REPORT- SV-A System Design Parameters for  $\,\,$  P1B (B.N11) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

			(-									
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	464.0	1.	0.0	11.7	02	0.742	-12.042	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	1		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF			AN FAI			
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	390.	1.00	0.022	0.18	0.1	0.25	0.62	DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	IULT
P1B North Perim Zn (B.N11P	390.	31.	0.005	0.738	0.	0.00	0.00	8.87	0.00	-10.98	1.

PVVT

1.001

0.000

0.000

51.891 0.742 -53.373 0.000

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP
SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
TYPE FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC)

SUPPLY 1731. 1.00 0.099 0.18 0.2 0.37 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

2465.0 3. 0.000

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
P1B North Perim Zn (B.N13P	1731.	165.	0.028	0.727	0.	0.00	0.00	39.39	0.00	-47.99	1.

REPORT- SV-A System Design Parameters for  $\,$  P1B (B.NE14) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	705.0	1.	0.0	16.4	:16	0.742	-16.893	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAN	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	(FRAC)	(FRAC)	
SUPPLY	548.	1.00	0.031	0.18	0.1	0.25	0.62	DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	IULT
P1B NE Perim Zn (B.NE14) 1	548.	47.	0.008	0.736	0.	0.00	0.00	12.42	0.00	-15.35	1.

DOE-2.3-50h 1/26/2023

9:30:35 BDL RUN 9

REPORT- SV-A System Design Parameters for L1A (G.SSW15) FIT VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEAT PUMP
SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
TYPE FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)

PVVT 1.001 1300.5 0. 0.000 28.093 0.742 -28.995 0.000 0.000 0.000

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC) SUPPLY 937. 1.00 0.054 0.18 0.1 0.30 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	1	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1A SSW Perim Zn (G.SSW15I	937.	0.	0.000	0.715	0.	0.00	0.00	-0.12	0.00	-25.48	1.

WEATHER FILE- SEATTLE BOEING FI WA

REPORT- SV		Design Para			LOB V				WEAINI		AIILE BOEIN	
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	P	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1541.0	51.	0.0	30.0	60	0.742	-30.940	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ł		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F.	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1003.	1.00	0.058	0.18	0.1	0.30	0.62	2 DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	ULT
L1A South Perim Zn (G.S170	1003.	0.	0.000	0.730	257.	0.00	0.00	22.45	0.00	-27.90	1.

REPORT- SV-A System Design Parameters for L1A (G.E19) APT2 VRF

WEATHER FILE- SEATTLE BOEING FI WA

KEFORT SV					AF12	VICE			WEATH			
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX		AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1033.8	1.	0.0	000 18.1	76	0.742	-18.699	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	606.	1.00	0.035	0.18	0.1	0.25	0.62	DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	ULT
L1A East Perim Zn (G.E19)T	606.	69.	0.012	0.732	0.	0.00	0.00	14.08	0.00	-16.94	1.

REPORT- SV-A System Design Parameters for  $\,$  L1A (G.NNE24) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	749.2	1.	0.0	000 10.0	43	0.742	-10.334	0.000	0.000	0.000	
		DILIDDGIMI	DOMED	T13.37	OMA MIT O	moma r	MEGI			M27 F27	MIN DAN	
		DIVERSITY	POWER	FAN	STATIC	TOTAL				MAX FAN		
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	L (FRAC)	(FRAC)	
SUPPLY	335.	1.00	0.019	0.18	0.1	0.25	0.62	DRAW-THR	U SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

		SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
Z	ONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	ONE
N	AME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	JLT
L1A NN	E Perim Zn (G.NNE24P	335.	50.	0.008	0.737	0.	0.00	0.00	7.78	0.00	-9.42	1.

REPORT- SV-A System Design Parameters for  $\,$  L1A (G.WNW27) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

		J		, -	,	-				-	-	
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX		IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	493.5	1.	0.0	000 9.2	89	0.742	-9.554	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	· FA	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	310.	1.00	0.018	0.18	0.1	0.25	0.62	DRAW-THR	U SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	E
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	$\mathbf{T}$
L1A WNW Perim Zn (G.WNW27P	310.	33.	0.006	0.471	0.	0.00	0.00	6.67	0.00	-6.30 1	

REPORT- SV-A System Design Parameters for L1A (G.N28) APT3 VRF WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT )	MAX PEOPLE	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)
PVVT	1.001	1326.0	2.	0.000	23.407	0.742	-24.077	0.000	0.000	0.000

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	781.	1.00	0.045	0.18	0.1	0.30	0.62	DRAW-THRU	SPEED	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	IULT
L1A North Perim Zn (G.N28P	781.	89.	0.015	0.407	0.	0.00	0.00	16.41	0.00	-14.16	1.

