SYMBOLS LIST

SINGLE LINE DUCTWORK, NEW

SINGLE LINE DUCTWORK, EXISTING

DUCTWORK TO BE REMOVED

DUCTWORK WITH ACOUSTIC LINING

DUCT UNDER PRESSURE
(SUPPLY AIR OR FAN DISCHARGE)

DUCT UNDER NEGATIVE PRESSURE
(RETURN, EXHAUST OR OUTSIDE AIR)

DUCT TRANSITION

VANED ELBOW

RADIUS ELBOW

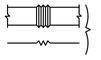
FLEXIBLE DUCT

VERTICAL DUCT DROP

VERTICAL DUCT RISE

TEE-WYE FITTING

SEE DUCT DETAILS FOR TYPE OF
BRANCH CONNECTION



DUCT FLEXIBLE CONNECTION

EXISTING MAIN DUCT
WITH ZONE DAMPER
CONTROLLER

VOLUME DAMPER

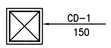
BACK DRAFT DAMPER

AUTOMATIC DAMPER

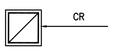
MOTORIZED DAMPER

RISE IN DUCTWORK (IN DIRECTION
OF AIR FLOW)

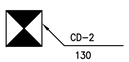
DROP IN DUCTWORK (IN DIRECTION
OF AIR FLOW)



CEILING SUPPLY AIR DIFFUSER
TYP.1, 150 CFM



CEILING RETURN AIR GRILLE



CEILING SUPPLY, TYPE 2
130 CFM (2-WAY THROW
IN DIRECTION OF ARROWS)

THERMOSTAT

CONDENSATE

EQUIPMENT TAG, DESCRIPTION EF,
MARK NUMBER 23

ABBREVIATIONS

– A –	
A	AMPERES
ABV	ABOVE
AC	AIR CONDITIONING
ACD	AUTOMATIC CONTROL DAMPER
ACU	AIR CONDITIONING UNIT
ACV	AUTOMATIC CONTROL VALVE
AD	ACCESS DOOR
AF	AIR FILTER
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ARCH	ARCHITECTURAL
ATD	AIR TRANSFER DUCT
– B –	
BDD	BACKDRAFT DAMPER
BG	BOTTOM GRILLE
BHP	BRAKE HORSEPOWER
BR	BOTTOM REGISTER
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
– C –	
CD-A	CEILING DIFFUSER TYPE A
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CHWP	CHILLED WATER PUMP
CLG	CEILING
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUATION
CR	CEILING REGISTER
CU FT	CUBIC FEET
CU IN	CUBIC INCHES
– D –	
D	DROP
DB	DRY BULB
DCF	DUST COLLECTION FILTER
DIAM	DIAMETER
DMPR	DAMPER
DN	DOWN
DWG	DRAWING
– E –	
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB TEMPERATURE
EF	EXHAUST FAN
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
ENT	ENTERING
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
(E)	EXISTING
EXIST	EXISTING
– F –	
°F	DEGREES FAHRENHEIT
FA	FREE AREA (SQ.FT.)
FCU	FAN COIL UNIT
FCV	FLOW CONTROL VALVE
FD	FIRE DAMPER
FG	FINISHED GRADE
FIN FL	FINISHED FLOOR
FLA	FULL LOAD AMPERES
FPM	FEET PER MINUTE
FT	FEET
– G –	
GA	GAUGE
GAL	GALLON
GD	GRAVITY BACKDRAFT DAMPER
GPM	GALLONS PER MINUTE
– H –	
H	HEIGHT
HD	HEAD
HP	HORSEPOWER
HR	HOUR
– I –	
ID	INSIDE DIAMETER
INCH	INCH OR INCHES
– K –	
KW	KILOWATT
– L –	
L	LENGTH
(L)	LINED DUCTWORK
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD-A	LINEAR DIFFUSER TYPE A
LDB	LEAVING DRY BULB TEMPERATURE
LIN FT	LINEAR FEET
LVG	LEAVING
LWB	LEAVING WET BULB TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
– M –	
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MB	MIXING BOX
MER	MECHANICAL EQUIPMENT ROOM
MIN	MINIMUM
– N –	
NC	NOISE CRITERIA
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE
– O –	
OAI	OUTSIDE AIR INTAKE
OD	OUTSIDE DIAMETER
OPNG	OPENING
OSA	OUTSIDE AIR
– P –	
PD	PRESSURE DROP
POC	POINT OF CONNECTION
PSI	POUNDS PER SQUARE INCH
PSIG	PSI GAUGE
– R –	
R	RISE
RA	RETURN AIR
RH	RELATIVE HUMIDITY
RHC	REHEATING COIL
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
– S –	
SA	SUPPLY AIR
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ.FT.	SQUARE FOOT
– T –	
TAB	TRANSFER AIR BOOT
TAU	TERMINAL AIR UNIT
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TR	TOP REGISTER
TRF	TRANSFER FAN
TRD	TRANSFER DUCT
TX	TOILET EXHAUST
TYP	TYPICAL
– U –	
UON	UNLESS OTHERWISE NOTED
– V –	
V	VOLTS
VAV	VARIABLE AIR VOLUME UNIT
VD	VOLUME DAMPER
– W –	
W/	WITH
W/O	WITHOUT
WB	WET BULB
WG	WATER GAUGE
WMS	WIRE MESH SCREEN

SHEET INDEX

GENERAL NOTES

1. LOCATION OF DUCTWORK IS APPROXIMATE. ALL DRAWINGS AND LAYOUTS ARE DIAGRAMMATIC TO SHOW DESIGN INTENT ONLY. CONTRACTOR SHALL PREPARE FULLY COORDINATED SHOP DRAWINGS SHOWING ALL DUCTWORK, PIPING. LIGTHS FIXTURES BEAMS, SPRINKLERS ETC. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING CONDITIONS AND SHALL PREPARE SHOP DRAWINGS REFLECTING EXISTING CONDITIONS AND NEW MODIFICATIONS.
2. CONTRACTOR SHALL NOTE THE CRITICAL SPACE AVAILABLE ABOVE CEILINGS. PROVIDE TRANSITION PIECES AT CROSSOVERS, UNDER BEAMS, OVER/UNDER PIPES, AS REQUIRED TO ACCOMMODATE DUCTS WITHIN SPACE AVAILABLE, PROVIDE EQUIVALENT DUCT SIZE TO THE DIAMETER SHOWN. COORDINATE CLOSELY WITH OTHER SECTIONS TO REDUCE NECESSITY OF TRANSITION TO A MINIMUM. NO ADDITIONAL COSTS WILL BE PAID FOR ANY REQUIRED TRANSITIONS OR OTHER SPECIAL CHANGE SHAPE PIECES.
3. IN CASES WHERE SHEET METAL DUCTS INTERSECT FIRE–RATED WALLS AT OTHER THAN RIGHT ANGLES, CONTRACTORS SHALL OFFSET THE RATED WALL ABOVE CEILING SUCH THAT THE OFFSET WALL WILL BE PERPENDICULAR TO THE DUCT. FIRE DAMPER SHALL BE PROVIDED AT THE WALL ACCORDINGLY.
4. ALL NON–RATED DOORS REQUIRING UNDERCUT SHALL BE 3/4 INCH MINIMUM, UNLESS NOTED OTHERWISE. ALL FIRE–RATED DOORS REQUIRING UNDERCUT SHALL BE: DOUBLE DOORS NOT TO EXCEED 1/4" AND SINGLE DOORS NOT TO EXCEED 3/8". ALL UNDER CUTS TO BE COORDINATED WITH THE ARCHITECTURAL DOOR SCHEDULE AND SPECIFICATIONS.
5. PROVIDE A VOLUME DAMPER FOR EACH BRANCH DUCT TO OUTLET AS FAR AS POSSIBLE FROM THE OUTLET. DAMPERS SHALL BE LOCATED IN THE RIGID PORTION OF DUCTWORK. DAMPERS SHALL BE PROVIDED WHETHER INDICATED ON FLOOR PLANS OR NOT.
6. ALL DAMPERS AND SHUT OFF VALVES ARE TO BE LOCATED IN SUCH WAY THAT THEY SHALL BE SERVICEABLE ,ACCESSIBLE AND PERMANENTLY IDENTIFIED LABELED.
7. SEE ARCHITECTURAL DRAWINGS FOR EXACT DIFFUSERS AND ACCESS PANEL LOCATIONS.
8. PROVIDE A DDC THERMOSTAT FOR EACH A/C UNIT AND EACH TERMINAL AIR UNIT.
9. PROVIDE 1" CONDENSATE LINE FOR EACH DX AIR CONDITIONING UNIT AND ROUTE TO APPROVED PLUMBING RECEPTOR.
10. ALL DUCTWORK SHALL BE CONSTRUCTED, ERECTED AND INSTALLED IN ACCORDANCE WITH UMC CHAPTER 6.
11. ALL DUCTWORK AND REFRIGERANT PIPING SHALL BE INSULATED IN ACCORDANCE WITH TITLE–24 AND PER SPECIFICATIONS.
12. ALL FULL HEIGHT WALLS SHALL BE PROVIDED WITH LINED TRANSFER DUCT.
13. DUCT SMOKE DETECTORS SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN RECOMMENDATIONS AND SHALL BE TIED–IN TO THE BUILDING FIRE ALARM SYSTEM.
14. THERE ARE NO ENVELOPE ALTERATIONS TO BE DONE ON THE BUILDING.
15. ALL DUCTWORK SHALL BE SUPPORTED AND SEISMICALLY RESTRAINED PER THE UNIFORM BUILDING CODE, UNIFORM MECHANICAL CODE AND SMACNA STANDARD.
16. ALL CONTROLS, DEVICES, PANELS WIRING ETC... SHALL BE NEW DIRECT DIGITAL CONTROL (DDC).
17. ALL EQUIPMENT SHALL BE PERMANENTLY LABEL AND IDENTIFIED LETTERING SHALL BE 2" HIGH MIN.
18. THE ENTIRE HVAC SYSTEM (AIR AND WATER) SHALL BE TESTED AND BALANCED BY AN INDEPENDENT BALANCING CONTRACTOR
19. ALL WORK SHALL CONFORM TO THE 2007 CALIFORNIA MECHANICAL CODE WITH ALL SANTA MONICA ORDINANCES AND AMENDMENTS.

MANDATORY MEASURES

1. AUTOMATIC TEMPERATURE CONTROL DEVICE FOR REGULATION OF SPACE TEMP. SHALL BE CAPABLE OF BEING SET FROM 55 °F TO 85° F, AND HAVE THE ABILITY TO OPERATE THE HEATING AND COOLING IN SEQUENCE, IF BOTH ARE PROVIDED. CONTROL SHALL BE ADJUSTABLE TO PROVIDE A RANGE UP TO 10° F BETWEEN FULL HEATING AND FULL COOLING, AND THE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE OF NO MORE THAN 70° F, AND COOLING AT A TEMPERATURE NOT LESS THAN 78° F.
2. DUCT SYSTEMS SHALL BE CONSTRUCTED, INSTALLED, SEALED AND INSULATED AS PROVIDED IN CHAPTER 6 OF THE UNIFORM MECHANICAL CODE.
3. EQUIPMENT COP OR EER SHALL NOT BE LESS THAN THAT REQUIRED BY TITLE 24.
4. MAINTENANCE LABELS SHALL BE AFFIXED TO ALL HEATING/COOLING EQUIPMENT. CONTRACTOR TO PROVIDE MAINTENANCE MANUAL.
5. PIPING, EXCEPT THOSE CONVEYING FLUIDS AT TEMPERATURES BETWEEN 60°F AND 105°F, OR WITHIN HVAC EQUIPMENT, SHALL BE INSULATED IN ACCORDANCE WITH STANDARDS 123.
6. ALL SPACE CONDITIONING SYSTEMS SHALL BE BALANCED TO THE QUANTITIES SPECIFIED IN THESE PLANS, IN ACCORDANCE WITH THE ASSOCIATED AIR BALANCE COUNCIL (AABC) NATIONAL STANDARDS.

NOTE:

1. NO ENVELOPE ALTERATIONS TO BE DONE ON THE BUILDING.
2. MATERIALS EXPOSED WITHIN DUCTS OR PLENUMS SHALL HAVE A FLAME –SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH UBC CODE.
3. CEILING SPACE USED AS RETURN–AIR PLENUMS SHALL FULLY COMPLY WITH ALL THE PROVISIONS OF SECTIONS 601.1–601.2.

ENERGY CONSERVATION NOTES

1. THE CALIFORNIA NON–RESIDENTIAL ENERGY CONSERVATION STANDARDS HAVE BEEN REVIEWED AND THE DESIGN, DRAWINGS AND CALCULATIONS COMPLY WITH THESE STANDARDS.
2. AUTOMATIC TEMPERATURE CONTROL DEVICE FOR REGULATION OF SPACE TEMPERATURE SHALL BE CAPABLE OF BEING SET FROM 55°F TO 85°F, AND HAVE THE ABILITY TO OPERATE THE HEATING AND COOLING IN SEQUENCE, IF BOTH ARE PROVIDED. CONTROL SHALL BE ADJUSTABLE TO PROVIDE A RANGE UP TO 10°F BETWEEN FULL HEATING AND FULL COOLING, AND THE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE OF NO MORE THAN 70°F, AND COOLING AT A TEMPERATURE NOT LESS THAN 78°F.
3. JOINTS IN ALL SUPPLY DUCTS SHALL BE SEALED AS SPECIFIED.
4. EQUIPMENT COP OR EER SHALL NOT BE LESS THAN THAT REQUIRED BY TITLE 24.
5. MAINTENANCE LABELS SHALL BE AFFIXED TO ALL HEATING/COOLING EQUIPMENT. CONTRACTOR TO PROVIDE MAINTENANCE MANUAL AS SPECIFIED IN SECTION 15000.

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NO.	DESCRIPTION	BY	DATE	NO.	DESCRIPTION	BY	DATE
1	30% CD	BG	04.27.09	7	ISSUE FOR CONSTRUCTION		08.30.10
2	OWNER REVIEW		05.28.09				
3	PERMIT ISSUE		06.04.09	8	DELTA 8		04.01.11
4	PC–RESUBMIT		08.31.09	9	FOR CONSTRUCTION		04.25.11
5	PC–COMMENTS		10.07.09				
6	PC–RESUBMIT		05.28.10	10	DELTA 9		05.27.11
				11	DELTA 10		06.06.11

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DRAWING
SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

STAMP

DATE
12-805
PROJECT NO.

