HVAC DESIGN DATA

DESIGN CONDITIONS	SUMMER					WINTER				
	TEMP		WET BULB TEMP		% HUMIDITY	TEMP		DEWPOINT TEMP		% HUMIDITY
	°F	[°C]	°F	[°C]		°F	[°C]	°F	[°C]	
OUTDOOR DESIGN CONDITIONS	92.3	[34]	66.9	[19]	27	35.7	[2]	41	[5]	NA
INDOOR AREA DESIGN CONDITIONS										
OPERATING ROOMS	66	[19]	56	[13]	55	75	[24]	31.2	[-]	20
CARDIAC CATHETERIZATION	66	[19]	56	[13]	55	75	[24]	31.2	[-]	20
SCRUB AND GOWN	72	[22]	60	[16]	50	72	[22]	29	[-2]	20
CONTROLS AND COMM CENTER	75	[24]	62	[17]	50	70	[21]	27	[-3]	20
ANESTHESIA WORKROOM	75	[24]	62	[17]	50	70	[21]	27	[-3]	20
LOCKER ROOM (W/O TOLIETS)	75	[24]	62	[17]	50	70	[21]	27	[-3]	20
SEMI-RESTRICTED CORRIDOR	75	[24]	62	[17]	50	70	[21]	27	[-3]	20

INTEGRATED CEILING

MARK	LOCATION	AREA SERVED	SYSTEM AND/OR SERVICE	TYPE	AIR FLOW				MAX APD		MAX VEL	MOUNTING	PANEL/FRAME SIZE			NC	MERV RATING	REMARKS
					MIN		MAX						#	IN x IN	[mm x mm]			
					CFM	[L/s]	CFM	[L/s]	IN WG	[Pa]	FPM							
100-IC1	HYBRID OR	2 CARDIO	AHU-6A	LAMINAR FLOW	1835	[870]	3670	[1700]	0.40	[100]	35	CEILING	6	53 x 53	[1346 x 1346]	40	N/A	HUNTAIR CLEANSUITE
											35	CEILING	4	26.6 x 53	[675 x 1346]	40	N/A	
											35	CEILING	4	26.6 x 26.6	[675 x 675]	40	N/A	
100-IC2	CATH LAB	2 CARDIO	AHU-6A	LAMINAR FLOW	1180	[560]	2355	[1100]	0.40	[100]	35	CEILING	6	53 x 53	[1346 x 1346]	40	N/A	HUNTAIR CLEANSUITE
											35	CEILING	4	26.6 x 53	[675 x 1346]	40	N/A	
											35	CEILING	4	26.6 x 26.6	[675 x 675]	40	N/A	

NOTE

1. AIR VELOCITY TO BE 40 FPM AT 4FT AFF.
2. MAX APD INCLUDES APD THRU CEILING UNIT. NO HEPA FILTERS INCLUDED IN CEILING UNIT.

AIR HANDLING UNIT SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	TYPE	AIR FLOW	AIR FLOW						SUPPLY FAN MARK	RETURN OR RELIEF FAN MARK	EXHAUST FAN MARK	PREFILTER MARK	AFTER FILTER MARK	FINAL FILTER MARK	HEAT RECOVERY MARK	PREHEAT COIL MARK	COOLING COIL MARK	REHEAT COIL	HUMIDIFIER MARK	REMARKS
					SUPPLY		MIN OA		EXHAUST													
					CFM	[L/s]	CFM	[L/s]	CFM	[L/s]												
100-AHU6A	B100 ROOF	2 CARDIO	FANWALL	VAV	11000	[5200]	11000	[5200]	11000	NA	100-SF6A1,2	NA	100-EF6A1,2	100-PF6A1, 2	100-AF6A	100-FF1	100-ERC6A1,2	100-PHC6A	100-CWCC6A	AT TU	100-SH6A	1, 2

NOTE

1. 100% OUTSIDE AIR, OPERATING WEIGHT OR 34,000 LBS.
2. PROVIDE SINGLE POINT POWER. SEE FAN SCHEDULE FOR MOTOR SIZING. PROVIDE WITH EMERGENCY POWER.
3. BOTTOM OF INTAKE TO BE MIN 38" ABOVE BOTTOM OF AHU TUBE STEEL.

STEAM HUMIDIFER SCHEDULE

MARK	LOCATION	SYSTEM AND/OR SEVICE	HUMIDIFIER TYPE	AIR FLOW		# OF MANIFOLDS	EAT Db		SOURCE	STEAM				CONTROL TYPE	TRAP			REMARKS
										PRESS ENT VALVE		FLOW			MARK	CAPACITY		
				CFM	[L/s]		°F	[°C]		PSIG	[kPa]	LBS/HR	[kg/HR]			LBS/HR	[kg/HR]	
100-SH6A	100-AHU-6A	100-AHU-6A	AHU-MOUNTED DISPERSION TUBE	11000	[5200]	1	35.7	[2]	100-SSHX6A	15	[100]	368	[170]	2-POSITION	100-ST1	1600	[730]	TEMTROL

BUILDING - STEAM PRESSURE REDUCING VALVE SCHEDULE

MARK	LOCATION	SYSTEM AND/OR SERVICE	QUANTITY	REQUIRED CAPACITY		MAX FLOW WIDE OPEN VALVE		PRESSURE				REMARKS
								IN		OUT		
				LBS/HR	[kg/HR]	LBS/HR	[kg/HR]	PSIG	[kPa]	PSIG	[kPa]	
100-SPRV1	B100 ROOF	AHU-6A	1	368	[170]	460	[210]	30	[210]	15	[100]	B&G MODEL 2100 1" FULL PORT, PROVIDE WITH SPS-30 REGULATOR

BUILDING - STEAM TRAP SCHEDULE

MARK	LOCATION	SYSTEM AND/OR SERVICE	CAPACITY AT MIN DIFF PRESS		MIN DIFF PRESS		MIN INLET PRESS		TRAP TYPE	TRAP SIZE		REMARKS
			LBS/HR	[kg/HR]	PSI	[kPa]	PSI	[kPa]		IN	[mm]	
100-ST1	B100 ROOF	AHU-6A HUM DISP TUBE	1600	[730]	13	[90]	15	[100]	FLOAT THERMOSTATIC	0.75	[19]	B&G FT015H
100-ST2	B100 ROOF	PREHEAT COIL	1900	[860]	28	[190]	30	[210]	FLOAT THERMOSTATIC	0.75	[19]	B&G FT030H
100-ST3	4TH FL	MPS DRIP LEG	2400	[1100]	28	[190]	30	[210]	INVERTED BUCKET	0.75	[19]	B&G B2030B-3
100-ST4	B100 ROOF	SSHX6A	1600	[730]	13	[90]	15	[100]	FLOAT THERMOSTATIC	0.75	[19]	B&G FT015H
100-ST5	B100 ROOF	PRV STATION MPS	500	[230]	28	[190]	30	[210]	INVERTED BUCKET	0.5	[13]	B&G B0080A
100-ST6	B100 ROOF	PRV STATION LPS	1600	[730]	13	[90]	15	[100]	FLOAT THERMOSTATIC	0.75	[19]	B&G FT015H

FAN SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	AIR FLOW		ESP		TSP		FAN							MOTOR ELECTRICAL						CONTROL SEQUENCE	REMARKS
										TYPE	ARRANGEMENT, ROTATION, AND DISCHARGE	DIAMETER		MIN % EFF	DRIVE	FAN MAX RPM	NOMINAL POWER, EACH			PHASE	VOLT	RPM	SPEED CONTROL	
				CFM	[L/s]	IN	[Pa]	IN	[Pa]			IN	[mm]				BHP	HP	[kW]					
100-SF6A1, 2	B100 ROOF	2 CARDIO	AHU-6A	11000	[5200]	3	[750]	8.01	[2000]	PLUG FAN	FAN ARRAY	16	[400]	70%	DIRECT	3573	9.8	11	[8]	3	460	3500	VARIABLE	MI703	NOTE 1
100-EF6A1, 2	B100 ROOF	2 CARDIO	AHU-6A	11000	[5200]	1.5	[380]	4.03	[1000]	PLUG FAN	FAN ARRAY	22	[550]	70%	DIRECT	2108	4.9	5.5	[4]	3	460	1725	VARIABLE	MI703	NOTE 1

NOTES

ALL SELECTIONS ARE BASED ON AN ALTITUDE OF 0 FT.

