INDIRECT-DIRECT EVAPORATIVE COOLING UNIT SCHEDULE

SYMBOL	MANUFACTURER AND MODEL	LOCATION	AREA SERVED	SUPPLY FAN								ELECTRICAL				INDIRECT SECTION						DIRECT SECTION						COOLING COIL													
				S.A. (CFM)	S.P. (IN WATER)		FAN TYPE	SPEED (RPM)	BHP	HP	VFD	MCA	MOCP	VOLT	PHASE	EDB/ EWB	VELOCITY (FPM)	EFF. (%)	LDB (°F)	LWB (°F)	P.D. (IN W.G.)	VELOCITY (FPM)	EFF. (%)	LDB (°F)	LWB (°F)	MEDIA THICKNESS (INCHES)	P.D. (IN W.G.)	FACE VEL. (FPM)	NO. OF COILS	MIN. ROWS	FPI	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EAT (°F)		LAT (°F)		CHILLED WATER TEMP. (F)		FLOW RATE (GPM)	WATER P.D. (FT)	AIR P.D. (FT)	MEDIUM
					TOTAL	EXT.																												DB	WB	DB	WB	ENT.	LVG.				
IDEC 1	ENERGY LABS CHHH/WWW-FCH-L	ROOF	LOBBY 100	3,295	5	2	AF	2,841	4.04	5	YES	16.6	25.0	460	3	106 / 68.5	275	75	78	60.4	0.51	346	90.6	62.1	60.4	12	0.10	296.7	1	2	10	59.3	38.538	74.5	66.5	62.54	60.99	48	58.8	11	3.22	.11	WATER
IDEC 2	ENERGY LABS CHHH/WWW-FCH-L	ROOF	OFFICE SUITE 130	4,160	5	2	AF	4.04	4.96	7.5	YES	20.8	30.0	460	3	106 / 68.5	347	70	79.7	61.0	0.80	436	89.4	63	61	12	0.16	313.5	1	2	10	71.8	46.6	74.5	66.5	63.05	61.05	48	58.24	14	6.25	.16	WATER
IDEC 3	ENERGY LABS CHHH/WWW-FCH-L	ROOF	OFFICE SUITE 140	4,240	5	2	AF	2,879	5.06	7.5	YES	20.8	30.0	460	3	106 / 68.5	353	70	79.8	61.1	0.83	445	89.3	63.1	61.1	12	0.17	381.8	1	2	10	72.3	47.1	74.5	66.5	63.14	61.11	48	58.32	14	6.25	.16	WATER
IDEC 4	ENERGY LABS CHHH/WWW-FCH-L	ROOF	OFFICE SUITE 120	5,100	5	2	AF	2,616	6.17	7.5	YES	21.3	30.0	460	3	106 / 68.5	340	71	79.5	61.0	0.77	403	89.8	62.9	61.0	12	0.14	361.9	1	2	10	93.1	58.9	74.5	66.5	62.68	60.71	48	58.88	17.1	10.48	.15	WATER
IDEC 5	ENERGY LABS CHHH/WWW-FCH-L	ROOF	MEZZANINE 200	3,200	5	2	AF	2,804	3.91	5	YES	16.6	25.0	460	3	106 / 68.5	267	75	77.8	60.3	0.48	336	90.7	61.9	60.3	12	0.10	288.2	1	2	10	58.8	37.9	74.5	66.5	62.37	60.67	48	58.69	11	3.22	.10	WATER
IDEC 6	ENERGY LABS CHHH/WWW-FCH-L	ROOF	SHOPS 170 & 175	5,225	5	2	AF	2,647	6.35	7.5	YES	21.3	30.0	460	3	106 / 68.5	348	70	79.7	61.0	0.80	413	89.7	62.9	61.0	12	0.15	370.7	1	2	10	93.8	59.7	74.5	66.5	62.81	60.81	48	58.96	17.1	10.48	.15	WATER

INDIRECT-DIRECT EVAPORATIVE COOLING UNIT SCHEDULE (CONTINUED)

SYMBOL	HEATING COIL										MIN. O.A. (CFM)	FILTERS						INTERNAL FAN ISOLATION		OPERATING WEIGHTS (LBS.)	REMARKS
	FACE VEL. (FPM)	NO. OF COILS	MIN. ROWS	FPI	CAPACITY (MBH)	EWT (°F)	LWT (°F)	FLOW RATE (GPM)	WATER P.D. (F.T.)	AIR P.D. (IN.)		PRE. FILTER			FINAL FILTER			MOUNT TYPE	MIN. STATIC DEFL. (INCH)		
												CLEAN P.D. (IN H20)	THICKNESS (INCH)	EFF.	CLEAN P.D. (IN H2O)	THICKNESS (INCH)	EFF.				
IDEC 1	170.8	1	1	8	116.2	180	149	7.2	5.29	0.01	1,849	0.25	2	MERV 7	0.50	4	MERV 13	SPRNG	2"	5,100	- COORDINATE WITH ELECTRICAL FOR 120V-1ø-60Hz POWER. - OR APPROVED EQUAL. - PROVIDE "MASON INDUSTRIES" SPRING ISOLATED CURBS OR APPROVED EQUAL.
IDEC 2	115.2	1	1	8	90.3	180	149	5.5	3.3	0.005	1,248	0.25	2	MERV 7	0.50	4	MERV 13	SPRNG	2"	5,150	- COORDINATE WITH ELECTRICAL FOR 120V-1ø-60Hz POWER. - OR APPROVED EQUAL. - PROVIDE "MASON INDUSTRIES" SPRING ISOLATED CURBS OR APPROVED EQUAL.
IDEC 3	117.4	1	1	8	91.2	180	148	5.5	3.3	0.005	1,272	0.25	2	MERV 7	0.50	4	MERV 13	SPRNG	2"	5,150	- COORDINATE WITH ELECTRICAL FOR 120V-1ø-60Hz POWER. - OR APPROVED EQUAL. - PROVIDE "MASON INDUSTRIES" SPRING ISOLATED CURBS OR APPROVED EQUAL.
IDEC 4	109	1	1	8	109.0	180	150	7.0	2.29	0.005	1,530	0.25	2	MERV 7	0.50	4	MERV 13	SPRNG	2"	5,500	- COORDINATE WITH ELECTRICAL FOR 120V-1ø-60Hz POWER. - OR APPROVED EQUAL. - PROVIDE "MASON INDUSTRIES" SPRING ISOLATED CURBS OR APPROVED EQUAL.
IDEC 5	89.1	1	1	8	77.0	180	149	4.7	5.64	0.005	962	0.25	2	MERV 7	0.50	4	MERV 13	SPRNG	2"	5,100	- COORDINATE WITH ELECTRICAL FOR 120V-1ø-60Hz POWER. - OR APPROVED EQUAL. - PROVIDE "MASON INDUSTRIES" SPRING ISOLATED CURBS OR APPROVED EQUAL.
IDEC 6	370	1	1	8	236.0	180	153.5	17.1	2.37	0.06	5,225	0.25	2	MERV 7	0.50	4	MERV 13	SPRNG	2"	5,500	- COORDINATE WITH ELECTRICAL FOR 120V-1ø-60Hz POWER. - OR APPROVED EQUAL. - PROVIDE "MASON INDUSTRIES" SPRING ISOLATED CURBS OR APPROVED EQUAL.

AIR COOLED CHILLER SCHEDULE

SYMBOL	MANUFACTURER AND MODEL	LOCATION	NOM. TOTAL CAP. (TONS)	EER	ELECTRICAL				COMPRESSOR					EVAPORATOR				UNIT SIZE			DESIGN AMB. (°F)	OPER. WT. (LB)	NOTES
					VOLT	PH	MCA (A)	MOCP (A)	COMP. TYPE	COMP. QTY	REFRIG.	REFRIG. CHARGE (LB)	MIN. AMB. TEMP. (°F)	FLOW (GPM)	EWT (°F)	LWT (°F)	WPD (FT. WG.)	L	W	H			
CH 1	NAPPS NCC40	CHILLER ROOM	40	11.3	460	3	7.7	-	SCROLL	4	R-410 A	115	96	96	58	48	2.6	79"	32 1/4"	68 1/2"	115	1,600	- BACNET INTERFACE. - OR APPROVED EQUAL.

BOILER SCHEDULE

SYMBOL	MANUFACTURER AND MODEL	TYPE	CAPACITY			GPM	WATER (°F)		ELECTRICAL		OPERATING WEIGHT (LBS.)	REMARKS
			INPUT (MBH)	OUTPUT (MBH)	EFF. (%)		ENT TEMP	LVG. TEMP	VOLT	PHASE		
B 1	PARKER T970LR	FORCED DRAFT LOW NOX	970	827	84	55	150	180	115	1	1,870	- PROVIDE 5AMPS, 115V-1ø-60HZ FOR CONTROLS. - 1/3 HP RUNAROUND PUMP. - OR APPROVED EQUAL.
B 2	PARKER T970LR	FORCED DRAFT LOW NOX	970	827	84	55	150	180	115	1	1,870	- PROVIDE 5AMPS, 115V-1ø-60HZ FOR CONTROLS. - 1/3 HP RUNAROUND PUMP. - 100% REDUNDANT. - OR APPROVED EQUAL.

VARIABLE FREQUENCY DRIVE SCHEDULE

SYMBOL	MANUFACTURER MODEL NO.	SERVES	MOTOR DATA			DRIVE DATA		OPERATING WEIGHT	REMARKS
			HP	FLA	VOLT	HP	VOLT		
VFD 1	ABB ACH550-VCR-08A8-4	IDEC 1	5	7.6	460 VAC	5	480 VAC	32	- MOTOR DATA PER NEC TABLE 430.250. - DRIVE DATA PER TYPICAL INDUSTRY STANDARD. - OR APPROVED EQUAL.
VFD 2	ABB ACH550-VCR-012A-4	IDEC 2	7.5	11	460 VAC	7.5	480 VAC	32	- MOTOR DATA PER NEC TABLE 430.250. - DRIVE DATA PER TYPICAL INDUSTRY STANDARD. - OR APPROVED EQUAL
VFD 3	ABB ACH550-VCR-012A-4	IDEC 3	7.5	11	460 VAC	7.5	480 VAC	32	- MOTOR DATA PER NEC TABLE 430.250. - DRIVE DATA PER TYPICAL INDUSTRY STANDARD. - OR APPROVED EQUAL
VFD 4	ABB ACH550-VCR-012A-4	IDEC 4	7.5	11	460 VAC	7.5	480 VAC	32	- MOTOR DATA PER NEC TABLE 430.250. - DRIVE DATA PER TYPICAL INDUSTRY STANDARD. - OR APPROVED EQUAL
VFD 5	ABB ACH550-VCR-08A8-4	IDEC 5	5.0	7.6	460 VAC	5	480 VAC	32	- MOTOR DATA PER NEC TABLE 430.250. - DRIVE DATA PER TYPICAL INDUSTRY STANDARD. - OR APPROVED EQUAL
VFD 6	ABB ACH550-VCR-012A-4	IDEC 6	7.5	11	460 VAC	7.5	480 VAC	32	- MOTOR DATA PER NEC TABLE 430.250. - DRIVE DATA PER TYPICAL INDUSTRY STANDARD. - OR APPROVED EQUAL
VFD 7	ABB ACH550-VCR-03A3-4	EF 9	1.0	4.6	208 VAC	1.0	208 VAC	32	- MOTOR DATA PER NEC TABLE 430.250. - DRIVE DATA PER TYPICAL INDUSTRY STANDARD. - OR APPROVED EQUAL
VFD 8	ABB ACH550-VCR-03A3-4	EF 10	1.0	4.6	208 VAC	1.0	208 VAC	32	- MOTOR DATA PER NEC TABLE 430.250. - DRIVE DATA PER TYPICAL INDUSTRY STANDARD. - OR APPROVED EQUAL
VFD 9	ABB ACH550-VCR-04A1-4	EF 11	2.0	7.5	208 VAC	2.0	208 VAC	32	- MOTOR DATA PER NEC TABLE 430.250. - DRIVE DATA PER TYPICAL INDUSTRY STANDARD. - OR APPROVED EQUAL
VFD 10	ABB ACH550-VCR-03A3-4	EF 12	1.5	6.6	208 VAC	1.5	208 VAC	32	- MOTOR DATA PER NEC TABLE 430.250. - DRIVE DATA PER TYPICAL INDUSTRY STANDARD. - OR APPROVED EQUAL

AIR COOLED CONDENSER SCHEDULE

SYMBOL	MANUFACTURER MODEL NO.	LOCATION	NOMINAL TONS	COOLING CAPACITY AT 115°F	AMBIENT AIR TEMP. (°F)	ELECTRICAL				REFRIGERANT		OPERATING WEIGHT (LBS.)
						MCA	MOCP	VOLT	PHASE	TYPE	WEIGHT (LBS)	
ACC 1	TRANE CAUCC40	ROOF	40	37.4	115	7.7	15	460	3	R410-A	39	2,395

REMARKS
- OR APPROVED EQUAL.

REGISTERED PROFESSIONAL ENGINEER DONN C. GILMORE No. 11641 Exp. 9-30-11 MECHANICAL STATE OF CALIFORNIA

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DATE	SYM	REVISION	BY	A'PD

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
DRYDEN FLIGHT RESEARCH CENTER
EDWARDS, CA

DRAWING TITLE
MECHANICAL SCHEDULES

PROJECT TITLE
8-18-11
FACILITIES SUPPORT CENTER
100% FINAL DESIGN SUBMITTAL

APPROVALS	DATE
Chief, Facilities Engineering Division/Asset Mgmt Office **DAN CROWLEY**	8-18-11
Project Requestor /Customer **DAN CROWLEY**	8-18-11
Facilities Project Manager **GEMMA FLORES**	8-18-11
Chief, Office of Protective Services **JOHN ZELLMER**	8-18-11
Chief - Safety, Health, and Environmental Office **DAN MULLEN**	8-18-11
DFRC Chief Information Officer **KEN NORLIN**	8-18-11

DATE STRTD	11/04/10	DATE PRNTD	05/23/11
DRAWN BY		EDM-1703	
SCALE	AS NOTED	TRADE SH. No.	
FILE NAME		M0.2	SHEET No. 116 of 195

FAN COIL UNIT SCHEDULE

SYMBOL	MANUFACTURER MODEL NO.	LOCATION	AREA SERVED	CFM	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	HEATING (MBH)	ESP (INCHES)	ELECTRICAL				O.A. (CFM)	FILTER				OPERATING WEIGHT (LBS.)	REMARKS
									VOLT	PHASE	MCA	MCOP		QTY	SIZE W"xH"xD"	MERV	P.D.		
FC 1	DAIKIN FXMQ12	CONFERERENCE 128	CONFERERENCE 128	335	8.9	8.9	11.9	0.40	208	1	0.60	15	55	1	20"x12"x2"	13	.08	55	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - OR APPROVED EQUAL.
FC 2	DAIKIN FXMQ12	OFFICE 124	OFFICES 124, 125, 126, 127	335	9.2	9.2	12.0	0.40	208	1	0.60	15	70	1	20"x12"x2"	13	.08	55	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - OR APPROVED EQUAL.
FC 3	DAIKIN FXMQ12	OFFICE 123	COPY / OFFICES 121 / 122, 123	335	9.2	9.2	12.0	0.40	208	1	0.60	15	160	1	20"x12"x2"	13	.08	55	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - OR APPROVED EQUAL.
FC 4	DAIKIN FXMQ07	CONFERENCE 137	CONFERENCE 137	230	5.7	5.7	7.4	0.40	208	1	0.60	15	30	1	20"x12"x2"	13	.08	55	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - OR APPROVED EQUAL.
FC 5	DAIKIN FXMQ12	OFFICE 134	OFFICES 134, 135, 136	280	8.9	8.9	12.0	0.40	208	1	0.60	15	55	1	20"x12"x2"	13	.08	55	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - OR APPROVED EQUAL.
FC 6	DAIKIN FXMQ12	OFFICE 133	COPY / OFFICES 131 / 132, 133	335	8.9	8.9	12.0	0.40	208	1	0.60	15	130	1	20"x12"x2"	13	.08	55	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - OR APPROVED EQUAL.
FC 7	DAIKIN FXMQ07	OFFICE 145	OFFICE 145	225	5.6	5.6	7.4	0.40	208	1	0.60	15	25	1	20"x12"x2"	13	.08	55	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - OR APPROVED EQUAL.
FC 8	DAIKIN FXMQ24	OFFICE 142	COPY / OFFICE 141 / 142, 143, 144	600	17.8	17.8	23.8	0.60	208	1	1.80	15	135	2	20"x12"x2"	13	.08	79	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - OR APPROVED EQUAL.
FC 9	DAIKIN FXMQ36	CONFERENCE ROOM 150	CONFERENCE ROOM 150	1,005	27.4	27.4	36.0	0.80	208	1	2.90	15	260	2	24"x20"x2"	13	.08	101	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - INTERLOCK WITH EF-15 - OR APPROVED EQUAL.
FC 10	DAIKIN FXMQ36	CORRIDOR 103	CONFERENCE ROOM 101	800	27.8	27.8	36.0	0.80	208	1	2.90	15	275	2	24"x20"x2"	13	.08	101	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - INTERLOCK WITH EF-14 - OR APPROVED EQUAL.
FC 11	DAIKIN FXMQ36	CORRIDOR 103	CONFERENCE ROOM 101	800	27.8	27.8	36.0	0.80	208	1	2.90	15	275	2	24"x20"x2"	13	.08	101	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - INTERLOCK WITH EF-14 - OR APPROVED EQUAL.
FC 12	DAIKIN FXMQ12	CONFERENCE ROOM 168	CONFERENCE ROOM 168	240	9.6	9.6	12.0	0.40	208	1	0.60	15	85	1	20"x12"x2"	13	.08	55	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - OR APPROVED EQUAL.
FC 13	DAIKIN FXMQ07	HEALTH LAB 110	HEALTH LAB 110	225	5.9	5.9	7.5	0.40	208	1	0.60	15	30	1	20"x12"x2"	13	.08	55	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - OR APPROVED EQUAL.
FC 14	DAIKIN FXMQ12	OFFICE 166	OFFICE 164, 165, 166, 167	340	22.4	22.4	30.0	0.40	208	1	0.60	15	85	1	20"x12"x2"	13	.08	55	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - OR APPROVED EQUAL.
FC 15	DAIKIN FXMQ30	CORRIDOR 103	BREAK ROOM 102	880	9.3	9.3	12.0	0.80	208	1	2.30	15	160	2	20"x14"x2"	13	.08	79	- TO PROVIDE AND INSTALL ALL REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATION, COMMUNICATION RING, & CONDENSATE PUMP KIT. - OR APPROVED EQUAL.

SPLIT SYSTEM COOLING UNIT SCHEDULE

SYMBOL	MANUFACTURER MODEL NO.	SEER	COOLING CAPACITY		ELECTRICAL			R-410A REFRIGERANT PIPE SIZE (OD)		OPERATING WEIGHT (LBS.)	REMARKS	SYMBOL	MANUFACTURER MODEL NO.	AREA SERVED	CFM	ELECTRICAL		OPERATING WEIGHT (LBS.)	REMARKS
			TOTAL	SENSIBLE	MCA	MCOP	VOLT	SUCTION	LIQUID							RUNNING AMPS	VOLT/PH/Hz		
CU 1	DAIKIN RXS24DVJU	15	24,000	18,000	15.8	20	208/1	5/8"	1/4"	121	- OR APPROVED EQUAL	F 1	DAIKIN FTX24DVJU	COMM. ROOM 112	800	0.20 A	208 / 1 / 60	26.5	- OR APPROVED EQUAL
CU 2	DAIKIN RXS24DVJU	15	24,000	18,000	15.8	20	208/1	5/8"	1/4"	121	- OR APPROVED EQUAL	F 2	DAIKIN FTX24DVJU	COMM. ROOM 131A	800	0.20 A	208 / 1 / 60	26.5	- OR APPROVED EQUAL

AIR COOLED CONDENSING UNIT SCHEDULE

SYMBOL	MANUFACTURER MODEL NO.	LOCATION	EER	NOM. TONS	COOLING CAPACITY AT 115°F	HEATING CAPACITY AT 22°F	AMBIENT AIR TEMP. (°F)	ELECTRICAL				REFRIGERANT		OPERATING WEIGHT (LBS.)	REMARKS
								MCA	MOCP	VOLT	PHASE	TYPE	WEIGHT (LBS)		
ACCU 1	DAIKIN REYQ240PTJUR	ROOF	9.8	20	230,000	274,000	115	82.6	120	460	3	410-A	1,120	1,150	- HEAT RECOVERY HEAT PUMP. - OR APPROVED EQUAL.

PUMP SCHEDULE

SYMBOL	MANUFACTURER MODEL NO.	TYPE	SERVICE	LOCATION	GPM	HEAD IN FT.	EFF. (%)	ELECTRICAL			RPM	ISOLATION TYPE	OPERATING WEIGHT (LBS.)	REMARKS
								HP	VOLT	PHASE				
CHWP 1	BELL & GOSSETT SERIES 80 2 1/2 x 2 1/2 x 7	IN-LINE	CHILLED WATER SYSTEM	CHILLER ROOM 205	96	40	66.41	2	208	3	1,750	NONE	210	- OR APPROVED EQUAL.
HHWP 1	BELL & GOSSETT SERIES 80 2 1/2 x 2 1/2 x 7	IN-LINE	HEATING HOT WATER SYSTEM	BOILER ROOM 201	55	35	54.77	1 1/2	208	3	1,750	NONE	210	- OR APPROVED EQUAL.
HHWP 2	BELL & GOSSETT SERIES 80 2 1/2 x 2 1/2 x 7	IN-LINE	HEATING HOT WATER SYSTEM	BOILER ROOM 201	55	35	54.77	1 1/2	208	3	1,750	NONE	210	- OR APPROVED EQUAL.

EXHAUST FAN SCHEDULE

SYMBOL	MANUFACTURER MODEL NO.	AREA SERVED	TYPE	CFM	S.P. (IN.)	RPM	SONES	ELECTRICAL				OPERATING WEIGHT (LBS.)	REMARKS
								BHP	HP	VOLT	PHASE		
EF 1	GREENHECK GB-161-4	MENS RESTROOM / MENS SHOWER 106/107	DOWNBLAST CENTRIFUGAL BELT DRIVE	1,350	.375	739	7.1	0.19	1/3	115	1	80	- PROVIDE MANUFACTURER'S ROOF CURB WITH TRAY, BACKDAFT DAMPER AND BIRDSCREEN, PREMIUM EFFICIENCY MOTOR. - OR APPROVED EQUAL.
EF 2	GREENHECK GB-101-4	WOMENS RESTROOM / WOMENS SHOWER 108/109	DOWNBLAST CENTRIFUGAL BELT DRIVE	450	.375	991	3.4	0.08	1/4	115	1	70	- PROVIDE MANUFACTURER'S ROOF CURB WITH TRAY, BACKDAFT DAMPER AND BIRDSCREEN, PREMIUM EFFICIENCY MOTOR. - OR APPROVED EQUAL.
EF 3	GREENHECK GB-071-6	COPY 121	DOWNBLAST CENTRIFUGAL BELT DRIVE	150	.250	1,014	4.0	0.05	1/6	115	1	75	- PROVIDE MANUFACTURER'S ROOF CURB WITH TRAY, BACKDAFT DAMPER AND BIRDSCREEN. - OR APPROVED EQUAL.
EF 4	GREENHECK GB-071-6	COPY 131	DOWNBLAST CENTRIFUGAL BELT DRIVE	150	.250	1,014	4.0	0.05	1/6	115	1	75	- PROVIDE MANUFACTURER'S ROOF CURB WITH TRAY, BACKDAFT DAMPER AND BIRDSCREEN, PREMIUM EFFICIENCY MOTOR. - OR APPROVED EQUAL.
EF 5	GREENHECK GB-091-4	COPY 141	DOWNBLAST CENTRIFUGAL BELT DRIVE	225	.250	770	3.8	0.04	1/4	115	1	75	- PROVIDE MANUFACTURER'S ROOF CURB WITH TRAY, BACKDAFT DAMPER AND BIRDSCREEN. - OR APPROVED EQUAL.
EF 6	GREENHECK GB-161-3	ELECTRICAL 111	DOWNBLAST CENTRIFUGAL BELT DRIVE	1,420	.375	752	7.3	0.20	1/3	115	1	85	- PROVIDE MANUFACTURER'S ROOF CURB WITH TRAY, BACKDAFT DAMPER, BIRDSCREEN, PREMIUM EFFICIENCY MOTOR. - OR APPROVED EQUAL.
EF 7	AIRFLOW SYSTEMS BM10?E14	HOT WORK SHOP 161	CENTRIFUGAL DIRECT DRIVE	700	8	-	-	-	3	460	3	150	- "AIRFLOW SYSTEMS" MODEL NO. BM10 HIGH PRESSURE BLOWER ASSEMBLY OR APPROVED EQUAL. - AMCA TYPE B SPARK RESISTANCE CONSTRUCTION. - OR APPROVED EQUAL.
EF 8	GREENHECK CUE-121-VG	LOBBY 100	UPBLAST CENTRIFUGAL DIRECT DRIVE	1,445	.250	1,445	11.4	0.20	1/2	115	1	90	- PROVIDE MANUFACTURER'S ROOF CURB WITH TRAY, BACKDAFT DAMPER, ECM MOTOR, AND BIRDSCREEN. - OR APPROVED EQUAL.
EF 9	GREENHECK CUE-200-C	OFFICE SUITE 130	UPBLAST CENTRIFUGAL DIRECT DRIVE	4,025	.40	860	13.5	.75	1	208	3	155	- PROVIDE MANUFACTURER'S ROOF CURB WITH TRAY, BACKDAFT DAMPER AND BIRDSCREEN, MOTOR VFD RATED. - OR APPROVED EQUAL.
EF 10	GREENHECK CUE-200-C	OFFICE SUITE 140	UPBLAST CENTRIFUGAL DIRECT DRIVE	4,048	.40	860	13.7	.75	1	208	3	155	- PROVIDE MANUFACTURER'S ROOF CURB WITH TRAY, BACKDAFT DAMPER, BIRDSCREEN, MOTOR VFD RATED. - OR APPROVED EQUAL.
EF 11	GREENHECK CUE-200-B	OFFICE SUITE 120	UPBLAST CENTRIFUGAL DIRECT DRIVE	4,400	.500	1,140	.22	1.74	2	208	3	165	- PROVIDE MANUFACTURER'S ROOF CURB WITH TRAY, BACKDAFT DAMPER, BIRDSCREEN, PREMIUM EFFICIENCY MOTOR, MOTOR VFD RATED. - OR APPROVED EQUAL.
EF 12	GREENHECK CUBE-240-15	MEZZANINE 200	UPBLAST CENTRIFUGAL BELT DRIVE	6,575	.250	781	17.2	1.29	1 1/2	208	3	185	- PROVIDE MANUFACTURER'S ROOF CURB WITH TRAY, BACKDAFT DAMPER, BIRDSCREEN, PREMIUM EFFICIENCY MOTOR, MOTOR VFD RATED. - OR APPROVED EQUAL.
EF 13	GREENHECK CUE-121-VG	CHILLER ROOM 205	UPBLAST CENTRIFUGAL DIRECT DRIVE	660	.250	787	5.2	0.05	1/2	115	1	70	- PROVIDE MANUFACTURER'S ROOF CURB WITH TRAY, BACKDAFT DAMPER, ECM MOTOR, AND BIRDSCREEN. - OR APPROVED EQUAL.

NOTE:
INTERLOCK EF-9, EF-10, EF-11, AND EF-12 TO VFD.

AIR SEPARATOR SCHEDULE

SYMBOL	MANUFACTURER MODEL	SERVICE	GPM	DIMENSION			H_2O PD FT.	OPERATING WEIGHT (LBS.)	REMARKS
				PIPE SIZE	DIA. (IN.)	HEIGHT (IN.)			
AS 1	BELL & GOSSETT ROLAIRTOL RL-3N	CHILLED WATER SYSTEM	96	2	9	16	0.3	105	- LESS STRAINER. - OR APPROVED EQUAL.
AS 2	BELL & GOSSETT ROLAIRTROL RL-2.5N	HEATING HOT WATER SYSTEM	55	2	9	16	0.3	105	- LESS STRAINER. - OR APPROVED EQUAL.

EXPANSION TANK SCHEDULE

SYMBOL	MANUFACTURER MODEL	LOCATION	SERVICE	DIMENSION				OPERATING WEIGHT (LBS.)	REMARKS
				GALLON	DIA. (IN.)	ACCEPTANCE GALLON	LENGTH (IN.)		
ET 1	WESSEL NLAP-100	CHILLER ROOOM 205	CHILLED WATER SYSTEM	25	16	25	32.1	80	- FULL ACCEPTANCE BLADDER TANK. - OR APPROVED EQUAL.
ET 2	WESSEL NLAP-100	BOILER ROOM 201	HEATING HOT WATER SYSTEM	25	16	25	32.1	80	- FULL ACCEPTANCE BLADDER TANK. - OR APPROVED EQUAL.

ENERGY RECOVERY UNIT SCHEDULE

SYMBOL	MANUFACTURER MODEL	ROOM CONDITION			OUTDOOR CONDITION			SUPPLY AIR		ELECTRICAL			OPERATING WEIGHT (LBS.)	REMARKS
		CFM	TEMP, DB		CFM	TEMP, DB		TEMP, DB		WATTS	VOLT	PHASE		
			WINTER	SUMMER		WINTER	SUMMER	WINTER	SUMMER					
ERU 1	LOSSNAY LGH-F300RX3-E	260	72°F	75°F	260	22°F	106°F	57.2°F	84.2°F	278	208	1	75	- OR APPROVED EQUAL.
ERU 2	LOSSNAY LGH-F600RX3-E	550	72°F	75°F	550	22°F	106°F	57.1°F	84.2°F	654	208	1	160	- OR APPROVED EQUAL.

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DATE	SYM	REVISION	BY	A'PD

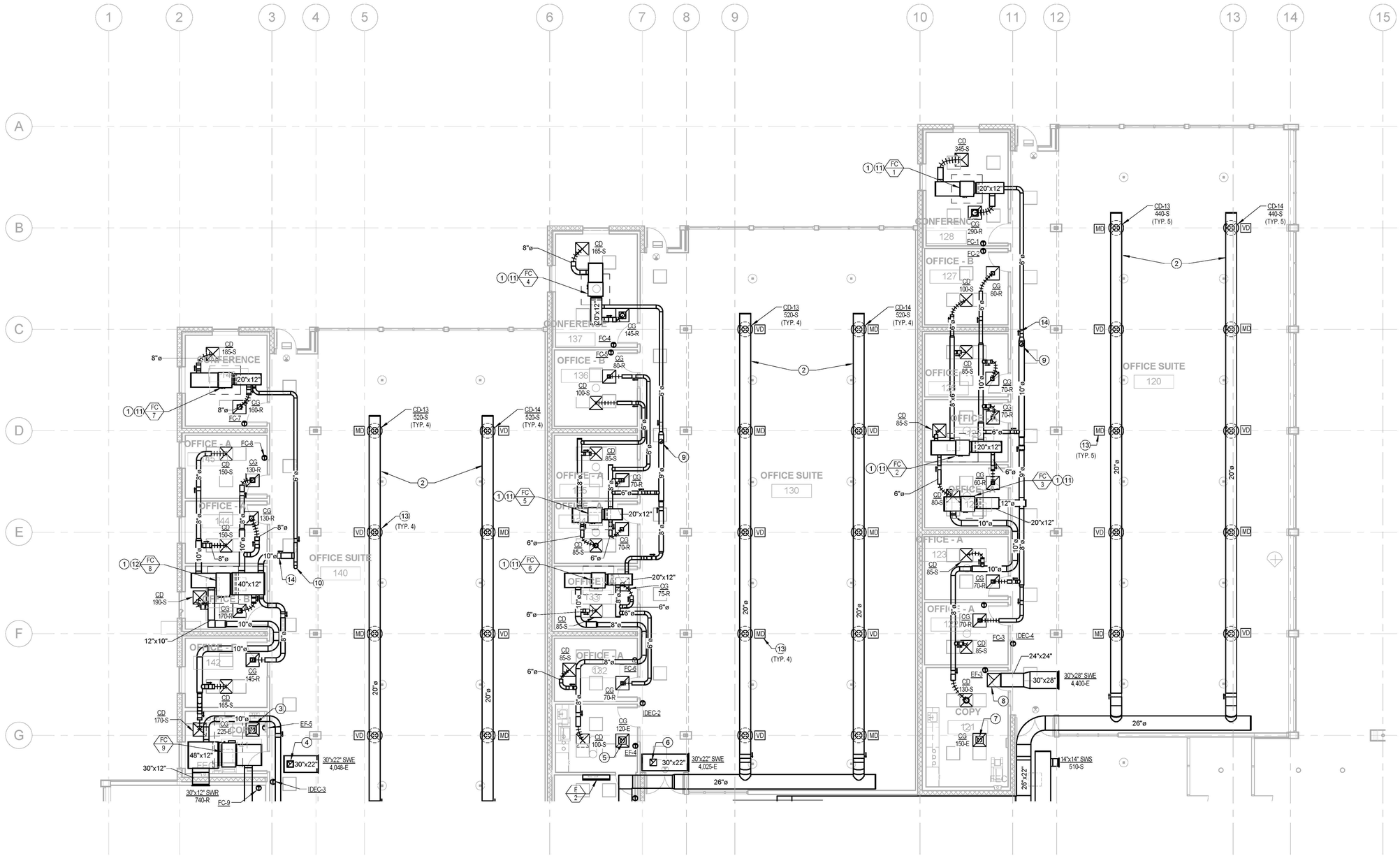
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
DRYDEN FLIGHT RESEARCH CENTER
EDWARDS, CA

DRAWING TITLE
MECHANICAL SCHEDULES

PROJECT TITLE
8-18-11
FACILITIES SUPPORT CENTER
100% FINAL DESIGN SUBMITTAL

APPROVALS	DATE
Chief, Facilities Engineering Division Office DAN CROWLEY	8-18-11
Project Requestor /Customer DAN CROWLEY	8-18-11
Facilities Project Manager GEMMA FLORES	8-18-11
Chief, Office of Protective Services JOHN ZELLMER	8-18-11
Chief - Safety, Health, and Environmental Office DAN MULLEN	8-18-11
DFRC Chief Information Officer KEN NORLIN	8-18-11

DATE STRTD	11/04/10	DATE PRNTD	05/23/11
DRAWN BY			EDM-1703
SCALE	AS NOTED	TRADE SH. No.	
FILE NAME		M0.3	SHEET No. 117 of 195



KEY NOTES

1. FAN COIL IN CEILING SPACE.
2. EXPOSED SA DUCTWORK.
3. 8"ø (L) EA UP. TRANSITION TO 14"x14" (L) UP THRU ROOF TO OPENING OF TO EF-5.
4. 12"x12" EA DUCT UP THRU ROOF TO EF-10.
5. 8"ø (L) EA UP. TRANSITION TO 14"x14" (L) UP THRU ROOF TO OPENING OF TO EF-4.
6. 12"x12" EA DUCT UP THRU ROOF TO EF-9.
7. 8"ø EA UP. TRANSITION TO 14"x14" UP THRU ROOF TO OPENING OF TO EF-3.
8. 24"x24" (L) EA DUCT UP THRU ROOF TO EF-11.
9. 10"ø OA DUCT UP THRU ROOF, COMPLETE WITH BIRDSCREEN MESH. MAINTAIN MIN. 10'-0" CLEARANCE FROM ANY VENT AND EA DUCT.
10. 10"ø OA DUCT UP THRU ROOF, COMPLETE WITH BIRDSCREEN MESH. MAINTAIN MIN. 10'-0" CLEARANCE FROM ANY VENT AND EA DUCT.
11. (1) 20"x12"x2" FILTER IN 20"x12" RETURN AIR PLENUM.
12. (2) 20"x12"x2" FILTER IN 40"x12" RETURN AIR PLENUM.
13. 24V MOTORIZED VOLUME DAMPER, MD.
14. MANUAL VOLUME DAMPER (TYP.)

GENERAL NOTES

1. ALL EXPOSED DUCTWORK SHALL BE PAINTED. COLOR TO BE SELECTED BY ARCHITECT.
2. FOR SIZE OF SUPPLY DIFFUSER, SEE AIR DISTRIBUTION SCHEDULE ON SHEET M0.1.

SCALE: 1/8" = 1'-0"

0 8 16 24 32

MECHANICAL PLAN - NORTH SEGMENT

SCALE: 1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DRYDEN FLIGHT RESEARCH CENTER
EDWARDS, CA

DRAWING TITLE

MECHANICAL PLAN - NORTH SEGMENT

PROJECT TITLE

8-18-11

FACILITIES SUPPORT CENTER
100% FINAL DESIGN SUBMITTAL

APPROVALS	DATE
Chief, Facilities Engineering & Asset Mgmt. Office **DAN CROWLEY**	8-18-11
Project Requestor /Customer **DAN CROWLEY**	8-18-11
Facilities Project Manager **GEMMA FLORES**	8-18-11
Chief, Office of Protective Services **JOHN ZELLMER**	8-18-11
Chief - Safety, Health, and Environmental Office **DAN MULLEN**	8-18-11
DFRC Chief Information Officer **KEN NORLIN**	8-18-11

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DRAWN BY			EDM-1703
SCALE	AS NOTED	TRADE SH. No.	M2.1
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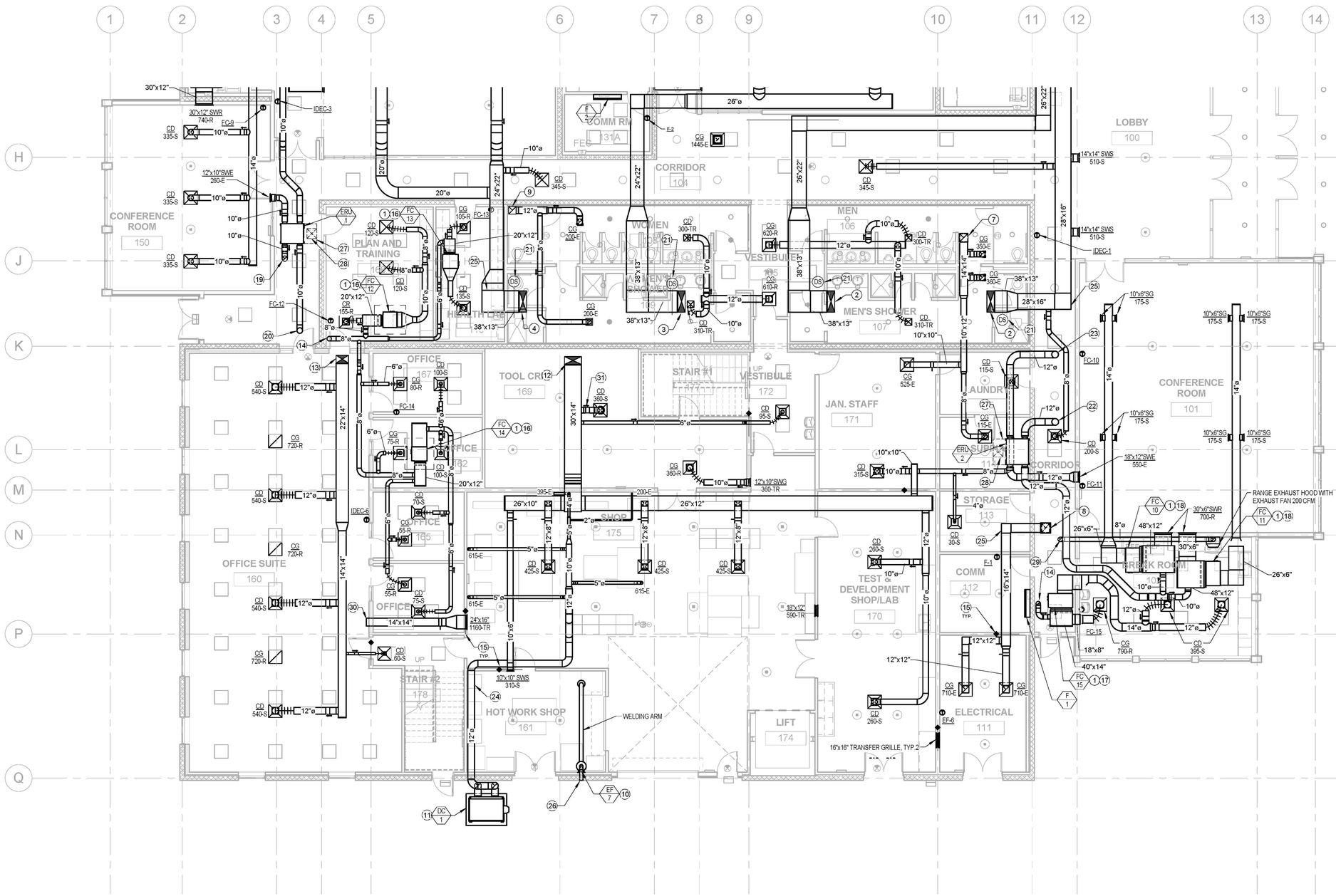

KEY NOTES

1. FAN COIL IN CEILING SPACE.
2. 38"x13" SA DUCT UP THRU ROOF TO IDEC-1.
3. 38"x13" SA DUCT UP THRU ROOF TO IDEC-4.
4. 38"x13" SA DUCT UP THRU ROOF TO IDEC-2.
5. 38"x13" SA DUCT UP THRU ROOF TO IDEC-3.
6. 38"x13" SA DUCT UP THRU ROOF TO EF-1.
7. 14"x14" EA DUCT UP THRU ROOF TO EF-6.
8. 16"x14" EA DUCT UP THRU ROOF TO EF-2.
9. 14"x14" EA DUCT UP THRU ROOF TO EF-2.
10. WELDING EXHAUST FAN MOUNTED TO WALL. DISCHARGE HIGH BELOW SECOND FLOOR LEVEL.
11. DUST COLLECTOR MOUNTED TO CONCRETE PAD.
12. 30"x14" SA DUCT UP.
13. 22"x14" SA DUCT UP .
14. 8"ø OA DUCT UP THRU ROOF, COMPLETE WITH BIRDSCREEN MESH. MAINTAIN MIN. 10'-0" CLEARANCE FROM ANY VENT AND EA DUCT.
15. COMBINATION SMOKE/FIRE DAMPER, CSFD.
16. (1) 20"x12"x2" FILTER IN 20"x12" RETURN AIR PLENUM.
17. (2) 20"x14"x2" FILTER IN 40"x14" RETURN AIR PLENUM.
18. (2) 24"x12"x2" FILTER IN 48"x12" RETURN AIR PLENUM.
19. 10"ø EA DUCT UP THRU ROOF TO GOOSENECK, COMPLETE WITH BIRDSCREEN MESH.
20. 10"ø OA DUCT UP THRU ROOF TO GOOSENECK, COMPLETE WITH BIRDSCREEN MESH. MAINTAIN MIN. 10'-0" CLEARANCE FROM ANY EA DUCT AND VENT DISCHARGE.
21. DUCT SMOKE DETECTOR, DS, PER 2010 CMC 609.
22. 12"ø EA DUCT UP THRU ROOF, COMPLETE WITH BIRDSCREEN MESH.
23. 12"ø OA DUCT UP THRU ROOF, COMPLETE WITH BIRDSCREEN MESH. MAINTAIN MIN. 10'-0" CLEARANCE FROM ANY EA DUCT AND VENT DISCHARGE.
24. 12"ø EA DUCT IN RATED ENCLOSURE. SEE ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.
25. RECTANGULAR ELBOW WITH TURNING VANES, TYP.
26. 6"ø EA DUCT TO DISCHARGE THRU WALL TO WALL CAP.
27. INDICATES MIN. MAINTENANCE SPACE CLEARANCE FOR ACCESS TO HEAT EXCHANGER, AIR FILTERS, AND FANS.
28. INDICATES MIN. INSPECTION OPENING. PROVIDE ACCESS PANEL AS REQUIRED.
29. 8" UP THROUGH ROOF TO GOOSENECK.
30. 14"x14" DUCT OPENING ABOVE THE CEILING
31. MANUAL VOLUME DAMPER (TYP.).

GENERAL NOTES

1. ALL EXPOSED DUCTWORK SHALL BE PAINTED. COLOR TO BE SELECTED BY ARCHITECT.
2. FOR SIZE OF SUPPLY DIFFUSER, SEE AIR DISTRIBUTION SCHEDULE ON SHEET M0.1.

SCALE: 1/8" = 1'-0"

0 8 16 24 32

MECHANICAL PLAN - SOUTH SEGMENT

SCALE: 1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER DONN C. GILMORE No. 11041 Exp. 9-30-11 MECHANICAL STATE OF CALIFORNIA

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MECHANICAL PLAN - SOUTH SEGMENT

PROJECT TITLE
8-18-11
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100% FINAL DESIGN SUBMITTAL

APPROVALS	DATE
Chief, Facilities Engineering Division/Center Office **DAN CROWLEY**	8-18-11
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DRAWN BY			EDM-1703
SCALE	AS NOTED	TRADE SH. No.	M2.2
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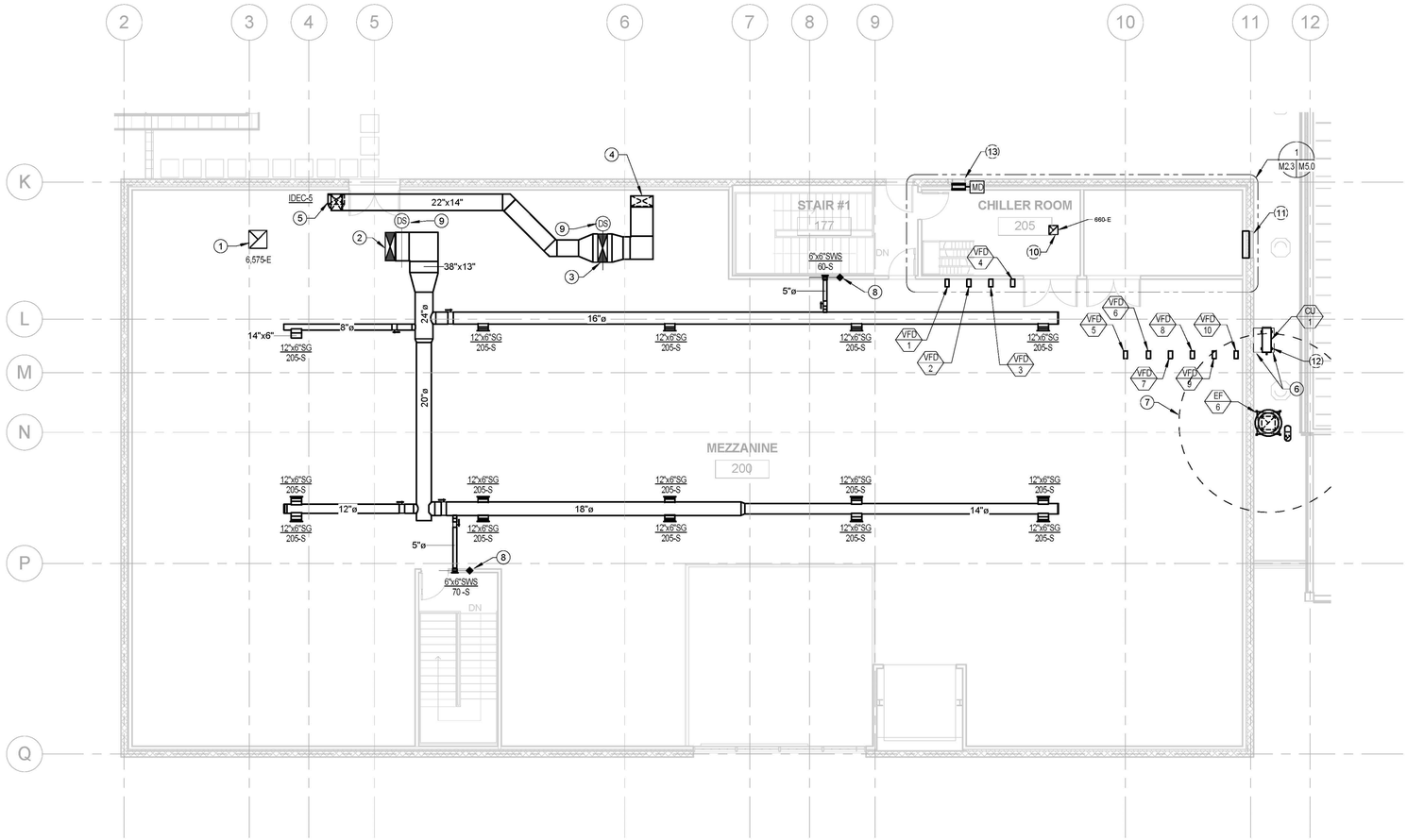

KEY NOTES

1. 24"x24" EA DUCT UP THRU ROOF TO EF-12. 1/4" MESH GALVANIZED SCREEN AT DUCT OPENING.
2. 38"x13" SA DUCT UP THRU ROOF TO IDEC-5.
3. 38"x13" SA DUCT UP THRU ROOF TO IDEC-6.
4. 30"x14" SA DN TO BELOW.
5. 22"x14" SA DN TO BELOW.
6. INDICATES MINIMUM SERVICE CLEARANCE.
7. INDICATES MINIMUM DISTANCE FROM ANY OUTSIDE AIR INTAKE.
8. COMBINATION SMOKE/FIRE DAMPER, CSFD.
9. DUCT SMOKE DETECTOR, DS, PER 2010 CMC 609.
10. 12"x12" EA DUCT, COMPLETE WITH 1/2" SCREEN/MESH, UP THRU ROOF TO EF-13.
11. 3'-0"x3'-0" OUTSIDE AIR LOUVER. TOP OF LOUVER SHALL BE WITHIN 12" OF ROOF.
12. FOR CONDENSING UNIT SUPPORT AND ANCHORING TO STEEL SUPPORT, SEE STRUCTURAL DETAIL 11/S7.3.
13. 1'-6"x2'-0" OUTSIDE AIR LOUVER. TOP OF LOUVER SHALL BE WITHIN 12" OF ROOF, COMPLETE WITH MOTORIZED DAMPER.

GENERAL NOTES

1. ALL EXPOSED DUCTWORK SHALL BE PAINTED. COLOR TO BE SELECTED BY ARCHITECT.
2. FOR SIZE OF SUPPLY DIFFUSER, SEE AIR DISTRIBUTION SCHEDULE ON SHEET M0.1.

SCALE: 1/8" = 1'-0"

0 8 16 24 32

MECHANICAL MEZZANINE

SCALE: 1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
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EDWARDS, CA

DRAWING TITLE
MECHANICAL MEZZANINE

PROJECT TITLE
8-18-11
FACILITIES SUPPORT CENTER
100% FINAL DESIGN SUBMITTAL

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