DRAWN
-

REVIEWED
-

SCALE
NONE

DRAWING NO.
M0.1

PACKAGED ROOFTOP HEATPUMP SCHEDULE

MARK NO.	MANUFACTURER & MODEL NO. SIMILAR TO	LOCATION	SERVICE	NOMINAL CAPACITY (TONS)	EER	SUPPLY FAN				COMPRESSOR DATA	HEATING			COOLING						ELECTRICAL DATA									TOTAL OPERATING WEIGHT (LBS.)	MIN. EER	MIN. OSA (CFM)	REMARKS
						ESP (IN.)	CFM	BHP	RPM	TYPE	SENSIBLE (MBH)	ENT (F)	LVN (F)	CAPACITIES SENSIBLE (MBTUH)	CAPACITIES TOTAL (MBTUH)	ENT DB (F)	ENT WB (F)	ENT DB (F)	ENT WB (F)	V/PH	COMPRESSOR RLA/EA.	EVAP. FAN HP	EVAP. FAN FLA	COND. FAN QTY. / FLA	POWER EXH. FAN FLA	UNIT MCA	UNIT MAX. FUSE				
RTU 1	CARRIER 50HJQ016	ROOF	STUDIO	15	9.3	0.75	6000	5.25	993	HER. SCROLL	176	70	97	139	182.1	80	67	59	57	208/3	28.2/2	5	15.8	3 / 1.7	11.9	84	110	2750	9.3	200	PROVIDE DUCT SMOKE DETECTOR ON SUPPLY AND RETURN. FOR UNIT SHUTDOWN. PROVIDE 100% AIR ECONOMIZER AND POWER EXHAUST FAN

NOTES:

1. ALL FANS AND MOTORS SHALL BE STATICALLY BALANCED AT FACTORY.
2. UNITS SHALL BE SINGLE POINT OF POWER CONNECTION AND PROVIDED WITH DISCONNECT.
3. PROVIDE MANUFACTURER ISO-CURB. VIBRATION ISOLATOR SHALL HAVE MINIMUM OF 2" DEFLECTION.
4. UNIT IS VERTICAL DISCHARGE FOR SUPPLY & RETURN, PROVIDE W/ MICRO METL ROOF CURB SIMILAR TO MODEL 0528, TO ALLOW FOR SIDE DISCHARGE, AND DUCTWORK ROUTING ON ROOF. (IN ADDITION TO VIBRATION ISOLATION CURB)
5. CONTRACTOR TO ROUTE CONDENSATE DRAIN TO APPROVED PLUMBING RECEPTOR.
6. UNIT'S CONDENSER SHALL BE COPPER FINS.
7. THE RTU UNIT SHALL BE PROVIDED WITH COMFORTLINK CONTROL.
8. PROVIDE CONVIENCE OUTLET AT THE UNIT.
9. PROVIDED WITH A PROGRAMMABLE THERMOSTAT. MECHANICAL CONTRACTOR TO WIRE & RUN CONTROL WIRES IN CONDUIT BETWEEN THERMOSTAT & ROOFTOP PACKAGE UNIT.
10. PROVIDE A DIFFERENTIAL ENTHALPY SENSOR.
11. R-22 REFRIGERANT.
12. AIR MOVING SYSTEMS SUPPLYING AIR IN EXCESS OF 2000 CFM MUST BE EQUIPPED WITH AN AUTOMATIC SHUTOFF.
13. SHUTOFF FOR SMOKE CONTROL ACTIVATED BY A SMOKE DETECTOR IN THE MAIN SUPPLY-AIR IS REQUIRED (CMC SECTION 609)
14. THE SMOKE DETECTOR SHUT OFF SHALL ACTIVATE THE FIRE ALARM SYSTEM (CMC SECTION 609).

FAN COIL UNIT (INDOOR UNIT)

MARK NO.	MANUFACTURER/MODEL	LOCATION	AREA SERVED	COOLING CAPACITY			HEATING CAPACITY		COIL		OUTDOOR UNIT	FAN DATA			ELECTRICAL					ELECTRIC REHEAT		FILTER		WEIGHT (LBS.)	REMARKS
				TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	SEER	TOTAL CAPACITY (MBH)	HSPF	AREA (SQ.FT.)	NO. OF ROWS		CFM	ESP (IN)	HP	INDOOR UNIT VOLTAGE	PH	FLA	MCA	MFS	TYPE	CAPACITY (KW)	TYPE	DIM. (IN)		
FCU 1	CARRIER FX4B-024	MECHANICAL ROOM	KITCHEN & HALLWAY	20.0	17.0	13.0	24.0	8	2.97	3	HP-1	800	0.6	1/3	208	1	2.8	3.5	15	NA	NA	30%	21-1/2X16-3/8X2	150	①②③④⑤
FCU 2	CARRIER FX4B-030	MECHANICAL ROOM	RECEPTION & HALLWAY	37.0	23.4	13.0	24.0	8	2.97	3	HP-2	800	0.6	1/3	208	1	2.8	3.5	15	NA	NA	30%	21-1/2X16-3/8X2	150	①②③④⑤
FCU 3	CARRIER FX4B-036	STORAGE	OFFICES	34.4	32.0	4.5	38.8	8	5.93	3	HP-3	1200	0.6	1/2	208	1	2.7	3.4	15	NA	NA	30%	21-1/2X19-7/8X2	200	①②③④⑤
FCU 4	CARRIER FX4B-030	STORAGE	CONFERENCE ROOM	37.0	23.4	13.0	24.0	8	2.97	3	HP-4	800	0.6	1/3	208	1	2.8	3.5	15	NA	NA	30%	21-1/2X16-3/8X2	150	①②③④⑤
FCU 5	CARRIER FX4B-030	STORAGE	OFFICES	37.0	23.4	13.0	24.0	8	2.97	3	HP-5	800	0.6	1/3	208	1	2.8	3.5	15	NA	NA	30%	21-1/2X16-3/8X2	150	①②③④⑤
FCU 6	CARRIER FX4B-036	STORAGE	EDIT ROOMS	34.4	32.0	4.5	38.8	8	5.93	3	HP-6	1200	0.6	1/2	208	1	2.7	3.4	15	NA	NA	30%	21-1/2X19-7/8X2	200	①②③④⑤
FCU 7	CARRIER FX4B-060	MECHANICAL ROOM	CONTROL ROOMS	68.0	47.0	13.5	56.0	8.8	7.42	3	HP-7	2000	0.6	3/4	208	1	5.2	6.5	15	NA	NA	30%	21-1/2X23-5/16X2	250	①②③④⑤⑥⑦⑧⑨
FCU 8	CARRIER FX4B-060	EQUIPMENT / SERVER ROOM 204	EQUIPMENT / SERVER ROOM 204	68.0	47.0	13.5	56.0	8.8	7.42	3	HP-8	2000	0.6	3/4	208	1	5.2	6.5	15	NA	NA	30%	21-1/2X23-5/16X2	60	①②③④⑤⑥⑦⑧⑨

NOTES:

1. ALL ELECTRICAL DISCONNECTS FOR UNIT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
2. PROVIDE A 120-V FACTORY MOUNTED CONDENSATE PUMP FOR EACH UNIT.
3. PROVIDE ALL REFRIGERANT PIPING, VALVES AND FITTINGS.
4. PROVIDE VIBRATION ISOLATORS & SEISMIC RESTRAINT WITH MIN. 1" DEFLECTION.
5. PROVIDE UNIT WITH STAINLESS STEEL PRIMARY DRAIN PAN.
6. CONTRACTOR SHALL PROVIDE AND WIRE-UP DUCT SMOKE DETECTORS TO BE MOUNTED IN THE SUPPLY SIDE PLENUM BOX / INTERCONNECT UNIT TO SHUT DOWN UPON ACTIVATION OF ANY SMOKE DETECTORS. INTERFACE SMOKE DETECTORS WITH BUILDING FIRE LIFE SAFETY SYSTEM.
7. AIR MOVING SYSTEMS SUPPLYING AIR IN EXCESS OF 2000 CFM MUST BE EQUIPPED WITH AN AUTOMATIC SHUTOFF.
8. SHUTOFF FOR SMOKE CONTROL ACTIVATED BY A SMOKE DETECTOR IN THE MAIN SUPPLY-AIR IS REQUIRED (CMC SECTION 609)
9. THE SMOKE DETECTOR SHUT OFF SHALL ACTIVATE THE FIRE ALARM SYSTEM (CMC SECTION 609).

SPLIT DX HEAT PUMP SCHEDULE (OUTDOOR UNIT)

MARK NO.	MAKE & MODEL	SERVES	LOCATION	CONDENSER FAN DATA			AMBIENT TEMP (F)	COMP. TYPE	COIL		ELECTRICAL DATA						WEIGHT (LBS)	REMARKS
				QTY	CFM	COND. FAN HP.			AREA (SQ.FT.)	NO. OF ROWS	COMPRESSOR RLA	OUTDOOR FAN FLA	UNIT MCA	UNIT MFS	V	PH		
HP 1	CARRIER/ 38QRR-24	FCU-1	ROOF	1	1720	1/8	105	SCROLL	12.1	3	12.8	0.8	16.8	25	208	1	200	①②③④
HP 2	CARRIER/ 38QRR-30	FCU-2	ROOF	1	3900	1/4	105	SCROLL	12.1	3	12.8	1.45	17.5	30	208	1	200	①②③④
HP 3	CARRIER/ 38QRR-36	FCU-3	ROOF	1	3900	1/4	105	SCROLL	12.1	3	9.0	1.45	12.7	20	208	3	250	①②③④
HP 4	CARRIER/ 38QRR-30	FCU-4	ROOF	1	3900	1/4	105	SCROLL	12.1	3	12.8	1.45	17.5	30	208	1	200	①②③④
HP 5	CARRIER/ 38QRR-30	FCU-5	ROOF	1	3900	1/4	105	SCROLL	12.1	3	12.8	1.45	17.5	30	208	1	200	①②③④
HP 6	CARRIER/ 38QRR-36	FCU-6	ROOF	1	3900	1/4	105	SCROLL	12.1	3	9.0	1.45	12.7	20	208	3	250	①②③④
HP 7	CARRIER/ 38QRR-60	FCU-7	ROOF	1	3900	1/4	105	SCROLL	14.1	3	16.0	1.45	21.5	35	208	3	350	①②③④
HP 8	CARRIER/ 38QRR-60	FCU-8	ROOF	1	3900	1/4	105	SCROLL	14.1	3	16.0	1.45	21.5	35	208	3	350	①②③④

NOTES:

1. WIRING, WATER, DRAIN & REFRIGERANT PIPING OF COMPUTER ROOM UNIT SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE VIBRATION ISOLATION (2" MIN DEFLECTION) AND SEISMIC RESTRAINTS FOR UNIT.
3. ALL ELECTRICAL DISCONNECTS FOR UNIT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
4. PROVIDE FACTORY APPLIED ANTI CORROSIVE COIL COATING, SIMILAR TO BLYGOLD PoluAIXT

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				11	DELTA 10		06.06.11

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SANTA MONICA CITY TV
1654 19TH STREET, SANTA MONICA, CA 90404
PROJECT

MECHANICAL SCHEDULES
DRAWING

STAMP

DATE	12-805 PROJECT NO.
DRAWN -	
REVIEWED -	
SCALE NONE	DRAWING NO. M0.2

EXHAUST FAN SCHEDULE

MARK NO.	MANUFACTURER & MODEL NO. SIMILAR TO	LOCATION	SERVICE	FAN TYPE	CFM	MAX. FAN RPM	SP (IN. W.G.)	ELECTRICAL DATA				TOTAL OPERATING WEIGHT (LBS.)	REMARKS
								WATT	VOLT	PH	HZ		
EF 1	COOK GC-162	RESTROOM FIRST FLOOR	WOMEN RESTROOM	CENTRIFUGAL FAN	150	–	0.30	105	120	1	60	15	INTERLOCK WITH LIGHT SWITCH. PROVIDE BACKDRAFT DAMPER.
EF 2	COOK GC-162	RESTROOM FIRST FLOOR	MEN RESTROOM	CENTRIFUGAL FAN	150	–	0.30	105	120	1	60	15	INTERLOCK WITH LIGHT SWITCH. PROVIDE BACKDRAFT DAMPER.
EF 3	COOK GC-164	RESTROOM FIRST FLOOR	KITCHEN	CENTRIFUGAL FAN	180	–	0.30	135	120	1	60	15	INTERLOCK WITH LIGHT SWITCH. PROVIDE BACKDRAFT DAMPER.

(1) OBTAIN ARCHITECT'S APPROVAL FOR EXHAUST FAN GRILLE LOCATION IN RCP (COORDINATE W/ RCP) & FAN GRILLE FINISH.

DIFFUSER SCHEDULE

MARK NO.	TYPE	OVERALL DIMENSIONS (IN)	NECK SIZE	CFM RANGE	MAX. N.C.	MAX S.P. (IN WC)	REMARKS (1)(2)(3)(4)
SG-1	SIDE WALL	12 X 8	10 X 6	0 – 100	20	0.08	TITUS 300RL
SG-2	SIDE WALL	16 X 8	14 X 6	101 – 200	20	0.08	TITUS 300RL
SG-3	SIDE WALL	20 X 8	18 X 6	201 – 315	20	0.08	TITUS 300RL
SG-4	SIDE WALL	20 X 12	18 X 10	316 – 420	20	0.08	TITUS 300RL
SG-5	SIDE WALL	20 X 14	18 X 12	421 – 550	20	0.08	TITUS 300RL
RG-1	SIDE WALL	14 X 14	12 X 12	0 – 300	20	0.08	TITUS 350RL
RG-2	SIDE WALL	20 X 8	18 X 6	200 – 300	20	0.08	TITUS 350RL
RG-3	SIDE WALL	20 X 12	18 X 10	301 – 440	20	0.08	TITUS 350RL
RG-4	SIDE WALL	38 X 14	36 X 12	800	20	0.08	TITUS 350RL
RG-5	SIDE WALL	20 X 20	18 X 18	900	20	0.08	TITUS 350RL
CD-1	PERF. SUPPLY	24 X 24	10"ø	0 – 250	20	0.08	TITUS PCS, W/ RAPID MOUNT FRAME, SIMILAR TO TMR

NOTE:

(1) FRAME/BORDER STYLE SHALL BE COMPATABLE WITH CEILING.

