

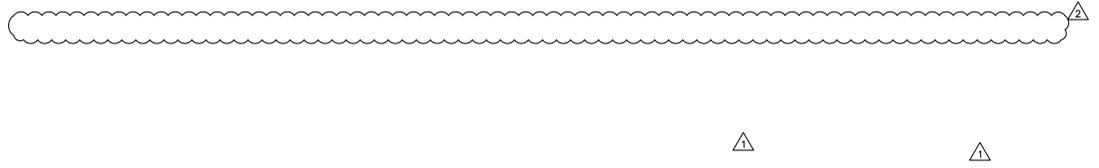
AIR COOLED CHILLER PLANT SCHEDULE	
MANUFACTURER	AAON
CHILLER PLANT NO.	CP-1
CHILLER CAPACITY (TONS)	75
ENTERING CHILLED WATER TEMP. (F.)	55
LEAVING CHILLED WATER TEMP. (F.)	44
CHILLED WATER FLOW (GPM)	151
MAXIMUM CHILLED WATER PRESSURE DROP (F)	40
EVAPORATOR WATER SIDE FOULING FACTOR	0.00001
MODEL NUMBER	LL-075-8-0-DADA-CTKF
REFRIGERANT	R410A
MAXIMUM KW/TON AT DESIGN CONDITIONS	1.21
EER	11.81
ELECTRICAL SERVICES (Volts/Phase)	208/3/60
BLDG. PUMP SIZE (3.0 HP)	4382 3x3x8
PUMP HEAD (FT.)	40
CHILLER COMPRESSION TANK SIZE	AX-80V
RECIR. PUMP SIZE (1.0) HP	4382 4x4x6
OPER. WT.	13,800
REMARKS	1, 2, 3

AAON IS THE MANUFACTURER BASIS OF DESIGN, OR APPROVED EQUAL.

- CAPACITY AT 100 DEG F AMBIENT
- UNIT SHALL BE FURNISHED WITH FACTORY PRIMARY/SECONDARY PUMPING SYSTEM, DUAL ARM 2000 BUILDING PUMP WITH (2) VFD'S, BACK WATER CONNECTION, CHILLER THERMOMETER & PRESSURE GAUGES PLUS AIR SEPARATOR, LOW AMBIENT ON ONE REFRIGERATION CIRCUIT, DUAL ARM RECIRCULATING PUMP, FACTORY WIRED 115V OUTLET, COMPRESSOR ISOLATION VALVES, AAON DDC CONTROLLER, DIAGNOSTICS AND BACNET CONNECTION, AX-80V CHILLER COMPRESSION TANK (SIZED GALLONS), VESTIBULE COLLING FAN COIL, ALL FUSING IN ELECTRICAL CABINET, MAKEUP WATER CONNECTION AND DRAIN (NOTE: CONTRACTOR SHALL PROVIDE CLOSED CELL INSULATION ON CHILLER REFRIGERATION COMPONENTS AFTER CHILLER DELIVERY)
- MECHANICAL CONTRACTOR TO PROVIDE PIPING INSULATION IN ALL THE PIPES INTERNAL TO THE CHILLER PLANT AND CHEMICAL PT FEEDER AS PER SPECIFICATIONS.
- PROVIDE FLOOR SUPPORT BOLTS AT 12" O.C.
- (2) COMPRESSORS @ 62.1 RL/AEA
(2) COMPRESSORS @ 99.3 RL/AEA
(4) 3 HP COND FANS @ 10.6 FLA/AEA
(1) 3 HP BLDG. PUMP @ 10.6 FLA
(1) 1 HP CHILLER RECIRC PUMP @ 4.0 FLA
FLA = 312
MCA = 408
MOCP = 500

(NOTE: CONTROLS 120 V/10 CIRCUIT IS INTEGRAL TO UNIT - NO SEPARATE 120V/10 CIRCUIT REQUIRED)

- PROVIDE MANUAL SHOT FEEDER.



