GREEN BUILDING NOTES

5.410.4 TESTING AND ADJUSTING OF NEW SYSTEMS INSTALLED TO SERVE AN ADDITION OR ALTERATION SUBJECT TO SECTION 5.410.4 SHALL BE REQUIRED.

5.504.1 TEMPORARY VENTILATION.
IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION. USE RETURN AIR FILTERS WITH A MERV OF 8, BASED ON ASHRAE 52.2-1999, OR AN AVERAGE EFFICIENCY OF 30% BASED ON ASHRAE 52.1-1192. REPLACE ALL FILTER IMMEDIATELY PRIOR TO OCCUPANCY.

5.504.3 AT THE TIME OF ROUGH INSTALLATION OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL START-UP PF THE HEATING AND COOLING EQUIPMENT, ALL DUCTS AND OTHER RELATED AIR DISTRIBUTION COMPONENT EQUIPMENT SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST OR DEBRIS WHICH MAY COLLECT IN THE SYSTEM.

5.504.4.1 ADHESIVES, SEALANTS, AND CAULKS USED IN THE PROJECT SHALL MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS:

1. ADHESIVES, ADHESIVE BONDING PRIMERS, ADHESIVE PRIMERS, SEALANTS, SEALANT PRIMERS AND CAULKS SHALL COMPLY WITH LOCAL OR REGIONAL AIR POLLUTION CONTROL OR AIR QUALITY MANAGEMENT DISTRICT RULES WHERE APPLICABLE OR SCAQMD RULE 1168 VOC LIMITS, AS SHOWN IN TABLES 5.504.1 AND 5.504.4.2.
2. AEROSOL ADHESIVES AND SMALLER UNIT SIZES OF ADHESIVES AND SEALANT OR CAULKING COMPOUNDS (IN UNITS OF PRODUCT, LESS PACKAGING, WHICH DO NOT WEIGHT MORE THAN ONE POUND AND DO NOT CONSIST OF MORE THAN 16 FLUID OUNCES) SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS, OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94507.0

5.504.5.3 IN MECHANICAL VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR PRIOR TO OCCUPANCY THAT PROVIDES AT LEAST A MERV 13.

5.506.1 MECHANICAL VENTILATION SHALL BE CALCULATED PER SECTION 120.1 OF THE CALIFORNIA ENERGY CODE, OR THE APPLICABLE LOCAL CODE, WHICHEVER IS MORE STRINGENT, AND DIVISION 1, CHAPTER 4 OF CCR, TITLE 8.

5.506.2 FOR BUILDINGS EQUIPPED WITH DEMAND CONTROL VENTILATION, CO2 SENSORS AND VENTILATION CONTROLS SHALL BE SPECIFIED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA ENERGY CODE, SECTION 120(C).

5.508 HVAC, REFRIGERATION, AND FIRE-SUPPRESSION EQUIPMENT SHALL NOT CONTAIN CFCS OR HALON.

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HVAC GENERAL NOTES

1. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMIT FEES, INSPECTIONS, AND LICENSES REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
2. CONTRACTOR MUST BE REGISTERED, HAVE NECESSARY LICENSES, OBTAIN NECESSARY PERMITS, AND HAVE CONSENT FROM ALL GOVERNMENTAL AGENCIES TO CARRY OUT THE WORK OF THE CONTRACT.
3. ALL WORK AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH CURRENT SMACNA STANDARDS, CURRENT ASHRAE GUIDELINES, AND ALL APPLICABLE STATE AND LOCAL BUILDING CODES.
4. CONTRACTOR SHALL REMOVE AND HAUL AWAY FROM THE PREMISES ALL UNUSED MATERIALS AND DEBRIS RESULTING FROM THE PERFORMANCE OF THE CONTRACT AND SHALL BEAR THE COST OF DISPOSAL.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING OF WALLS, ROOF, AND FLOORS, INCLUDING SAW CUTTING AND CORE DRILLING. ANY CUTTING AND DRILLING REQUIRED OF STRUCTURAL ELEMENTS THAT IS NOT SHOWN ON THE DRAWINGS SHALL BE BROUGHT TO THE OWNERS REPRESENTATIVES ATTENTION PRIOR TO PERFORMING THE WORK. CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS AND SIZES OF SUCH A CUTTING AND DRILLING FOR APPROVAL. CONTRACTOR SHALL COORDINATE ALL WORK PERFORMED BY OTHERS WITH GENERAL CONTRACTOR.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE PRIOR TO SUBMITTING THEIR BID AND TO HAVE EXAMINED AND FAMILIARIZED THEMSELVES WITH THE SITE CONDITIONS. THEY SHALL COMPARE THE DRAWINGS AND SPECIFICATIONS WITH THE RESULTS OF THEIR EXAMINATION OF THE SITE AND CONFIRM THAT ALL REQUIREMENTS FOR COMPLETE H.V.A.C. MAY BE FULFILLED. NO EXTRA PAYMENTS WILL BE ALLOWED TO THE H.V.A.C. CONTRACTOR DUE TO UNFAMILIARITY WITH THE SITE CONDITIONS.
7. CONTRACTOR SHALL SUBMIT BID BASED ON THE DRAWINGS, AND PROVIDE ALTERNATE BID FOR VALUE-ENGINEERED COST SAVINGS. CONTRACTOR SHALL EVALUATE DUCT CONSTRUCTION FOR AIR DISTRIBUTION MAIN TRUNKS AND PROVIDE VALUE-ENGINEERED ALTERNATE FOR COST SAVINGS TO THE OWNER.
8. THE TENANT RESERVES THE RIGHT TO ACCEPT AND/OR REJECT ANY OR ALL BIDS.
9. TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE MATERIALS BEFORE, DURING, AND AFTER INSTALLATION. IN THE EVENT OF DAMAGE, IMMEDIATELY REPAIR ALL DAMAGED AND DEFECTIVE WORK TO THE APPROVAL OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
10. AS BUILT DRAWINGS SHOWING DIMENSIONS AND LOCATIONS OF PIPES, DUCTS, AND EQUIPMENT SHALL BE SUBMITTED TO THE ARCHITECT, ENGINEER, TENANT, AND OWNER AT CONCLUSION OF CONSTRUCTION.
11. THE ARCHITECT/ENGINEER SHALL HAVE THE RIGHT TO ACCEPT AND/OR REJECT MATERIALS, EQUIPMENT, AND/OR WORKMANSHIP, AND SHALL APPROVE ONLY WHEN THE CONTRACTOR HAS COMPLIED WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
12. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO ORDERING OR INSTALLING EQUIPMENT OR MATERIALS. SHOP DRAWINGS SHALL CLEARLY IDENTIFY SUBSTITUTIONS ON EQUIPMENT AND MATERIALS, AND SHALL CLEARLY IDENTIFY ALL PERTINENT DATA TO SUBSTANTIATE THE EQUALITY OF THE PRODUCT. THIS CONTRACTOR SHALL SUBMIT TO-SCALE DUCTWORK SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
13. WORKMANSHIP SHALL BE OF THE BEST QUALITY AND ONLY COMPETENT MECHANICS, SKILLED IN THEIR RESPECTIVE TRADES, SHALL BE EMPLOYED.
14. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THEIR WORK WITH ALL OTHER TRADES. THIS INCLUDES COORDINATING THE LOCATION AND SIZE OF ALL OPENINGS, LOCATIONS OF EQUIPMENT, PADS, AND CHANGES IN ELEVATION OF DUCTWORK, PIPING, AND OTHER EQUIPMENT.
15. ALL MECHANICAL TRIM/FINISHES SHALL BE COLORED AS PER ARCHITECT REQUIREMENTS. CONTRACTOR SHALL VERIFY COLOR REQUIREMENTS WITH THE ARCHITECT PRIOR TO ORDERING AIR INLETS/OUTLETS, WALL LOUVERS, AND THERMOSTATS.
16. COORDINATE THE LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL LIGHTING LAYOUT, AND ARCHITECTURAL ROOM ELEVATIONS.
17. FIELD-BUILT SLEEPERS OR PLATFORMS FOR ROOF-MOUNTED EQUIPMENT, ROOF PENETRATIONS, CUTTING, AND PATCHING BY GENERAL CONTRACTOR.
18. LINE VOLTAGE WIRING, CONDUIT, DISCONNECT SWITCHES, AND FINAL TERMINATIONS BY ELECTRICAL CONTRACTOR. LOW VOLTAGE WIRING, CONDUIT, AND FINAL TERMINATIONS BY MECHANICAL CONTRACTOR.
19. ALL LINE VOLTAGE CONTROLS INCLUDING STARTERS, RELAYS, CONTACTORS, TRANSFORMERS, ETC. SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
20. CONDENSATE DRAIN AND GAS PIPING SHALL BE BY PLUMBING CONTRACTOR.
21. CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AND CONTROL DEVICES FOR THE COMPLETE INSTALLATIONS OF AN AUTOMATIC TEMPERATURE CONTROL SYSTEM.
22. CONTRACTOR SHALL INSTALL ROOFTOP EQUIPMENT AT A MINIMUM OF 10 FEET FROM ANY EDGE OF THE BUILDING WHEN PARAPET WALLS ARE LOWER THAN 42" ABOVE ROOF DECK. WHERE SUCH INSTALLATION IS NOT POSSIBLE, CONTRACTOR SHALL PROVIDE A 42" HIGH SAFETY RAIL.
23. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES, AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
24. ALL NEW H.V.A.C. EQUIPMENT, DUCTWORK, PIPING, VALVES, AND CONTROL COMPONENTS SHALL BE PLACED AND LABELED WITH A PERMANENT LAMINATED PLASTIC LABEL. SUBMIT LABELING TO ENGINEER FOR APPROVAL AS A FORMAL SUBMITTAL.
25. CONNECT MAIN DUCT TO AIR CONDITIONING UNIT WITH WEATHERPROOF FLEXIBLE CONNECTION. PROVIDE SUN SHIELD OVER ENTIRE FLEXIBLE CONNECTION IF EXPOSED TO WEATHER. FLEXIBLE CONNECTIONS SHALL BE 12" IN LENGTH.
26. CONTRACTOR SHALL FURNISH TO TENANT AND PLACE INTO STORAGE FOR TENANT ONE COMPLETE SET OF REPLACEMENT FILTERS AND DRIVE BELTS FOR ALL NEW H.V.A.C. EQUIPMENT ON THIS PROJECT.
27. FURNISH AND INSTALL FIRE, SMOKE, OR COMBINATION FIRE/SMOKE DAMPERS WHERE SHOWN ON PLANS OR AS REQUIRED FOR A COMPLETE INSTALLATION. CONTRACTOR SHALL COORDINATE WITH FIRE-RATED CEILING AREAS AND WALLS AS INDICATED ON ARCHITECTURAL DRAWINGS AND LOCAL CODE REQUIREMENTS. THIS NOTE SHALL TAKE PRECEDENCE OVER ANY OMISSIONS ON THE DRAWINGS.
28. CONTRACTOR SHALL FURNISH AND INSTALL DUCT ACCESS DOORS AND CEILING ACCESS PANELS AT LOCATIONS AS NECESSARY TO SERVICE DAMPERS TO PROVIDE MAINTENANCE FOR EQUIPMENT. ALL CEILING ACCESS PANEL LOCATIONS SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO INSTALLATION.
29. CONTRACTOR SHALL PROVIDE & INSTALL DUCT MOUNTED SMOKE DETECTORS IN AIR DISTRIBUTION SYSTEMS WHERE AIRFLOW IS GREATER THAN 2000 CFM. MECHANICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR TO SHUT DOWN FAN, AND ELECTRICAL/FIRE ALARM CONTRACTOR SHALL WIRE IT TO THE FIRE ALARM SYSTEM FOR SUPERVISION AND SHUTDOWN.
30. CONTRACTOR SHALL FURNISH AND INSTALL SUPPORTS, HANGERS, UPPER & LOWER ATTACHMENTS, AND ANCHORS REQUIRED TO INSTALL ALL MATERIALS AND EQUIPMENT FURNISHED AND INSTALLED UNDER THIS CONTRACT. DUCTWORK AND PIPING SHALL NOT BE SUPPORTED FROM THE ROOF DECK. UPPER ATTACHMENTS FOR HANGING DUCT SHALL BE SUPPORTED FROM BEAMS, JOISTS OR SUPPLEMENTARY STRUCTURAL MEMBERS PROVIDED BY MECHANICAL CONTRACTOR.
31. PROVIDE TURNING VANES AT ALL MITERED ELBOWS, OPPOSED BLADE BALANCING DAMPERS WITH LOCKING QUADRANTS AT BRANCH DUCTS, VOLUME DAMPERS, SPLITTER DAMPERS, AND ANY OTHER APPLICABLE DEVICES NECESSARY FOR MINIMUM DUCT RESISTANCE AND PROPER AIR BALANCING. ALL DAMPERS OR SPLITTERS SHALL BE SUFFICIENTLY STIFFENED TO PREVENT NOISE OR VIBRATION AND SHALL BE FITTED WITH AN ACCESSIBLY-LOCATED ADJUSTER.
32. CONTRACTOR SHALL FURNISH AND INSTALL DAMPERS, LINKAGES, AND ACTUATORS REQUIRED FOR AIR FLOW CONTROL SYSTEM. DAMPERS SHALL BE OPPOSED BLADE WITH RUBBER GASKETS. ACTUATORS SHALL BE "BELIMO" NO-LINKAGE TYPE OR "HONEYWELL" WITH LINKAGE. ACTUATOR MOTORS SHALL BE 24 VOLT WITH SPRING RETURN AND MANUAL OVERRIDE FOR EMERGENCY.
33. ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS. DUCTWORK SHALL BE INSULATED OR LINED AS SHOWN ON DRAWINGS. ALL DUCTWORK EXPOSED ON ROOF SHALL BE INTERNALLY LINED UNLESS OTHERWISE INDICATED OR SPECIFIED.
34. ALL SUPPLY AND RETURN AIR DUCTWORK CONCEALED ABOVE CEILINGS SHALL BE INSULATED AND WRAPPED WITH TWO INCH FIBERGLASS INSULATION WITH FOIL FACED VAPOR BARRIER. REFRIGERANT SUCTION PIPING SHALL BE INSULATED WITH ARMAFLEX AND JACKETED WHEN EXPOSED TO THE OUTDOORS. CONDENSATE DRAIN PIPING SHALL BE INSULATED WITH ARMAFLEX.
35. CONTRACTOR TO PROVIDE 1" ACOUSTICAL FIBERGLASS DUCT LINER FOR APPROXIMATELY 10'-0" FROM UNITS ON BOTH SUPPLY AND RETURN DUCTS.
36. ROUND AND RECTANGULAR DUCTWORK ARE INTERCHANGEABLE TO AVOID OBSTRUCTIONS IF CROSS-SECTIONAL AREAS ARE EQUIVALENT. CONTRACTOR IS TO VERIFY THE EXACT AVAILABLE CEILING SPACE AND INTERCHANGE THE DUCT SIZE TO FIT THE CEILING SPACE WITHOUT ADDITIONAL COST.
37. INSTALL VOLUME CONTROL DAMPERS AT EACH SUPPLY DIFFUSER AND WHERE NECESSARY TO CONTROL AIR FLOW IN THE DUCT SYSTEMS.
38. EXHAUST TERMINATIONS SHALL BE MINIMUM 10'-0" AWAY FROM OR 3'-0" ABOVE ANY FRESH AIR INTAKE, OPERABLE WINDOWS, AND DOORS, AND MINIMUM 10'-0" ABOVE GRADE.
39. PROVIDE BACKDRAFT DAMPER FOR ALL EXHAUST AIR INLETS UNLESS OTHERWISE NOTED PER CODE.
40. PROVIDE ALL FRESH AIR INTAKES AND EXHAUST OUTLETS WITH HOOD WITH 1/4" GALVANIZED MESH SCREENS.
41. ALL CEILING DIFFUSERS ARE 4-WAY UNLESS OTHERWISE NOTED. DIFFUSERS AND REGISTERS SHALL BE TITUS, KRUEGER, ADP, METALAIRE, ANEMOSTAT OR EQUAL.
42. ALL EXPOSED MATERIALS WITHIN A RETURN AIR PLENUM SHALL BE NON-COMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
43. CONTRACTOR IS RESPONSIBLE FOR SIZING REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS, FIELD MEASURED TOTAL EQUIVALENT LENGTHS, AND VERTICAL LIFTS, AND PROVIDE ALL NECESSARY COMPONENTS.
44. ALL MATERIALS AND EQUIPMENT PROVIDED AND/OR INSTALLED UNDER THIS CONTRACTOR SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF BENEFICIAL OCCUPANCY. ANY DEFECTS IN MATERIALS AND/OR WORKMANSHIP OCCURRING DURING TIME PERIOD SHALL BE REPAIRED OR REPLACED BY THIS CONTRACTOR AT NO COST TO THE OWNER. WARRANTY FOR COMPRESSORS SHALL BE (5) YEARS, AND WARRANTY FOR HEAT EXCHANGERS SHALL BE (10) YEARS.
45. CONTRACTOR SHALL SUBMIT A COMPLETE BALANCE REPORT FOR APPROVAL. THE REPORT SHALL INCLUDE THE REQUIREMENTS DESCRIBED IN THE TEST AND BALANCE SPECIFICATION SECTION. CONTRACTOR SHALL FURNISH SEPARATE BALANCE REPORTS FOR GENERAL H.V.A.C. SYSTEMS AND KITCHEN EXHAUST/MAKEUP AIR SYSTEMS, IF APPLICABLE. THERE SHOULD BE NO OUTSTANDING ITEMS ON THE REPORTS PRIOR TO CITY FINAL INSPECTION.
46. NO MEP LINES SHALL BE VISIBLE FROM THE FRONT OF THE KIOSK. ALL LINES SHALL BE LOACATED TIGHT AGAINST THE EXISTING ROOF STRUCTURE AND AS FAR BACK AS POSSIBLE. CONTACT ARCHITECT FOR APPROVAL PRIOR TO FINAL INSTALLATION.

DAMPER CONTROL

DAMPERS FOR OUTDOOR AIR SUPPLY AND EXHAUST SHALL AUTOMATICALLY SHUT WHEN THE SYSTEM OR SPACES SERVED ARE NOT IN USE OR DURING BUILDING WARM-UP, COOL-DOWN, AND SETBACK. OPERATION OF DAMPERS SHALL BE ALLOWED DURING VENTILATION PREPURGE ONE HOUR BEFORE EXPECTED OCCUPANCY AND FOR UNOCCUPIED PERIOD PRE-COOLING DURING THE COOLING SEASON.

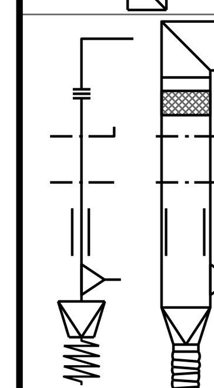
EXISTING CONDITIONS/SCOPE NOTES

CONTRACTOR SHALL CLOSELY INSPECT AND VERIFY ALL EXISTING CONDITIONS AND INCLUDE IN BID ALL WORK REQUIRED TO DELIVER DESIGN INTENT. COORDINATE ALL ROOF-TO-SPACE PENETRATIONS WITH LANDLORD AND REQUEST ADDITIONAL SHELL INFORMATION FROM LANDLORD AS NECESSARY. NO CHANGE ORDER WILL BE ALLOWED.

LEGEND

SYMBOL & ABBREVIATION	DESCRIPTION
DEPT	DEPARTMENT
DET	DETAIL
DH	DUCT HEATER
DIA	DIAMETER
DISC	DISCONNECT
DISCH	DISCHARGE
DMPR	DAMPER
DP	DEW POINT
DR	DRAIN
DWG	DRAWING
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECON	ECONOMIZER
ECU	EVAPORATIVE COOLING UNIT
EER	ENERGY ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
(E)	EXISTING
EFF	EFFICIENCY
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EH	ELECTRIC HEATER
EWT	ENTERING WATER TEMPERATURE
EXCH	EXCHANGER
EXH	EXHAUST
EXIST	EXISTING
EXT	EXTERIOR
FC	FAN COIL UNIT
FD	FIRE DAMPER
FLEX	FLEXIBLE
FLR	FLOOR
FLTR	FILTER
FPM	FEET PER MINUTE
FSD	FIRE SMOKE DAMPER
FURN, FAU	FURNACE AIR UNIT
GA.	GAGE/GAUGE
GC	GENERAL CONTRACTOR
HP	HEAT PUMP
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
ID	INSIDE DIAMETER
IN WC	INCHES, WATER COLUMN
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LVR	LOUVER
LWT	LEAVING WATER TEMPERATURE
MCA	MINIMUM CIRCUIT AMPACITY
MFR	MANUFACTURER
MECH	MECHANICAL
MOCP	MAXIMUM OVERCURRENT PROTECTION
(N)	NEW
NA	NOT APPLICABLE
NC	NOISE CRITERIA, NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA/OSA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER
P	PUMP
PD	PRESSURE DROP
POC	POINT OF CONNECTION
PSI	POUNDS PER SQUARE INCH
RH	RELATIVE HUMIDITY
RM	ROOM
RPM	REVOLUTION PER MINUTE
RTU	ROOF TOP UNIT
SENS	SENSIBLE
SF	SAFETY FACTOR
SMK	SMOKE
TEMP	TEMPERATURE
TONS	TONS OF REFRIGERATION
TSTAT	THERMOSTAT
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
WB	WET BULB TEMPERATURE
WT	WEIGHT

LEGEND



SYMBOL	ABBREVIATION	DESCRIPTION
	SA/SUP	SUPPLY AIR (RISE/DROP)
	RA/RET	RETURN AIR DUCT (RISE/DROP)
	EA/EXH	EXHAUST AIR DUCT (RISE/DROP)
	CD/SR	CEILING DIFFUSER/SUPPLY REGISTER (ARROWHEAD REPRESENTS NUMBER OF THROW) (4-WAY TYPICAL IF NO ARROWS)
	RR/RG	RETURN REGISTER/GRILLE
	ER/EG	EXHAUST REGISTER/GRILLE
		RECTANGULAR DUCT ELBOW WITH TURNING VANES
	FC	FLEXIBLE CONNECTION
	MVD	MANUAL VOLUME DAMPER
	FD	FIRE DAMPER
	(L)	DUCT LINING (1" THICK UNLESS OTHERWISE NOTED)
		SINGLE LINE DUCT BRANCH TAKE-OFF
		DUCT TRANSITION (RECTANGULAR TO ROUND)
	FLEX	FLEXIBLE DUCT
T	T-STAT	PROGRAMABLE THERMOSTAT
S		TEMPERATURE SENSOR
SD	SD	DUCT SMOKE DETECTOR
F	FD	FIRE DAMPER
FS	FSD	COMBINATION FIRE/SMOKE DAMPER
Z	ZD	ZONE DAMPER
—CD—	CD	CONDENSATE DRAIN
Ø	DIA.	DIAMETER
—DL→	DL	DOOR LOUVER
—UC→	UC	DOOR UNDERCUT (3/4" MINIMUM)
	POC	POINT OF CONNECTION
M		FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.
E		FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
ME		FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.

SD-1 ← (SD-SUPPLY DIFFUSER, RD-RETURN DIFFUSER, E-EXHAUST)
100 ← AIR QUANTITY IN CFM

AC ← MECHANICAL EQUIPMENT DESIGNATION
1 ← DESIGNATED NUMBER

ABBREVIATION	DESCRIPTION
A/C , AC, ACU	AIR CONDITIONING UNIT
ADD	ADDITION
AFF	ABOVE FINISHED FLOOR
AFS	AIR FLOW SENSOR
AHU	AIR HANDLER UNIT
ALT	ALTERNATE
AMB	AMBIENT
AMP	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AP	ACCESS PANEL
AS	AIR SEPARATOR
AV	AIR VENT
BAPR	BAROMETRIC PRESSURE
BARO	BAROMETER
BDD	BACK DRAFT DAMPER
BFP	BACK FLOW PREVENTER
BFV	BACK FLOW VALVE
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BLR	BOILER
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
CAV	CONSTANT AIR VOLUME
CD	CONDENSATE DRAIN
CLG.	CEILING
CONN.	CONNECT/CONNECTION
CONT.	CONTINUATION
CONT'R	CONTRACTOR
CFM	CUBIC FEET PER MINUTE
CKT	CIRCUIT
COEFF	COEFFICIENT
COND	CONDENSER, CONDENSING
COP	COEFFICIENT OF PERFORMANCE (HEATING)
CU	CONDENSING UNIT
dB	DECIBEL
DB	DRY BULB TEMPERATURE
DCV	DEMAND CONTROLLED VENTILATION
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE

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PROJECT

CAVA

CAVA_REDHAWK_TEMECULA_CA
LOCATION
31709 TEMECULA PKWY
TEMECULA, CA 92592

	DATE	DESCRIPTION
1	06/10/24	PC COMMENTS
2	07/17/24	PC COMMENTS
3	08/21/24	PERMIT ADDENDUM

MECHANICAL LEGEND, NOTES, AND ABBREVIATIONS

Date Modified:	08/21/2024
Date Created:	01/16/2024
Scale:	NOT TO SCALE
Project No.:	230863
Drawn By:	MV/CD
CAD File:	

M0.1

PACKAGED HEAT PUMP ROOFTOP UNIT SCHEDULE (BY LL)

EQUIP. TAG	MANUFACTURER & MODEL	AREA SERVED	LOCATION	INDOOR FAN				COOLING							HEATING				ELECTRICAL			WEIGHT (LBS)	REMARKS
				SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	ESP (in. H20)	MOTOR (BHP)	NOMINAL CAPACITY (TONS)	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EER / IEER	ENTERING AIR TEMPERATURE (°Fdb/°Fwb)	LEAVING AIR TEMPERATURE (°Fdb/°Fwb)	AMBIENT AIR TEMPERATURE (°F)	HEATING OUTPUT (MBH)	COP (HIGH STAGE)	ENTERING AIR TEMPERATURE (°F)	LEAVING AIR TEMPERATURE (°F)	V/ph/Hz	MCA	MOCP		
RTU-1	CARRIER 50FCQM07	KITCHEN AREA	ROOF	2400	350	1.0	1.76	6	65	55	11.0 / 15.0	76 / 62	54 / 53	95	64	3.6	66	105	208/3/60	37	50	1000	1-8
RTU-2	CARRIER 50FCQM07	DINING AREA	ROOF	2400	350	1.0	1.76	6	65	55	11.0 / 15.0	76 / 62	54 / 53	95	64	3.6	66	105	208/3/60	37	50	1000	1-8

1. DOWNFLOW DISCHARGE CONFIGURATION, STANDARD EFFICIENCY PACKAGED HEAT PUMP ROOFTOP UNIT. PROVIDED AND INSTALLED BY LANDLORD.
2. LOW LEAK DRY BULB ECONOMIZER WITH FDD CONTROL, AND BAROMETRIC RELIEF.
3. FACTORY MOUNTED DISCONNECT SWITCH TO BE INSTALLED BY ELECTRICAL CONTRACTOR.
4. FACTORY MOUNTED POWERED CONVENIENCE OUTLET.
5. PROVIDE A MIN. 2" MERV-13 FILTER. REPLACE FILTER AFTER CONSTRUCTION PRIOR TO FINAL.
6. PROVIDE SMOKE DETECTOR IN SUPPLY AIR DUCT TO SHUT DOWN UNIT UPON SMOKE DETECTION. 'APC' MOD SL-2000-P: CSFM LISTED, 115VAC, WITH AUDIO/VISUAL REMOTE ANNUNCIATOR WITH REMOTE KEY RESET.
7. PROVIDE WITH T-24 COMPLIANT THERMOSTAT.
8. HIGH STATIC FAN.

MAKE UP AIR UNIT SCHEDULE

EQUIP. TAG	MANUFACTURER & MODEL	SERVICE	LOCATION	AIR FLOW (CFM)	STATIC PRESSURE (in H2O)	MOTOR RPM	MOTOR HP	EVAPORATIVE COOLER EDB TEMP (°F)	EVAPORATIVE COOLER EWB TEMP (°F)	EVAPORATIVE COOLER LVG DB TEMP (°F)	EVAPORATIVE COOLER LVG WB TEMP (°F)	ELECTRICAL SERVICE (V/ph/Hz)	FLA	MCA	MOCP	WEIGHT (lbs)	REMARKS
MAU-1	CAPTIVEAIRE A1-15D	H-1	ROOF	1699	0.5	2030	2	98	68	79	68	208/3/60	6.1	7.7	15	705	1-10

1. DOWN DISCHARGE, UNTEMPERED, MAKE-UP AIR UNIT WITH EVAPORATIVE COOLING ON ROOF.
2. PROVIDE WITH ROOF CURB.
3. INTERLOCK WITH KEF-1.
4. MAKE-UP AIR UNIT TO SHUT DOWN UPON RELEASE OF HOOD FIRE SUPPRESSION SYSTEM.
5. FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.
6. PROVIDE DISCONNECT SWITCH.
7. MOTORIZED BACK DRAFT DAMPER.
8. INSTALL PER MANUFACTURER'S RECOMMENDATION.
9. PROVIDE WITH MERV-13 FILTERS AND V-BANK FILTER MODULE WITH INSULATION.
10. PROVIDE SEPARATE 120V WIRING CONNECTION FOR EVAP COOLER.

AIR CURTAIN SCHEDULE

EQUIP. TAG	MANUFACTURER & MODEL	SERVICE	CFM	MAX VELOCITY AT NOZZLE (FPM)	MOTOR HP	CONTROL	MOUNTING HEIGHT	LENGTH	ELECTRIC CAPACITY (KW)	HEATER OUTPUT (MBH)	ELECTRICAL SERVICE (V/ph/Hz)	MCA	MOCP	WEIGHT (lbs)	REMARKS
AC-1	BERNER AE08-E-1072A	ENTRANCE DOOR	2252	2301	1/5	ON/OFF	-	6'-0"	-	-	115/1/60	4.4	15	100	1-5
AC-2	BERNER AE08-E-1036A	ENTRANCE DOOR	1790	2301	1/5	ON/OFF	-	3'-0"	-	-	115/1/60	4.4	15	60	1-5
AC-3	BERNER DTU03-2026A	DRIVER THROUGH WINDOW	200	2800	(1) 1/12 (1) 1/20	ON/OFF	-	2'-2"	1.7	5.8	115/1/60	16.4	20	20	4-7

1. NEW UNHEATED AIR CURTAIN.
2. DECORATIVE REAR ADAPTOR.
3. DOOR LIMIT SWITCH.
4. FILTER.
5. COORDINATE FINISH COLOR WITH ARCHITECT.
6. NEW ELECTRIC HEATED AIR CURTAIN.
7. LOAD CENTER BOX KIT WITH MAGNETIC REED DOOR SWITCH CONTROL OPTION.

AIR BALANCE SCHEDULE

	RTU-1	RTU-2	KEF-1	EF-1	EF-2	MUA-1	TOTAL
OUTSIDE AIR FLOW (CFM)	350	350	0	0	0	1699	2399
RETURN AIR FLOW (CFM)	2050	2050	0	0	0	0	4100
SUPPLY AIR FLOW (CFM)	2400	2400	0	0	0	1699	6499
EXHAUST AIR FLOW (CFM)	0	0	2117	120	120	0	2357
BUILDING PRESSURE (CFM)	350	350	-2117	-120	-120	1699	42
RESULTING BUILDING PRESSURIZATION (CFM)							42

DUCT SMOKE DETECTOR VELOCITY CALCULATIONS FOR THE POINT OF INSTALLATION

1. SD AT RTU-1 POINT OF INSTALLATION: SA DUCT = 18"x16" = 288 SQ IN / 144 = 2 SF; 2400 CFM / 2 SF = 1200 FPM (VELOCITY)
2. SD AT RTU-2 POINT OF INSTALLATION: SA DUCT = 18"x14" = 252 SQ IN / 144 = 1.75 SF; 2400 CFM / 1.75 SF = 1372 FPM (VELOCITY)

KITCHEN HOOD SCHEDULE

EQUIP. TAG	MANUFACTURER & MODEL	SERVICE	EXHAUST CFM	VELOCITY (FPM)	TYPE	SUPPLY CFM	DIMENSIONS			WEIGHT (LBS)	REMARKS
							LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)		
H-1	CAPTIVEAIRE 6030 ND-2-ACPSP-F	KITCHEN	2117	1516	1	1976	127	60	30	1133	1,2

1. NEW KITCHEN HOOD. INSTALL PER MANUFACTURER'S INSTRUCTIONS. REFER TO SHEET M6.3 TO M6.9 FOR ADDT'L INFORMATION.
2. AUTOMATIC FIRE EXTINGUISHING SYSTEM IN COMPLIANCE WITH UL300, FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF RESTAURANT COOKING EQUIPMENT. SEE SHEET M6.5 FOR ADDT'L INFORMATION.

