EQUIPMENT SCHEDULE

MARK	MAKE MODEL	DESC.	CAPACITIES			AMB 102	ELECTRICAL ITEM QTY VOLT PH	ACCESSORIES
			CFM	HEAT IN/OUT	COOLING TOT/SENS			
RTU-1,2	CARRIER 48HCDD08	PACKAGE GAS ELECTRIC	3000 0.5'	180 148 AFUE 82%	89.0 72.9 12 EER 13.8 IEER	85 65	FLA 41.3 208V 3PH MCA 45, MOCP 50	W/ ECONOMIZER HIGH STATIC MOTOR ROOF CURB WT=1100#
MAU-1	ACCUREX XKFSB-109-HIS-01	MAKEUP AIR UNIT	1360 0.3'	-	-	-	1 HP 208V 3PH SEE ACCUREX DRAWINGS	SEE ACCUREX DRAWINGS, WT=360#
RCU-1	HEATCRAFT MDH022L62CF	REF. COND. UNIT	-	-	-	-	2HP 230V 1PH SEE WALK-IN BOX DRAWINGS	SEE WALK-IN BOX DRAWINGS
RFC-1	HEATCRAFT LCE676BEB	REF. FAN COIL	-	-	-	-	230V 1PH SEE WALK-IN BOX DRAWINGS	SEE WALK-IN BOX DRAWINGS
RCU-2	HEATCRAFT MDZ010M62CF	REF. COND. UNIT	-	-	-	-	1HP 230V 1PH SEE WALK-IN BOX DRAWINGS	SEE WALK-IN BOX DRAWINGS
RFC-2	HEATCRAFT LCA6110AEB	REF. FAN COIL	-	-	-	-	115V 1PH SEE WALK-IN BOX DRAWINGS	SEE WALK-IN BOX DRAWINGS
RCU-3	HEATCRAFTMD Z030LM63CF	REF. COND. UNIT	-	-	-	-	3HP 230V 3PH SEE WALK-IN BOX DRAWINGS	SEE WALK-IN BOX DRAWINGS
RFC-3A ,3B	HEATCRAFT LCA6135AEB	REF. FAN COIL	-	-	-	-	115V 1PH SEE WALK-IN BOX DRAWINGS	SEE WALK-IN BOX DRAWINGS
IRH-1 TO 5	SUNPAK S25	INFRARED HEATER	-	25.0 25.0	-	-	24VAC	GAS OPTION, BLACK FINISH, WT=55#

DIFFUSER/REGISTER SCHEDULE

	MARK	MAKE MODEL	DESCRIPTION	FACE MOUNT	BLOW	DAMPER	COLOR	REMARKS OPERATING WT
	CS-4	TITUS TDC-3-A4	CEILING SUPPLY	BLADE T-BAR	4-WAY	WYE BRANCH	WHITE	INSTALL VD IN WYE BRANCH/BRANCH DUCT
	CS-4A	TITUS TDC-6-A4	CEILING SUPPLY	BLADE SURFACE	4-WAY	WYE BRANCH	WHITE	INSTALL VD IN WYE BRANCH/BRANCH DUCT
*	CE-1	TITUS 350R	CEILING EXHAUST	BLADE SURFACE	NA	WYE BRANCH	WHITE	INSTALL VD IN WYE BRANCH/BRANCH DUCT
	DL-1	ANEMOSTAT PLSL 12GA	DOOR LOUVER	BLADE SURFACE	NA	NA	PRIME	PAINT PER ARCHITECT, SIGHTPROO

CONTRACTOR SHALL CONFIRM ALL REFLECTED CEILING GRID SYSTEMS WITH THE BORDER SPECIFIED IN THE SCHEDULE FOR LAYIN DIFFUSERS AND SHALL SUBMIT DIFFUSER BORDERS MATCHING GRID SYSTEMS.
* RUN ALL FRONT FACE REGISTER BLADES PARALLEL TO FLOOR WHEN MOUNTED IN WALLS
SAS SAS - SEE ARCHITECTURAL SCHEDULE FOR FLOOR, CEILING AND WALL FINISHES. CONFIRM REGISTER FINISH (MILL OR PAINT) WITH ARCHITECT PRIOR TO ORDERING SLOTS.
+ NO SCREW HOLES

EXHAUST FAN SCHEDULE

	MARK	MAKE MODEL	DESC.	CAPACITIES				ELECTRICAL ITEM QTY VOLT PH	ACCESSORIES AND CONTROLS	OPERATING WT#
				CFM	*ESP	RPM	SONNES			
	REF-1	GREENHECK G-098-VG-1/4	ROOF EXHAUST FAN	550	0.5	1490	8.9	1/4 HP 120V 1Ø	BDD, BS, WALL MOUNTED SPEED CONTROLLER AND DISCONNECT	65# LOW LEAK DAMPER <2 CFM/SQ FT
	REF-2	GREENHECK G-095-VG-1/4	ROOF EXHAUST FAN	500	0.5	1550	8.7	1/4 HP 120V 1Ø	MD, BS, SPEED CONTROLLER AND DISCONNECT	25#
	KHF-1	ACCUREX XCUE-140-A	KITCHEN HOOD FAN	1700	1.6	1725	17.3	1 HP 208V 3Ø	SEE ACCUREX DRAWINGS	96#
*	FF-1	MARS PH1048-1E	FLY FAN	3000	0.1	3500	15.3	1/2 HP 28.8 AMPS 208V 1Ø	W/ON/OFF SW, DOOR SW, WEATHER HOUSING, SEE KITCHEN EQUIPMENT ITEM 89	50#

BDD - BACK DRAFT DAMPER, LOW LEAK
BS - BIRD SCREEN
MD - MOTORIZED DAMPER, LOW LEAK
* PROVIDE FANS W/TEFC AIR COOLED MOTORS, ROLLER TYPE DOOR SWITCH, NSF AND UL LISTED, WATERTIGHT JUNCTION BOX, CONTROLS AND STARTER PANEL, COLOR BY ARCHITECT.

SYMBOL LEGEND

SYMBOL	ITEM	ABBREV.
	RECTANGULAR DUCT SIZE NET INSIDE DIMENSIONS	
	LINED DUCT WITH INSULATION SEE DRAWING FOR THICKNESS	
	FLEXIBLE SUPPLY DUCT, CLASS 1 FLEXIBLE RETURN DUCT, CLASS 1	
VD	VD - VOLUME DAMPER, REQUIRED FD - FIRE DAMPER FSD - FIRE SMOKE DAMPER CSFD - CEIL FIRE SMOKE DAMPER MD, DM - MOTORIZED DAMPER	NONE FDR FSD CSFD MD, DM
	DUCTWORK - GI SPIRAL PIPE	
	TURNING VANES	TV
300 CS-4 12x12 / CR-1 / CE-1	CS-4 — FIRST LETTER LOCATION: CEILING, FLOOR, WALL; SECOND LETTER SERVICE: SUPPLY, RETURN, EXHAUST; NUMBER-TYPE: SEE SCHED. 300 - CFM, CUBIC FEET PER MINUTE 12x12 - GRILLE NECK SIZE IN INCHES PROVIDE VD'S AT ALL WYES AND TAPS SUPPLYING GRILLES AND REGISTERS FOR AIR BALANCING PER T-24.	
T	THERMOSTAT, UNIT NO.	——
B N C	BYPASS, NITESTAT, CLOCK	——
	ABBREVIATIONS W/OR WO SYMBOLS	
——	WITH	W/
——	WITH OUT	WO/
——	DOWN	DN
——	GALVANIZED SHEET METAL	GI
——	ABOVE FINISHED FLOOR	AFF
——	BELOW FINISHED FLOOR	BFF
——	BELOW FINISHED CEILING	BFC
——	ABOVE FINISHED CEILING	AFC
——	NEW DUCTWORK	——
-X-X-X-	DEMOLITION TO BE REMOVED	TBR
——	DUCTWORK EXISTING	(E)
	POINT OF CONNECTION	POC
	CUT OFF POINT	COP
——	FURNISHED BY OTHERS	FBO
——	UP THROUGH ROOF	UTR
——	UNLESS OTHERWISE NOTED	UON
— C —	CONDENSATE, OVERFLOW	C, OF
— HWS —	HEATING WATER SUPPLY, RETURN	HWS,HWR
— CHWS —	CHILLED WATER SUPPLY, RETURN	CHWS,CHWR
——	MACHINE BOLT	MB
G,LPG	NATURAL GAS, LPG LINE	G, LPG
——	ALL THREAD ROD	ATR
——	OUTSIDE AIR	OSA
——	FEET PER MINUTE	FPM
——	DUCT TEMPERATURE SENSOR	DTS
——	FLEXIBLE DUCT CONNECTOR	FC
——	FLEX DUCT	~
——	STEAM PIPE	S
——	STEAM CONDENSATE	SC
——	MAKEUP WATER	CW
▷◁	SHUT OFF/BALL VALVE	BV
——	DUCT SMOKE DETECTOR	DSD

HVAC Notes

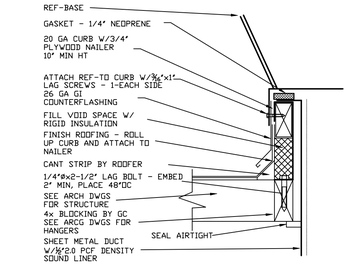
1. Furnish and install all ductwork in accordance with the latest editions of CMC (SMACNA duct construction standards).
2. All pipes, ductwork and conduit shall be installed and seismically braced per SMACNA's Seismic Restraint Guidelines, DSHPD pre-approval #ROOIO
3. All contractor furnished equipment installation and startup instructions shall be kept with the piece of equipment in weatherproof pouches until final inspection. After final inspection, three sets of operation, installation, maintenance and start-up instructions shall be given to the Owner for each piece of equipment per the Ca Green Building Code. All equipment shall be installed, isolated and supported per the manufacturer's written instructions.
4. All Fire and Fire Smoke Damper installation instructions shall be made available to the inspecting authority for their review.
5. All penetrations through fire rated assemblies shall be fire stopped and sealed with a material that meets or exceeds the 'T' rating of the assembly penetrated. Materials to be used for sealing shall be coordinated with the General Contractor to provide one brand onsite.
6. Install all pipe and duct insulation materials per T-24 requirements. All material to be installed shall meet CBC flame and smoke requirements per note 11.
7. All work on this project shall conform to the following codes:

   2019 CBC
   2019 CPC
   2019 CMC
   2019 CEC
   2019 CALIFORNIA GREEN BUILDING CODE.

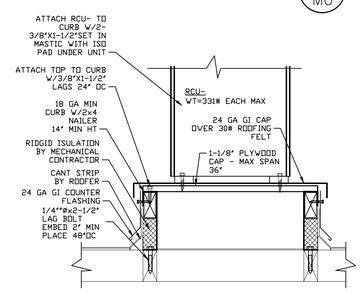
8. All wye branches connected to a diffuser, grille or register shall have a manual volume damper installed in the wye branch. OBD's shall only be used when wye branches will be installed over inaccessible ceiling areas or in the slab of the building. Dampers shall be fabricated of the same gauge as the duct with 1" standoff, locking quadrant, and handle. Fasten red ribbon to handle to mark location.
9. All gas pipe to be schedule 40 with screwed fittings. All air conditioning/refrigeration condensate drain lines shall be schedule 40 PVC run to the an approved receptor. Set pipe on redwood blocks with 24 ga GI cover unless otherwise shown differently on drawings.
10. Provide smoke detectors in the supply air duct on all units when the aggregate cfm exceeds 2000 cfm of all equipment serving a room or more than one room and the room has no direct exits to the exterior. Duct smoke detectors shall be installed after the supply fan before any branch takeoffs. When more than one unit serves a TI space and the aggregate cfm of the units serving the TI space exceeds 2000 cfm, all HVAC equipment shall have duct smoke detectors. All duct smoke detectors shall be wired to shut down all units when a single unit alarms. When fire detection or alarm systems are provided for the building, all smoke detectors including those installed for fire smoke dampers shall be supervised by such systems per 608.1 CMC. Such connections shall be shown on the deferred fire alarm submittal.
11. Such connections shall be shown on deferred fire alarm submittal.
12. All ductwork shall be GI pipe and fittings with final connection to registers in concealed ceiling space made with a maximum 5' length of flex duct. Where supply ductwork, round or rectangular, is exposed in conditioned space, line with R-4.2 duct insulation per code. Line all rectangular duct with insulation with the R-value listed in T-24 for the location where will be installed (attic, conditioned or outside). All duct materials from insulation to mastics including but not limited to sheet metal, insulation, liners, plastics, rubber cements, latex, etc. shall be made of materials with a Flame spread <=25 and smoke <=50.
13. It is the responsibility of the Mechanical Contractor to coordinate the installation of his work including equipment substitutions with the other trades including but no limited to electrical, fire sprinkler, framing and plumbing.
14. Insulate all ductwork per the T-24 energy requirements found in the T-24 compliance report. All ductwork shall be tested for leaks with a maximum static pressure in the duct of 1.0", maximum leakage shall not exceed 4% of the total supply and return air volumes.
15. All economizer, thermostat and fan systems shall be tested per T-24 for compliance with the T-24 report and the appropriate forms indicated in the T-24 report shall be provided and signed by the Contractor prior to project close out and the HERS reports loaded up to the appropriate CHEERS or CAL-Certs hosting service.
16. Contractor shall label all equipment with unique identification using plastic engraved plates with 1/2" tall lettering indicating the equipment number and state the areas served by the equipment. See specifications on dwgs.
17. All flex duct will be stretched as tight as possible and as per manufacturers listing to avoid all kinks and sagging.
18. All smoke detectors shall be tested as required with an approved smoke system per the City of Marina's standards in the presence of the inspector or fire Marshall.
19. All systems shall require an air balance report upon final inspection. Submit reports on NEBS or NABC forms an independent certified air balance showing system has been balanced and DSA quantities set to that shown on drawings.
20. Condensate drain lines installed in direct or indirect sunlight shall be UV resistant CPVC or PVC pipe and shall be painted to protect from UV radiation.
21. Seal all joints and seams with DP-1010 duct sealer.
22. Contractor shall replace all filters used during construction with MERV 13 filters prior to Owner/Tenant Occupying building.