			- 1	-	_	- 1 -	( ~ >== )	3.00.4	
REPORT-	SV-A	System	Design	Parameters	Ior	LTR	(G.N5)	APT4	VRF.

WEATHER FILE- SEATTLE BOEING FI WA

			IOI	(C	AF14 V							
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	M ALTITUDE	AREA	MAX	A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2580.0	3.	0.0	000 42.9	32	0.742	-44.161	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ł		MAX FAN	MIN FAN	
FAI	I CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	an fai	N RATIO	RATIO	
TYI	PE (CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1432.	1.00	0.082	0.18	0.2	0.34	0.62	2 DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1B North Perim Zn (G.N5)T	1432.	172.	0.029	0.319	0.	0.00	0.00	29.97	0.00	-21.25	1.

REPORT- SV-A System Design Parameters for  $\,$  L1B (G.E6) APT1 VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

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		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	668.0	1.	0.0	000 11.2	65	0.742	-11.588	0.000	0.000	0.000	
		DILIDDGIMI	DOMED		OMA MIT O	moma r	MEGI			M2 W 77 77 77 77 77 77 77 77 77 77 77 77 7	MIN DAN	
		DIVERSITY	POWER	FAN	STATIC	TOTAL				MAX FAN		
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	376.	1.00	0.022	0.18	0.1	0.25	0.62	DRAW-THR	U SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	ΙE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	Т
L1B East Perim Zn (G.E6) 1	376.	45.	0.007	0.426	0.	0.00	0.00	7.89	0.00	-7.07 1	١.

0.1 0.25 0.62 DRAW-THRU SPEED 1.00 0.30

(FRAC) (FRAC)

REPORT- SV-A System Design Parameters for L1B (G.W7) APT1 VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR) SYSTEM ALTITUDE AREA (SQFT ) TYPE FACTOR PVVT 1.001 765.0 1. 0.000 13.630 0.742 -14.021 0.000 0.000 FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF MAX FAN MIN FAN FAN FAN RATIO RATIO

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

(FRAC)

TYPE (CFM )

455.

SUPPLY

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

1.00 0.026 0.18

		SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
	ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
	NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L1B	West Perim Zn (G.W7) 1	455.	51.	0.009	0.738	0.	0.00	0.00	10.38	0.00	-12.76	1.

(KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL

REPORT- SV-P	System Design	n Parameters fo	r L1B	(G.W8)	APT1 VRF	
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WEATHER FILE- SEATTLE BOEING FI WA

				,								
		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX		AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	654.5	1.	0.0	000 13.8	324	0.742	-14.223	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I.		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r F	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	461.	1.00	0.026	0.18	0.1	0.25	0.62	2 DRAW-THI	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L1B West Perim Zn (G.W8) 1	461.	44.	0.007	0.756	0.	0.00	0.00	10.39	0.00	-13.15	⊥.

REPORT- SV-A System Design Parameters for L1B (G.E9) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

				AFII V				WEATH	SK FIDE SE		, P. W.
	FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
1.001	713.5	1.	0.0	000 14.1	93	0.742	-14.602	0.000	0.000	0.000	
	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	an fan	N RATIO	RATIO	
(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
473.	1.00	0.027	0.18	0.1	0.25	0.62	DRAW-THR	RU SPEEI	1.00	0.30	
	ALTITUDE FACTOR 1.001 CAPACITY (CFM )	FLOOR ALTITUDE AREA FACTOR (SQFT )  1.001 713.5  DIVERSITY CAPACITY FACTOR (CFM ) (FRAC)	FLOOR ALTITUDE AREA MAX FACTOR (SQFT ) PEOPLE  1.001 713.5 1.  DIVERSITY POWER CAPACITY FACTOR DEMAND (CFM ) (FRAC) (KW)	FLOOR OUTSI ALTITUDE AREA MAX F FACTOR (SQFT ) PEOPLE RAT  1.001 713.5 1. 0.0  DIVERSITY POWER FAN CAPACITY FACTOR DEMAND DELTA-T (CFM ) (FRAC) (KW) (F)	FLOOR OUTSIDE COOLI ALTITUDE AREA MAX AIR CAPACI FACTOR (SQFT) PEOPLE RATIO (KBTU/H  1.001 713.5 1. 0.000 14.1  DIVERSITY POWER FAN STATIC CAPACITY FACTOR DEMAND DELTA-T PRESSURE (CFM) (FRAC) (KW) (F) (IN-WATER)	FLOOR OUTSIDE COOLING ALTITUDE AREA MAX AIR CAPACITY SE FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR)  1.001 713.5 1. 0.000 14.193  DIVERSITY POWER FAN STATIC TOTAL CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC)	FLOOR OUTSIDE COOLING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR)  1.001 713.5 1. 0.000 14.193 0.742  DIVERSITY POWER FAN STATIC TOTAL MECH CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC)	FLOOR OUTSIDE COOLING HEATING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR)  1.001 713.5 1. 0.000 14.193 0.742 -14.602  DIVERSITY POWER FAN STATIC TOTAL MECH CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FA (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMEN	FLOOR OUTSIDE COOLING HEATING COOLING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU)  1.001 713.5 1. 0.000 14.193 0.742 -14.602 0.000  DIVERSITY POWER FAN STATIC TOTAL MECH CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL	FLOOR OUTSIDE COOLING HEATING COOLING HEATING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU)  1.001 713.5 1. 0.000 14.193 0.742 -14.602 0.000 0.000  DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC)	FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)  1.001 713.5 1. 0.000 14.193 0.742 -14.602 0.000 0.000 0.000  DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC)

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	ULT
L1B East Perim Zn (G.E9) 1	473.	48.	0.008	0.745	0.	0.00	0.00	10.70	0.00	-13.37	1.

REPORT- SV-A System Design Parameters for L1B (G.E10) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

KEFORI SV					AFII	VICE					ATTHE BOETNO	
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	519.0	1.	0.0	000 12.5	06	0.742	-12.866	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	417.	1.00	0.024	0.18	0.1	0.25	0.62	DRAW-TH	RU SPEEI	D 1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	LT
L1B East Perim Zn (G.E10)T	417.	35.	0.006	0.739	0.	0.00	0.00	9.53	0.00	-11.72	1.

REPORT- SV-	A System	Design	Parameters	for	L1B	(G.S11)	APT5	VRF
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WEATHER FILE- SEATTLE BOEING FI WA

	,			(*								
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1978.0	3.	0.0	000 43.3	42	0.742	-44.598	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F.A	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1446.	1.00	0.083	0.18	0.2	0.34	0.62	DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1B South Perim Zn (G.S11P	1446.	132.	0.022	0.737	0.	0.00	0.00	32.57	0.00	-40.54	1.

REPORT- SV-A System Design Parameters for L1B (G.SSW13) CONF VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX		AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	437.5	15.	0.0	10.7	31	0.742	-11.041	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ı		MAX FAN	MIN FAN	
	~~ ~~ ~~ ~~											
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	e E.	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	(FRAC)	(FRAC)	
SUPPLY	358.	1.00	0.021	0.18	0.1	0.25	0.62	2 DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	JLT
L1B SSW Perim Zn (G.SSW130	358.	0.	0.000	0.743	73.	0.00	0.00	6.85	0.00	-10.14	1.

REPORT- SV-A System Design Parameters for  $\,$  L1B (G.C14) OFF VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX		IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	367.5	3.	0.0	000 5.9	58	0.742	-6.133	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ı		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF			N FAN			
TYPE	(CFM )	(FRAC)	(KW)		(IN-WATER)	(FRAC)					(FRAC)	
SUPPLY	199.	1.00	0.011	0.18	0.1	0.25	0.62	DRAW-THR	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

		SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
	ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
	NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	ULT
L1	B Core Zn (G.C14) OFF	199.	0.	0.000	0.753	22.	0.00	0.00	4.57	0.00	-5.65	1.

REPORT- SV-A System Design Parameters for L1B (G.E29) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

KEFORI SV					, AFII					ER FIDE SE	ATTE BOEING F
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	429.5	1.	0.0	000 8.2	81	0.742	-8.517	0.000	0.000	0.000
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	an fai	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)
SUPPLY	276.	1.00	0.016	0.18	0.1	0.25	0.62	2 DRAW-TH	RU SPEEI	D 1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	ΙE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	ъT
IID Book Doving Go (G DOO)	276	20	0 005	0.460	0	0.00	0.00	F 00	0.00	F F0 1	
L1B East Perim Zn (G.E29)T	276.	29.	0.005	0.469	υ.	0.00	0.00	5.89	0.00	-5.58 1	٠.

PVVT

1.001

0.000

REPORT- SV-A System Design Parameters for L2A (G.E14) APT3 VRF WEATHER FILE- SEATTLE BOEING FI WA

18.220 0.742 -18.741 0.000

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP
SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
TYPE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN TAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC) SUPPLY 608. 1.00 0.035 0.18 0.1 0.25 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

1947.8 2. 0.000

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2A East Perim Zn (G.E14)T	608.	130.	0.022	0.505	0.	0.00	0.00	12.59	0.00	-13.05	1.

WEATHER FILE- SEATTLE BOEING FI WA

REFORT SV												
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	P	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1270.5	2.	0.0	000 22.2	15	0.742	-22.851	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	IT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	741.	1.00	0.043	0.18	0.1	0.30	0.62	DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	ULT
L2A WNW Perim Zn (G.WNW18P	741.	85.	0.014	0.389	0.	0.00	0.00	15.58	0.00	-12.96	1.

WEATHER FILE- SEATTLE BOEING FI WA

	2	5									
		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX		AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1039.0	1.	0.0	000 16.2	40	0.742	-16.704	0.000	0.000	0.000
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)
SUPPLY	542.	1.00	0.031	0.18	0.1	0.25	0.62	DRAW-TH	RU SPEEI	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	IULT
L2A North Perim Zn (G.N19P	542.	69.	0.012	0.334	0.	0.00	0.00	11.52	0.00	-8.35	1.

REPORT- SV-A System Design Parameters for	L2A (G.SW20) RST VRF	WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR) FLOOR SYSTEM ALTITUDE AREA
TYPE FACTOR (SQFT) PVVT 1.001 2287.5 76. 0.000 285.230 0.742 -293.395 0.000 0.000 0.000 FAN STATIC TOTAL MECH ELTA-T PRESSURE EFF EFF DIVERSITY POWER MAX FAN MIN FAN FAN FAN FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF RATIO RATIO (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) TYPE (CFM ) (FRAC) SUPPLY 9515. 1.00 0.547 0.18 0.2 0.48 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 10 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2A SW Perim Zn (G.SW20)	9515.	8006.	2.347	0.094	8006.	0.00	0.00	149.49	0.00	-45.18	1.

PVVT

1.001

DOE-2.3-50h 1/26/2023

0.000

0.000

9:30:35 BDL RUN 9

REPORT- SV-A System Design Parameters for L2A (G.C21) MAIL VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP
SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
TYPE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)

3.732 0.742 -3.859

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC) SUPPLY 100. 1.00 0.006 0.18 0.1 0.25 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

368.5

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

0. 0.000

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	ΛE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM)	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	ΔT
L2A Core Zn (G.C21) MAIL	100.	0.	0.000	0.010	0.	0.00	0.00	3.03	0.00	0.03 1	1.

REPORT- SV-A System Design Parameters for  $\,$  L2A (G.C22) MAIL VRF

WEATHER FILE- SEATTLE BOEING FI WA

		J		, -	,							
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. A	AIR CAPACI	TY SEI	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	172.5	0.	0.0	0.6	91	0.742	-0.714	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	23.	1.00	0.001	0.18	0.1	0.25	0.62	DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	ΙE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	ъT
707 7 7 (7 700) 1777	0.2	2	0 000	0 504	^	0.00	0.00	0 54	0.00	0.65 1	
L2A Core Zn (G.C22) MAIL	23.	0.	0.000	0.794	0.	0.00	0.00	0.54	0.00	-0.67 1	

REPORT- SV-A System Design Parameters for	L2B (G.N4) APT4 VRF	WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE HEATING COOLING HEATING HEAT PUMP COOLING MAX SYSTEM ALTITUDE AREA AIR CAPACITY SENSIBLE CAPACITY ETR ETR SUPP-HEAT (SQFT ) RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR) TYPE FACTOR PEOPLE PVVT 1.001 2928.0 4. 0.000 43.090 0.742 -44.318 0.000 0.000 0.000 DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN FAN FACTOR DEMAND DELTA-T PRESSURE FAN CAPACITY EFF EFF FAN RATIO RATIO TYPE (CFM ) (FRAC) (F) (IN-WATER) (FRAC) (FRAC) CONTROL (FRAC) (KW) PLACEMENT (FRAC) 1.00 SUPPLY 1437. 1.00 0.083 0.18 0.2 0.34 0.62 DRAW-THRU SPEED 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	IULT
L2R North Derim 7n (C NA)T	1437	105	0 033	0 310	0	0 00	0 00	30 80	0 00	-20 78	1

REPORT- SV-A System Design Parameters for L2B (G.E5) APT1 VRF WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSIDE	COOLING		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	AIR	CAPACITY	SENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RATIO	(KBTU/HR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	984.0	1.	0.000	15.557	0.742	-16.001	0.000	0.000	0.000

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	519.	1.00	0.030	0.18	0.1	0.25	0.62	DRAW-THRU	SPEED	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

		SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE		FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
NAME		(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	IULT
L2B East Perim	Zn (G.E5) 1	519.	66.	0.011	0.434	0.	0.00	0.00	11.11	0.00	-9.88	1.

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	765.0	1.	0.0	000 10.6	47	0.742	-10.951	0.000	0.000	0.000
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F	AN FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTRO	L (FRAC)	(FRAC)
SUPPLY	355.	1.00	0.020	0.18	0.1	0.25	0.62	DRAW-THI	RU SPEE	D 1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	
I 2D West Denim Fr (C W6) 1	255	E1	0 000	0 461	0	0 00	0 00	7 65	0 00	-7.09 1.	
L2B West Perim Zn (G.W6) 1	355.	51.	0.009	0.461	υ.	0.00	0.00	7.65	0.00	-/.09 1.	

REPORT- SV-A System Design Parameters for L2B (G.W7) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	'IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	654.5	1.	0.0	00 6.7	45	0.742	-6.937	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ł		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	225.	1.00	0.013	0.18	0.1	0.25	0.62	2 DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	ΙE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	т
L2B West Perim Zn (G.W7) 1	225.	44.	0.007	0.305	0.	0.00	0.00	4.77	0.00	-3.21 1	

REPORT- SV-A System Design Parameters for  $\,$  L2B (G.E8) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	'IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	628.5	1.	0.0	00 6.4	39	0.742	-6.623	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	an fan	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	(FRAC)	(FRAC)	
SUPPLY	215.	1.00	0.012	0.18	0.1	0.25	0.62	DRAW-THR	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

		SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE		FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE :	ZONE
NAME		(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) i	MULT
L2B East Perim Zn (	G.E8) 1	215.	42.	0.007	0.310	0.	0.00	0.00	4.49	0.00	-3.11	1.

REPORT- SV-A System Design Parameters for L2B (G.E9) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

					ALII V						
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	558.0	1.	0.0	000 7.3	18	0.742	-7.527	0.000	0.000	0.000
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	AN FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)
SUPPLY	244.	1.00	0.014	0.18	0.1	0.25	0.62	DRAW-THI	RU SPEEI	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	Z
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	Г
L2B East Perim Zn (G.E9) 1	244.	37.	0.006	0.583	0	0.00	0.00	5.20	0.00	-5.80 1.	

REPORT- SV-A System Design Parameters for	L2B (G.S10) APT6 VRF	WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE HEATING COOLING HEATING HEAT PUMP COOLING MAX SYSTEM ALTITUDE AREA AIR CAPACITY SENSIBLE CAPACITY ETR ETR SUPP-HEAT (SQFT ) RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR) TYPE FACTOR PEOPLE PVVT 1.001 2721.0 3. 0.000 36.146 0.742 -37.178 0.000 0.000 0.000 DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN FAN FACTOR DEMAND DELTA-T PRESSURE FAN CAPACITY EFF EFF FAN RATIO RATIO TYPE (CFM ) (FRAC) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (KW) (FRAC) 0.18 1.00 SUPPLY 1206. 1.00 0.069 0.2 0.34 0.62 DRAW-THRU SPEED 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	LT
LOB South Derim 7n (C S10D	1206	182	0 030	0 353		0 00	0 00	25 79	0 00	_10 42	_

REPORT- SV-A System Design Parameters for L2B (G.SSW12) LOB VRF

WEATHER FILE- SEATTLE BOEING FI WA

ABFORT SV A System Design Farameters I									WEATHER FIDE SEATTHE BOEING FI WA			
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1513.5	50.	0.0	000 28.2	35	0.742	-29.060	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F.F.F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	942.	1.00	0.054	0.18	0.1	0.30	0.62	DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

		SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
	ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
	NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2B	SSW Perim Zn (G.SSW120	942.	0.	0.000	0.307	252.	0.00	0.00	19.41	0.00	-13.53	1.

REPORT- SV-A System Design Parameters for  $\,$  L2B (G.E23) APT1 VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

	,			(								
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	714.0	1.	0.0	000 11.3	07	0.742	-11.629	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I.		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	377.	1.00	0.022	0.18	0.1	0.25	0.62	2 DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L2B East Perim Zn (G.E23)T	377.	48.	0.008	0.505	0.	0.00	0.00	8.12	0.00	-8.06	1.

REPORT- SV-A System Design Parameters for L3A (G.E13) APT4 VRF WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSIDE	COOLING		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	AIR	CAPACITY	SENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RATIO	(KBTU/HR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	2229.8	3.	0.000	20.806	0.742	-21.400	0.000	0.000	0.000

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	694.	1.00	0.040	0.18	0.1	0.30	0.62	DRAW-THRU	SPEED	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZOI	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	LT
L3A East Perim Zn (G.E13)T	694.	149.	0.025	0.379	0.	0.00	0.00	14.58	0.00	-11.90	1.

REPORT- SV-A System Design Parameters for L3A (G.NW17) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

				JI LSA (G.NWI/) APII VKF					WEATHER FILE- SEATILE BORING FI WA			
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. P	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	915.5	1.	0.0	000 14.4	63	0.742	-14.875	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	L (FRAC)	(FRAC)	
SUPPLY	482.	1.00	0.028	0.18	0.1	0.25	0.62	DRAW-THR	U SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	E
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	Т
L3A NW Perim Zn (G.NW17) 1	482.	61.	0.010	0.358	0.	0.00	0.00	10.34	0.00	-7.86 1	

REPORT- SV-A System Design Parameters for  $\,$  L3A (G.N18) APT3 VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	'IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	1566.5	2.	0.0	00 23.1	73	0.742	-23.836	0.000	0.000	0.000
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	an fai	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	773.	1.00	0.044	0.18	0.1	0.30	0.62	DRAW-THE	U SPEEI	1.00	0.30
SUPPLY	773.	1.00	0.044	0.18	0.1	0.30	0.62	DRAW-THE	RU SPEEI	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	CONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	IULT
L3A North Perim Zn (G.N18P	773.	105.	0.017	0.300	0.	0.00	0.00	16.38	0.00	-10.88	1.

## WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	ry se	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	₹)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2478.2	3.	0.0	00 30.5	29	0.742	-31.404	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	(FRAC)	(FRAC)	
SUPPLY	1018.	1.00	0.059	0.18	0.1	0.30	0.62	DRAW-THR	U SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3A West Perim Zn (G.W21)T	1018.	165.	0.028	0.370	0.	0.00	0.00	21.23	0.00	-17.09	1.

REPORT- SV-A System Design Parameters for L3A (G.SW22) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

				) ACL	AFII				WEATIN		AIIDE DOEING F.
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	ENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	944.2	1.	0.0	000 13.9	47	0.742	-14.344	0.000	0.000	0.000
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F.F.F	AN FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)
SUPPLY	465.	1.00	0.027	0.18	0.1	0.25	0.62	DRAW-THE	RU SPEEI	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	ΛE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	T
L3A SW Perim Zn (G.SW22) 1	465.	63.	0.011	0.358	0.	0.00	0.00	9.95	0.00	-7.59 1	1.

REPORT- SV-A System Design Parameters for L3A (G.S24) APT3 VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP
SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
TYPE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)

PVVT 1.001 1832.5 2. 0.000 25.767 0.742 -26.505 0.000 0.000 0.000

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN TATIC TOTAL MECH MECH MAX FAN MIN FAN TATIC TOTAL MECH FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC) SUPPLY 860. 1.00 0.049 0.18 0.1 0.30 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	ULT
L3A South Perim Zn (G.S24P	860.	122.	0.020	0.315	0.	0.00	0.00	18.00	0.00	-12.60	1.

REPORT- SV-A	A System Design	Parameters for	L3B (G.N4)	APT4 VRF
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WEATHER FILE- SEATTLE BOEING FI WA

REPORT - SV-A System Design Parameters for				AFIT V				WEATH	SK FIDE SE	AIILE BOEING		
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2928.0	4.	0.0	000 42.4	62	0.742	-43.676	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	an fan	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1416.	1.00	0.081	0.18	0.2	0.34	0.62	DRAW-THR	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3B North Perim Zn (G.N4)T	1416.	195.	0.033	0.295	0.	0.00	0.00	29.83	0.00	-19.61	1.

REPORT- SV-A System Design Parameters for L3B (G.E5) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

				ni ii v								
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	984.0	1.	0.0	000 14.9	39	0.742	-15.366	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	498.	1.00	0.029	0.18	0.1	0.25	0.62	DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	ULT
L3B East Perim Zn (G.E5) 1	498.	66.	0.011	0.386	0.	0.00	0.00	10.44	0.00	-8.65	1.

REPORT- SV-A System Design Parameters for  $\,$  L3B (G.W6) APT1 VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

	,			( -	,							
		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	765.0	1.	0.0	000 11.0	54	0.742	-11.370	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I.		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	369.	1.00	0.021	0.18	0.1	0.25	0.62	2 DRAW-TH	RU SPEEI	D 1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	IULT
I 2D Wast Davin Gr. (G MC) 1	260	F1	0 000	0 400	0	0.00	0.00	7 77	0.00	6 61	1
L3B West Perim Zn (G.W6) 1	369.	51.	0.009	0.402	υ.	0.00	0.00	/.//	0.00	-6.61	Ι.

WEATHER FILE- SEATTLE BOEING FI WA

1.00 0.30

SPEED

REPORT-	SV-A	System	Design	Parameters	for	L3B	(G.W7)	APT1	VRF
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		FLOOR		OUTSIDE	COOLING		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	AIR	CAPACITY	SENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RATIO	(KBTU/HR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	654.5	1.	0.000	7.097	0.742	-7.300	0.000	0.000	0.000
FAN	CAPACITY	DIVERSITY FACTOR	POWER DEMAND	FAN DELTA-T E	STATIC PRESSURE		CCH CFF F	'AN FAN	MAX FAN N RATIO	MIN FAN RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F) (IN	N-WATER) (	FRAC) (FRA	AC) PLACEME	INT CONTROL	L (FRAC)	(FRAC)

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

SUPPLY 237. 1.00 0.014 0.18 0.1 0.25 0.62 DRAW-THRU

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	LT
L3B West Perim Zn (G.W7) 1	237.	44.	0.007	0.324	0.	0.00	0.00	4.92	0.00	-3.56	1.

REPORT- SV-A System Design Parameters for L3B (G.E8) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

KEFORI SV	A System				AFII V				WEATH			
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	628.5	1.	0.0	000 6.7	49	0.742	-6.942	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	H		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	225.	1.00	0.013	0.18	0.1	0.25	0.62	2 DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	LT
	005	4.0	0 005	0 200	•	0.00	0.00	4 51	0.00	2.25	1
L3B East Perim Zn (G.E8) 1	225.	42.	0.007	0.320	0.	0.00	0.00	4.71	0.00	-3.35	Ι.

REPORT- SV-A System Design Parameters for  $\,$  L3B (G.E9) APT1 VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

TIEL OILL D	11 0/0000	Debigni rara		252 (0.					***************************************		DD DODIN	0 11 1111
SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT )	MAX PEOPLE		R CAPACI	TY SEI	NSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)	
PVVT	1.001	789.0	1.	0.00	10.2	56	0.742	-10.550	0.000	0.000	0.000	
FAN TYPE	CAPACITY (CFM )	DIVERSITY FACTOR (FRAC)	POWER DEMAND (KW)	FAN DELTA-T (F) (	STATIC PRESSURE IN-WATER)	TOTAL EFF (FRAC)		FA FA				
SUPPLY	342.	1.00	0.020	0.18	0.1	0.25	0.62	DRAW-THR	U SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	Z
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	Г
L3B East Perim Zn (G.E9) 1	342.	53.	0.009	0.503	0	0.00	0.00	7 10	0.00	-7.30 1.	
LID EAST PELLIN ZII (G.EJ) I	344.	55.	0.009	0.303	υ.	0.00	0.00	/ . 1 2	0.00	-/.JU I	

REPORT- SV-A System Design Parameters for	L3B (G.S10) APT7 VRF	WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEAT PUMP
AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
(SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR) SYSTEM ALTITUDE AREA
TYPE FACTOR (SQFT) 1.001 3981.5 5. 0.000 51.865 0.742 -53.350 0.000 PVVT 0.000 FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF MAX FAN MIN FAN FAN FAN RATIO RATIO SUPPLY 1730. 1.00 0.099 0.18 0.2 0.37 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L3B South Perim Zn (G.S10P	1730.	266.	0.044	0.334	0.	0.00	0.00	36.24	0.00	-26.68	1.