KITCHEN EXHAUST FAN SCHEDULE

EQUIP. TAG	MANUFACTURER & MODEL	SERVICE	LOCATION	AIR FLOW (CFM)	EXT. STATIC PRESSURE (in wg)	MOTOR SIZE (HP)	RPM	SONES	ELECTRICAL SERVICE (V/ph/Hz)	FLA	WEIGHT (LBS)	REMARKS
KEF-1	CAPTIVEAIRE DU85HFA	H-1	ROOF	2117	0.9	1	1460	14.7	115/1/60	11.6	94	1-7

1. NEW UPBLAST FAN TO REPLACE EXISTING. PROVIDE NEW VENTED ROOF CURB AND PROVIDE GREASE CUP.
2. PROVIDE HINGED CURB CAP.
3. NEMA 3R DISCONNECT SWITCH BY E.C.
4. DIRECT DRIVE MOTOR, VARIABLE SPEED CONTROL.
5. GREASE BOX & FAN BASE CERAMIC SEAL.
6. INTERLOCK WITH KITCHEN ANSUL SYSTEM.
7. PROVIDE FAN WITH ENVIROMATIC VIROGUARD HOOD EXHAUST FAN ROOFTOP CONTAINMENT SYSTEM.

EXHAUST FAN SCHEDULE

EQUIP. TAG	MANUFACTURER & MODEL	SERVICE	LOCATION	AIR FLOW (CFM)	TOTAL STATIC PRESSURE (in H2O)	FAN SPEED (RPM)	MOTOR SIZE (WATTS)	SOUND (SONES)	ELECTRICAL SERVICE (V/ph/Hz)	OPERATING WEIGHT (lbs)	REMARKS
EF-1	GREENHECK SP-150	RESTROOM	CEILING	120	0.5	886	171	2.5	115/1/60	15	1-6
EF-2	GREENHECK SP-150	RESTROOM	CEILING	120	0.5	886	171	2.5	115/1/60	15	1-6

1. CEILING MOUNTED EXHAUST FAN.
2. DISCONNECT SWITCH PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
3. BACKDRAFT DAMPER.
4. SPEED CONTROLLER.
5. FLEXIBLE DUCT CONNECTION.
6. FAN SHALL OPERATE ON RESTROOM OCCUPANCY SENSOR. FAN SHALL TURN OFF 1 MINUTE AFTER RESTROOM IS UNOCCUPIED.

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PROJECT

CAVA

CAVA_REDHAWK_TEMECULA_CA
LOCATION
31709 TEMECULA PKWY
TEMECULA, CA 92592

DATE	DESCRIPTION
1	06/10/24 PC COMMENTS
2	07/17/24 PC COMMENTS
3	08/21/24 PERMIT ADDENDUM

MECHANICAL SCHEDULES

Date Modified:	08/21/2024
Date Created:	01/16/2024
Scale:	NOT TO SCALE
Project No.:	230863
Drawn By:	MV/CD
CAD File:	

M0.2

AIR DISTRIBUTION SCHEDULE

DIFFUSER TAG	TYPE	FACE SIZE	NECK SIZE	MOUNTING	BORDER TYPE	MAX NOISE CRITERIA LEVEL	MANUFACTURER/ MODEL	REMARKS
SD-1	PERFORATED DIFFUSER	24"x24"	SEE PLAN	CEILING	LAY-IN	25	TITUS PAS	1,2,5,7
SD-2	SQUARE PLAQUE FACE	12"x12"	6"Ø	CEILING	SURFACE	25	TITUS OMNI	1,3,5,6
SD-3	LINEAR DIFFUSER	48"x4.75"	8"Ø	CEILING	SURFACE	25	TITUS FL-20-22	1,8 (3)
SD-4	SUPPLY GRILLE	22"x8"	20"x6"	CEILING	SURFACE	25	TITUS 300FS	4,9,10
SD-5	SUPPLY GRILLE	8"x8"	6"x6"	CEILING	SURFACE	25	TITUS 300FS	4,9,10
SD-6	SQUARE PLAQUE FACE	24"x24"	SEE PLAN	CEILING	SURFACE	25	TITUS OMNI	1,3,5,6
RG-1	RETURN GRILLE	24"x24"	22"x22"	CEILING	LAY-IN	25	TITUS 350RL	1,2
RG-2	RETURN GRILLE	24"x12"	8"Ø	CEILING	LAY-IN	25	TITUS 350RL	1,2
RG-3	RETURN GRILLE	28"x20"	26"x18"	CEILING	SURFACE	25	TITUS 350FS	1,4

1. WHITE FINISH.
2. MANUAL VOLUME DAMPER.
3. PROVIDE RAPID FRAME MOUNT IN HARD LID CEILING AREAS.
4. WITH OPPOSED BLADE DAMPER.
5. SUPPLY DIFFUSER TO BE INSULATED VIA FACTORY SYSTEM.
6. INCLUDE WITH BALANCING DAMPER IN NECK.
7. WITH NO INTERNAL DEFLECTOR.
8. 1 SLOT, 2" SLOT WIDTH.
9. COORDINATE PAINT COLOR (PT-106) WITH ARCHITECTURAL SHEETS.
10. AIR SCOOP BALANCING DAMPER.

REQUIRED OUTSIDE AIR VENTILATION RATES (2022 CMC)

CAVA - Temecula, CA

Zone & Area	Occupancy Category	Area	2022 CMC, TABLE 402.1							2022 CEC, TABLE 120.1-A		2022 CEC, 120.1.b2.B					Ventilation Air Required (CFM)	**Ventilation Air Provided CFM**
			Occupants per 1000 SF	Actual No. of Occupants	Ventilation Air (CFM/SF)	Ventilation Air (CFM/PERSON)	Total CFM	Ventilation System Efficiency	**Required Ventilation CFM**	Ventilation Air (CFM/SF)	**Required Ventilation CFM**	CBC Occupancy Load (SF/OCC)	No. of Occupants	1/2 of CBC Occupants	Ventilation Air (CFM/PERSON)	**Required Ventilation CFM**		
Dining Area	Restaurant Dining Rooms	789	70	20	0.18	7.5	293	80%	367	0.15	119	15	20	10	15	150	367	370
Restrooms	-	122	0	0	0	0	0	80%	0	0.15	19	100	2	1	15	15	19	20
RR Hallway	Corridors	36	0	0	0.06	0	3	80%	4	0.15	6	100	1	1	15	15	15	15
Kitchen	Kitchen (cooking)	330	20	3	0.12	7.5	63	80%	79	0.15	50	200	2	1	15	15	79	135
BOH	Kitchen	467	20	3	0.12	7.5	79	80%	99	0.15	71	200	3	2	15	30	99	130
Office	Office Space	48	5	1	0.06	5	8	80%	10	0.15	8	100	1	1	15	15	15	30
RTU-1 & 2	**Total**	**1792**		**27**			**446**		**559**		**273**			**16**		**240**	**594**	**700**

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PROJECT

CAVA

CAVA_REDHAWK_TEMECULA_CA
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MECHANICAL SPECIFICATION

SECTION 1500 - HEATING, VENTILATION AND AIR CONDITIONING

1.00 - GENERAL

1.01 DESCRIPTION OF WORK

FURNISH AND INSTALL COMPLETE AND OPERATIONAL HVAC SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

A. PACKAGED HEATING & COOLING ROOFTOP UNITS.

B. POWER VENTILATORS.

C. AIR DISTRIBUTION METAL DUCTS.

D. HYDRONIC PIPING.

E. HANGERS AND SUPPORTS FOR DUCTWORK, PIPING AND HVAC EQUIPMENT.

F. THERMAL AND ACOUSTIC INSULATION.

G. SEISMIC RESTRAINTS AND BRACING.

H. AUTOMATIC TEMPERATURE CONTROL SYSTEM.

H. DEMOLITION AND REMOVAL OF EXISTING HVAC EQUIPMENT AS REQUIRED.

1.02 RELATED WORK INCLUDED UNDER OTHER SECTIONS

A. FIRE PROTECTION, SECTION 15300.

B. PLUMBING, SECTION 15400.

C. LINE VOLTAGE AND POWER WIRING, ELECTRICAL SECTION 16000.

1.03 EXAMINATION OF SITE

VISIT SITE BEFORE SUBMITTING BID AND CHECK LOCATION OF ALL EXISTING CONDITIONS WHICH WILL AFFECT THIS WORK, VERIFY DIMENSIONS AND LOCATIONS SHOWN ON DRAWINGS AND COVER ALL COSTS. CONTRACTOR SHALL ASSUME REASONABLE VARIATIONS OR MINOR OMISSIONS AND SHALL COMPLETE PROPOSED WORK WITHOUT ADDITIONAL COST. FAILURE TO VISIT SITE WILL NOT LESSEN RESPONSIBILITY OR ENTITLE ADDITIONAL COMPENSATION FOR WORK NOT INCLUDED IN PROPOSAL.

1.04 DRAWINGS

THE ACCOMPANYING DRAWINGS SHALL BE CONSIDERED PART OF THESE SPECIFICATIONS. WORK AND MATERIALS SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS AND VICE VERSA SHALL BE EXECUTED AS IF SPECIFICALLY MENTIONED OR SHOWN IN BOTH. THE DRAWINGS SHALL BE CONSIDERED AS SCHEMATIC IN NATURE AND MINOR MODIFICATIONS OF THE WORK TO COMPLY WITH THE STRUCTURE AS FOUND SHALL BE MADE.

1.05 RULES AND REGULATIONS

A. ALL WORK AND MATERIAL SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE STATE FIRE MARSHAL AND OTHER APPLICABLE STATE AND LOCAL RULES AND REGULATIONS.

B. NOTHING IN THESE DRAWINGS OR SPECIFICATIONS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

C. FURNISH WITHOUT ANY EXTRA CHARGE ANY ADDITIONAL MATERIAL AND LABOR WHEN REQUIRED TO COMPLY WITH THESE LAWS, ORDINANCES AND CODES REGARDLESS OF WHETHER SHOWN OR MENTIONED IN THESE SPECIFICATIONS OF DRAWINGS.

1.06 SUBMITTALS

A. SUBMIT FOR REVIEW A COMPLETE AND ALL-INCLUSIVE LIST OF EQUIPMENT AND MATERIALS PROPOSED FOR USE; (1) SOFT COPY, ACCOMPANIED BY MANUFACTURER'S DATA SHEETS. DATA SHALL BE FORWARDED IN A SINGLE PACKAGE WITHIN 15 DAYS AFTER AWARD OF CONTRACT. SUBMIT PORTABLE DOCUMENT FORMAT (PDF) AND ONE REPRODUCIBLE SHOP DRAWING SHOWING PROPOSED DUCTWORK INSTALLATION. INCLUDE SIZES, LOCATIONS AND OTHER REQUIRED INFORMATION TO COORDINATE INSTALLATION WITH OTHER TRADES.

B. WITHIN 5 DAYS AFTER AWARD OF CONTRACT, SUBMIT PDF & A COPY OF A LETTER STATING ANY MATERIALS THAT CONTRACTOR WISHES TO SUBSTITUTE, TO THE OWNER FOR APPROVAL. INCLUDE SUCH INFORMATION AS MANUFACTURER'S NAME, TYPE OF MATERIAL, CERTIFIED RATINGS, OVERALL APPEARANCE, AND NECESSARY INFORMATION TO EXPLAIN FUNCTION AND OPERATION OF MATERIAL. ALL PROPOSED SUBSTITUTIONS SHALL BE EQUAL IN QUALITY, DESIGN, UTILITY AND APPEARANCE TO MATERIAL, EQUIPMENT OR METHOD SPECIFIED.

1.07 AS-BUILT DRAWINGS

A SET OF HVAC PRINTS OR ACCESS TO A PRINT SHOP/PDFS WILL BE FURNISHED TO THE CONTRACTOR ON WHICH HE/SHE SHALL INDICATE THE INSTALLATION "AS-BUILT" AS THE WORK PROGRESSES. UPON COMPLETION OF THE WORK, A SET OF REPRODUCIBLE DRAWINGS SHALL BE OBTAINED FROM THE OWNER AT COST, AND ALL CHANGES AS NOTED ON THE RECORD SET OF PRINTS SHALL BE INCORPORATED THEREON. THIS SET OF REPRODUCIBLES, ALONG WITH ONE SET OF PDF'S, SHALL BE DELIVERED TO THE OWNER UPON COMPLETION AND BEFORE FINAL ACCEPTANCE OF THE PROJECT.

1.08 GUARANTEE

THE CONTRACTOR SHALL LEAVE THE ENTIRE INSTALLATION IN COMPLETE WORKING ORDER FREE FROM ANY DEFECTIVE MATERIAL, WORKMANSHIP OR FINISH. HE SHALL GUARANTEE TO REPAIR OR REPLACE, WITHOUT CHARGE, DEFECTS DUE TO FAULTY WORKMANSHIP OR MATERIAL FOR A PERIOD OF ONE YEAR FROM THE DATE OF FILING OF THE NOTICE OF COMPLETION.

1.09 OPERATION MANUALS AND OWNER INSTRUCTIONS

A. PROVIDE COMPLETE OPERATION AND MAINTENANCE MANUALS COVERING ALL MECHANICAL SYSTEMS AND EQUIPMENT THAT HAVE BEEN INSTALLED. A HARD COPY & SOFT COPY OF THE MANUAL SHALL BE PROVIDED TO AN OWNER.

B. PROVIDE INSTRUCTIONS TO STORE PERSONNEL AS TO OPERATION OF ALL HVAC EQUIPMENT AND THERMOSTATS. INSTRUCTION PERIOD TO COMMENCE FOR MINIMUM OF (2) HOURS AND SHALL BE SCHEDULED AT OWNER'S CONVENIENCE. ALSO, PROVIDE STORE MANAGER WITH OPERATION MANUAL.

1.10 CUTTING AND PATCHING

A. CONTRACTOR SHALL DO ALL CUTTING, DRILLING AND PATCHING WHICH MAY BE REQUIRED FOR THE INSTALLATION OF THE WORK UNDER THIS SECTION OF THE SPECIFICATIONS.

B. PATCHING SHALL BE OF THE SAME WORKMANSHIP, MATERIAL, AND FINISH AND SHALL MATCH ACCURATELY ALL SURROUNDING CONSTRUCTION IN A MANNER SATISFACTORY TO THE OWNER. NO CUTTING OF THE STRUCTURE SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE OWNER.

2.00 - DUCTWORK

2.01 MATERIALS

2.01.1 METAL AIR DUCTS

A. SHEET METAL RECTANGULAR AND ROUND DUCTWORK, PLENUMS, AND CASINGS SHALL BE FABRICATED IN STRICT ACCORDANCE WITH LATEST EDITION OF SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" BASED ON INDICATED STATIC-PRESSURE CLASS.

B. MATERIAL FOR DUCTWORK SHALL BE HOT DIPPED GALVANIZED (G60) STEEL OF GAUGES SHOWN IN THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS. ALL DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH PRESSURE CLASSIFICATION SCHEDULES OF NO LESS THAN CLASS +/- 2" W.G., AND SHALL BE SEALED TO THE DUCT SEALING REQUIREMENTS OF CLASS “C” MINIMUM.

C. SELECT TRANSVERSE JOINT AND LONGITUDINAL SEAM TYPES, FIGURES 1-4 AND 1-5 RESPECTIVELY, AND FABRICATE RECTANGULAR DUCTWORK ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE".

D. SELECT ELBOWS, TRANSITIONS, OFFSETS, BRANCH CONNECTIONS, TEES AND LATERALS, AND OTHER FITTING TYPES, AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE".

E. TRANSITIONS IN SIZE OF DUCTS SHALL BE MADE BY UNIFORMLY TAPERING SECTIONS HAVING 1 INCH INCREASE IN WIDTH FOR EACH 7 INCHES OF RUN UNLESS CONSTRUCTION LIMITATIONS REQUIRE A MORE ABRUPT TRANSITION.

F. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE", CHAPTER 4, “HANGERS AND SUPPORTS” FOR UPPER AND LOWER ATTACHMENTS. FIGURES 4.2 AND 4.4 RESPECTIVELY. REFER TO TABLES 4.1 AND 4.2 FOR RECTANGULAR AND ROUND MINIMUM HANGER SIZE AND SPACING.

G. SHEET METAL ROUND DUCT SHALL BE UNITED MCGILL, SEMCO INC., LINX IND., OR EQUAL SPIRAL SEAM DUCTS WITH GASKET “UNISEAL” CONNECTION FOR EXPOSED INSTALLATIONS, AND SPIRAL OR LONGITUDINAL SEAM WITH BEADED SLEEVE JOINT CONNECTIONS FOR CONCEALED INSTALLATIONS. FITTINGS SHALL BE "UNIFORM" MACHINE FORMED WITH CONTINUOUS WELDS.

H. SUPPLY AND RETURN AIR DUCTWORK SHALL BE EXTERNALLY INSULATED AS REQUIRED BY LOCAL ENERGY CODE. INSULATION SHALL BE OWENS-CORNING SOFT DUCT WRAP OR EQUAL CONSISTING OF A BLANKET OF GLASS FIBER INSULATION FACTORY-LAMINATED TO FRK VAPOR RETARDER FACING. INSULATION SHALL MEET THE REQUIREMENTS OF NFPA 90A AND 90 B AND OTHER MECHANICAL ENERGY CODES.

I. ELECTROGALVANIZED-STEEL SHEET: ASTM A 879
1. PAINTLOK/PAINTLOCK OR EQUAL.

J. GENERAL DUCTWORK SHALL BE GALVANIZED STEEL, ASTM A653/A635M, CONSTRUCTED TO THE GAUGE AND CORRESPONDING REINFORCING SCHEDULE AS INDICATED IN THE LATEST EDITION OF SMACNA.

K. FOR TYPE 1 KITCHEN EXHAUST DUCTWORK
1. FACTORY-BUILT COMMERCIAL KITCHEN GREASE DUCT:
A. INSTALL REDUCED CLEARANCE, ROUND, DOUB;-WALL GREASE DUCT AS SPECIFIED MEETING UL 1978 REQUIREMENTS. REFER TO KITCHEN EQUIPMENT SUPPLIER DRAWINGS FOR REQUIREMENTS.

B. DUCTWORK AND FITTINGS FURNISHED BY OWNER FOR INSTALLATION BY THIS CONTRACTOR.

C. NO FIRE WRAP SHALL BE REQUIRED FOR THIS INSTALLATION.

2.01.2 FACTORY-MADE AIR DUCTS

A. FACTORY-MADE AIR DUCTS SHALL BE APPROVED FOR THE USE INTENDED. EACH SECTION OF A FACTORY-MADE AIR DUCT SHALL BE IDENTIFIED BY THE MANUFACTURER WITH A LABEL INDICATING CLASS DESIGNATION. THESE DUCTS SHALL BE LISTED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF THEIR LISTING.

B. ACOUSTICAL FLEXIBLE DUCT SHALL BE UL 181 LISTED, CLASS 1, 2-PLY VINYL FILM SUPPORTED BY HELICALLY WOUND SPRING-STEEL WIRE, FIBROUS-GLASS INSULATION TO MEET LOCAL CODE R-VALUES, AND FINISHED WITH A POLYETHYLENE VAPOR-BARRIER FILM. INTERIOR VINYL FILM SHALL BE PERFORATED FOR SOUND ATTENUATION. FLEXIBLE DUCT SHALL BE RATED TO +10"/-1" W.G., 4000 FPM, AND -20 TO 210°F TEMPERATURE RANGE. FLEXIBLE DUCT CLAMP CONNECTORS SHALL BE STAINLESS-STEEL BAND WITH CADMIUM HEX SCREW TO TIGHTEN BAND WITH A WORM-GEAR ACTION. FLEXIBLE DUCTS SHALL BE ALLOWED ONLY AT THE FINAL CONNECTION TO AIR OUTLETS/INLETS AT A LENGTH OF 5 FEET MAXIMUM.

C. INSULATED ALUMINUM FLEXIBLE DUCT SHALL BE UL 181 LISTED, CLASS 0, INTERLOCKING SPIRAL OF ALUMINUM FOIL, FIBROUS-GLASS INSULATION SHALL MEET LOCAL CODE R-VALUE, AND SHALL BE FINISHED WITH A POLYETHYLENE VAPOR-BARRIER FILM. ALUMINUM FLEXIBLE DUCT SHALL BE RATED TO +/- 8” W.G., 5000 FPM VELOCITY, AND -20 TO 250°F TEMPERATURE RANGE.

D. INSULATED WIRE FLEXIBLE DUCT SHALL BE UL 181 LISTED, CLASS 1, 2-PLY VINYL FILM SUPPORTED BY HELICALLY WOUND SPRING-STEEL WIRE, FIBROUS-GLASS INSULATION SHALL MEET LOCAL CODE R-VALUES, AND SHALL BE FINISHED WITH A POLYETHYLENE VAPOR-BARRIER FILM. FLEXIBLE DUCTS SHALL BE RATED TO +10/-1” W.G., 4000 FPM VELOCITY, AND -20 TO 210°F TEMPERATURE RANGE. FLEXIBLE DUCT CLAMP CONNECTORS SHALL BE STAINLESS-STEEL BAND WITH CADMIUM HEX SCREW TO TIGHTEN BAND WITH A WORM-GEAR ACTION.

E. INSTALLATION OF FACTORY-MADE AIR DUCT JOINTS AND ATTACHMENTS SHALL BE IN STRICT ACCORDANCE WITH LATEST EDITION OF SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE".

F. SELECT TRANSITIONS, BRANCH CONNECTIONS, TEES AND LATERALS, AND OTHER FITTING TYPES, AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" BASED ON INDICATED STATIC-PRESSURE CLASS.

G. SELECT SIZING PRACTICES IN ACCORDANCE TO THE AIR CONDITIONING CONTRACTORS OF AMERICA (ACCA), MANUALS D & Q. IN PRACTICE LIMIT VELOCITIES TO 700 FPM MAX. FOR SUPPLY AND RETURN AIR DUCTS, AND INCREASE DUCT SIZES BY ONE SIZE (EVEN NUMBER) LARGER THAN METAL AIR DUCTS.

H. FACTORY-MADE DUCTS SHALL NOT BE USED FOR VERTICAL RISERS IN AIR DISTRIBUTION DUCT SYSTEMS. SUCH A DUCT SHALL NOT PENETRATE CONSTRUCTION WHERE FIRE DAMPERS ARE REQUIRED.

2.01.3 DUCTWORK ACCESSORIES

A. DAMPER OPERATORS
A.A. DUCTS WITH EXTERNAL INSULATION: VENTLOCK #637, DURADYNE, YOUNG, OR APPROVED EQUAL.
A.B. DUCTS WITH INTERNAL INSULATION AND/OR NO INSULATION: VENTLOCK #635, DURADYNE, YOUNG, OR APPROVED EQUAL.

B. FLEXIBLE CONNECTIONS: VENTFABRICS "VENTGLAS", DURADYNE, OR APPROVED EQUAL, U.L. 181 APPROVED WITH METAL ATTACHMENT.

C. AIR EXTRACTOR: TITUS AG-225, KRUEGER EX-88C, OR APPROVED EQUAL.

D. TURNING VANES SHALL COMPLY WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS. ALL RECTANGULAR DUCT WITH MITERED ELBOWS SHALL BE FITTED WITH TURNING VANES.

E. SPIN-IN-FITTINGS ARE NOT ALLOWED. USE UNITED MCGILL BELLMOUTH FITTING FOR ROUND DUCT TAPS.

F. ACCESS DOORS IN DUCTWORK: SHALL BE VENTLOCK, DUCTMATE OR APPROVED EQUAL, STAMPED OR FORMED INSULATED ACCESS DOORS COMPLETE WITH ALL HARDWARE AND SEALANT.

G. JOINT SEALING:
G.1. THE FOLLOWING ITEMS ARE TO BE SEALED WITH HARDCAST DT TAPE AND ADHESIVE:
G.1.a. LONGITUDINAL AND TRANSVERSE SEAMS OF RECTANGULAR DUCTWORK.
G.1.b. ALL ROUND FITTINGS AND JOINT CONNECTORS USE FTA-20 FOR INDOOR USE AND RTA-20 FOR OUTDOOR USE.

G.2. FLEXIBLE DUCT AT DIFFUSERS SHALL USE INTEGRAL STAINLESS STEEL DRAW BAND AND PRESSURE SENSITIVE TAPE, HARDCAST P-301 OR EQUAL.

H. BRACINGS, HANGERS, NUTS, ETC. SHALL BE GALVANIZED.

I. CURVED ELBOWS SHALL HAVE CENTERLINE RADIUS EQUAL TO ONE AND ONE-HALF TIMES DUCT WIDTH IN PLANE OF TURN.

J. SQUARE ELBOWS SHALL HAVE TURNING VANES. MITER ELBOWS (NOT SQUARE) SHALL HAVE SPLITTER VANES 3 INCHES O.C.

K. VOLUME DAMPERS SHALL BE CONSTRUCTED TO SMACNA STANDARDS AND SHALL BE YOUNG REGULATOR MODEL 4040 FOR ROUND DUCTS AND SERIES 820 FOR RECTANGULAR DUCTS.

L. CONTRACTOR SHALL PROVIDE MANUAL VOLUME DAMPERS AT ALL BRANCH DUCTWORK IN SUPPLY AIR, RETURN AIR AND OUTSIDE AIR SYSTEMS (WHETHER SHOWN ON PLANS OR NOT) WHERE REQUIRED FOR AIR BALANCING OF HVAC SYSTEMS. ALL ACCESSIBLE VOLUME CONTROLS SHALL HAVE LOCKING QUADRANTS. ALL INACCESSIBLE CONTROLS (DAMPERS, ETC.) SHALL BE PROVIDED WITH PERMANENT EXTENSIONS TO ACCESSIBLE SPACES. BRANCH VOLUME CONTROLS ARE IN ADDITION TO VOLUME CONTROLS AT THE REGISTERS AND DIFFUSERS.

M. DIFFUSERS, GRILLES AND REGISTERS: AIR INLETS, OUTLETS SHALL BE PROPERLY SET IN PLACE. REGISTERS AND GRILLES SHALL BE TIGHTLY SEALED. EACH REGISTER AND DIFFUSER SHALL BE EQUIPPED WITH A VOLUME DAMPER OR AIR EXTRACTOR. PAINT INTERIOR SURFACE OF ALL UNITS FLAT BLACK. FACE AND TRIM OF ALL UNITS SHALL BE FINISHED. SIZE, FINISH, FRAMES, ACCESSORIES, CAPACITY AND PATTERN AS SHOWN ON DRAWINGS.

2.02 EXECUTION

A. ASSEMBLE AND INSTALL DUCTWORK IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES WHICH WILL ACHIEVE AIR TIGHT (MAX. 5 % LEAKAGE) AND NOISELESS (NO OBJECTIONABLE NOISE) SYSTEMS, CAPABLE OF PERFORMING EACH INDICATED SERVICE. INSTALL EACH RUN WITH MINIMUM OF JOINTS.

B. ALIGN DUCTWORK ACCURATELY AT CONNECTIONS, WITHIN 1/8" MISALIGNMENT TOLERANCE AND WITH INTERNAL SURFACES SMOOTH.

C. SUPPORT DUCTS RIGIDLY WITH SUITABLE TIES, BRACES, HANGERS AND ANCHORS OF TYPE WHICH WILL HOLD DUCT TRUE TO SHAPE AND WILL PREVENT BUCKLING.

D. PROVIDE ALL NECESSARY OFFSETS AND TRANSITIONS AS REQUIRED IN THE INSTALLATION OF THE WORK, ALTHOUGH SOME MAY NOT BE SPECIFICALLY SHOWN ON THE PLANS. OFFSET ALL DUCTS AS REQUIRED TO INCREASE HEAD ROOM UNDER THEM, TO IMPROVE THE APPEARANCE OF EXPOSED DUCTS, AND TO AVOID INTERFERENCE WITH THE WORK OF OTHER TRADES.

E. LOCATE DUCTWORK RUNS, EXCEPT AS OTHERWISE INDICATED, VERTICALLY AND HORIZONTALLY AND AVOID DIAGONAL RUNS WHEREVER POSSIBLE.

F. HOLD DUCTS CLOSE TO WALLS OVERHEAD CONSTRUCTION, COLUMNS, AND OTHER STRUCTURAL AND PERMANENT ENCLOSURE ELEMENTS OF BUILDING.

G. WHERE DUCTS PASS THROUGH INTERIOR PARTITIONS AND EXTERIOR WALLS, CONCEAL SPACE BETWEEN CONSTRUCTION OPENING AND DUCT OR DUCT-PLUS-INSULATION WITH SHEET METAL FLANGES OF SAME GAGE AS DUCT.

H. WHERE DUCTS PASS THROUGH TIME-RATED FIRE RESISTIVE CONSTRUCTION, ALL OPENINGS AROUND THE DUCTS SHALL BE SEALED WITH FIRE STOPPING MATERIAL, EXCEPT WHERE FIRE DAMPERS ARE SHOWN, NOTED OR REQUIRED.

I. PROVIDE ANGLE, CHANNEL, OR EQUAL TYPE FRAMES FOR ALL MANUAL AND AUTOMATIC DAMPERS AND INSTALL AS REQUIRED.

J. COORDINATE DUCT INSTALLATIONS WITH INSTALLATION OF ACCESSORIES, DAMPERS, COIL FRAMES, EQUIPMENT, CONTROLS AND OTHER ASSOCIATED WORK OF DUCTWORK SYSTEM.

K. SUPPORT DUCTWORK IN MANNER COMPLYING WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS" HANGER AND SUPPORTS SECTION.

3.00 - HYDRONIC & DIRECT EXPANSION PIPING

3.01 MATERIALS

A. HOT, CHILLED, AND CONDENSER WATER SERVICE PIPING ABOVE GROUND OF NOMINAL DIAMETER 2-1/2" OR LESS SHALL BE DRAWN-TEMPER COPPER PIPE, ASTM B88, TYPE L, WITH WROUGHT-COPPER FITTINGS, AND 95/5 LEAD FREE SOLDERED JOINTS.

B. REFRIGERANT PIPING SHALL BE TYPE L HARD COPPER ACR TUBING WITH WROUGHT COPPER, SOLDER JOINT FITTINGS, SILVER SOLDERED. ALL REFRIGERANT PIPING SHALL BE INSULATED EXCEPT WHERE THE UNINSULATED AREA DOES NOT RESULT IN AN ENERGY LOSS TO THE SYSTEM OR AN ADVERSE EFFECT TO THE SYSTEM FROM STRAY HEAT. PIPE INSULATION SHALL BE ARMSTRONG ARMAFLEX, OWENS-CORNING FLEXIBLE TUBING, RUBICON OR APPROVED EQUAL. THICKNESS SHALL BE 3/4" ON INTERIOR PIPING AND 1" ON EXTERIOR PIPING. INSULATED PIPING EXPOSED TO WEATHER SHALL BE PROVIDED WITH ARMSTRONG ARMAFLEX FINISH AND ALL-WEATHER SERVICE JACKET FOR OUTDOOR APPLICATIONS VALVES, STRAINERS, SIGHT GLASS, FILTER DRIERS, OIL SEPARATORS, ETC. SHALL BE MANUFACTURED BY SPORLAN VALVE CO.