T-24 MECH AND PLUMBING MANDATORY FEATURES

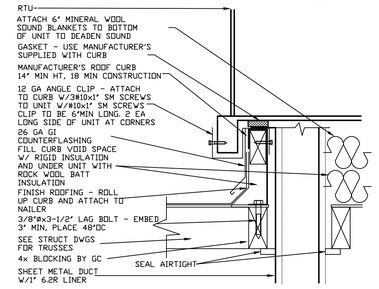
1. EQUIPMENT SHALL BE CERTIFIED TO MINIMUM EFFICIENCY PER SECTION 110.2 - SEE SCHEDULES ON M-0.
2. HVAC CONTROLS AND EQUIPMENT CERTIFIED PER SECTION 120.2 FOR THERMOSTATS AND DDC CONTROLS - SEE DETAILS ON M0.
3. SERVICE WATER HEATING SHALL COMPLY WITH SECTION 110.3 ,
4. USE OF PILOT LIGHTS ON HVAC, GAS COOKING POOL AND SPA HEATERS PROHIBITED PER SECTION 110.5
5. LAVATORIES SHALL BE SET TO MAINTAIN DISCHARGE TEMP AT 110°F OR LESS PER SECTION 110.3 - SEE PLUMBING SCHEDULE
6. VENTILATION REQUIREMENTS PER 120.1.B,C&D M-1 AIR BALANCE
7. NATURAL VENTILATION PER 120.1.B.1 N/A
8. CONTROLS SHALL MEET REQUIREMENTS PER 122. SEE M-0 AND NOTES.
9. SHUT DOWN AND BACKDRAFT DAMPERS PER 122.F SEE SCHEDULES ON M-0
10. ISOLATION AREA DEVICES PER 122.G N/A
11. PIPE INSULATION PER 120.3.G SEE NOTES, TABLE 120.3-A
12. REQUIREMENTS FOR DUCTS AND PLENUMS PER 124 SEE M-0, NOTES AND SPECIFICATIONS
13. MECHANICAL ACCEPTANCE TEST FORMS SUBMITTED AT END OF PROJECT PER SECTION 120.5, 120.7 AND 120.8 - SEE T24 DRAWINGS FOR FORMS REQUIRED (1-17) TO BE SUBMITTED AT THE END OF THE PROJECT FOR EACH HVAC AND PLUMBING SYSTEM, AND FOR EACH HVAC AND PLUMBING PIECE OF EQUIPMENT.



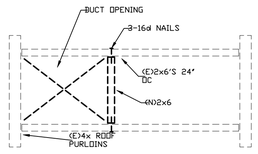
ROOF EXHAUST FAN CURB DETAIL 9 MO

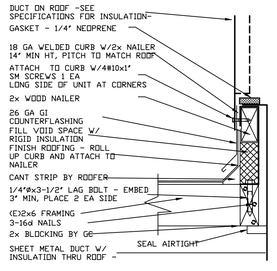


RCU- MOUNTING DETAIL DETAIL 10 MO

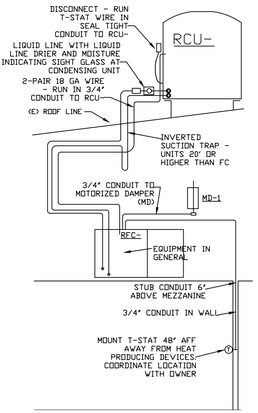


RTU- CURB MOUNT DETAIL 11 MO

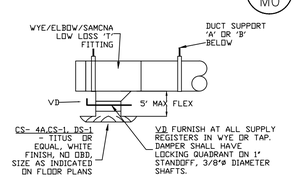


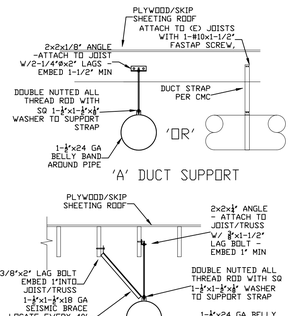


DUCT CURB MOUNT DETAIL 12 MO

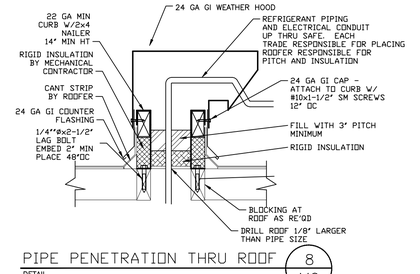


RCU-, RFC- REFRIGERATION/TSTAT PIPING DETAIL 6 MO

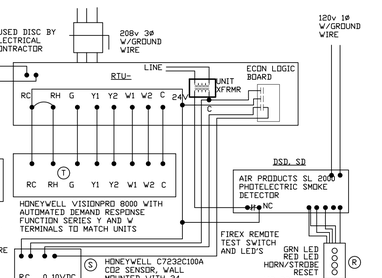




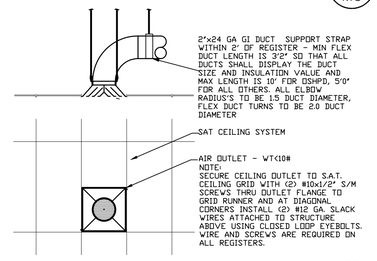
DUCT DUPPORTS DETAIL 7 MO



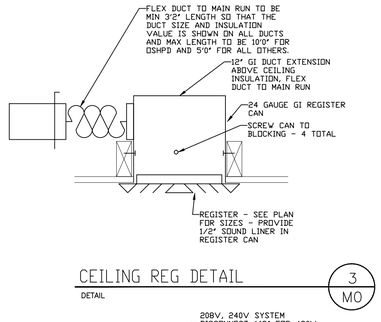
PIPE PENETRATION THRU ROOF DETAIL 8 MO



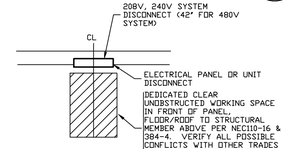
RTU-1,2 THERMOSTAT DETAIL 1 MO



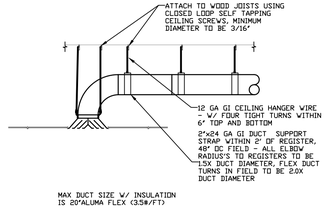
T-BAR REGISTER DETAIL 2 MO



CEILING REG DETAIL 3 MO



ELECTRICAL PANEL/DISCONNECT DETAIL 4 MO



FLEX DUCT HANGER DETAIL 5 MO

REVISIONS
1 BUILDING DEPT. - 04/28/22
2 FIRE DEPT. - 04/16/22
3 BUILDING DEPT. - 05/16/22
4 BUILDING DEPT. - 07/18/22

PLANNING ARCHITECTURE
api
ARCHITECTURE PLUS INC.
4335-B NORTH STAR WAY
MODESTO, CA 95356
ph. 209.577.4661
fx. 209.577.0213
www.apiarc.com
JOSEPH L. SMITH
RODNEY C. ALONZO
ARCHITECTS

CA

BRASS TAP PUB
SW CORNER , GENERAL STILWELL DR. & 11TH AVE.
MARINA

MECHANICAL SCHEDULES, DETAILS, AND NOTES

Reviewed for Code Compliance
08/23/2022
CSG CONSULTANTS, INC.

PROFESSIONAL ENGINEER ERIC G. DAVIS NO. M29759 REN. 6-30-24 MECHANICAL STATE OF CALIFORNIA

DATE :	JULY 2022
JOB NO. :	21062
DRAWN :	NR/GD
CHECKED :	GD
SHEET :	M0

GDMD ENGINEERING, INC
Mechanical and Safety Engineers
212 W Pine St, Ste 4
Lodi, Ca 95242
Ph 209-367-0899
Fax 209-367-0898
E-mail:gdmdengrinc@sbcglobal.net

C:\Users\rcorral\OneDrive\Desktop\Work Files\2021-124 HVAC.rvt 4/2mg 7:27:22 7/18/22 Axis: none

HOOD INFORMATION

HOOD NO.	MARK	MODEL	HOOD DIMENSIONS (IN.) LENGTH	WIDTH	HEIGHT	HOOD CONSTR.	COOKING LOAD / DUTY RATING	EXHAUST TOTAL CFM	COLLAR(S) WIDTH	LENGTH	DIA.	CFM	S.P.	SUPPLY MUA CFM	AC CFM	TOTAL WEIGHT LBS.	SECTION LOCATION
1	ITEM 58 - EXHAUST HOOD	XBEP-102-S	102	TOP 36 BOT 17	FRT 6 BACK 24	430 SS WHERE EXPOSED	MEDIUM	1700			12	1700	0.734	1360		222.2	SINGLE

HOOD INFORMATION

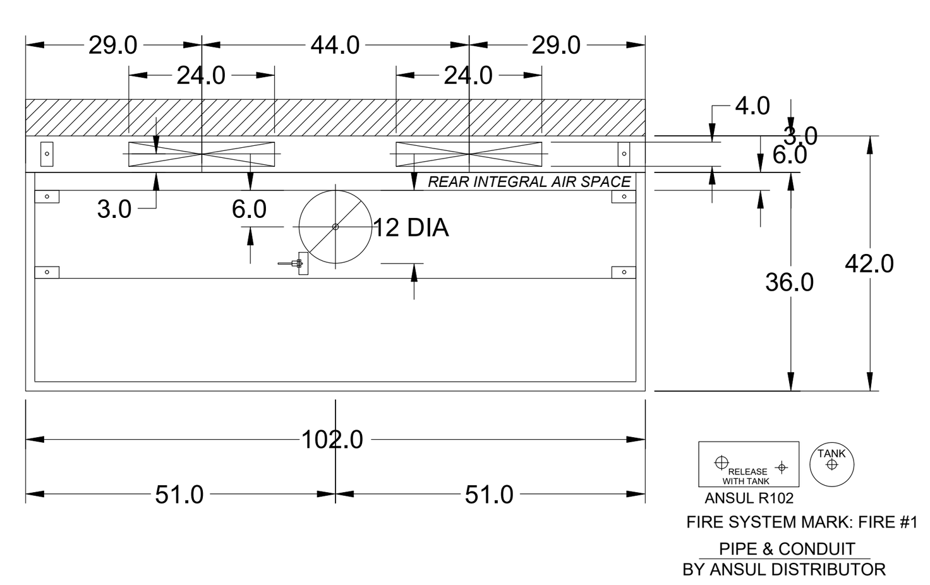
HOOD NO.	MARK	LIGHTING DETAILS FIXTURE TYPE BULB / LAMP INFO	QTY	FOOT CANDLES	GREASE FILTRATION DETAILS TYPE / MODEL MATERIAL	QTY	SIZE (IN.) L	H	UTILITY CABINET(S) LOCATION	FIRE SYSTEM TYPE	SIZE	CONTROLS MODEL	INTERFACE
1	ITEM 58 - EXHAUST HOOD				BAFFLE STAINLESS STEEL	5 1	16 20	16					