(2) FINISHES SHALL BE APPROVED BY ARCHITECT. WHERE DUCTS ARE EXPOSED AND DIFFUSERS ARE DUCT MOUNTED, PROVIDE W/ METAL FINISH (APPROVED BY ARCHITECT), WALL MOUNTED DIFFUSERS TO MATCH PAINT (APPROVED BY ARCHITECT).

(3) COORDINATE LOCATIONS WITH ARCHITECTURAL AND ELECTRICAL PLANS.

LOW PRESSURE DUCT SIZING CHART

CFM	DUCT SIZE (IN.)
UP TO 100	6"ø OR 8X4
101 TO 220	8"ø OR 10X6
221 TO 400	10"ø OR 10X8
401 TO 650	12"ø OR 12X10
651 TO 1000	14"ø OR 16X10
1001 TO 1450	16"ø OR 18X12
1451 TO 1950	18"ø OR 24X12
1950 TO 2600	20"ø OR 30X12

CLEAR INSIDE DUCT DIMENSION
DUCT SIZES BASED ON 0.1"W.G./100FT.

SOUND ATTENUATOR SCHEDULE

ITEM	UNIT SERVED	TYPE & MODEL	WIDTH (IN)	HEIGHT (IN)	LENGTH (IN)	OPERATING WEIGHT (LBS)	CFM	MAX PD (i.w.g.)	MINIMUM DYNAMIC INSERTION LOSS IN dB @ +1000 fpm FACE VELOCITY								SELF-NOISE POWER LEVEL IN dB @ +1000 fpm FACE VELOCITY (4 SF FACE AREA)								NOTES
									63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
SA-1	RTU-1, SUPPLY	IAC 5LFL	54	24	60	236	6000	0.1	6	10	17	24	25	14	12	11	32	24	32	25	34	39	24	20	
SA-2	RTU-1, RETURN	IAC 5LFL	54	18	60	207	6000	0.1	7	12	19	27	27	15	14	13	31	30	34	35	40	45	28	20	

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www.arceng.net

NO.	DESCRIPTION	BY	DATE	NO.	DESCRIPTION	BY	DATE
1	30% CD	BG	04.27.09	7	ISSUE FOR CONSTRUCTION		08.30.10
2	OWNER REVIEW		05.28.09				
3	PERMIT ISSUE		06.04.09	8	DELTA 8		04.01.11
4	PC-RESUBMIT		08.31.09	9	FOR CONSTRUCTION		04.25.11
5	PC-COMMENTS		10.07.09				
6	PC-RESUBMIT		05.28.10	10	DELTA 9		05.27.11
				11	DELTA 10		06.06.11

KEYPLAN

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MECHANICAL SCHEDULES
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12-805
PROJECT NO.

M0.3
DRAWING NO.

CERTIFICATE OF COMPLIANCE (Part 1 of 2) MECH-1-C

PROJECT NAME: Santa Monica Television	DATE: 6/15/2009
PROJECT ADDRESS: 1564 19th Street Santa Monica	Building Permit #
PRINCIPAL DESIGNER - MECHANICAL: ARC Engineering	TELEPHONE: 818-508-6300
DOCUMENTATION AUTHOR: ARC Engineering	TELEPHONE: (818) 508-6300
	Checked by/Date Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS: 06-10-09	BUILDING CONDITIONED FLOOR AREA: 5,250 Sq.Ft.			CLIMATE ZONE: 6
BUILDING TYPE	[X] NONRESIDENTIAL	[ ] HIGH RISE RESIDENTIAL	[ ] HOTEL/MOTEL GUEST ROOM	
PHASE OF CONSTRUCTION	[ ] NEW CONSTRUCTION	[ ] ADDITION [ ] ALTERATION	[ ] UNCONDITIONED (File Affidavit)	
METHOD OF MECHANICAL COMPLIANCE	[X] PRESCRIPTIVE	[ ] PERFORMANCE		
PROOF OF ENVELOPE COMPLIANCE	[ ] PREVIOUS ENVELOPE PERMIT	[ ] ENVELOPE COMPLIANCE ATTACHED		

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications needed to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building mechanical requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR	SIGNATURE	DATE
Michael Hovanec		

The Principal Mechanical Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the mechanical requirements contained in the applicable parts of Sections 100, 101, 102, 110 through115, 120 through 125, 142, 144, and 145.

- [ ] The plans & specifications meet the requirements of Part 1 (Sections 10-103a).
- [ ] The installation certificates meet the requirements of Part 1 (10-103a 3).
- [ ] The operation & maintenance information meets the requirements of Part 1 (10-103c).

Please check one: (These sectionsof the Business and Professions Code are printed in full in the Nonresidential Manual.)

- [ ] I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer, or mechanical engineer or I am a licensed architect.
- [ ] I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by Section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
- [ ] I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described pursuant to Business and Professions Code sections 5537, 5538, and 6737.1.

PRINCIPAL MECHANICAL DESIGNER - NAME	SIGNATURE	DATE	LIC. #
ARC Engineering			

INSTRUCTIONS TO APPLICANT

- [X] MECH-1-C: Certificate of Compliance. Part 1, 2, 3 of 3 are required on plans for all submittals.
- [X] MECH-2-C: Air/Water/Service/Water Pools Requirements. Part 1 of 3, 2 of 3, 3 of 3 are required for all submittals, but may be on plans.
- [X] MECH-3-C: Mechanical Ventilation and Reheat is required for all submittals with mechanical ventilation, but may be on plans.
- [X] MECH-4-C: HVAC Misc. Prescriptive Requirements is required for all prescriptive submittals, but may be on plans.
- [ ] MECH-5-C: Mechanical Equipment Details are required for all performance submittals.

CERTIFICATE OF COMPLIANCE (Part 2 of 2) MECH-1-C

PROJECT NAME: Santa Monica Television	DATE: 6/15/2009

Designer:

This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for mechanical systems. The designer is required to check the boxes by all acceptance tests that apply and list all equipment that requires an acceptance test. If all equipment of a certain type requires a test, list the equipment description and the number of systems to be tested in parentheses. The NJ number designates the Section in the Appendix of the Nonresidential ACM Manual that describes the test. Also indicate the person responsible for performing the tests (i.e. the installing contractor, design professional or an agent selected by the owner). Since this form will be part of the plans, completion of this section will allow the responsible party to budget for the scope of work appropriately.

Building Departments:

SYSTEM ACCEPTANCE. Before an occupancy permit is granted for a newly constructed building or space, or a new space-conditioning system serving a building or space is operated for normal use, all control devices serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance.

In addition a Certificate of Acceptance, MECH-1-A Form shall be submitted to the building department that certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of Section 10-103(b) and Title 24 Part 6.

STATEMENT OF COMPLIANCE

- [ ] MECH-2-A: Ventilation System Acceptance Document
  - -Variable Air Volume Systems Outdoor Air Acceptance
  - -Constant Air Volume Systems Outdoor Air Acceptance

  Equipment requiring acceptance testing _____

  Test required on all New systems both New Construction and Retrofit.
- [ ] MECH-3-A: Packaged HVAC Systems Acceptance Document

  Equipment requiring acceptance testing _____

  Test required on all New systems both New Construction and Retrofit.
- [ ] MECH-4-A: Air-Side Economizer Acceptance Document

  Equipment requiring acceptance testing _____

  Test required on all New systems both New Construction and Retrofit. Units with economizers that are installed at the factory and certified with the commission do not require equipment testing but do require construction inspection.
- [ ] MECH-5-A: Air Distribution Acceptance Document

  Equipment requiring acceptance testing _____

  This test required if the unit serves 5,000 ft2 of space or less and 25% or more of the ducts are in nonconditioned or semiconditioned space like an attic. New systems that meet the above requirements. Retrofit systems that meet the above requirements and either extend ducts, replace ducts or replace the packaged unit.
- [ ] MECH-6-A: Demand Control Ventilation Acceptance Document

  Equipment requiring acceptance testing _____

  All new DCV controls installed on new or existing packaged systems must be tested.
- [ ] MECH-7-A: Supply Fan Variable Flow Control Acceptance Document

  Equipment requiring acceptance testing _____

  All new VAV fan volume controls installed on new or existing systems must be tested
- [ ] MECH-8-A: -Hydronic System Control Acceptance Document
  - -Variable Flow Controls *Applies to chilled and hot water systems.*
  - -Automatic Isolation Controls *Applies to new boilers and chillers and the primary pumps are connected to a common header.*
  - -Supply Water Temperature Reset Controls *Applies to new constant flow chilled and hot water systems that have a design capacity greater than or equal to 500,000 Btu/hr.*
  - -Water-loop Heat Pump Controls *Applies to all new waterloop heat pump systems where the combined loop pumps are greater than 5 hp.*
  - -Variable Frequency Controls *Applies to all new distribution pumps on new variable flow chilled, hydronic heat pump or condenser water systems where the pumps motors are greater than 5 hp.*

  Equipment requiring acceptance testing _____

AIR SYSTEM REQUIREMENTS Part 1 of 2 MECH-2-C

PROJECT NAME: Santa Monica Television	DATE: 6/15/2009

SYSTEM FEATURES

	AIR SYSTEMS, Central or Single Zone		
ITEM OR SYSTEM TAG(S)	FCU-1	FCU-2	FCU-3
Number of Systems	1	1	1

MANDATORY MEASURES	T-24 Section	Reference on Plans or Specification [1]		
Heating Equipment Efficiency	112(a)	7.70 HSPF	7.70 HSPF	7.70 HSPF
Cooling Equipment Efficiency	112(a)	13.0 SEER / 11.0 EER	13.0 SEER / 11.0 EER	13.0 SEER / 11.0 EER
Heat Pump Thermostat	112(b)	Yes	Yes	Yes
Furnace Controls	112(c), 115(a)	n/a	n/a	n/a
Natural Ventilation	121(b)	Yes	Yes	Yes
Minimum Ventilation	121(b)	180 cfm	80 cfm	89 cfm
VAV Minimum Position Control	121(c)	No	No	No
Demand Control Ventilation	121(c)	No	No	No
Time Control	121(c), 122(e)	Programmable Switch	Programmable Switch	Programmable Switch
Setback and Setup Control	122(e)	No Setback Required	No Setback Required	No Setback Required
Outdoor Damper Control	122(f)	Auto	Auto	Auto
Isolation Zones	122(g)	n/a	n/a	n/a
Pipe Insulation	123			
Duct Insulation	124	R-8.0	R-8.0	R-8.0
PRESCRIPTIVE MEASURES				
Calculated Heating Capacity x 1.43 [2]	144 (a & b)	23,822 btuh	18,449 btuh	14,864 btuh
Proposed Heating Capacity [2]	144 (a & b)	21,125 btuh	24,460 btuh	26,684 btuh
Calculated Sensible Cooling Capacity x 1.21[2]	144 (a & b)	20,732 btuh	29,180 btuh	58,878 btuh
Proposed Sensible Cooling Capacity [2]	144 (a & b)	17,879 btuh	23,977 btuh	23,059 btuh
Fan Control	144 (c)	Constant Volume	Constant Volume	Constant Volume
DP Sensor Location	144 (c)			
Supply Pressure Reset (DDC only)	144 (c)	Yes	Yes	Yes
Simultaneous Heat/Cool	144 (d)	No	No	No
Economizer	144 (e)	No Economizer	No Economizer	No Economizer
Heating Air Supply Reset	144 (f)	Constant Temp	Constant Temp	Constant Temp
Cooling Air Supply Reset	144 (f)	Constant Temp	Constant Temp	Constant Temp
Duct Sealing for Prescriptive Compliance [3]	144 (k)	No	No	No

1: For each central and single zone air systems (or group of similar units) fill in the reference to sheet number and/or specification section and paragraph number where the required features are documented. If a requirement is not applicable, put "N/A" in the column.

2: Not required for hydronic heating and cooling. Either enter a value here or put in reference ot plans and specificatons per footnote 1.

3: Enter Yes if System is: Constant Volume, Single Zone; Serves < 5,000 sqft; Has > 25% duct in unconditioned space. Duct sealing is required for Prescriptive Compliance, see PERF-1 for performance method duct sealing requirements.

NOTES TO FIELD - For Building Department Use Only

AIR SYSTEM REQUIREMENTS Part 1 of 2 MECH-2-C

PROJECT NAME: Santa Monica Television	DATE: 6/15/2009

SYSTEM FEATURES

	AIR SYSTEMS, Central or Single Zone		
ITEM OR SYSTEM TAG(S)	FCU-4	FCU-5	FCU-6
Number of Systems	1	1	1

MANDATORY MEASURES	T-24 Section	Reference on Plans or Specification [1]		
Heating Equipment Efficiency	112(a)	7.70 HSPF	7.70 HSPF	7.70 HSPF
Cooling Equipment Efficiency	112(a)	13.0 SEER / 11.0 EER	13.0 SEER / 11.0 EER	13.0 SEER / 11.0 EER
Heat Pump Thermostat	112(b)	Yes	Yes	Yes
Furnace Controls	112(c), 115(a)	n/a	n/a	n/a
Natural Ventilation	121(b)	Yes	Yes	Yes
Minimum Ventilation	121(b)	104 cfm	40 cfm	47 cfm
VAV Minimum Position Control	121(c)	No	No	No
Demand Control Ventilation	121(c)	No	No	No
Time Control	121(c), 122(e)	Programmable Switch	Programmable Switch	Programmable Switch
Setback and Setup Control	122(e)	No Setback Required	No Setback Required	No Setback Required
Outdoor Damper Control	122(f)	Auto	Auto	Auto
Isolation Zones	122(g)	n/a	n/a	n/a
Pipe Insulation	123			
Duct Insulation	124	R-8.0	R-8.0	R-8.0
PRESCRIPTIVE MEASURES				
Calculated Heating Capacity x 1.43 [2]	144 (a & b)	3,493 btuh	7,864 btuh	908 btuh
Proposed Heating Capacity [2]	144 (a & b)	24,460 btuh	24,460 btuh	26,684 btuh
Calculated Sensible Cooling Capacity x 1.21[2]	144 (a & b)	27,963 btuh	27,944 btuh	29,857 btuh
Proposed Sensible Cooling Capacity [2]	144 (a & b)	23,159 btuh	24,735 btuh	22,998 btuh
Fan Control	144 (c)	Constant Volume	Constant Volume	Constant Volume
DP Sensor Location	144 (c)			
Supply Pressure Reset (DDC only)	144 (c)	Yes	Yes	Yes
Simultaneous Heat/Cool	144 (d)	No	No	No
Economizer	144 (e)	No Economizer	No Economizer	No Economizer
Heating Air Supply Reset	144 (f)	Constant Temp	Constant Temp	Constant Temp
Cooling Air Supply Reset	144 (f)	Constant Temp	Constant Temp	Constant Temp
Duct Sealing for Prescriptive Compliance [3]	144 (k)	No	No	No

1: For each central and single zone air systems (or group of similar units) fill in the reference to sheet number and/or specification section and paragraph number where the required features are documented. If a requirement is not applicable, put "N/A" in the column.

