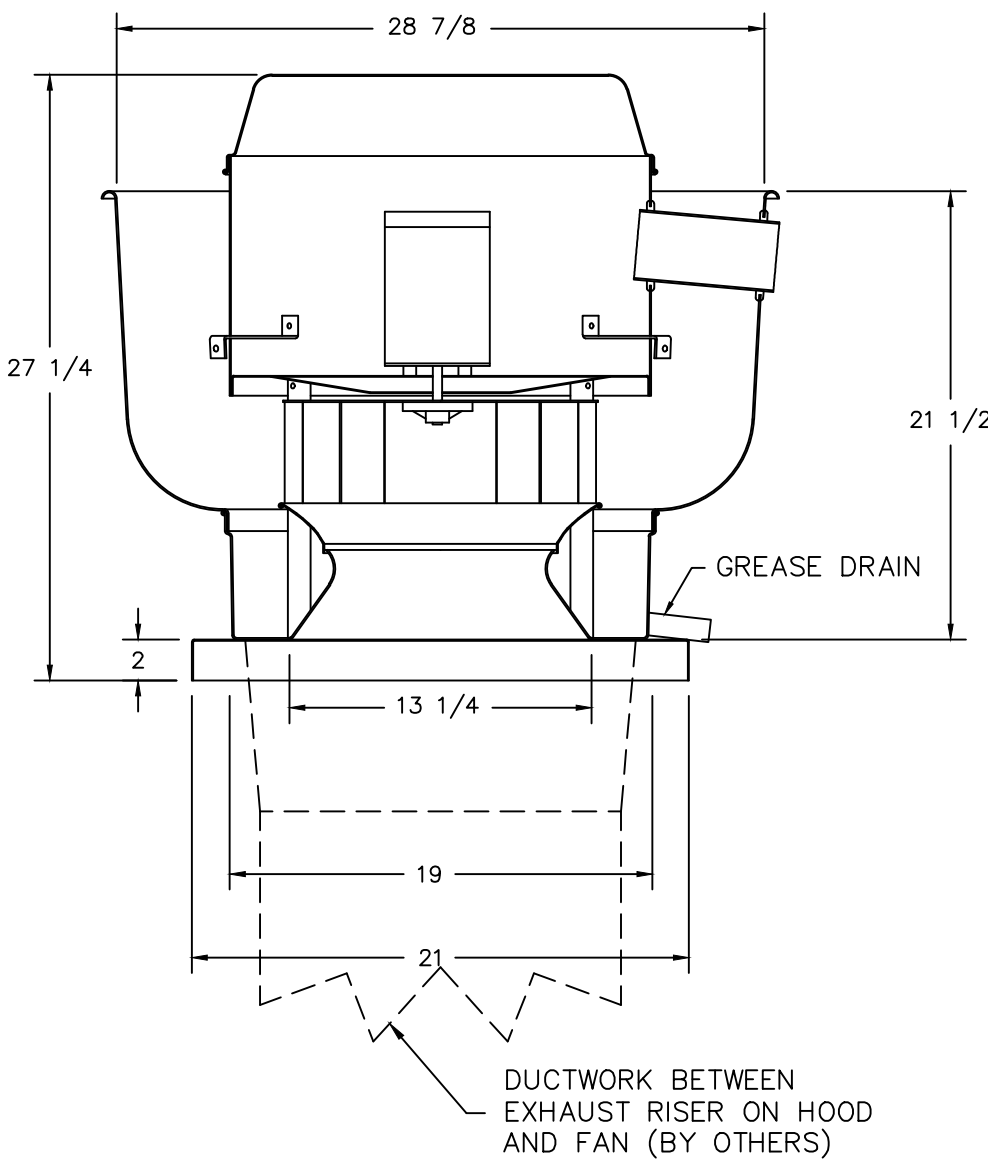
FAN UNIT NO.	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	EF-1	YES						
2	EF-2	YES						
3	EF-3	YES						
4	EF-4							
5	MUA-1						YES	

CURB ASSEMBLIES

NO.	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	EF-1	34 LBS	Curb	26.500"W x 26.500"L x 24.000"H Vented Hinged
2	# 2	EF-2	34 LBS	Curb	26.500"W x 26.500"L x 24.000"H Vented Hinged
3	# 3	EF-3	34 LBS	Curb	26.500"W x 26.500"L x 24.000"H Vented Hinged
4	# 4	EF-4	30 LBS	Curb	19.500"W x 19.500"L x 24.000"H Insulated
5	# 5	MUA-1	82 LBS	Curb	35.000"W x 84.000"L x 20.000"H Insulated



FANS #1 (EF-1), #2 (EF-2), #3 (EF-3) – DU180HFA EXHAUST FAN



FAN #4 DU50HFA – EXHAUST FAN (EF-4)

FEATURES:

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

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 – SHIP LOOSE – FOR GREASE DUCTS

FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS)
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL
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NORMAL TEMPERATURE TEST

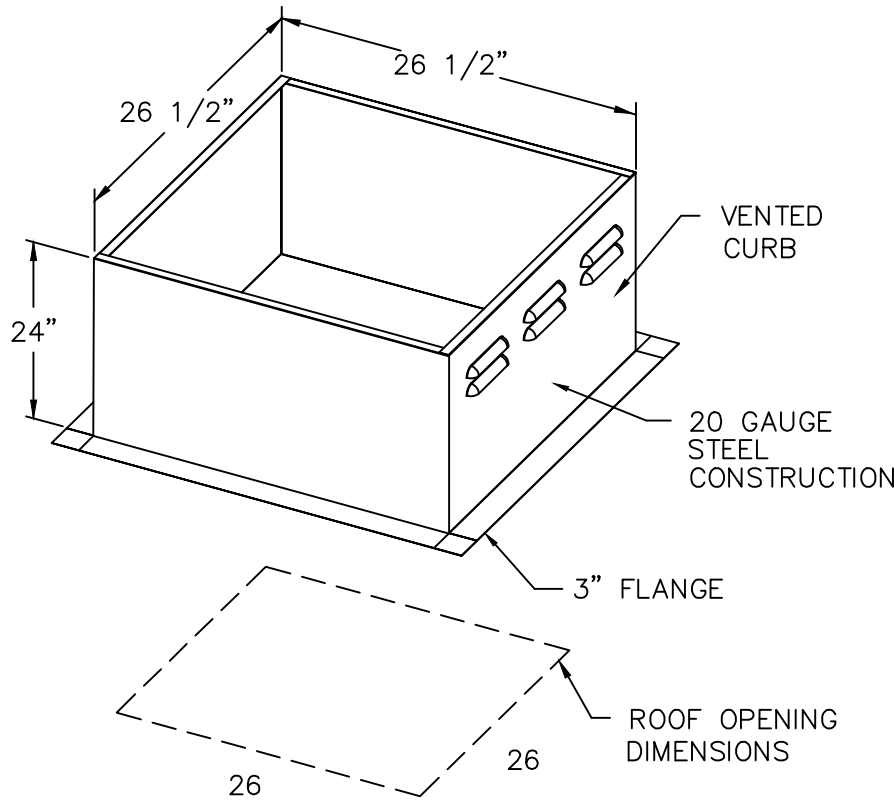
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ABNORMAL FLARE-UP TEST

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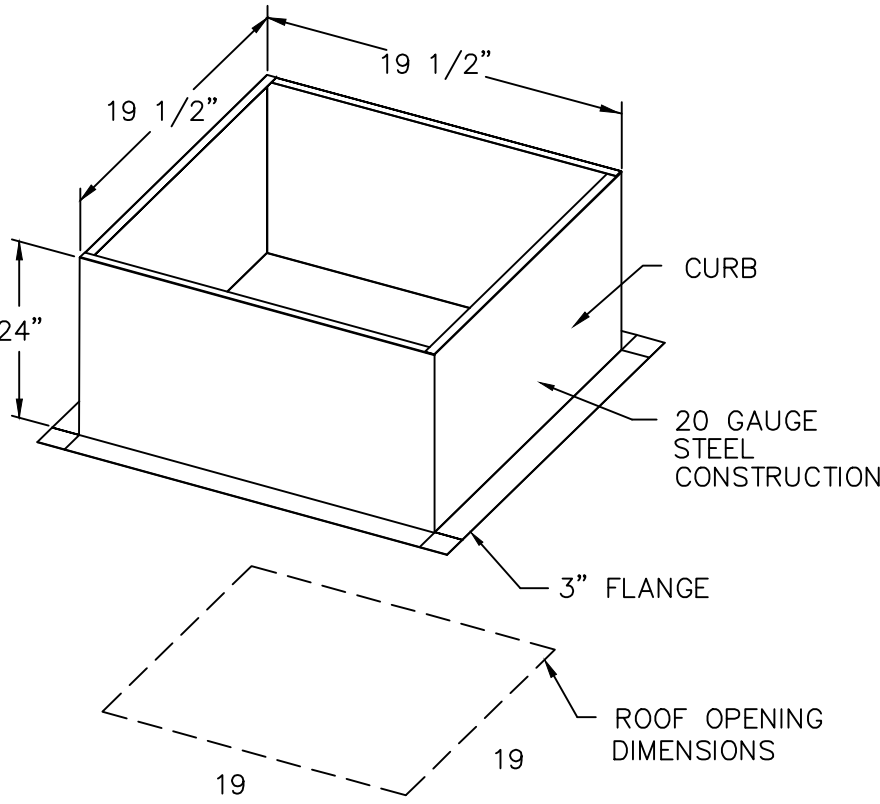
OPTIONS

GREASE BOX
ECM WIRING PACKAGE-EXHAUST – MANUAL OR 0-10VDC REFERENCE SPEED CONTROL (NIDEC MOTOR)



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.

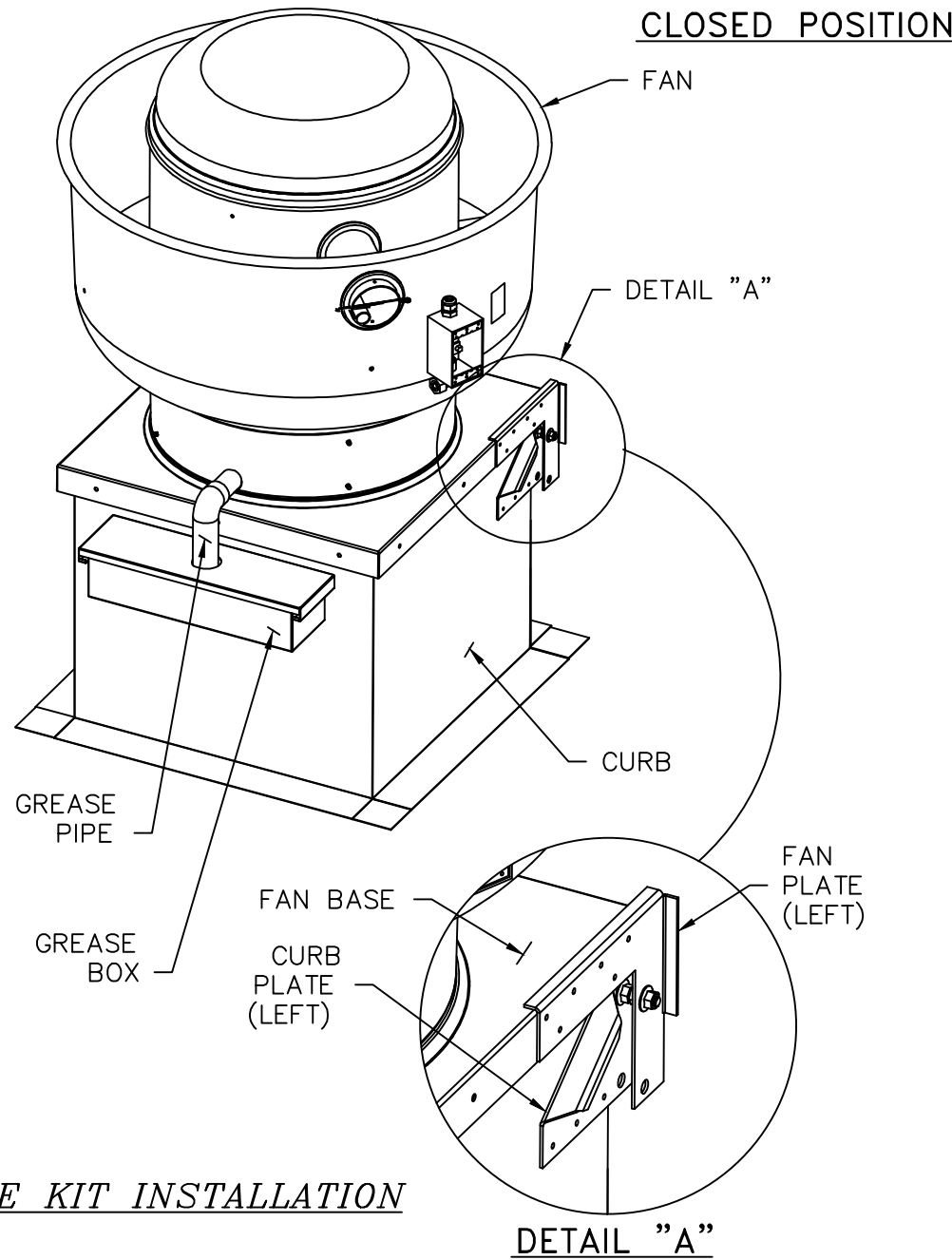
SPECIFY PITCH:
EXAMPLE: 7/12 PITCH = 30° SLOPE



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.

SPECIFY PITCH:
EXAMPLE: 7/12 PITCH = 30° SLOPE

FOR QUESTIONS, CALL
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PHONE: 630-377-2611 FAX: 919-516-8738



HINGE KIT INSTALLATION

FOR HOOD DESIGN AND INSTALLATION QUESTIONS, CALL
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1652 E. Main St., Suite 20 St. Charles, IL 60174
PHONE: 630-377-2611 FAX: 919-516-8738

CAPTIVEAIR
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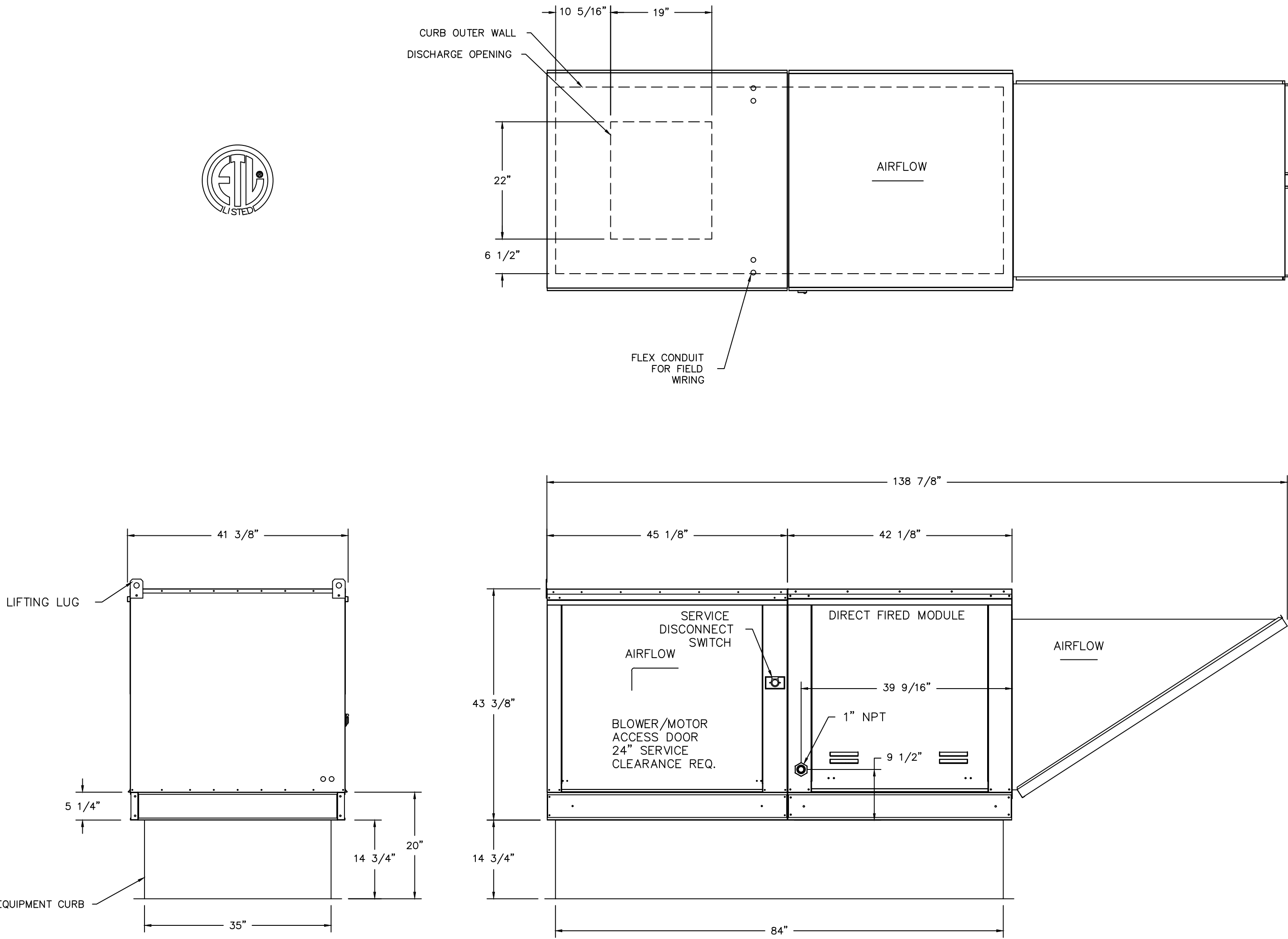
M3.2

FAN #5 A3-D-500-24D - HEATER (MUA-1)
1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 24" DIRECT DRIVE FAN AND 12" BURNER.
2. INTAKE HOOD WITH EZ FILTERS
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT
4. COOLING INTERLOCK RELAY. 24VAC COIL. 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
5. MOTORIZED BACK DRAFT DAMPER 30" X 30" FOR SIZE 3 STANDARD & MODULAR HEATER UNITS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, LOW LEAKAGE, NFBR-S ACTUATOR INCLUDED
6. LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
7. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE
8. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2.5" DIAMETER, 1/4" THREAD SIZE
9. 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.