1. PROVIDE WITH EMERGENCY POWER, SINGLE POINT OF CONNECTION FOR POWER.

AIR TERMINAL UNIT SIZING SCHEDULE

SIZE	MIN ALLOWABLE AIR FLOW		MAX ALLOWABLE AIR FLOW		DUCT INLET SIZE		MAX APD		MAXIMUM SOUND POWER LEVEL (Re: 10 -12 WATTS) FOR BOX DISCHARGE AT MAXIMUM INLET DUCT STATIC						REMARKS
									OCTAVE BANDS						
	CFM	[L/s]	CFM	[L/s]	IN	[mm]	IN WG	[Pa]	2	3	4	5	6	7	
A	60	[28]	170	[80]	4	[100]	0.4	[100]	69	65	58	52	51	47	----
B	90	[42]	260	[120]	5	[130]	0.4	[100]	69	63	59	52	51	47	----
C	130	[61]	380	[180]	6	[150]	0.4	[100]	69	67	61	55	52	49	----
D	160	[76]	490	[230]	7	[180]	0.4	[100]	70	68	63	57	53	49	----
E	230	[110]	680	[320]	8	[200]	0.4	[100]	71	68	59	53	51	47	----
F	270	[130]	790	[370]	9	[230]	0.4	[100]	71	69	60	54	51	47	----
G	350	[170]	1050	[500]	10	[250]	0.4	[100]	74	68	61	57	54	52	----
H	500	[240]	1500	[710]	12	[300]	0.4	[100]	73	69	64	59	57	53	----
I	750	[350]	2250	[1100]	14	[350]	0.4	[100]	73	68	65	61	61	59	----
J	1000	[470]	3000	[1400]	16	[400]	0.4	[100]	73	68	66	60	58	55	----
K	1400	[660]	4000	[1900]	24X16	[610 X 406]	0.4	[100]							

NOTES

1. INLET STATIC BASED ON ARI 885-98.
2. THIS SCHEDULE IS USED WITH THE TERMINAL UNIT SCHEDULE.
3. CONTROL SEQUENCE SHALL BE AS INDICATED ON THE AIR TERMINAL UNIT SCHEDULE.
4. PROVIDE SOUND ATTENUATION AFTER-SECTION AS REQUIRED TO MEET ROOM NC LEVEL.

AIR SEPARATOR SCHEDULE

MARK	LOCATION	SYSTEM AND/OR SERVICE	TYPE	AIR SEPARATOR						BUILT-IN STRAINER REQ'D	REMARKS
				SIZE IN		FLOW		WPD			
				IN	[mm]	GPM	[L/s]	FT	[kPa]		
100-AS6A	B100 ROOF	HEAT RECOVERY LOOP	IN-LINE	2	[50]	20	[1]	0.15	[ ]	NO	OPERATING WT 10 LBS
					[ ]		[ ]		[ ]		

HILLIARD ARCHITECTS INC. COPYRIGHT

FINAL BID DOCUMENTS

Revisions:	Date
AMENDMENT 1	09.05.2014

CONSULTANTS:

SYSKA HENNESSY GROUP
A member company of SH Group, Inc.

Syska Hennessy Group, Inc.
425 California Street
Suite 700
San Francisco, CA 94104
Tel: 415.288.9060
Fax: 415.835.0385
www.syska.com

REGISTERED PROFESSIONAL ENGINEER
JOSE HERRERA
No. M31241
Exp.Dec.31,2015
MECHANICAL
STATE OF CALIFORNIA

ARCHITECT/ENGINEERS:

ESTABLISHED 1988 HILLIARD ARCHITECTS GOING GREEN

HILLIARD ARCHITECTS, INC
251 Post Street, Suite 620
San Francisco, CA 94108-5017
Tel 415 989 6400, Fax 415 989 3056
www.HilliardArchitects.com

Drawing Title: **MECHANICAL SCHEDULES**

Approved: Project Director

Project Title: **VA PALO ALTO B-100 CATH LAB RENOVATION AND HYBRID OR**

Location: **VAPAHCS - PALO ALTO CAMPUS 3801 MIRANDA AVE, PALO ALTO, CA 94304**

Date: **08.22.2014** | Checked: **OR** | Drawn: **RB**

Project Number: **640-13-134**

Building Number: **100**

Drawing Number: **M002**

Dwg. of

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231