C. COPPER PIPING SHALL HAVE SOLDERED JOINTS OF 250 PSIG PRESSURE RATING.

D. CONDENSATE DRAIN PIPE SHALL BE COPPER TYPE M, ASTM B88, WROUGHT COPPER FITTINGS, SOLDERED JOINTS.

E. GATE VALVES, 2-INCH AND SMALLER: MSS SP-80; CLASS 125, BODY AND BONNET OF ASTM B 62 CAST BRONZE; WITH THREADED OR SOLDER ENDS, SOLID DISC, SILICON BRONZE ALLOY STEM, BRASS PACKING GLAND, "TEFLON" IMPREGNATED PACKING, AND MALLEABLE IRON HANDWHEEL. PROVIDE CLASS 150 VALVES MEETING THE ABOVE WHERE SYSTEM PRESSURE REQUIRES.

F. BALL VALVES, 2-INCH AND SMALLER: MSS SP-110; RATED FOR 150 PSI SATURATED STEAM PRESSURE, 600 PSI WOG PRESSURE; TWO-PIECE CONSTRUCTION; WITH BRONZE BODY CONFORMING TO ASTM B 62, STANDARD PORT, CHROME-PLATED BRASS BALL, REPLACEABLE "TEFLON" OR "TFE" SEATS AND SEALS, BLOWOUT-PROOF STEM, AND VINYL-COVERED STEEL HANDLE. PROVIDE SOLDER ENDS FOR CONDENSER WATER, CHILLED WATER; AND THREADED ENDS FOR HEATING HOT WATER.

G. PLUG VALVES, 2-INCH AND SMALLER: RATED AT 150 PSI WOG; BRONZE BODY, WITH STRAIGHT- AWAY PATTERN, SQUARE HEAD, AND THREADED ENDS

H. GLOBE VALVES, 2-INCH AND SMALLER: MSS SP-80; CLASS 125; BODY AND SCREWED BONNET OF ASTM B 62 CAST BRONZE; WITH THREADED OR SOLDER ENDS, BRASS OR “TEFLON” DISC, SILICON BRONZE ALLOY STEM, BRASS PACKING GLAND, "TEFLON" IMPREGNATED PACKING, AND MALLEABLE IRON HANDWHEEL. PROVIDE CLASS 150 VALVES MEETING THE ABOVE WHERE SYSTEM PRESSURE REQUIRES.

I. SWING CHECK VALVES, 2-INCH AND SMALLER: MSS SP-80; CLASS 125, CAST-BRONZE BODY AND CAP CONFORMING TO ASTM B 62; WITH HORIZONTAL SWING, Y-PATTERN, AND BRONZE OR “TEFLON” DISC; AND HAVING THREADED OR SOLDER ENDS. PROVIDE VALVES CAPABLE OF BEING REGROUND WHILE THE VALVE REMAINS IN THE LINE. PROVIDE CLASS 150 VALVES MEETING THE ABOVE SPECIFICATIONS, WITH THREADED END CONNECTIONS, WHERE SYSTEM PRESSURE REQUIRES OR WHERE CLASS 125 VALVES ARE NOT AVAILABLE.

J. BALANCING VALVES, 2 ½” AND SMALLER: BRONZE BODY, BALL TYPE, 125-PSIG WORKING PRESSURE, 250°F MAXIMUM OPERATING TEMPERATURE, AND HAVING THREADED ENDS. VALVES SHALL HAVE CALIBRATED ORIFICE OR VENTURI, CONNECTIONS FOR PORTABLE DIFFERENTIAL PRESSURE METER WITH INTEGRAL SEALS, AND BE EQUIPPED WITH A MEMORY STOP TO RETAIN SET POSITION.

K. AUTOMATIC FLOW-CONTROL VALVES: GRAY-IRON BODY, FACTORY SET TO MAINTAIN CONSTANT FLOW WITH PLUS OR MINUS 5 PERCENT OVER SYSTEM PRESSURE FLUCTUATIONS, AND EQUIPPED WITH A READOUT KIT INCLUDING FLOW METER, PROBES, HOSES, FLOW CHARTS, AND CARRYING CASE. EACH VALVE SHALL HAVE AN IDENTIFICATION TAG ATTACHED BY CHAIN, AND BE FACTORY MARKED WITH THE ZONE IDENTIFICATION, VALVE NUMBER, AND FLOW RATE.

L. MANUAL AIR VENT: BRONZE BODY AND NONFERROUS INTERNAL PARTS; 150-PSIG WORKING PRESSURE; 225°F OPERATING TEMPERATURE; MANUALLY OPERATED WITH SCREWDRIVER OR THUMBSCREW; WITH 1/8” DISCHARGE CONNECTION AND ½” INLET CONNECTION.

M. AUTOMATIC AIR VENT: DESIGNED TO VENT AUTOMATICALLY WITH FLOAT PRINCIPLE; BRONZE BODY AND NONFERROUS INTERNAL PARTS; 150-PSIG WORKING PRESSURE; 240°F OPERATING TEMPERATURE; WITH ¼” DISCHARGE CONNECTION AND ½” INLET CONNECTION.

N. Y-PATTERN STRAINERS: 125-PSIG WORKING PRESSURE; CAST-IRON BODY (ASTM A 126, CLASS B), THREADED CONNECTIONS FOR 2” AND SMALLER, BOLTED COVER, PERFORATED STAINLESS-STEEL BASKET, AND BOTTOM DRAIN CONNECTION.

O. FLEXIBLE CONNECTORS: STAINLESS-STEEL BELLOWS WITH WOVEN, FLEXIBLE, BRONZE, WIRE-REINFORCING PROTECTIVE JACKET; 150-PSIG MINIMUM WORKING PRESSURE AND 250°F MAXIMUM OPERATING TEMPERATURE. CONNECTORS SHALL HAVE FLANGED- OR THREADED-END CONNECTIONS TO MATCH EQUIPMENT CONNECTED AND SHALL BE CAPABLE OF 3/4-INCH (20-MM) MISALIGNMENT.

P. INSULATE ALL WATER PIPING WITH DENSITY FIBROUS GLASS INSULATION WITH WHITE KRAFT BONDED TO ALUMINUM FOIL. THICKNESS AND R-VALUE AS PER TABLE 120.3-A OF CEC STANDARDS. FITTINGS SHALL BE INSULATED WITH PRE-MOLDED FIBERGLASS INSULATION. THE INTEGRITY OF THE VAPOR BARRIER SHALL BE MAINTAINED THROUGHOUT THE INSTALLATION. TAPE AND SEAL ALL JOINTS WITH VAPOR BARRIER TAPE.

3.02 EXECUTION:

A. INSTALL HANGERS, SUPPORTS, CLAMPS, AND ATTACHMENTS TO SUPPORT PIPING PROPERLY FROM BUILDING STRUCTURE; COMPLY WITH MSS SP-69. ARRANGE FOR GROUPING OF PARALLEL RUNS OF HORIZONTAL PIPING TO BE SUPPORTED TOGETHER ON TRAPEZE TYPE HANGERS WHERE POSSIBLE. INSTALL SUPPORTS WITH MAXIMUM SPACING COMPLYING WITH MSS SP-69. WHERE PIPING OF VARIOUS SIZES IS TO BE SUPPORTED TOGETHER BY TRAPEZE HANGERS, SPACE HANGERS FOR SMALLEST PIPE SIZE OR INSTALL INTERMEDIATE SUPPORTS FOR SMALLER DIAMETER PIPE.

B. INSTALL HANGERS AND SUPPORTS COMPLETE WITH NECESSARY INSERTS, BOLTS, RODS, NUTS, WASHERS AND OTHER ACCESSORIES. EXCEPT AS OTHERWISE INDICATED FOR EXPOSED CONTINUOUS PIPE RUNS, INSTALL HANGERS AND SUPPORTS OF SAME TYPE AND STYLE AS INSTALLED FOR ADJACENT SIMILAR PIPING.

C. PREVENT ELECTROLYSIS IN SUPPORT OF COPPER TUBING BY USE OF HANGERS AND SUPPORTS WHICH ARE COPPER PLATED, OR BY OTHER RECOGNIZED INDUSTRY METHODS.

D. INSTALL HANGERS AND SUPPORTS TO ALLOW CONTROLLED MOVEMENT OF PIPING SYSTEMS AND TO PERMIT FREEDOM OF MOVEMENT BETWEEN PIPE ANCHORS, AND TO FACILITATE ACTION OF EXPANSION JOINTS, EXPANSION LOOPS, EXPANSION BENDS AND SIMILAR UNITS.

E. INSTALL HANGERS AND SUPPORTS SO THAT PIPING LIVE AND DEAD LOADING AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT.

F. INSTALL HANGERS AND SUPPORTS TO PROVIDE INDICATED PIPE SLOPES, AND SO THAT MAXIMUM PIPE DEFLECTIONS ALLOWED BY ANSI B31 PRESSURE PIPING CODES ARE NOT EXCEEDED.

G. INSULATED PIPING: COMPLY WITH THE FOLLOWING INSTALLATION REQUIREMENTS.
G.1. CLAMPS: ATTACH CLAMPS, INCLUDING SPACERS, TO PIPING WITH CLAMPS PROJECTING THROUGH INSULATION; DO NOT EXCEED PIPE STRESSES ALLOWED BY ANSI B31.

G.2. SHIELDS: WHERE LOW-COMPRESSIVE-STRENGTH INSULATION OR VAPOR BARRIERS ARE INDICATED ON WATER PIPING, INSTALL COATED PROTECTIVE SHIELDS.

G.3. SADDLES: WHERE INSULATION WITHOUT VAPOR BARRIER IS INDICATED, INSTALL PROTECTION SADDLES.

H. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL UTILIZE DIELECTRIC INSULATING FITTINGS, COUPLINGS AND UNIONS.

4.00 - EQUIPMENT

4.01 AIR DEVICES

DIFFUSERS, GRILLES AND REGISTERS: TITUS, KRUEGER, METALAIRE, OR THERMAFUSER WHERE SHOWN. FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR. PROVIDE VOLUME DAMPERS AND PAINT INTERIOR FLAT BLACK. SIZE, FINISH, FRAME TYPES AND ACCESSORIES AS SHOWN ON THE DRAWINGS.

4.02 FIRE DAMPERS & SMOKE FIRE DAMPERS

A. PROVIDE FIRE DAMPERS WITH ACCESS DOORS INSTALLED WHERE REQUIRED BY ALL LOCAL CODES. IN GENERAL, FIRE DAMPERS ARE REQUIRED WHERE DUCTS PIERCE FIRE-RATED FLOORS, CEILINGS, WALLS AND SHAFTS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL FIRE RATED ASSEMBLIES.

B. FIRE DAMPERS SHALL BE EQUAL TO AIR BALANCE INC., MODEL NO. 119BLX, OR 119CL, OR AS APPROVED, FOR RECTANGULAR AND ROUND DUCTS. DAMPERS SHALL MEET THE REQUIREMENTS FOR NFPA BULLETIN NO. 90A, AND SHALL BE TESTED IN ACCORDANCE WITH UL 555 TEST CRITERIA, FIRE DAMPERS SHALL BE LABELED AND LISTED BY UL.

C. IF APPLICABLE, FIRE DAMPERS SHALL COMPLY WITH UL-555-2006, 7TH EDITION AND SHALL BE MARKED "FOR USE IN DYNAMIC SYSTEMS" OR "FOR USE IN STATIC SYSTEMS" AS REQUIRED.

D. COMBINATION SMOKE FIRE DAMPERS SHALL BE INSTALLED WHERE DUCTWORK PENETRATES FIRE RATED WALLS SURROUNDING AN EXIT CORRIDOR, OR WHERE OTHERWISE REQUIRED BY CODE.

4.03 AIR CONDITIONING EQUIPMENT

A. DESCRIPTION: FACTORY ASSEMBLED AND TESTED; DESIGNED FOR ROOF OR SLAB INSTALLATION; AND CONSISTING OF COMPRESSORS, CONDENSERS, EVAPORATOR COILS, CONDENSER AND EVAPORATOR FANS, REFRIGERATION AND TEMPERATURE CONTROLS, FILTERS, AND DAMPERS.

B. CASING: MANUFACTURER'S STANDARD CONSTRUCTION WITH CORROSION-PROTECTION COATING AND EXTERIOR FINISH, HINGED PANELS OR ACCESS DOORS WITH NEOPRENE GASKETS FOR INSPECTION AND ACCESS TO INTERNAL PARTS, MINIMUM 1/2-INCH THICK THERMAL INSULATION, KNOCKOUTS FOR ELECTRICAL AND PIPING CONNECTIONS, EXTERIOR CONDENSATE DRAIN CONNECTION, AND LIFTING LUGS.

C. EVAPORATOR FANS: FORWARD CURVED, CENTRIFUGAL, BELT DRIVEN WITH ADJUSTABLE SHEAVES OR DIRECT-DRIVE FANS; AND WITH PERMANENTLY LUBRICATED MOTOR BEARINGS.

D. EXHAUST/RELIEF FANS: FORWARD-CURVED, CENTRIFUGAL OR PROPELLER TYPE, DIRECTLY DRIVEN WITH PERMANENTLY LUBRICATED MOTOR BEARINGS.

E. CONDENSER FANS: PROPELLER TYPE, DIRECTLY DRIVEN WITH PERMANENTLY LUBRICATED MOTOR BEARINGS.

F. REFRIGERANT COILS: ALUMINUM-PLATE FIN AND SEAMLESS COPPER TUBE IN GALVANIZED STEEL CASING WITH EQUALIZING-TYPE VERTICAL DISTRIBUTOR.

G. COMPRESSORS: SERVICEABLE, SEMI-HERMETIC, OR FULLY HERMETIC COMPRESSORS WITH INTEGRAL VIBRATION ISOLATORS AND CRANKCASE HEATERS.

H. SAFETY CONTROLS: FOR SEMI-HERMETIC COMPRESSORS PROVIDE MANUAL-RESET TYPE SAFETY CONTROLS FOR LOW PRESSURE, HIGH PRESSURE, AND COMPRESSOR MOTOR OVERLOAD PROTECTION.

I. TIMED-OFF CONTROL: AUTOMATIC-RESET CONTROL SHUTS COMPRESSOR OFF AFTER 5 MINUTES.

J. HEAT EXCHANGERS: MANUFACTURER'S STANDARD CONSTRUCTION FOR GAS-FIRED HEAT EXCHANGERS AND BURNERS WITH THE FOLLOWING CONTROLS:
J.1. REDUNDANT, DUAL GAS VALVES (2-STAGE HEATING).

J.2. INTERMITTENT PILOT IGNITION.

J.3. ELECTRONIC-SPARK IGNITION SYSTEM.

J.4. HIGH-LIMIT CUTOUT.

J.5. FORCED-DRAFT PROVING SWITCH.

K. ELECTRIC HEAT: MANUFACTURER'S STANDARD CONSTRUCTION, ELECTRIC RESISTANCE, FACTORY WIRED FAR SINGLE-POINT WIRING CONNECTION, WITH OVERCURRENT AND OVERHEAT PROTECTION DEVICES.

L. ECONOMIZER CONTROL: RETURN- AND OUTSIDE-AIR DAMPERS, OUTSIDE-AIR FILTER, FULLY MODULATING ELECTRONIC-CONTROL SYSTEM WITH ADJUSTABLE MIXED-AIR THERMOSTAT AND AUTOMATIC CHANGEOVER THROUGH ADJUSTABLE DRY BULB/ENTHALPY-CONTROL DEVICE.

M. VARIABLE-AIR-VOLUME CONTROL: ELECTRIC DISCHARGE-AIR-TEMPERATURE STEP CONTROLLER AND ELECTRONIC-CONTROL SYSTEM.

N. LOW AMBIENT CONTROL: HEAD-PRESSURE CONTROL, DESIGNED TO OPERATE AT TEMPERATURES AS LOW AS 30°F.

O. THERMOSTAT: STAGED HEATING AND COOLING WITH MANUAL OR AUTOMATIC CHANGEOVER ON STANDARD SUBBASE.

P. SMOKE DETECTORS: PHOTOELECTRIC DUCT DETECTOR LOCATED IN SUPPLY/RETURN-AIR DISTRIBUTION PLENUM, TO DE-ENERGIZE UNIT.

Q. IN BUILDINGS THAT DO NOT HAVE FIRE ALARM SYSTEMS, PROVIDE AUDIBLE AND VISUAL ALARM EQUAL TO AIR PRODUCTS AND CONTROL INC. MODEL MS-RH/P/A IN AN APPROVED LOCATION.

R. ELECTRICAL CONVENIENCE OUTLET: FACTORY WIRED 115-V, AC FUSED OUTLET, SEPARATELY FUSED, LOCATED IN UNIT CABINET.

S. OPERATING CONTROLS: FACTORY-INSTALLED MICROPROCESSOR CONTROLS AND MONITORS UNIT AND COMMUNICATES WITH CENTRAL CONTROL PROCESSOR.
S.1. CONTROL OUTPUTS: 2-STAGE HEATING, 2-STAGE COOLING; AND AUTOMATIC OR CONTINUOUS FAN OPERATION AND ECONOMIZER DAMPER OPERATION.
S.2. CONTROL SENSORS: RETURN-AIR-TEMPERATURE SENSOR, FAN AIRFLOW-PROVING SWITCH, DIRTY-FILTER SWITCH, DISCHARGE-AIR-TEMPERATURE SENSOR, ROOM- TEMPERATURE SENSOR, AND NIGHT-SETBACK-OVERRIDE SWITCH.
S.3. CONTROL FEATURES: DAY/OCCUPIED MODES FOR HIGH OR LOW ENTHALPY AND NIGHT/UNOCCUPIED MODE.

4.04 INSULATION (INSTALLED PER MANUFACTURER'S RECOMMENDATIONS)

A. HEATING AND COOLING DUCTWORK LOCATED IN INTERIOR LOCATIONS
A.1. INSULATE WITH OWENS-CORNING FIBERGLASS ALL SERVICE FACED DUCT WRAP TYPE 150 WITH FACTORY APPLIED FLAME RETARDANT FOIL REINFORCED KRAFT FACING (FRK-25 UL LABELSD), OR APPROVED EQUAL.

B. ACOUSTICAL DUCTWORK, PLENUM, AND CASING LINER
B.1. PROVIDE INTERNALLY LINED DUCTWORK WHERE INDICATED ON DRAWINGS. ACOUSTICAL DUCT LINER SHALL BE JOHNS MANVILLE LINACOUSTIC RC DUCT LINER, OR EQUAL, MATTE FACE, SUITABLE FOR VELOCITIES FROM 1500 TO 4000 FPM, IN COMPLIANCE W/ UL723 AND UL181. SECURE LINER TO DUCTWORK WITH ADHESIVE AND MECHANICAL FASTENERS PER SMACNA DUCT LINER APPLICATION STANDARD.

B.2. FIBERGLASS DUCT AND PLENUM INSULATION ARE TO BE APPLIED ONLY WITH MANUFACTURER'S APPROVED ADHESIVES, MASTICS AND MECHANICAL FASTENING DEVICES.

(SPECIFICATIONS CONTINUED ON FOLLOWING SHEET)

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PROJECT

CAVA

CAVA_REDHAWK_TEMECULA_CA
LOCATION
31709 TEMECULA PKWY
TEMECULA, CA 92592

△	DATE	DESCRIPTION
1	06/10/24	PC COMMENTS
2	07/17/24	PC COMMENTS
3	08/21/24	PERMIT ADDENDUM

MECHANICAL SPECIFICATIONS

Date Modified:	08/21/2024
Date Created:	01/16/2024
Scale:	NOT TO SCALE
Project No.:	230863
Drawn By:	MV/CD
CAD File:	

M0.4

MECHANICAL SPECIFICATION (CONTINUED)

C. HEATING AND COOLING DUCTWORK LOCATED ON THE ROOF

C.1. INSULATE WITH RIGID BOARD INSULATION WITH A MINIMUM R VALUE OF R-8 AS REQUIRED PER CODE. COAT EXTERIOR OF INSULATION WITH PERFORATED SHEET METAL LINER, SUITABLE FOR VELOCITIES FROM 1500 TO 4000 FPM, IN COMPLIANCE W/ UL723 AND UL181.

C.2. WHERE INTERNAL INSULATION IS APPLIED, DUCT AND PLENUM SIZES AS SHOWN ON THE DRAWINGS SHALL BE INSIDE CLEAR DIMENSIONS.

D. SOFT FLEXIBLE DUCT

D.1. FOIL FACED FIBERGLASS, OWENS CORNING TYPE 75 OR EQUAL, FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT RATING OF NOT MORE THAN 50 UNLESS SHOWN OTHERWISE. ALL INSULATION SHALL BE EXTERNAL TO DUCTWORK.

E. DUCT LINER

E.1. FOR EXTERIOR DUCTS: FIBERGLASS WITH FIRE RATED BLACK COATING, OWENS CORNING AEROFLEX TYPE 150.

E.2. FOR OTHER LOCATIONS SHOWN ON DRAWINGS: AEROFLEX TYPE 150, AS ABOVE, EXCEPT 1 INCH THICK. FLAME SPREAD RATING OF NOT MORE THAN 25 AND SMOKE DEVELOPED RATING OF NOT MORE THAN 50.

E.3. AN EPA-APPROVED BIOCIDE IN THE AIRSTREAM COATING ENABLES OWENS-CORNING DUCT LINERS TO RESIST FUNGAL OR BACTERIAL GROWTH WHEN SUBJECTED TO MICROBIAL ATTACK DESCRIBED IN ASTM C 665 AND STANDARD PRACTICES ASTM G 21 (FUNGUS TEST) AND G 22 (BACTERIA TEST).

4.05 TEMPERATURE CONTROL SYSTEM

F. ALL UNITARY HEATING OR COOLING SYSTEMS, INCLUDING HEAT PUMPS, NOT CONTROLLED BY A CENTRAL ENERGY MANAGEMENT CONTROL SYSTEM (EMCS) SHALL HAVE A SETBACK PROGRAMMABLE THERMOSTAT.

F.1. SETBACK CAPABILITIES: ALL THERMOSTATS SHALL HAVE A CLOCK MECHANISM THAT ALLOWS THE BUILDING OCCUPANT TO PROGRAM THE TEMPERATURE SETPOINTS FOR AT LEAST FOUR PERIODS WITHIN 24 HOURS.

G. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC RESISTANCE HEATERS SHALL HAVE CONTROLS:

G.1. THAT PREVENT SUPPLEMENTARY HEATER OPERATION WHEN THE HEATING LOAD CAN BE MET BY THE HEAT PUMP ALONE; AND

G.2. IN WHICH THE CUT-ON TEMPERATURE FOR COMPRESSION HEATING IS HIGHER THAN THE CUT-ON TEMPERATURE FOR SUPPLEMENTARY HEATING, AND THE CUT-OFF TEMPERATURE FOR COMPRESSION HEATING IS HIGHER THAN THE CUT-OFF TEMPERATURE FOR SUPPLEMENTARY HEATING.

CONTRACTOR SHALL POST IN THE OCCUPIED SPACE TYPEWRITTEN INSTRUCTIONS ON OPERATION OF ALL CONTROLS.

4.06 SEISMIC RESTRAINTS AND BRACING

A. ALL HVAC EQUIPMENT, DUCTWORK, PIPING AND WIRING CONDUITS SHALL BE INSTALLED TO MEET THE LATERAL BRACING REQUIREMENTS FOR THE APPLICABLE SEISMIC ZONE. PROVIDE SEISMIC RESTRAINTS IN ACCORDANCE WITH SEISMIC HAZARD LEVEL (SHL) A OF THE "SEISMIC RESTRAINT MANUAL: GUIDELINES FOR MECHANICAL SYSTEMS" DATED 2009, AS PUBLISHED BY S.M.A.C.N.A. AND ALSO IN ACCORDANCE WITH APPLICABLE LOCAL BUILDING CODES.

B. ALL ROOFTOP EQUIPMENT SHALL HAVE PROPER ANCHORING AND RESTRAINT SYSTEMS AND SHALL BE SECURED TO A ROOF CURB, EQUIPMENT PAD, OR OTHER STRUCTURAL MEMBER TO PREVENT LATERAL, VERTICAL, OR OVERTURNING MOVEMENT WITHOUT SACRIFICING ANY RESILIENT VIBRATION ISOLATION REQUIREMENTS.

4.07 TESTING AND BALANCING (SEE ALSO, SECTION 15990)

BALANCING OF THE AIR CONDITIONING SYSTEM WILL BE PERFORMED BY AN INDEPENDENT TEST AND BALANCING AGENCY. THE MECHANICAL CONTRACTOR SHALL COOPERATE WITH THE SELECTED TEST AND BALANCE AGENCY IN THE FOLLOWING MANNER:

A. PROVIDE SUFFICIENT TIME BEFORE FINAL COMPLETION DATE SO THAT TEST AND BALANCING CAN BE ACCOMPLISHED.

B. PROVIDE IMMEDIATE LABOR AND TOOLS TO MAKE CORRECTIONS WHEN REQUIRED WITHOUT UNDUE DELAY. INSTALL BALANCING DAMPERS AS REQUIRED BY TEST AND BALANCE AGENCY.

C. THE CONTRACTOR SHALL PUT ALL HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS AND EQUIPMENT INTO FULL OPERATION AND SHALL CONTINUE THE OPERATION OF SAME DURING EACH WORKING DAY OF TESTING AND BALANCING.

D. TESTING AND BALANCING AGENCY SHALL BE KEPT INFORMED OF ANY MAJOR CHANGES MADE TO SYSTEM DURING CONSTRUCTION AND SHALL BE PROVIDED WITH COMPLETE AS-BUILT DRAWINGS.

E. THE MECHANICAL CONTRACTOR SHALL INCLUDE THE COSTS OF DAMPERS, PULLEY AND BELT CHANGES IN HIS CONTRACT.

4.08 SPECIAL CONDITIONS

A. AIR CONDITIONING EQUIPMENT ON ROOF: THE EXACT EQUIPMENT LOCATIONS ON THE ROOF SHALL BE FIELD VERIFIED BY CONTRACTOR. THE INTENT OF THE DESIGN IS TO UTILIZE A MANUFACTURER-SUPPLIED ROOF CURB THAT WOULD SUPPORT THE NEW EQUIPMENT.

B. CONTRACTOR SHALL CONFORM TO MANUFACTURER'S PUBLISHED INSTALLATION AND ASSEMBLY GUIDE. INSTALLATION SHALL CONFORM TO STRUCTURAL ENGINEERS'S REQUIREMENTS.

C. STRUCTURAL SUPPORT FOR THE AIR CONDITIONING UNIT: THE OWNER SHALL ENGAGE A LICENSED STRUCTURAL ENGINEER TO DESIGN THE STRUCTURAL SUPPORT FOR THE AIR CONDITIONING UNIT ON THE ROOF. THE MECHANICAL CONTRACTOR IS TO COORDINATE ALL WORK WITH THE STRUCTURAL ENGINEER.

D. ALL REQUIRED PENETRATIONS OF EXISTING ROOFING SYSTEM SHALL BE MADE BY LANDLORD'S ROOFING CONTRACTOR AT OWNER'S EXPENSE AFTER NOTIFICATION TO LANDLORD FOR APPROVAL.

END OF SECTION

TESTING, ADJUSTING, & BALANCING SPECIFICATION

SECTION 159900 - TESTING, ADJUSTING AND BALANCING

1.00 - GENERAL

1.01 DESCRIPTION

THE TESTING AND BALANCING WORK WILL BE PERFORMED UNDER A SEPARATE CONTRACT FROM THE HVAC WORK. THE WORK DESCRIBED IN THIS SECTION SHALL BE PERFORMED BY AN INDEPENDENT TEST AND BALANCE AGENCY, SPECIALIZING IN TESTING AND BALANCING OF HVAC SYSTEMS AND SHALL BE A MEMBER OF AABC, NEBB, OR APPROVED EQUAL ORGANIZATION.

1.02 SCOPE OF WORK

A. TEST, ADJUST, AND BALANCE HOT, CHILLED, AND CONDENSER WATER SYSTEMS, AIR MOVING EQUIPMENT, AND AIR SUPPLY, RETURN, AND EXHAUST SYSTEMS AS HEREIN SPECIFIED.

B. EACH PIECE OF AIR CONDITIONING AND HEATING EQUIPMENT AND THE AIR DISTRIBUTIONS SYSTEMS SHALL BE TESTED AND ADJUSTED TO INSURE PROPER FUNCTIONING OF ALL CONTROL, PROPER DISTRIBUTION OF AIR, MAINTENANCE OF TEMPERATURE, ELIMINATION OF DRAFTS, NOISE AND VIBRATION, AND LEFT IN FIRST CLASS OPERATING CONDITION. THE AIR SYSTEM SHALL BE READJUSTED IF REQUIRED FOR COMFORT OF EACH ROOM.

C. THE MECHANICAL CONTRACTOR WILL MAKE ANY CHANGES IN THE PULLEYS, BELTS, DAMPERS, VANES, BAFFLES AND OTHER BALANCING DEVICES REQUIRED FOR CORRECT BALANCE OF SYSTEM AS RECOMMENDED BY T&B AGENCY AND TO THE SATISFACTION OF THE OWNER.

1.03 SUBMITTALS

A. PROVIDE (1) HARD COPY & (1) SOFT COPY OF TEST AND BALANCE REPORT TO THE OWNER FOR REVIEW AND APPROVAL, LETTER SIZE, 3-RING BINDER MANUAL COMPLETE WITH INDEX PAGE AND INDEXING TABS. THE REPORT SHALL INCLUDE A SET OF REDUCED DRAWINGS WITH AIR OUTLETS AND EQUIPMENT IDENTIFIED TO CORRESPOND WITH THE MECHANICAL PLANS.

B. THE CERTIFIED TAB REPORTS SHALL INCLUDE INSTRUMENT TYPE AND MAKE, SERIAL NUMBER, DATES OF USE, AND DATES OF CALIBRATION. INSTRUMENTS USED FOR TESTING AND BALANCING MUST HAVE BEEN CALIBRATED WITHIN A PERIOD OF SIX (6) MONTHS AND CHECKED FOR ACCURACY PRIOR TO START OF WORK.

2.00 EXECUTION

2.01 EXAMINATION

A. EXAMINE THE CONTRACT DOCUMENTS TO BECOME FAMILIAR WITH PROJECT REQUIREMENTS AND TO DISCOVER CONDITIONS IN SYSTEMS' DESIGNS THAT MAY PRECLUDE PROPER TAB OF SYSTEMS AND EQUIPMENT.

B. EXAMINE SYSTEMS FOR INSTALLED BALANCING DEVICES, SUCH AS TEST PORTS, GAGE COCKS, THERMOMETER WELLS, FLOW-CONTROL DEVICES, BALANCING VALVES AND FITTINGS, AND MANUAL VOLUME DAMPERS. VERIFY THAT LOCATIONS OF THESE BALANCING DEVICES ARE ACCESSIBLE.

C. EXAMINE THE APPROVED SUBMITTALS FOR HVAC SYSTEMS AND EQUIPMENT.

D. EXAMINE EQUIPMENT PERFORMANCE DATA INCLUDING FAN AND PUMP CURVES.

E. EXAMINE SYSTEM AND EQUIPMENT INSTALLATIONS AND VERIFY THAT FIELD QUALITY-CONTROL TESTING, CLEANING, AND ADJUSTING SPECIFIED IN INDIVIDUAL SECTIONS HAVE BEEN PERFORMED.

F. EXAMINE HVAC EQUIPMENT AND FILTERS AND VERIFY THAT BEARINGS ARE GREASED, BELTS ARE ALIGNED AND TIGHT, AND EQUIPMENT WITH FUNCTIONING CONTROLS IS READY FOR OPERATION.

G. EXAMINE TERMINAL UNITS SUCH AS VARIABLE-AIR-VOLUME BOXES, AND VERIFY THAT THEY ARE ACCESSIBLE AND THEIR CONTROLS ARE CONNECTED AND FUNCTIONING.