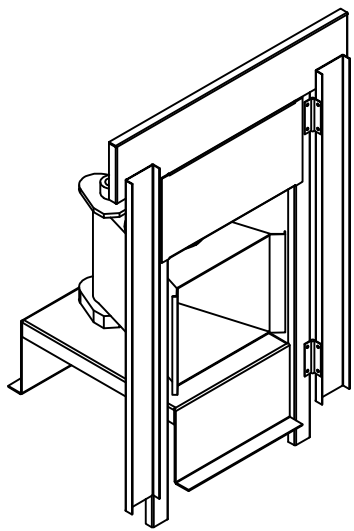
NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH EQUAL TO THREE TIMES THE SUPPLY DUCT EQUIVALENT DIAMETER MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE UNLESS OTHERWISE SPECIFIED. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY.

SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 21°. TEMP. RISE = 80°F.
BTUs CALCULATED OFF ACTUAL AIR DENSITY
OUTPUT BTUs AT ALTITUDE OF 0.0 ft. = 506176
INPUT BTUs AT ALTITUDE OF 0.0 ft. = 550192
OUTPUT BTUs AT ALTITUDE OF 673 ft. = 493987
INPUT BTUs AT ALTITUDE OF 673 ft. = 536942



ROOF OPENING 2" SMALLER THAN CURB DIMENSION.



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:

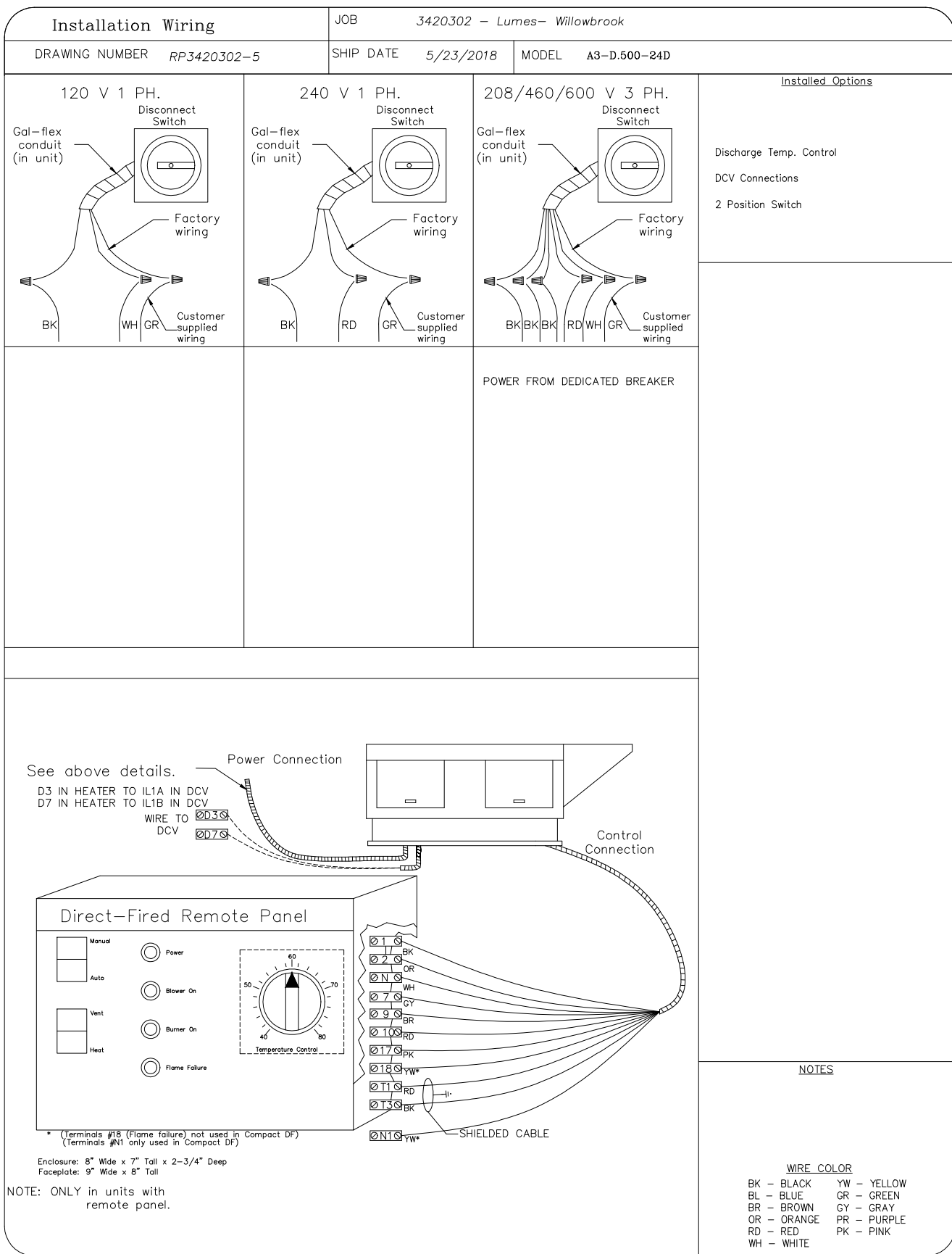
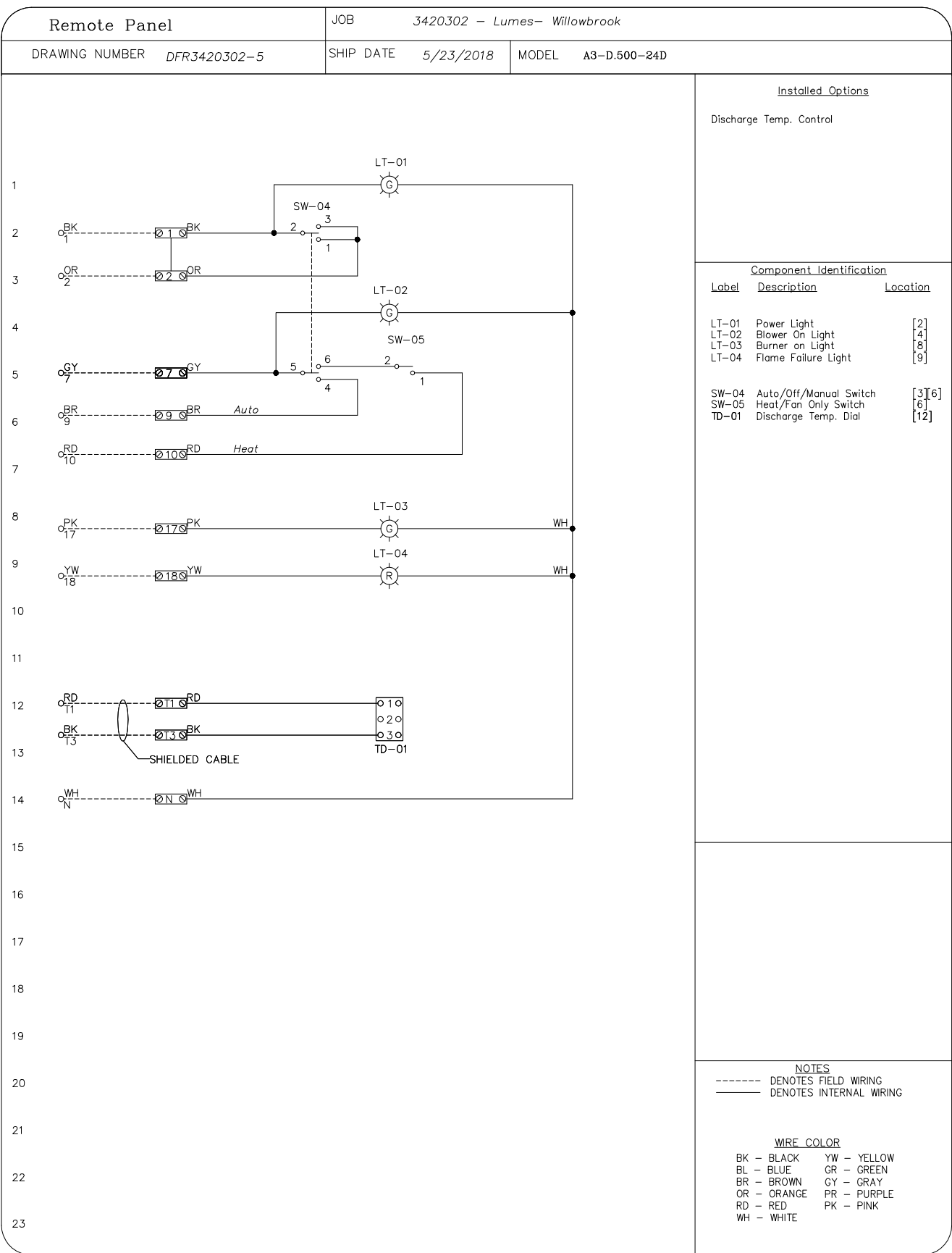
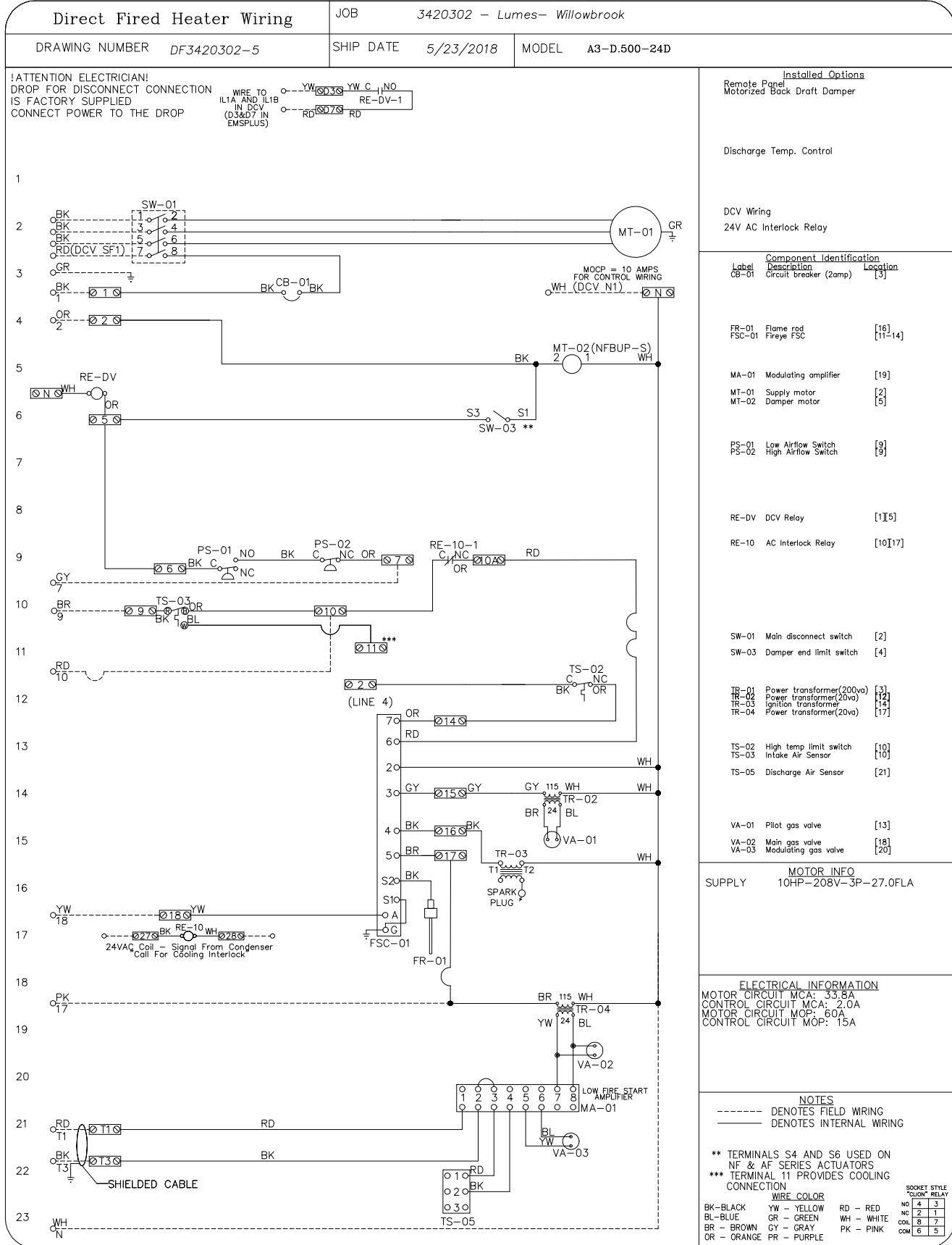
Spring-loaded burner profile plates are engineered to automatically react to the momentum of a fresh air stream, without the need for any motors or actuators to mechanically adjust them. With this feature, all DF units are designed for demand control ventilation (DCV) requirements.

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.



