

11/10/03
5000

EXHAUST FANS SCHEDULE

SYM.	MANUFACTURER & MODEL NO.	LOCATION	SERVICE	TYPE	CFM	E.S.P.	VOLTAGE	FAN HP	OPER. WT. (LBS)	REMARKS
EF 1	COOK VCR-180V7B	ROOF	KITCHEN ROOM 102	UPBLAST CENTRIFUGAL BELT DRIVE	2600	1.0	208/1Ø/60Hz	1.0	200	PROVIDE WALL MOUNTED STARTER SWITCH W/ PILOT LIGHT, 18" HIGH PRE-FAB ROOF CURB, DRAIN GREASE OUTLET TO AN APPROVED COLLECTION DEVICE. UNIT SHALL BE UL LISTED FOR KITCHEN HOOD EXHAUST.
EF 2	COOK ACEB120C2B	ROOF	MENS/WOMENS RESTROOM	DOWNBLAST CENTRIFUGAL BELT DRIVE	800	0.375	120/1Ø/60Hz	1/6	120	UNIT SHALL BE COMPLETE WITH BIRDSCREEN, BACKDRAFT DAMPER, PRE-FAB ROOF CURB.
EF 3	COOK GC-420	CEILING	STORAGE 118	CENTRIFUGAL DIRECT DRIVE	250	0.250	120/1Ø/60Hz	156W	50	FURNISH WITH MODEL WCA-2 ALUMINUM WALL CAP.
EF 4	COOK GC-320	CEILING	RESTROOM 117	CENTRIFUGAL DIRECT DRIVE	125	0.250	120/1Ø/60Hz	51W	50	FURNISH WITH MODEL WCA-2 ALUMINUM WALL CAP.
EF 5	COOK ACEB100C2B	ROOF	DISHWASHING ROOM 102A	DOWNBLAST CENTRIFUGAL BELT DRIVE	450	0.250	120/1Ø/60Hz	1/6	85	UNIT SHALL BE COMPLETE WITH BIRDSCREEN, BACKDRAFT DAMPER, PRE-FAB ROOF CURB.

GAS FURNACE UNIT SCHEDULE

SYM.	MANUFACTURER & MODEL NO.	SUPPLY FAN			HEATING CAPACITY		EFF. A.F.U.E.	ELECTRICAL					OPER. WT. (LBS)	FILTERS	COND. UNIT	EVAP. COIL	REMARKS
		C.F.M.	E.S.P.	RPM	INPUT	OUTPUT		VOLTAGE	FAN HP	FLA	MCA	MOCP					
	CARRIER 58CTX135-22	2000	0.6	HIGH	87,000	70,000	80%	120V/1ø/60Hz	3/4	11.1	14.4	20.0	180	(1) 20"x25"x1"			UNIT TO BE FACTORY ASSEMBLED, TESTED AND READY FOR INSTALLATION WITH ALL CONTROLS INSTALLED FOR NATURAL GAS HEATING AND DX COOLING OPERATION. PROVIDE UNIT WITH "FARR" 30/30 DISPOSABLE FILTERS OF No. AND SIZE REQ'D BY MANUFACTURER

EVAPORATOR COIL SCHEDULE

SYM.	MANUFACTURER & MODEL NO.	CAPACITY		ENT. AIR	AIR QUANTITY (CFM)	S.P. (IN.H2O)	FACE AREA (SQ.FT.)	ROWS FPI	WEIGHT (LBS.)	COND. UNIT	REMARKS
		TOTAL	SENSIBLE								
CC 1	CARRIER CK5AXA060	58,500	41,300	84.3/67	2000	0.29	6.67	2	72	CU 1	FURNISH W/TVX. CAPACITY BASED UPON 45° REFRIGERANT.

SPLIT SYSTEM FAN COIL UNIT (INDOOR) SCHEDULE

SYMBOL	MANUFACTURER & MODEL NO.	LOCATION	CFM	E.S.P.	VOLTAGE	FAN F.L.A.	UNIT MCA	MAX. FUSE	FILTERS (CLEANABLE) NO OF & SIZE	OPER. WT. (LBS)	REMARKS
FC 1	CARRIER 400NB009 (3/4 TON)	FLOOR PLAN IT ROOM	215	-	115V, 1Ø, 60Hz	0.41	-	-	SUPPLIED W/UNIT	20	PROVIDE W/WIRELESS REMOTE CONTROLLER WITH WALL MOUNTED BRACKET. PROVIDE W/CONDENSATE PUMP. 9 M-4

OUTDOOR CONDENSING UNIT SCHEDULE

SYM.	LOCATION	MANUFACTURER & MODEL NO.	COOLING CAPACITY @ ARI	VOLTAGE	ELECTRICAL				SEER	OPER. WT. (LBS.)	REMARKS
					COMPRESSOR LRA	FLA	FAN FLA	MCA			
CU 1	GRADE	CARRIER 38HDC060	65,500	230V/3Ø/60Hz	125.0	16.0	1.45	21.5	35.0	13.0	UNIT TO BE FACTORY ASSEMBLED, TESTED AND READY FOR INSTALLATION WITH ALL CONTROLS INSTALLED FOR DX COOLING OPERATION. PROVIDE 3/8" LIO. & 7/8" SUCTION REFRIGERANT PIPING LINES WITH ALL DEVICES REQUIRED FOR SPLIT SYSTEM COOLING OPERATION.
CU 2	GRADE	CARRIER 38AN009	8,500	115V/1Ø/60Hz	46.5	7.6	0.76	12.1	15.0	10.5	PROVIDE W/ACCESSORY CRANKCASE HEATER. 6 M-4

MAKE-UP AIR UNIT SCHEDULE

SYM.	LOCATION	MFR. & MODEL NO.	CFM	T.S.P.	FAN RPM	FAN HP	DRIVE	MOTOR				TOTAL AMPS	HEATING CAPACITY (MBH)					FILTERS			OPER. WT. (LBS)	REMARKS
								BHP	RPM	VOLT/ø/Hz	FLA		EAT(db)	LAT(db)	INPUT	OUTPUT	EFF. %	THICKNESS	QUAN.	SIZE		
MAU	ROOF	REZNOR HRPB-125	3,000	1.0	1240	2.0	BELT	1-1/2	1750	208/3/60	-	-	49F	97F	125	100	80	2"	(2)	20x25	1000	FACTORY FURNISHED WITH FACTORY ROOF CURB AS2, DISCONNECT SWITCH, DOWNTURN SUPPLY PLENUM, AND 100% OUTSIDE AIR HOOD

ROOFTOP PACKAGED GAS/ELECTRIC UNITS

SYM.	LOCATION	MANUFACTURER & MODEL NO.	COOLING CAPACITY AT 95° AMB		EER	HEATING CAPACITY				EFF. A.F.U.E.	SUPPLY FAN		ELECTRICAL										OPER. WT. (LBS)	REMARKS	
			TOTAL	SENSIBLE		FIRST STAGE		SECOND STAGE			C.F.M.	E.S.P.	VOLTAGE	COMPRESSOR QTY	(EA)		OUTDOOR FAN		INDOOR FAN		M.C.A.	M.O.C.P.			FILTERS 30% EFF.
						INPUT	OUTPUT	INPUT	OUTPUT						RLA	LRA	QTY	FLA(EA)	HP	FLA					
AC 1	ROOF	CARRIER 48HJD009	102,170	72,760	11.6 EER	90,000	73,800	125,000	102,500	82	3,000	0.8	230,3ø,60Hz	2	15.0	99.0	2	1.4	2.9	7.5	43.6	65	(4) 16"x20"x2"	1325	UNIT SHALL BE COMPLETE WITH ALL CONTROLS INSTALLED AND WIRED, MICROMETL CENTRIFUGAL POWER EXHAUST ECONOMIZER, MODULATING ECONOMIZER CONTROLS, ENTHALPY SENSOR, PHENOLIC COATED UNIT CASING, COPPER EVAPORATOR COIL FINS, HERISITE COATED COPPER CONDENSER COIL AND FINS, MICROMETL 14" ROOF CURB . PROVIDE FIELD SUPPLIED DRIVE.
AC 2	ROOF	CARRIER 48HJD007	76,500	59,130	11.0 EER	50,000	41,000	72,000	59,040	82	2,000	0.9	230,3ø,60Hz	1	20.5	156.0	1	1.4	2.4	5.8	35.0	60	(2) 16"x25"x2"	970	UNIT SHALL BE COMPLETE WITH ALL CONTROLS INSTALLED AND WIRED, MICROMETL CENTRIFUGAL POWER EXHAUST ECONOMIZER, MODULATING ECONOMIZER CONTROLS, ENTHALPY SENSOR, PHENOLIC COATED UNIT CASING, COPPER EVAPORATOR COIL FINS, HERISITE COATED COPPER CONDENSER COIL AND FINS, MICROMETL 14" ROOF CURB.
AC 3	ROOF	CARRIER 48HJD009	105,42	79,040	11.6 EER	90,000	73,800	125,000	102,500	82	3,200	1.2	230,3ø,60Hz	2	15.0	99.0	2	1.4	2.9	7.5	43.6	65	(4) 16"x20"x2"	1325	UNIT SHALL BE COMPLETE WITH ALL CONTROLS INSTALLED AND WIRED, MICROMETL CENTRIFUGAL POWER EXHAUST ECONOMIZER, MODULATING ECONOMIZER CONTROLS, ENTHALPY SENSOR, PHENOLIC COATED UNIT CASING, COPPER EVAPORATOR COIL FINS, HERISITE COATED COPPER CONDENSER COIL AND FINS, MICROMETL 14" ROOF CURB.

LEGEND & SYMBOLS

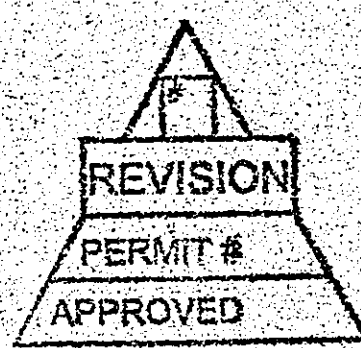
SYMBOL	ABB.	DESCRIPTION
	SAD	SUPPLY AIR DUCT
	RAD	RETURN AIR DUCT
	OSA	OUTSIDE AIR DUCT
	EAD	EXHAUST AIR DUCT
	CA	COMBUSTION AIR
	(L)	(INTERNALLY) LINED DUCTWORK
	CD	CEILING DIFFUSER
	RAR	RETURN AIR REGISTER
	EAR	EXHAUST AIR REGISTER
	SWR	SIDEWALL SUPPLY AIR REGISTER
	RAR	SIDEWALL RETURN AIR REGISTER
	P.O.C.	POINT OF CONNECTION
	P.O.R.	POINT OF REMOVAL
	FC	FLEXIBLE CONNECTION
	MVD	MANUAL VOLUME DAMPER
	F.D.	FLEX-DUCT CONNECTION
	DL	DOOR LOUVER
	UC	UNDERCUT DOOR
	T-STAT	THERMOSTAT
	BY/SW	BY-PASS TIMER/SELECTION SWITCH
	S.D.	DUCT TYPE SMOKE DETECTOR
	RA	RETURN AIR
	SA	SUPPLY AIR
	UTR	UP THROUGH ROOF
	(EX)	EXISTING
	A.P.	ACCESS PANEL
	G.C.	GENERAL CONTRACTOR
	EF	EXHAUST FAN
	MIN.	MINIMUM
	TYP.	TYPICAL
	-----	EXISTING TO BE DEMOLISHED
	----	EXISTING TO REMAIN
	=====	SINGLE LINE DUCT WITH INTERNAL DUCT LINING
	=====	SINGLE LINE DUCT

GENERAL NOTES

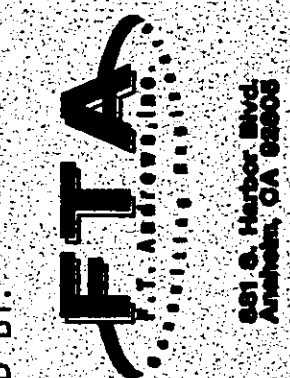
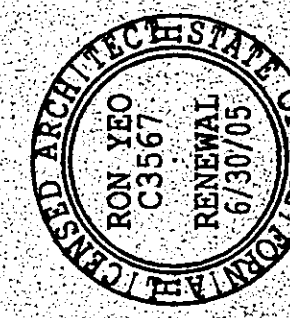
- ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE UNIFORM MECHANICAL CODE, UNIFORM BUILDING CODE, AND ALL OTHER APPLICABLE CODES AND REGULATIONS, INCLUDING CALIFORNIA ENERGY CONSERVATION STANDARDS DIVISION 1-20.
- COORDINATE ENTIRE INSTALLATION OF THE H.V.A.C. SYSTEM WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS, AND TRANSITIONS AS REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
- COORDINATE THE LOCATION OF ALL CEILING DIFFUSERS, REGISTERS AND GRILLES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL LIGHTING LAYOUT AND ARCHITECTURAL ROOM ELEVATIONS.
- COORDINATE THE LOCATION OF ALL ROOF OPENINGS AND THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT WITH THE STRUCTURAL AND ARCHITECTURAL PLANS PRIOR TO ANY INSTALLATION. MECHANICAL TO PROVIDE EQUIPMENT WEIGHTS, PLATFORM AND CURB SIZES.
- PLATFORMS, CURBS AND FLASHINGS FOR MECHANICAL EQUIPMENT SHALL BE AS INDICATED ON THE STRUCTURAL AND ARCHITECTURAL PLANS, UNLESS NOTED OTHERWISE.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES, AND OTHER DEVICES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
- MAINTENANCE LABEL SHALL BE AFFIXED TO ALL MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNER'S USE.
- CONTROL SCHEMATICS ARE FOR SEQUENCE ONLY. REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ALL ELECTRICAL DEVICES REQUIRED.
 - ALL LOW VOLTAGE WIRING, INCLUDING FINAL CONNECTIONS TO CONTROL DEVICES AND EQUIPMENT, SHALL BE AS INDICATED ON THE MECHANICAL DRAWINGS OR SPECIFIED IN THE MECHANICAL SECTIONS OF THE SPECIFICATIONS. ALL LOW VOLTAGE WIRING SHALL BE A MINIMUM OF FOURTEEN (14) GAUGE.
 - ALL LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT. ALL CONDUIT FOR LINE AND LOW VOLTAGE WIRING AND ALL LINE VOLTAGE WIRING, INCLUDING FINAL CONNECTIONS, SHALL BE AS INDICATED ON THE ELECTRICAL DRAWINGS OR SPECIFIED IN THE ELECTRICAL SECTION OF THE SPECIFICATIONS. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS OF ALL GOVERNING BODIES HAVING JURISDICTION THEREOF.
 - ALL AIR CONDITIONING AND HEATING SYSTEMS ARE TO BE PROGRAMMED FOR CONSTANT BLOWER OPERATION DURING OCCUPIED HOURS.
 - ⑨ INDICATES ITEMS FURNISHED & INSTALLED ON THE ELECTRICAL DRAWINGS OR SPECIFIED IN THE ELECTRICAL SECTIONS OF THE SPECIFICATIONS.
 - ⑩ INDICATES ITEMS FURNISHED & INSTALLED ON THE MECHANICAL DRAWINGS OR SPECIFIED IN THE MECHANICAL SECTIONS OF THE SPECIFICATIONS.
- ALL THERMOSTATS SHALL BE OF THE AUTOMATIC CHANGEOVER TYPE TO SEQUENCE HEATING OR COOLING. SET POINT RANGE SHALL BE 10° BETWEEN FULL HEATING AND COOLING. ADJUSTABLE TEMPERATURE DIFFERENTIAL SHALL BE 1-1/2° F. CONTROL UNITS SHALL BE FROM 50° F. TO 85° F. MOUNT AT 48" MOUNT AT 48" HEIGHT.
- ALL DUCTWORK SHALL BE CONSTRUCTED, ERECTED AND TESTED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF LOCAL REGULATIONS, PROCEDURES DETAILED IN THE ASHRAE HANDBOOK OF FUNDAMENTALS OR THE APPLICABLE STANDARDS ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION.
- DUCTWORK SHALL BE INSULATED OR LINED (L) PER SPECIFICATIONS OR AS NOTED ON DRAWINGS. ALL DUCTWORK EXPOSED ON ROOF SHALL BE INTERNALLY INSULATED UNLESS OTHERWISE INDICATED OR SPECIFIED. ALL DUCT SIZES ARE SHEET METAL SIZES. ALL DUCT JOINTS SHALL BE SEALED PER SPECIFICATIONS.
- MANUAL VOLUME DAMPERS SHALL BE PROVIDED IN ALL DUCT BRANCHES TO INDIVIDUAL DIFFUSERS, GRILLES AND REGISTERS.
- ALL EQUIPMENT, DUCTS, PIPING, AND OTHER DEVICES AND MATERIALS INSTALLED OUTSIDE OF THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHERPROOFED.
- PROVIDE TWO INCH (2") THICK FARR 30/30 THROWAWAY FILTERS FOR ALL AIR CONDITIONING UNITS. SIZE AND TYPE AS RECOMMENDED BY THE MANUFACTURER, UNLESS OTHERWISE NOTED.
- AUTOMATIC FIRE DAMPER REQUIREMENTS ARE AS FOLLOWS:
 - PROVIDE AUTOMATIC FIRE DAMPERS AT ALL REQUIRED PENETRATIONS OF FIRE-RATED CEILINGS AND WALLS THROUGHOUT. CONTRACTOR SHALL COORDINATE WITH FIRE-RATED CEILING AREAS AND WALLS, AS INDICATED ON ARCHITECTURAL DRAWINGS. THE CONTRACTOR SHALL TAKE PRECEDENCE OVER ANY OMISSIONS ON THE DRAWINGS. SEE SPECIFICATIONS.
 - LOCATION OF FIRE-RATED CEILINGS AND WALLS ARE AS INDICATED ON THE ARCHITECTURAL DRAWINGS.
- ALL MECHANICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION. REFER TO TITLE NO. 24, PART 2, TABLE 2-23P FOR EXACT REQUIREMENTS.
- FOR ROOF AND WALL PENETRATION DETAILS AND REQUIREMENTS SEE STRUCTURAL DRAWINGS.
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH AND BE CONSIDERED TO BE PART OF A SEPARATE AND COMPLETE MECHANICAL SPECIFICATION.
- ALL HVAC EQUIPMENT SHALL BE CERTIFIED BY THE CALIFORNIA ENERGY COMMISSION TO COMPLY WITH EFFICIENCY STANDARDS PER TITLE 24, SECTIONS (2-5134(a)(b)).
- SHUTOFF FOR SMOKE CONTROL - 2001 C.M.C. SECTION 609
AIR-MOVING SYSTEMS SUPPLYING AIR IN EXCESS OF 2,000 CUBIC FEET PER MINUTE TO ENCLOSED SPACES WITHIN BUILDINGS SHALL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF. AUTOMATIC SHUTOFF SHALL BE ACCOMPLISHED BY INTERRUPTING THE POWER SOURCE OF THE AIR-MOVING EQUIPMENT UPON DETECTION OF SMOKE IN THE MAIN SUPPLY AIR DUCT SERVED BY SUCH EQUIPMENT. SMOKE DETECTORS SHALL BE LABELED BY AN APPROVED AGENCY FOR AIR-DUCT INSTALLATION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUCH DEVICES SHALL BE COMPATIBLE WITH THE OPERATING VELOCITIES, PRESSURES, TEMPERATURES AND HUMIDITIES OF THE SYSTEM. WHERE FIRE DETECTION OR ALARM SYSTEMS ARE PROVIDED FOR THE BUILDING, THE SMOKE DETECTORS REQUIRED BY THIS SECTION SHALL BE SUPERVISED BY SUCH SYSTEMS.
EXCEPTIONS:
 - WHEN THE SPACE SUPPLIED BY THE AIR-MOVING EQUIPMENT IS SERVED BY A TOTAL COVERAGE SMOKE-DETECTION SYSTEM COMPLYING WITH U.F.C. STANDARD 10-2, INTERCONNECTION TO SUCH SYSTEM MAY BE USED TO ACCOMPLISH THE REQUIRED SHUTOFF.
 - AUTOMATIC SHUTOFF IS NOT REQUIRED WHEN ALL OCCUPIED ROOMS SERVED BY THE AIR-MOVING EQUIPMENT HAVE DIRECT EXIT TO THE EXTERIOR AND THE TRAVEL DISTANCE DOES NOT EXCEED 100 FEET.
 - AUTOMATIC SHUTOFF IS NOT REQUIRED FOR GROUP R, DIVISION 3 AND GROUP U OCCUPANCIES.
 - AUTOMATIC SHUTOFF IS NOT REQUIRED FOR APPROVED SMOKE-CONTROL SYSTEMS OR WHERE ANALYSIS DEMONSTRATES SHUTOFF WOULD CREATE A GREATER HAZARD, SUCH AS MAY BE ENCOUNTERED IN AIR-MOVING EQUIPMENT SUPPLYING SPECIALIZED PORTIONS OF GROUP H OCCUPANCIES. SUCH EQUIPMENT SHALL BE REQUIRED TO HAVE SMOKE DETECTION WITH REMOTE INDICATION AND MANUAL SHUTOFF CAPABILITY AT AN APPROVED LOCATION.
- SEE SPECIFICATION SECTION 15800-2.01.C FOR CEILING DIFFUSER, RETURN AIR GRILLE, SIDEWALL GRILLE AND REGISTER REQUIREMENTS.
- ALL APPLIANCE AND PLUMBING VENTS SHALL BE AT LEAST TEN (10) FEET IN A HORIZONTAL DIRECTION, OR THREE (3) FEET ABOVE THE OUTSIDE AIR INTAKES OF ALL HVAC UNITS.

SEISMIC NOTES

- ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES.
- WHERE ANCHORAGE AND BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT AND MECHANICAL ENGINEER.



APPROVALS
Architect



POINT VICENTE INTERPRETIVE
CENTER EXPANSION
31501 Palos Verdes Drive West
Palos Verdes Estates, CA 90274
REVISION DATE: 02-09-04

Mechanical
Schedules, Notes
and Legend

DRAWN	DSM
CHECKED	LT
DATE	2/1/09
SCALE	NONE
JOB. NO.	97-123
SHEET	58
M-1	