H. EXAMINE STRAINERS, VERIFY THAT STARTUP SCREENS ARE REPLACED BY PERMANENT SCREENS WITH INDICATED PERFORATIONS.

I. EXAMINE SYSTEM PUMPS TO ENSURE ABSENCE OF ENTRAINED AIR IN THE SUCTION PIPING.

J. EXAMINE OPERATING SAFETY INTERLOCKS AND CONTROLS ON HVAC EQUIPMENT.

K. REPORT DEFICIENCIES DISCOVERED BEFORE AND DURING PERFORMANCE OF TAB PROCEDURES.

L. OBSERVE AND RECORD SYSTEM REACTIONS TO CHANGES IN CONDITIONS. RECORD DEFAULT SET POINTS IF DIFFERENT FROM INDICATED VALUES.

2.02 PREPARATION

A. PREPARE A TAB PLAN THAT INCLUDES STRATEGIES AND STEP-BY-STEP PROCEDURES.

B. COMPLETE SYSTEM-READINESS CHECKS AND PREPARE REPORTS. VERIFY THE FOLLOWING:

B.1. PERMANENT ELECTRICAL-POWER WIRING IS COMPLETE.

B.2. HYDRONIC SYSTEMS ARE FILLED, CLEAN, AND FREE OF AIR.

B.3. AUTOMATIC TEMPERATURE-CONTROL SYSTEMS ARE OPERATIONAL.

B.4. EQUIPMENT AND DUCT ACCESS DOORS ARE SECURELY CLOSED.

B.5. BALANCE, SMOKE, AND FIRE DAMPERS ARE OPEN.

B.6. ISOLATING AND BALANCING VALVES ARE OPEN AND CONTROL VALVES ARE OPERATIONAL.

B.7. CEILINGS ARE INSTALLED IN CRITICAL AREAS WHERE AIR-PATTERN ADJUSTMENTS ARE REQUIRED AND ACCESS TO BALANCING DEVICES IS PROVIDED.

B.8. WINDOWS AND DOORS CAN BE CLOSED SO INDICATED CONDITIONS FOR SYSTEM OPERATIONS CAN BE MET.

2.03 GENERAL PROCEDURES

A. PREPARE TEST REPORTS FOR BOTH FANS AND OUTLETS. OBTAIN MANUFACTURER'S OUTLET FACTORS AND RECOMMENDED TESTING PROCEDURES. CROSSCHECK THE SUMMATION OF REQUIRED OUTLET VOLUMES WITH REQUIRED FAN VOLUMES.

B. FOR VARIABLE-AIR-VOLUME SYSTEMS, DEVELOP A PLAN TO SIMULATE DIVERSITY.

C. DETERMINE THE BEST LOCATIONS IN MAIN AND BRANCH DUCTS FOR ACCURATE DUCT-AIRFLOW MEASUREMENTS.

D. CHECK AIRFLOW PATTERNS FROM THE OUTDOOR-AIR LOUVERS AND DAMPERS AND THE RETURN- AND EXHAUST-AIR DAMPERS THROUGH THE SUPPLY-FAN DISCHARGE AND MIXING DAMPERS.

E. LOCATE START-STOP AND DISCONNECT SWITCHES, ELECTRICAL INTERLOCKS, AND MOTOR STARTERS.

F. VERIFY THAT MOTOR STARTERS ARE EQUIPPED WITH PROPERLY SIZED THERMAL PROTECTION.

G. CHECK DAMPERS FOR PROPER POSITION TO ACHIEVE DESIRED AIRFLOW PATH.

H. CHECK FOR AIRFLOW BLOCKAGES.

I. CHECK CONDENSATE DRAINS FOR PROPER CONNECTIONS AND FUNCTIONING.

J. CHECK FOR PROPER SEALING OF AIR-HANDLING-UNIT COMPONENTS.

K. VERIFY THAT THE AIR DUCT SYSTEMS ARE SEALED.

L. PERFORM THE FOLLOWING MINIMUM TEST AND BALANCE:

L.1. TEST AND ADJUST SUPPLY, RETURN, AND EXHAUST FANS TO DESIGN REQUIREMENTS.

L.2. CHANGE SHEAVES AND BELTS AS REQUIRED TO OBTAIN DESIGN AIR QUANTITIES.

L.3. TEST AND RECORD MOTOR ELECTRICAL CHARACTERISTICS, RPM, SERVICE FACTOR, MEASURE VOLTAGE, FULL LOAD AMPERES AND CONNECTED LOAD AMPERAGE. CHECK AND RECORD STARTER HEATERS SIZES AND RATING, REPLACEMENT BELTS SIZES, ETC.

L.4. MAKE PITOT TUBE TRAVERSE (MINIMUM OF 16 POINT) OF MAIN SUPPLY DUCTS AND OBTAIN DESIGN CFM AT FANS. SEAL ALL TEST HOLES WITH SUITABLE HOLE PLUGS.

L.5. TEST AND RECORD SYSTEM STATIC PRESSURES, SUCTION, AND DISCHARGE.

L.6. TEST AND ADJUST SYSTEM FOR DESIGN CFM RECIRCULATED AIR.

L.7. TEST AND ADJUST SYSTEM FOR DESIGN CFM OUTSIDE AIR.

L.8. TEST AND RECORD ENTERING AIR TEMPERATURES. (D.B. HEATING AND COOLING)

L.9. TEST AND RECORD ENTERING AIR TEMPERATURES. (W.B. COOLING)

L.10. TEST AND RECORD LEAVING AIR TEMPERATURES. (D.B. COOLING)

L.11. TEST AND RECORD LEAVING AIR TEMPERATURES. (W.B. COOLING)

L.12. ADJUST ALL MAIN SUPPLY AND RETURN AIR DUCTS TO PROPER DESIGN CFM.

L.13. ADJUST ALL ZONES TO PROPER DESIGN CFM, SUPPLY, AND RETURN.

L.14. TEST AND ADJUST EACH DIFFUSER, GRILLES, AND REGISTER TO WITHIN 10% OF DESIGN REQUIREMENTS.

L.15. EACH GRILLE, DIFFUSER, AND REGISTER SHALL BE IDENTIFIED AS TO LOCATION AND AREA. SIZE, TYPE, FLOW FACTOR, AND MANUFACTURER OF DIFFUSERS, GRILLES, REGISTERS, AND ALL TESTED EQUIPMENT SHALL BE IDENTIFIED AND LISTED.

L.16. READINGS AND TESTS OF DIFFUSERS, GRILLES, AND REGISTERS SHALL INCLUDE REQUIRED FPM VELOCITY AND TEST RESULTANT VELOCITY, REQUIRED CFM AND TEST RESULTANT CFM AFTER ADJUSTMENTS.

L.17. IN COOPERATION WITH THE TEMPERATURE CONTROL CONTRACTOR'S REPRESENTATIVE, SETTING ADJUSTMENTS OF AUTOMATICALLY OPERATED DAMPERS TO OPERATE AS SPECIFIED, INDICATED, AND/OR NOTED. THE BALANCE AGENCY SHALL CHECK ALL CONTROLS FOR PROPER CALIBRATIONS AND LIST ALL CONTROLS REQUIRING ADJUSTMENT BY THE TEMPERATURE CONTROL CONTRACTOR.

L.18. ALL DIFFUSERS, GRILLES, AND REGISTERS SHALL BE ADJUSTED TO MINIMIZE DRAFTS IN ALL AREAS.

M. ALL EQUIPMENT SHALL BE IDENTIFIED BY EQUIPMENT SERVICE TAG, MANUFACTURER, MODEL NUMBER, AND SERIAL NUMBER, MOTOR HORSEPOWER, MOTOR NAMEPLATE VOLTAGE, MOTOR RPM, ACTUAL AND DESIGN STATIC PRESSURE, ACTUAL OUTLET VELOCITY, ACTUAL CFM, DESIGN CFM.

N. EACH AIR OUTLET SHALL BE TAGGED AND IDENTIFIED WITH MANUFACTURER, MODEL NUMBER, SIZE, VELOCITY, CORRECTION FACTOR, ACTUAL CFM, DESIGN CFM.

O. TRAVERSE READING OF MAIN SUPPLY, RETURN AND OUTSIDE AIR DUCTS TO ESTABLISH TOTAL AIRFLOW QUANTITIES.

P. TEST AND RECORD TEMPERATURES FROM MAIN SUPPLY AIR TRUNK, MIXED AIR DURING THE FULL HEATING AND FULL COOLING CYCLE AND ECONOMIZER CYCLE.

2.04 DEFICIENCIES IN SYSTEM

BALANCING CONTRACTOR SHALL REPORT IN WRITING TO THE OWNER ANY DISCREPANCIES ON ITEMS NOT INSTALLED IN ACCORDANCE WITH CONTRACT DOCUMENTS, ALL DEFICIENCIES IN HVAC SYSTEM, AND OTHER DEFICIENCIES. THE OWNER WILL REIMBURSE THE BALANCING CONTRACTOR IF ADDITIONAL WORK IS REQUIRED FOR HIS/HER PHASE OF WORK.

2.05 WARRANTY

THE TEST AND BALANCE AGENCY SHALL INCLUDE AN EXTENDED WARRANTY OF 90 DAYS, AFTER COMPLETION OF WORK, DURING WHICH TIME THE OWNER, AT THEIR DISCRETION, MAY REQUEST A RECHECK OR RESETTING OF ANY OUTLET, SUPPLY AIR FAN, OR EXHAUST FAN AS LISTED IN TEST REPORT.

END OF SECTION

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REGISTERED PROFESSIONAL ENGINEER
NO.M39248
MECHANICAL
STATE OF CALIFORNIA

PROJECT

CAVA

CAVA_REDHAWK_TEMECULA_CA
LOCATION
31709 TEMECULA PKWY
TEMECULA, CA 92592

DATE	DESCRIPTION
1 06/10/24	PC COMMENTS
2 07/17/24	PC COMMENTS
3 08/21/24	PERMIT ADDENDUM

MECHANICAL SPECIFICATIONS

Date Modified:	08/21/2024
Date Created:	01/16/2024
Scale:	NOT TO SCALE
Project No.:	230863
Drawn By:	MV/CD
CAD File:	

STATE OF CALIFORNIA

Mechanical Systems

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, or 141.0(b)2 for alterations.			
Project Name: CAVA Mezze Grille		**Report Page:**	**(Page 1 of 11)**
Project Address:	31709 Temecula Pkwy	**Date Prepared:**	3/26/2024

A. GENERAL INFORMATION

01	Project Location (city)	Temecula	04	Total Conditioned Floor Area	1792
02	Climate Zone	10	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1

• Support Areas • All Other Occupancies

B. PROJECT SCOPE

This table Includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, 170.2(b) or 141.0(b)2 and 180.2(b)2 for alterations.

01		02		03	
Air System(s)		Wet System Components		Dry System Components	
☒	Heating Air System	☐	Water Economizer	☒	Air Economizer
☒	Cooling Air System	☐	Pumps	☐	Electric Resistance Heat
Mechanical Controls		☐	System Piping	☒	Fan Systems
☒	Mechanical Controls (existing to remain, altered or new)	☐	Cooling Towers	☒	Ductwork (existing to remain, altered or new)
		☐	Chillers	☒	Ventilation
		☐	Boilers	☐	Zonal Systems/ Terminal Boxes

STATE OF CALIFORNIA

Mechanical Systems

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: CAVA Mezze Grille	**Report Page:**	**(Page 2 of 11)**
	Date Prepared:	3/26/2024

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07		08	09
System Summary 110.1, 110.2, 140.4, 170.2(c)	AND	Pumps 140.4(k), 170.2(c)4I	AND	Fans/ Economizers 140.4(c), 140.4(e), 170.2(c)	AND	System Controls 110.2, 120.2, 140.4(f), 170.2(c)	AND	Ventilation 120.1, 160.2	AND	Terminal Box Controls 140.4(d), 170.2(c)4B	AND	Distribution 120.3, 140.4(l), 160.2, 160.3	AND	Cooling Towers 110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND		COMPLIES
Mandatory Measures Compliance (See Table Q for Details)										COMPLIES					

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

01	02	03	04	05	06
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
Undefined System	2	Single zone	Alteration		☐

STATE OF CALIFORNIA

Mechanical Systems

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: CAVA Mezze Grille	**Report Page:**	**(Page 3 of 11)**
	Date Prepared:	3/26/2024

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters and DOAS systems)

01	02	03	04	05	06	07	08	09	10	11
Name or Item Tag	Equipment Category per Tables 110.2, 140.4(a)2 and 170.2(c)3aii	Equipment Type per Tables 110.2 and Title 20	Smallest Size Available[1] 140.4(a) and 170.2(c)1	Equipment Sizing per Mechanical Schedule (kBtu/h) 140.4(a&b), 170.2(c)1 & 170.2(c)2						
				Heating Output[2,3]			Cooling Output[2,3]		Load Calculations[3,4]	
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
Undefined System	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Altered per 141.0(b)2E and 180.2(b)2	76.91	65.1	0	121.03	59.58	88.58	138.63

[1]FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per 140.4(a) and 170.2(c)1. Healthcare facilities are excepted.

[2]It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.

[3] If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.

[4] Authority Having Jurisdiction may ask for load calculations used for compliance per 140.4(b) and 170.2(c).

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Heating Mode				Cooling Mode		
		Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
Undefined System	>=65,000 and <135,000		COP	3.4	3.6	EER IEER	11 14.1	11 15

STATE OF CALIFORNIA

Mechanical Systems

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: CAVA Mezze Grille	**Report Page:**	**(Page 4 of 11)**
	Date Prepared:	3/26/2024

G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in 140.4(c), 140.4(e), 140.4(m), 170.2(c)3, and 170.2(c)4A for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name	Undefined System	Quantity	2	Fan System Status	Alteration	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	4,800	Site Elevation	1,006	Economizer	Fixed Enthalpy
01	02	03	04			05		06	07	08	09			10	11
Fan Name or Item Tag	Fan Type	Qty	Component			Airflow through Component (%)		Water Gauge (w.g)	Allowance: Component Allowance	Allowance: Fan Allowance (watt/cfm)[3]	Design: Design Electrical Input Power Method			Motor Nameplate Horsepower	Design Electrical Input Power (kW)
SF	Supply	2	Base Allowance for system serving spaces <=6 floors away			2,400			557		Manufacturer provided				1.19
			MERV 13-16 Filter upstream of thermal conditioning equipment			2,400			334						
			Hydronic/DX cooling coil or heat pump coil			2,400			334						
			Economizer Return Damper			2,400			110						
			Supply Fan System			2,400			334						
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)						Fan System Allowance (kW)[3]		3.34	Fan System Electrical Output (kW)			2.38

[1] FOOTNOTES: Fans serving spaces with design background noise goals below NC35

[2] Low-turndown single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the design wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads.

[3] Fan system allowance includes fan system base allowance.

STATE OF CALIFORNIA

Mechanical Systems

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: CAVA Mezze Grille	**Report Page:**	**(Page 5 of 11)**
	Date Prepared:	3/26/2024

H. FAN SYSTEMS & AIR ECONOMIZERS

[4] Filter pressure loss can only be counted once per fan system.

[5] Complex Fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both.

[6] Computer room economizers must meet requirements of 140.9(a) and will be documented on the NRCC-PRC-E document..

H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)4O

01	02	03	04	05	06	07	08	09	10	11
Fan System Name	Qty	Hours of Operation per Year	Design Supply Airflow Rate	Outdoor Airflow	% Outdoor Air at Full Design Airflow	Exemptions to Exhaust Air Heat Recovery Requirement per 140.4(q) & 170.2(c)4O	Exhaust Air Heat Recovery 140.4(q) & 170.2(c)4O	Type Of Heat Recovery Rating	Required Recovery Ratio	Energy Recovery Bypass

Fan Energy Index (FEI)

01	02	03
Name or Item Tag	FEI Exception	FEI
Undefined System	Altered Fan System	

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in 110.2 and 120.2 and prescriptive controls in 140.4(f) and (n), 170.2(c)4D 170.2(c)4L or requirements in 141.0(b)2E 180.2(b)2 for altered space conditioning systems.

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft^2)	Thermostats 110.2(b) & (c)[1], 120.2(a) 160.3(a)2A or 141.0(b)2E & 180.2(b)2	Shut-Off Controls 120.2(e) & 160.3(a)2D	Isolation Zone Controls 120.2(g) & 160.3(a)2F	Demand Response 110.12 120.2(b) & 160.3(a)2B	Supply Air Temp. Reset 140.4(f) & 170.2(c)4D	Window Interlocks per 140.4(n) & 170.2(c)4D
Undefined System	Single zone	<= 25,000 ft^2	Setback	Auto Timer Switch	4 Hour Timer	EMCS	NA: Would increase energy use	Provided

STATE OF CALIFORNIA

Mechanical Systems

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: CAVA Mezze Grille	**Report Page:**	**(Page 6 of 11)**
	Date Prepared:	3/26/2024

I. SYSTEM CONTROLS

[1]FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in 120.1 120.2(e)3B 140.4(p) and 140.4(q) for all nonresidential and hotel/motel and d:t24refnolink/]160.2, 160.3(a)3D, 170.2(a)4N, 170.2(a)4O for high-rise residential occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☐	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☒	Check this box if the project included Nonresidential, Hotel/Motel Spaces or Multifamily Common Use Spaces
	☐	
03	☐	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per 120.1(c)2.

Nonresidential and Hotel/ Motel Multifamily Common Use Ventilation Systems

04		05			06			07	
System Name	Undefined System	System Design OA CFM Airflow[1]		682	System Design Transfer Air CFM		0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]: Provided	
08	09	10	11	12	13	14	15	16	
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3[3] & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3[6] 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
Dining	Cafeteria/ fastfood dining	789			394.5	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type

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STATE OF CALIFORNIA

PROJECT

CAVA

CAVA_REDHAWK_TEMECULA_CA

LOCATION
31709 TEMECULA PKWY
TEMECULA, CA 92592

△	DATE	DESCRIPTION
1	06/10/24	PC COMMENTS
2	07/17/24	PC COMMENTS
3	08/21/24	PERMIT ADDENDUM

MECHANICAL COMPLIANCE

Date Modified:	08/21/2024
Date Created:	01/16/2024
Scale:	NOT TO SCALE
Project No.:	230863
Drawn By:	MV/CD
CAD File:	

M0.6

J. VENTILATION AND INDOOR AIR QUALITY

Restrm Area	Toilet, private	158			0	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
Kitchen	Kitchen (cooking)	845			126.8	591.5	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				521	18	Ventilation for this System Complies?		Yes

[1] *FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system*

[2] *Air filtration requirements apply to the following three system types per 120.1(c)1A: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.*

[3] *Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.*

[4] *See Standards Tables 120.1-A and 120.1-B.*

[5] *For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.*

[6] *120.2(e)3 requires systems serving rooms that are required by 130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by 130.1(c).*

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in 120.3 and mandatory requirements found in 120.4(g) for duct sealing.

01	☐	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder. All penetrations and joints of which shall be sealed.

L. DISTRIBUTION (DUCTWORK and PIPING)

Duct Leakage Testing

The answers to the questions below apply to the following duct systems:	Undefined System	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No
		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	Yes

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16	No	The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17		All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A
18		All ductwork is an extension of an existing duct system
19		Ductwork serving individual dwelling unit
20		< 25 ft of new or replacement space conditioning ducts installed
21	R-8	Duct Insulation R-value
22		
23		

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title
NRCI-MCH-01-E - Must be submitted for all buildings

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Form/Title	Systems/Spaces To Be Field Verified
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	CARRIER 50FCQM07;
NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes'. If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".	CARRIER 50FCQM07;
NRCA-MCH-05-A - Air Economizer Controls	CARRIER 50FCQM07;
NRCA-MCH-11-A Automatic Demand Shed Controls	CARRIER 50FCQM07;
NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	CARRIER 50FCQM07;
NRCA-MCH-16-A Supply Air Temperature Reset Controls	CARRIER 50FCQM07;
NRCA-MCH-18-A Energy Management Control Systems	CARRIER 50FCQM07;

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	Plan sheet or construction document location: M-Sheets

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Christian Dalimarta	Documentation Author Signature:
Company: ACIES Engineering	Signature Date: 2024-03-26
Address: 400 N. McCarthy Blvd., Ste. 250	CEA/ HERS Certification Identification (if applicable): M39248
City/State/Zip: Milpitas CA 95035	Phone: 408.522.5255

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Christian Dalimarta	Responsible Designer Signature:
Company: ACIES Engineering	Date Signed: 2024-03-26
Address: 400 N. McCarthy Blvd., Ste. 250	License: M39248
City/State/Zip: Milpitas, CA 95035	Phone: 408.522.5255

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REGISTERED PROFESSIONAL ENGINEER — CHRISTIAN DALIMARTA — NO. M 39248 — Exp. 12/31/24 — MECHANICAL — STATE OF CALIFORNIA

PROJECT

CAVA

CAVA_REDHAWK_TEMECULA_CA
LOCATION
31709 TEMECULA PKWY
TEMECULA, CA 92592

△	DATE	DESCRIPTION
1	06/10/24	PC COMMENTS
2	07/17/24	PC COMMENTS
3	08/21/24	PERMIT ADDENDUM

MECHANICAL
COMPLIANCE

Date Modified:	08/21/2024
Date Created:	01/16/2024
Scale:	NOT TO SCALE
Project No.:	230863
Drawn By:	MV/CD
CAD File:	

M0.7

STATE OF CALIFORNIA
Process Systems CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PRC-E
This form is used to document any process systems that are within the scope of the permit application and are demonstrating compliance with mandatory requirements in 120.6/ 160.7 or prescriptive requirements in 140.9. This compliance document is used for newly constructed, addition and alteration projects.		
Project Name: CAVA Mezze Grille - Temecula	**Report Page:**	**(Page 1 of 6)**
Project Address: 31709 Temecula Pkwy., Temecula, CA 92592	**Date Prepared:**	2024-06-26T12:52:50-04:00

A. GENERAL INFORMATION

01	Project Location (city)	Temecula	04	Total Conditioned Floor Area	1792
02	Climate Zone	10	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	0

● Restaurant

B. PROJECT SCOPE

This table includes process systems that are within the scope of the permit application and are demonstrating compliance with mandatory requirements in 120.6 / 160.7 or prescriptive requirements in 140.9.

My project consists of: (check all that apply):

01		02	
☐	Refrigerated Spaces <3,000 ft² Total (no Title 24, Pt6 requirements)	☐	Escalator & Moving Walkway Speed Controls (mandatory 120.6(g))
☐	Refrigerated Spaces >=3,000 ft² Total (mandatory 120.6(a))	☐	Computer Rooms (mandatory 120.6(j) and prescriptive 140.9(a))[1]
☐	Food /Beverage Stores >8,000 ft² cfa (mandatory 120.6(b))	☒	Commercial Kitchen Ventilation/Exhaust (prescriptive 140.9(b))[1]
☐	Enclosed Parking Garage Exhaust >=10,000 cfm (mandatory 120.6(c))	☐	Laboratory Exhaust/Factory Exhaust & Fume Hood (prescriptive 140.9(c))[1]
☐	Newly Installed Process Boilers (mandatory 120.6(d))	☐	Pool/Spa (mandatory 110 .4 / 160.7)
☐	Compressed Air Systems Combined HP >= 25 (mandatory 120.6(e))	☐	Controlled Environment Horticulture (mandatory 120.6(h))
☐	Elevator Lighting & Ventilation Controls (mandatory 120.6(f) / 160.7)	☐	New Steam Traps (mandatory 120.6(i))

[1] *FOOTNOTES: These building features can comply using the performance method. If using the performance method for these features, compliance should be demonstrated on the NRCC-PRF-E.*

STATE OF CALIFORNIA
Process Systems CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PRC-E
Project Name: CAVA Mezze Grille - Temecula	**Report Page:**	**(Page 2 of 6)**
	Date Prepared:	2024-06-26T12:52:50-04:00

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through R. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Refrigerated Warehouse / Space 120.6(a) (See Table F)	Commercial Refrigeration 120.6(b) (See Table G)	Parking Garage Exhaust 120.6(c) (See Table H)	Process Boilers 120.6(d) (See Table I)	Compressed Air Systems 120.6(e) (See Table J)	Elevators 120.6(f) / 160.7 (See Table K)	Escalators & Moving Walkways 120.6(g) (See Table L)	Computer Rooms 140.9(a) (See Table M)	Commercial Kitchens 140.9(b) (See Table N)	Laboratory/ Factory Exhaust 140.9(c) (See Table O)	Controlled Environment Horticulture 120.6(h) (See Table P)	Steam Traps 120.6(i) (See Table Q)	Multifamily Pool/Spa 160.7 (See Table R)	**Compliance Results**
								Yes					COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. REFRIGERATED WAREHOUSES/SPACES

This section does not apply to this project.

G. COMMERCIAL REFRIGERATION

This section does not apply to this project.

STATE OF CALIFORNIA
Process Systems CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PRC-E
Project Name: CAVA Mezze Grille - Temecula	**Report Page:**	**(Page 3 of 6)**
	Date Prepared:	2024-06-26T12:52:50-04:00

H. ENCLOSED PARKING GARAGE EXHAUST

This section does not apply to this project.

I. PROCESS BOILER

This section does not apply to this project.

J. COMPRESSED AIR SYSTEMS

This section does not apply to this project.

K. ELEVATOR LIGHTING AND VENTILATION

This section does not apply to this project.

L. ESCALATORS AND MOVING WALKWAYS SPEED CONTROLS

This section does not apply to this project.

M. COMPUTER ROOM SYSTEM SUMMARY

This section does not apply to this project.

N. COMMERCIAL KITCHEN EXHAUST AND VENTILATION

This table contains all new and replacement hoods being installed within the scope of the permit application. Table N is used to demonstrate compliance with prescriptive requirements found in 140.9(b).

Kitchen Ventilation 140.9(b)2

01		
	☐	Existing kitchen hoods not being replaced as part of an addition or alteration (do not need to meet requirements)
		Requirements

STATE OF CALIFORNIA
Process Systems CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PRC-E
Project Name: CAVA Mezze Grille - Temecula	**Report Page:**	**(Page 4 of 6)**
	Date Prepared:	2024-06-26T12:52:50-04:00

N. COMMERCIAL KITCHEN EXHAUST AND VENTILATION

02	Replacement Air to Hood Compliance Method 140.9(b)1A
	Providing replacement air directly to the hood(s) that does not exceed 10% of the hood(s) exhaust rate
03	Mechanically cooled or heated makeup air delivered to any space with a kitchen hood is designed per 140.9(b)2A to not exceed the greater of:
	The supply flow required to meet the space heating and cooling load
04	Location that is supplying transfer air:
05	The kitchen/ dining facility has a total Type I and Type II kitchen hood exhaust airflow > 5000 cfm and is designed to have one of the following per 140.9(b)2B:
	NA: Not a kitchen/ dining facility having a total Type I and Type II kitchen hood exhaust airflow rate > 5,000 cfm

Kitchen Exhaust: Airflow Rate 140.9(b)1B

01	Kitchen Name or Item Tag	Open Kitchen	Compliance Method per 140.9(b)1B		NA: Kitchen/ dining facility has a total Type I and Type II kitchen hood exhaust airflow rate <= 5,000 cfm	
02	03	04	05	06	07	08
Name or Item Tag	Hood Type[1]	Hood Style	Hood Length (ft)	Equipment Duty	Design Hood Exhaust Rate CFM	Max Hood Exhaust Rate Allowed CFM
H-1	Type I				2117	

[1] *FOOTNOTES: Type II hoods do not have a max hood exhaust air rate per 140.9(b)1B*

O. LABORATORY AND FACTORY EXHAUST AND FUME HOODS

This section does not apply to this project.

P. CONTROLLED ENVIRONMENT HORTICULTURE

This section does not apply to this project.

Q. STEAM TRAPS IN INDUSTRIAL FACILITIES

This section does not apply to this project.

STATE OF CALIFORNIA
Process Systems CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PRC-E
Project Name: CAVA Mezze Grille - Temecula	**Report Page:**	**(Page 5 of 6)**
	Date Prepared:	2024-06-26T12:52:50-04:00

R. Pool & SPAs

This section does not apply to this project.

S. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-4

Form/Title
NRCI-PRC-01-E - Covered Process

T. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-PRC-02-F Kitchen Exhaust	Open Kitchen

STATE OF CALIFORNIA
Process Systems CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PRC-E
Project Name: CAVA Mezze Grille - Temecula	**Report Page:**	**(Page 6 of 6)**
Project Address: 31709 Temecula Pkwy., Temecula, CA 92592	**Date Prepared:**	2024-06-26T12:52:50-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Christian Dalimarta	Documentation Author Signature:	Christian Dalimarta
Company:	Acies Engineering	Signature Date:	2024-06-26
Address:	400 N. McCarthy Blvd. Suite 250	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	Milpitas, CA 95035	Phone:	(408) 522 - 5255

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provided to the building owner at occupancy.

Responsible Designer Name:	Christian Dalimarta	Responsible Designer Signature:	Christian Dalimarta
Company:	Acies Engineering	Date Signed:	2024-06-26
Address:	400 N. McCarthy Blvd. Suite 250	License:	M 39248
City/State/Zip:	Milpitas, CA 95035	Phone:	(408) 522 - 5255

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REGISTERED PROFESSIONAL ENGINEER
CHRISTIAN DALIMARTA
NO. M 39248
Exp. 12/31/24
MECHANICAL
STATE OF CALIFORNIA

PROJECT

CAVA

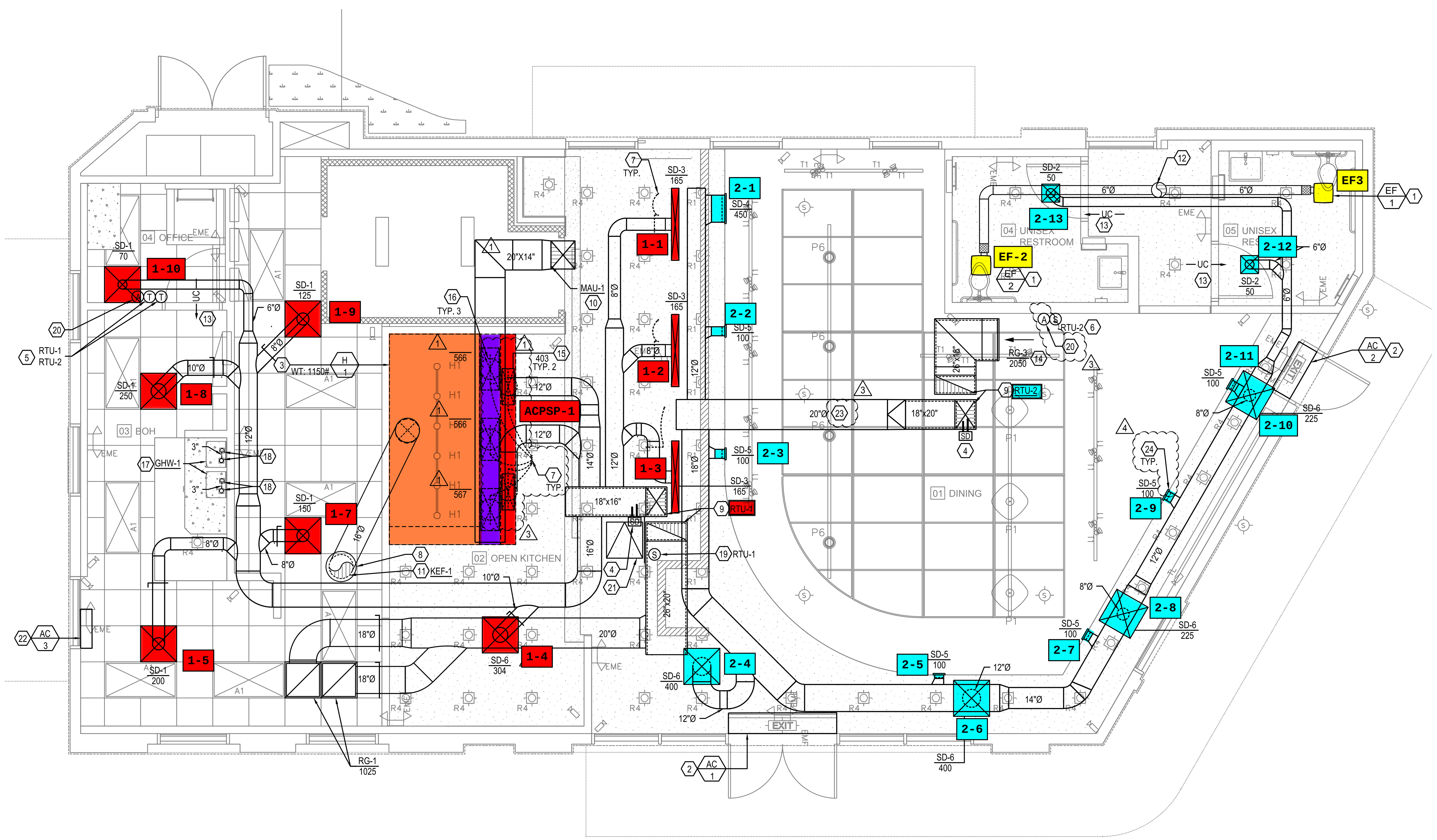
CAVA_REDHAWK_TEMECULA_CA
LOCATION
31709 TEMECULA PKWY
TEMECULA, CA 92592

△	DATE	DESCRIPTION
1	06/10/24	PC COMMENTS
2	07/17/24	PC COMMENTS
3	08/21/24	PERMIT ADDENDUM

MECHANICAL
COMPLIANCE

Date Modified:	08/21/2024
Date Created:	01/16/2024
Scale:	NOT TO SCALE
Project No.:	230863
Drawn By:	MV/CD
CAD File:	

M0.8



GENERAL NOTES

1. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR SITE INVESTIGATION PRIOR COMMENCEMENT OF WORK, AND SHALL INFORM ARCHITECT OF ANY DISCREPANCY.
2. COORDINATE DUCT ROUTING WITH EXISTING PIPING, CONDUITS AND STRUCTURAL MEMBERS. OFFSET AS REQUIRED.
3. MECHANICAL CONTRACTOR MUST VERIFY ALL CLEARANCES AND DIMENSIONS IN FIELD.
4. PROVIDE 1" ACOUSTICAL FIBERGLASS DUCT LINER ON BOTH SUPPLY AND RETURN AIR DUCTS FOR MIN. 10'-0" FROM UNITS.
5. INSTALL MANUAL VOLUME DAMPERS AT ALL BRANCH DUCT CONNECTIONS TO OUTLETS.
6. ENVIRONMENTAL EXHAUST OUTLETS TO BE MIN. 10 FEET AWAY FROM ANY OUTSIDE AIR INTAKE, 3 FEET AWAY FROM BLDG OPENINGS, AND 3 FEET FROM PROPERTY LINE.
7. DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS.
8. MECHANICAL CONTRACTOR TO SUBSTITUTE ROUND DUCT TO RECTANGULAR DUCT WITH THE SAME PRESSURE DROP TO ACCOMMODATE SPACING CONFLICT IN THE FIELD, IF ANY.
9. CONTRACTOR SHALL PERFORM AIR BALANCING ONCE HVAC SYSTEM HAS BEEN COMPLETED.
10. PROVIDE GREASE DUCT WITH ACCESS PANEL AT EVERY ELBOW AND TURN.
11. AS PER CMC 507.4, WHERE ENCLOSURES ARE NOT REQUIRED, HOODS, GREASE REMOVAL DEVICES, EXHAUST FANS, AND DUCTS SHALL HAVE A CLEARANCE OF NOT LESS THAN 18 INCHES TO COMBUSTIBLE MATERIAL, 3 INCHES TO LIMITED-COMBUSTIBLE MATERIAL, AND 0 INCHES TO NONCOMBUSTIBLE MATERIAL.
12. SLOPE THE GREASE DUCT AT 1/4" PER LINEAR FOOT TOWARD THE HOOD. PROVIDE GREASE DUCT WITH ACCESS PANEL FOR CLEANING AT EVERY BEND OR TURN AT EACH 12" HORIZONTAL RUN.
13. PRIOR TO USE OR CONCEALMENT, A GREASE DUCT LEAKAGE TEST SHALL BE PERFORMED TO VERIFY THE WELDED SEAMS AND JOINTS ARE LIQUID TIGHT. THE TEST SHALL BE A WATER TEST, A LIGHT TEST, OR AN APPROVED EQUIVALENT TEST. THE PERMIT HOLDER SHALL BE RESPONSIBLE FOR PERFORMING THE TEST. 2022 CMC 510.5.6 & 511.2.2.1.
14. PROVIDE FIRE CAULKING FOR ALL PIPE PENETRATION THRU RATED WALLS.
15. ALL HVAC UNITS OR SYSTEMS SERVING A COMMON AIR SPACE MUST BE INTERCONNECTED TO SHUT DOWN IMMEDIATELY UPON ALARM CONDITION FROM DUCT DETECTORS WITHOUT INTERFERENCE FROM EMS OR ANY OTHER SYSTEMS. ALL CONTROL RELAYS USED FOR SHUT DOWN MUST BE CALIFORNIA STATE FIRE MARSHAL (CSFM) LISTED FOR RELEASING SERVICE. (1)
16. DO NOT PENETRATE KITCHEN EXHAUST HOODS OR DUCTWORK WITH ANY TYPE OF FASTENING ASSEMBLY (I.E. SCREWS, RIVETS).
17. GC TO PROVIDE ACCESS PANELS IN HARD LID CEILINGS FOR ACCESS TO DUCT MOUNTED SMOKE DETECTORS, SENSOR, BALANCING DAMPERS, ETC. LOCATION OF ACCESS PANEL TO BE CENTERED IN LINE WITH LIGHT FIXTURES AND DIFFUSERS. COORDINATE ACCESS PANEL LOATIONS WITH ARCHITECTURAL SHEETS. (3)

KEY NOTES (X)

1. NEW CEILING MOUNTED EXHAUST FAN WITH FLEX CONNECTOR.
2. NEW WALL MOUNTED AIR CURTAIN ABOVE ENTRANCE DOOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
3. NEW KITCHEN HOOD. REFER TO M6.3 TO 6.9 FOR ADDT'L INFORMATION. (1)
4. SUPPLY AIR DUCT SMOKE DETECTOR TO SHUT DOWN UNIT UPON SMOKE DETECTION. 'APC' MOD SL-2000-P: CSFM LISTED, 115VAC, WITH AUDIO/VISUAL REMOTE ANNUNCIATOR WITH REMOTE KEY RESET.
5. LED TOUCHSCREEN 24/7 THERMOSTAT WITH CONTROLS LOCKED BY CODE MOUNTED AT 48" AFF. COORDINATE EXACT LOCATION WITH OWNER.
6. REMOTE TEMPERATURE AVERAGING SENSOR AT 48" AFF. WIRE BACK TO THERMOSTAT AT MANAGER'S DESK. COORDINATE FINAL LOCATION WITH OWNER.
7. REMOTE BALANCING DAMPER. TYPICAL FOR BALANCING DAMPERS IN HARD CEILING APPLICATIONS. (3)
8. INSTALL OWNER FURNISHED UL-2221 LISTED DOUBLE-WALL GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL DW-3R OR 3Z ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL, FROM HOOD COLLAR EXHAUST FAN ON ROOF. INSTALL EXHAUST DUCT PER MANUFACTURER'S INSTRUCTIONS. PROVIDE CLEANOUTS AT EVERY CHANGE IN DIRECTION IN THE DUCT AND/OR EVERY 10 FEET WITH MINIMUM OF 3 FEET OF CLEARANCE IN FRONT OF CLEAN-OUT. COORDINATE ROUTING OF DUCTWORK WITH OWNER'S CAPTIVEAIRE REPRESENTATIVE.
9. SA & RA DUCTS FROM RTU WITH 1" ACOUSTICAL LINING. SEAL WEATHER TIGHT.
10. 14"X12" SA DUCT FROM MUA-1. SEAL WEATHER TIGHT.
11. 16"Ø KITCHEN EA DUCT UTR TO KEF-1. COORDINATE WITH KES AND CAPTIVEAIRE DRAWINGS. SEAL WEATHER TIGHT.
12. 10"Ø EA DUCT UTR.
13. MIN. 1" UNDERCUT DOOR.
14. INSTALL RETURN AIR GRILLE AS HIGH AS POSSIBLE.
15. CONNECT 12" SA DUCT TO 24"X8" HOOD SA PLENUM. PROVIDE BALANCING DAMPER. TYP. 2. REFER TO CAPTIVEAIRE DWGS FOR ADDT'L INFO.
16. CONNECT 14"Ø MUA DUCT TO 28"X12" HOOD SA PLENUM. PROVIDE BALANCING DAMPER. TYP. 3. REFER TO CAPTIVEAIRE DWGS FOR ADDT'L INFO.
17. (2) GAS WATER HEATER. SHOWN FOR REFERENCE ONLY. REFER TO PLUMBING DWGS FOR ADDT'L INFO.
18. PROVIDE 3" PVC VENT AND AIR INTAKE PIPES UTR FOR THE GAS WATER HEATER WITH CONCENTRIC VENT KIT TERMINATION.
19. REMOTE TEMPERATURE SENSOR FOR RTU-1 MOUNTED WITHIN RETURN DUCT. WIRE BACK TO THERMOSTAT AT MANAGER'S DESK.
20. PROVIDE AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET FOR SMOKE DETECTOR MOUNTED AT 48" AFF. ALIGN ANNUNCIATOR WITH THERMOSTAT WHERE APPLICABLE.
21. 24"X24" CEILING ACCESS PANEL.
22. NEW WALL MOUNTED AIR CURTAIN ABOVE OPENING IN DRIVER THROUGH WINDOW. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. VERIFY EXACT LOCATION WITH GC AND OWNER.
23. MOUNT DUCT TIGHT TO BOTTOM OF STRUCTURE.
24. ADJUST DIFFUSER BLADES TO 45° PATTERN. BALANCE AIR SCOOP TO CFM INDICATED. (3)

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REGISTERED PROFESSIONAL ENGINEER — MECHANICAL — STATE OF CALIFORNIA — NO.M39248

PROJECT

CAVA

CAVA_REDHAWK_TEMECULA_CA

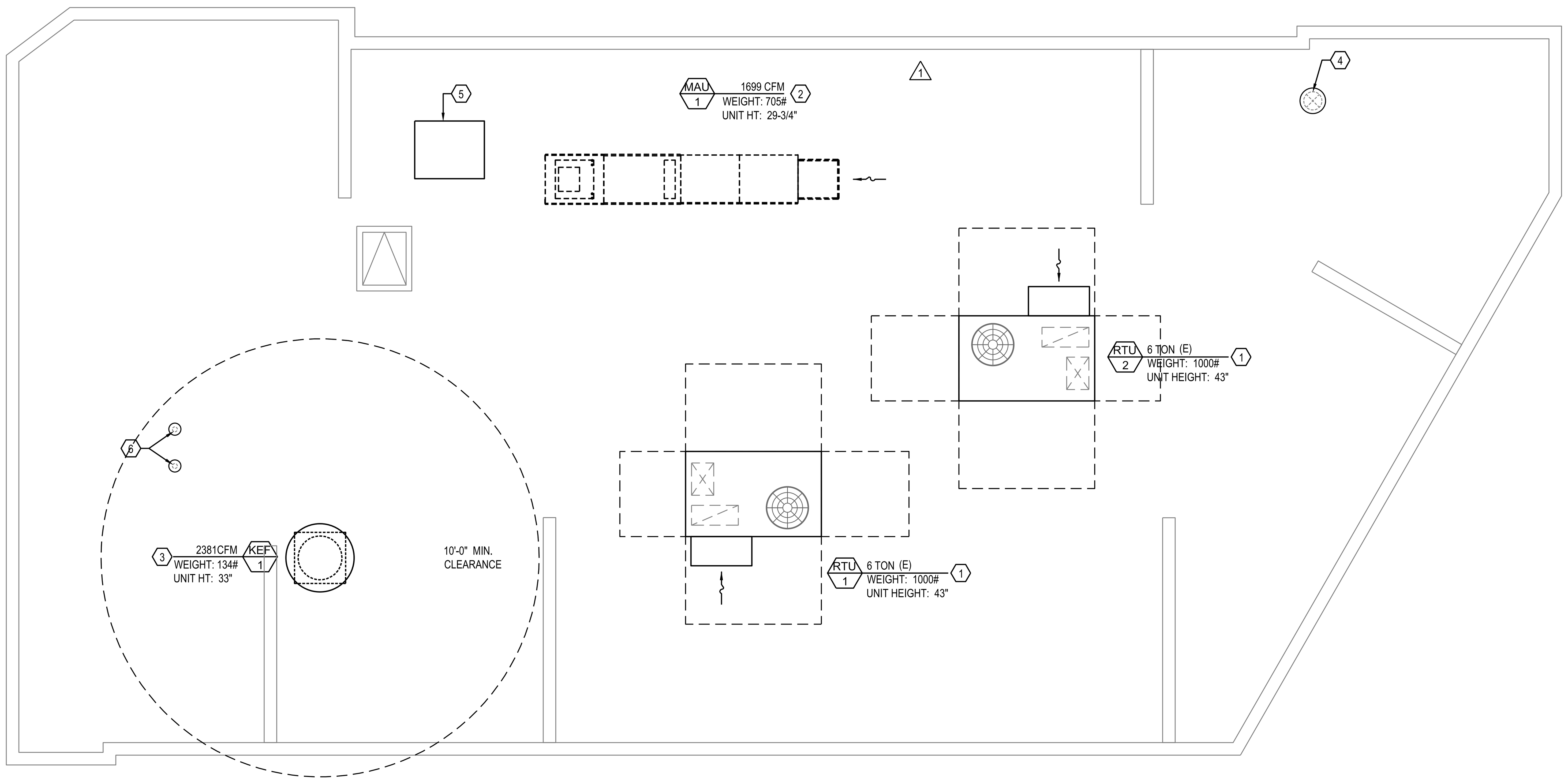
LOCATION
31709 TEMECULA PKWY
TEMECULA, CA 92592

DATE	DESCRIPTION
1 06/10/24	PC COMMENTS
2 07/17/24	PC COMMENTS
3 08/21/24	PERMIT ADDENDUM

MECHANICAL FLOOR PLAN

Date Modified:	08/21/2024
Date Created:	01/16/2024
Scale:	1/4"=1'-0"
Project No.:	230863
Drawn By:	MV/CD
CAD File:	

M2.1



GENERAL NOTES

1. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR SITE INVESTIGATION PRIOR COMMENCEMENT OF WORK, AND SHALL INFORM ARCHITECT OF ANY DISCREPANCY.
2. COORDINATE DUCT ROUTING WITH EXISTING PIPING, CONDUITS AND STRUCTURAL MEMBERS. OFFSET AS REQUIRED.
3. MECHANICAL CONTRACTOR MUST VERIFY ALL CLEARANCES AND DIMENSIONS IN FIELD.
4. GREASE EXHAUST OUTLET TO BE MIN. 10 FEET AWAY FROM ANY OUTSIDE AIR INTAKE, FROM BLDG OPENINGS, AND FROM PROPERTY LINE.
5. DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS.
6. MECHANICAL CONTRACTOR TO SUBSTITUTE ROUND DUCT TO RECTANGULAR DUCT WITH THE SAME PRESSURE DROP TO ACCOMMODATE SPACING CONFLICT IN THE FIELD, IF ANY.
7. PROVIDE GREASE DUCT WITH ACCESS PANEL AT EVERY ELBOW AND TURN.
8. AS PER CMC 507.4, WHERE ENCLOSURES ARE NOT REQUIRED, HOODS, GREASE REMOVAL DEVICES, EXHAUST FANS, AND DUCTS SHALL HAVE A CLEARANCE OF NOT LESS THAN 18 INCHES TO COMBUSTIBLE MATERIAL, 3 INCHES TO LIMITED-COMBUSTIBLE MATERIAL, AND 0 INCHES TO NONCOMBUSTIBLE MATERIAL.
9. SLOPE THE GREASE DUCT AT 1/4" PER LINEAR FOOT TOWARD THE HOOD. PROVIDE GREASE DUCT WITH ACCESS PANEL FOR CLEANING AT EVERY BEND OR TURN AT EACH 12" HORIZONTAL RUN.
10. PRIOR TO USE OR CONCEALMENT, A GREASE DUCT LEAKAGE TEST SHALL BE PERFORMED TO VERIFY THE WELDED SEAMS AND JOINTS ARE LIQUID TIGHT. THE TEST SHALL BE A WATER TEST, A LIGHT TEST, OR AN APPROVED EQUIVALENT TEST. THE PERMIT HOLDER SHALL BE RESPONSIBLE FOR PERFORMING THE TEST. 2022 CMC 510.5.6 & 511.2.2.1
11. ALL CUTTING AND PATCHING OF ROOF IS TO BE BY G.C.

KEY NOTES (X)

1. NEW PACKAGED HEAT PUMP ROOFTOP UNIT WITH ROOF CURB.
2. NEW DOWNFLOW DISCHARGE, CURB MOUNTED MAKE UP AIR UNIT. MAINTAIN RECOMMENDED SERVICE CLEARANCE ALL AROUND UNIT. (1)
3. NEW KITCHEN EXHAUST FAN MOUNTED ON CURB. EXHAUST TERMINATION TO BE MIN. 40" HIGH FROM ROOF SURFACE AND SHALL MAINTAIN 10'-0" MIN. CLEARANCE FROM ANY AIR INTAKE.
4. 10"Ø EA DUCT DN THROUGH ROOF. TERMINATE WITH ROOF CAP. MAINTAIN 10'-0" CLEARANCE FROM ANY OUTSIDE AIR INTAKE.
5. INSTALL WALK-IN COOLER CONDENSER ON ROOF PER MANUFACTURER'S RECOMMENDATION.
6. 3"Ø VENT AND AIR INTAKE PIPE WITH CONCENTRIC TERMINATION DTR TO GAS WATER HEATER. TERMINATION SHALL NOT BE LESS THAN 3 FEET FROM A PROPERTY LINE, 10 FEET FROM AN AIR INLET, AND 3 FEET FROM OPENINGS INTO THE BUILDING.

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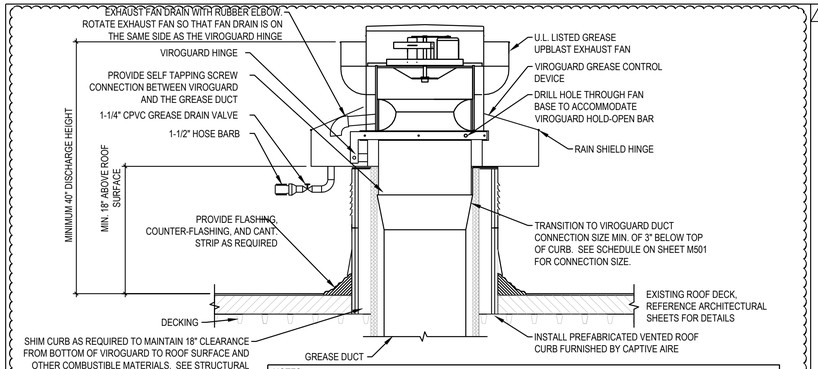
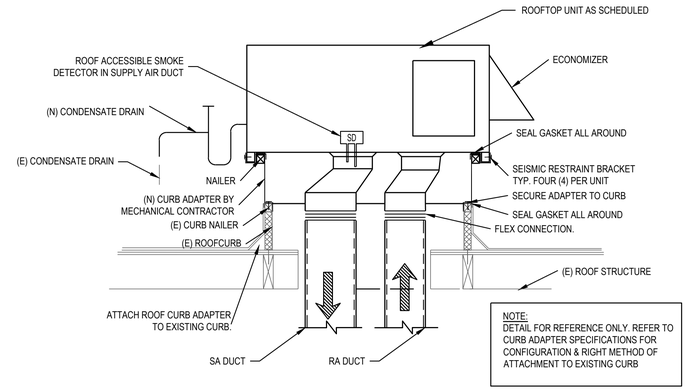


NOTES:
1. INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 96 REQUIREMENTS.
2. CUT AND PATCH EXISTING ROOFING AS REQUIRED FOR NEW CURB INSTALLATION.
3. CURB SHALL BE TAPERED TYPE AND MATCH THE PITCH OF THE ROOF.
4. CONTRACTOR TO PROVIDE TREATED WOOD BLOCKINGS AND SHIM FLAT ROOF CURB TILL LEVEL FOR ALL EXHAUST FANS AND TO ACHIEVE ROOF CURB HEIGHTS.
5. PROVIDE ROOF CURB EXTENSION IF REQUIRED.
6. HINGE FAN SO IT TIPS BACK TOWARD FAN DRAIN AND TOWARD VIROGUARD DRAIN. INSTALL AND WATER LEAK TEST PER MANUFACTURER'S RECOMMENDATION. CONTACT VIROGUARD REP FOR TESTING.

GREASE EXHAUST FAN — NOT TO SCALE — 3

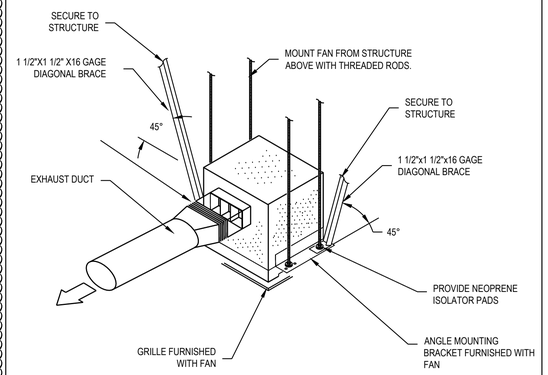
NOT USED — NOT TO SCALE — 2



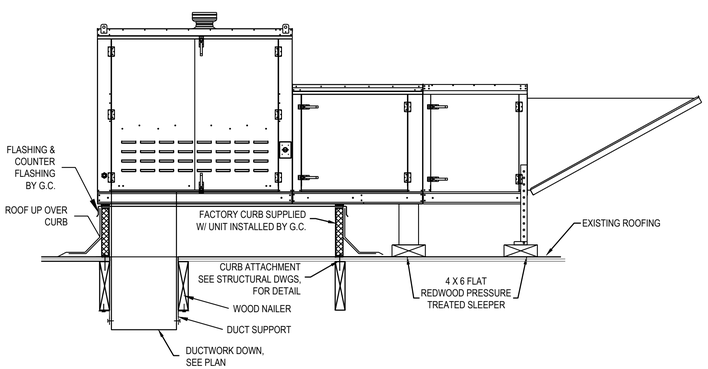
NOTE:
DETAIL FOR REFERENCE ONLY. REFER TO CURB ADAPTER SPECIFICATIONS FOR CONFIGURATION & RIGHT METHOD OF ATTACHMENT TO EXISTING CURB

ROOFTOP UNIT — NOT TO SCALE — 1

NOT USED — NOT TO SCALE — 5



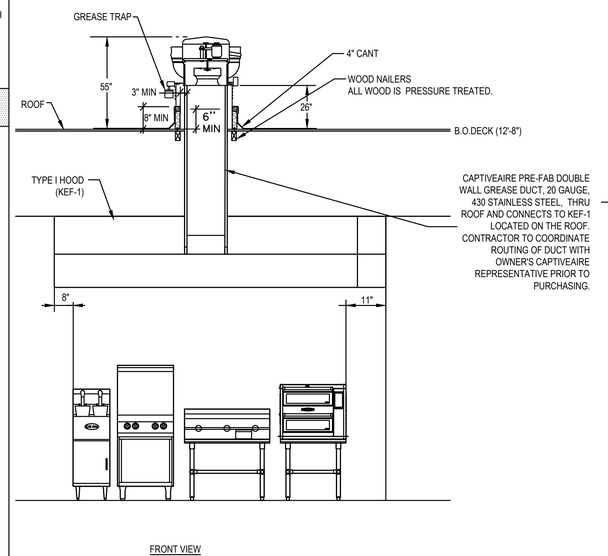
CEILING MOUNTED EXHAUST FAN — NOT TO SCALE — 4



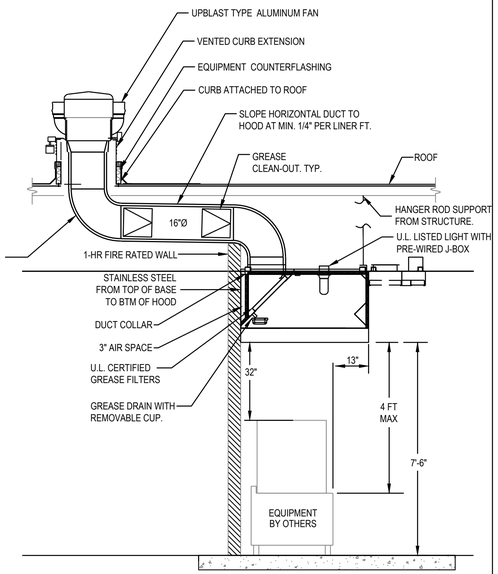
NOTE:
REFER TO CAPTIVEAIRE DWGS ON M6.5 & M6.6 FOR ADDT'L INFO.

MAKE UP AIR UNIT — NOT TO SCALE — 7

NOTES:
* MATERIAL FOR GREASE DUCTS SHALL BE CONSTRUCTED OF CARBON STEEL NOT LESS THAN 0.054" IN THICKNESS OR STAINLESS STEEL NOT LESS THAN 0.043" IN THICKNESS.
* AS PER CMC 507.4, WHERE ENCLOSURES ARE NOT REQUIRED, HOODS, GREASE REMOVAL DEVICES, EXHAUST FANS, AND DUCTS SHALL HAVE A CLEARANCE OF NOT LESS THAN 18 INCHES TO COMBUSTIBLE MATERIAL, 3 INCHES TO LIMITED-COMBUSTIBLE MATERIAL, AND 0 INCHES TO NONCOMBUSTIBLE MATERIAL.
* KITCHEN EXHAUST DUCT ENCLOSURES SHALL BE AT LEAST 1 HR FIRE RATED FROM THE POINT OF CEILING PENETRATION. THE DUCT ENCLOSURE SHALL BE SEALED AROUND THE DUCT AT THE POINT OF PENETRATION.



FRONT VIEW



SIDE VIEW

KITCHEN TYPE I HOOD ELEVATION — 3/8" = 1'-0" — 6

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REGISTERED PROFESSIONAL ENGINEER — CHRISTIAN DALY — NO. M 39248 — Exp. 12/31/24 — MECHANICAL — STATE OF CALIFORNIA

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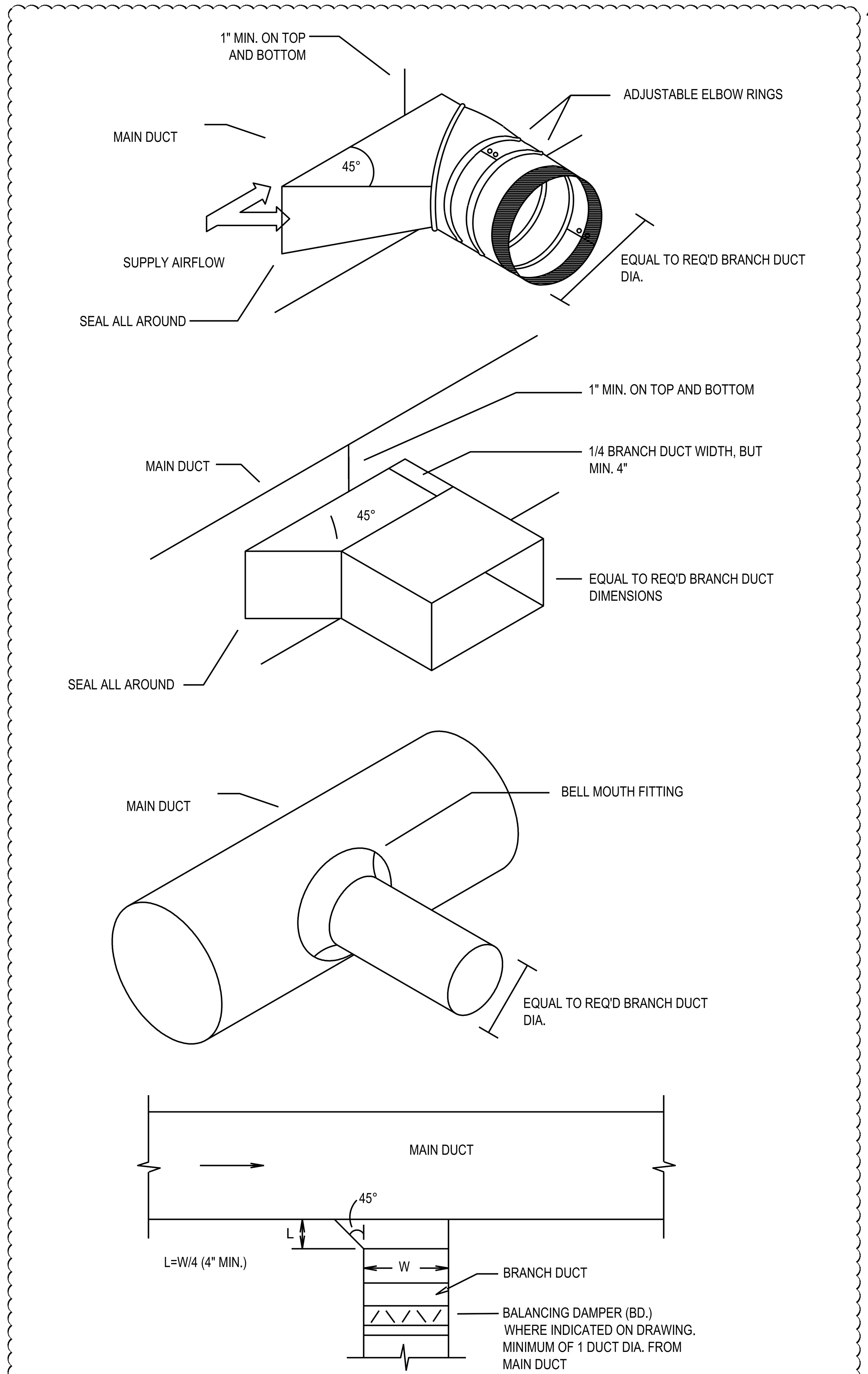


DUCT BRANCH DETAIL — NOT TO SCALE — 4

SEQUENCE OF OPERATION

A. PROVIDE STAND ALONE OR APPLICATION SPECIFIC CONTROLLERS AS REQUIRED TO PERFORM THE FOLLOWING SEQUENCES OF OPERATIONS.

B. PACKAGED ROOFTOP UNITS

1. UNIT SHALL CONSIST OF SUPPLY AIR FAN, FILTERS, DX COOLING COIL, GAS-FIRED HEAT SECTION, AND A 7-DAY PROGRAMMABLE THERMOSTAT.

2. PROVIDE AN OVERRIDE SWITCH TO OPERATE THE UNIT DURING UNOCCUPIED HOURS. THIS SWITCH SHALL BE PART OF THE PROGRAMMABLE THERMOSTAT. OVERRIDE SWITCH ALLOWS THE UNIT TO OPERATE FOR TWO HOURS (ADJUSTABLE).