2: Not required for hydronic heating and cooling. Either enter a value here or put in reference ot plans and specificatons per footnote 1.

3: Enter Yes if System is: Constant Volume, Single Zone; Serves < 5,000 sqft; Has > 25% duct in unconditioned space. Duct sealing is required for Prescriptive Compliance, see PERF-1 for performance method duct sealing requirements.

NOTES TO FIELD - For Building Department Use Only

AIR SYSTEM REQUIREMENTS Part 1 of 2 MECH-2-C

PROJECT NAME: Santa Monica Television	DATE: 6/15/2009

SYSTEM FEATURES

	AIR SYSTEMS, Central or Single Zone		
ITEM OR SYSTEM TAG(S)	FCU-7	FCU-8	FCU-9 Server Rm
Number of Systems	1	1	1

MANDATORY MEASURES	T-24 Section	Reference on Plans or Specification [1]		
Heating Equipment Efficiency	112(a)	7.70 HSPF	7.70 HSPF	7.70 HSPF
Cooling Equipment Efficiency	112(a)	13.0 SEER / 11.0 EER	13.0 SEER / 11.0 EER	13.0 SEER / 11.0 EER
Heat Pump Thermostat	112(b)	Yes	Yes	Yes
Furnace Controls	112(c), 115(a)	n/a	n/a	n/a
Natural Ventilation	121(b)	Yes	Yes	Yes
Minimum Ventilation	121(b)	66 cfm	66 cfm	50 cfm
VAV Minimum Position Control	121(c)	No	No	No
Demand Control Ventilation	121(c)	No	No	No
Time Control	121(c), 122(e)	Programmable Switch	Programmable Switch	Programmable Switch
Setback and Setup Control	122(e)	No Setback Required	No Setback Required	No Setback Required
Outdoor Damper Control	122(f)	Auto	Auto	Auto
Isolation Zones	122(g)	n/a	n/a	n/a
Pipe Insulation	123			
Duct Insulation	124	R-8.0	R-8.0	R-8.0
PRESCRIPTIVE MEASURES				
Calculated Heating Capacity x 1.43 [2]	144 (a & b)	1,148 btuh	8,425 btuh	4,194 btuh
Proposed Heating Capacity [2]	144 (a & b)	47,638 btuh	21,125 btuh	47,638 btuh
Calculated Sensible Cooling Capacity x 1.21[2]	144 (a & b)	58,482 btuh	13,612 btuh	57,838 btuh
Proposed Sensible Cooling Capacity [2]	144 (a & b)	52,592 btuh	12,511 btuh	53,232 btuh
Fan Control	144 (c)	Constant Volume	Constant Volume	Constant Volume
DP Sensor Location	144 (c)			
Supply Pressure Reset (DDC only)	144 (c)	Yes	Yes	Yes
Simultaneous Heat/Cool	144 (d)	No	No	No
Economizer	144 (e)	No Economizer	No Economizer	No Economizer
Heating Air Supply Reset	144 (f)	Constant Temp	Constant Temp	Constant Temp
Cooling Air Supply Reset	144 (f)	Constant Temp	Constant Temp	Constant Temp
Duct Sealing for Prescriptive Compliance [3]	144 (k)	No	No	No

1: For each central and single zone air systems (or group of similar units) fill in the reference to sheet number and/or specification section and paragraph number where the required features are documented. If a requirement is not applicable, put "N/A" in the column.

2: Not required for hydronic heating and cooling. Either enter a value here or put in reference ot plans and specificatons per footnote 1.

3: Enter Yes if System is: Constant Volume, Single Zone; Serves < 5,000 sqft; Has > 25% duct in unconditioned space. Duct sealing is required for Prescriptive Compliance, see PERF-1 for performance method duct sealing requirements.

NOTES TO FIELD - For Building Department Use Only

AIR SYSTEM REQUIREMENTS Part 1 of 2 MECH-2-C

PROJECT NAME: Santa Monica Television	DATE: 6/15/2009

SYSTEM FEATURES

	AIR SYSTEMS, Central or Single Zone		
ITEM OR SYSTEM TAG(S)	RTU-1 Heat Pump		
Number of Systems	1		

MANDATORY MEASURES	T-24 Section	Reference on Plans or Specification [1]		
Heating Equipment Efficiency	112(a)	0.81 COP		
Cooling Equipment Efficiency	112(a)	11.0 EER		
Heat Pump Thermostat	112(b)	Yes		
Furnace Controls	112(c), 115(a)	n/a		
Natural Ventilation	121(b)	Yes		
Minimum Ventilation	121(b)	233 cfm		
VAV Minimum Position Control	121(c)	No		
Demand Control Ventilation	121(c)	No		
Time Control	121(c), 122(e)	Programmable Switch		
Setback and Setup Control	122(e)	No Setback Required		
Outdoor Damper Control	122(f)	Auto		
Isolation Zones	122(g)	n/a		
Pipe Insulation	123			
Duct Insulation	124	R-8.0		
PRESCRIPTIVE MEASURES				
Calculated Heating Capacity x 1.43 [2]	144 (a & b)	33,243 btuh		
Proposed Heating Capacity [2]	144 (a & b)	150,525 btuh		
Calculated Sensible Cooling Capacity x 1.21[2]	144 (a & b)	198,051 btuh		
Proposed Sensible Cooling Capacity [2]	144 (a & b)	173,636 btuh		
Fan Control	144 (c)	Constant Volume		
DP Sensor Location	144 (c)			
Supply Pressure Reset (DDC only)	144 (c)	Yes		
Simultaneous Heat/Cool	144 (d)	No		
Economizer	144 (e)	Diff. Enth (Integrated)		
Heating Air Supply Reset	144 (f)	Constant Temp		
Cooling Air Supply Reset	144 (f)	Constant Temp		
Duct Sealing for Prescriptive Compliance [3]	144 (k)	No		

1: For each central and single zone air systems (or group of similar units) fill in the reference to sheet number and/or specification section and paragraph number where the required features are documented. If a requirement is not applicable, put "N/A" in the column.

2: Not required for hydronic heating and cooling. Either enter a value here or put in reference ot plans and specificatons per footnote 1.

3: Enter Yes if System is: Constant Volume, Single Zone; Serves < 5,000 sqft; Has > 25% duct in unconditioned space. Duct sealing is required for Prescriptive Compliance, see PERF-1 for performance method duct sealing requirements.

NOTES TO FIELD - For Building Department Use Only

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				11	DELTA 10		06.06.11

KEYPLAN

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SANTA MONICA CITY TV
1654 19TH STREET, SANTA MONICA, CA 90404
PROJECT

MECHANICAL TITLE 24 FORMS
DRAWING

DATE	12-805 PROJECT NO.
- DRAWN	M0.4
- REVIEWED	
NONE SCALE	DRAWING NO.

STAMP

MECHANICAL VENTILATION — MECH-3-C

PROJECT NAME: Santa Monica Television
DATE: 6/15/2009

MECHANICAL VENTILATION (Section 121(b)2) — PRESCRIPTIVE REHEAT LIMITATION (Section 144(d))

	AREA BASIS			OCCUPANCY BASIS					VAV MINIMUM				
A	B	C	D	E	F	G	H	I	J	K	L	M	N
ZONE/SYSTEM	Condition Area (SF)	CFM per Square Foot	Min CFM by Area (B x C)	Number of People	CFM per Person	Min CFM by Occupant (E x F)	REQ'D V.A Max of (D or G)	Design Vent. Air CFM	30% of Design Zone Supply CFM	B x 0.4 CFM/sq. ft.	Max of Columns H, J, K or 300 CFM	Design Min. Air Setpoint	Transfer Air
Corridor / Hallway	485	0.15	73				73	180					
FCU-1						Total	73	180					
Reception	535	0.15	80	5.3	15.0	80	80	80					
FCU-2						Total	80	80					
Offices	590	0.15	88	5.9	15.0	89	89	89					
FCU-3						Total	89	89					
Office	125	0.15	19	1.2	15.0	19	19	19					
Conf Room	170	0.50	85	11.4	7.5	85	85	85					
FCU-4						Total	104	104					
Offices	264	0.15	40	2.6	15.0	40	40	40					
FCU-5						Total	40	40					
Edit Rooms	310	0.15	46	3.1	15.0	47	47	47					
FCU-6						Total	47	47					
Control Rooms	440	0.15	66	4.4	15.0	66	66	66					
FCU-7						Total	66	66					
Storage Room	440	0.15	66	4.4	15.0	66	66	66					
FCU-8						Total	66	66					
Server Room	335	0.15	50	3.3	15.0	50	50	50					
FCU-9 Server Rm						Total	50	50					
Studio	1,556	0.15	233	15.6	15.0	233	233	233					
RTU-1 Heat Pump						Total	233	233					

C	Minimum ventilation rate per Section 121, Table 121-A
E	Based on fixed seat or the greater of the expected number of occupants and 50% of the CBC occupant load for egress purposes for spaces without fixed seating.
H	Required Ventilation Air (REQ'D V.A.) is the larger of the ventilation rates calculated on and AREA or OCCUPANCY BASIS (column D or G).
I	Must be greater than or equal to H, or use Transfer Air (column N) to make up the difference.
J	Design fan supply cfm (Fan CFM) x 30%; or
K	Condition area (ft. sq.) x 04 cfm/ft. sq.; or
L	Maximum of Columns H, J, K, or 300 cfm
M	This must be less than or equal to Column L and greater that or equal to the sum of Columns H + N.
N	Transfer air must be provided where the Required Ventilation Air (column I) is greater than the Design Minimum Air (column M). Where required, transfer air must be greater than or equal to the difference between the Required Ventilation Air (column I) and the Design Minimum Air (column M), column H - M.

MECHANICAL MANDATORY MEASURES — Part 1 of 2 — MECH-MM

PROJECT NAME: Santa Monica Television
DATE: 6/15/2009

DESCRIPTION			Designer	Enforcement
Equipment and Systems Efficiencies				
X	§111	Any appliance for which there is a California standard established in the Appliance Efficiency Regulations will comply with the applicable standard.		
X	§115(a)	Fan type central furnaces shall not have a pilot light.		
X	§123	Piping, except that conveying fluids at temperatures between 60 and 105 degrees Fahrenheit, or within HVAC equipment, shall be insulated in accordance with Standards Section 123.		
X	§124	Air handling duct systems shall be installed and insulated in compliance with Sections 601, 602, 603, 604, and 605 of the 2001 CMC Standards.		
Controls				
	§122(e)	Each space conditioning system shall be installed with one of the following:		
X	§122(e)1A	Each space conditioning system serving building types such as offices and manufacturing facilities (and all others not explicitly exempt from the requirements of Section 112 (d)) shall be installed with an automatic time switch with an accessible manual override that allows operation of the system during off-hours for up to 4 hours. The time switch shall be capable of programming different schedules for weekdays and weekends and have program backup capabilities that prevent the loss of the device's program and time setting for at least 10 hours if power is interrupted; or		
☐	§122(e)1B	An occupancy sensor to control the operating period of the system; or		
X	§122(e)1C	A 4-hour timer that can be manually operated to control the operating period of the system.		
☐	§122(e)2	Each space conditioning system shall be installed with controls that temporarily restart and temporarily operate the system as required to maintain a setback heating and/or a setup cooling thermostat setpoint.		
X	§122(g)	Each space conditioning system serving multiple zones with a combined conditioned floor area more than 25,000 square feet shall be provided with isolation zones. Each zone: shall not exceed 25,000 square feet; shall be provided with isolation devices, such as valves or dampers, that allow the supply of heating or cooling to be setback or shut off independently of other isolation areas; and shall be controlled by a time control device as described above.		
X	§122(a&b)	Each space conditioning system shall be controlled by an individual thermostat that responds to temperature within the zone. Where used to control heating, the control shall be adjustable down to 55 degrees F or lower. For cooling, the control shall be adjustable up to 85 degrees F or higher. Where used for both heating and cooling, the control shall be capable of providing a deadband of at least 5 degrees F within which the supply of heating and cooling is shut off or reduced to a minimum.		
X	§122(c)	Thermostats shall have numeric setpoints in degrees Fahrenheit (F) and adjustable setpoint stops accessible only to authorized personnel.		
X	§112(b)	Heat pumps shall be installed with controls to prevent electric resistance supplementary heater operation when the heating load can be met by the heat pump alone.		

MECHANICAL MANDATORY MEASURES — Part 2 of 2 — MECH-MM

PROJECT NAME: Santa Monica Television
DATE: 6/15/2009

Description			Designer	Enforcement
Ventilation				
X	§121(e)	Controls shall be provided to allow outside air dampers or devices to be operated at the ventilation rates as specified on these plans.		
X	§122(f)	Gravity or automatic dampers interlocked and closed on fan shutdown shall be provided on the outside air intakes and discharges of all space conditioning and exhaust systems.		
X	§122(f)	All gravity ventilating systems shall be provided with automatic or readily accessible manually operated dampers in all openings to the outside, except for combustion air openings.		
X	§121(f)1	Air Balancing: The system shall be balanced in accordance with the National Environmental Balancing Bureau (NEBB) Procedural Standards (1983), or Associated Air Balance Council (AABC) National Standards (1989); or		
☐	§121(f)2	Outside Air Certification: The system shall provide the minimum outside air as shown on the mechanical drawings, and shall be measured and certified by the installing licensed C-20 mechanical contractor and certified by (1) the design mechanical engineer, (2) the installing licenced C-20 mechanical contractor, or (3) the person with overall responsibility for the design of the ventilation system; or		
☐	§121(f)3	Outside Air Measurement: The system shall be equipped with a calibrated local or remote device capable of measuring the quantity of outside air on a continuous basis and displaying that quantity on a readily accessible display divice; or		
☐	§121(f)4	Another method approved by the Commission.		
Service Water Heating Systems				
X	§113(b)2	If a circulating hot water system is installed, it shall have a control capable of automatically turning off the circulating pump(s) when hot water is not required.		
X	§113(c)	Lavatories in restrooms of public facilities shall be equipped with controls to limit the outlet temperature to 110 degrees F.		