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PHONE: 630-377-2611 FAX: 919-516-8738



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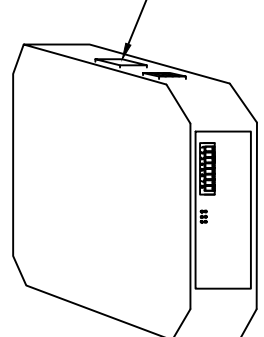
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M3.3

ELECTRICAL PACKAGE – Job#3420302

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		FAN TAG	TYPE	Φ	H.P.	VOLT FLA
1	ECP-1	DCV-3111	Wall Utility Cabinet Left	01 – Face Mount Left Side of Hood	1 Light	Smart Controls DCV	EF-1	Exhaust	3	1,500	208 4.4
				Hood # 1	1 Fan		EF-2	Exhaust	3	1,000	208 3.8
2		Heater Remote		18 – Face of ECP			EF-3	Exhaust	3	2,000	208 6.1
3	ECP-2	Switches		01 – Face Mount Left Side of Hood	1 Light		MUA-1	Supply	3	10,000	208 27.0
				Hood # 2	1 Fan						

Field Connection to Router or Ethernet Switch
OR Factory Wired Connection to Cellular Kit

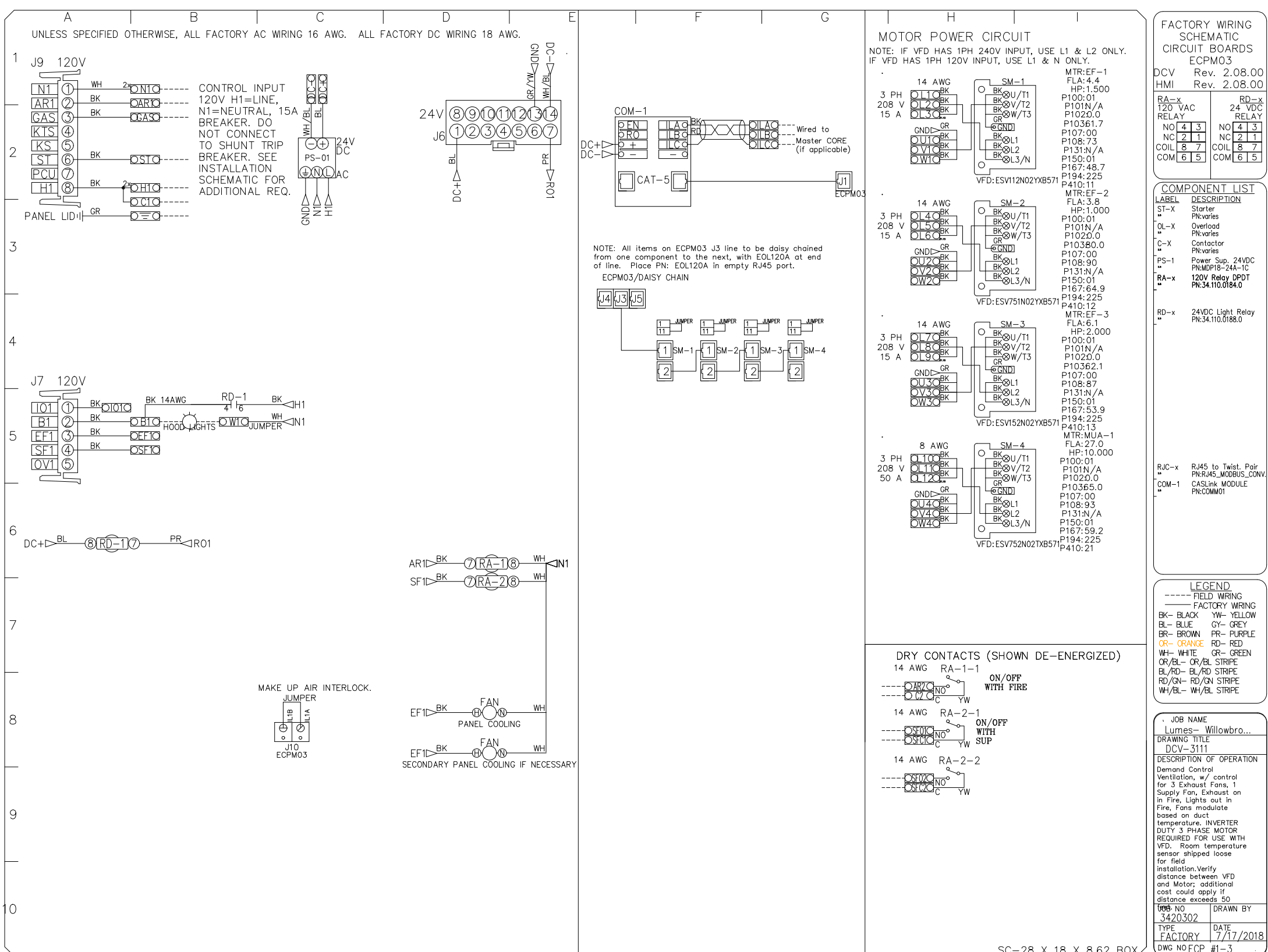
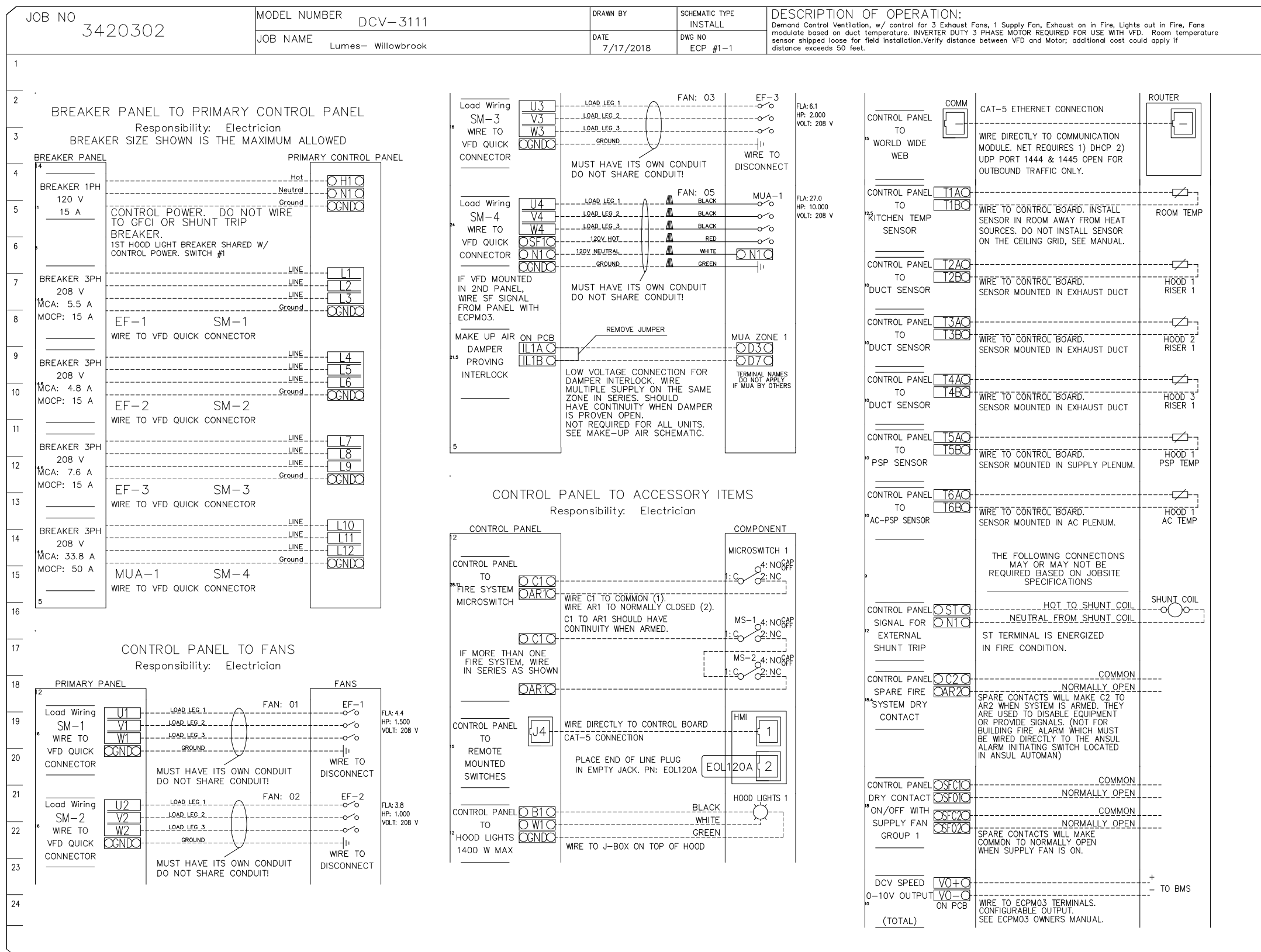


CASlink Monitor and Control

- 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 remote changes to system setting such as: VFD Frequencies, ECM speeds, temperature set points, fan and wash schedules, etc.

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	Controller Faults	MONITOR
Fan Amperage	MONITOR	Fan Faults	MONITOR
Fan Power	MONITOR	Fan Status	MONITOR
VFD Faults	MONITOR	POU Filter Clog Percentages	MONITOR
Fan Faults	MONITOR	Fire Condition	MONITOR
Fan Status	MONITOR	CORE Fire System	MONITOR
POU Faults	MONITOR	Building Pressures	MONITOR
POU Filter Clog Percentages	MONITOR & CONTROL	Uplight Button(s)	MONITOR & CONTROL
Fire Condition	MONITOR	Wash Button	MONITOR & CONTROL
CORE Fire System	MONITOR		
Building Pressures	MONITOR		
Prep Time Button	MONITOR & CONTROL		
Fans Button	MONITOR & CONTROL		
Uplight Button	MONITOR & CONTROL		
Wash Button	MONITOR & CONTROL		



Demand Control Ventilation Hood Control Panel Specifications:

- Controls shall be listed by ETL (UL 508A) and shall comply with demand ventilation system turn-down requirements outlined in IECC 403.2.8 (2015).

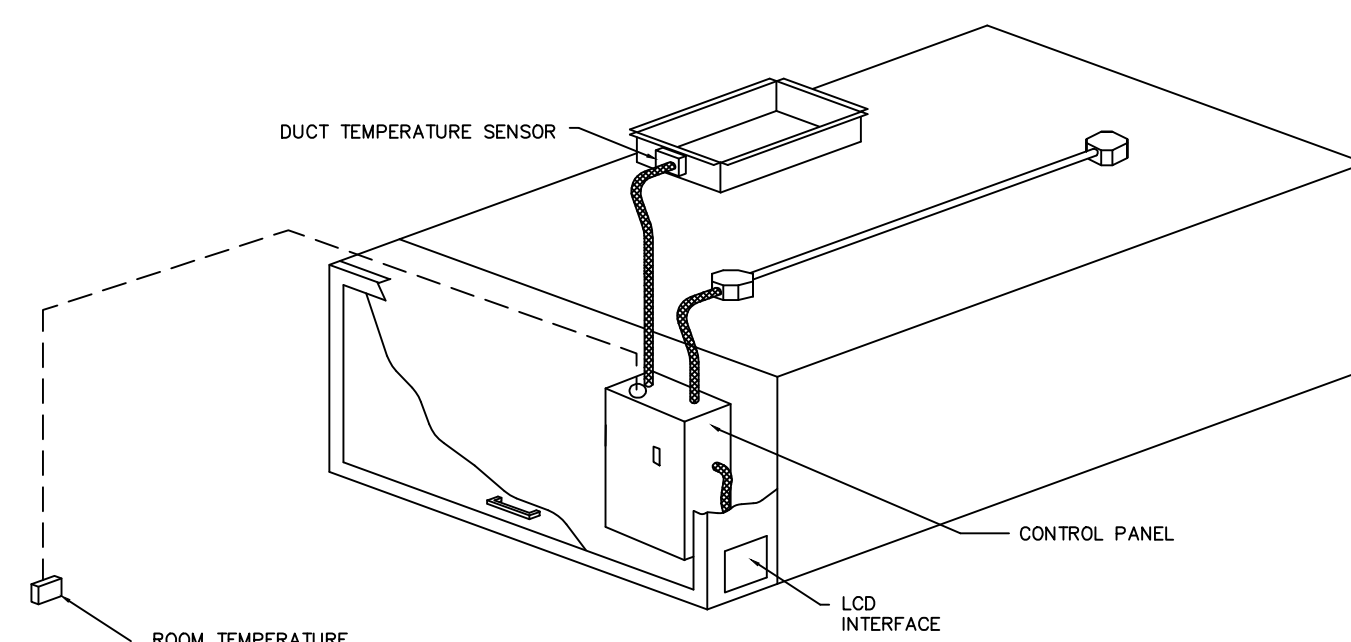
- The control enclosure shall be NEMA 1 rated and listed for installation inside of the exhaust hood utility cabinet. The control enclosure may be constructed of stainless steel or painted steel.
- Temperature probe(s) located in the exhaust duct rise(s) shall be constructed of stainless steel.
- A digital 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 5.7.1.1.
- 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

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.



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 403.2.8.
- **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)

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Chicago Foodservice Division
www.captiveaire.com

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DWG.#:

3420302

DRAWN BY:

WEM

DATE:

17/17/2018

FACTORY:

17/17/2018

REV: ECP #1-3

SHEET NO:

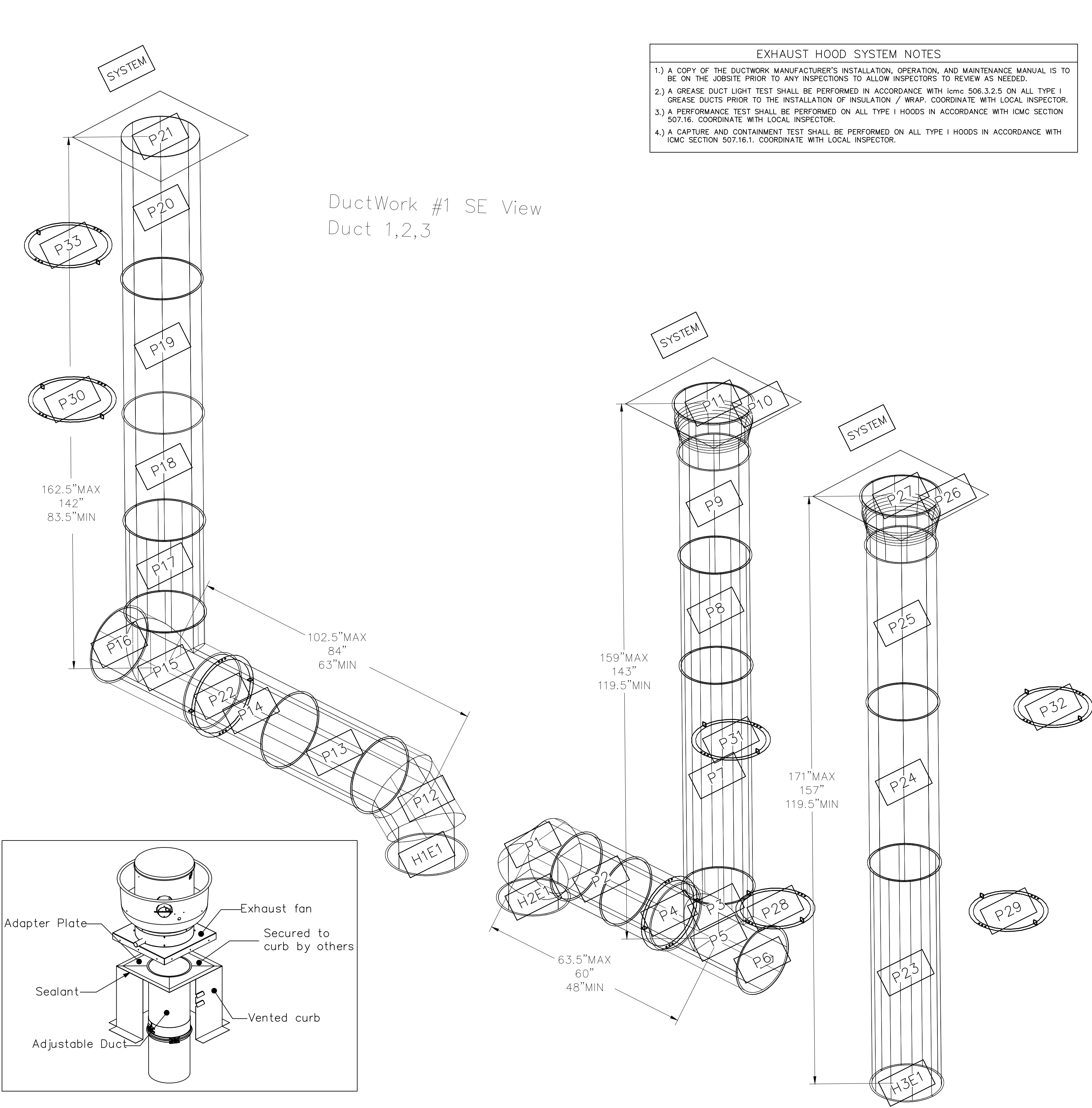
M3.4

DuctWork #1 Parts – Job#3420302 Duct 1,2,3						
Tag	Part #	CFM	S.P.	Weight	Velocity	QTY
P1	DW1690ASY	2250	–0.1365	13.60	1611.44	1
P2	DW1616LT	2250	–0.0055	9.46	1611.44	1
P3	DW1624AJDKIT	2250	–0.0055	16.29	1611.44	1
P4	DW16SUBRASY			14.82		1
P5 Assembled w/P6	DW16TEASY	2250	–0.156	15.55	1611.44	1
P6 Assembled w/P5	DW1617ADIASY			19.33		1
P7	DW1659LT	2250	–0.0198	42.44	1611.44	1
P8	DW16295LT	2250	–0.0099	25.94	1611.44	1
P9	DW1648AJDKIT	2250	–0.0093	37.27	1611.44	1
P10 Assembled w/P11	DW1618ADP	2250	–0.006	12.00	1611.44	1
P11 Assembled w/P10	DW2618TP	2250	0	10.58	1273.24	1
System at P11		2250	–1.085			
P12	DW1890ASY	2750	–0.1313	16.50	1556.18	1
P13	DW1829LT	2750	–0.0059	18.23	1556.18	1
P14	DW1848AJDKIT	2750	–0.0051	41.89	1556.18	1
P15 Assembled w/P16	DW18TEASY	2750	–0.12	18.53	1556.18	1
P16 Assembled w/P15	DW1819ADIASY			22.96		1
P17	DW18245LT	2750	–0.0051	14.71	1556.18	1
P18	DW1848AJDKIT	2750	–0.0059	41.89	1556.18	1
P19	DW1836LT	2750	–0.0078	20.84	1556.18	1
P20 Assembled w/P21	DW1848AJDKIT	2750	–0.0082	41.89	1556.18	1
P21 Assembled w/P20	DW2618TP	2750	0	10.58	1556.18	1
System at P21		2750	–1.1533			
P22	DW18SUBRASY			18.06		1
P23	DW1659LT	2500	–0.0246	42.44	1790.49	1
P24	DW164350LT	2500	–0.0179	25.94	1790.49	1
P25	DW1660AJDKIT	2500	–0.0175	34.00	1790.49	1
P26 Assembled w/P27	DW1618ADP	2500	–0.007	12.00	1790.49	1
P27 Assembled w/P26	DW2618TP	2500	0	10.58	1414.71	1
System at P27		2500	–0.976			
P28	DW16SUBRASY			14.82		1
P29	DW16SUBRASY			14.82		1
P30	DW18SUBRASY			18.06		1
P31	DW16SUBRASY			14.82		1
P32	DW16SUBRASY			14.82		1
P33	DW18SUBRASY			18.06		1
	3M–2000PLUS			0.80		7
	834680600587XL			52.00		17
	BANDING 5			5.00		5
	DW16CLASY			1.50		13
	DW18CLASY			1.60		9
	SEAL 50–50			0.50		6
	TAPEALUM			0.25		4
Total Weight				1656.22		