3. OCCUPIED MODE: BASED ON THE ROOFTOP UNIT'S HOURS OF OCCUPANCY, START THE UNIT AT THE BEGINNING OF OCCUPANCY AND SHUT DOWN THE UNIT AT THE END OF OCCUPANCY (NOTE: OUTSIDE AIR DAMPER WITHIN THE RTU SHALL OPEN AND THEN THE RTU SHALL START). THE UNIT SHALL START EARLIER AS DETERMINED BY THE PROGRAM FOR EARLY WARM-UP OR COOL DOWN. ON A SYSTEM STARTUP, THE RTU FAN SHALL START AND RUN CONTINUOUSLY AND THE INTERNAL FACTORY CONTROLS SHALL BE ENABLED. BASED ON THE SPACE TEMPERATURE SENSOR, THE UNIT SHALL CYCLE THE HEATING/COOLING TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.
   3.1. ECONOMIZER MODE: WHEN ENTHALPY OF OA IS BELOW 28 BTU/LB, ECONOMIZER MODE SHALL BE ENABLED. ECONOMIZER MODE SHALL LINEARLY MODULATE OUTDOOR AIR CFM FROM MINIMUM OA CFM TO 100% BASED ON ENTHALPY READINGS.
   3.2. HUMIDITY CONTROL (WHEN NEEDED BASED ON CLIMATE): UPON DETECTION OF RELATIVE HUMIDITY ABOVE 55%, THE UNIT SHALL CYCLE INTO DEHUMIDIFICATION MODE IF NOT ALREADY IN COOLING.

4. UNOCCUPIED MODE: THE RTU INTERNAL OA DAMPERS SHALL REMAINED CLOSED WHEN THE BUILDING IS NOT OCCUPIED. THE RTU SHALL STOP HEATING/COOLING AND THE FAN SHALL STOP. IF THE SPACE TEMPERATURE FALLS BELOW 60 DEGREE F (ADJUSTABLE), THE UNIT SHALL START AND HEAT UNTIL THE SPACE TEMPERATURE IS 64 DEGREE F (ADJUSTABLE) AND THEN SHUTDOWN. IF THE SPACE TEMPERATURE RISES ABOVE 85 DEGREE F (ADJUSTABLE), THE UNIT SHALL START AND COOL UNTIL THE SPACE TEMPERATURE IS 80 DEGREE F (ADJUSTABLE) AND THEN SHUTDOWN.

5. UPON DETECTION OF SMOKE BY UNIT SMOKE DETECTOR BOTH RTUS SHALL SHUT DOWN AND AN ALARM SHALL BE SENT TO THE FIRE ALARM CONTROL PANEL (WHERE APPLICABLE). LOCAL REMOTE ANNUNCIATORS SHALL ALSO BE ACTIVATED.

C. KITCHEN HOOD EXHAUST FAN (KEF-1)

1. THE KITCHEN HOOD EXHAUST FAN SHALL BE ENABLED WHEN ANY COOKING APPLIANCE LOCATED UNDER ITS RESPECTIVE HOOD, IS IN USE.

D. MAKE UP AIR UNIT

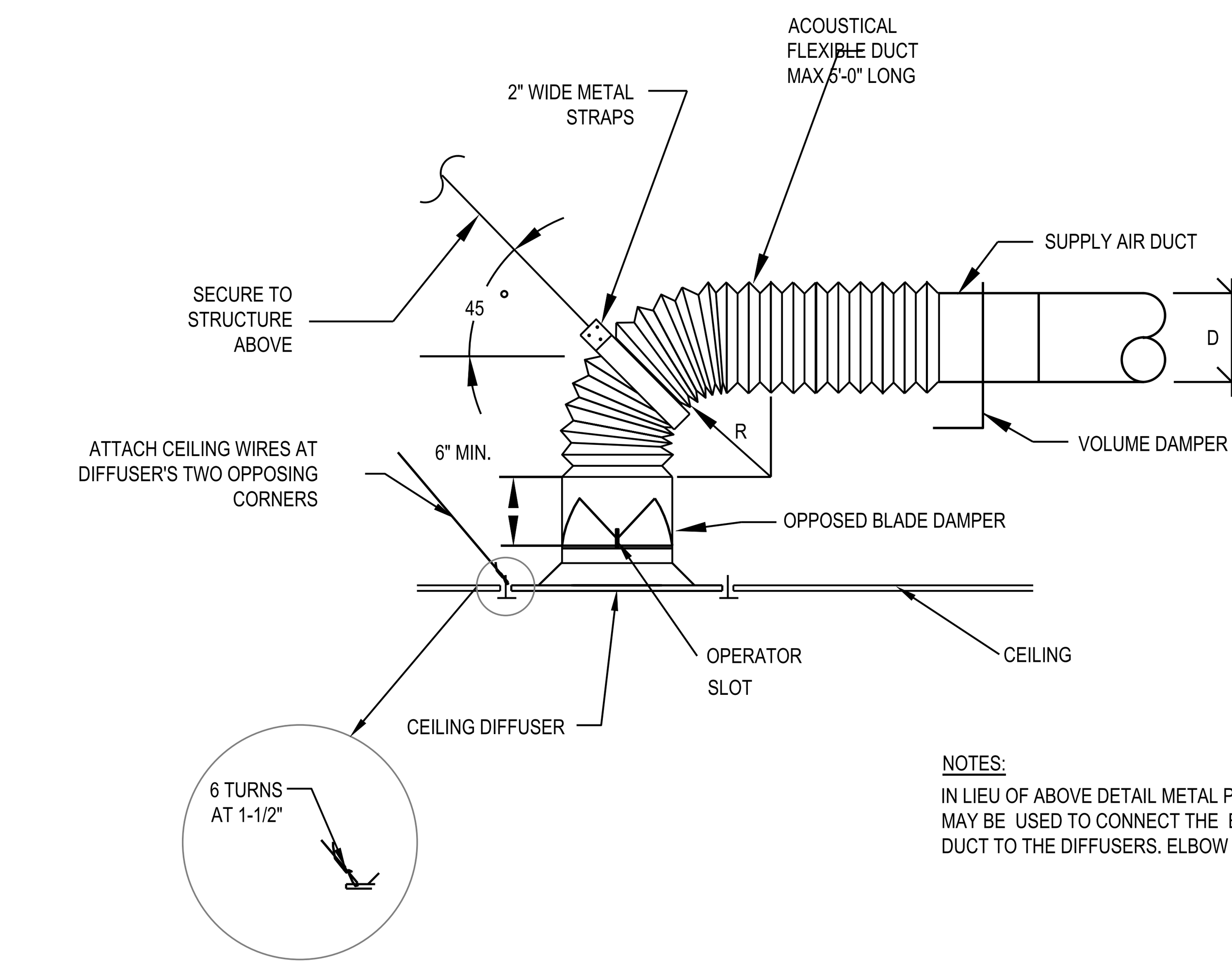
1. THE MAKE UP AIR UNIT SHALL BE ENABLED WHEN THE KITCHEN HOOD EXHUAST FAN (KEF-1) IS ENERGIZED. THE INTERNAL MOTORIZED DAMPER WITHIN WITH MAU-1 SHALL OPEN AND THE FAN

   ENABLED TO MAINTAIN A MINIMUM OF 65°.
   SHALL RUN. IF OA IS LESS THAN 65° (ADJ.), THE MAU-1 GAS-FIRED HEAT SECTION SHALL BE
2. WHEN KEF-1 IS OFF, MAU-1 SHALL BE DE-ENERGIZED AND THE INTERNAL MOTORIZED DAMPED SHALL CLOSE.

E. ANSUL SYSTEM ACTIVATION

1. UPON ACTIVATION OF ANSUL SYSTEM, SHUT DOWN MAU-1, RTU-1 AND RTU-2. PROVIDE RELAYS CONTACTS, INTERLOCKS, TRANSFORMERS AND ALL ASSOCIATED WIRING TO ACCOMPLISH SEQUENCE. MAU-1 IS ALREADY PREWIRED TO SHUT DOWN IN HOOD CONTROL PANEL. MECHANICAL CONTRACTOR SHALL INTERLOCK RTU-1 AND RTU-2 TO ALSO SHUT DOWN.

SEQUENCE OF OPERATION — NOT TO SCALE — 3



NOTES:
IN LIEU OF ABOVE DETAIL METAL PLENUM MAY BE USED TO CONNECT THE BRANCH DUCT TO THE DIFFUSERS. ELBOW R/D=1.5

DIFFUSER MOUNTING DETAIL — NOT TO SCALE — 1

DUCT CONSTRUCTION MINIMUM SHEET METAL THICKNESSES

RECTANGULAR DUCTS

MAXIMUM SIZE (INCHES)	STEEL (MINIMUM THICKNESS, NOMINAL)	ALUMINUM (MINIMUM THICKNESS, NOMINAL)
THROUGH 12	0.022 INCH (26 GAGE, GALV.)	0.020 INCH (NO. 24 B&S GAGE)
13 THROUGH 30	0.028 INCH (24 GAGE, GALV.)	0.025 INCH (NO. 22 B&S GAGE)
31 THROUGH 54	0.034 INCH (22 GAGE, GALV.)	0.032 INCH (NO. 20 B&S GAGE)
55 THROUGH 84	0.040 INCH (20 GAGE, GALV.)	0.040 INCH (NO. 18 B&S GAGE)
OVER 84	0.052 INCH (18 GAGE, GALV.)	0.051 INCH (NO. 16 B&S GAGE)

ROUND DUCTS

MAXIMUM SIZE (INCHES)	SPIRAL SEAM DUCT	LONGITUDINAL SEAM DUCT	FITTINGS
	STEEL (MINIMUM THICKNESS, NOMINAL)	STEEL (MINIMUM THICKNESS, NOMINAL)	STEEL (MINIMUM THICKNESS, NOMINAL)
THROUGH 12	0.019 INCH (28 GAGE, GALV.)	0.022 INCH (26 GAGE, GALV.)	0.022 INCH (26 GAGE, GALV.)
13 THROUGH 18	0.022 INCH (26 GAGE, GALV.)	0.028 INCH (24 GAGE, GALV.)	0.028 INCH (24 GAGE, GALV.)
19 THROUGH 28	0.028 INCH (24 GAGE, GALV.)	0.034 INCH (22 GAGE, GALV.)	0.034 INCH (22 GAGE, GALV.)
29 THROUGH 36	0.034 INCH (22 GAGE, GALV.)	0.040 INCH (20 GAGE, GALV.)	0.040 INCH (20 GAGE, GALV.)
37 THROUGH 52	0.040 INCH (20 GAGE, GALV.)	0.052 INCH (18 GAGE, GALV.)	0.052 INCH (18 GAGE, GALV.)

SHEET METAL DUCT GAGES — NOT TO SCALE — 2

SINGLE HANGER MAX LOAD

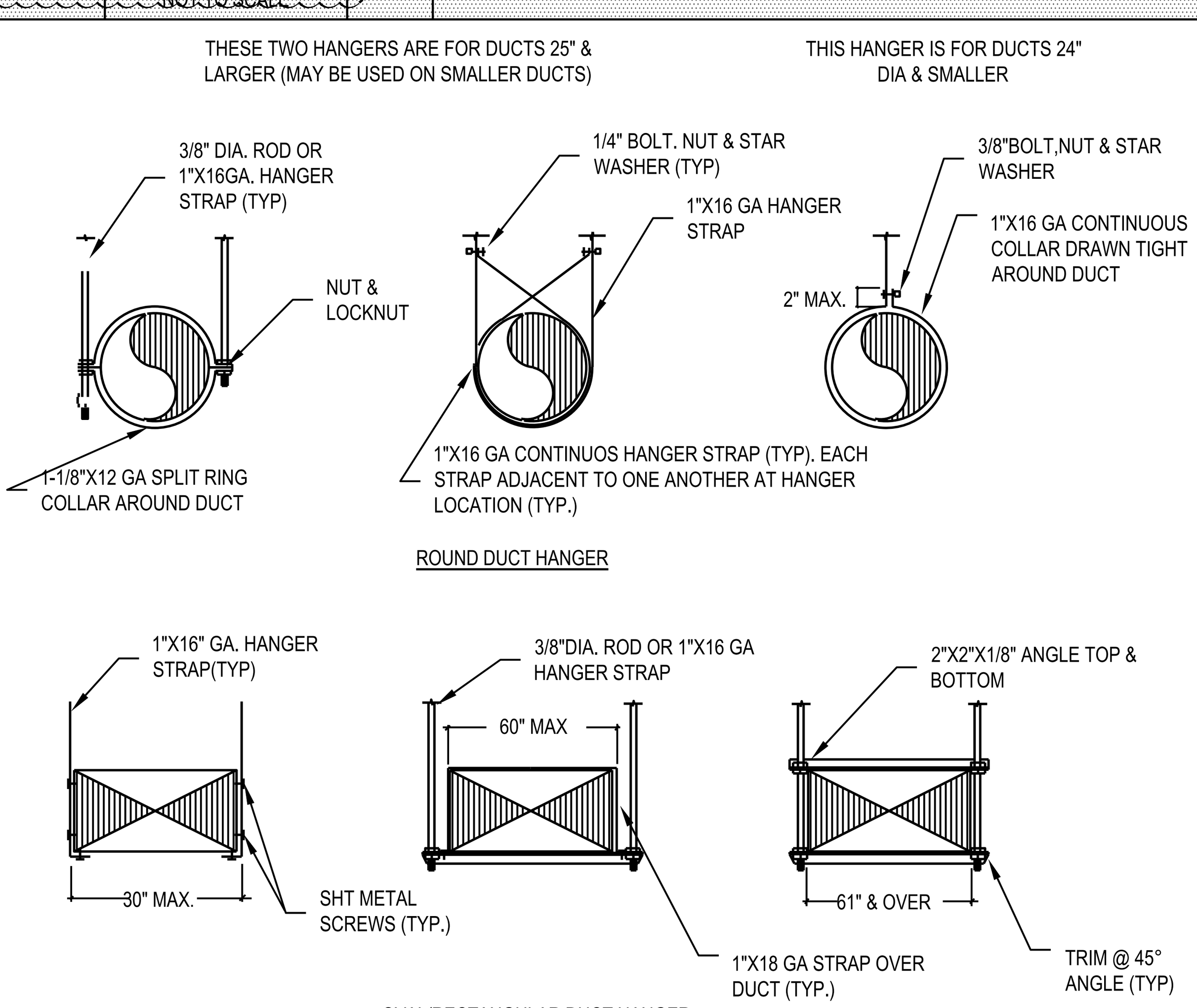
STRAP	WIRE OR ROD
1" X 22 GA. - 260 LBS	(12 GA.) 0.106" 80 LBS
1" X 20 GA. - 260 LBS	(10 GA.) 0.135" 80 LBS
1" X 18 GA. - 420 LBS	0.162" 160 LBS
1" X 16 GA. - 700 LBS	1/4" 270 LBS
1-1/2" X 16 GA. - 1100 LBS	3/8" 680 LBS

MINIMUM HANGER SIZES FOR ROUND DUCT

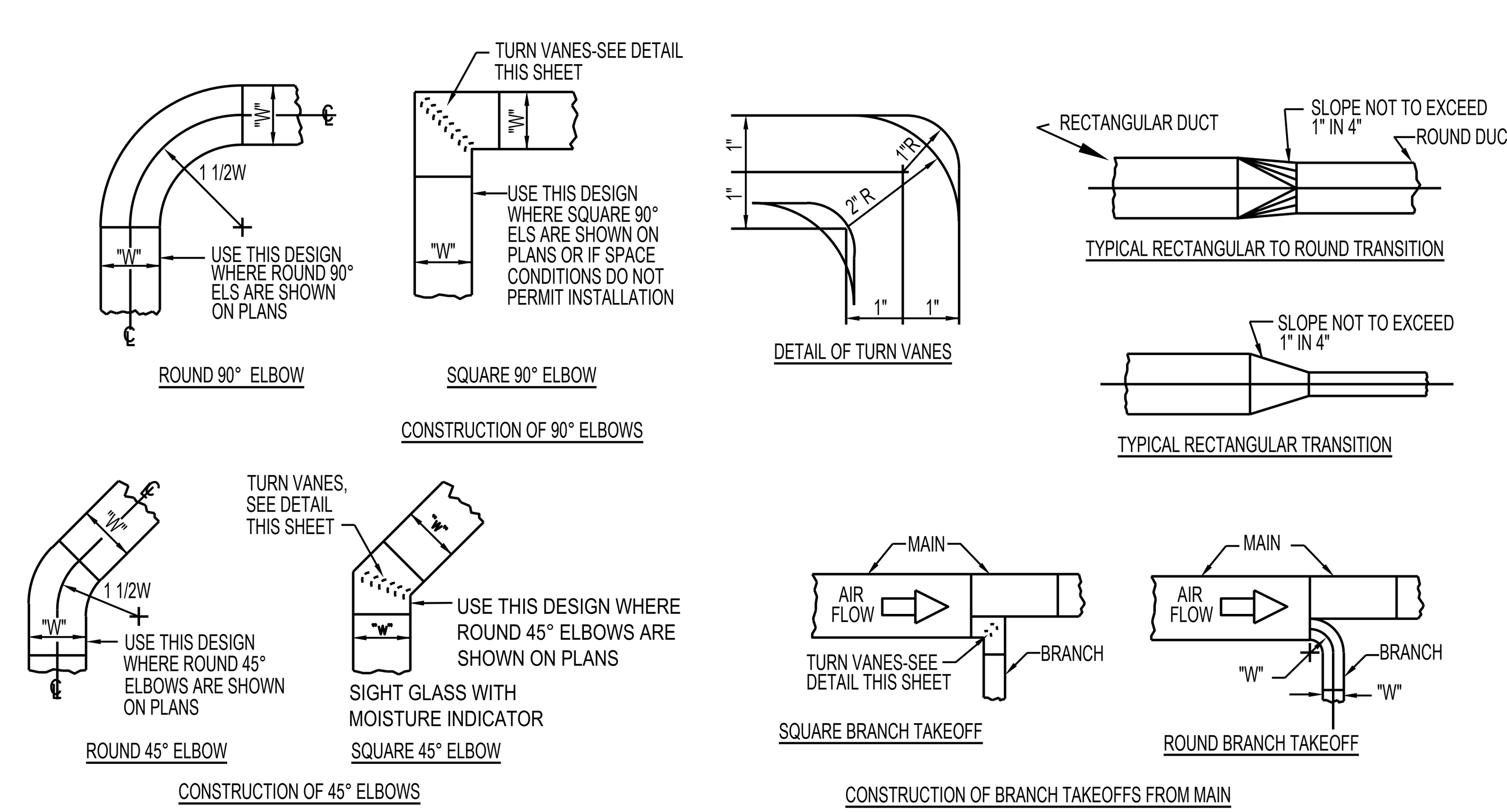
DIA. (IN)	MAXIMUM SPACING	WIRE DIA.	ROD	STRAP
6-10	12'	ONE 12 GA.	1/4"	1" X 22 GA.
11-18	12'	TWO 12 GA. OR ONE 8 GA.	1/4"	1" X 22 GA.
19-24	12'	TWO 10 GA.	1/4"	1" X 22 GA.

NOTES:

1. REFER TO SPECIFICATIONS FOR HANGER SPACINGS.
2. 2 ATTACHMENTS TO OVERHEAD STRUCTURE SHALL BE MADE IN ACCORDANCE WITH STRUCTURAL ENGINEERS REQUIREMENTS AND WEIGHT LIMITATIONS. ALL ATTACHMENT METHODS TO STRUCTURE SHALL BE SUBMITTED TO STRUCTURAL ENGINEER FOR REVIEW.



DUCT SUPPORTS — NOT TO SCALE — 7



INSTALLATION NOTES

1. ALL DUCTS SHALL BE CONSTRUCTED AND ERECTED IN A NEAT AND WORKMANLIKE MANNER.
2. DUCTS SHALL BE CONSTRUCTED OF THE WEIGHTS, GAGES AND MATERIAL SHOWN IN THE SCHEDULE ON THESE DRAWINGS.
3. THE DIMENSION SHOWN FOR ALL DUCTS SHOWN IN PLAN GIVE THE WIDTH FIRST AND THEN THE HEIGHT.
4. DUCT RISERS SHOULD BE SUPPORTED BY ANGLES AT EVERY FLOOR.
5. AIR TURN SHALL BE INSTALLED IN ALL ABRUPT ELBOWS TO PREVENT TURBULENCE.
6. DUCTS SHALL BE SECURELY ATTACHED TO THE BUILDING CONSTRUCTION IN AN APPROVED MANNER.
7. DIVERGING TRANSITION PIECES SHALL BE MADE AS GRADUAL AS POSSIBLE.
8. INSTALL FIRE DAMPERS IN ACCORDANCE WITH UL 555.
9. ACCESS PANELS SHOULD BE PLACED BEFORE AND/OR AFTER EQUIPMENT INSTALLED IN THE DUCT.
10. DUCT AREA SHOULD NOT BE DECREASED MORE THAN 10 PERCENT WHEN OBSTRUCTIONS CANNOT BE AVOIDED, AND THEN A STREAMLINED FITTING SHOULD BE USED.
11. FLEXIBLE FABRIC CONNECTIONS (OR EQUAL) SHOULD BE USED ON BOTH INLETS AND OUTLETS OF ALL FANS AND AIR HANDLING UNITS.
12. JOINTS AND SEAMS OF SUPPLY DUCTS SHALL BE FASTENED SECURELY AND MADE AIR TIGHT.

DUCT CONSTRUCTION DETAIL — NOT TO SCALE — 6

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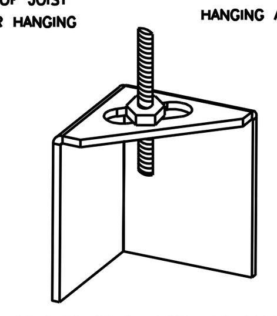
M6.2

1/2" DIA. ALL THREAD ROD CONNECTED TO ROOF JOIST THROUGH ANOTHER HANGING ANGLE

1/2" DIA. HEAVY DUTY NUT ONE ABOVE AND ONE BELOW HANGING ANGLE



* ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR
HANGING ANGLE IS PRE-PUNCHED AT FACTORY

HANGING ANGLE DETAILS

HOOD STYLE / MODEL	450 DEGREES cfm/ft.	600 DEGREES cfm/ft.	700 DEGREES cfm/ft.
CANOPY ND2	150	200	250
WITH END PANELS (15% reduction)	127.5	170	212.5
SLOPED SND-2	228	294	-
ISLAND ND-2WI	269	300	350
NDI	346	422	475

ETL HOOD LISTING DETAIL

EXHAUST CFM=LENGTH OF HOOD X CFM/LIN.FT. (LOAD)

SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED

$$\text{TOTAL DUCT AREA} = 144 \times \frac{\text{CFM}}{\text{FPM}(\bullet)}$$

$$\text{DUCT LENGTH} = \frac{\text{TOTAL DUCT AREA}}{\text{DUCT DEPTH}}$$

• CAPTIVE-AIRE VENTILATOR DUCT SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1500-1800 FPM AND A SUPPLY VELOCITY OF 1000 FPM.

CALCULATIONS UTILIZED

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:

LISTED #3054804-001 & #3054804-002

STANDARD 710

Intertek

BUILT IN ACCORDANCE WITH NFPA No. 96

Listed under ETL File number 3054804-001/002

BUILDING CODES

CAPTIVE-AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

MATERIAL	CLEARANCE REDUCTION SYSTEM
NON-COMBUSTIBLE	NONE REQUIRED
LIMITED-COMBUSTIBLE	3" UNINSULATED STANDOFF
COMBUSTIBLE	1" INSULATED STANDOFF

CLEARANCE TO COMBUSTIBLES

INSTALLATION

1. ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
2. ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
3. HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
4. ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTORS'S PLANS.
5. COOKING EQUIPMENT TO SHUTOFF IN EVENT OF FIRE.
6. EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
7. ALL LIGHTS FIXTURE SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PREWIRED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS.
8. LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
9. SEISMIC RESTAINTS ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
10. INSTALLING CONTRACTORS ASSUME ALL RELATED REPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO ANY RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

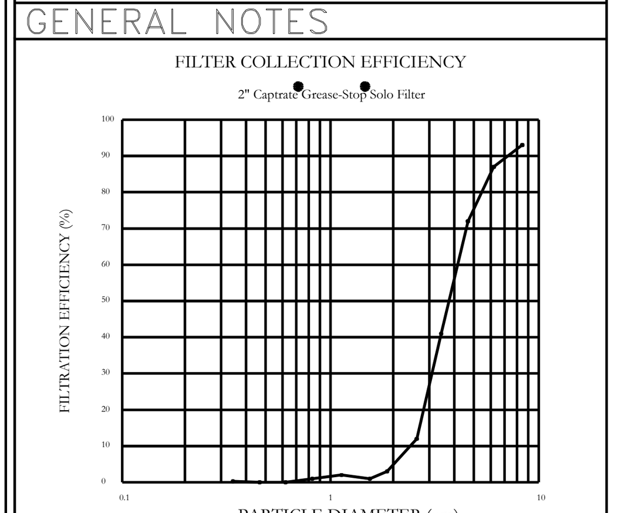
BALANCE

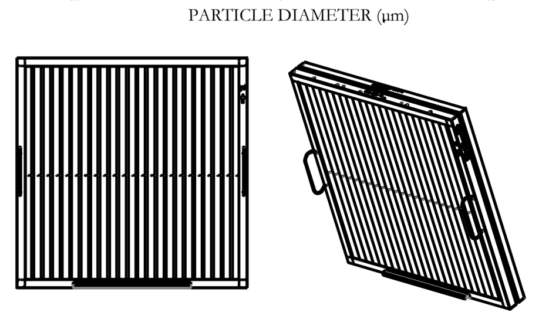
11. KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.
12. KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DINING AREA.
13. RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.

ADDITIONAL

14. WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
15. SIGNED AND "APPROVED" COPIES OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

GENERAL NOTES





CaptiveAire Captrate Solo Filter
ETL Listed Grease Extracting Filters
Made From 430 Stainless Steel

FILTER DETAIL

FOR QUESTIONS, CALL THE
Maryland Office
REGION 32
PHONE: (800) 988 - 0881
EMAIL: reg32@captiveaire.com

PATENT NUMBERS

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

HOOD INFORMATION – JOB#6877294

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP	MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG END TO END	ROW
1	33	6030 ND-2-ACPSP-F	CAPTIVEAIRE	10' 7"	600 DEG	I	HEAVY	200	2117			4"	16"	2117	1516	-0.653"	1699	806	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S) TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
1	33	CAPTRATE SOLO FILTER	7	20"	16"	85% SEE FILTER SPEC	6	L55 SERIES E26	NO	LEFT	12"x60"x30"	TANK FS	4.0/4.0	DCV-1111	1 LIGHT 1 FAN	YES	1133 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	33	FIELD WRAPPER 10.00" HIGH FRONT, LEFT.
		RIGHT END STANDOFF (FINISHED) 1" WIDE 60" LONG INSULATED.
		INSULATION FOR BACK OF HOOD.
		LEFT VERTICAL END PANEL 27" TOP WIDTH, 21" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S) WIDTH	LENG	DIA	CFM	SP
1	33	Front	140"	22"	6"	MUA	10"	28"		566	0.149"
						MUA	10"	28"		566	0.149"
						MUA	10"	28"		566	0.149"
						AC	8"	24"		403	0.095"
						AC	8"	24"		403	0.095"

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "DW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "DW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "DW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12". DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO CAPTIVEAIRE SYSTEMS MODEL "DW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CAPTIVEAIRE SYSTEMS RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

HVAC DISTRIBUTION NOTE

HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

VERIFY CEILING HEIGHT

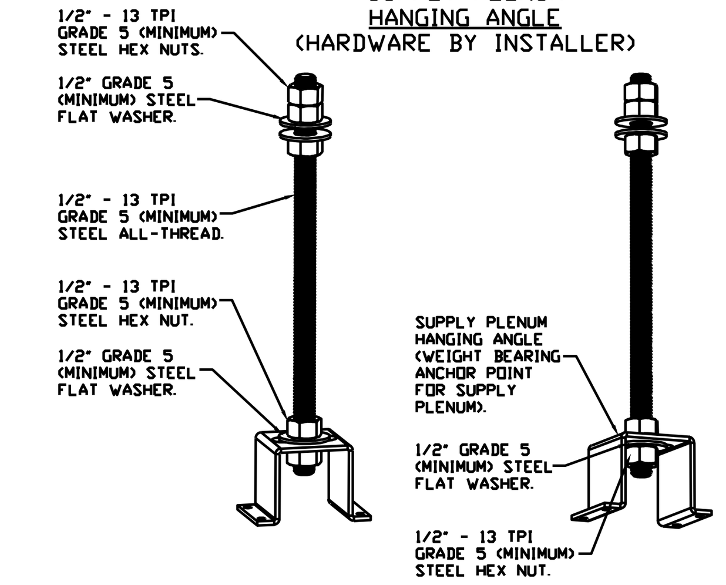
___' - ___"

HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

CUSTOMER APPROVAL TO MANUFACTURE:

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

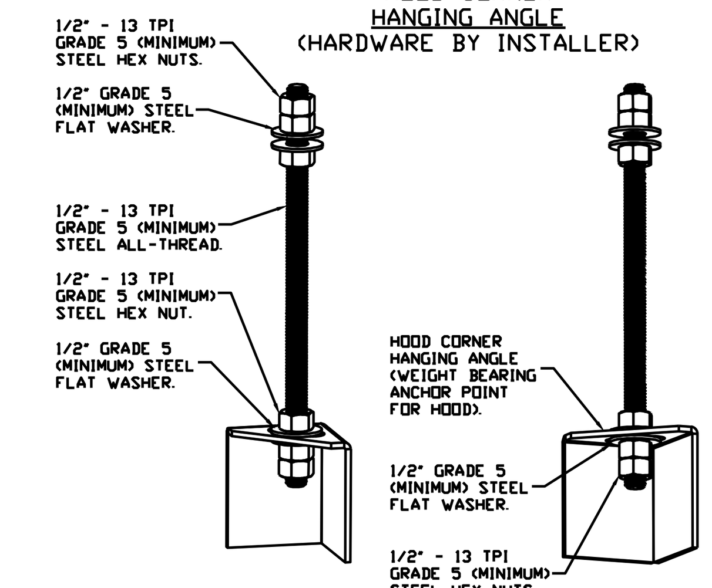
SUPPLY PLENUM
HANGING ANGLE
(HARDWARE BY INSTALLER)



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION 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.

HOOD CORNER
HANGING ANGLE
(HARDWARE BY INSTALLER)



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CLEARANCE TO COMBUSTIBLES

HOODS #	SURFACE	*CLEARANCE
1	TOP	18"
	FRONT	0"
	BACK	0"
	LEFT	0"
	RIGHT	0"

- *0" CLEARANCE TO COMBUSTIBLES CONFORMS TO UL710 STANDARD.
- HOOD MOUNTED UTILITY CABINETS REQUIRE 36" SERVICE CLEARANCE.