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15260 Ventura Blvd. Suite 1520,
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www.arceng.net

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1	30% CD	BG	04.27.09	7	ISSUE FOR CONSTRUCTION		08.30.10
2	OWNER REVIEW		05.28.09				
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5	PC–COMMENTS		10.07.09				
6	PC–RESUBMIT		05.28.10	10	DELTA 9		05.27.11
				11	DELTA 10		06.06.11

KEYPLAN

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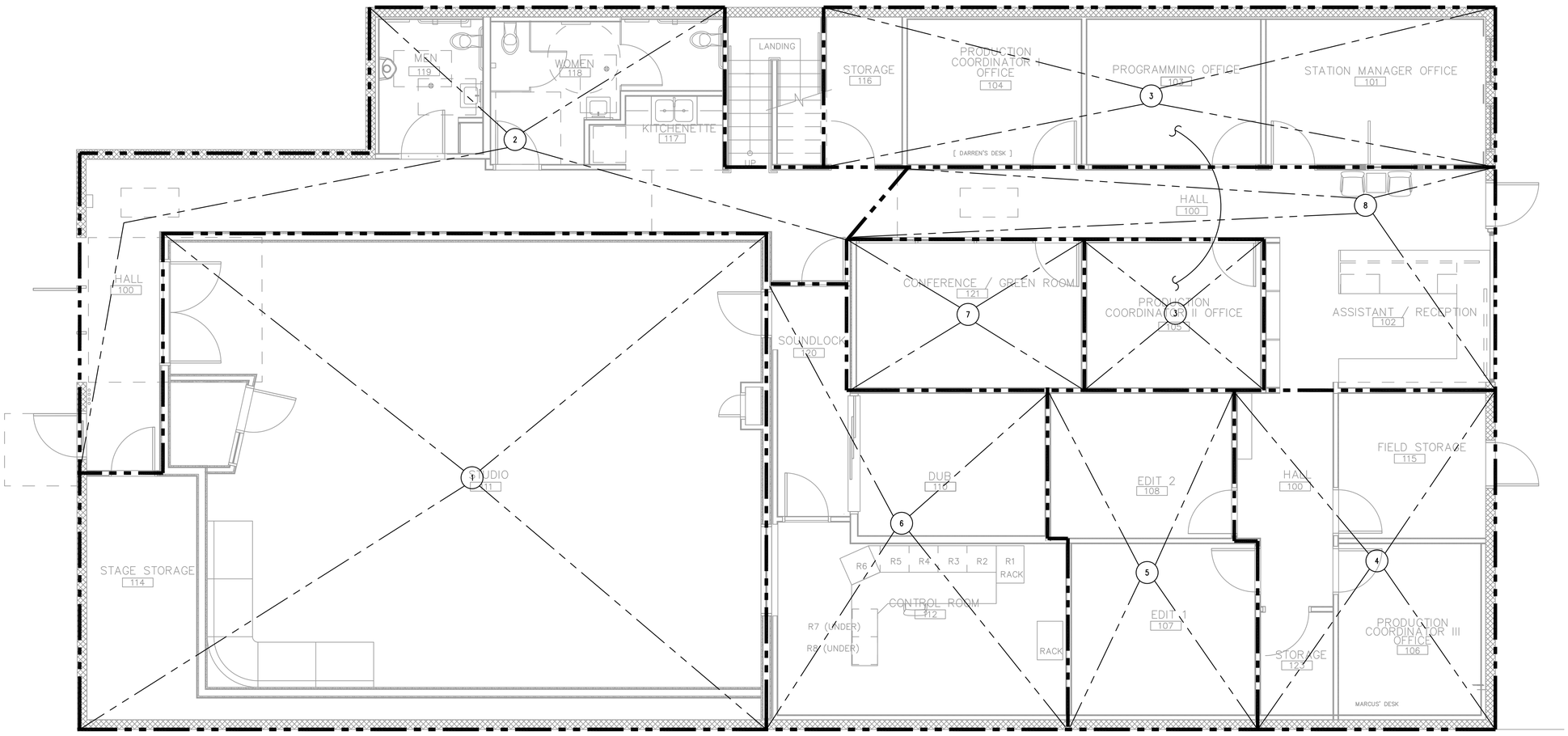
PROJECT

MECHANICAL TITLE 24 FORMS
DRAWING

DATE
12-805
PROJECT NO.
-
DRAWN
-
REVIEWED
NONE
SCALE
STAMP
M0.5
DRAWING NO.



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1ST FLOOR MECHANICAL
ZONING PLAN
DRAWING

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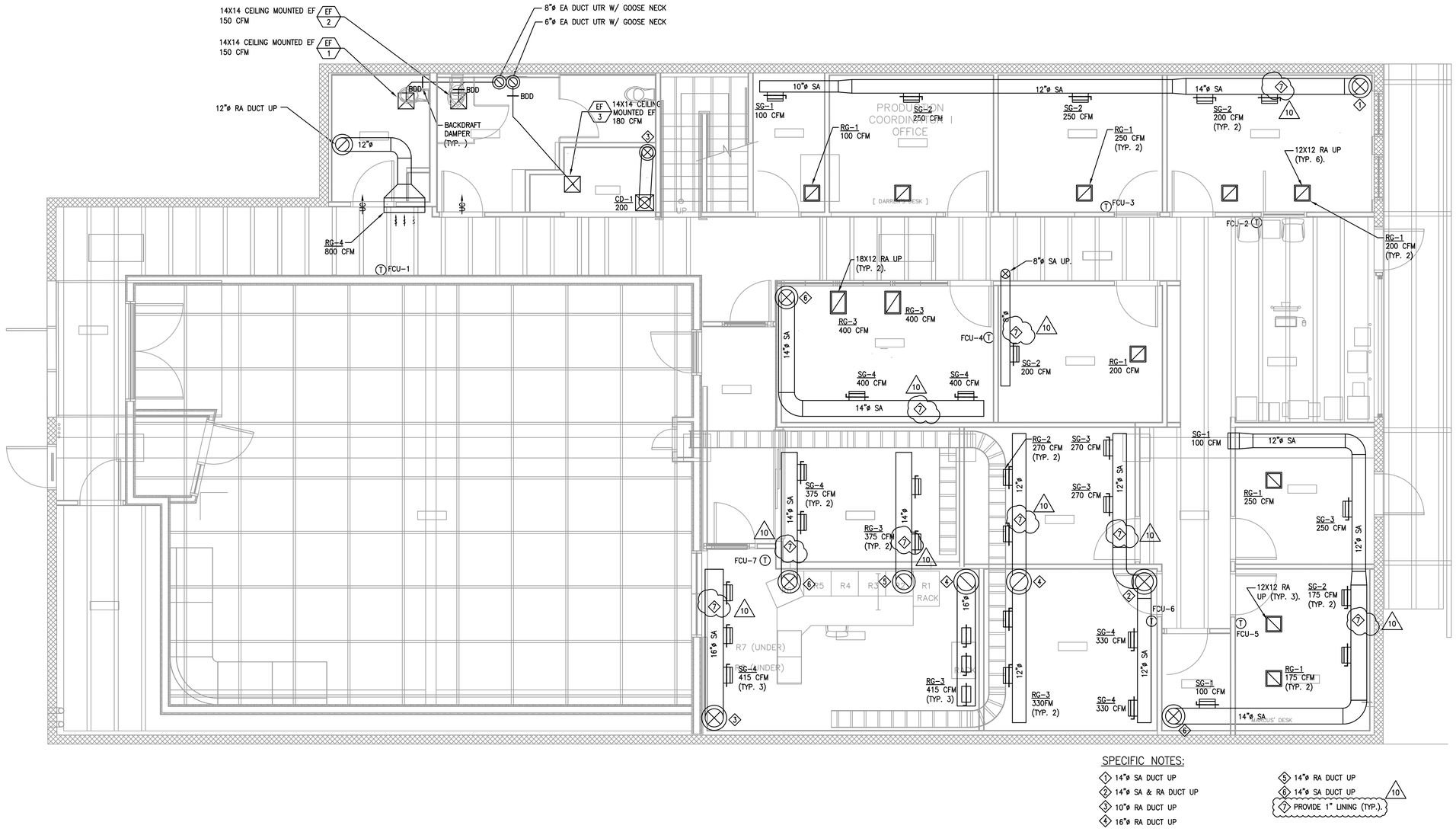
DATE -
DRAWN -
REVIEWED
1/4"=1'-0
SCALE

12-805
PROJECT NO.

M1.1
DRAWING NO.



SPECIFIC NOTES:

1. 14"ø SA DUCT UP
2. 14"ø SA & RA DUCT UP
3. 10"ø RA DUCT UP
4. 16"ø RA DUCT UP
5. 14"ø RA DUCT UP
6. 14"ø SA DUCT UP
7. PROVIDE 1" LINING (TYP.).

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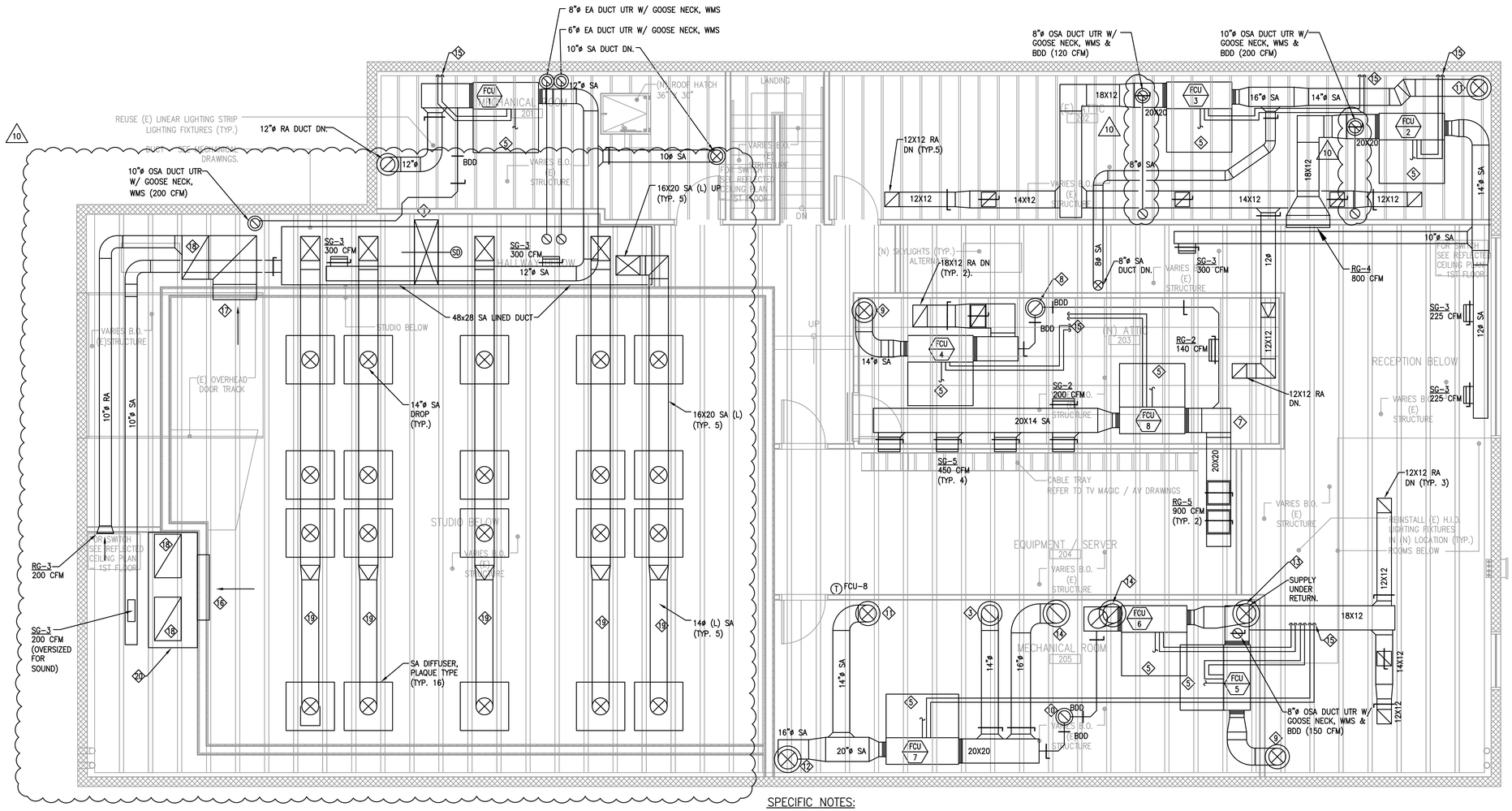
1ST FLOOR MECHAINCAL FLOOR PLAN
DRAWING

STAMP	DATE	PROJECT NO. 12-805
	DRAWN -	
	REVIEWED -	
	SCALE 1/4"=1'-0	DRAWING NO. M2.1



SPECIFIC NOTES:

1. 54x20 SA DUCT U.T.R.
2. –
3. 14" RA DUCT DN.
4. 60x36 RETURN AIR OPENING WITH WMS.
5. SERVICE CLEARANCE REQUIREMENT.
6. NOT USED.
7. PROVIDE UNIT W/ 90° ELBOW AT RETURN & DUCTED SUPPLY.
8. 10"ø OSA DUCT UTR WITH GOOSE NECK (220 CFM)
9. 14"ø SA DUCT DN.
10. 10"ø OSA DUCT UTR WITH GOOSE NECK (220 CFM)
11. 14"ø SA DUCT DN.
12. 16"ø SA DUCT DN.
13. 16"ø SA DUCT DN.
14. 16"ø RA DUCT DN.
15. REFRIGERANT PIPING UTR
16. 54X30 RA TRANSFER AIR WALL OPENING. 11.25 SQUARE FEET OF FREE AREA REQUIRED.
17. 36X22 RA TRANSFER AIR WALL OPENING. 5.5 SQUARE FEET OF FREE AREA REQUIRED.
18. 22X36 (L) RAD UP THRU ROOF, 2" LINING.
19. PROVIDE 1–1/2" LINING FOR INTERIOR DUCTWORK.
20. 40X96 RETURN AIR LINED PLENUM BOX, 1–1/2" LINING.