FACTORY BUILT GREASE DUCT SPECIFICATION	
Furnish single-wall, factory built, grease duct for use with Type I kitchen hoods, which conforms to the requirements of NFPA-96. Products shall be ETL listed to UL-1978 for venting air and grease vapors from commercial cooking operations as described in NFPA-96. The duct wall shall be constructed of .036 thick type 430 stainless steel and be available in diameters 8" through 24". All supports, fan adapters, hood connections, fittings and expansion joints required to install grease duct shall be included. Roof penetrations shall comply with listed clearance to combustibles, see <i>"Clearance to Combustibles"</i> guide for details. The grease duct will terminate at the fan adapter plate, will be fully welded to the fan adapter plate and the fan adapter plate will be fastened to the curb using a suitably sized fastener provided by others; see page 12 of the <i>"Installation, Operation and Maintenance Manual"</i> for details. Grease duct joints shall be held together by means of formed vee clamps and sealed with 3M Fire Barrier 2000+. Screws used to secure the vee clamps shall be of the hex-head type with flanged stops and tapered "lead in" threads for easy starting. Nuts shall be retained by means of a free-floating cage to allow easy alignment. Single-Wall Grease Duct shall be installed in accordance with the manufacturer's <i>"Installation, Operation and Maintenance Manual"</i> , ETL listing and state and local codes. Grease duct installed outside of the building shall be protected against accidental damage or vandalism. Support vertically installed grease duct from the building structure using rigid structural supports. Anchor supports to the structure by welding or bolting steel expansion anchors or concrete inserts. Support horizontally installed grease duct from the building structure using above method or use <i>Duct Mate, Wire Rope & Clutchers</i> , part numbers WR20 & CL20. 1/2" Threaded rod and saddles may also be used for the support of horizontal grease duct. Fans shall be supported independently from the grease duct sections. Protect grease duct from twisting or movement caused by fan torque or vibration.	

ADJUSTABLE DUCT OVERLAP – MINIMUM		HORIZONTAL SUPPORT SPACING – FEET		VERTICAL SUPPORT MAXIMUM SPACING (FT)	
DIAMETER	OVERLAP	DIAMETER	SPACING – FEET	DUCT DIAMETER	MAXIMUM SPACING (FT)
8"	4"	8"	10'	8"	10'
10"	5"	10"	10'	10"	10'
12"	6"	12"	10'	12"	10'
14"	6"	14"	10'	14"	10'
16"	6"	16"	10'	16"	10'
18"	6"	18"	10'	18"	10'
20"	6"	20"	10'	20"	10'
24"	6"	24"	10'	24"	10'

CLEARANCE TO COMBUSTIBLES			
DIAMETER	COMBUSTIBLES	LIMITED COMBUSTIBLES	NON COMBUSTIBLES
8"	18"	3"	0"
10"	18"	3"	0"
12"	18"	3"	0"
14"	18"	3"	0"
16"	18"	3"	0"
18"	18"	3"	0"
20"	18"	3"	0"
24"	18"	3"	0"



FIRE WRAP SPECIFICATIONS	
Thermal Ceramics' new Pyroscat® Duct Wrap XL is the thinnest and lightest flexible wrap material available that passes the ASTM E 2336 test standard required by the 2006 IMC and NFPA 96 for reduced clearance enclosure materials used to provide 1 or 2 hour fire rating for kitchen exhaust ducts. Duct Wrap XL is also UL Classified and Labeled per ISO 6944 as an alternative to a 1 or 2 hour rated enclosure for air ventilation ducts. The Duct Wrap XL core blanket is manufactured using Thermal Ceramics patented Superwool® fiber, a 2000°F rated, non-combustible, alkaline-earth silicate wool with low biopersistence. Duct Wrap XL is the product of extensive research and development resulting in break-through improvements in fiberization technology with significant enhancements in thermal properties beneficial to fire protection applications. Duct Wrap XL when used in combination with an approved firestop sealant provides an effective through penetration firestop in rated floor and wall assemblies. Duct Wrap XL is UL Classified and is part of UL's Listing and Follow-Up Service Program to ensure the consistent quality essential to the critical nature of this life-safety application.	

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Chicago Foodservice Division

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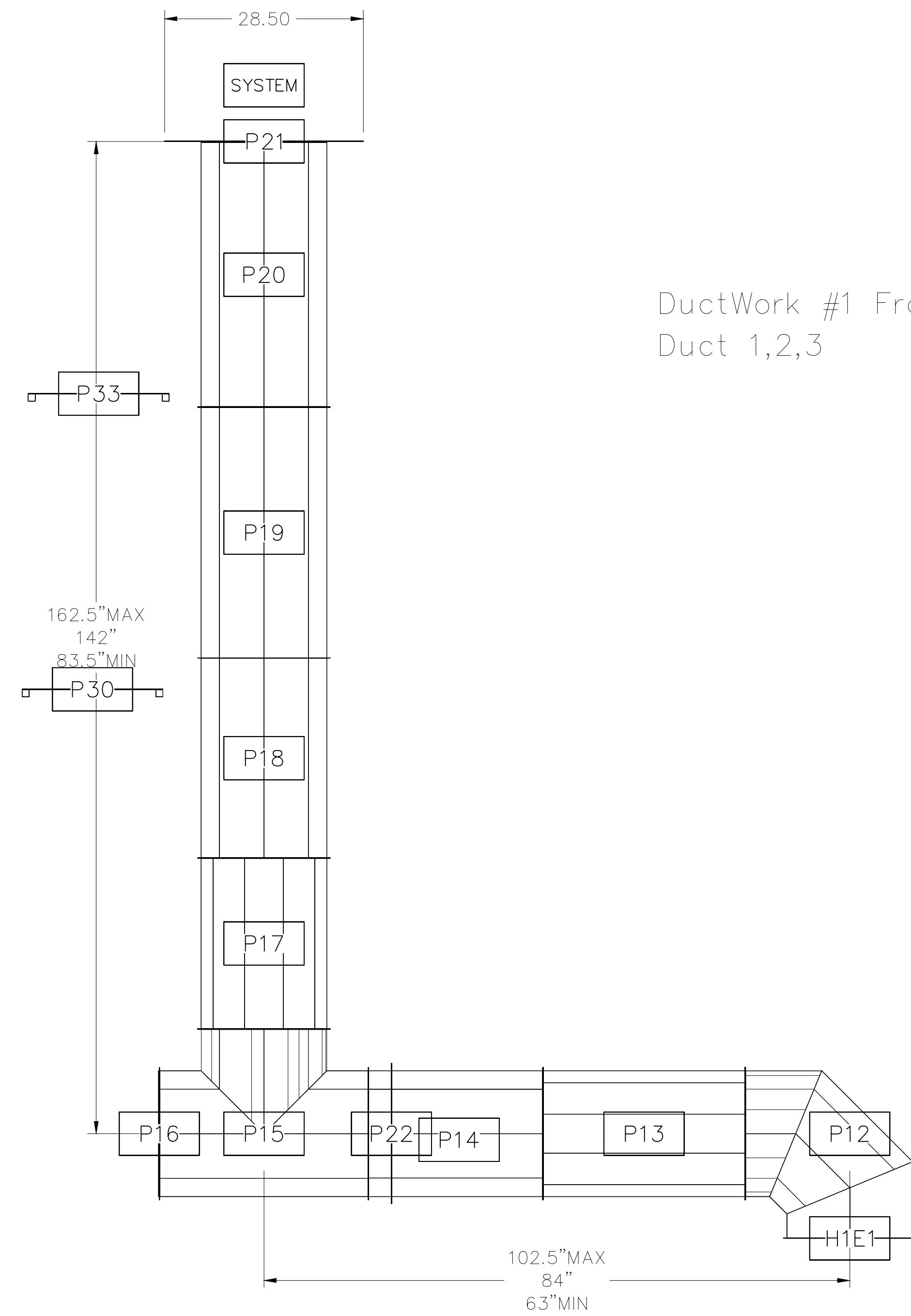
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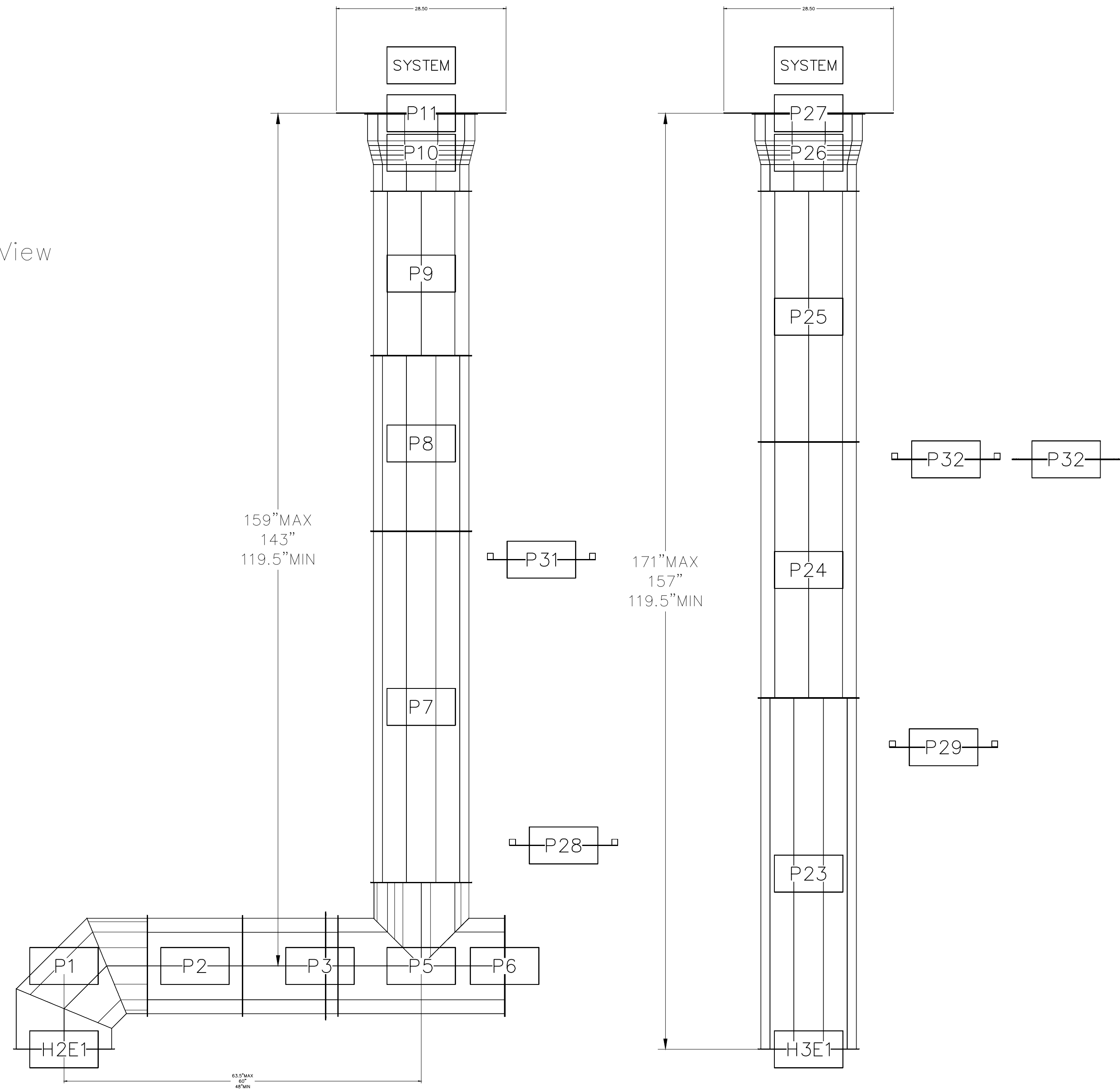


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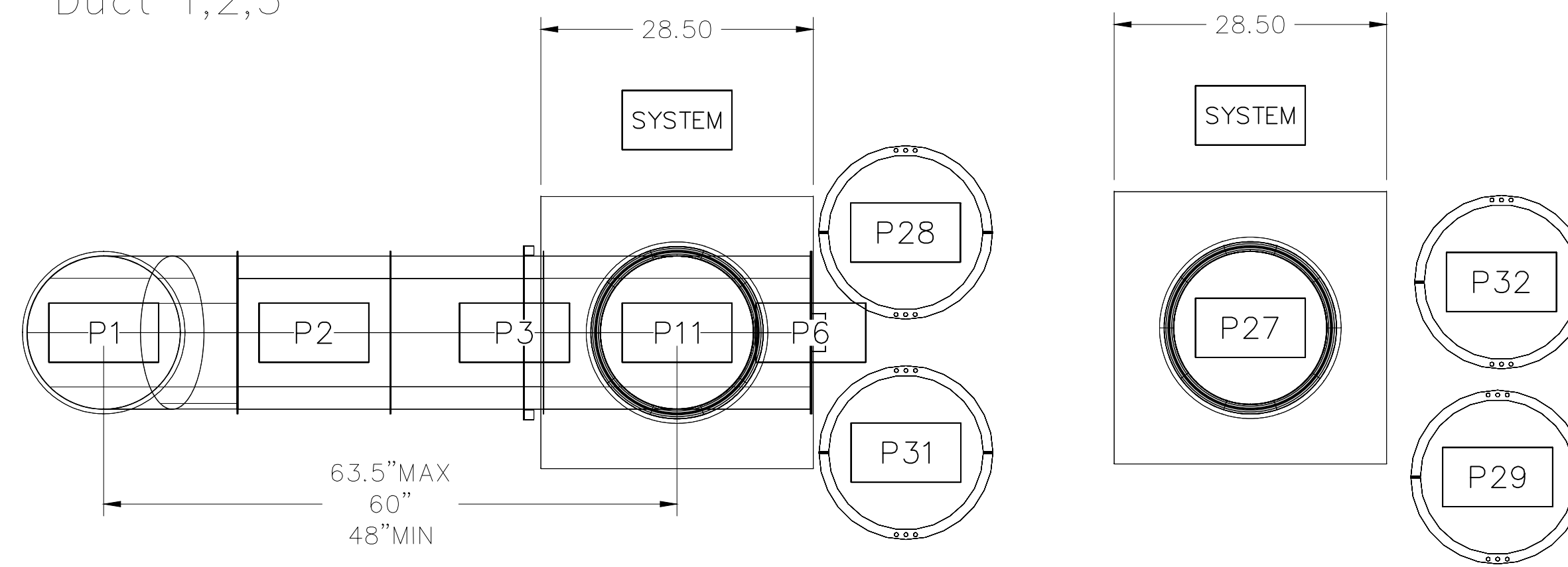
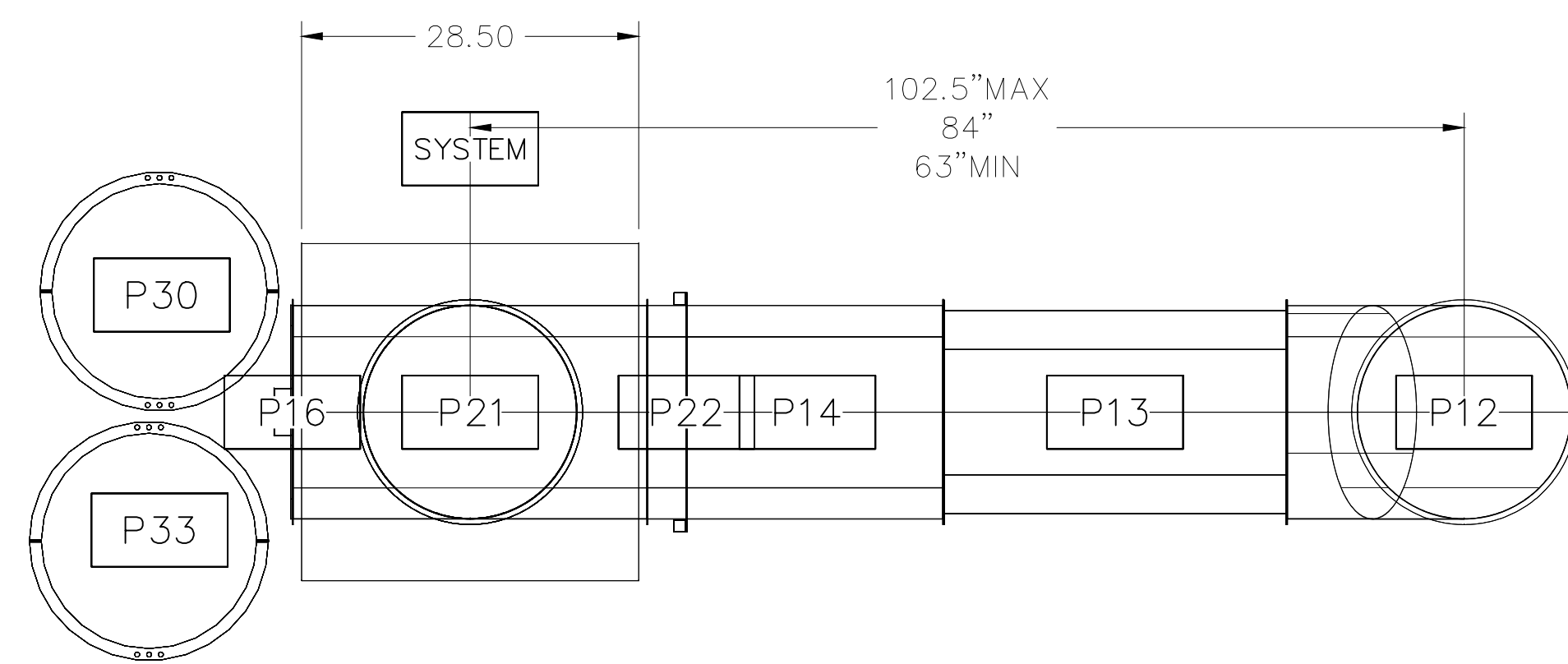
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DuctWork #1 Front View
Duct 1,2,3



DuctWork #1 Top View
Duct 1,2,3



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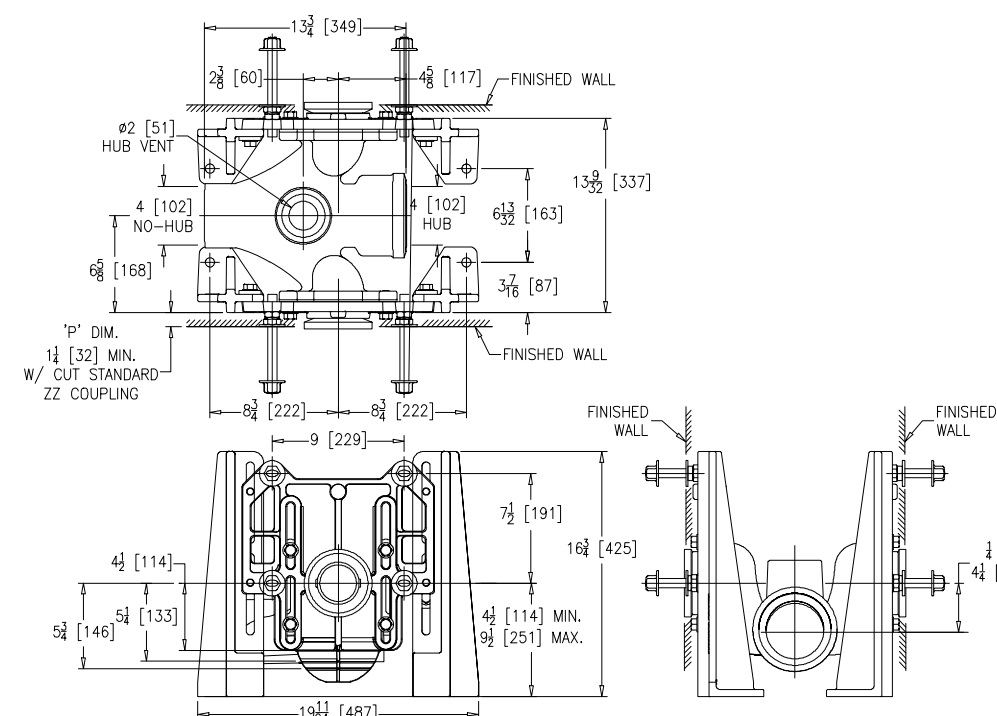
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2 TOILET CARRIER DETAIL
NO SCALE

(FOR BACK TO BACK SITUATIONS)

ZURN ZN1201-HD4
EZCARRY®Narrow Wall horizontal siphon jet water closet carrier system, with high performance Dura-Coated cast iron main fitting with hydro-mechanically optimized sweep, 4" (102 mm) hub & spigot connections, and extended 2" (51 mm) vent. Corrosion resistant, adjustable 3" (76 mm) dia. X 6" (152 mm) couplings with integral test caps, designed to increase flow velocity and line carry, and labor saving "two-shaft" coned gaskets optimize flow performance while reducing installation steps. Complete system includes adjustable, gasketed facelates; floor mounted foot supports; future bolts, trim, and stud protectors. EZCARRY® narrow wall system complies with all applicable requirements of ASME A112.6.1M up to a 500 lbs (227 kg) maximum static load.



ZN1201-HD4
NARROW WALL BACK-TO-BACK WITH 13-9/32 (337) FRONT TO BACK
EZCARRY®ADJUSTABLE HORIZONTAL HIGH PERFORMANCE
SIPHON JET HUB AND SPOUT WATER CLOSET CARRIER SYSTEM

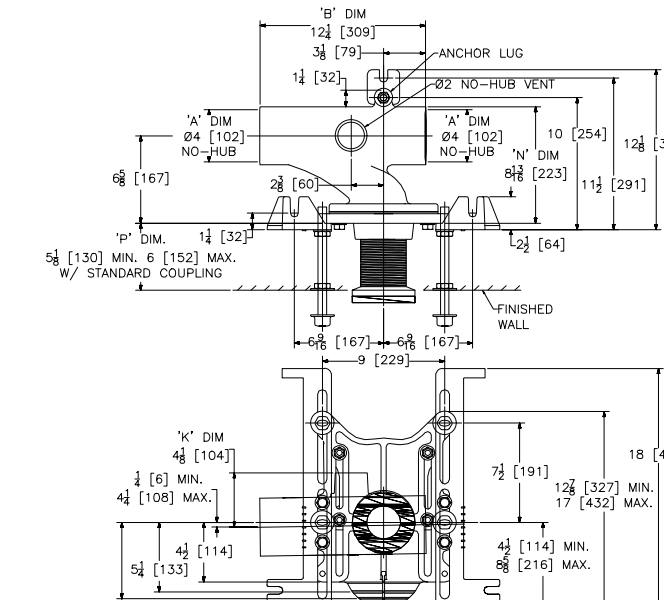
Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice

(FOR SINGLE TOILET SITUATION)

ENGINEERING SPECIFICATION: ZURN Z1201-N_4
EZCARRY®horizontal siphon jet water closet carrier system with high performance watertway and 4" (102mm) no-hub connections. System includes Dura-Coated cast iron main fitting with hydro-mechanically optimized sweep and extended 2" (51mm) vent, adjustable gasketed facelate, floor mounted pre-lab slotted foot supports with top anchoring pre-lab support base, heavy-duty 1/2" (13mm) rear anchor tie down, future bolts, trim, stud protectors, bonded "two-shaft" gasket, and corrosion resistant, adjustable 3" (76mm) dia. X 6" (152mm) coupling with integral test cap designed to increase flow velocity and line carry. EZCARRY® system complies with the requirements of ASME A112.6.1M up to a 500 lbs (227 kg) static load rating.

Z1201-N_4
EZCARRY®ADJUSTABLE HORIZONTAL HIGH
PERFORMANCE SIPHON JET NO-HUB WATER
CLOSET CARRIER SYSTEM

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



Note:
1. 2 coupling, Min. 1" Dia. Obtainable 2 (51)
EZ-Set™ Coupling, Min. 1" Dia. Obtainable 4-1/4 (108) or 2-1/16 (52) for 12 (305) NPT.
2. Feet bolted to floor using min. 1/2 (13) dia. anchors.
3. Rear anchor foot required for secure installation.

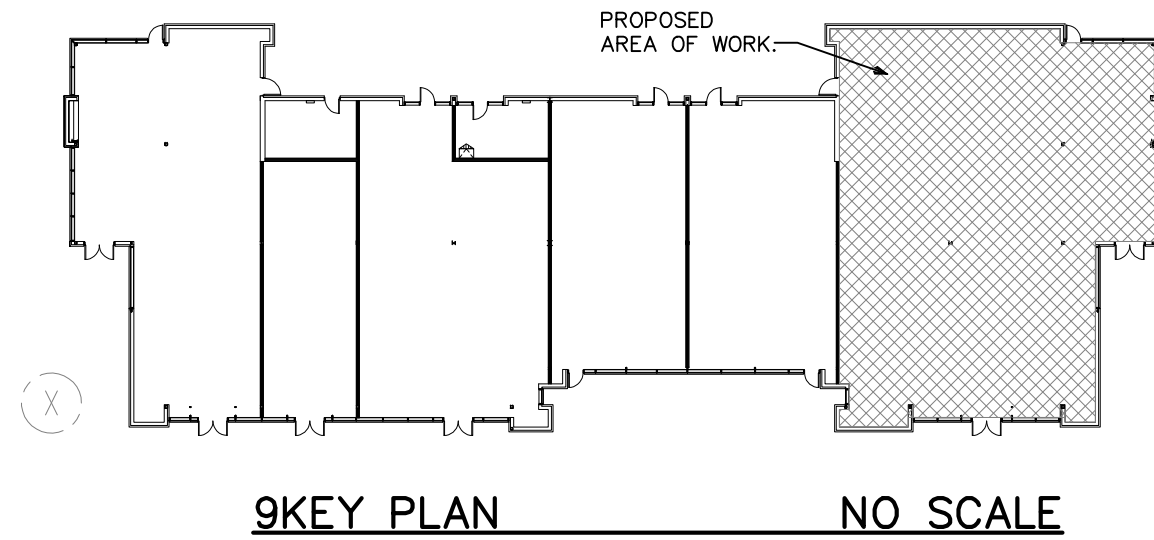
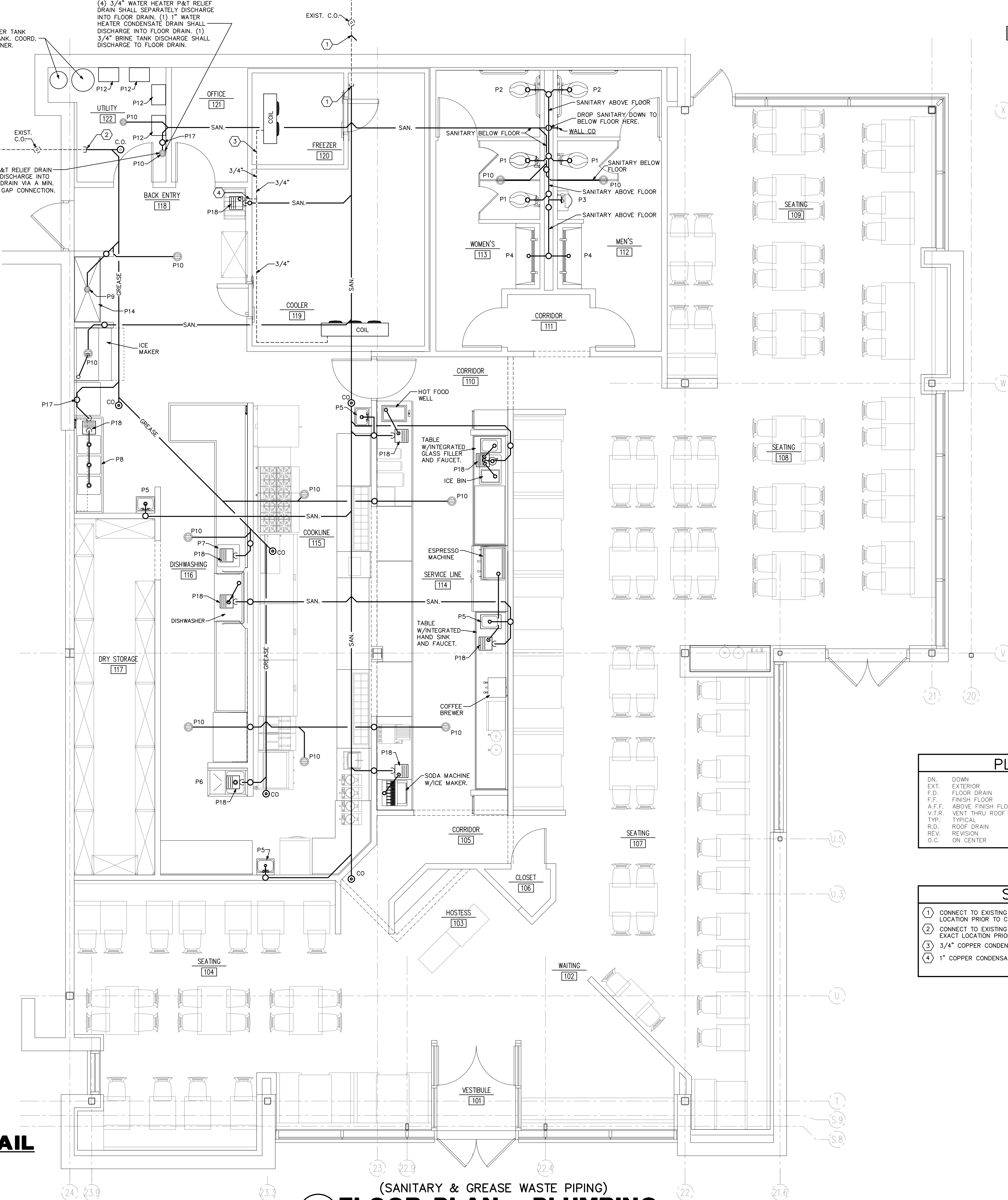
Z1201-NR4 Illustrated

WATER SOFTNER TANK AND BRINE TANK, COORD. REQ. WITH OWNER.

(4) 3/4" WATER HEATER P&T RELIEF DRAIN SHALL SEPARATELY DISCHARGE INTO FLOOR DRAIN. (1) 1" WATER HEATER CONDENSATE DRAIN SHALL DISCHARGE INTO FLOOR DRAIN. (1) 3/4" BRINE TANK DISCHARGE SHALL DISCHARGE TO FLOOR DRAIN.

EXIST. 4" GREASE WASTE PIPING CONTINUES TO EXISTING 1,500 GALLON GREASE TRAP TO REMAIN ON SITE.

3/4" P&T RELIEF DRAIN SHALL DISCHARGE INTO FLOOR DRAIN VIA A MIN. 2" AIR GAP CONNECTION.



PLUMBING
SYMBOLS LEGEND

	FLOOR DRAIN
	HOSE BIBB
	CLEANOUT
	RELIEF VALVE
	AIR CHAMBER
	UNION
	SOIL OR WASTE LINE
	SANITARY VENT LINE
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC WATER RECIRCULATION
	PRESSURE & TEMP. RELIEF LINE
	CONDENSATE DRAIN LINE
	RAIN WATER LEADER
	GAS LINE
	SEWERAGE LINE
	FIRE PROTECTION
	SHUT OFF VALVE
	SAFE PAN LINE
	FIRE SPRINKLER HEAD
	PIPE TURN UP
	PIPE TURN DOWN
	P-TRAP

PLUMBING ABBREVIATION LEGEND

DN.	DOWN	C.C.	CENTER TO CENTER	F.U.	FIXTURE UNITS
EXT.	EXTERIOR	N.T.S.	NOT TO SCALE	H.B.	HOSE BIBBS
F.D.	FLOOR DRAIN	MFR.	MANUFACTURER	C.O.	CLEANOUT
F.F.	FINISH FLOOR	S.O.V.	SHUT OFF VALVE	E.W.H.	ELECTRIC WATER HEATER
A.F.F.	ABOVE FINISH FLOOR	W.C.	WATER CLOSET	J.W.S.K.	JANITOR SINK
V.T.R.	VENT THRU ROOF	LAV.	LAVATORY	P & T	PRESSURE & TEMPERATURE
TYP.	TYPICAL	SINK	SINK	RWL.	RAIN WATER LEADER
R.D.	ROOF DRAIN	D.W.	DISH WASHER		
REV.	REVISION	E.D.F.	ELECTRIC DRINKING FOUNTAIN		
O.C.	ON CENTER	UR.	URNAL		

SPECIFIC PLUMBING NOTES

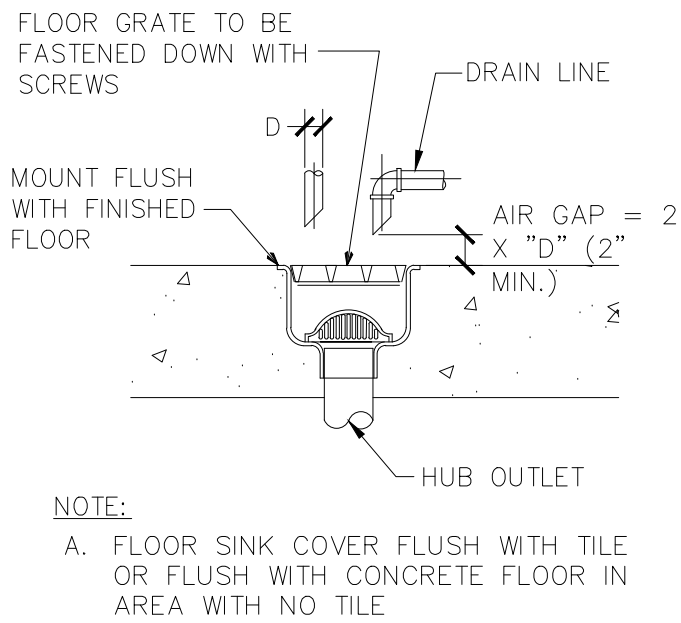
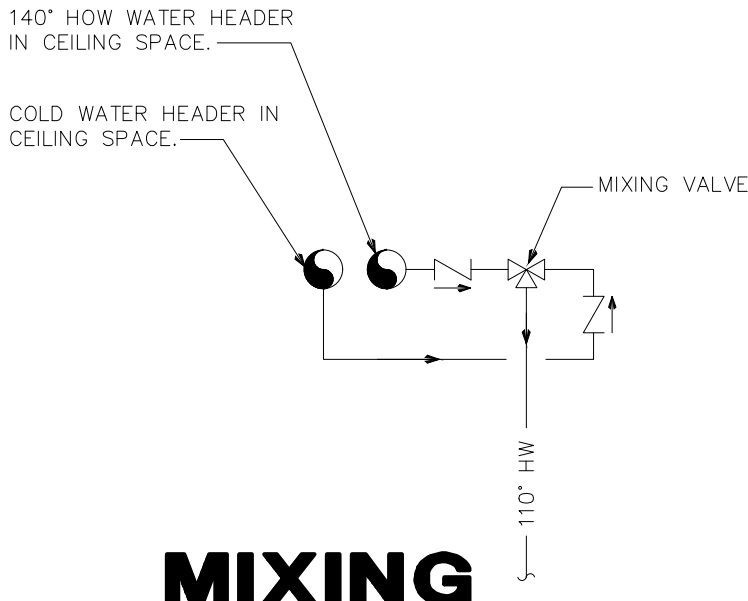
- CONNECT TO EXISTING SANITARY PIPING BELOW FLOOR IN THIS AREA. CONTRACTOR SHALL VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION.
- CONNECT TO EXISTING GREASE WASTE PIPING BELOW FLOOR IN THIS AREA. CONTRACTOR SHALL VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION.
- 3/4" COPPER CONDENSATE LINE. WRAP W/ HEAT TAPE & INSULATION.
- 1" COPPER CONDENSATE LINE TO FLOOR SINK. CONNECT TO FLOOR SINK VIA A MIN. 2" AIR GAP CONNECTION.

1 FLOOR PLAN - PLUMBING
SCALE: 1/4"=1'-0"

(SANITARY & GREASE WASTE PIPING)

SHEET NO:

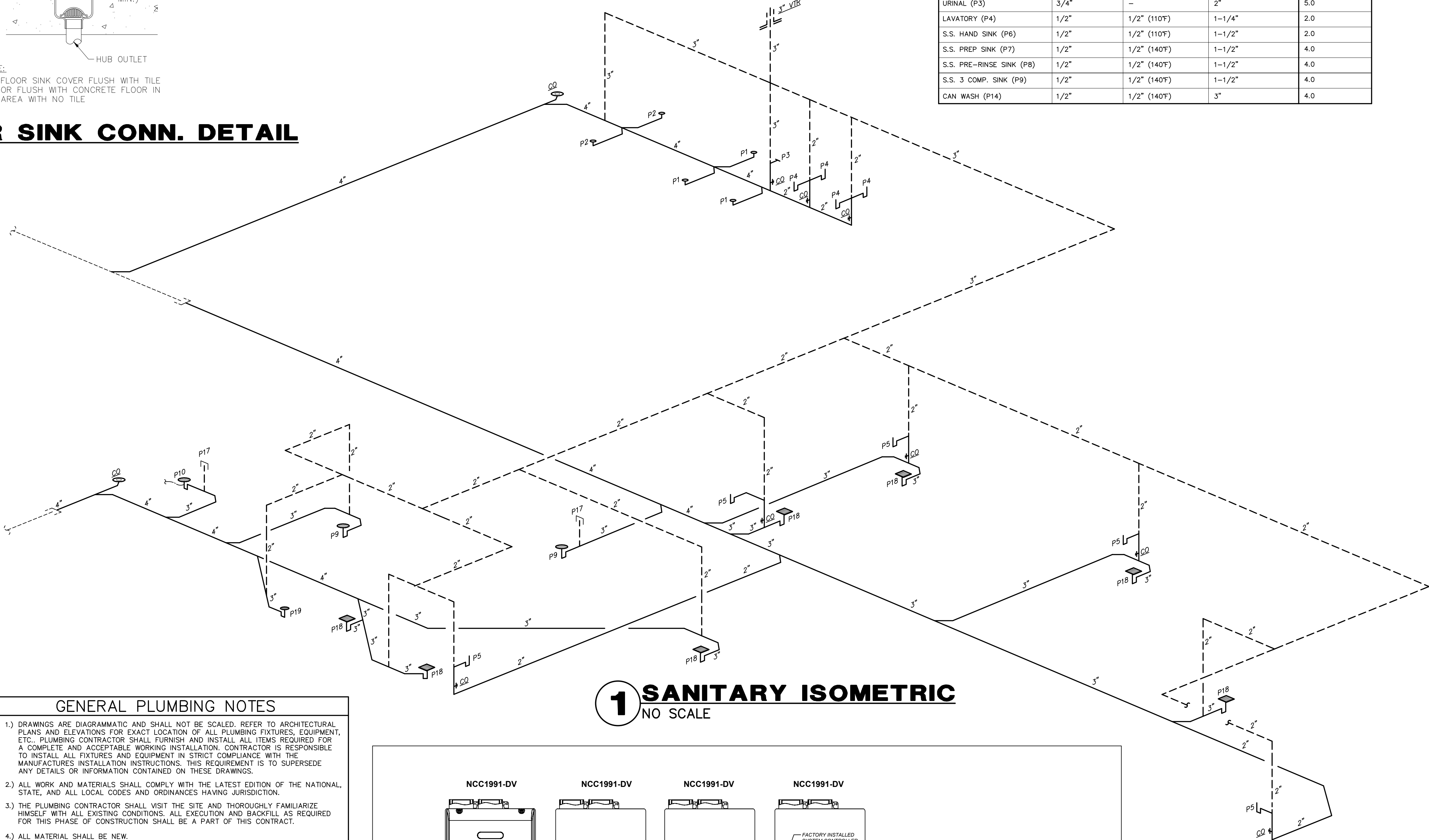
P1.0



NOTE:
A. FLOOR SINK COVER FLUSH WITH TILE
OR FLUSH WITH CONCRETE FLOOR IN
AREA WITH NO TILE

4 FLOOR SINK CONN. DETAIL

NO SCALE

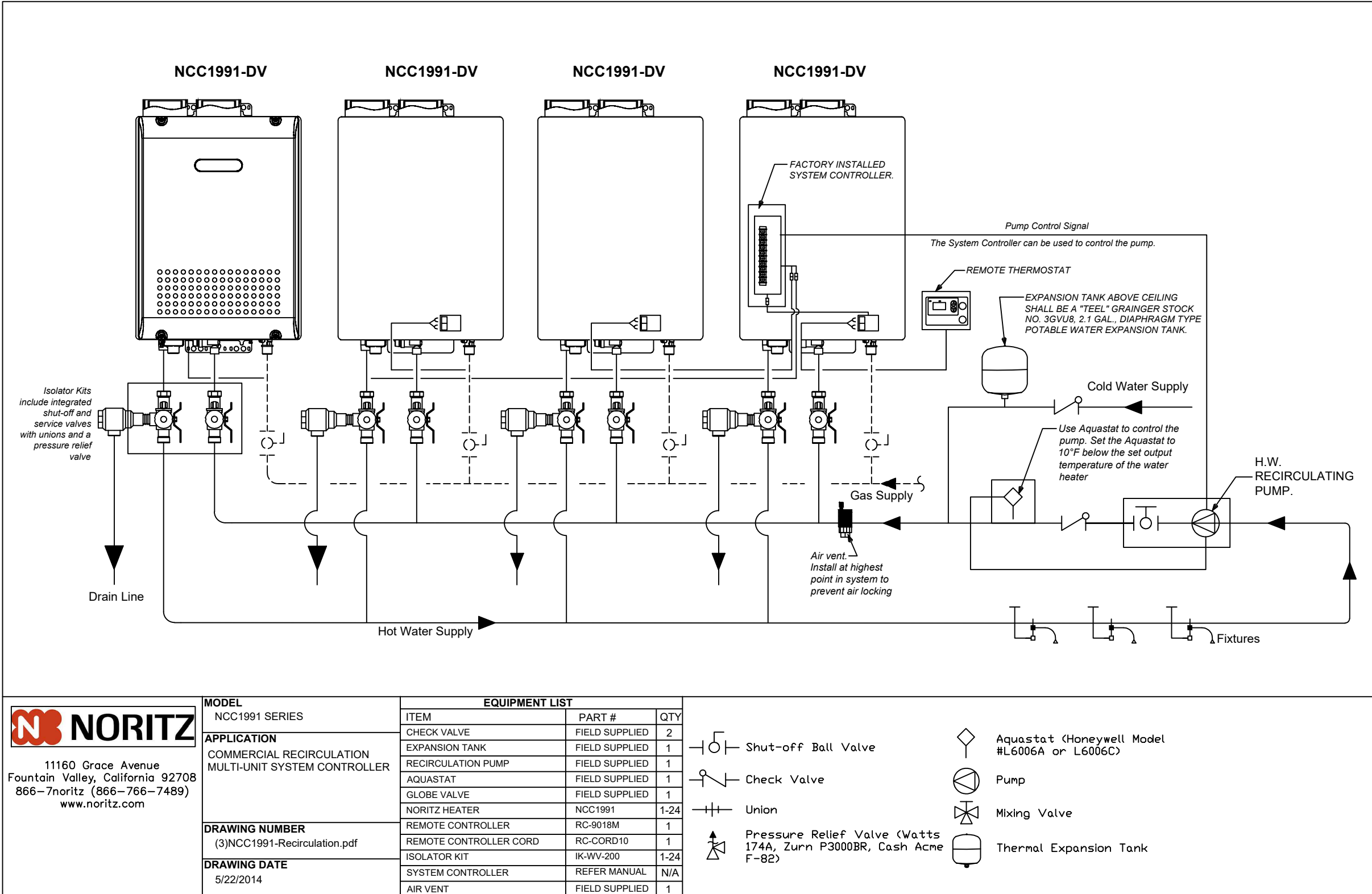


1 SANITARY ISOMETRIC

NO SCALE

GENERAL PLUMBING NOTES

- DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION OF ALL PLUMBING FIXTURES, EQUIPMENT, ETC. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS REQUIRED FOR A COMPLETE AND ACCEPTABLE WORKING INSTALLATION. CONTRACTOR IS RESPONSIBLE TO INSTALL ALL FIXTURES AND EQUIPMENT IN STRICT COMPLIANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. THIS REQUIREMENT IS TO SUPERSEDE ANY DETAILS OR INFORMATION CONTAINED ON THESE DRAWINGS.
- ALL WORK AND MATERIALS SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL, STATE, AND ALL LOCAL CODES AND ORDINANCES HAVING JURISDICTION.
- THE PLUMBING CONTRACTOR SHALL VISIT THE SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS. ALL EXECUTION AND BACKFILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
- ALL MATERIAL SHALL BE NEW.
- ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY ENGINEER/ARCHITECT.
- ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY OR PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- THE PLUMBING CONTRACTOR SHALL SECURE AND PAY ALL PERMIT FEES, INSPECTIONS, AND TESTS.
- ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
- THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN (1) ONE YEAR FROM DATE OF ACCEPTANCE. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
- VERIFY LOCATION, SIZE AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION. ADVISE ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- ALL FIXTURES SHALL BE PROVIDED WITH READILY ACCESSIBLE STOPS.
- ALL BELOW FLOOR SLAB WATER PIPING SHALL BE FLEXIBLE "TEMPRETE PEX (CROSS-LINKED POLYETHYLENE)" INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS FOUND HERE: WWW.LUBRIZOL.COM. ALL ABOVE SLAB WATER PIPING SHALL BE "FLOWGUARD GOLD CPVC" INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS FOUND HERE: WWW.FLOWGUARDGOLD.COM. ALL WATER PIPING AS SPECIFIED OR APPROVED EQUAL. ALL 2" WATER PIPING SHALL BE TYPE "L" COPPER AND TYPE "K" COPPER FOR 2 1/2" AND LARGER. (OR APPROVED EQUAL)
- SOIL, WASTES AND VENT PIPING SHALL BE PVC #40 DMV. WASTE AND VENT PIPING ABOVE SLAB SHALL BE PVC, IF APPROVED BY LOCAL AUTHORITIES HAVING JURISDICTION, OTHERWISE CAST IRON. PVC SHALL NOT BE INSTALLED IN A/C RETURN AIR PLENUM OR PENETRATE FIRE RATED WALLS OR FLOORS.
- FURNISH AND INSTALL APPROVED WATER HAMMER ARRESTORS AT EACH GROUP OF FIXTURES. INSTALLATION OF WATER HAMMER ARRESTORS SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE AND INSTALL AN APPROVED WATER HAMMER ARRESTOR AT EACH FIXTURE OR DEVICE THAT HAS A SOLENOID WATER CONTROL VALVE.
- PROVIDE CHROME PLATED COMBINATION COVERED PLATE AND CLEANOUT PLUG FOR ALL WALL CLEANOUTS, JOSAM 58890.
- INSULATE LINES AS FOLLOWS:
 - 1-1/2" THICK ARMAFLEX PREFORMED INSULATION SHALL BE PROVIDED ON BOTH C.W. & H.W. WHEN PIPING IS LOCATED OUTSIDE OF THE INSULATED BUILDING ENVELOPE.
 - 1-1/2" THICK ARMAFLEX PREFORMED INSULATION SHALL BE PROVIDED ON H.W. PIPING & H.W. REIRC. PIPING, ONLY WHEN THERE IS A H.W. RECIRCULATING PIPING SYSTEM.