REVISIONS

	DESCRIPTION	DATE:
△		
△		
△		
△		

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CAVA - Temeculo, CA_R1
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Irvine, CA, 92620

DATE: 6/25/2024

DWG.#: 6877294

DRAWN BY: EG-32

SCALE: NTS

MASTER DRAWING

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REGISTERED PROFESSIONAL ENGINEER CHRISTIAN DALMARTA NO.M39248 Exp. 12/31/24 MECHANICAL STATE OF CALIFORNIA

PROJECT

CAVA

CAVA_REDHAWK_TEMECULA_CA
LOCATION
31709 TEMECULA PKWY
TEMECULA, CA 92592

△	DATE	DESCRIPTION
1	06/10/24	PC COMMENTS
2	07/17/24	PC COMMENTS
3	08/21/24	PERMIT ADDENDUM

MECHANICAL DETAILS

Date Modified:	08/21/2024
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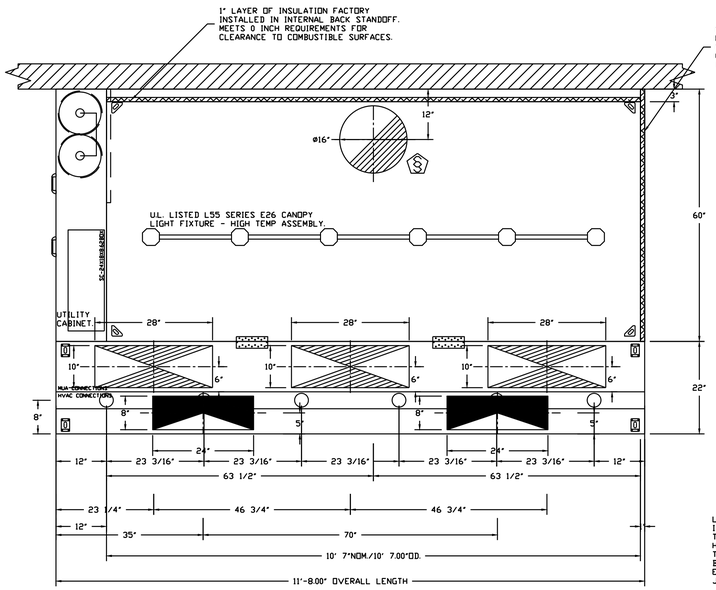
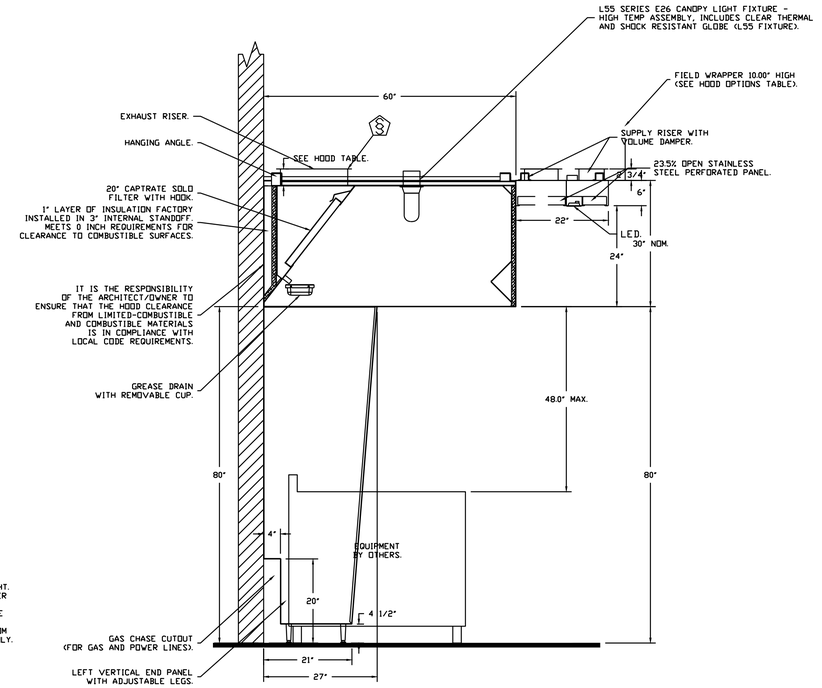
Project No.:	230863
Drawn By:	MV/CD
CAD File:	



PLAN VIEW - HOOD #1 (33)
10' 7.00" LONG 6030ND-2-ACPSP-F

ACPSP SHIPS LOOSE FOR FIELD INSTALLATION

LIGHTING FOR ACPSP JOB # 6877294 - HOOD #1
INPUT: 120V AC, 1 PHASE, 50/60HZ, 3.5 WATTS PER LIGHT.
TO CONTROL LIGHTS WITH HOOD LIGHT SWITCH, WIRE PER HOOD ELECTRICAL CONTROL PANEL SCHEMATIC.
TO CONTROL LIGHTS WITH BUILDING LIGHT SWITCH, WIRE BLACK AND WHITE WIRE TO A 120VAC SERVICE.
END TO END ACPSPS REQUIRE 120VAC FIELD WIRING FROM J-BOX TO J-BOX. REPLACE LIGHTS WITH LED LIGHTS ONLY.



SECTION VIEW - MODEL 6030ND-2-ACPSP-F
HOOD - #1 (33)

REVISIONS

	DESCRIPTION	DATE:
△		
△		
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DRAWN BY: EG-32

SCALE: NTS

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REGISTERED PROFESSIONAL ENGINEER CHRISTIAN DALLENBACH NO.M.39248 Exp. 12/31/24 MECHANICAL STATE OF CALIFORNIA

PROJECT

CAVA

CAVA_REDHAWK_TEMECULA_CA
LOCATION
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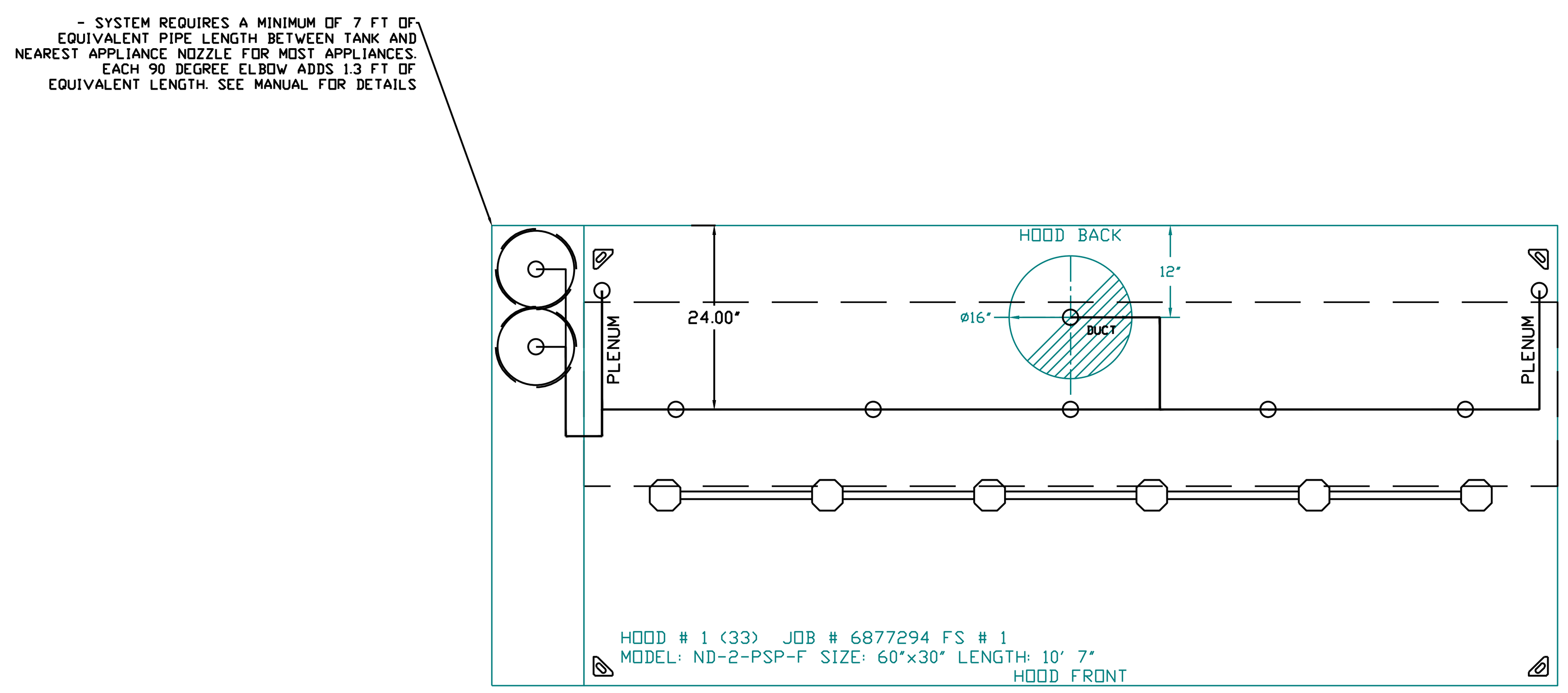
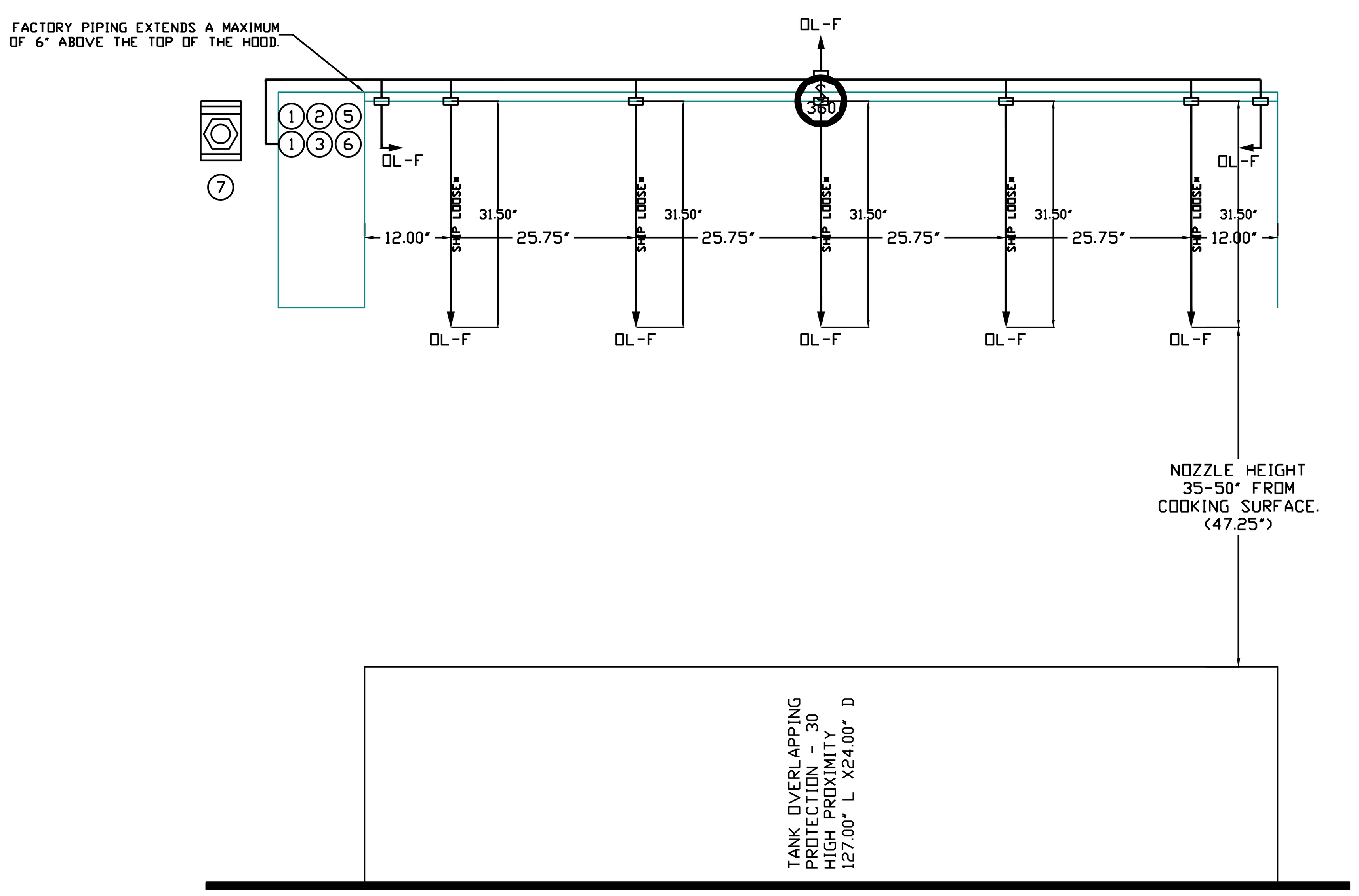
Project No.:	230863
Drawn By:	MV/CD
CAD File:	

M6.4

FIRE SYSTEM INFORMATION - JOB#6877294

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1	33A	TANK FS	4.0/4.0	40	37	FIRE CABINET LEFT	LEFT, HOOD 1





FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
1	33A	0 - 0 - TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
		0 - 0 - 12-F28021-32144-OT-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO, CLOSE ON TEMP RISE AT 360°F. (A0034310).	1	0
		0 - 0 - 4429K153 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	2	0
		0 - 0 - 4429K422 1/2" X 1/4" BRASS REDUCING BUSHING.	1	0
		0 - 0 - 79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2"NPT FEMALE CONNECTION, VIEGA.	1	0
		0 - 0 - 79580 1/2" X 1/2" PRO-PRESS TEE X 1/2"NPT FEMALE CONNECTION, VIEGA.	2	0
		0 - 0 - 87-120042-001 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-120045-001 HOSE, SECONDARY ACTUATOR HOSE, 7.5" BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300001-001 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	2	0
		0 - 0 - 87-300030-001 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
		0 - 0 - 87-300152-001 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	8	0
		0 - 0 - 9055455PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW LD.	6	0
		0 - 0 - 9097200PC PRO PRESS PC611 1/2 PRESS TEE LD.	7	0
		0 - 0 - 98694A115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	4	0
		0 - 0 - A0034332 JUNCTION BOX FOR MANUAL PULL STATION. 1.5" DEEP BACK BOX, RED COLOR.	1	0
		0 - 0 - A31484 1/4" NPT SCHRADER VALVE AND CAP, JB INDUSTRIES. 1/4" FLARE X 1/4" MPT HALF UNION. USED ON TANK SERVICE PORT.	1	0
		0 - 0 - BI145 3/8" BLACK IRON 90 ELL.	3	0
		0 - 0 - DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	6	0
		0 - 0 - TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	2	0
		0 - 0 - WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	2	0
		16 - 16 - 79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	8	0
		16 - 16 - OL-F NOZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLOW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE).	8	0
		26 - 26 - QSA-3/8 QUIK SEAL - 3/8" (UL).	8	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

NOTES
- FIELD PIPE DROPS AS SHOWN
  PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS.

- OL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 6877294.
JOB NAME: CAVA - TEMECULA, CA_R1.

SYSTEM SIZE: TANK-SP-2 DESIGN FP: 37. MAXIMUM FP: 40.
HOOD # 1 10' 7.00" LONG × 60" WIDE × 30" HIGH.
RISER # 1 SIZE: 16" DIA.
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

LEGEND - FIRE CABINET TANK SYSTEM

1 4 GALLON TANK.
2 PRIMARY ACTUATOR RELEASE.
3 SECONDARY ACTUATOR RELEASE.
4 PRESSURE SUPERVISION SWITCH.
5 PRIMARY HOSE ASSEMBLY.
6 SECONDARY HOSE ASSEMBLY.
7 REMOTE MANUAL ACTUATION DEVICE.

THIS PLAN IS FOR REFERENCE ONLY.

REVISIONS

DESCRIPTION	DATE

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CAVA_REDHAWK_TEMECULA_CA
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Drawn By:	MV/CD
CAD File:	

KITCHEN EQUIPMENT
NOT TO SCALE
1

M6.5

EXHAUST FAN INFORMATION – JOB#6877294

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	KEF	1	DU85HFA	CAPTIVEAIRE	2117	0.900	1460	TEAO-ECM	1.000	0.5260	1	115	11.6	670 FPM	94	14.7

MUA FAN INFORMATION – JOB#6877294

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	MCA	MOCP	EVAP FLOW RATE (Gal/Hr)	EVAP COOLER ENTERING DB TEMP	EVAP COOLER ENTERING WB TEMP	EVAP COOLER LEAVING DB TEMP	EVAP COOLER LEAVING WB TEMP	WEIGHT (LBS)	SONES
2	MAU	1	A1-15D	15MF-1-MOD	A1	-	1699	0.500	2030	ODP,PREMIUM	2.000	1.1530	3	208	6.1	7.7A	15A	3.12	98.0°F	68.0°F	79.0°F	68.0°F	705	28.1

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF	1	GREASE BOX
		1	ECM WIRING PACKAGE - PWM SIGNAL FROM ECPMO3 PREWIRE (TELCO MOTOR), CCW ROTATION
		1	2 YEAR PARTS WARRANTY
2	MAU	1	INSULATED BLOWER SECTION SIZE 1-2 COMMERCIAL
		1	MIXING BOX SHELL FOR SIZE 1 MOD PACKAGE UNIT CONDENSER SUPPORT
		1	SIZE 1 UNTEMPERED COMMERCIAL DOWN DISCHARGE FOR DIRECT DRIVE AHUS
		1	EVAPORATIVE COOLER WIRING HARNESS
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH VFD) - THREE PHASE ONLY
		1	FREEZE PROTECTION DRAIN KIT FOR EVAPORATIVE COOLERS
		1	2 YEAR PARTS WARRANTY

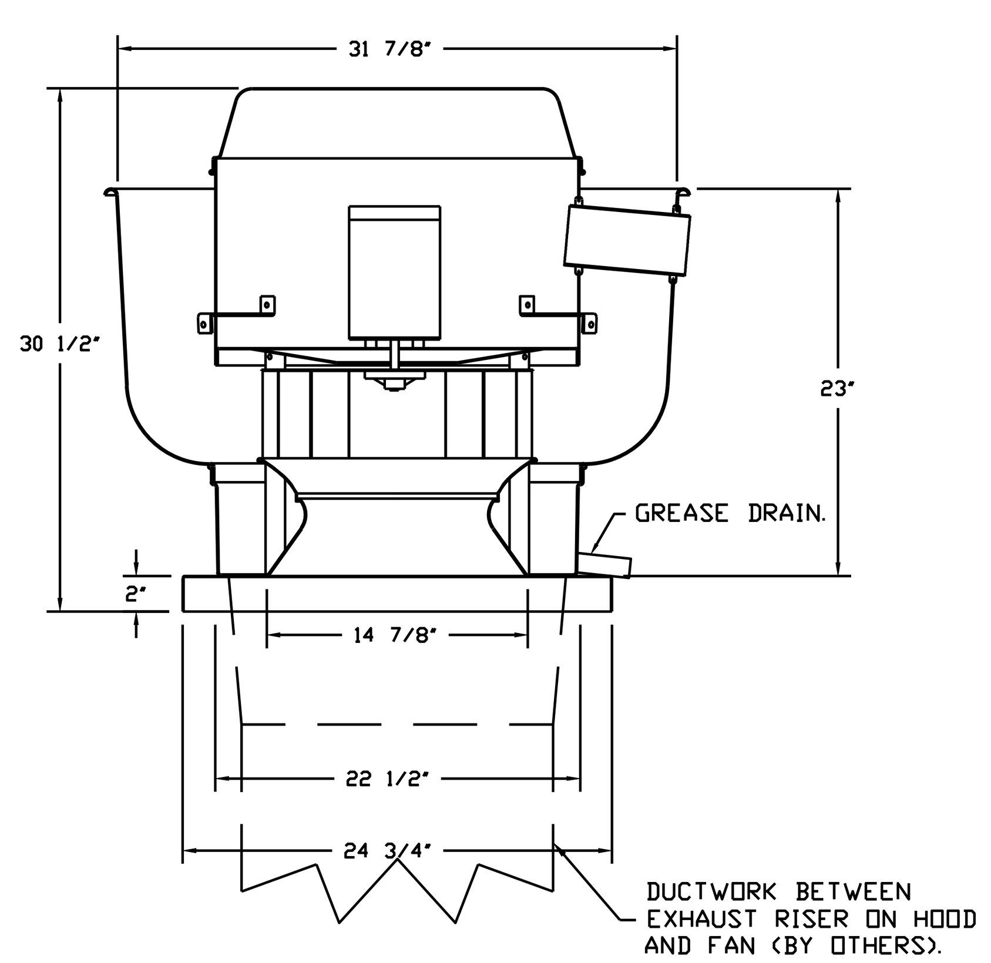
FAN ACCESSORIES

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

CURB ASSEMBLIES

NO	ON FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	KEF	40 LBS	CURB	23.000"W X 23.000"L X 26.000"H VENTED.
2	# 2		69 LBS	CURB	21.000"W X 21.000"L X 20.000"H.
	# 2			RAIL	6.000"W X 21.000"L X 20.000"H.
	# 2			RAIL	4.000"W X 4.000"L X 36.000"H.
	# 2			RAIL	4.000"W X 4.000"L X 36.000"H.

FAN #1 DU85HFA - EXHAUST FAN (KEF)



FEATURES:

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

NORMAL TEMPERATURE TEST

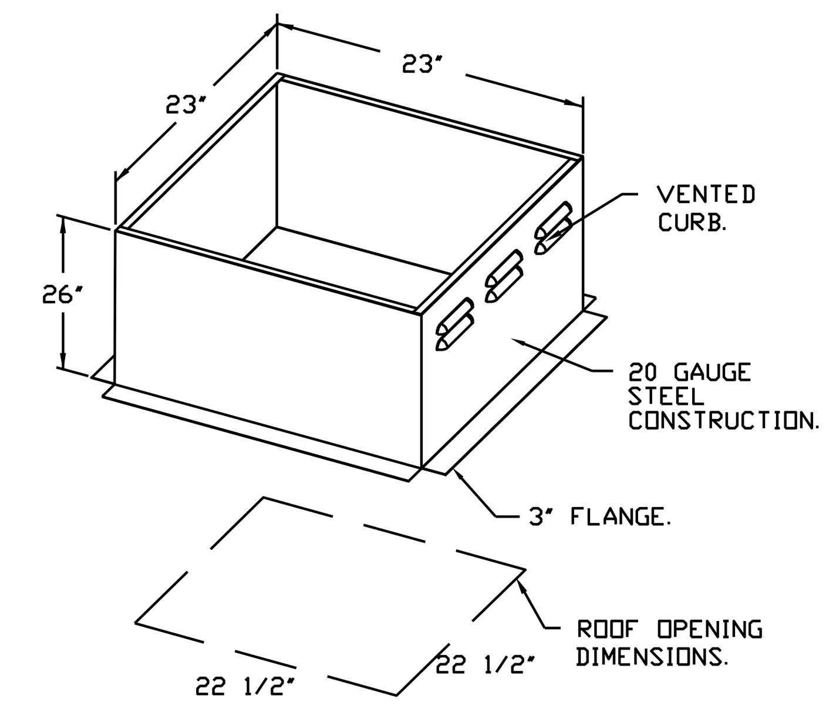
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

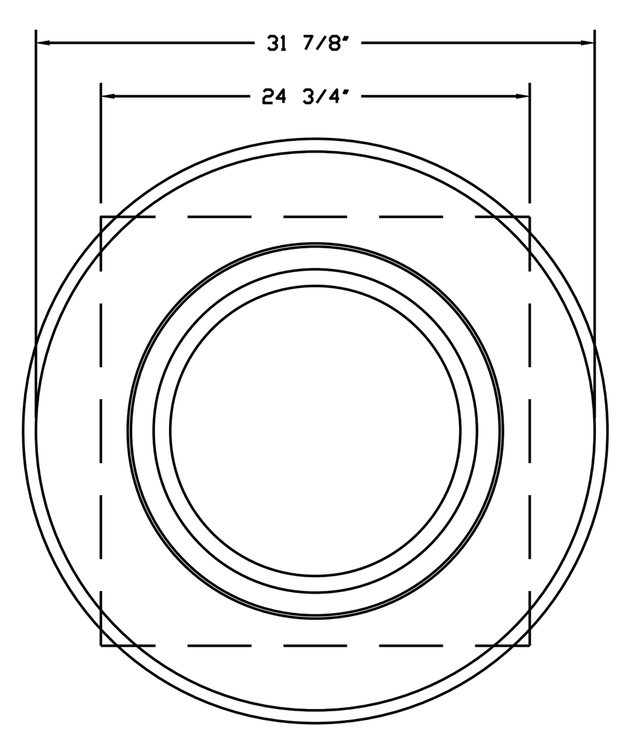
ABNORMAL FLARE-UP TEST

EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS

- GREASE BOX.
- ECM WIRING PACKAGE - PWM SIGNAL FROM ECPMO3 PREWIRE (TELCO MOTOR), CCW ROTATION.
- 2 YEAR PARTS WARRANTY.





TOP VIEW

REVISIONS

DESCRIPTION | DATE:

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DATE: 6/25/2024

DWG.#: 6877294

DRAWN BY: EG-32

SCALE: NTS

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PROJECT

CAVA

CAVA_REDHAWK_TEMECULA_CA
LOCATION
31709 TEMECULA PKWY
TEMECULA, CA 92592

△ DATE	DESCRIPTION
1 06/10/24	PC COMMENTS
2 07/17/24	PC COMMENTS
3 08/21/24	PERMIT ADDENDUM

MECHANICAL DETAILS

Date Modified:	08/21/2024
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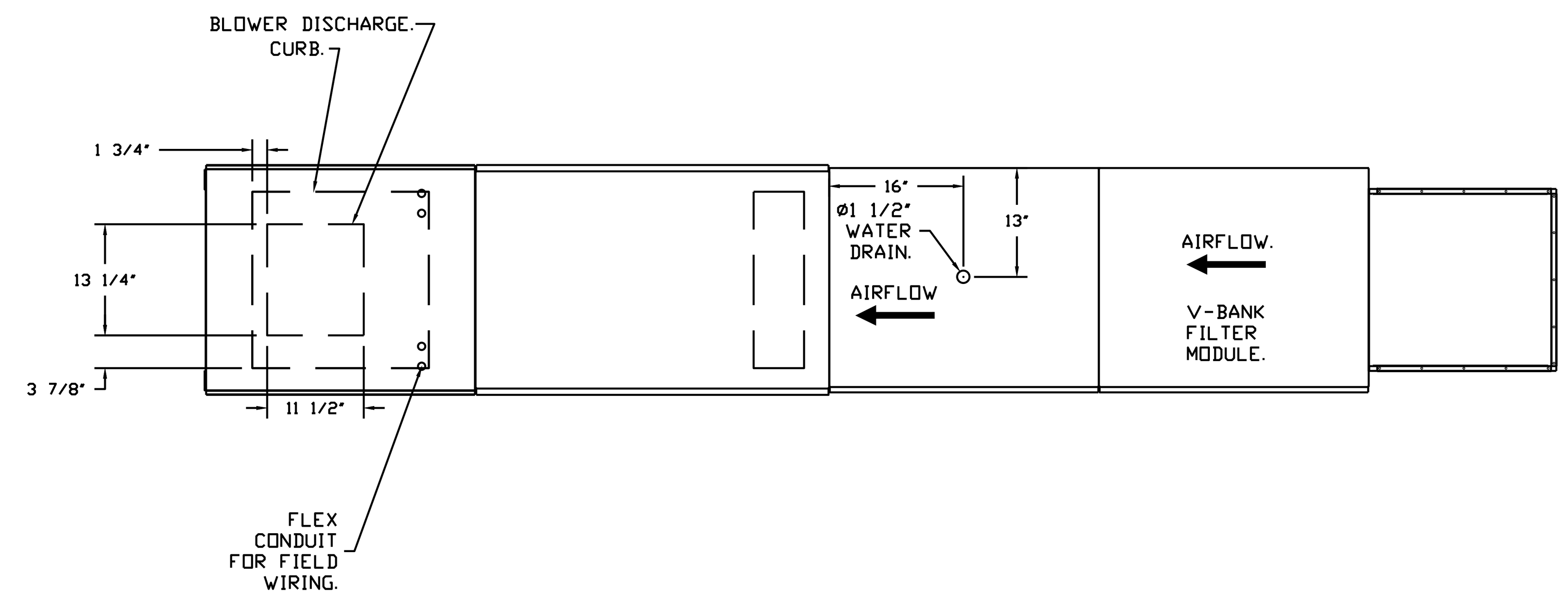
CAD File:	

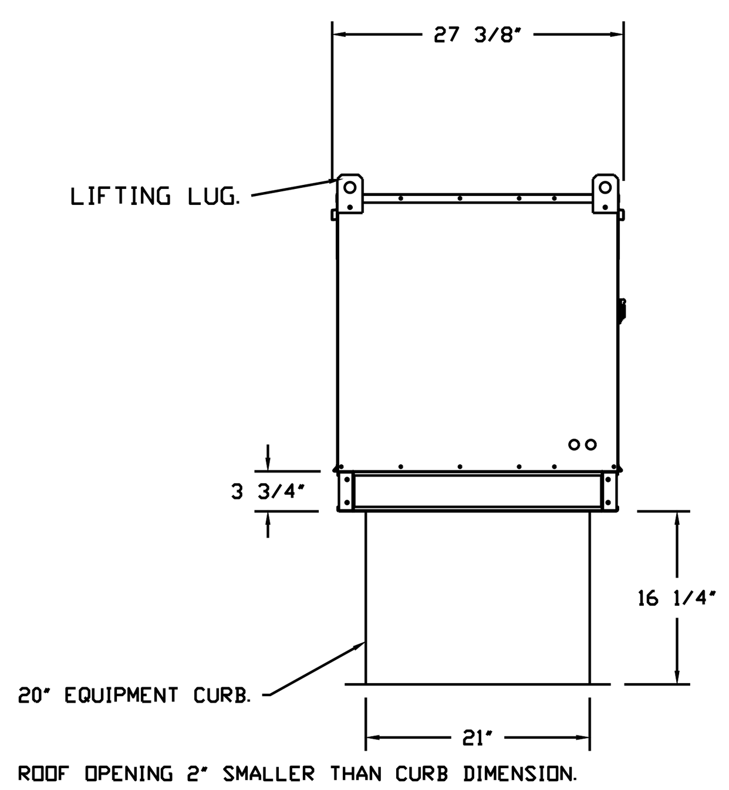
KITCHEN EQUIPMENT | NOT TO SCALE | 1

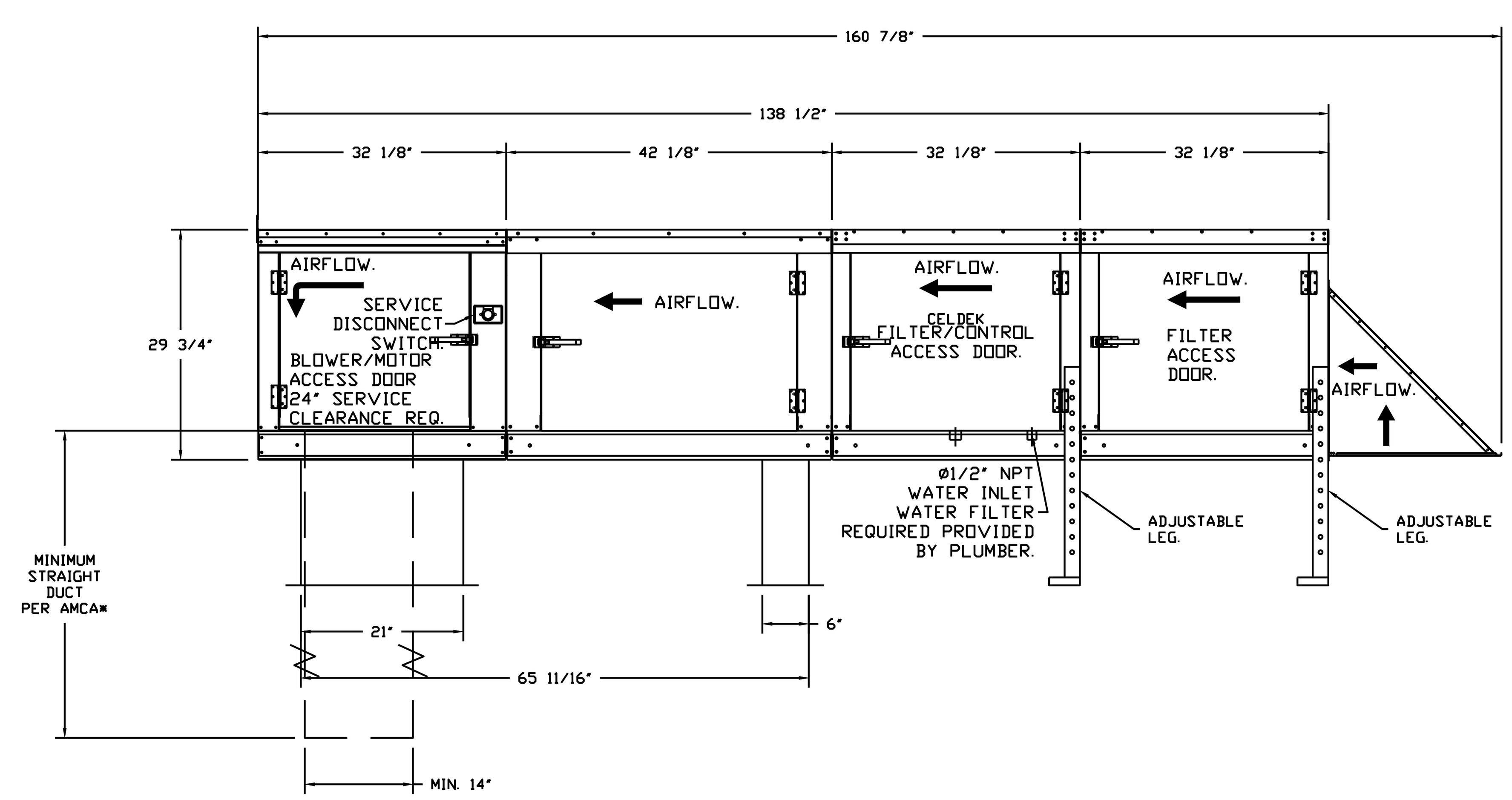
M6.6

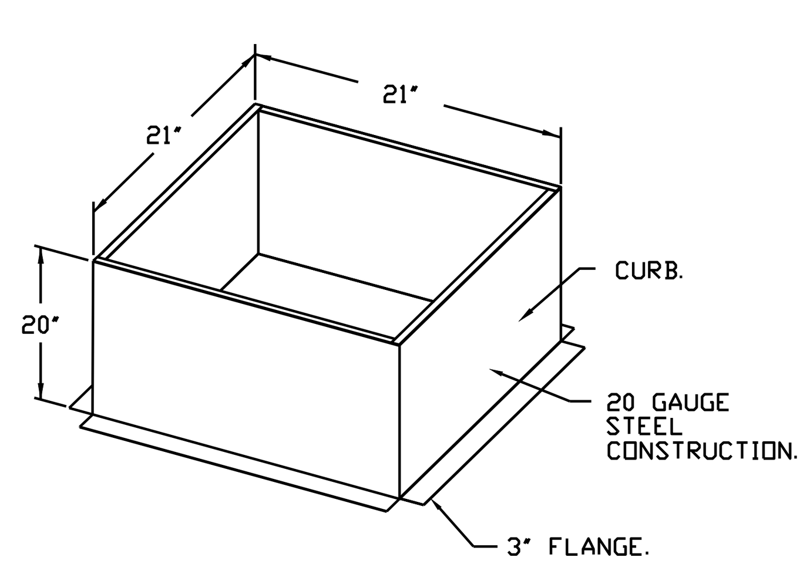
FAN #2 A1-15D - SUPPLY FAN (MAU)
1. UNTEMPERED SUPPLY UNIT WITH 15" MIXED FLOW DIRECT DRIVE FAN IN SIZE #1 HOUSING.
2. EVAP COOLER (CELDEK) & V-BANK WITH 2" TA-13 FILTERS - OUTDOOR.
3. DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
4. INSULATED BLOWER HOUSING SIZES 1-2 COMMERCIAL MODULAR.
5. SUPPORT SHELL FOR SIZE 1 MODULAR PACKAGE UNIT. INCLUDES CONTROL VESTIBULE. INCLUDES CONDENSER SUPPORTS. DOES NOT INCLUDE RETURN AIR OR INLET AIR DAMPER.
6. DOWN DISCHARGE CONSTRUCTION FOR SIZE 1 UNTEMPERED DIRECT DRIVE AHUS.
7. 120V WIRING CONNECTION TO ENERGIZE EVAPORATIVE COOLERS FROM UNTEMPERED SUPPLY FANS.
8. 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.
9. FREEZE PROTECTION DRAIN CONTROL KIT FOR EVAPORATIVE COOLERS. INCLUDES 3-WAY WATER SOLENOID VALVE 8316G064 (SHIPPED LOOSE), PRESSURE SWITCH INSTALLED UPSTREAM OF 2WAY SOLENOID IN UNIT, BRASS TEE, 2 NPT HALF INCH NIPPLES, AND TWO STAGE THERMOSTAT T678A1361. FIELD WIRING REQUIRED BY OTHERS FOR 3-WAY VALVE. FOR BOTH CELDEK AND STANDARD V-BANK TYPE CONFIGURATIONS.
10. HINGED DOUBLE WALL INSULATED DOOR ASSEMBLY (BURNER/BLOWER/EVAP SECTION).
11. 2 YEAR PARTS WARRANTY.

*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 14" x 14".









REVISIONS

DESCRIPTION	DATE:

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DATE: 6/25/2024

DWG.#: 6877294

DRAWN BY: EG-32

SCALE: NTS

MASTER DRAWING

SHEET NO. 6

KITCHEN EQUIPMENT

NOT TO SCALE

1

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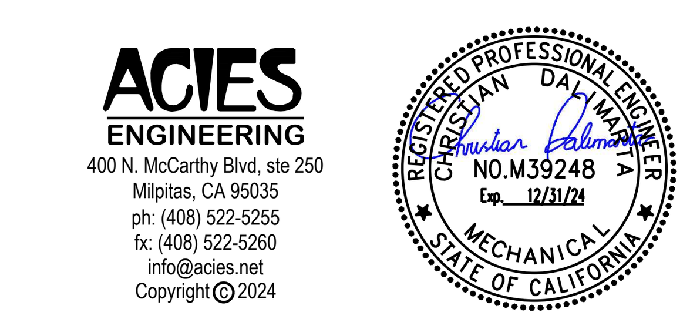

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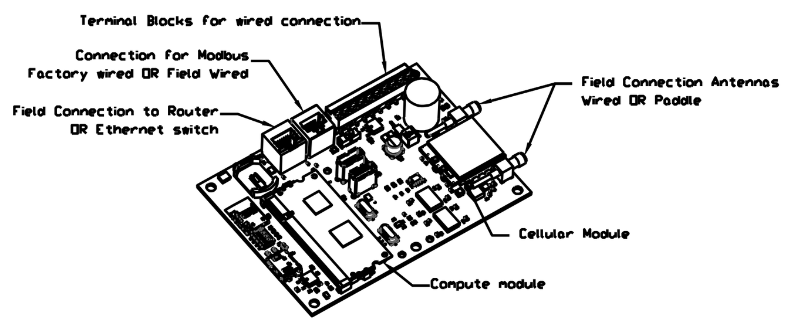
M6.7

ELECTRICAL PACKAGE – JOB#6877294

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED					
				LOCATION	QUANTITY		FAN TAG	TYPE		HP	VOLT	FLA
1		DCV-1111	UTILITY CABINET LEFT	UTILITY CABINET LEFT	1 LIGHT	SMART CONTROLS DCV	KEF	EXHAUST	1	1.000	115	11.6
				HOOD # 1	1 FAN			SUPPLY	3	0.250	208	1.2



CASlink Monitor and Control

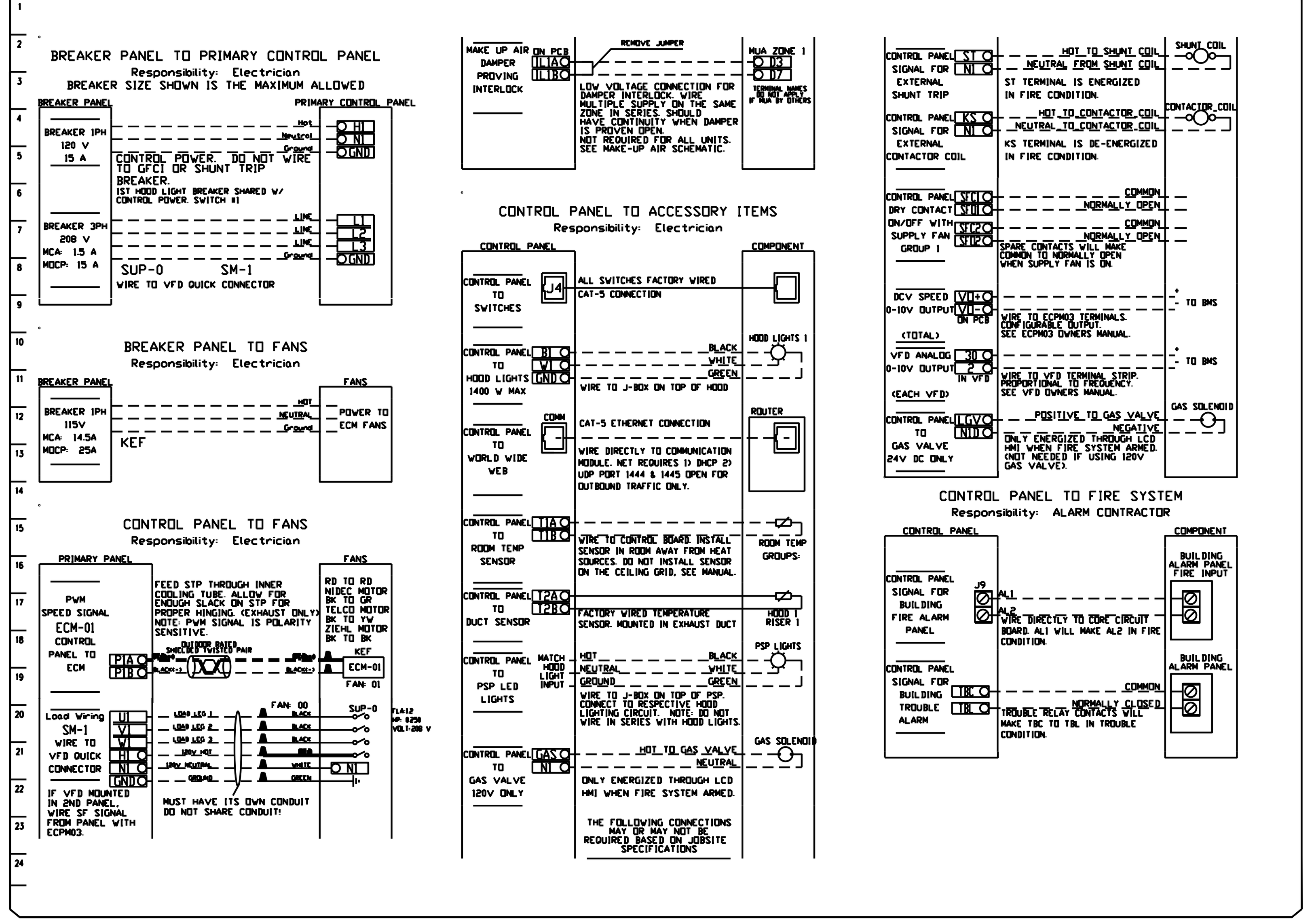
- Hood control panel to support communications to cloud-based Building Management System.
- Hood Control Panel to allow cloud-based Building Management System to monitor real time parameters outlined as MONITOR in the points list.
- Hood Control Panel to allow cloud-based Building Management System to 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

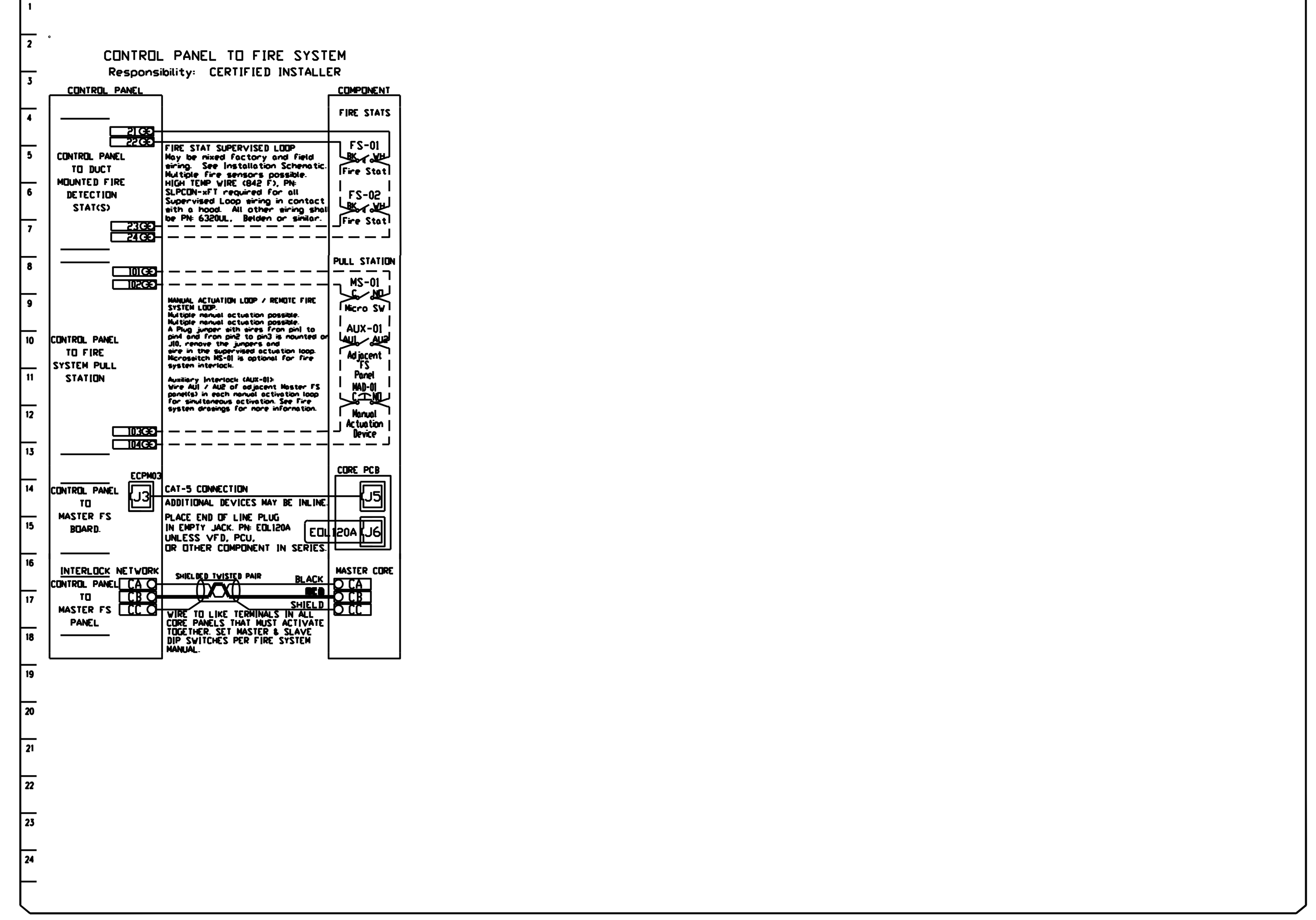
DCV Packages	Function
Room Temperature	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR
Fan Amperage	MONITOR
Fan Power	MONITOR
VFD Faults	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Prep Time Button	MONITOR & CONTROL
Fans Button	MONITOR & CONTROL
Lights Button	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

SC Packages	Function
Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR
Controller Faults	MONITOR
Fan Faults	MONITOR
Fan Status	MONITOR
PCU Faults	MONITOR
PCU Filter Clog Percentages	MONITOR
Fire Condition	MONITOR
CORE Fire System	MONITOR
Building Pressures	MONITOR
Fans Button(s)	MONITOR & CONTROL
Lights Button(s)	MONITOR & CONTROL
Wash Button	MONITOR & CONTROL

JOB NO 6877294 | MODEL NUMBER DCV-1111 | JOB NAME CAVA - Temecula, CA_R1 | DATE 6/25/2024 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-1 | DESCRIPTION OF OPERATION:



JOB NO 6877294 | MODEL NUMBER DCV-1111 | JOB NAME CAVA - Temecula, CA_R1 | DATE 6/25/2024 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-2 | DESCRIPTION OF OPERATION:



JOB NO 6877294 | MODEL NUMBER DCV-1111 | JOB NAME CAVA - Temecula, CA_R1 | DATE 6/25/2024 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-3 | DESCRIPTION OF OPERATION: Fire System #1 TANK FS - 4.0/4.0 (33A).

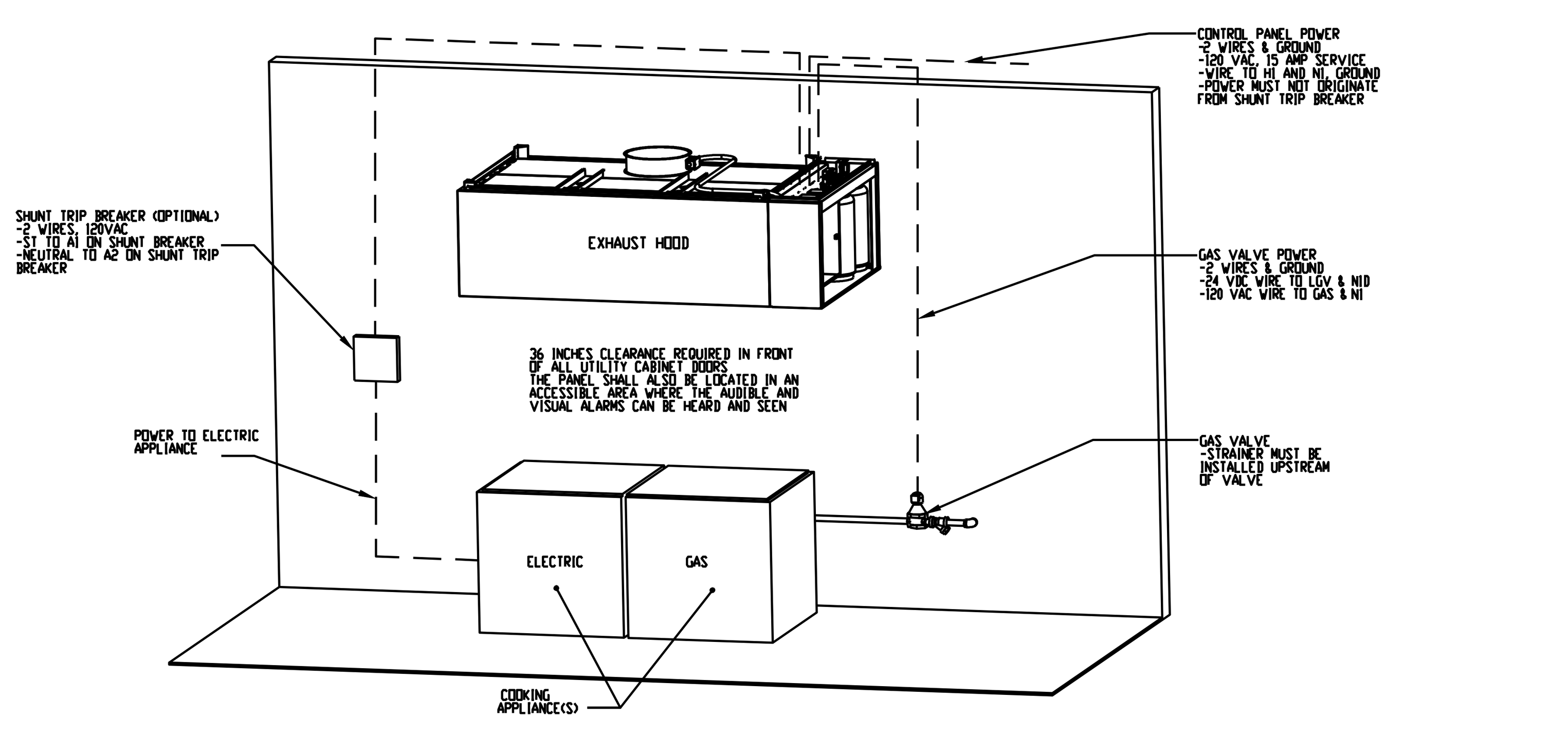
TANK PROTECTION ELECTRICAL DETAIL

02/10/2021 Rev. 2

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 UDS APPLIANCE KILL SWITCH, IF EQUIPPED (OPTIONAL)
5. WIRE GAS VALVE

ELECTRICAL CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION IN DEVICE	VOLTAGE	AMPERAGE	COMMENTS
SHUNT TRIP BREAKER (OPTIONAL)	ST & N1	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	H1 & N1 + GROUND	CIRCUIT BREAKER	120 VAC	15 AMPS	CONTROL PANEL POWER MUST NOT BE RUN THROUGH SHUNT TRIP BREAKER
UDS APPLIANCE KILL SWITCH (OPTIONAL)	KTS & N1	KTS & N1	120 VAC	< 4 AMPS	KILL SWITCH TERMINALS MUST BE IN SERIES WITH OTHER KILL SWITCHES
REMOTE 120VAC ANSUL AUTOMAN (OPTIONAL)	AU1, AU2	SOLENOID	120 VAC	< 6 AMPS	120V TO AU1, AU2 TO ANSUL ELECTRIC AUTOMAN, ANSUL SOLENOID TO NEUTRAL
GAS VALVE	LGV & N1D (IF 24 VDC) GAS & N1 (IF 120 VAC)	RED/RED/GREEN	24 VDC OR 120 VAC	< 1.0 AMPS	IF 24 VDC - 2 WIRES & GROUND, N1D TO RED, LGV TO RED, AND GREEN TO GROUND IF 120 VAC - 2 WIRES & GROUND GAS TO RED, N1 TO RED, AND GREEN TO GROUND



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

JOB NO 6877294 | MODEL NUMBER DCV-1111 | JOB NAME CAVA - Temecula, CA_R1 | DATE 6/25/2024 | SCHEMATIC TYPE INSTALL | DWG NO ECP #1-4 | DESCRIPTION OF OPERATION: Fire System #1 TANK FS - 4.0/4.0 (33A).

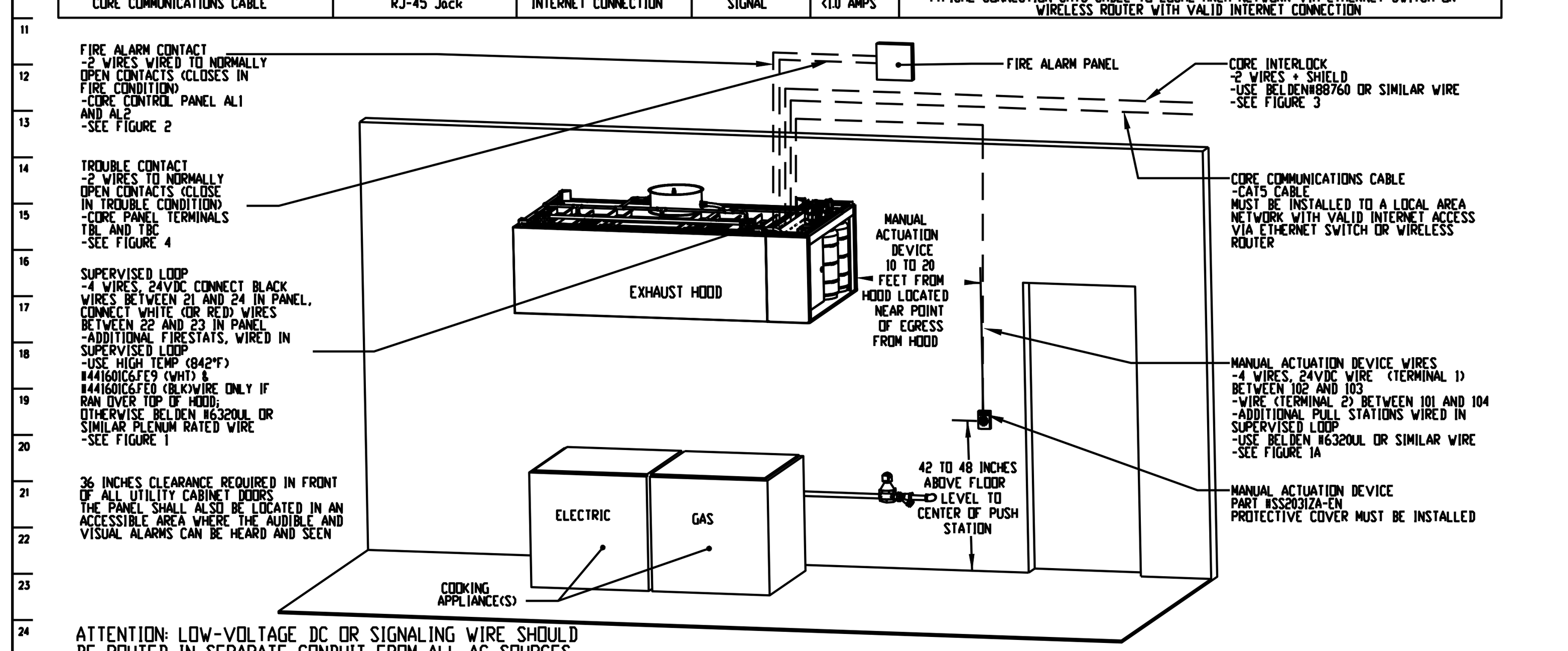
TANK PROTECTION LOW-VOLTAGE DETAIL

10/01/2023 Rev. 3

FS-1: MASTER

ALARM CONTRACTOR:
1. WIRE MANUAL ACTUATION DEVICE(S), REMOTE FIRESTAT(S), CORE INTERLOCK(S), FIRE SENSOR(S) AND FIRE ALARM CONTACTS
2. COMPLETE FINAL HOOKUP OF SYSTEM
3. VERIFY FINAL FIRE SYSTEM TEST

ALARM CONTRACTOR REQUIREMENT					
ITEM	CONNECTION IN PANEL	CONNECTION ON DEVICE	VOLTAGE	AMPERAGE	COMMENTS
MANUAL ACTUATION DEVICE(S)	101 AND 104 102 AND 103	1 & 2	24 VDC	< 1.0 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 DEVICE IS INSTALLED
MANUAL ACTUATION DEVICE COVER	N/A	N/A	N/A	N/A	MANUAL ACTUATION DEVICE COVER MUST BE INSTALLED IF SURFACE MOUNTED, USE COVER EXTENSION STI-6531B
REMOTE FIRESTAT SENSOR(S)	21 AND 24 22 AND 23	BLACK AND WHITE	24 VDC	< 1.0 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 (842°F) #441601C6.FE9 (WHT) & #441601C6.FE0 (BLK)WIRE OR SIMILAR ONLY IF RAN OF HOOD; OTHERWISE BELDEN #6320UL OR SIMILAR PLENUM RATED WIRE; SEE FIGURE 1
FIRE ALARM CONTACT	AL1, AL2	VARIES	50V MAX (AC/DC)	UP TO 1 AMP	FIRE ALARM RELAY CONTACTS FOR BUILDING FIRE ALARM LOCATED IN THE CORE ELECTRICAL CONTROL PANEL
CORE INTERLOCK(S)	CA, CB, CC	CA, CB, CC	RS-485 COMMUNICATIONS SIGNAL		CORE SYSTEM (1) CA, TO CORE SYSTEM (2) CA. CORE SYSTEM (1) CB, TO CORE SYSTEM (2) CB. CORE SYSTEM (1) CC, TO CORE SYSTEM (2) CC. USE BELDEN# 88760 OR SIMILAR WIRE
TROUBLE CONTACT	TBC, TBL, TOK	VARIES	MAX 120 VAC	UP TO 6 AMPS	WIRE TO TBL & TBC NORMALLY OPEN CONTACT, CLOSES IN TROUBLE CONDITION
CORE COMMUNICATIONS CABLE	RJ-45 Jack	INTERNET CONNECTION	SIGNAL	<1.0 AMPS	TYPICAL CONNECTION CAT5 CABLE TO LOCAL AREA NETWORK VIA ETHERNET SWITCH OR WIRELESS ROUTER WITH VALID INTERNET CONNECTION



ATTENTION: LOW-VOLTAGE DC OR SIGNALING WIRE SHOULD BE ROUTED IN SEPARATE CONDUIT FROM ALL AC SOURCES

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

REVISIONS

	DESCRIPTION	DATE:
△		
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△		

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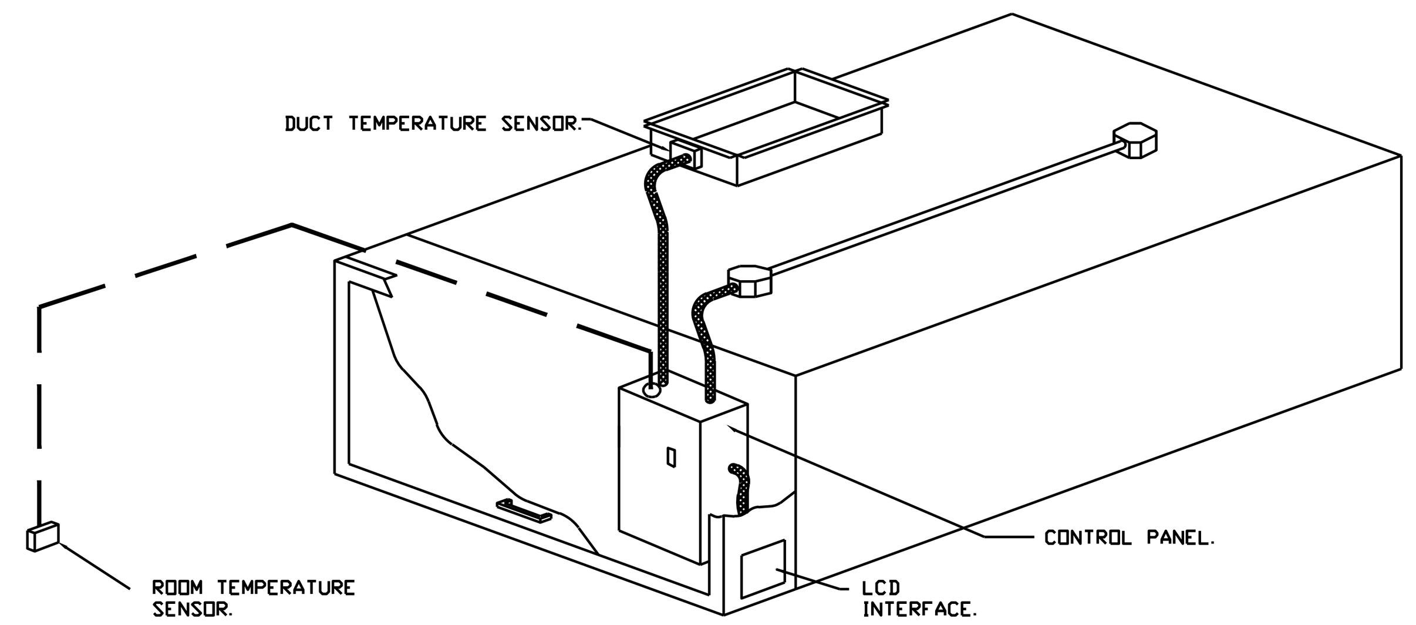
KITCHEN EQUIPMENT | NOT TO SCALE | 1

M6.8

DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:

- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
- THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.
- TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL.
- A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURES SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
- A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
- A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
- VARIABLE FREQUENCY DRIVES (VFDS) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDS BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL.
- THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
- AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.
- THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED. OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
- A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FAN(S), ACTIVATE THE EXHAUST FAN(S), ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD.
- A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
- AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:
  A. ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION.
  B. INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED).
  C. VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  D. DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  E. MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
  F. A SINGLE LOW VOLTAGE CAT-5 RJ45 WIRING CONNECTION.
  G. AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDS.



TYPICAL HOOD CONTROL PANEL INSTALLATION

SEQUENCE OF OPERATIONS:

THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME:

- AUTOMATIC: THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
- MANUAL: THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.
- SCHEDULE: A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.
- OTHER: THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).
- FIRE: UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

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:

CAPTIVEAIRE
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DATE: 6/25/2024
DWG.#: 6877294
DRAWN BY: EG-32
SCALE: NTS
MASTER DRAWING
SHEET NO. 10

KITCHEN EQUIPMENT 1
NOT TO SCALE

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REGISTERED PROFESSIONAL ENGINEER
NO.M39248
Exp. 12/31/24
MECHANICAL
STATE OF CALIFORNIA

PROJECT

CAVA

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LOCATION
31709 TEMECULA PKWY
TEMECULA, CA 92592

△	DATE	DESCRIPTION
1	06/10/24	PC COMMENTS
2	07/17/24	PC COMMENTS
3	08/21/24	PERMIT ADDENDUM

MECHANICAL DETAILS

Date Modified:	08/21/2024
Date Created:	01/16/2024
Scale:	SEE PLAN
Project No.:	230863
Drawn By:	MV/CD
CAD File:	

M6.9