ROOFTOP UNIT SCHEDULE																			
MARK	MANUFACTURER	LOCATION	TOTAL AIR CFM	O.A. CFM	EXT. SP (INCHES)	TOTAL SP (INCHES)	MOTOR HP	VOLTS	PHASE	HERTZ	COOLING					REMARKS			
											COIL CFM	SENSIBLE MBH	TOTAL MBH	MIN. ROWS	GPM		EW/LWT F'	MIN. FACE AREA SQFT.	EAT DB/WB
RTU-1	TEMPTRON	1st FLOOR	5099	350	2.75	3.18	7.5	208	3	60	5099	125.3	148.9	6	30	45/55	11.1	75.9/62.6	1,2,3,4,5,6,7,8,9
RTU-2	TEMPTRON	1st FLOOR	6854	800	2.75	3.18	10	208	3	60	6854	171	208	6	41.5	45/55	13.8	76.4/63.1	1,2,3,4,5,6,7,8,9
RTU-3	TEMPTRON	2nd FLOOR	6932	950	2.25	2.68	7.5	208	3	60	6932	174.1	213.3	6	42.5	45/55	14.1	76.5/63.2	1,2,3,4,5,6,7,8,9
RTU-4	TEMPTRON	2nd FLOOR	6950	745	2.25	2.68	7.5	208	3	60	6950	174.1	213.3	6	42.5	45/55	14.1	76.5/63.2	1,2,3,4,5,6,7,8,9

NOTES:
Temptron is the manufacturer basis of design, or approved equal.

- Units to be furnished with plug fan and inverter duty motor.
- Variable Frequency Drives provided and installed by Unit manufacturer. Provide VFD cabinet, with access to exterior of the unit.
- Units to be furnished with 3" double wall construction. Outer panel to be constructed of 16ga galvanized steel, painted.
- Units to be furnished with 20ga solid inner liner.
- Units to be furnished with Stainless Steel drain pans.
- Units to have access doors in filter section, coil section, and fan section. Any access section with opening in floor shall be provided with grating over opening.
- Units to be furnished with 100W guarded marine lights in all access sections.
- Not Used
- Units to be provided with motorized modulating dampers.

AIR DEVICE SCHEDULE						
MARK	MODEL	FACE SIZE	DESCRIPTION	CFM RANGE	REFERENCE	NOTES
A1	TMS-AA	24"x24"	CEILING DIFFUSER	LISTED ON SHEETS MH1.1 & MH1.2	TITUS	1,2,3,4,8,9
A2	272FS	12"x8"	SIDEWALL SUPPLY	LISTED ON SHEETS MH1.1 & MH1.2	TITUS	1,2,3,6,7,8,9
A3	272FS	12"x6"	SIDEWALL SUPPLY	LISTED ON SHEETS MH1.1 & MH1.2	TITUS	1,2,3,6,7,8,9
A4	272FS	8"x8"	SIDEWALL SUPPLY	LISTED ON SHEETS MH1.1 & MH1.2	TITUS	1,2,3,6,7,8,9
A5	272FS	18"x8"	SIDEWALL SUPPLY	LISTED ON SHEETS MH1.1 & MH1.2	TITUS	1,2,3,6,7,8,9
R1	50F	24"x24"	RETURN GRILLE	LISTED ON SHEETS MH1.1 & MH1.2	TITUS	1,2,3,5,8,9
R2	50F	12"x12"	RETURN GRILLE	LISTED ON SHEETS MH1.1 & MH1.2	TITUS	1,2,3,5,8,9
E1	50F	12"x12"	EXHAUST GRILLE	LISTED ON SHEETS MH1.1 & MH1.2	TITUS	1,2,3,5,8,9

TITUS IS THE MANUFACTURER BASIS OF DESIGN, OR APPROVED EQUAL.

- REFER TO FLOOR PLAN DRAWING FOR AIR PATTERN.
- COLOR PER ARCHITECT.
- ALUMINUM CONSTRUCTION.
- PANEL FACE WITH ROUND NECK, FOR T-BAR CEILING INSTALLATION.
- PANEL FACE WITH SQUARE NECK, FOR T-BAR CEILING INSTALLATION.
- DOUBLE DEFLECTION.
- SURFACE MOUNT.
- REFER TO FLOOR PLAN DRAWING FOR CFM & NECK SIZE.
- RANGE BASED ON NOISE CRITERIA LEVEL 20-30

EXHAUST FAN SCHEDULE											
MARK	TYPE	CFM	ESP	HR	VOLTS	PHASE	CONES	MANUFACTURER	MODEL	OPER. WT.	NOTES
EF-1	ROOF MOUNTED	550	0.5	1/4	115/60/1	7	GREENHECK	GB-141-HP-4	90 LBS	1,2,3,4,5,6,7	
EF-2	ROOF MOUNTED	400	0.5	1/4	115/60/1	7	GREENHECK	GB-141-HP-4	70 LBS	1,2,3,4,5,6,7	
EF-3	ROOF MOUNTED	350	0.5	1/4	115/60/1	7	GREENHECK	GB-141-HP-4	60 LBS	1,2,3,4,5,6,7	
EF-4	ROOF MOUNTED	310	0.25	1/4	115/60/1	3.5	GREENHECK	GB-101-4	70 LBS	1,2,3,4,5,6,7	

GREENHECK IS THE MANUFACTURER BASIS OF DESIGN, OR APPROVED EQUAL.

- PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR.
- THERMAL OVERLOAD PROTECTIVE DEVICE FURNISHED & INSTALLED BY ELECTRICAL CONTRACTOR
- ROOF CURBS SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. FAN SHALL SIT LEVEL.
- FAN TO BE SECURELY FASTENED TO CURB IN ACCORDANCE WITH ALL APPLICABLE WIND RATING STANDARDS.
- PROVIDE BIRD SCREEN WITH FAN.
- WEATHERPROOF DISCONNECTS SHALL BE FURNISHED & INSTALLED BY ELECTRICAL.
- MAINTAIN 10" CLEARANCE BETWEEN EXHAUST FAN AND ANY OUTSIDE AIR INTAKE OF ROOFTOP UNIT.
- INTERLOCK WITH 7-DAY TIME CLOCK.

PACKAGED BOILER PLANT SCHEDULE	
MANUFACTURER	AAON
BOILER PLANT NO.	BP-1
BOILER CAPACITY (MBH)	450
ENTERING HOT WATER TEMP. (F.)	140
LEAVING HOT WATER TEMP. (F.)	160
HOT WATER FLOW (GPM)	45
MAXIMUM HOT WATER PRESSURE DROP (FT.)	40
UNIT CONSTRUCTION	2" PAINTED PANELS
MODEL NUMBER	BL-050-B-0-000-A1A
GAS LINE SIZE (IN)	1.5
TOTAL INPUT (MBH)	500
WATER CONNECTION SIZE (IN)	2
ELECTRICAL SERVICES (Volts/Phase)	208/3/60
BLDG. PUMP SIZE (2.0 HP)	4382 3x3x8
PUMP HEAD (FT.)	40
BOILER COMPRESSION TANK SIZE	AX-15V
SAFETY OPTION	JL/FM/CSD-1 CERTIFIED
OPER. WT.	8,000
REMARKS	1,2
UNIT MOCP	20

UNIT DESIGNED FOR OUTDOOR INSTALLATION
AAON IS THE MANUFACTURER BASIS OF DESIGN, OR APPROVED EQUAL.

- UNIT SHALL BE FURNISHED WITH FACTORY CONSTANT FLOW PUMPING SYSTEM, DUAL ARM BUILDING PUMP WITH (2) VFD'S, BACK WATER CONNECTION, BOILER THERMOMETER & PRESSURE GAUGES, FACTORY WIRED 115V OUTLET, AAON DDC CONTROLLER, DIAGNOSTICS AND BACNET CONNECTION, AX-80V BOILER COMPRESSION TANK (SIZED FOR 160 GALLONS), ALL FUSING IN ELECTRICAL CABINET, MAKEUP WATER CONNECTION AND DRAIN.
- MECHANICAL CONTRACTOR TO PROVIDE INSULATION IN ALL THE PIPES INTERNAL TO THE BOILER PLANT AS PER PIPING INSULATION SPECIFICATIONS.
- THE BOILER PLANT AS PER PIPING INSULATION SPECIFICATIONS.
- PROVIDE FLOOR SUPPORT BOLTS AT 12" O.C.
- PROVIDE MANUAL SHOT FEEDER.

ELECTRIC HEATER SCHEDULE									
MARK	TYPE	MAX. BTUH	CFM	WATTS	MAX. AMPS.	VOLT/PH/Hz	MANUFACTURER	MODEL	NOTES
EH-1	WALL MOUNTED	5120	100	1500	12.5	120/1/60	MARKEL	E305ST2DWB	1,2,3,4

EQUIVALENT MANUFACTURER: OR APPROVED EQUAL.

- PROVIDE 4" SURFACE MOUNT FRAME FOR WALL INSTALLATION.
- PROVIDED WITH TAMPERPROOF BUILT-IN DOUBLE POLE THERMOSTAT.
- DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR
- PROVIDED WITH AN INTEGRAL GRILLE.