SUPPLY PLENUM INFORMATION

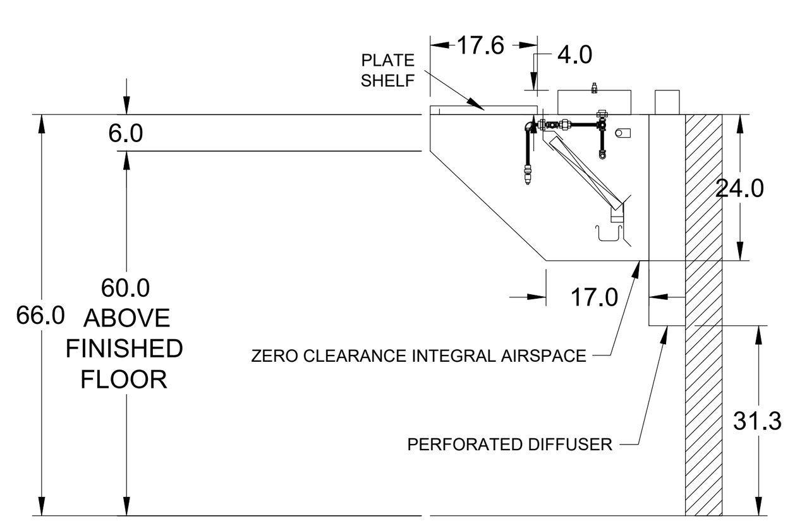
HOOD NO.	MARK	POS.	TYPE	SIZE (IN.) L	W H	INSULATED	DAMPER(S)	LED LIGHT(S) SUPPLIED	QTY	TOTAL CFM	COLLARS TYPE	MOUNTING	QTY	W L	DIA.	CFM	S.P.	VEL.
1	ITEM 58 - EXHAUST HOOD	BACK	BSP	102	6 34.75	NO	NO	NO		1360	MUA	FACTORY	2	4 24		680	0.16	1020

HOOD OPTIONS

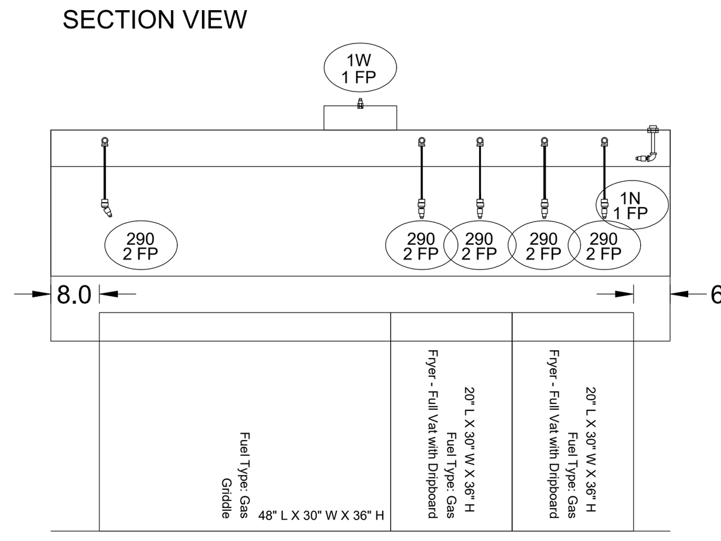
- UL 710 LISTED W/ OUT EXHAUST FIRE DAMPER - UL #R25625
- BACK INTEGRAL AIR SPACE - 3 IN WIDE - ZERO CLEARANCE
- FACTORY MOUNTED EXHAUST COLLAR(S)
- PERFORMANCE ENHANCING LIP (PEL) TECHNOLOGY
- STANDING SEAM CONSTRUCTION FOR SUPERIOR STRENGTH



MARK: ITEM 58 - EXHAUST HOOD - SECTION 1
PLAN VIEW

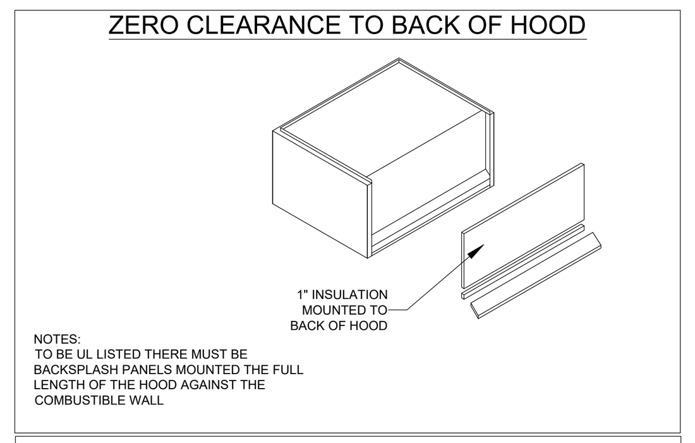


MARK: ITEM 58 - EXHAUST HOOD
SECTION VIEW



MARK: ITEM 58 - EXHAUST HOOD - SECTION 1
ELEVATION VIEW

ZERO CLEARANCE TO BACK OF HOOD



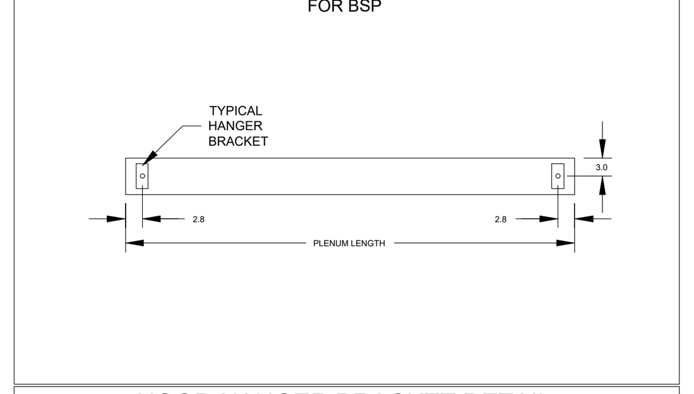
HOOD HANGING HEIGHT FOR FIRE SYSTEMS

VERIFICATION OF HOOD HANGING HEIGHT ABOVE FINISHED FLOOR (A.F.F.) IS REQUIRED FOR CORRECT PLACEMENT OF FIRE SYSTEM NOZZLES.

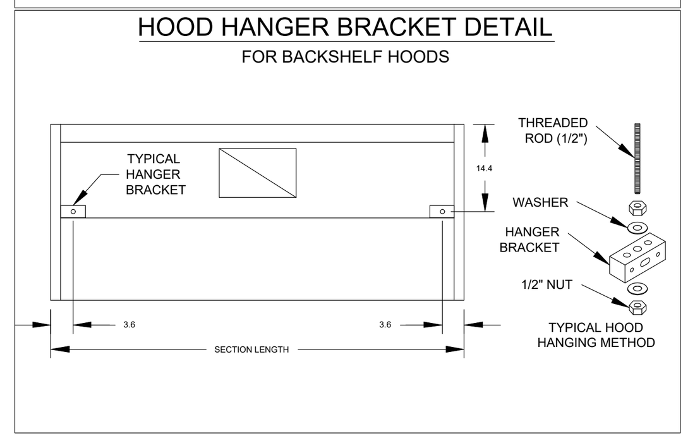
☐ RECOMMENDED HANGING HEIGHT = 60" FROM FINISHED FLOOR TO LOWER FRONT EDGE OF HOOD.

☐ OTHER HANGING HEIGHT = ________" FROM FINISHED FLOOR TO LOWER EDGE OF HOOD.

BACK SUPPLY PLENUM HANGER BRACKET DETAIL
FOR BSP



HOOD HANGER BRACKET DETAIL
FOR BACKSHELF HOODS



MARK
ITEM 58 - EXHAUST HOOD

FIRE SYSTEM INFORMATION

MARK	MODEL	LOCATION	FLOW POINTS HOODS	PCU	SUPPLY LINE	DETECTION	MARK(S) PROTECTED BY FIRE SYSTEM
FIRE #1	ANSUL R-102 WET CHEMICAL	REMOTE MOUNTED	12 UTILIZED 22 AVAILABLE		CONTINUOUS	FUSIBLE LINK	ITEM 58 - EXHAUST HOOD SECTION 1

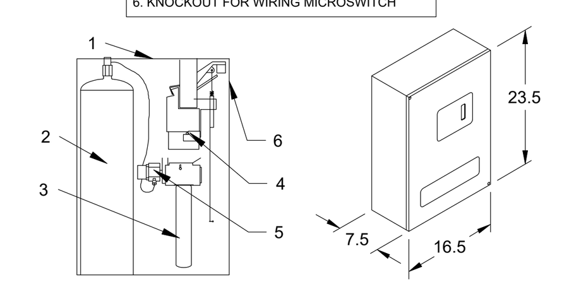
FIRE SYSTEM OPTIONS AND ACCESSORIES

- FULL INSTALLATION (INCLUDES PRE-PIPED HOOD(S) WITH DETECTION AND FACTORY COORDINATED INSTALL)
- CHROME SLEEVES FOR FACTORY PROVIDED APPLIANCES DROPS - INCLUDED
- METAL BLOW-OFF CAPS - INCLUDED
- GAS VALVE - INCLUDED - MECHANICAL SHUTOFF VALVE, 1.25", (ANSUL) - PART# ANSULMECHSHUTOFFVALVE125
- HOOD SUPPRESSION TANK - INCLUDED - 6 GAL. - [(2) 3.0 TANK(S)]
- REMOTE PULL STATION - STANDARD - FIELD INSTALLATION AT SINGLE POINT OF EGRESS
- TANK ENCLOSURES (STAINLESS STEEL) FOR REMOTE MOUNTING - INCLUDED

ANSUL R102 (WET CHEMICAL) FIRE PROTECTION SYSTEM - MODEL FSSC

CONTROL PANEL

1. STAINLESS STEEL ENCLOSURE
2. AGENT STORAGE TANK
3. EXPELLENT GAS CARTRIDGE
4. ANSUL AUTOMAN RELEASE
5. REGULATOR
6. KNOCKOUT FOR WIRING MICROSWITCH



NOT TO SCALE

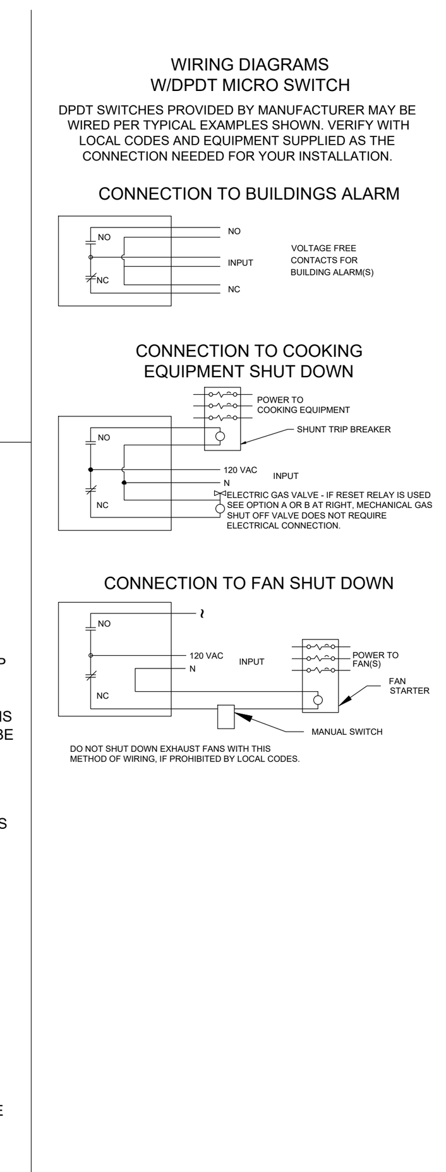
NOTES:

WET CHEMICAL FIRE PROTECTION SYSTEM TO BE ANSUL R-102, DESIGNED IN COMPLIANCE WITH UL 300 REQUIREMENTS.
-VERIFICATION OF ALL COOKING EQUIPMENT MAKE, MODEL AND LOCATION REQUIRED FOR ALL FIRE PROTECTION SYSTEMS.
-ALL FIRE SYSTEM PIPING IS STANDARDLY TO THE RIGHT END OF THE HOOD UNLESS A WALL IS LOCATED ON THE RIGHT END.
-ANSUL AUTOMAN RELEASE TO BE LOCATED WITHIN 60" OF HOOD.

THE BASIC FIRE SYSTEM WILL INCLUDE THE FOLLOWING:
-GAS SHUT-OFF VALVE, IF REQUIRED, TO BE SUPPLIED BY MANUFACTURER (UP TO 2" DIAMETER AS STANDARD), AND INSTALLED BY A LICENSED PLUMBER.
-MICRO SWITCH TO BE SUPPLIED BY MANUFACTURER FOR CONNECTION TO, BUT NOT LIMITED TO, BUILDING ALARM SYSTEM(S), EXHAUST AND SUPPLY FANS AND ELECTRICAL POWER SHUT DOWN. FIELD WIRING AND CONNECTIONS TO BE PERFORMED BY A LICENSED ELECTRICIAN.

THE BASIC FIRE SYSTEM DOES NOT INCLUDE THE FOLLOWING:
-FULL DUMP TEST OTHER THAN WHT IS SPECIFIED PER THE INSTALLATION MANUAL, OR TO SATISFY A STATE OR LOCAL CODE. PERMIT AND TESTING FEES ARE NOT INCLUDED UNLESS NOTED UNDER THE EQUIPMENT SCHEDULE FOR THE FIRE SYSTEM.
-MORE THEN TWO TRIPS TO THE JOBSITE OR SPECIAL TRANSPORTATION, OR OVERNIGHT LODGING REQUIREMENTS IN REMOTE AREAS. NORMAL TRAVEL DISTANCE IS FIRST 50 MI. (80.5 KM) FROM OFFICE.
- SPECIAL CLASSES OR ADDITIONAL LABOR FOR ACCESS TO SECURITY SENSITIVE AREAS.
-INSTALLATION OF GAS SHUT-OFF VALVE.
-SPECIAL DRAWINGS REQUIRED TO SATISFY STATE OR LOCAL CODE. PLAN EXAMINATION FEES, PE OR FS APPROVAL STAMP.
-UNION LABOR, GOVERNMENT LABOR, OR PREVAILING WAGES REQUIRED FOR FINAL FIELD HOOK-UP.
-ANY AND ALL ELECTRICAL COMPONENTS/CONNECTIONS REQUIRED TO SHUT DOWN FANS, SHUT OFF DEVICE FOR ELECTRIC COOKING EQUIPMENT (SHUNT TRIP BREAKER), OR ACTIVATE AN ALARM SYSTEM, ETC.
-ANY DISMANTLING OR REASSEMBLY REQUIRED TO GAIN ACCESS TO THE FIRE SUPPRESSION PIPING LOCATED ON THE TOP OF THE HOOD.
-ROUGH-IN HIDDEN CONDUIT FOR REMOTE PULL STATION OR GAS VALVE (FLUSH MOUNTED PULL STATION).
-INSTALLATION OF MORE THAN (1) REMOTE PULL STATIONS OR DISTANCES GREATER THAN 20 FT (6.1M.)
-PARTS OR LABOR REQUIRED TO CORRECT PIPING DUE TO COOKING EQUIPMENT CHANGES OR DEVIATION FROM PLANS. OR ANY CHARGES FOR MISSING OR ADDITIONAL PARTS OTHER THEN THOSE INDICATED ON THE FIRE SUPPRESSION DETAIL.

WIRING DIAGRAMS
W/DPDT MICRO SWITCH



NOTES:
1. ———— DENOTES FIELD INSTALLATION.
2. ———— DENOTES FACTORY INSTALLATION.
3. DO NOT USE BLACK WIRE ON SNAP-ACTION SWITCH IN NORMAL INSTALLATION. BLACK WIRE TO BE USED ONLY FOR EXTRANEOUS ALARM, LIGHT CIRCUITS, ETC.