10

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DRAWING 2ND FLOOR MECHANICAL FLOOR PLAN

DATE	PROJECT NO. 12-805
DRAWN -	
REVIEWED -	DRAWING NO. M2.2
SCALE 1/4"=1'-0	

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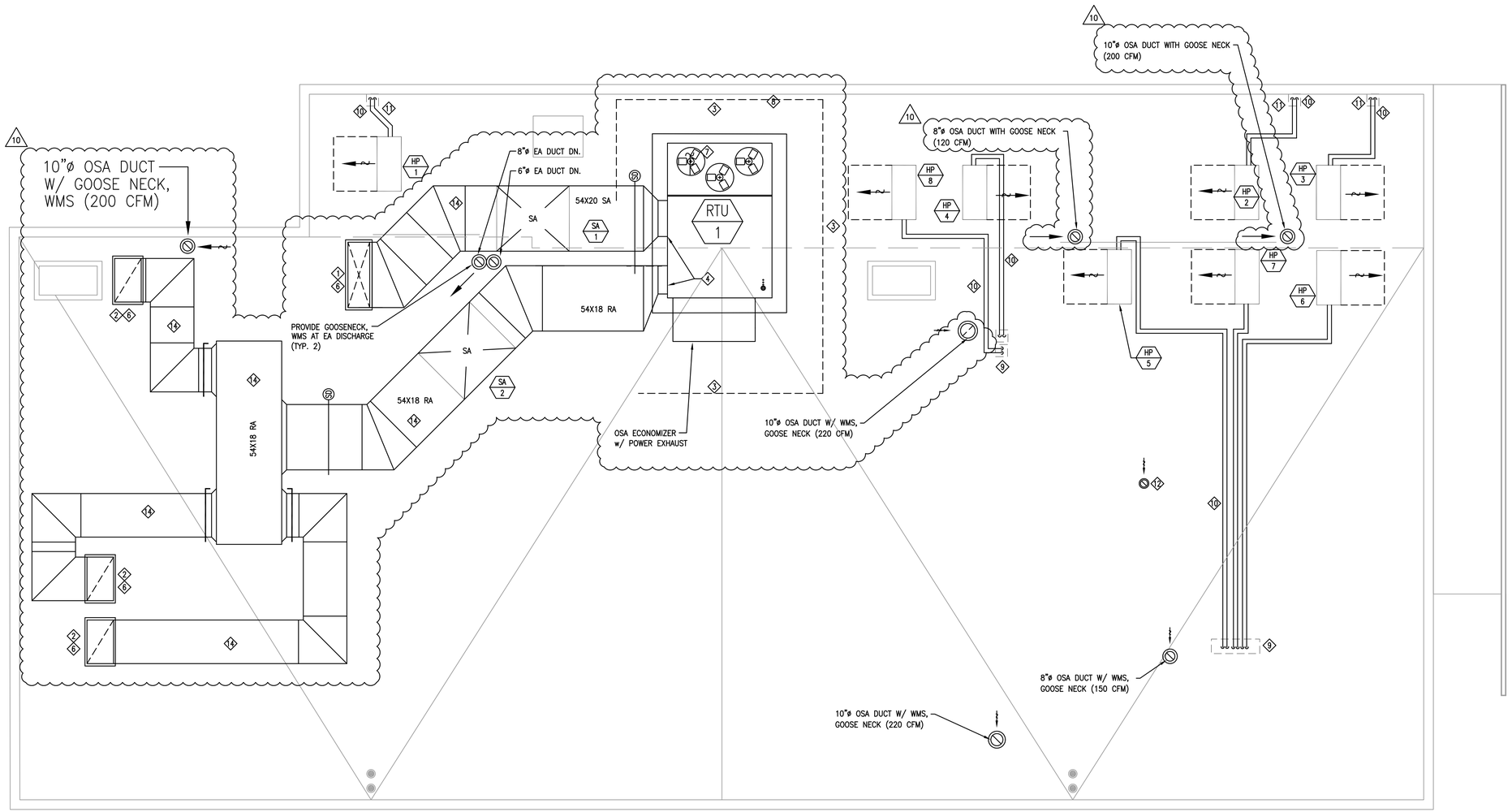

SPECIFIC NOTES:

10
1. 54x20 SA DUCT DOWN TO SECOND FLOOR.
2. 36x22 RA DUCT DOWN TO SECOND FLOOR.
3. SERVICE CLEARANCE REQUIREMENT.
4. PROVIDE FLEXIBLE DUCTS AT THE UNIT DISCHARGE AND RETURN AIR OPENINGS.
5. G.C TO PROVIDE LEVELING CURB AS REQUIRED. THE RTU UNIT IS MOUNTED ON THE MANUFACTURED ISO-CURB WITH SEISMIC RESTRAINT.
6. PROVIDE ROOF OPENING FOR DUCTWORK PENETRATION AND COORDINATE WITH STRUCTURAL.
7. PLUMBING ENGINEER TO ROUTE THE CONDENSATE DRAIN TO AN APPROVED PLUMBING RECEPTOR AND TO PROVIDE GAS CONNECTION AT THE UNIT.
8. COORDINATE WITH ARCHITECT FOR EQUIPMENT SCREENING WALL REQUIREMENT ON ROOF.
9. ROOF OPENING FOR REFRIGERATION LINES AND CONTROL CONDUITS. COORDINATE WITH STRUCTURAL ENGINEER. MECHANICAL CONTRACTOR TO PROVIDE RAIN HOOD OVER OVER THE ROOF CURB PROVIDED BY GC AND SEAL/CAULK THE OPENING WATERTIGHT.
10. REFER TO MANUFACTURER'S DATA FOR REFRIGERATION LINE SIZES AND INSTALL PER MANUFACTURER'S RECOMMENDATION. REFRIGERATION LINES SHALL PROPERLY SECURE TO THE ROOF.
11. ROOF OPENING FOR REFRIGERATION LINES AND CONTROL CONDUITS. COORDINATE WITH STRUCTURAL ENGINEER. MECHANICAL CONTRACTOR TO PROVIDE RAIN HOOD OVER THE ROOF CURB WHICH IS PROVIDED BY GC AND SEAL/CAULK THE OPENING WATERTIGHT.
12. 6"ø OSA DUCT W/ GOOSE NECK, WMS (60 CFM)

10
13. NOT USED
14. PROVIDE 2" LINING FOR ALL EXTERIOR DUCTWORK.

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MECHANICAL ROOF PLAN
DRAWING

DATE	12-805
	PROJECT NO.
DRAWN: -	M2.3
REVIEWED: -	
SCALE: 1/4"=1'-0	

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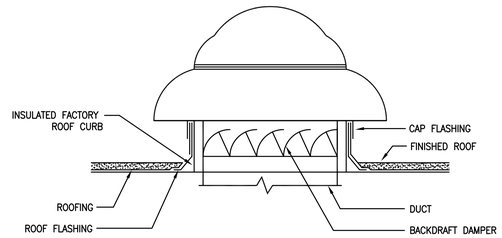
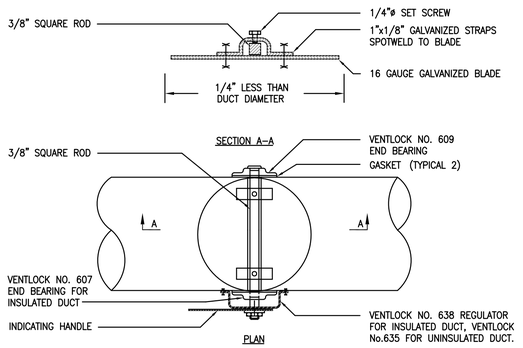
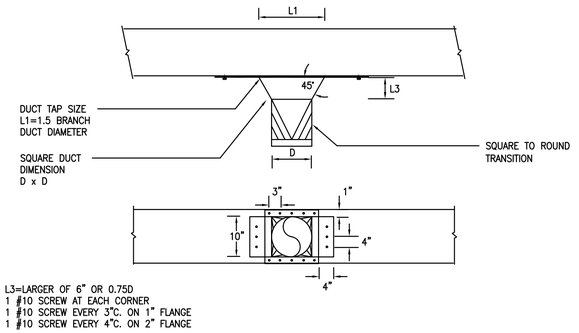


NOTES:
1. DUCT SHALL BE 1" SMALLER THAN ROOF OPENING.
2. ROOF OPENING SHALL CONFORM TO MANUFACTURERS CURB SIZE
3. MINIMUM CURB HEIGHT TO 8"

ROOF MOUNTED EXHAUST FAN DETAIL (9)

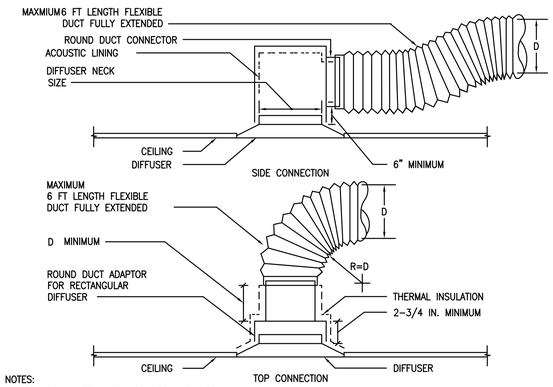


ROUND VOLUME DAMPER UP TO 14"DIA. , LOW PRESSURE (6)



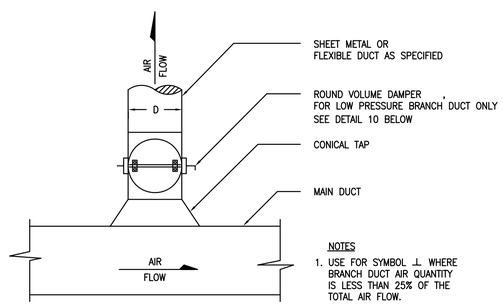
L3=LARGER OF 6" OR 0.75D
1 #10 SCREW AT EACH CORNER
1 #10 SCREW EVERY 3"C. ON 1" FLANGE
1 #10 SCREW EVERY 4"C. ON 2" FLANGE

RECTANGULAR TO ROUND BRANCH TAP (3)



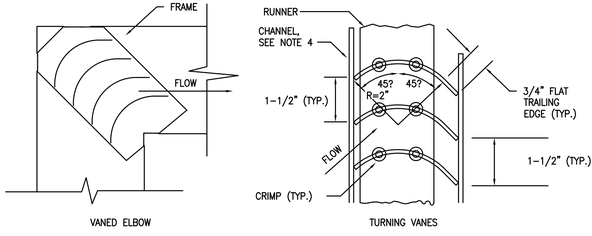
NOTES:
1. FOR USE IN AREAS WITH DROPPED CEILINGS.

DIFFUSER CONNECTION DETAIL (8)



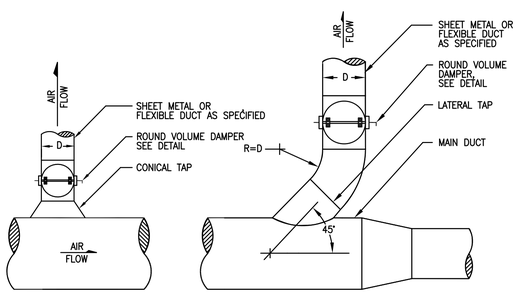
NOTES
1. USE FOR SYMBOL ⊥ WHERE BRANCH DUCT AIR QUANTITY IS LESS THAN 25% OF THE TOTAL AIR FLOW.
2. DEPTH OF MAIN DUCT MUST BE 2" LARGER THAN CONICAL DIAMETER.

CIRCULAR DUCT CONICAL TAP W/ VOLUME DAMPER (5)



NOTES:
1. MAXIMUM UNSUPPORTED VANE LENGTH 36"
2. VANES AND FRAMES – 24 GAUGE
3. DUCT INLET AND OUTLET DIMENSIONS TO BE EQUAL
4. FOR HIGH VELOCITY APPLICATIONS PROVIDE 18 GAUGE CHANNEL AND TACK WELD VANE EDGES TO CHANNEL, TYPICAL BOTH ENDS
5. FRAMES AND CHANNELS – BOLTED OR TACK WELDED TO ELBOW

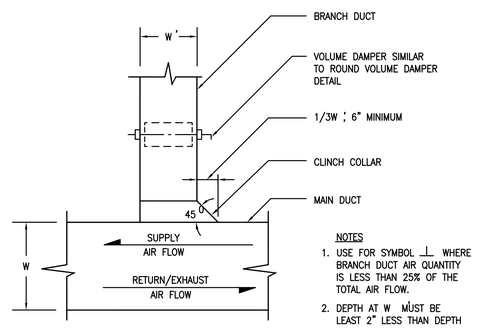
SINGLE–THICKNESS TURNING VANES FOR SQUARE ELBOW (2)



NOTES
1. USE FOR SYMBOL ⊥ WHERE BRANCH DUCT AIR QUANTITY IS LESS THAN 25% OF THE TOTAL AIR FLOW.
2. DEPTH OF MAIN DUCT MUST BE 2" LARGER THAN CONICAL DIAMETER.

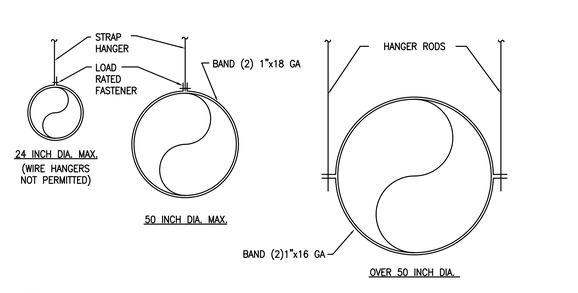
NOTE:
USE FOR SYMBOL ⊥ WHERE BRANCH DUCT IS ROUND FROM ROUND MAIN AND BRANCH DUCT AIR QUANTITY IS 50% OR LESS OF TOTAL AIR FLOW.