MODEL	EQUIPMENT LIST				
	ITEM	PART #	QTY		
NCC1991 SERIES	CHECK VALVE	FIELD SUPPLIED	2	Shut-off Ball Valve	Aquastat (Honeywell Model #L6006A or L6006C)
	EXPANSION TANK	FIELD SUPPLIED	1		
	RE-CIRCULATION PUMP	FIELD SUPPLIED	1	Check Valve	Pump
	AQUASTAT	FIELD SUPPLIED	1		
	GLOBE VALVE	FIELD SUPPLIED	1	Union	Mixing Valve
	NORITZ HEATER	NCC1991	1-24		
	REMOTE CONTROLLER	RC-30189	1	Pressure Relief Valve (Watts 1744, Zurn P3000BR, Cash Acme F-80)	Thermal Expansion Tank
	REMOTE CONTROLLER CORD	RC-RC010	1		
	ISOLATOR KIT	IK-WV-200	1-24		
	SYSTEM CONTROLLER	REFER MANUAL	N/A		
	AIR VENT	FIELD SUPPLIED	1		
NORITZ					
11160 Grace Avenue Fountain Valley, California 92708 866-7noritz (866-766-7489) www.noritz.com					
DRAWING NUMBER: 01NCC1991-Recirculation.pdf					
DRAWING DATE: 5/22/2014					

2 TANKLESS WATER HEATER PIPING DIAGRAM

NO SCALE



PLUMBING FIXTURE SCHEDULE

- P-1 (WALL MOUNTED FLUSH VALVE WATER CLOSET)**
SHALL BE A "TOTO" MODEL CT708EVS FLUSH VALVE TOILET MOUNTED AT 15" HIGH, 1.28 GPF, WITH HIGH EFFICIENCY FLUSHMETER VALVE. FLUSH VALVE SHALL BE CONTROLLED BY A TET2LA32#SS ECOPOWERED FLUSH MOUNTED CONTROLLER. SEAT SHALL BE A MODEL SC534#01 ELONGATED OPEN FRONT SEAT WITHOUT COVER.
WATER CLOSET & VALVE: <https://goo.gl/ABwCDc>
- P-2 (HANDICAPPED WALL MOUNTED FLUSH VALVE WATER CLOSET)**
SHALL BE A "TOTO" MODEL CT708EVS FLUSH VALVE TOILET MOUNTED AT 17" HIGH, 1.28 GPF, WITH HIGH EFFICIENCY FLUSHMETER VALVE. FLUSH VALVE SHALL BE CONTROLLED BY A TET2LA32#SS ECOPOWERED FLUSH MOUNTED CONTROLLER. SEAT SHALL BE A MODEL SC534#01 ELONGATED OPEN FRONT SEAT WITHOUT COVER.
WATER CLOSET & VALVE: <https://goo.gl/ABwCDc>
- P-3 (HANDICAPPED URINAL AND FLUSH VALVE)**
SHALL BE A "TOTO" MODEL UT105UVG, 3/4" BACK MOUNTED SPUD, 0.125 GPF. PROVIDE HIGH EFFICIENCY FLUSHMETER VALVE CONTROLLED BY A TETLA32#SS ECOPOWERED FLUSH MOUNTED CONTROLLER.
URINAL & VALVE: <https://goo.gl/kG9Eax>
- P-4 (HANDICAPPED COUNTER TOP LAVATORY)**
SHALL BE AN "SLOAN" MODEL AER-DEC AD 8X000, 2-STATION WALL MOUNTED SINK. COORDINATE COLORS WITH ARCHITECT/OWNER. PROVIDE TWO DECK MOUNTED HAND DRYER MODEL EHD-510, SLOAN AUTOMATED SENSOR FAUCET EFX SERIES AND SLOAN SENSOR OPERATED FOAM SOAP DISOENSER ESD-400. SINK DESIGN IS ADA COMPLAINT. PROVIDE A DEDICATED MIXING VALVE TO PROVIDE A MAX. OF 105 DEGREE WATER.
LAVATORY: <https://www.sloan.com/SPEC-SHEET/15121162>
- P-5 (STAINLESS STEEL HAND SINK W/FAUCET)**
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO BID.
- P-6 (STAINLESS STEEL PREP SINK W/FAUCET)**
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO BID.
- P-7 (STAINLESS STEEL PRE-RINSE SINK W/FAUCET)**
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO BID.
- P-8 (STAINLESS STEEL 3 COMPARTMENT SINK W/FAUCET)**
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO BID.
- P-9 (FLOOR DRAIN)**
SHALL BE A JOSAM 30003-A SERIES COATED CAST IRON FLOOR DRAIN, 3" PIPE CONNECTION, 6" DRAIN TOP, STRAINER TYPE 6A, TWO-PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEILOC INVERTIBLE NON-PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET AND ADJUSTABLE SATIN NIKALLOY ROUND SUPER-FLO STRAINER.
DRAIN: <https://goo.gl/G05Ily>
- P-10 (FLOOR DRAIN WITH TRAP PRIMER)**
SHALL BE A JOSAM 30003-A-50 SERIES COATED CAST IRON FLOOR DRAIN WITH 1/2" TRAP PRIMER, 3" PIPE CONNECTION, 6" DRAIN TOP, STRAINER TYPE 6A, TWO-PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEILOC INVERTIBLE NON-PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET AND ADJUSTABLE SATIN NIKALLOY ROUND SUPER-FLO STRAINER.
DRAIN: <https://goo.gl/G05Ily>
- P-11 (AUTOMATIC TRAP PRIMER)**
SHALL BE A IPS CORPORATION "SIOUX CHIEF" MODEL 695 TRAP PRIMER WITH VACUUM BREAKER. AUTOMATIC TRAP PRIMER VALVE SHALL ACTIVATE WITH A 10 PSIG PRESSURE DROP BETWEEN 30-150 PSIG.
DRAIN: <https://goo.gl/WqkVxk>
- P-12 (TANKLESS GAS WATER HEATER)**
SHALL BE A "NORITZ" MODEL CC199CDV (GQ-C3259WZ-FF US), 199,900 BTUH, 4.4 GPM @ 90° RISE, WATER HEATER TO DELIVER 140° H.W., 115V/1ø.
WATER HEATER: <https://goo.gl/22KJg>
- P-13 (HOT WATER CIRCULATOR PUMP W/REMOTE TIMER)**
SHALL BE A "BELL & GOSSETT" SERIES PR, MODEL #PR-AB, (ALL BRONZE), 1/6HP, 115V/1ø, 1.9 AMP, 1725 RPM, 2 GPM @ 18" HEAD. PUMP SHALL BE PROVIDED WITH A "BELL & GOSSETT" TC-1 AUTOMATIC TIMER KIT.
RECIRCULATING PUMP: <https://goo.gl/r4JQ1S> TIMER: <https://goo.gl/MK4bwu>
- P-14 (FLOOR MOUNTED INTERIOR CANWASH/MOP RECEPTOR)**
CUSTOM BUILT MOP BASIN. COORDINATE FINAL CAN WASH BASIN CONSTRUCTION WITH ARCH/OWNER. PROVIDE MR-371 THREADED FAUCET WITH WALL BRACE, PAIL HOOK AND APPROVED VACUUM BREAKER, MR-370 HOSE & HOSE BRACKET, MR-372 MOP HANGER, MR-373 BUMPER GUARDS AND MR-377 STAINLESS TEE. WALL GUARD.
FAUCET/ACCESSORIES: <https://goo.gl/wcWM7>
- P-15 (1/2" MIXING VALVE)**
1/2" MIXING VALVE SHALL BE A "WATTS" MODEL LF1170-PEX-M2 SET AT 110°. Lead Free* cast copper silicon alloy body construction
MIXING VALVE: <https://goo.gl/Gt0Bb7>
- P-16 (3/4" MIXING VALVE)**
3/4" MIXING VALVE SHALL BE A "WATTS" MODEL LF1170-PEX-M2 SET AT 110°. Lead Free* cast copper silicon alloy body construction
MIXING VALVE: <https://goo.gl/Gt0Bb7>
- P-17 (2" STUDOR VENT - AIR ADMITTANCE VALVE)**
SHALL BE A IPS CORPORATION "STUDOR MINI-VENT", 2" VENT.
STUDOR VENT: <https://goo.gl/txH9PT>
- P-18 (FLOOR SINK W/SEDIMENT BUCKET)**
SHALL BE A JOSAM 49340A-3-31 SERIES SQUARE CAST IRON 8" DEEP SUPER-FLO-SEPTOR FLOOR SINK WITH PORC-COATED INTERIOR, DOUBLE DRAINAGE FLANGE WITH WEEPHOLES, BOTTOM OUTLET, ALUMINUM INTERNAL DOME STRAINER, AND CAST IRON, NON-TRAFFIC, PORC-COATED, ANTI-TILTING GRATE. WITH HALF GRATE AND ALUMINUM SEDIMENT BUCKET.
DRAIN: <https://goo.gl/TCUVCG>

- NOTES:
- ALL PLUMBING FIXTURES SHALL BE AS SPECIFIED OR APPROVED EQUAL.
 - PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.

SHEET NO:

P2.0A

[illegible]

No.	Name	Age	Sex	Religion	Marital Status	Occupation	Education
1	Abdullah	35	M	Islam	Married	Teacher	High School
2	Ali	42	M	Islam	Married	Farmer	Primary
3	Ahmed	28	M	Islam	Single	Student	University
4	Ahmed	55	M	Islam	Married	Retired	High School
5	Ahmed	60	M	Islam	Married	Farmer	Primary
6	Ahmed	30	M	Islam	Married	Teacher	High School
7	Ahmed	45	M	Islam	Married	Farmer	Primary
8	Ahmed	50	M	Islam	Married	Farmer	Primary
9	Ahmed	55	M	Islam	Married	Farmer	Primary
10	Ahmed	60	M	Islam	Married	Farmer	Primary
11	Ahmed	65	M	Islam	Married	Farmer	Primary
12	Ahmed	70	M	Islam	Married	Farmer	Primary
13	Ahmed	75	M	Islam	Married	Farmer	Primary
14	Ahmed	80	M	Islam	Married	Farmer	Primary
15	Ahmed	85	M	Islam	Married	Farmer	Primary
16	Ahmed	90	M	Islam	Married	Farmer	Primary
17	Ahmed	95	M	Islam	Married	Farmer	Primary
18	Ahmed	100	M	Islam	Married	Farmer	Primary
19	Ahmed	105	M	Islam	Married	Farmer	Primary
20	Ahmed	110	M	Islam	Married	Farmer	Primary
21	Ahmed	115	M	Islam	Married	Farmer	Primary
22	Ahmed	120	M	Islam	Married	Farmer	Primary
23	Ahmed	125	M	Islam	Married	Farmer	Primary
24	Ahmed	130	M	Islam	Married	Farmer	Primary
25	Ahmed	135	M	Islam	Married	Farmer	Primary
26	Ahmed	140	M	Islam	Married	Farmer	Primary
27	Ahmed	145	M	Islam	Married	Farmer	Primary
28	Ahmed	150	M	Islam	Married	Farmer	Primary
29	Ahmed	155	M	Islam	Married	Farmer	Primary
30	Ahmed	160	M	Islam	Married	Farmer	Primary
31	Ahmed	165	M	Islam	Married	Farmer	Primary
32	Ahmed	170	M	Islam	Married	Farmer	Primary
33	Ahmed	175	M	Islam	Married	Farmer	Primary
34	Ahmed	180	M	Islam	Married	Farmer	Primary
35	Ahmed	185	M	Islam	Married	Farmer	Primary
36	Ahmed	190	M	Islam	Married	Farmer	Primary
37	Ahmed	195	M	Islam	Married	Farmer	Primary
38	Ahmed	200	M	Islam	Married	Farmer	Primary
39	Ahmed	205	M	Islam	Married	Farmer	Primary
40	Ahmed	210	M	Islam	Married	Farmer	Primary
41	Ahmed	215	M	Islam	Married	Farmer	Primary
42	Ahmed	220	M	Islam	Married	Farmer	Primary
43	Ahmed	225	M	Islam	Married	Farmer	Primary
44	Ahmed	230	M	Islam	Married	Farmer	Primary
45	Ahmed	235	M	Islam	Married	Farmer	Primary
46	Ahmed	240	M	Islam	Married	Farmer	Primary
47	Ahmed	245	M	Islam	Married	Farmer	Primary
48	Ahmed	250	M	Islam	Married	Farmer	Primary
49	Ahmed	255	M	Islam	Married	Farmer	Primary
50	Ahmed	260	M	Islam	Married	Farmer	Primary
51	Ahmed	265	M	Islam	Married	Farmer	Primary
52	Ahmed	270	M	Islam	Married	Farmer	Primary
53	Ahmed	275	M	Islam	Married	Farmer	Primary
54	Ahmed	280	M	Islam	Married	Farmer	Primary
55	Ahmed	285	M	Islam	Married	Farmer	Primary
56	Ahmed	290	M	Islam	Married	Farmer	Primary
57	Ahmed	295	M	Islam	Married	Farmer	Primary
58	Ahmed	300	M	Islam	Married	Farmer	Primary
59	Ahmed	305	M	Islam	Married	Farmer	Primary
60	Ahmed	310	M	Islam	Married	Farmer	Primary
61	Ahmed	315	M	Islam	Married	Farmer	Primary
62	Ahmed	320	M	Islam	Married	Farmer	Primary
63	Ahmed	325	M	Islam	Married	Farmer	Primary
64	Ahmed	330	M	Islam	Married	Farmer	Primary
65	Ahmed	335	M	Islam	Married	Farmer	Primary
66	Ahmed	340	M	Islam	Married	Farmer	Primary

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SHEET NO:

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- 2.) ALL WORK AND MATERIALS SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL, STATE OF ILLINOIS, AND VILLAGE OF WILLOWBOURNE CODES AND ORDINANCES.
- 3.) THE PLUMBING CONTRACTOR SHALL VISIT THE SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS. ALL EXECUTION AND BACKFILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
- 4.) ALL MATERIAL SHALL BE NEW.
- 5.) ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY ENGINEER/ARCHITECT.
- 6.) ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY OR PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- 7.) THE PLUMBING CONTRACTOR SHALL SECURE AND PAY ALL PERMIT FEES, INSPECTIONS, AND TESTS.
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- 9.) THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN (1) ONE YEAR FROM DATE OF ACCEPTANCE. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
- 10.) VERIFY LOCATION, SIZE AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION. ADVISE ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- 11.) ALL FIXTURES SHALL BE PROVIDED WITH READILY ACCESSIBLE STOPS.
- 12.) ALL BELOW FLOOR SLAB WATER PIPING SHALL BE COPPER TYPE "K", INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS. ALL ABOVE SLAB WATER PIPING SHALL BE AS SPECIFIED OR APPROVED EQUAL. ALL 2" WATER PIPING SHALL BE TYPE "L" COPPER AND TYPE "K" COPPER FOR 2 1/2" AND LARGER, (OR APPROVED EQUAL)
- 13.) SOIL, WASTES AND VENT PIPING SHALL BE PVC #40 DWV. WASTE AND VENT PIPING ON CEILING SHALL BE PVC, IF APPROVED BY LOCAL AUTHORITIES HAVING JURISDICTION OVER SPECIFIED OR APPROVED EQUAL. PVC SHALL NOT BE INSTALLED IN A/C RETURN AIR PLENUM OR PENETRATE FIRE RATED WALLS OR FLOORS.
- 14.) FURNISH AND INSTALL APPROVED WATER HAMMER ARRESTORS AT EACH GROUP OF FIXTURES. INSTALLATION OF WATER HAMMER ARRESTORS SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE AND INSTALL AN APPROVED WATER HAMMER ARRESTOR AT EACH FIXTURE OR DEVICE THAT HAS A SOLENOID WATER CONTROL VALVE.
- 15.) PROVIDE CHROME PLATED COMBINATION COVERED PLATE AND CLEANOUT PLUG FOR ALL WALL CLEANOUTS. JOSAM 58890.
- 16.) INSULATE LINES AS FOLLOWS:
 - a.) 1-1/2" THICK ARMAFLEX PREFORMED INSULATION SHALL BE PROVIDED ON BOTH C.W. & H.W. WHEN PIPING IS LOCATED OUTSIDE OF THE INSULATED BUILDING ENVELOPE.
 - b.) 1-1/2" THICK ARMAFLEX PREFORMED INSULATION SHALL BE PROVIDED ON HW. PIPING & H.W. RECIRC. PIPING, ONLY WHEN THERE IS A H.W. RECIRCULATING PIPING SYSTEM.
- 17.) A STACK TEST IS REQUIRED ON ALL ROUGH AND UNDERGROUND PLUMBING. COORDINATE WITH LOCAL INSPECTOR.
- 18.) 25 LB AIR TEST REQUIRED ON GAS PIPING AT TIME OF ROUGH INSPECTION. COORDINATE WITH LOCAL INSPECTOR.
- 19.) 75 LB AIR TEST OR WATER PRESSURE REQUIRED ON WATER PIPING AT TIME OF ROUGH INSPECTION. COORDINATE WITH LOCAL INSPECTOR.
- 20.) WATER PIPING FOR SODA TOWERS AND ALL OTHER KITCHEN EQUIPMENT SUPPLIED WITH DOMESTIC WATER TO BE INSTALLED BY A LICENSED PLUMBER AND ALL MATERIALS TO COMPLY WITH THE APPENDIX A TABLES OF THE ILLINOIS PLUMBING CODE.
- 21.) ALL NEW PLUMBING FIXTURES MUST BEAR THE WATER SENSE LABEL. DO NOT REMOVE THE WATER SENSE LABEL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL INSPECTION AND HAVE FIXTURE CUT SHEETS ONSITE FOR FINAL INSPECTION.

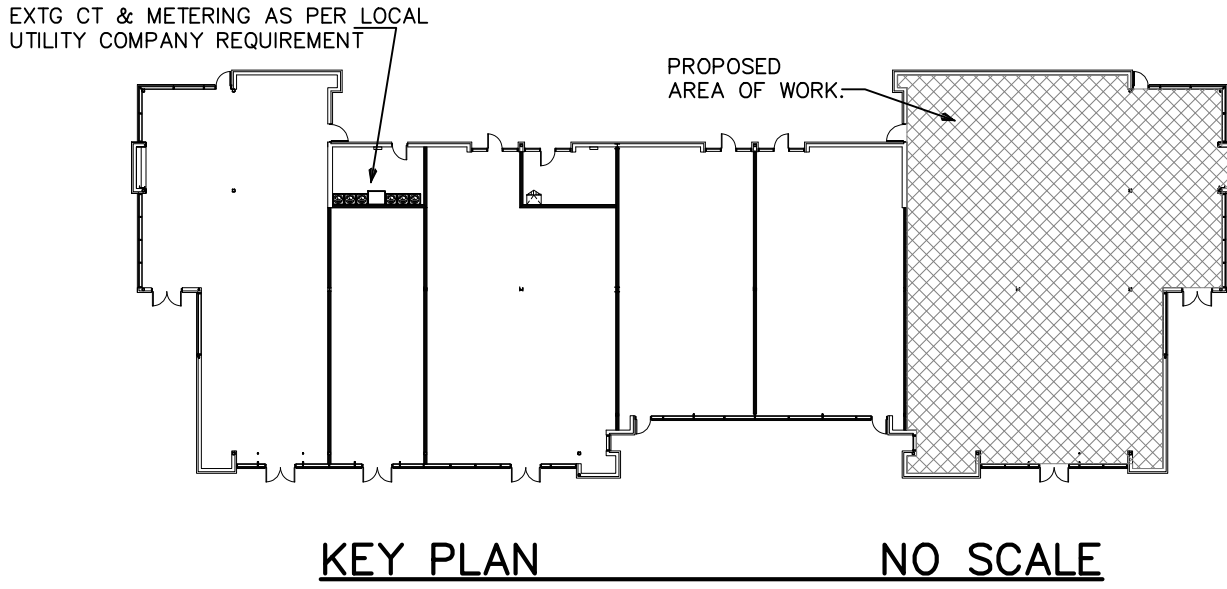




- NOTE** - ALL OUTLETS INDICATED WITH A "USB" NOTATION ARE TO BE PROVIDED WITH A LEVITON T5632 USB CHARGER OUTLET.

NOTE: RECEPTACLE UNDER SEAT _____
IN BOOTH BASE 120V & USB (TYP.)





PANEL EXTG LDP DIVERSIFICATION CALCULATIONS		
RECEPTACLES (53) - 9540 VA TOTAL		
FIRST 10 KVA AT 100% -	9540	
LIGHTING - 5645 X 125% -	7056	
MOTOR LOADS AT 100% -	45252	
PLUS 25% OF THE LARGEST MOTOR -	35372	
MISC NON-CONTINUOUS LOADS AT 100% -	3771	
KITCHEN EQUIPMENT (31) -	10886	
58814 X 0.65 -	38229	
TOTAL DIVERSIFIED PANEL LOAD -	150106	
LOAD AT 120/208V/3-PHASE/4-WIRE -	417.0A	

PANEL SCHEDULE EXTG LDP206																			
800 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, 800A. M.C.B., 10000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE																			
##	BKR.	WIRE AND CONDUIT				LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LINE C	LOAD DESCRIPTION	WIRE AND CONDUIT				BKR.	##		
		COND.	NEUTRAL	GND	C.							KEYS	C.	GND	NEUTRAL	COND.			
1						SPACE	0	0	-----	-----									
3						SPACE	6812	20324	-----	-----									
5						SPACE	6424	0	-----	17823	PANELBOARD 'LP206'	CHAL	2	#6	#4	#3/0	200/3	4	
7						SPACE	0	0	-----	22681									
9						SPACE	0	5028	-----	-----									
11						SPACE	0	0	-----	5028	EXTG RTU #201	CHAL	3/4	#12	---	#6	60/3	10	
13						SPACE	0	0	-----	5028									
15						SPACE	0	0	-----	5028	EXTG RTU #202	CHAL	3/4	#12	---	#6	60/3	16	
17						SPACE	0	0	-----	5028									
19						SPACE	0	0	-----	5028									
21						SPACE	0	0	-----	5028	EXTG RTU #203	CHAL	3/4	#12	---	#6	60/3	22	
23						SPACE	0	0	-----	5028									
25						SPACE	0	0	-----	5028									
27						SPACE	6099	14822	-----	-----									
29						SPACE	6655	0	-----	20890	PANELBOARD 'LP206B'	CHAL	2	#6	#2	#4/0	200/3	28	
31						SPACE	0	0	-----	17915									
33						SPACE	0	0	-----	0									
35						SPACE	0	0	-----	0									
37						SPACE	0	0	-----	0									
39						SPACE	0	0	-----	0									
41						SPACE	0	0	-----	0									
WIRE/CONDUIT KEY							PEAK PHASE (C) UNBALANCED NEUTRAL LOAD AMPS = 113.1 AMPS												
1234							NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 443.6 AMPS												
TEMP RATING							159,707												
CONDUIT TYPE							PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001												
INSULATION							REGISTERED TO - TODD W. CAREY AND ASSOCIATES OF THE CAROLINAS, PA												
WIRING TYPE																			

PANEL SCHEDULE EXTG LP206																			
200 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, 200A. M.C.B., 10000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE																			
##	BKR.	WIRE AND CONDUIT				LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LINE C	LOAD DESCRIPTION	WIRE AND CONDUIT				BKR.	##		
		COND.	NEUTRAL	GND	C.							KEYS	C.	GND	NEUTRAL	COND.			
1							0	1068	-----	-----									
3	15/3	#12	---	#12	1/2	CHAL HOT FOOD WELL	0	1227	-----	-----	ICE MAKER GIF	CHAL	1/2	#12	---	#12	15/2	2	
5							0	1068	-----	-----									
7	15/1	#12	#12	#12	1/2	CHAL HOT WATER DISPENSER	1800	1800	-----	1188	DISHWASHER CONVEYOR	CHAL	1/2	#12	---	#12	15/3	8	
9	15/1	#12	#12	#12	1/2	CHAL HOT CHOCOLATE DISPENSER	0	1188	-----	-----									
11	15/1	#12	#12	#12	1/2	CHAL TEA BREWER	1650	1800	-----	1188									
13	15/1	#12	#12	#12	1/2	CHAL COLD BEVERAGE DISPENSER	660	660	-----	840	REACH-IN FREEZER	CHAL	1/2	#12	#12	#12	15/1	12	
15	15/1	#12	#12	#12	1/2	CHAL DISPLAY CASE REFRIGERATED	960	960	-----	1006	CONVECTION OVEN	CHAL	1/2	#12	#12	#12	15/1	14	
17	15/1	#12	#12	#12	1/2	CHAL DISPLAY CASE REFRIGERATED	1080	1080	-----	1080	PREPARATION REFEIGERATOR	CHAL	1/2	#12	#12	#12	15/1	16	
19	20/2	#12	---	#12	1/2	CHAL CONVEYOR TOASTER	1006	1006	-----	780	REFEIGERATED WORK TOP	CHAL	1/2	#12	#12	#12	15/1	18	
21							0	1615	-----	-----									
23	15/1	#12	#12	#12	1/2	CHAL SODA DISPENSER	1080	1080	-----	1615	PREPARATION REFRIGERATOR	CHAL	1/2	#12	#12	#12	15/1	20	
25	15/1	#12	#12	#12	1/2	CHAL SYRUP WARMER,	780	780	-----	780	REFEIGERATED WORK TOP	CHAL	1/2	#12	#12	#12	15/1	22	
27	15/1	#12	#12	#12	1/2	CHAL SYRUP WARMER,	1440	1440	-----	1350									
29	35/2	#8	---	#10	3/4	CHAL COFFEE BREWER GFI	100	100	-----	100	SANDWICH PANINI GRILL GFI	CHAL	1/2	#12	---	#12	15/2	24	
31							0	832	-----	-----									
33						SPACE	0	3150	-----	832	WAFFLE MAKER	CHAL	1/2	#12	---	#12	15/2	28	
35						SPACE	0	832	-----	832	WAFFLE MAKER	CHAL	1/2	#12	---	#12	15/2	30	
37						SPACE	0	832	-----	832	WAFFLE MAKER	CHAL	1/2	#12	---	#12	15/2	32	
39	100/3	#3	#8	#8	1-1/4	CHAL PANELBOARD 'LP206A'	2212	4462	-----	5463									
41							0	832	-----	832	WAFFLE MAKER	CHAL	1/2	#12	---	#12	15/2	36	
WIRE/CONDUIT KEY							PEAK PHASE (C) UNBALANCED NEUTRAL LOAD AMPS = 61.5 AMPS												
1234							NON DIVERSIFIED LOAD AT 208 VOLT, THREE PHASE = 169. AMPS												
TEMP RATING							60,828												
CONDUIT TYPE							PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001												
INSULATION							REGISTERED TO - TODD W. CAREY AND ASSOCIATES OF THE CAROLINAS, PA												
WIRING TYPE																			

PANEL EXTG LP2 DIVERSIFICATION CALCULATIONS		
RECEPTACLES (4) - 720 VA TOTAL		
FIRST 10 KVA AT 100% -	720	
MOTOR LOADS AT 100% -	1550	
MISC NON-CONTINUOUS LOADS AT 100% -	6086	
KITCHEN EQUIPMENT (28) -	34107	
52472 X 0.65 -	34107	
TOTAL DIVERSIFIED PANEL LOAD -	42463	
LOAD AT 120/208V/3-PHASE/4-WIRE -	118.0A	

PANEL SCHEDULE LP206B																							
200 AMP, 120/208 VOLT, THREE PHASE, FOUR WIRE, M.L.D., 10000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE																							
##	BKR.	WIRE AND CONDUIT					LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LINE C	LOAD DESCRIPTION	WIRE AND CONDUIT				BKR.	##					
		COND.	NEUTRAL	GND	C.	KEYS							C.	GND	NEUTRAL	COND.							
1	20/1	#12	#12	#12	1/2	CHAL	EXISTING ROOF RECEPTACLE	720	720	-----	-----	KITCHEN LIGHTS	CHAL	1/2	#12	#12	#12	20/1	2				
3	20/1	#12	#12	#12	1/2	CHAL	POS STATION RECEPTACLE	540	-----	540	-----	SERVICE/WAITING LIGHTS	CHAL	1/2	#12	#12	#12	20/1	4				
5	20/1	#12	#12	#12	1/2	CHAL	KITCHEN RECEPTACLE	1615	-----	1615	-----	SEATING 107, 108 LIGHT	CHAL	1/2	#12	#12	#12	20/1	6				
7	20/1	#12	#12	#12	1/2	CHAL	OFFICE/TOLIT RECEPTACLE	540	-----	540	-----	SEATING 104, 109 LIGHTS	CHAL	1/2	#12	#12	#12	20/1	8				
9	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	1423	-----	1423	-----	HOOD CONTROL	CHAL	1/2	#12	#12	#12	15/1	10				
11	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	900	-----	900	-----												
13	15/1	#12	#12	#12	1/2	CHAL	TELEPHONE RECEPTACLE	1081	-----	1081	-----												
15	30/2	#10	---	#12	1/2	CHAL	WALK-IN COOLER CONDENSING	1800	-----	1800	-----	EXHAUST FAN #1	CHAL	1/2	#12	---	#12	15/3	14				
17	15/1	#12	#12	#12	1/2	CHAL	COOLER EVAPORATE	900	-----	900	-----	EXHAUST FAN #2	CHAL	1/2	#12	---	#12	15/3	20				
19	15/1	#12	#12	#12	1/2	CHAL	COOLER EVAPORATE	180	-----	180	-----	EXHAUST FAN #3	CHAL	1/2	#12	---	#12	15/3	26				
21	40/2	#8	---	#12	1/2	CHAL	WALKIN FREEZER CONDENSING	0	-----	2496	-----												
23	40/2	#8	---	#12	1/2	CHAL	WALKIN FREEZER CONDENSING	0	-----	660	-----												
25	15/2	#12	---	#12	1/2	CHAL	FREEZER EVAPORATE	972	-----	972	-----												
27	15/2	#12	---	#12	1/2	CHAL	FREEZER EVAPORATE	0	-----	576	-----												
29	15/1	#12	#12	#12	1/2	CHAL	COOLER LIGHTS	0	-----	3016	-----												
31	15/1	#12	#12	#12	1/2	CHAL	FREEZER LIGHTS	0	-----	576	-----												
33	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	0	-----	1019	-----												
35	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	0	-----	912	-----												
37	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	0	-----	1019	-----												
39	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	0	-----	912	-----												
41	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	180	-----	180	-----												
43	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	180	-----	4056	-----												
45	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	1080	-----	1080	-----												
47	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	0	-----	4056	-----												
49	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	900	-----	900	-----												
51	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	1176	-----	1176	-----												
53	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	900	-----	900	-----												
55	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	0	-----	1500	-----												
57	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	900	-----	900	-----												
59	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	1080	-----	1500	-----												
61	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	0	-----	1080	-----												
63	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE	0	-----	0	-----												
WIRE/CONDUIT KEY								WIRING TYPE								INSULATION				CONDUIT TYPE		TEMP RATING	
1234								C-CU WIRE								H-THWN				A-EMT		L-78-86 Deg. F.	
TEMP RATING								CONDUIT TYPE								INSULATION				WIRING TYPE			