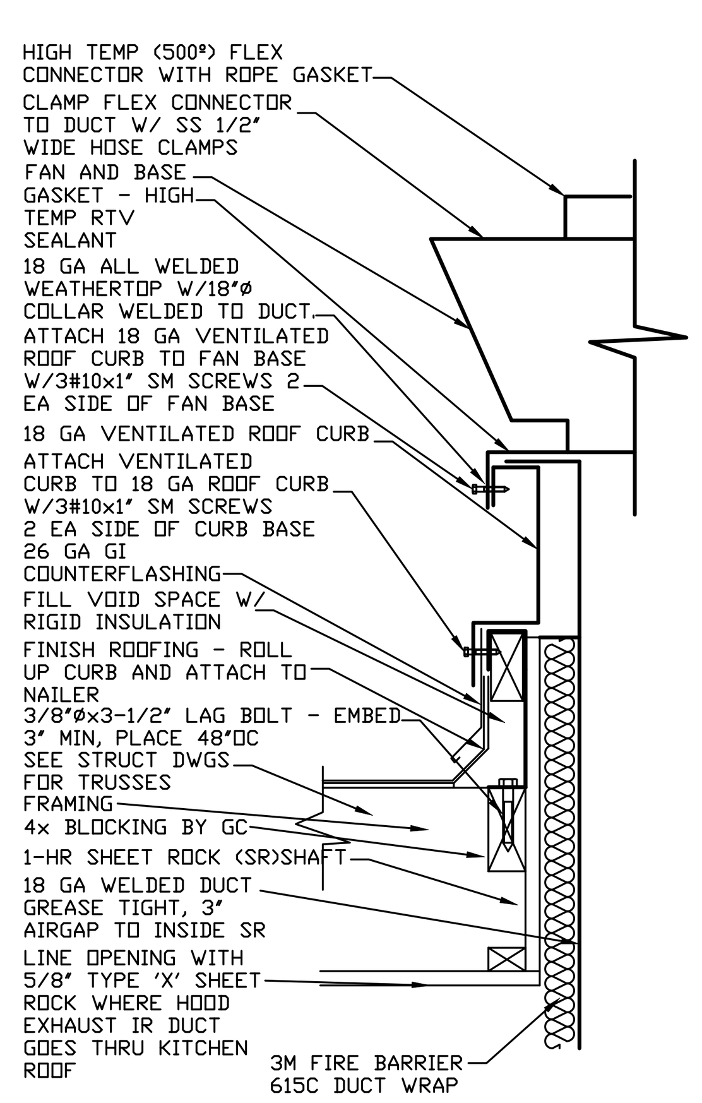
MARK
FIRE #1

BRASS TAP_MARINA

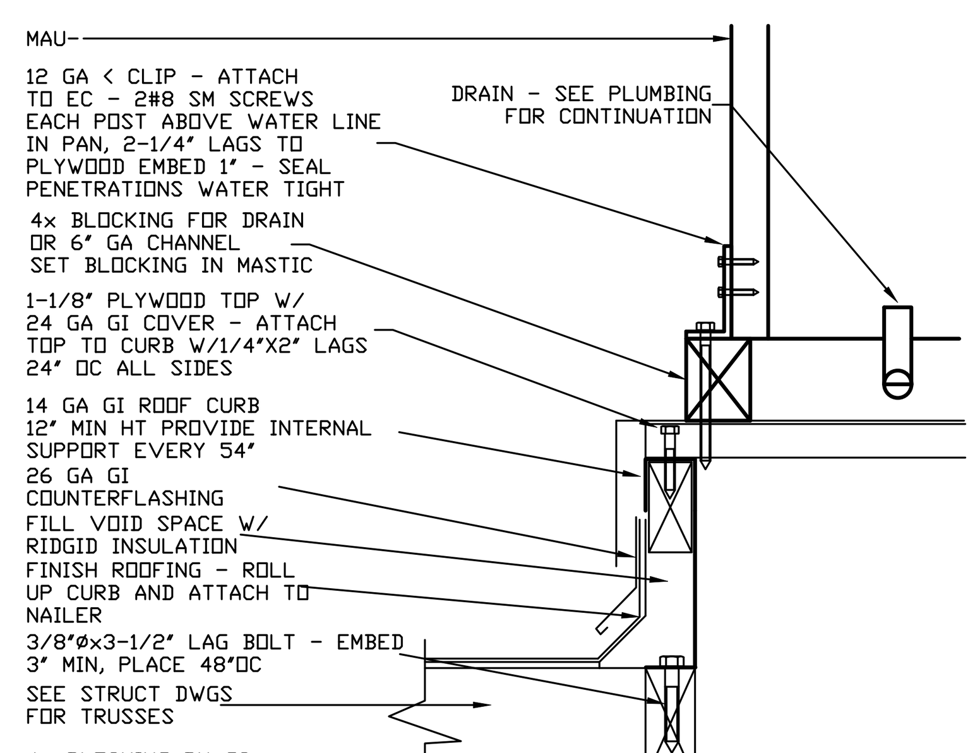
PROJECT
1/13/2022

ACCUREX SOUTHERN CA & HAWAII
DAVID SPERLING
SOCAL@ACCUREX.COM
(909)430-5326

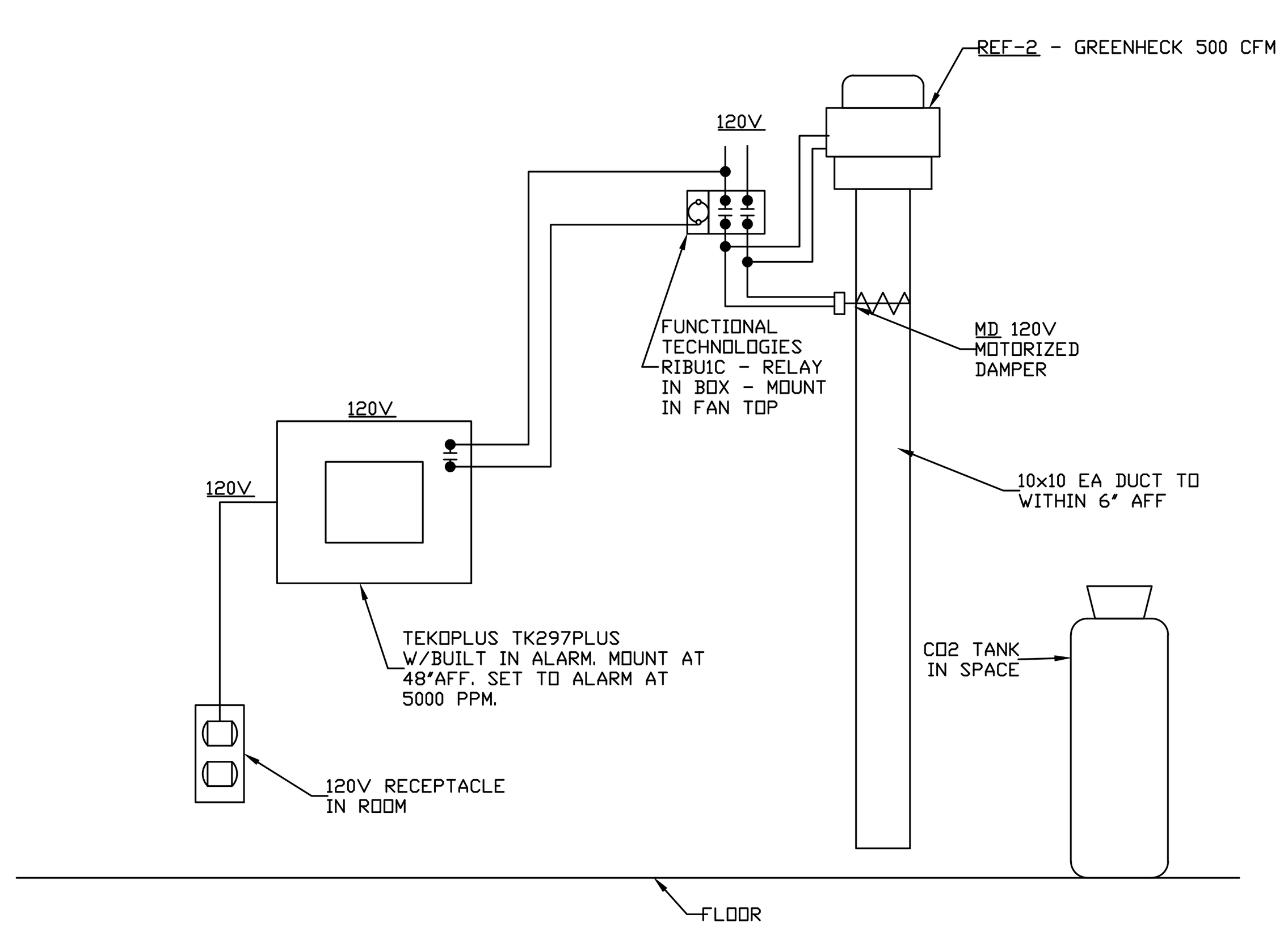
ACCUREX



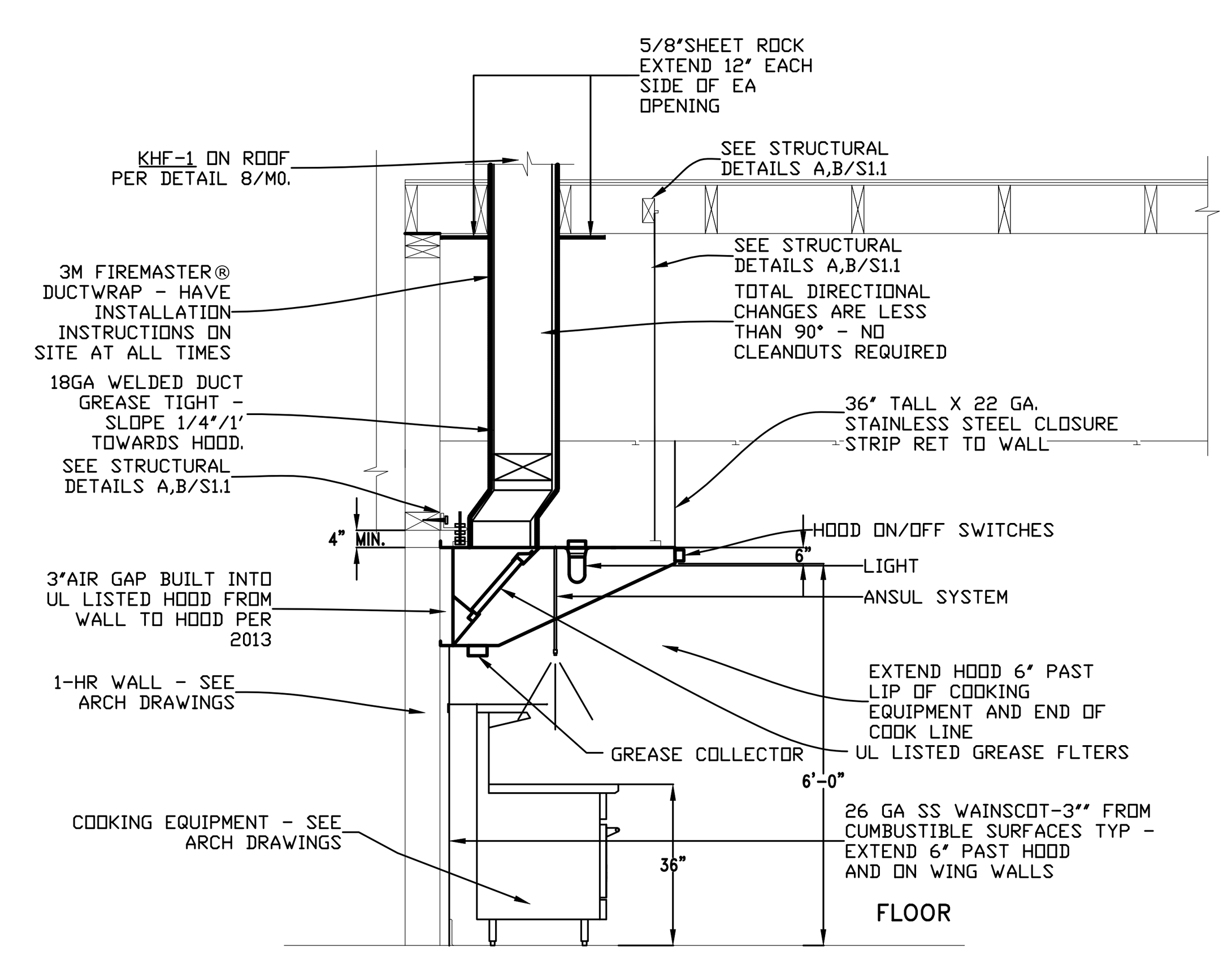
KHF- THRU ROOF
DETAIL
1
M0.1



MAU- CURB MOUNT
DETAIL
2
M0.1



CO2 MONITORING AND CONTROL SYSTEM
DETAIL
3
M0.1



KITCHEN HOOD SECTION
DETAIL
4
M0.1

REVISIONS
△ BUILDING DEPT. - 04/28/22
△ FIRE DEPT. - 04/16/22
△ HEALTH DEPT. - 05/16/22
△ BUILDING DEPT. - 07/18/22

PLANNING
ARCHITECTURE
api
ARCHITECTURE PLUS INC.
4335-B NORTH STAR WAY
MODESTO, CA 95356
ph. 209.577.4661
fx. 209.577.0213
www.apiarc.com

FRANK C. BOOTS
JOSEPH L. SMITH
RODNEY C. ALONZO
ARCHITECTS

BRASS TAP
PUB
SW CORNER , GENERAL STILWELL DR. & 11TH AVE.
MARINA CA

ACCUREX DRAWINGS

Reviewed for Code Compliance
08/23/2022
CSG CONSULTANTS, INC.

PROFESSIONAL ENGINEER
ERIC G. DAVIS
No. M29799
REN. 6-30-24
MECHANICAL
STATE OF CALIFORNIA

4

JOB # 2021-124

GDMD ENGINEERING, INC
Mechanical and Safety Engineers
212 W Pine St, Ste 4
Lodi, Ca 95242
Ph 209-367-0899
Fax 209-367-0898
E-mail:gdmdengrinc@sbcglobal.net

DATE :	JULY 2022
JOB NO. :	19040
DRAWN :	NR
CHECKED :	GD
SHEET :	

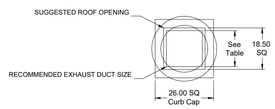
M0.1

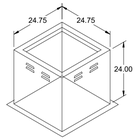
Direct Drive Upblast Centrifugal Roof Exhaust Fan

MARK INFORMATION		FAN INFORMATION						MOTOR INFORMATION					
QTY	MARK	MODEL	VOLUME (CFM)	TOTAL EXTERNAL SP (IN WG)	FAN RPM	OPERATING POWER (HP)	WEIGHT (LB.)	SIZE (HP)	V/C/P ENCLOSURE		MOTOR RPM	WINDINGS	NEC FLA*
1	ITEM_58.1 - EF-1	XCUE-140-A	1,700	1.611	1,725	0.95	96	1	208/60/3	OP	1725	1	4.6

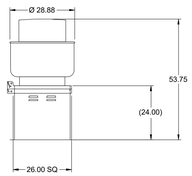
*NEC FLA - Based on table 430.250 or 430.248 of National Electrical Code 2020. Actual motor FLA may vary for sizing thermal overload, consult factory"

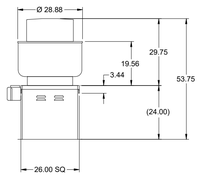
ITEM_58.1 - EF-1 : SELECTED OPTIONS AND ACCESSORIES
Motor VFD Rated without Shaft Grounding Protection
One piece fully welded windband
Tapered bushing wheel hub
Breather tube outlet area min. 4.4 sq. in. (sizes 99-480), 2.0 sq. in. (sizes 60-95)
Min. windband material thickness: 0.051" aluminum (060-240), 0.064" aluminum (240HP, 240XP), 0.080" aluminum (sizes 300-480)
Larger Curb Cap Size - 26 Square
UL/cUL 762 Listed - "Power Ventilators for Rest. Exh. Appliances"
Switch, NEMA-3R, Toggle, Shipped with Unit
Hinge, Factory Installed
High Temp Curb Seal Rated for Continuous Duty at 1500 F (Factory Attached)
Grease Trap (PN 475538)





DUCT TYPE SIZE	
STANDARD	16 SQ
FIRE-WRAPPED	8 SQ

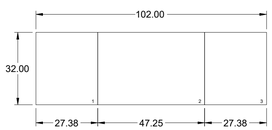




DUCT DIMENSIONS ARE LARGEST POSSIBLE DUCT TO FIT THROUGH CURB.
CONSULT SYSTEM DESIGN ENGINEER FOR RECOMMENDED DUCT SIZE.

OVERALL HEIGHT MAY BE GREATER DEPENDING ON MOTOR, ADAPTER, AND/OR HINGE BASE.

MARK ITEM_58.1 - EF-1



BACK SPLASH

MARK ITEM 58 - EXHAUST HOOD - SPLASH PANEL LAYOUT

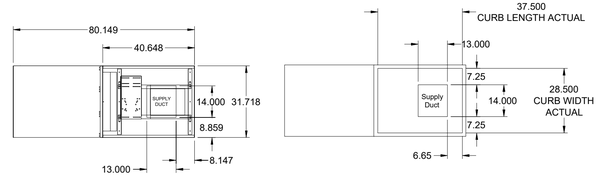
EQUIPMENT SCHEDULE							
Non-Tempered Make-Up Air Unit					Mark: ITEM 58.2 - MUA-1		
Qty	Accurex Model	Volume	External SP	Total SP	FRPM	Operating Power	Weight
1	XKSFB-109-H15-01	1,360 CFM	0.3 in. wg	0.372 in. wg	773	0.25 hp	244 lb

Motor Information							
Size	V/C/P	Enclosure	Shaft Grounding	Motor RPM	Windings	MCA	MOP
1 hp	208/60/3	ODP	No	1725	1	5.8	15

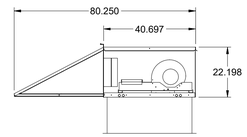
Outlet Sound Power By Octave Band									
62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
88.5	87.7	73.6	64.7	62.1	60.3	57.8	51	74.2	63.2	11.5

LwA - A weighted sound power level based on ANSI S1.4
dBA - A weighted sound pressure level based on 1/1 dB attenuation per octave band at S1.4
Noise Criteria (NC) based on an average attenuation of 1/1.5 dB per octave band at S1.4

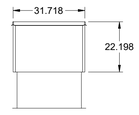
OPTIONS AND ACCESSORIES
Air Flow Arrangement: Outdoor Air Only
Weatherhood: Aluminum Mesh, 16x20x1 - (4)
Damper: Inlet
Outdoor Air Intake Position: End
Discharge Position: Bottom
Coating: Galvanized
Insulation: None
Access Side: Right-Hand
Inlet Damper Control: Gravity
Unit Warranty: 1 Yr (Standard)



PLAN VIEW



ELEVATION VIEW



END VIEW

NOTE: Roof Opening Requirements:

Minimum Roof Opening: The minimum roof opening size is the illustrated duct diameter plus 0.25 in. on all sides.
For example: If the duct size is 14 x 14 in. square, the minimum roof opening size is 14.5 x 14.5 in. square.

Maximum Roof Opening: There must be a minimum perimeter of 1.75 in. between the roof opening and the roof curb.
For example: If the roof curb is 75 x 30 in. square, the maximum roof opening is 71.5 x 26.5 in. inches square.

NOTE: The weatherhood and filter sections of the make-up air unit are not supported by the curb.
This is by design, in order to help alleviate water infiltration issues.

FOOTPRINT

MARK ITEM 58.2 - MUA-1

ACCUREX

PROJECT 1/13/2022

BRASS TAP_MARINA

ACCUREX SOUTHERN CA & HAWAII
DAVID SPERLING
SOCAL@ACCUREX.COM
(509)430-5326

REVISIONS
1 BUILDING DEPT. - 04/28/22
2 FIRE DEPT. - 04/16/22
3 HEALTH DEPT. - 05/16/22
4 BUILDING DEPT. - 07/18/22

PLANNING
ARCHITECTURE
api
ARCHITECTURE PLUS INC.
4335-B NORTH STAR WAY
MODESTO, CA 95356
ph. 209.577.4661
fx. 209.577.0213
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FRANK C. BOOTS
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ARCHITECTS

CA

BRASS TAP
PUB
SW CORNER , GENERAL STILWELL DR. & 11TH AVE.
MARINA

ACCUREX DRAWINGS

Reviewed for Code Compliance
08/23/2022
CSG CONSULTANTS, INC.