AMENDMENT NO.	DATE
AS1#2	04/04/11
AS1#3	04/04/11

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Approved: Chief, IT	Approved: Chief, M & O	Approved: Chief, Police
Approved: Chief, Safety	Approved: Chief	Approved: Chief

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Drawing Title

MECHANICAL SCHEDULES

Approved: Project Director

Project Title

POLYTRAUMA TRANSITIONAL HOUSING

Location
Audie L. Murphy Memorial Veterans Hospital
San Antonio, Texas

Date
28 JULY 2010

Checked
Drawn

Project Number

671-237

Building Number

1

Drawing Number

MH3.1

Dwg. 6 of 10

Office of Facilities Management

Department of Veterans Affairs

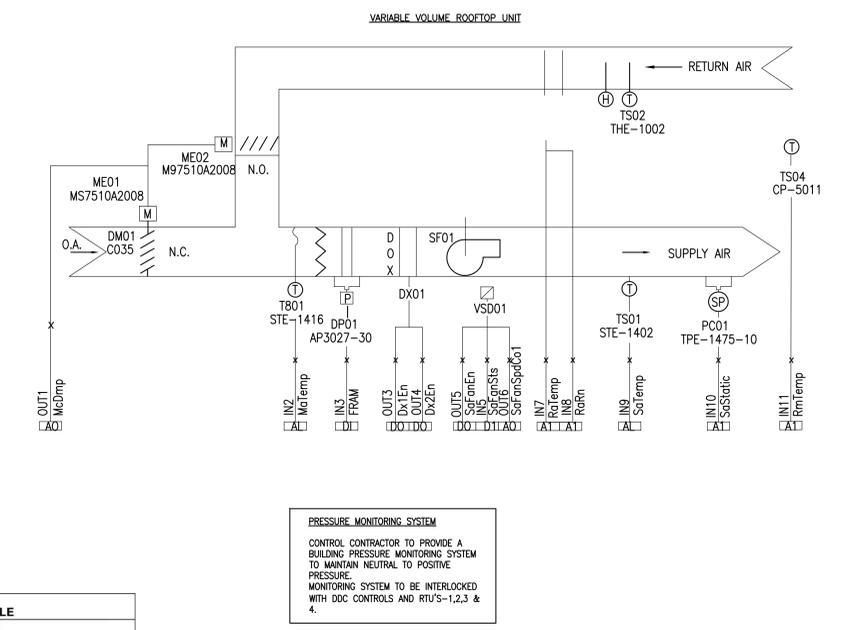
VAV SEQUENCE OF OPERATION (TYPICAL FOR RTU-1,2,3,4)

THE SUPPLY FAN WILL BE COMMANDED ON BASED ON THE BAS SCHEDULE. THE FAN WILL BE INHIBITED FROM RUNNING WHENEVER ANY OF THE SAFETIES ARE IN ALARM.

THE SUPPLY STATIC PRESSURE CONTROL PID WILL MODULATE THE SUPPLY FAN SPEED TO MAINTAIN THE STATIC SET POINT (ADJ). THE CONTROL WILL BE ENABLED WHENEVER THE SUPPLY FAN STATUS IS ON. WHEN THE SUPPLY FAN STATUS IS OFF AND THE SUPPLY FAN COMMAND IS ON, THE SIGNAL WILL BE SET TO MINIMUM SPEED.

THEN DAMPERS WILL BE ENABLED TO OPERATE WHENEVER THE SUPPLY FAN STATUS IS ON. WHEN THE MOTORIZED MODULATING DAMPER IS DISABLED THE DAMPERS WILL BE CONTROLLED BASED ON THE DAMPER MINIMUM POSITION. THE MIXED AIR LOW LIMIT PID WILL OVERRIDE THE DAMPER SIGNAL AND CLOSE THE MIXED AIR DAMPERS IF THE MIXED AIR TEMPERATURE FALLS BELOW 45F (ADJ). THE OUTSIDE AIR DAMPER WILL BE CLOSED WHEN THE SUPPLY FAN STATUS IS OFF.

THE COOLING WILL BE ENABLED WHENEVER THE SUPPLY FAN STATUS IS ON AND THE OUTSIDE AIR TEMPERATURE IS GREATER THAN 35F (ADJ). THE STAGES OF COOLING WILL BE CYCLED TO MAINTAIN THE ROOM TEMPERATURE SET POINT OF THE WARMEST ROOM. THE DISCHARGE AIR SENSOR WILL ACT AS A LOW LIMIT SENSOR WHICH WILL CYCLE THE COOLING OFF WHEN THE DISCHARGE AIR DROPS BELOW THE LOW LIMIT SET POINT 45F (ADJ).



PRESSURE MONITORING SYSTEM

CONTROL CONTRACTOR TO PROVIDE A BUILDING PRESSURE MONITORING SYSTEM TO MAINTAIN NEUTRAL TO POSITIVE PRESSURE. MONITORING SYSTEM TO BE INTERLOCKED WITH DDC CONTROLS AND RTU'S-1,2,3 & 4.

RECORD DRAWINGS

DATE: NOVEMBER 16, 2012

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one and one half inches = one foot
three quarters inch = one foot
one inch = one foot
three eighths inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot