		MEASURES: NONRESIDENTI	AL ENV-MM
Project Name New Office			Date 12/1/2011
DESCRI			12/11/2011
	nvelope Measures:		
§118(a):	Installed insulating material sh	nall have been certified by the manufacturer to con rial, Title 20 Chapter 4, Article 3.	nply with the California Quality
§118(c):	All Insulating Materials shall b Sections 2602 and 707 of Title	e installed in compliance with the flame spread rate 24, Part 2.	ting and smoke density requirements of
§118(f):	The opaque portions of frame of no less than R-13 between	d demising walls in nonresidential buildings shall h framing members.	have insulation with an installed R-value
§117(a):	All Exterior Joints and opening weatherstripped or otherwise	gs in the building that are observable sources of a sealed.	ir leakage shall be caulked, gasketed,
§116(a) 1:	window area, 0.3 cfm/ft.2 of do	ducts and exterior doors shall have air infiltration oor area for residential doors, 0.3 cfm/ft.² of door a com/ft.² for nonresidential double doors (swinging	rea for nonresidential single doors
§116(a) 2:	Fenestration U-factor shall be	rated in accordance with NFRC 100, or the applic	cable default U-factor.
§116(a) 3:	Fenestration SHGC shall be rapplicable default SHGC.	ated in accordance with NFRC 200, or NFRC 100	for site-built fenestration, or the
§116(b):		ows and Skylights shall be caulked between the unframed glass doors and fire doors).	ınit and the building, and shall be
	by EnergySoft User Number	:: 4964 RunCode: 2011-12-01T11:05:22	ID: Page 30 of 3

Dunings Minne	NICAL MANDATORY MEASURES: NONRESIDENTIAL	MECH-MM
Project Name <b>Vew Office</b>	Ruilding	Date 12/1/2011
	nt and System Efficiencies	12/1/2011
§111:	Any appliance for which there is a California standard established in the Appliance Efficiency Reg	ulations will comply
§115(a):	with the applicable standard.  Fan type central furnaces shall not have a pilot light.	
	Piping, except that conveying fluids at temperatures between 60 and 105 degrees Fahrenheit, or	within HVAC
§123:	equipment, shall be insulated in accordance with Standards Section 123.	within 11476
§124:	Air handling duct systems shall be installed and insulated in compliance with Sections 601, 602, 6 the CMC Standards.	603, 604, and 605 of
Controls		
§122(e):	Each space conditioning system shall be installed with one of the following:	
1A.	Each space conditioning system serving building types such as offices and manufacturing facilitie explicitly exempt from the requirements of Section 112 (d)) shall be installed with an automatic tin accessible manual override that allows operation of the system during off-hours for up to 4 hours. shall be capable of programming different schedules for weekdays and weekends and have prograpabilities that prevent the loss of the device's program and time setting for at least 10 hours if p	ne switch with an The time switch ram backup
1B.	An occupancy sensor to control the operating period of the system; or	
1C.	A 4-hour timer that can be manually operated to control the operating period of the system.	
2.	Each space conditioning system shall be installed with controls that temporarily restart and temporary system as required to maintain a setback heating and/or a setup cooling thermostat setpoint.	rarily operate the
§122(g):	Each space conditioning system serving multiple zones with a combined conditioned floor area m square feet shall be provided with isolation zones. Each zone: shall not exceed 25,000 square fe with isolation devices, such as valves or dampers that allow the supply of heating or cooling to be independently of other isolation areas; and shall be controlled by a time control device as describe	eet; shall be provided setback or shut off
§122(c):	Thermostats shall have numeric setpoints in degrees Fahrenheit (F) and adjustable setpoint stops authorized personnel.	
§122(b):	Heat pumps shall be installed with controls to prevent electric resistance supplementary heater of heating load can be met by the heat pump alone	
§122(a&b):	Each space conditioning system shall be controlled by an individual thermostat that responds to to zone. Where used to control heating, the control shall be adjustable down to 55 degrees F or low control shall be adjustable up to 85 degrees F or higher. Where used for both heating and cooling capable of providing a deadband of at least 5 degrees F within which the supply of heating and correduced to a minimum.	er. For cooling, the g, the control shall be
Ventilatio	n	
§121(e):	Controls shall be provided to allow outside air dampers or devices to be operated at the ventilation on these plans.	n rates as specified
§122(f):	All gravity ventilating systems shall be provided with automatic or readily accessible manually open openings to the outside, except for combustion air openings.	erated dampers in all
§121(f):	Ventilation System Acceptance. Before an occupancy permit is granted for a newly constructed be new ventilating system serving a building or space is operated for normal use, all ventilation system building or space shall be certified as meeting the Acceptance Requirements for Code Compliance	ms serving the
Service V	Vater Heating Systems	
§113(c)	Installation	
3.	Temperature controls for public lavatories. The controls shall limit the outlet Temperature to 110°	F.
٥.	Circulating service water-heating systems shall have a control capable of automatically turning of	the circulating pump

Project Name New Office Bu	ıilding												Date 12/1/	2011
		MECH	IANICAL	VENTILATIO	ON (§121(	b)2)				REHE	AT LIMITA	TION (§144	(d))	
	AREA BASIS					OCCUPANCY BASIS					VAV MIN		. ,,	
A Zone/System		в с		D	E F		G	н	ı	J	K L		М	N
		Condition Area (ft²)	CFM per ft <sup>2</sup>	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 Ventilation Air CFM	50% of Design Zone Supply CFM	B X 0.4 CFM / ft <sup>2</sup>	Max. of Columns H, J, K, 300 CFM	Design Minimum Air Setpoint	Transfer Air
Recept		242	0.15	36				36	36					
Office		64	0.15	10				10	10					
Treatment Areas		468	0.15	70				70	70					
Support		64	0.15	10				10	10					
Suite A RTU-1							Total	126	126					
Offices		272	0.15	41				41	41					
Treatment Areas		319	0.15	48				48	48					
Break Room		179	0.15	27				27	27					
Support Areas		568	0.15	85				85	85					
Suite A RTU-2							Total	201	201					
Waiting Area		315	0.15	47				47	47					
Offices		442	0.15	66				66	66					
Treatment Area		103	0.15	15				15	15					
Support Areas		60	0.15	9				9	9					
Suite B RTU-3							Total	138	138					
				Totals						Column I Total	Design Vent	tilation Air		
C Mi	inimum ventilatio	on rate per Section	on §121, Ta	able 121-A.										
E Ba	ased on fixed se	at or the greater	of the expe	cted number of	of occupant	s and 50%	of the CBC oc	cupant load	for egress pu	rposes for space	s without fixe	ed seating.		
H Re	equired Ventilati	on Air (REQ'D V.	A.) is the la	arger of the ve	ntilation rat	es calculate	ed on an AREA	BASIS or	OCCUPANCY	BASIS (Column	D or G).			
I M	ust be greater th	an or equal to H,	or use Tra	nsfer Air (colu	ımn N) to m	ake up the	difference.							
J De	esign fan supply	CFM (Fan CFM)	x 50%; or	the design zo	ne outdoor	airflow rate	per §121.							
K Co	ondition area (ft²	) x 0.4 CFM / ft <sup>2</sup> ;	or											
L Ma	aximum of Colu	mns H, J, K, or 30	00 CFM											
		than or equal to												
		be provided whe ence between th									required, tran	nsfer air must	be greater th	nan or
EnergyPro 5.1 by E		User Numb					le: 2011-12-01		,,	ID:			Day	ge 27 of 31

Project Name <b>Vew Office</b>													Date 12/1/	2011	
		MECH	IANICAL	VENTILATIO	ON (§121(	b)2)				REHE	AT LIMITA	IMITATION (§144(d))			
		AR	EA BASIS		OCCUPANCY BASIS					VAV MINIMUM					
	A	В	С	D	E	F	G	н	I	J	K	L	М	N	
Zon	e/System	Condition Area (ft²)	CFM per ft <sup>2</sup>	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 Ventilation Air CFM	50% of Design Zone Supply CFM	B X 0.4 CFM / ft <sup>2</sup>	Max. of Columns H, J, K, 300 CFM	Design Minimum Air Setpoint	Transfer Air	
reatment Are	as	783	0.15	117				117	117						
Support Areas		342	0.15	51				51	51						
Break Room		171	0.15	26				26	26						
Suite B RTU-	4						Total	194	194						
Office Suite C		1,895	0.15	284				284	284						
Suite C RTU-	5 & 6						Total	284	284						
				Totals						Column I Total	Design Vent	tilation Air			
С	Minimum ventilat	ion rate per Section	on §121, Ta	able 121-A.											
E	Based on fixed se	eat or the greater	of the expe	cted number of	of occupant	s and 50%	of the CBC occ	cupant load	for egress pu	rposes for space	s without fixe	ed seating.			
Н	Required Ventilat	tion Air (REQ'D V.	.A.) is the la	rger of the ve	ntilation rat	es calculate	ed on an AREA	BASIS or C	OCCUPANCY	BASIS (Column	D or G).				
I	Must be greater t	han or equal to H	, or use Tra	nsfer Air (colu	mn N) to m	ake up the	difference.								
J	Design fan suppl	y CFM (Fan CFM)	x 50%; or	the design zor	ne outdoor	airflow rate	per §121.								
K	Condition area (fi	t <sup>2</sup> ) x 0.4 CFM / ft <sup>2</sup> ;	or												
L	Maximum of Colu	umns H, J, K, or 3	00 CFM												
М		s than or equal to							A! (O :	NO 144		-t1	to a sum of the contract of th		
N	equal to the differ	t be provided whe rence between th	e Required			H) and the [	Design Minimu	n Air (Colur		n H minus M.	equired, trar	ıster air must			
EnergyPro 5.	1 by EnergySoft	User Numb	per: 4964			RunCoo	le: 2011-12-01	T11:05:22		ID:			Pag	ge 28 of 31	

<b>MECHANICAL EQUI</b>	<b>PMENT</b>	DET/	ILS							(Part	1 of 2	2) I	MECH-50
Project Name New Office Building										•		Date 1	2/1/2011
CHILLER AND TOWER SUM	MARY											'	
				1							PUMPS	S	Pump
<b>Equipment Name</b>		Туре		Qty.	Effici	ency	Tons		Qty. C	GPM BH			Control
DHW / BOILER SUMMARY													
System Name	Туре		Distributio	on Qty.	Rated Inpo	Vol. ut (Gals		nergy Factor or RE	tor Standby Lo		Tank Ext. R-Value	Status	
MULTI-FAMILY CENTRAL W	ATER HEA	TING D	ETAILS										
		Hot W	ater Pump							Hot Water	Piping L		
Control		Qty.	HP		Ту	oe		In F	Plenum	Outside	Bur	ried Add	I ½" Insulation
CENTRAL SYSTEM RATING	6												
CENTRAL STSTEM HATING	<u> </u>					HEATING				COOLIN	G		
System Name		Туре	Type Qty.		Output	Aux. kW	Efficienc	;y	Output		Efficier	тсу	Status
Carrier 48TCLA06C1-5	Package	ed DX	IDX 1		50,000	0.0	80% A	FUE	-		3.0 SEE	R / 10.8 EER	New
Carrier 48TCLA04C1-5	Package	ed DX			50,000		80% A	\FUE			3.0 SEE	R / 11.0 EER	New
Carrier 48TCLA05C1-5	Package	jed DX		2	50,000	0.0	80% A	AFUE	45,00	0 13.0 SEER /		R / 11.0 EER	New
CENTRAL SYSTEM FAN SU	MMARY												
									SUPPLY FA	N		RETUR	N FAN
System Name			Fan Typ	е	Econo	mizer Type		CFN	М	ВНР		CFM	ВНР
Carrier 48TCLA06C1-5		Consta	nt Volume		Diff. Enth (Integra	ited)			2,000	1.0	0	none	
Carrier 48TCLA04C1-5			nt Volume		Diff. Enth (Integra				1,200	0.7		none	
Carrier 48TCLA05C1-5		Consta	nt Volume		Diff. Enth (Integra	ited)			1,600	1.0	10	none	
EnergyPro 5.1 by EnergySoft	User Numb					011-12-01T11			ID:				Page 29 of 3

New Office Building				Date 12/1/201					
Itam as System Tago	Indicate Air Systems Type (Central, Single Zone, Package, VAV, or etc)								
Item or System Tags (i.e. AC-1, RTU-1, HP-1)		Suite A RTU-1	Suite A RTU-2	Suite B RTU-3					
Number of Systems		1	1	1					
	Indicate Pag	e Reference on Plans or S	Schedule and indicate the	applicable exception					
MANDATORY MEASURES	T-24 Sections								
Heating Equipment Efficiency	112(a)	80% AFUE	80% AFUE	80% AFUE					
Cooling Equipment Efficiency	112(a)	13.0 SEER / 10.8 EER	13.0 SEER / 11.0 EER	13.0 SEER / 11.0 E					
HVAC Heat Pump Thermostat	112(b), 112(c)	n/a	n/a	n/a					
Furnace Controls/Thermostat	112(c), 115(a)	n/a	n/a	n/a					
Natural Ventilation	121(b)	No	No	No					
Mechanical Ventilation	121(b)	126 cfm	201 cfm	138 cfm					
VAV Minimum Position Control	121(c)	No	No	No					
Demand Control Ventilation	121(c)	No	No	No					
Time Control	122(e)	Programmable Switch	Programmable Switch	Programmable Swit					
Setback and Setup Control	122(e)	Setback Required	Setback Required	Setback Required					
Outdoor Damper Control	122(f)	Auto	Auto	Auto					
Isolation Zones	122(g)	n/a	n/a	n/a					
Pipe Insulation	123								
Duct Location/ R-value	124	Conditioned / 4.2	Conditioned / 4.2	Conditioned / 4.2					
PRESCRIPTIVE MEASURES									
PRESCRIPTIVE MEASURES Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location	144(a & b) 144(a & b) 144(a & b) 144(a & b) 144(c)	n/a 50,000 Btu/hr n/a 38,728 Btu/hr Constant Volume	n/a 50,000 Btu/hr n/a 24,669 Btu/hr Constant Volume	n/a 50,000 Btu/hr n/a 28,736 Btu/hr Constant Volume					
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location	144(a & b) 144(a & b) 144(a & b) 144(a & b) 144(c) 144(c)	50,000 Btu/hr n/a 38,728 Btu/hr	50,000 Btu/hr n/a 24,669 Btu/hr	50,000 Btulhr nla 28,736 Btulhr					
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location Supply Pressure Reset (DDC only)	144(a & b) 144(c) 144(c) 144(c)	50,000 Btu/hr n/a 38,728 Btu/hr Constant Volume	50,000 Btu/hr n/a 24,669 Btu/hr Constant Volume	50,000 Btulhr nla 28,736 Btulhr Constant Volume					
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location Supply Pressure Reset (DDC only) Simultaneous Heat/Cool	144(a & b) 144(a & b) 144(a & b) 144(a & b) 144(c) 144(c) 144(c) 144(d)	50,000 Btu/hr n/a 38,728 Btu/hr Constant Volume Yes	50,000 Btu/hr n/a 24,669 Btu/hr Constant Volume Yes	50,000 Btulhr n/a 28,736 Btulhr Constant Volume Yes					
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location Supply Pressure Reset (DDC only) Simultaneous Heat/Cool Economizer	144(a & b) 144(c) 144(c) 144(c) 144(d) 144(e)	50,000 Btu/hr n/a 38,728 Btu/hr Constant Volume  Yes No	50,000 Btu/hr  n/a  24,669 Btu/hr  Constant Volume  Yes  No	50,000 Btulhr n/a 28,736 Btulhr Constant Volume  Yes No					
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location Supply Pressure Reset (DDC only) Simultaneous Heat/Cool Economizer Heat Air Supply Reset	144(a & b) 144(c) 144(c) 144(c) 144(d) 144(e) 144(f)	50,000 Btu/hr  n/a  38,728 Btu/hr  Constant Volume  Yes  No  Diff. Enth (Integrated)	50,000 Btu/hr  n/a  24,669 Btu/hr  Constant Volume  Yes  No  Diff. Enth (Integrated)	50,000 Btu/hr n/a 28,736 Btu/hr Constant Volume  Yes No Diff. Enth (Integrate					
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location Supply Pressure Reset (DDC only) Simultaneous Heat/Cool Economizer Heat Air Supply Reset Cool Air Supply Reset	144(a & b) 144(c) 144(c) 144(c) 144(d) 144(e) 144(f)	50,000 Btu/hr  n/a  38,728 Btu/hr  Constant Volume  Yes  No  Diff. Enth (Integrated)  Constant Temp	50,000 Btu/hr  n/a  24,669 Btu/hr  Constant Volume  Yes  No  Diff. Enth (Integrated)  Constant Temp	50,000 Btulhr  n/a  28,736 Btulhr  Constant Volume  Yes  No  Diff. Enth (Integrate  Constant Temp					
Calculated Design Heating Load Proposed Heating Capacity Calculated Design Cooling Load Proposed Cooling Capacity Fan Control DP Sensor Location	144(a & b) 144(c) 144(c) 144(c) 144(d) 144(e) 144(f)	50,000 Btu/hr  n/a  38,728 Btu/hr  Constant Volume  Yes  No  Diff. Enth (Integrated)  Constant Temp	50,000 Btu/hr  n/a  24,669 Btu/hr  Constant Volume  Yes  No  Diff. Enth (Integrated)  Constant Temp	50,000 Btu/hr n/a 28,736 Btu/hr Constant Volume  Yes No Diff. Enth (Integrate Constant Temp					

Project Name New Office Building				Date 12/1/2011
vow omeo Banamy	Indica	ate Air Systems Type (Ce	ntral, Single Zone, Package, VA	
Item or System Tags (i.e. AC-1, RTU-1, HP-1)		Suite B RTU-4	Suite C RTU-5 & 6	1, 0. 0.0,
Number of Systems		1	2	
Number of Systems	Indicate Pag		Schedule and indicate the appli	cable exception(s)
MANDATORY MEASURES	T-24 Sections	o riciorcinos cirrianis cir		ouble exception(s)
Heating Equipment Efficiency	112(a)	80% AFUE	80% AFUE	
Cooling Equipment Efficiency	112(a)	13.0 SEER / 11.0 EER	13.0 SEER / 11.0 EER	
HVAC Heat Pump Thermostat	112(b), 112(c)	n/a	n/a	
Furnace Controls/Thermostat	112(c), 115(a)	n/a	n/a	
Natural Ventilation	121(b)	No	No	
Mechanical Ventilation	121(b)	194 cfm	284 cfm	
VAV Minimum Position Control	121(c)	No	No	
Demand Control Ventilation	121(c)	No	No	
Time Control	122(e)	Programmable Switch	Programmable Switch	
Setback and Setup Control	122(e)	Setback Required	Setback Required	
Outdoor Damper Control	122(f)	Auto	Auto	
Isolation Zones	122(g)	n/a	n/a	
Pipe Insulation	123			
Duct Location/ R-value	124	Conditioned / 4.2	Conditioned / 4.2	
PRESCRIPTIVE MEASURES Calculated Design Heating Load	144(a & b)	n/a	nla	
Proposed Heating Capacity	144(a & b)	50,000 Btu/hr	100,000 Btu/hr	
Calculated Design Cooling Load	144(a & b)	n/a	nla	
Proposed Cooling Capacity	144(a & b)	24,665 Btu/hr	59,113 Btu/hr	
Fan Control	144(c)	Constant Volume	Constant Volume	
DP Sensor Location	144(c)			
Supply Pressure Reset (DDC only)	144(c)	Yes	Yes	
Simultaneous Heat/Cool	144(d)	No	No	
Economizer	144(e)	Diff. Enth (Integrated)	Diff. Enth (Integrated)	
Heat Air Supply Reset	144(f)	Constant Temp	Constant Temp	
Cool Air Supply Reset	144(f)	Constant Temp	Constant Temp	
Electric Resistance Heating <sup>1</sup>	144(g)			
Air Cooled Chiller Limitation	144(i)			
	144(k)	No	No	
Duct Leakage Sealing. If Yes, a MECH-4-A must be submitted				

ENGINEERING

HANDLE

NEW PROFESSIONAL OFFICE FOR:

JAMES HOCH, D.D.

32246 CLINTON KEITH ROAD, WILDOMAR, CA

DATE: 11.28.11 JOB NO: TM/SL/JH DRAWN: PK CHECKED: GD/PK SCALE: AS NOTED

M1.4