4

PROFESSIONAL ENGINEER
ERIC G. DAVIS
No. M29755
REN. 6-30-24
MECHANICAL
STATE OF CALIFORNIA

DATE :	JULY 2022
JOB NO. :	19040
DRAWN :	NR
CHECKED :	GD
SHEET :	M0.2

JOB # 2021-124

GDMD ENGINEERING, INC
Mechanical and Safety Engineers
212 W Pine St, Ste 4
Lodi, Ca 95242
Ph 209-367-0899
Fax 209-367-0898
E-mail:gdmdengrinc@sbcglobal.net

C:\Users\rumfo\OneDrive\Desktop\Work Jobs\2021-124 brasstap\2021-124 HVAC.rvt 4.0.vwg 7:27:22 09:28:08 AM rumfo

CONTROL INFORMATION

MARK	ELECTRICAL CONTROL PACKAGE		USER INTERFACE		FANS CONTROLLED									
	MODEL	LOCATION	TYPE	LOCATION	FAN #	TYPE FAN	FAN MARK	ZONE	CFM	MOTOR HP	MOTOR VOLT	CYCLE	MOTOR PHASE	MOTOR STARTER IN PANEL	VFD IN PANEL
ITEM 58.1 - CONTROLS	XKC-CV-S-11-1-1-0	SHIP LOOSE ENCLOSURE	FULL COLOR TOUCHSCREEN	SHIP LOOSE	1	SUPPLY S1	ITEM 58.2 - MUA-1	1	1360	1	208	60	3	NO	YES
					2	EXHAUST E1	ITEM_58.1 - EF-1	1	1930	1	208	60	3	NO	YES

CONTROL FEATURES

- HOOD LIGHT CONTROL
- TEMP SENSORS (FACTORY INSTALLED) - QTY. 1
- DRY FIRE CONTACTS - QTY. 1
- LIGHTS OFF DURING FIRE
- EXHAUST MAX DURING FIRE
- SUPPLY OFF DURING FIRE
- GAS RESET
- VFD(S) IN CONTROL PANEL PROVIDED FOR BALANCING

ACCUREX

DOC NUMBER: ---- REV: ----

CAUTION
UNIT MUST BE GROUNDED IN ACCORDANCE WITH N.E.C. POWER MUST BE OFF WHILE SERVICING

ATTENTION
L'APPAREIL DOIT ÊTRE MIS À LA TERRE CONFORMEMENT AU CODE C.E. L'ALIMENTATION DOIT ÊTRE COUPÉE DURANT L'ENTRETIEN.

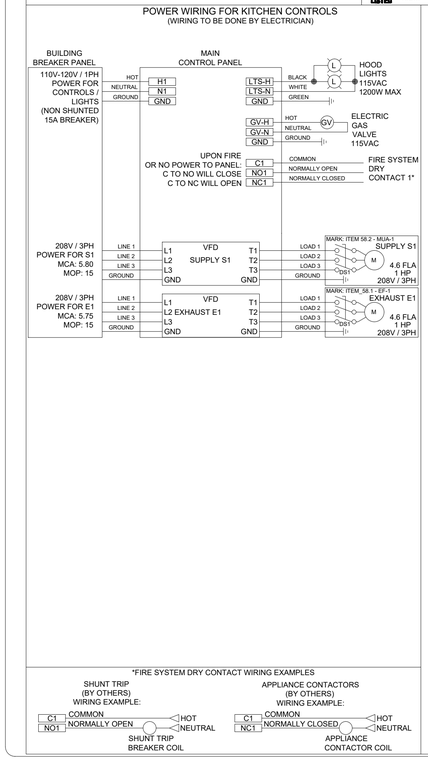
COMMERCIAL APPLIANCE OUTLET CENTER
ELECTRICAL RATINGS: 110-240V,1PHASE, 50 -60HZ,15A
BASE FILE #E200616, ML FILE #E313951
LISTED 438M

THESE DRAWINGS SHALL NOT BE REMOVED FROM THIS EQUIPMENT. USE COPPER CONDUCTORS RATED TO 90°C UNLESS SPECIFIED. TORQUE CONTROL & GROUND BLOCKS TO 8 LBS. IN. TORQUE POWER LUGS/SCREWS TO COMPONENT RATINGS LISTED. TORQUE CONTROL BOARD SCREW TERMINALS TO 3.5 LBS. IN. FIELD CONTROL WIRING RESISTANCE SHOULD NOT EXCEED 0.75 OHM. SEE IOM FOR ADDITIONAL INFORMATION, OR CALL ACCUREX AT 800-371-6898.
PRG VERSION: V4
FIELD WIRED (CÂBLE LOCALEMENT) ——
FACTORY WIRED (CÂBLE À L'USINE) - - - -

NE PAS RETIRER CES DESSINS DE CET ÉQUIPEMENT. SAUF INDICATION CONTRAIRE, UTILISER DES CONDUCTEURS EN CUIVRE CLASSÉS 90 °C. SERRER LES BORNES DE COMMANDE ET DE MISE À LA TERRE À 8 LB-P.O. SERRER LES COSSES/VIS D'ALIMENTATION AUX COUPLES INDIQUÉS POUR LE COMPOSANT. SERRER LES BORNES À VIS DE LA CARTE DE COMMANDE À 3,5 LB-PO. LA RÉSISTANCE DU CÂBLAGE DE COMMANDE LOCAL NE DOIT PAS DÉPASSER 0,75 OHM. POUR PLUS D'INFORMATION, CONSULTER LE MANUEL OU APPELER 1-800-371-6898

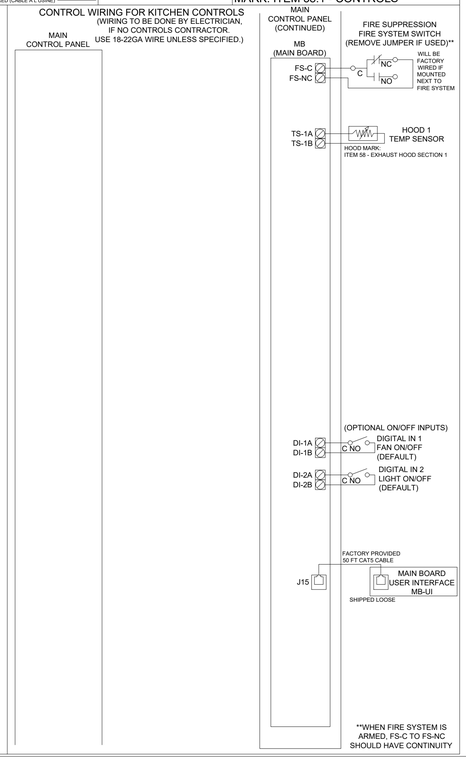
WIRING DIAGRAM CODE: WDC#
JOB NAME: BRASS TAP_MARINA
MODEL: XKC-CV-S-11-1-1-0
SERIAL NUMBER: WDSN#
MARK: ITEM 58.1 - CONTROLS

POWER WIRING FOR KITCHEN CONTROLS
(WIRING TO BE DONE BY ELECTRICIAN)



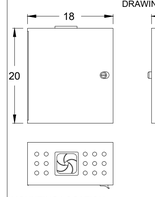
*FIRE SYSTEM DRY CONTACT WIRING EXAMPLES

CONTROL WIRING FOR KITCHEN CONTROLS
(WIRING TO BE DONE BY ELECTRICIAN, IF NO CONTROLS CONTRACTOR. USE 18-22GA WIRE UNLESS SPECIFIED.)



CABINET DETAILS

DRAWING NOT TO SCALE



TOTAL WEIGHT: 35 LBS

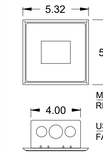
MOUNTING LOCATION:
SHIP LOOSE ENCLOSURE

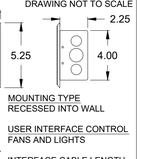
NOTES:
1) WHEN CONTROLS ARE MOUNTED IN HOOD-MOUNTED OR WALL-MOUNTED UTILITY CABINET, FOR HOOD OR WALL CABINET DIMENSIONS SEE HOOD SUBMITTAL.

2) MINIMUM OF 36" OF CLEARANCE RECOMMENDED IN FRONT OF CONTROL CABINET

USER INTERFACE DETAILS

DRAWING NOT TO SCALE





MOUNTING TYPE
RECESSED INTO WALL

USER INTERFACE CONTROL
FANS AND LIGHTS

INTERFACE CABLE LENGTH
50FT (FACTORY PROVIDED)

ZONE CONFIGURATION

ZONE #	ZONE	ROOM TEMP
1	Z1	PRESET

HOOD CONFIGURATION

HOOD #	HOOD	HOOD MARK	ZONE	EXHAUST FAN	SUPPLY FAN	MB-TEMP SENSORS	HCB
1	H1	ITEM 58 - EXHAUST HOOD SECTION 1	Z1	E1	S1	TS1	NO

FAN CONFIGURATION

FAN #	TYPE	FAN	FAN MARK	ZONE	MIN CFM	MAX CFM	MODBUS VFD	ADDRESS	MIN FREQ.	MAX FREQ.	MIN VDC	MAX VDC
1	SUPPLY	S1	ITEM 58.2 - MUA-1	Z1	-	1360	YES	1	30	60	-	-
2	EXHAUST	E1	ITEM_58.1 - EF-1	Z1	-	1930	YES	2	30	60	-	-

WIRING DIAGRAM CODE: WDC#
JOB NAME: BRASS TAP_MARINA
MODEL: XKC-CV-S-11-1-1-0
SERIAL NUMBER: WDSN#
MARK: ITEM 58.1 - CONTROLS
DOC NUMBER: ---- REV: ----

DEFAULT SETTINGS / PARAMÈTRES PAR DÉFAUT

FACTORY SETTINGS
TYPE: CV
CONFIGURATION: STANDARD
ZONES: 1
HOODS: 1
SUMPS: 0
EXHAUST FANS: 1
SUPPLY FANS: 1
HOOD TEMP SENSOR: NO
MB TEMP SENSORS: 1
HIGH TEMP FAULT: NO
FREEZE PROTECTION: YES
GAS RESET: YES
FAN PROVING: NO
BMS: NONE

ZONE SETTINGS
SEE ZONE CONFIGURATION IN TABLE ON LEFT

HOOD SETTINGS
SEE HOOD CONFIGURATION IN TABLE ON LEFT

EXHAUST FAN SETTINGS
SEE FAN CONFIGURATION IN TABLE ON LEFT

SUPPLY FAN SETTINGS
SEE FAN CONFIGURATION IN TABLE ON LEFT

SENSOR SETTINGS
SEE HOOD CONFIGURATION IN TABLE ON LEFT

USER INTERFACE SETTINGS (MB)
FAN & LIGHT BUTTONS: SHOW BOTH (SEPERATE)

USER INTERFACE SETTINGS (HCB)
NA

GENERAL SETTINGS
TIME ZONE: CENTRAL DAYLIGHT (DEFAULT)

FIREFAULT SETTINGS
EXHAUST DURING FIRE: MAX
SUPPLY DURING FIRE: OFF
LIGHTS DURING FIRE: OFF

BMS SETTINGS
NA

PRG VERSION: V4

ACCUREX

BRASS TAP_MARINA
PROJECT 1/13/2022
MARK
ITEM 58.1 - CONTROLS

ACCUREX SOUTHERN CA & HAWAII
DOUG AUSTIN (VP SALES)
SOCAL@ACCUREX.COM
(509)430-5326

REVISIONS
1 BUILDING DEPT. - 04/28/22
2 FIRE DEPT. - 04/16/22
3 HEALTH DEPT. - 05/16/22
4 BUILDING DEPT. - 07/18/22

PLANNING ARCHITECTURE
api
ARCHITECTURE PLUS INC.
4335-B NORTH STAR WAY
MODESTO, CA 95356
ph. 209.577.4661
fx. 209.577.0213
www.apiarc.com
FRANK C. BOOTS
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RODNEY C. ALONZO
ARCHITECTS

CA

BRASS TAP
PUB
SW CORNER , GENERAL STILWELL DR. & 11TH AVE.
MARINA

ACCUREX DRAWINGS

Reviewed for Code Compliance
08/23/2022
CSG CONSULTANTS, INC.

4

PROFESSIONAL ENGINEER
ERIC G. DAVIS
STATE OF CALIFORNIA
MECHANICAL
No. M29759
REN. 6-30-24

DATE : JULY 2022
JOB NO. : 19040
DRAWN : NR
CHECKED : GD
SHEET :

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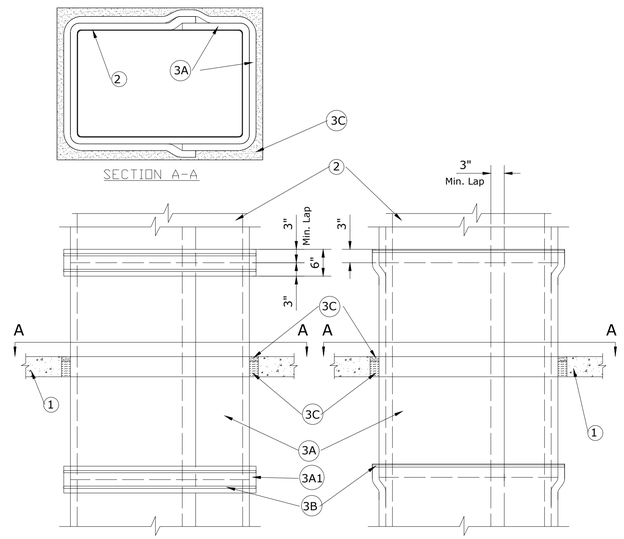
JOB # 2021-124

GDMD ENGINEERING, INC
Mechanical and Safety Engineers
212 W Pine St, Ste 4
Lodi, Ca 95242
Ph 209-367-0899
Fax 209-367-0898
E-mail:gdmdengrinc@sbcglobal.net

C:\Users\rconsl\OneDrive\Desktop\Work Loads\2021-124 brasstap\2021-124 HVAC.rvt 4/Dwg 7-27-22 10:28:09 AM rconsl

* NOTE
THIS MATERIAL WAS EXTRACTED BY 3M FIRE PROTECTION PRODUCTS
FROM THE 2004 EDITION OF THE UL FIRE RESISTANCE DIRECTORY

Assembly No. V-20
September 20, 2004
Duct A
Stability Rating - 2 Hr
Integrity Rating - 2 Hr
Insulation Rating - 2 Hr
(Ratings applicable for Ventilation Ducts installed without branches)



REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

1. **Floor or Wall Assembly** – Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete floor or min 5-1/4 in. (133 mm) thick reinforced lightweight or normal weight concrete wall. Wall may also be constructed of any UL Classified **Concrete Blocks**

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. **Steel Air Duct** – Min 0.035 in. (0.9 mm) thick (or heavier) steel duct having a max perimeter of 168 in. (4.52 m) with max individual dimension of 60 in. (1.52 m) and constructed in accordance with SMACNA HVAC Duct Construction standards. The sections shall be assembled using bolted flanges or SMACNA approved Transverse Joint Reinforcements. Duct to be rigidly supported in accordance with SMACNA requirement and as specified in Item 4.

3. **Fire Resistive System** – The fire resistive system shall consist of the following:

A. **Batts and Blankets*** – Min 1-1/2 in. (38 mm) thick, totally encapsulated within foil-scrim facers. The steel duct shall be wrapped with two layers of duct wrap installed with 3 in. (76 mm) transverse and longitudinal overlaps, or tightly butted transverse joints, in accordance with the manufacturer's installation instructions. All cut edges and ends shall be sealed with 3 in. (76 mm) wide pressure sensitive aluminum foil tape.

3M COMPANY – 3M FireBarrier Duct Wrap 15A and 3M FireBarrier Duct Wrap 20A

A1. **Batts and Blankets* - Collars** – Min 1-1/2 in. (38 mm) thick, 6 in. (152 mm) wide collars, totally encapsulated within Foilscrim facers. The transverse butt joints shall be wrapped using a collar. The collar shall be centered over each butt joint with a 3 in. (76 mm) longitudinal overlap.

3M COMPANY – 3M FireBarrier Duct Wrap 15A Collars and 3M FireBarrier Duct Wrap 20A Collars

B. **Steel Banding Straps** – Min 1/2 in. (13 mm) wide by 0.015 in. (0.4 mm) thick stainless steel banding straps used in conjunction with min 1 in. (25 mm) long stainless steel crimp clips. Banding straps spaced a max 12 in. (305 mm) OC and 1- 1/2 in. (38 mm) from edges of collars.

B1. **Steel Pins** (Not shown) - Min 0.118 in. (3 mm) thick, 4 in. (102 mm) long copper coated steel insulation pins used in conjunction with 1 by 1 in. (25 by 25 mm) square 0.029 in. (0.5 mm) thick, galvanized steel speed clips. Pins spaced max 10 in. (254 mm) max, transversely around the duct and secured to the duct wrap in accordance with the manufacturers installation instructions.

C. **Firestop System** – When the ventilation duct passes through a fire rated wall or floor assembly, the through openings shall be firestopped in accordance with Through-Penetration System No. C-AJ-7096. See Through Penetration Firestop Systems in Vol. 2 of the Fire Resistance Directory.

4. **Hanger System** – (Not shown) - No additional protection is required for hanger systems providing that a min 1/2 in. (13 mm) diameter threaded steel hanger rod is used in conjunction with min 3 by 3 by 3/8 in. (76 by 76 by 10 mm) steel angle with steel drop in or wedge expansion type masonry anchors.

*Bearing the UL Classification Mark

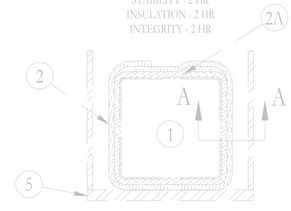
CONSULT CURRENT INDEPENDENT LABORATORIES (UL, OPL) FOR SYSTEMS OR DESIGN DETAILS

PROJECT		SHT 1 of 1	SIGNATURE	DATE
		1220.DWG		
SYSTEM/DESIGN NO. V-20	DATE	NOT FOR USE AS CONSTRUCTION DOCUMENT. DRAWING NOT TO SCALE	All statements, technical information and recommendations contained herein are based on tests we believe reliable, however, since the conditions of use and application are beyond our control, 3M shall not be liable for any damage, direct or consequential, resulting from the use of this material or design. 3M's only warranty shall be to replace any of our products proved to be defective	
3M FIRE PROTECTION PRODUCTS				

* NOTE

THIS MATERIAL WAS EXTRACTED BY 3M FIRE PROTECTION PRODUCTS FROM THE 2002 EDITION OF THE UL FIRE RESISTANCE DIRECTORY

DESIGN NO. VAD 530 F
VENTILATION DUCT PROTECTION
TYPE - DUCT A
STABILITY - 2 HR
INSULATION - 2 HR
INTEGRITY - 2 HR



DUAL END OVERLAP
(CHECKERBOARD)

SINGLE END OVERLAP
(TELESCOPE)

BUTT JOINT WITH COLLAR

DUCT SURFACE
DUCT SURFACE
DUCT SURFACE

SECTION A-A

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

1. **VENTILATION DUCT:** An airtight duct system with horizontal shafts constructed of min. 24 GA sheet steel with a max. 400-in. area and a max. 40-in. width (max. 10-in. high x max. 40-in. wide). When required, equip the duct with a reducer section. Construct the duct using sections affixed to each other with seams. Reinforce the duct to IMC or SMACNA requirements designed for a 2-in. WC underpressure and to carry the weight of the ventilation duct assembly covered with insulation under a fire load equivalent to ISO 834 time-temperature curve. Rigidly support the duct in accordance with IMC or SMACNA requirements or as specified in Item 5. Protect the annular space around the duct passing through a fire rated barrier with a penetration firestop system as detailed in one of the following Designs: FS 565 W, FS 566 W, FS 567 W, FS 568 W, FS 569 W, FS 570 W, FS 571 W, FS 572 W, FS 573 F AND FS 574 F.
2. **INSULATION:** Use two layers of nom. 1-1/2-in. thick nom. 8-pcf blanket made of mineral wool fibers and fiberglass strands. Wrap the steel duct with two layers of duct wrap installed with 3-in. min. overlaps at all joints. Use blanket that is fully encapsulated, or single faced. Expose the faced side of fully encapsulated or single faced blanket to view on outer layer. All joints on the first layer of blanket were overlapped a min of 3-in. (2a). All joints on the second layer were overlapped a min of 3-in. Stagger the first and second layer overlaps half the distance from the edge of the first layer or nom. 12-in. All cut edges on both layers were covered with nom. 4-in. wide pressure sensitive aluminum foil tape. One alternate to the above insulation method includes encapsulating (sometimes called a cocoon wrap) the trapeze cross-member supports and the all-thread steel rods up to the top of the duct system at which point the all-thread rods penetrate the insulation and are un-insulated. Another alternate method would be for the all-thread rods to penetrate the ventilation duct (1) and the insulation (2). After the all-thread rods penetrate the insulation (2), they are un-insulated. Reference Product Section of this Directory for more details.
Listed Manufacturer:
3M - Insulation - Mineral Wool Blanket
3M Fire Barrier Duct Wrap 15A
3. **FASTENERS:** Use either pins or banding or both. Pinning Option: Weld min. 12 GA, min. 4-in. long, copper-coated steel insulation pins to the duct. Pins shall be located at all longitudinal blanket overlaps on the duct and meet the following requirements. Space pins in rows across the duct max. 8-in. apart. The pins in the longitudinal rows are max. 10-1/2-inch o.c. All overlaps are a minimum of 3-in. for circumferential overlaps going around the duct and do not require pins. The longitudinal overlaps are to be alternated such that no two consecutive overlaps are aligned. The blanket is locked into place over the pins with minimum 1.5-in. x 1.5-in. square, or 1.5-in. diameter round, galvanized steel, speed clips or cup head pins. Insulation pins that extend beyond the outer blanket wrap layer shall be turned down to eliminate sharp edges or the excess length cut off. When banding is used and the ducts are greater than 24-in. wide, install pins at all longitudinal blanket overlaps on the bottom of the duct and meet the following requirements. Space pins in rows across the duct max. 12-in. apart. The pins in the longitudinal rows are max. 10-1/2-inch o.c.
4. **BANDING: Banding Option:** Use min. 1/2-in. wide 0.015-in. stainless or min. 1/2-in. 0.020-in. carbon steel bands and secured with minimum 1-in. long stainless steel crimp clamps. The use of filament tape as a temporary hold for the insulation prior to banding to ease installation is permitted. Place the bands a max. 1.5 in. from each blanket edge and a max. of 10.5 in. o.c. Tension the banding material to hold the insulation (2) in place without causing any cutting or damage to the blanket or duct.
5. **SUPPORTS:** Support the insulated duct using one of the following methods. Use a minimum 1-1/2 x 1-1/2 x 1/4-in. steel angle as the trapeze cross-member supports that are connected to min. 3/8-in. all-thread steel rods, which do not have to be insulated. The rods can be placed against the insulation or have a max. clearance from the insulation of 6-in. Space supports a max. 34-in. o.c. Alternate to support methods include encapsulating the trapeze cross-member supports and the all-thread steel rods up to the top of the duct system at which point the all-thread rods penetrate the insulation (2) and are uninsulated.

CONSULT CURRENT UNDERWRITERS LABORATORIES "FIRE RESISTANCE DIRECTORY" FOR DETAILS.

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, however, since the conditions of use and application are beyond our control, 3M shall not be liable for any damage, direct or consequential, resulting from the use of this material or design - 3M's only warranty shall be to replace any of our products proved to be defective.	PAGE 1 OF 1	UL SYSTEM NO. VAD 530 F
3M Fire Protection Products	NOT FOR USE AS A CONSTRUCTION DOCUMENT. DRAWING NOT TO SCALE.	

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GDMD ENGINEERING, INC
Mechanical and Safety Engineers
212 W Pine St, Ste 4
Lodi, Ca 95242
Ph 209-367-0899
Fax 209-367-0898
E-mail:gdmdengrinc@sbcglobal.net

REVISIONS
1 BUILDING DEPT. - 04/28/22
2 FIRE DEPT. - 04/16/22
3 HEALTH DEPT. - 05/16/22
4 BUILDING DEPT. - 07/18/22

PLANNING
ARCHITECTURE
api
ARCHITECTURE PLUS INC.
4335-B NORTH STAR WAY
MODESTO, CA 95356
ph. 209.577.4661
fx. 209.577.0213
www.apiarc.com
FRANK C. BOOTS
JOSEPH L. SMITH
RODNEY C. ALONZO
ARCHITECTS

CA

BRASS TAP
PUB
SW CORNER , GENERAL STILWELL DR. & 11TH AVE.
MARINA

CAPTIVEAIRE DRAWINGS

Reviewed for Code Compliance
08/23/2022
CSG CONSULTANTS, INC.