CIRCULAR DUCT WITH VOLUME DAMPER (7)



NOTES
1. USE FOR SYMBOL ⊥ WHERE BRANCH DUCT AIR QUANTITY IS LESS THAN 25% OF THE TOTAL AIR FLOW.
2. DEPTH AT W MUST BE LEAST 2" LESS THAN DEPTH AT W.

RECTANGULAR DUCT ANGULAR TAP WITH VOLUME DAMPER (4)



NOTES:
1. FOR HANGER SIZE AND SPACING, SEE SMACNA HVAC DUCT CONSTRUCTION STANDARDS TABLE 4.2
2. FOR UPPER ATTACHMENT TO BUILDING SEE SMACNA HVAC DUCT CONSTRUCTION STANDARDS FIG. 4–1 AND FIG. 4–2, WITH SPECIFIC BUILDING STRUCTURAL ENGINEER APPROVAL.
3. FOR BRACING AND OTHER SEISMIC REQUIREMENTS SEE GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS PUBLISHED BY SMACNA AND PPIC. ALSO REFER TO NATIONAL UNIFORM SEISMIC INSTALLATION GUIDELINES (NUSIG) 1991 AS APPROVED BY OFFICE OF THE CALIFORNIA STATE ARCHITECT 9/25/92.

TYPICAL HORIZONTAL ROUND DUCT SUPPORTS (1)

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				11	DELTA 10		06.06.11

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SANTA MONICA CITY TV
1654 19TH STREET, SANTA MONICA, CA 90404
PROJECT

MECHANICAL DETAILS
DRAWING

STAMP	DATE	PROJECT NO. 12-805
	DRAWN -	
	REVIEWED -	DRAWING NO. M6.0
	SCALE NONE	

studio **bau:ton**
AUDIOVISUAL FACILITIES

ARC engineering
15260 Ventura Blvd. Suite 1520,
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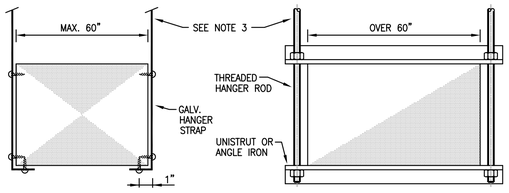
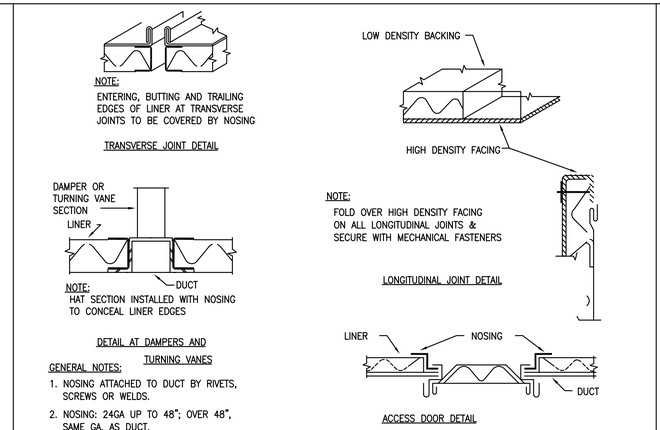


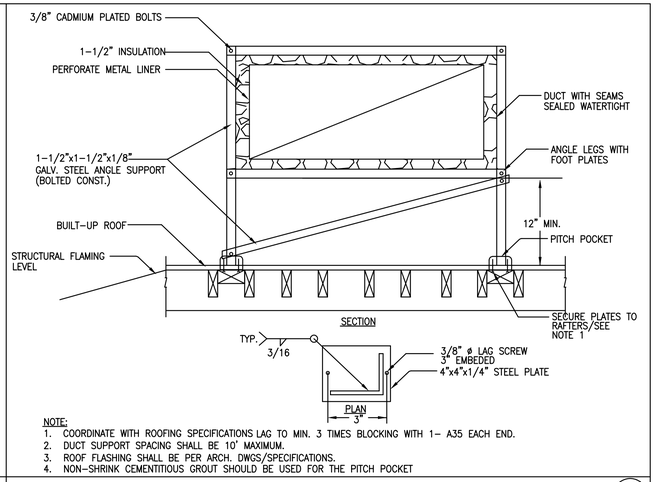
NOTES:
1. ON DUCTS OVER 48" WIDE, BOTTOM SHALL BE BRACED BY ANGLE. FOR CROSS SECTION AREA MORE THAN 8 SQ FT, DUCT SHALL BE BRACED BY ANGLES ON ALL FOUR SIDES.
2. CUTTING AND PATCHING SHALL BE LIMITED TO A MINIMUM AS REQUIRED FOR PROPER INSTALLATION.
3. SUPPORTS SHALL BE SPACED AND SIZED AS PER SMACNA.

DUCT HANGER SUPPORT 9



GENERAL NOTES:
1. NOSING ATTACHED TO DUCT BY RIVETS, SCREWS OR WELDS.
2. NOSING: 24GA UP TO 48"; OVER 48", SAME GA. AS DUCT.

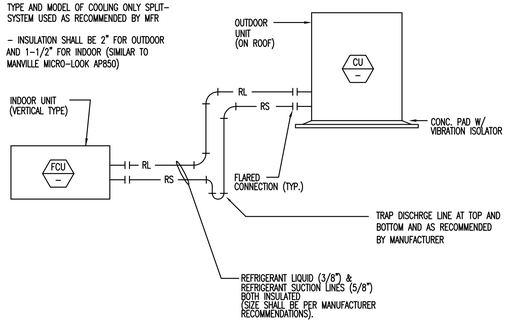
SOUND LINING NOSING DETAIL 6



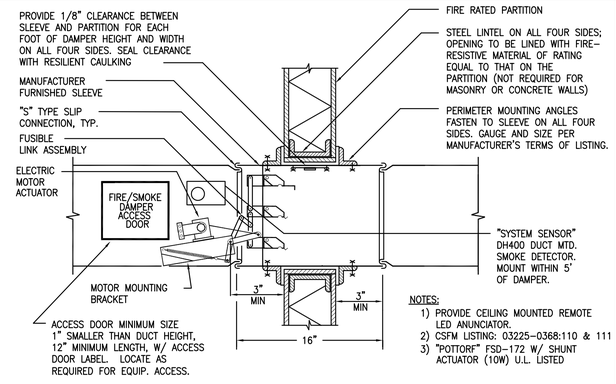
NOTE:
1. COORDINATE WITH ROOFING SPECIFICATIONS LAG TO MIN. 3 TIMES BLOCKING WITH 1- A35 EACH END.
2. DUCT SUPPORT SPACING SHALL BE 10' MAXIMUM.
3. ROOF FLASHING SHALL BE PER ARCH. DWGS/SPECIFICATIONS.
4. NON-SHRINK CEMENTITIOUS GROUT SHOULD BE USED FOR THE PITCH POCKET

SUPPORT FOR ROOF MOUNTED DUCTWORK 3

NOTES:
- REFRIGERANT PIPING HOOK-UP SHALL CONFORM TO REQUIREMENTS OF THE TYPE AND MODEL OF COOLING ONLY SPLIT-SYSTEM USED AS RECOMMENDED BY MFR
- INSULATION SHALL BE 2" FOR OUTDOOR AND 1-1/2" FOR INDOOR (SIMILAR TO MANVILLE MICRO-LOOK AP850)

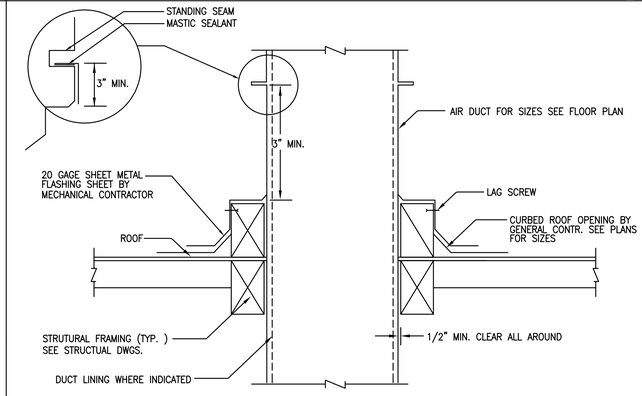


REFRIGERANT PIPING DETAIL 8



NOTES:
1) PROVIDE CEILING MOUNTED REMOTE LED ANUNCIATOR.
2) CSFM LISTING: 03225-0368:110 & 111
3) "POTTORF" FSD-172 W/ SHUNT ACTUATOR (10W) U.L. LISTED

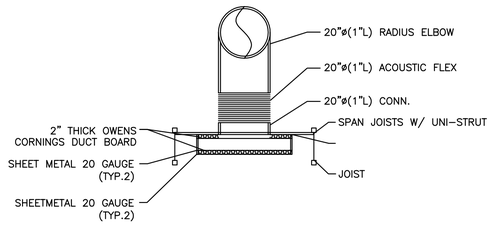
COMBINATION SMOKE/FIRE DAMPER DETAIL 5



NOTE:
1. ROOF FLASHING SHALL BE PER ARCH. DWGS/SPECIFICATIONS. 2. MINIMUM CURB HEIGHT TO 8"

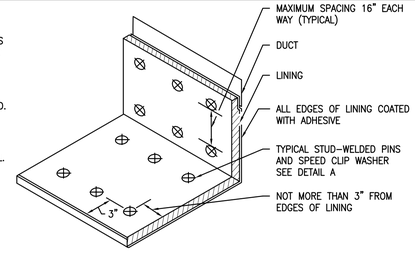
DUCT THRU ROOF 2

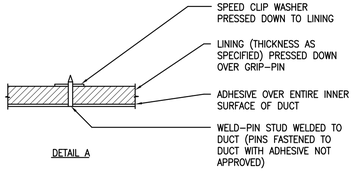
NOT USED 7



PLAQUE DIFFUSER DETAIL 4

NOTES
1. FOR NOSING AT DAMPERS, TURNING VANES, ACCESS DOORS AND EQUIPMENT, SEE ACOUSTIC LINING NOSING DETAIL.
2. LINING EDGES AT TRANSVERSE AND LONGITUDINAL JOINTS SHALL BE COATED AS SPECIFIED.
3. EXPOSED ENTERING AND TRAILING EDGES SIMILAR TO ACCESS DOOR DETAIL. SEE ACOUSTIC LINING NOSING DETAIL.
4. NOT LESS THAN TWO PINS ON EACH FACE OF DUCT.





DETAIL A

ACOUSTIC LINING INSTALLATION DETAIL 1

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1	30% CD	BG	04.27.09	7	ISSUE FOR CONSTRUCTION		08.30.10
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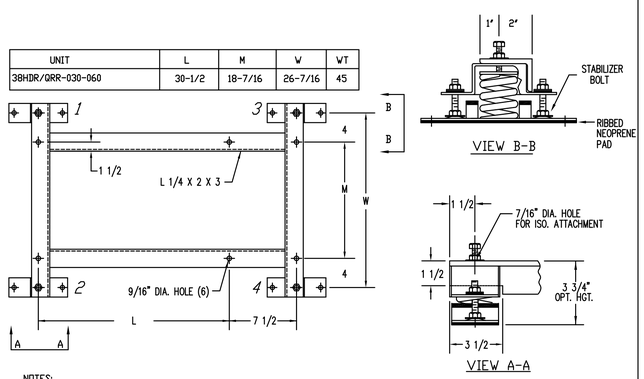
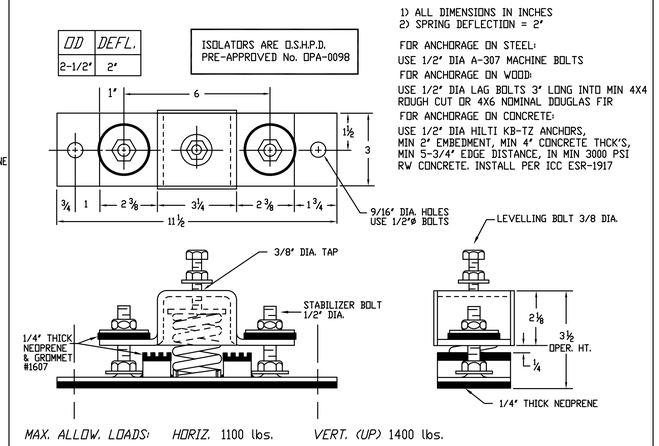
	- REVIEWED	M6.1
	NONE SCALE	DRAWING NO.

NOT USED (9)



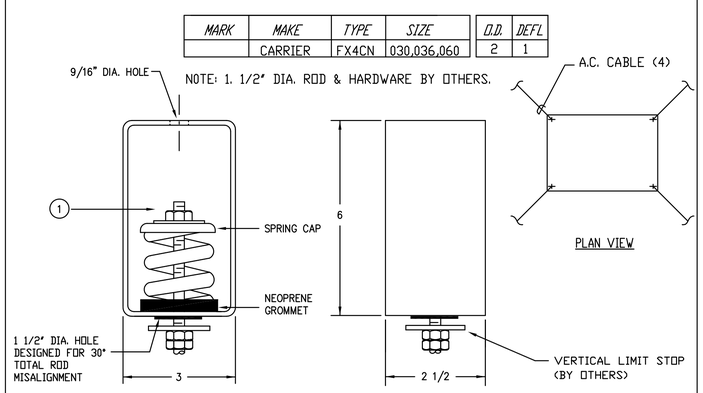
NOTES:
1. APPROX. STEEL WGT: WT LBS.
2. ISOLATORS ARE OSHPD PRE-APPROVED #OPA-0098. FOR DETAILS SEE DETAIL #3 / M6.2

CONDENSING UNIT ISOLATION & ANCHORAGE DETAIL (6)

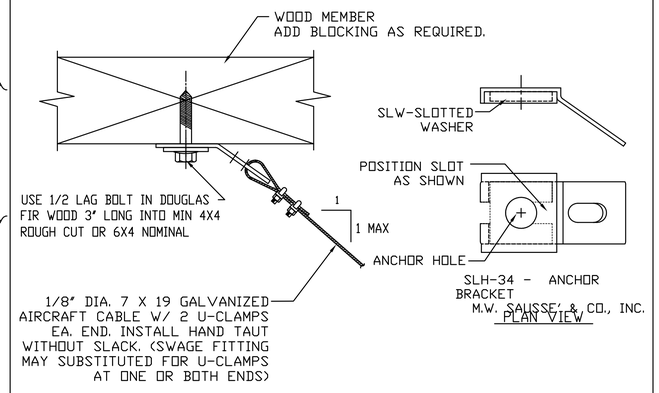


MAX. ALLOW. LOADS: *HORIZ.* 1100 lbs. *VERT. (UP)* 1400 lbs.

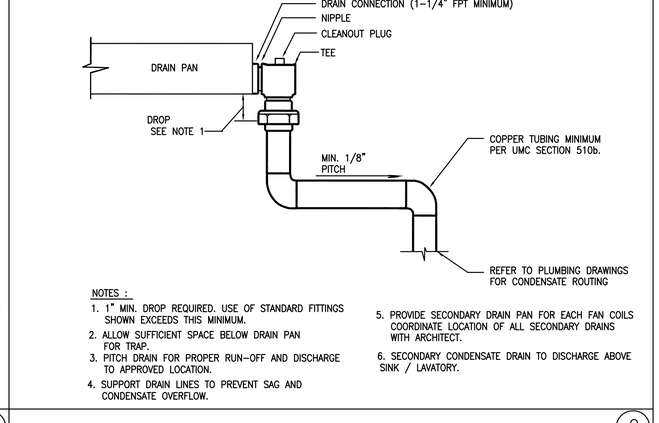
CONDENSING UNIT ISOLATOR DETAIL (3)



VIBRATION ISOLATOR DETAIL (8)



CABLE ANCHORAGE DETAIL (5)



NOTES :
1. 1" MIN. DROP REQUIRED. USE OF STANDARD FITTINGS SHOWN EXCEEDS THIS MINIMUM.
2. ALLOW SUFFICIENT SPACE BELOW DRAIN PAN FOR TRAP.
3. PITCH DRAIN FOR PROPER RUN-OFF AND DISCHARGE TO APPROVED LOCATION.
4. SUPPORT DRAIN LINES TO PREVENT SAG AND CONDENSATE OVERFLOW.
5. PROVIDE SECONDARY DRAIN PAN FOR EACH FAN COILS COORDINATE LOCATION OF ALL SECONDARY DRAINS WITH ARCHITECT.
6. SECONDARY CONDENSATE DRAIN TO DISCHARGE ABOVE SINK / LAVATORY.

SECONDARY DRAIN PAN WATER PIPING (2)

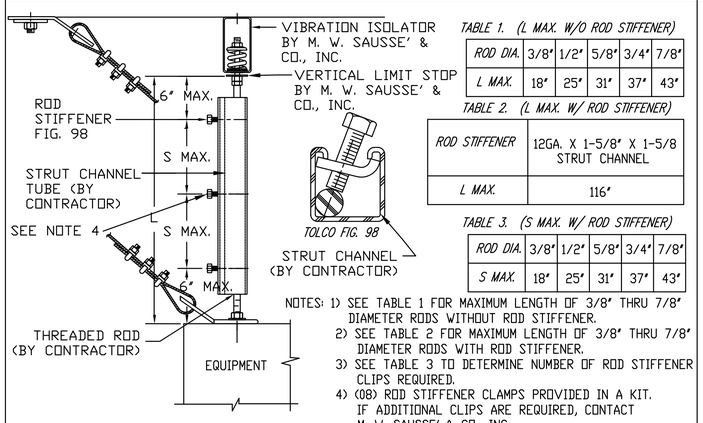


TABLE 1. (L MAX. W/O ROD STIFFENER)

ROD DIA.	3/8"	1/2"	5/8"	3/4"	7/8"
L MAX.	18"	25"	31"	37"	43"

TABLE 2. (L MAX. W/ ROD STIFFENER)

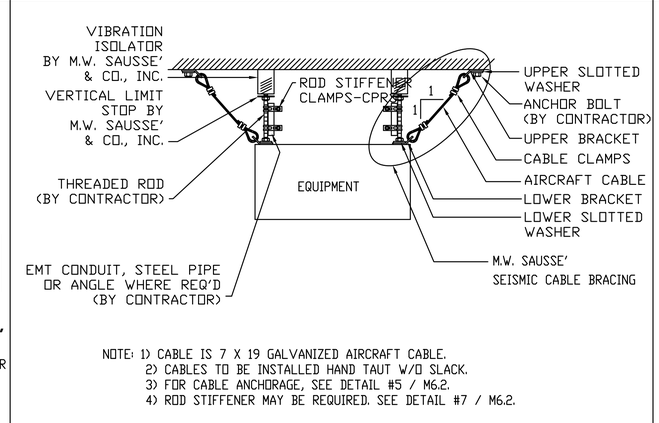
ROD STIFFENER	12GA. X 1-5/8" X 1-5/8 STRUT CHANNEL
L MAX.	116"

TABLE 3. (S MAX. W/ ROD STIFFENER)

ROD DIA.	3/8"	1/2"	5/8"	3/4"	7/8"
S MAX.	18"	25"	31"	37"	43"

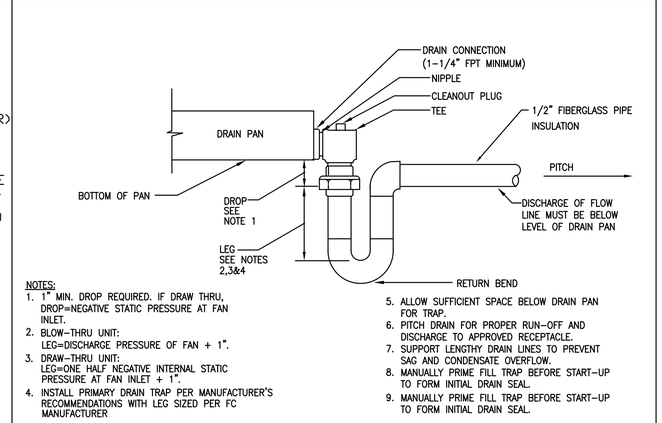
NOTES: 1) SEE TABLE 1 FOR MAXIMUM LENGTH OF 3/8" THRU 7/8" DIAMETER RODS WITHOUT ROD STIFFENER.
2) SEE TABLE 2 FOR MAXIMUM LENGTH OF 3/8" THRU 7/8" DIAMETER RODS WITH ROD STIFFENER.
3) SEE TABLE 3 TO DETERMINE NUMBER OF ROD STIFFENER CLIPS REQUIRED.
4) (08) ROD STIFFENER CLAMPS PROVIDED IN A KIT. IF ADDITIONAL CLIPS ARE REQUIRED, CONTACT M. W. SAUSSE' & CO., INC.

ROD STIFFENER REQUIREMENTS FOR EQUIPMENT CABLE BRACING (7)



NOTE: 1) CABLE IS 7 X 19 GALVANIZED AIRCRAFT CABLE.
2) CABLES TO BE INSTALLED HAND TAUT W/O SLACK.
3) FOR CABLE ANCHORAGE, SEE DETAIL #5 / M6.2.
4) ROD STIFFENER MAY BE REQUIRED. SEE DETAIL #7 / M6.2.

TYPICAL EQUIPMENT CABLE BRACING SYSTEM (4)



NOTES:
1. 1" MIN. DROP REQUIRED. IF DRAW THRU, DROP=NEGATIVE STATIC PRESSURE AT FAN INLET.
2. BLOW-THRU UNIT: LEG=DISCHARGE PRESSURE OF FAN + 1".
3. DRAW-THRU UNIT: LEG=ONE HALF NEGATIVE INTERNAL STATIC PRESSURE AT FAN INLET + 1".
4. INSTALL PRIMARY DRAIN TRAP PER MANUFACTURER'S RECOMMENDATIONS WITH LEG SIZED PER FC MANUFACTURER
5. ALLOW SUFFICIENT SPACE BELOW DRAIN PAN FOR TRAP.
6. PITCH DRAIN FOR PROPER RUN-OFF AND DISCHARGE TO APPROVED RECEPTACLE.
7. SUPPORT LENGTHY DRAIN LINES TO PREVENT SAG AND CONDENSATE OVERFLOW.
8. MANUALLY PRIME FILL TRAP BEFORE START-UP TO FORM INITIAL DRAIN SEAL.
9. MANUALLY PRIME FILL TRAP BEFORE START-UP TO FORM INITIAL DRAIN SEAL.

DRAIN PAN WATER SEAL PIPING DETAIL (1)

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M6.2
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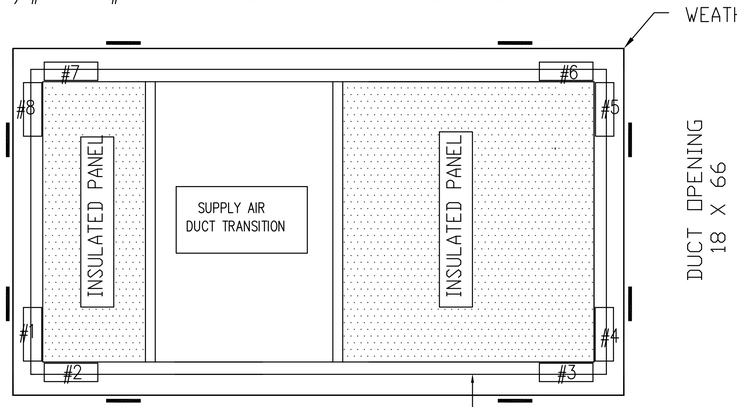
MARK	MAKE	TYPE	SIZE	VIC-EQ WT.
RTU-1	CARRIER	50HJQ	015	650 #

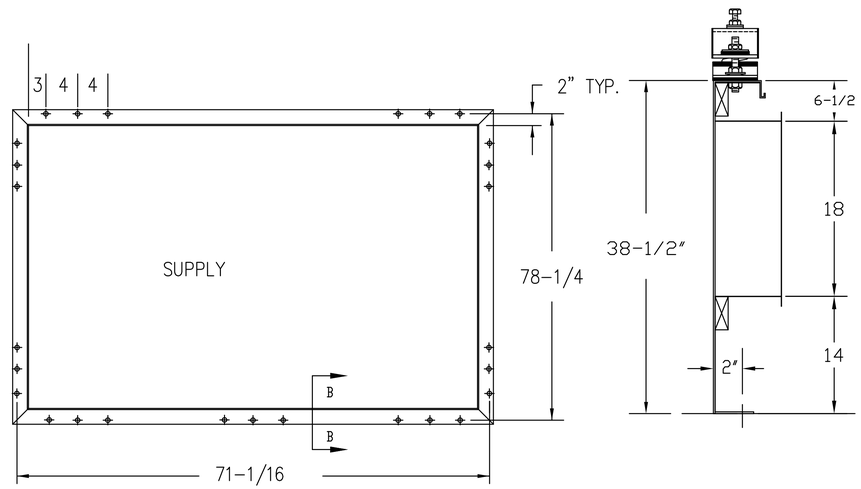
NOTES:

1) ▬ INDICATES SEISMIC TIE-DOWN PLATE.
(2) REQUIRED PER SIDE, SEE DETAIL 2.

2) #1 THRU #8 INDICATE ISOLATOR LOCATIONS. SEE DETAIL 2.



VIC-EQ TOP SECTION



BOTTOM SECTION FOOTPRINTS

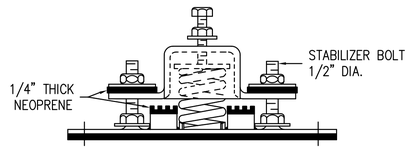
SECTION B-B

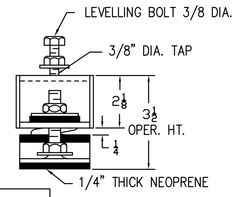
NOTES:

1. DIMENSIONS ARE CENTERLINES OF ANCHOR HOLES IN CURB BOTTOM FLANGE.
2. FOR ANCHORAGE, USE 3/8" DIA. LAG BOLTS 3" LONG INTO MIN 4X4 DOUGLAS FIR

RTU ANCHORAGE DETAIL (3)

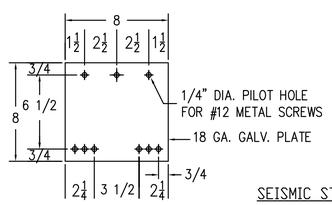
NOTES: 1) ALL DIMENSIONS IN INCHES
2) SPRING DEFLECTION = 2"



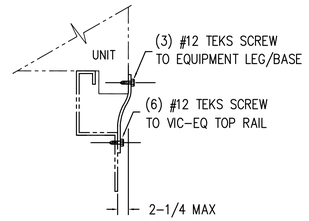


RMU-EQ-SH

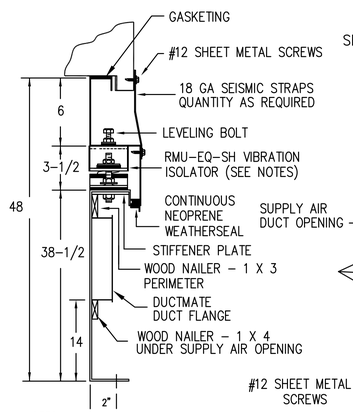
O.S.H.P.D. PRE-APPROVAL # OPA-0098

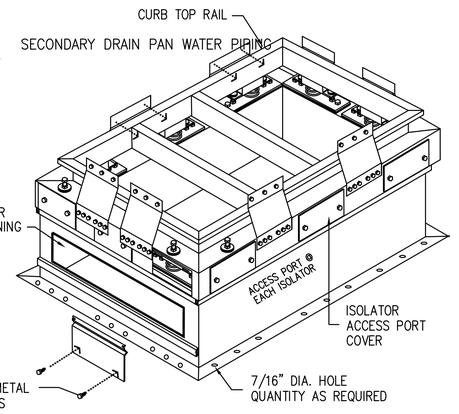


SEISMIC STRAP



RTU ISOLATOR DETAIL (2)





NOTES:

1. FOR ANCHOR REQUIREMENTS AND DETAILS OF ISOLATORS AND SEISMIC STRAPS, SEE DETAIL #2, #3 / M6.3.
2. WHEN REQUESTED, CURBS CAN BE PITCHED TO MATCH ROOF SLOPE

RTU ROOF CURB, ANCHORAGE & ISOLATION DETAIL (1)

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