4

PROFESSIONAL ENGINEER
ERIC G. DAVIS
NO. M29759
REN. 6-30-24
MECHANICAL
STATE OF CALIFORNIA

DATE :	JULY 2022
JOB NO. :	19040
DRAWN :	NR
CHECKED :	GD

SHEET :

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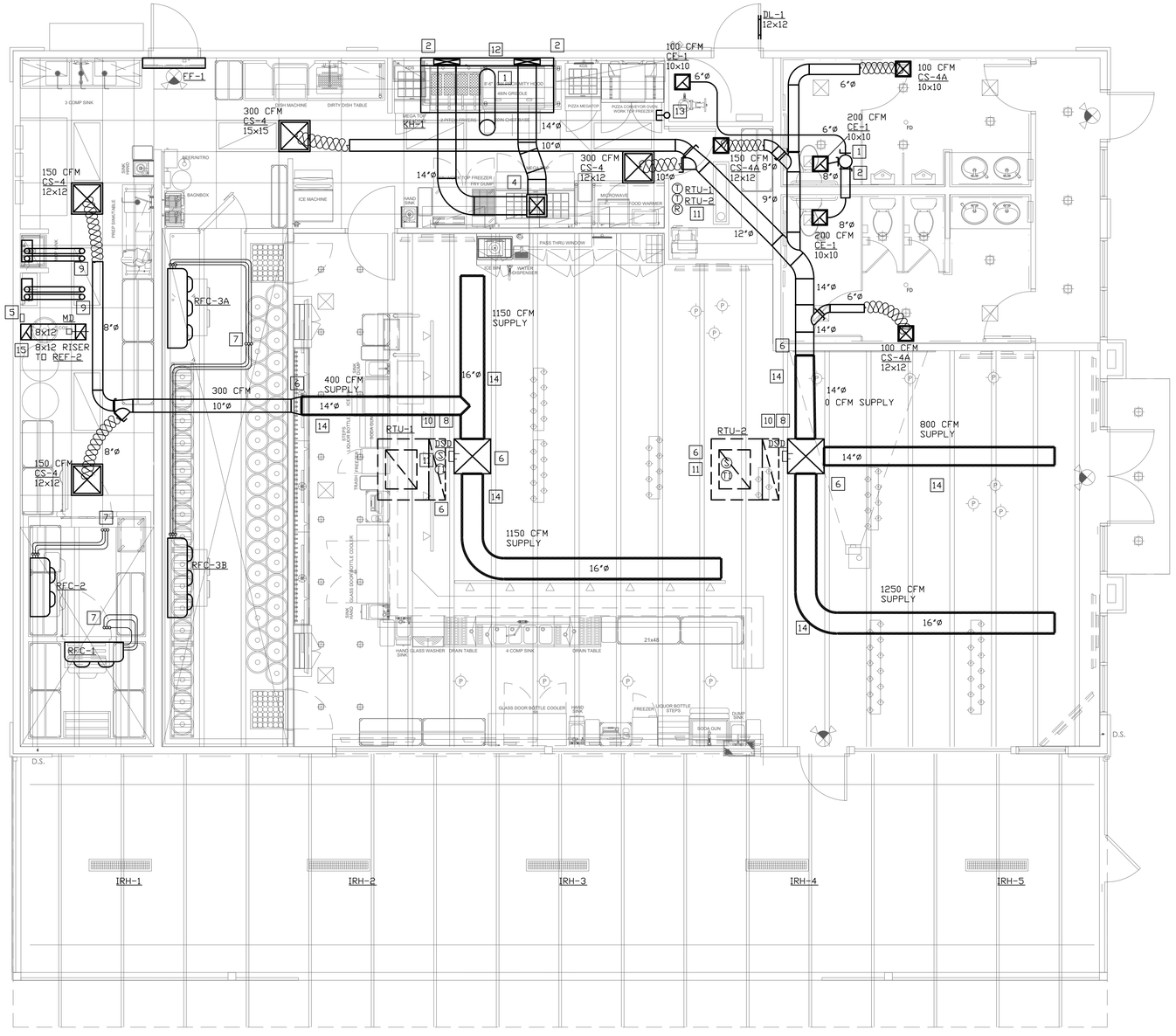

MECHANICAL FLOOR PLAN NOTES

1. 12"ø EA CONNECTION ON KH-1, BALANCE EA AIRFLOW OF KH-1 TO 1720 CFM.
2. (2)24x4 MUA CONNECTION ON KH-1, BALANCE MUA AIRFLOW OF KH-1 TO 1360 CFM. RUN 14" SA DUCT FROM MAU TO EACH OPENING.
3. 10"ø EA RISER TO REF-1 ON ROOF.
4. 14x12 MUA-1 SA DROP, INSTALL 16x16 PLENUM UNDER ROOF PER DETAIL 12/M0. INSTALL DSD ON UNIT AND CONNECT TO HOOD FACP. SET AIRFLOW T 1320 CFM.
5. ANALOX AX60+ CO2 MONITOR MOUNTED 48"AFF ON WALL. CONNECT TO MD-1 AND REF-2. MD 120V WITH SPRING RETURN OPEN MOTOR, BELIMO OR EQUAL.
6. PAINT ALL EXPOSED DUCTWORK SAME COLOR AS BOTTOM OF ROOF DECK - REFER TO ARCHITECTURAL FINISH SCHEDULE FOR PAINT COLORS.
7. REFRIGERANT LINES SIZED PER MANUFACTURERS RECOMMENDATIONS AND 3/4" CONDUIT FROM RCU-1,2,3 THRU ROOF PER DETAIL 8/M0 TO RFC-1,2,3A,3B.
8. OFFSET SA AND RA PLENUMS IN CURB TO FIT BETWEEN TRUSSES.
9. 4" COMB AIR INTAKE AND 4" FLUE FROM IWH- BELOW - SEE PLUMBING DRAWINGS FOR FLUE AND COMBUSTION AIR MATERIALS, FLUE AND COMBUSTION AIR INSTALLED BY PLUMBER.
10. EXTEND RA PLENUM FULL WIDTH BY 20" DEEP AS SHOWN. LINE PLENUM W/1" SOUND LINER. CUT 30x24 RA OPENING ON TOP OF RA PLENUM AND LINE OPENING W/1/4" HARDWARE CLOTH.
11. FURNISH AND INSTALL INDIVIDUAL T-STATS WITH REMOTE TEMP AND CO2 SENSORS AND DSD RESET PER DETAIL 1/M0 RTU-1,2.
12. REFER TO DETAILS FOR HOOD MOUNTING DETAILS - INSTALL ANGLES ON WALL PER THE DETAILS TO MATCH HOOD HANGER LOCATIONS.
13. FIRE EXTINGUISHER AND ANSUL PULL STATION - REFER TO ARCH DWGS FOR MOUNTING HEIGHTS.
14. ALL EXPOSED DUCT SHALL BE FABRIC DUCTSOX.
15. 8x12 EA DUCT TO 12"AFF. LEAVE EA DUCT END OPEN W/1/4" HARDWARE CLOTH LINER.

AIR BALANCE SCHEDULE

EXHAUST AIR		
REF-1		550
REF-2		500
KHF-1		1700
TOTAL EXHAUST AIR		2750
MAKE UP AIR		
RTU-1		695
RTU-2		695
MAU-1		1360
TOTAL MAKEUP AIR		2750

1 MECHANICAL FLOOR PLAN

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

NORTH

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fx. 209.577.0213
www.apiarc.com
JOSEPH L. SMITH
RODNEY C. ALONZO
ARCHITECTS

CA

BRASS TAP
PUB
SW CORNER , GENERAL STILWELL DR. & 11TH AVE.
MARINA

MECHANICAL FLOOR PLAN

Reviewed for Code Compliance
08/23/2022
CSG CONSULTANTS, INC.

PROFESSIONAL ENGINEER
ERIC G. DAVIS
NO. M29759
REN. 6-30-24
MECHANICAL
STATE OF CALIFORNIA

DATE :	JULY 2022
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SHEET :	M1

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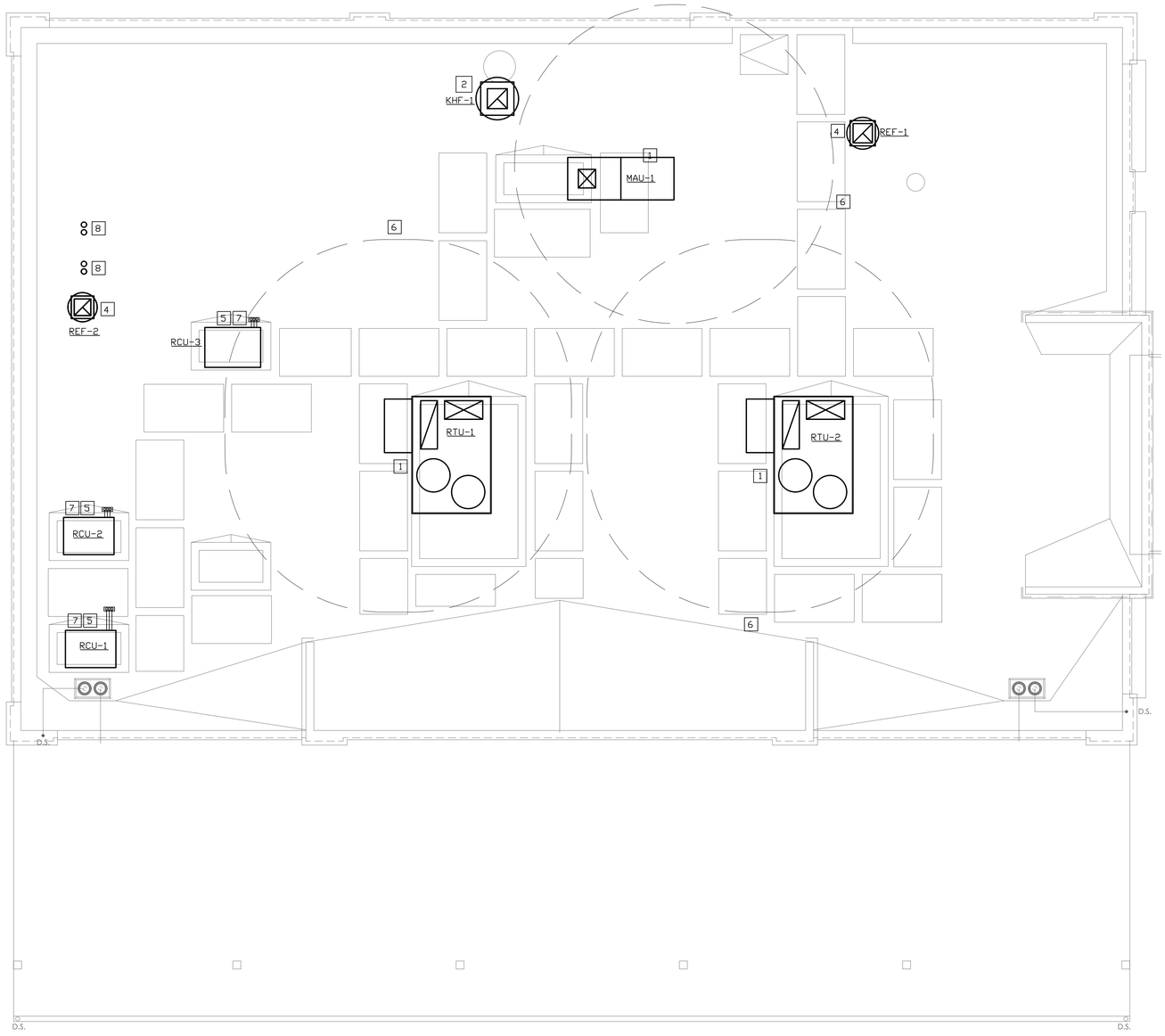

1 MECHANICAL ROOF PLAN

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

NORTH

MECHANICAL ROOF PLAN NOTES

1. INSTALL MAU- PER DETAIL 2/M0.1.
2. INSTALL KHF- PER DETAIL 1/M0.1.
3. INSTALL RTU- PER DETAIL 11/M0.
4. INSTALL REF- PER DETAIL 9/M0.
5. INSTALL RCU- PER DETAIL 10/M0.
6. KEEP ALL EA TERMINATIONS, PLUMBING VENTS, FLUES, ETC. 10'-0" MIN. AWAY FROM ALL OSA INTAKES.
7. REFRIGERANT LINES SIZED PER MANUFACTURERS RECOMMENDATIONS AND 3/4" CONDUIT FROM RCU-1,2,3 THRU ROOF PER DETAIL 8/M0 TO RFC-1,2,3A,3B.
8. 4" COMB AIR INTAKE AND 4" FLUE FROM IWH- BELOW - SEE PLUMBING DRAWINGS FOR FLUE AND COMBUSTION AIR MATERIALS, FLUE AND COMBUSTION AIR ISNTALLED BY PLUMBER.

AIR BALANCE SCHEDULE

EXHAUST AIR		
REF-1		550
REF-2		500
KHF-1		1700
TOTAL EXHAUST AIR		2750
MAKE UP AIR		
RTU-1		695
RTU-2		695
MAU-1		1360
TOTAL MAKEUP AIR		2750

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REN. 6-30-24
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GDMD ENGINEERING, INC
Mechanical and Safety Engineers
212 W Pine St, Ste 4
Lodi, Ca 95242
Ph 209-367-0899
Fax 209-367-0898
E-mail:gdmdengrinc@sbcglobal.net

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