REPORT- SV-A System Design Parameters for L3B (G.E19) APT1 VRF WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSIDE	COOLING		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	AIR	CAPACITY	SENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RATIO	(KBTU/HR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	714.0	1.	0.000	10.926	0.742	-11.239	0.000	0.000	0.000

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	364.	1.00	0.021	0.18	0.1	0.25	0.62	DRAW-THRU	SPEED	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	Œ
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	T
12D Back Davin Gr. (G P10)	264	4.0	0 000	0 427	0	0.00	0.00	7.60	0.00	-6.97 1	
L3B East Perim Zn (G.E19)T	364.	48.	0.008	0.437	υ.	0.00	0.00	7.69	0.00	-6.9/ I	

		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2229.8	3.	0.0	000 20.8	73	0.742	-21.469	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I.		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	696.	1.00	0.040	0.18	0.1	0.30	0.62	2 DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	JLT
L4A East Perim Zn (G.E13)T	696.	149.	0.025	0.362	0.	0.00	0.00	14.64	0.00	-11.48	1.

REPORT- SV-A System Design Parameters for L4A (G.NW17) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

KEPORT- SV	-A System	Design Para	meters for	L4A (G.NWI/) APTI VRF					WEATHER FILE- SEATTLE BOEING FI WA			
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	915.5	1.	0.0	14.5	15	0.742	-14.928	0.000	0.000	0.000	
		DIVIDDOTEN	DOMED	F13.37	GMA MT G	moma r	MEGI	*		M27 F27	MIN DAN	
		DIVERSITY	POWER	FAN	STATIC	TOTAL				MAX FAN		
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	484.	1.00	0.028	0.18	0.1	0.25	0.62	DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	ΙE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	T
L4A NW Perim Zn (G.NW17) 1	484.	61.	0.010	0.323	0.	0.00	0.00	10.39	0.00	-7.24 1	٠.

REPORT- SV-A System Design Parameters for	L4A (G.N18) APT3 VRF	WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEAT PUMP
AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
(SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR) SYSTEM ALTITUDE AREA PACTOR (SQFT ) PVVT 1.001 1566.5 2. 0.000 23.299 0.742 -23.965 0.000 0.000 0.000 FAN STATIC TOTAL MECH ELTA-T PRESSURE EFF EFF DIVERSITY POWER MAX FAN MIN FAN FAN FAN FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC) 777. SUPPLY 1.00 0.045 0.18 0.1 0.30 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4A North Perim Zn (G.N18P	777.	105.	0.017	0.283	0.	0.00	0.00	16.48	0.00	-10.38	1.

REPORT- SV-A System Design Parameters for  $\,$  L4A (G.W21) APT4 VRF WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSIL	DE COOLIN	IG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	AI	R CAPACIT	TY SEI	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RATI	O (KBTU/HF	2)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	2478.2	3.	0.00	30.39	97	0.742	-31.267	0.000	0.000	0.000
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	an fan	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F) (	IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	(FRAC)	(FRAC)
SUPPLY	1014.	1.00	0.058	0.18	0.1	0.30	0.62	DRAW-THR	U SPEEI	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4A West Perim Zn (G.W21)T	1014.	165.	0.028	0.324	0.	0.00	0.00	21.14	0.00	-15.22	1.

REPORT- SV-A System Design Parameters for  $\,$  L4A (G.SW22) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	944.2	1.	0.0	000 14.0	67	0.742	-14.468	0.000	0.000	0.000	
								_				
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	469.	1.00	0.027	0.18	0.1	0.25	0.62	DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	LT
L4A SW Perim Zn (G.SW22) 1	469.	63.	0.011	0.330	0.	0.00	0.00	10.01	0.00	-7.15	1.

REPORT- SV-A System Design Parameters for L4A (G.S24) APT3 VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP
SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
TYPE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (KBTU/HR)

PVVT 1.001 1832.5 2. 0.000 25.332 0.742 -26.057 0.000 0.000 0.000

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC)

SUPPLY 845. 1.00 0.049 0.18 0.1 0.30 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

		SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
	ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
	NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	IULT
			400									
L4A S	South Perim Zn (G.S24P	845.	122.	0.020	0.280	0.	0.00	0.00	17.72	0.00	-11.20	Ι.

REPORT- SV-A System Design Parameters for	L4B (G.N4) APT4 VRF	WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT )	MAX PEOPLE		IR CAPACI	TY SE	NSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)
PVVT	1.001	2928.0	4.	0.0	00 42.6	84	0.742	-43.905	0.000	0.000	0.000
FAN TYPE	CAPACITY (CFM )	DIVERSITY FACTOR (FRAC)	POWER DEMAND (KW)	FAN DELTA-T (F)	STATIC PRESSURE (IN-WATER)	TOTAL EFF (FRAC)	MECH EFF (FRAC)	FA FA			
SUPPLY	1424.	1.00	0.082	0.18	0.2	0.34	0.62	DRAW-THR	RU SPEEI	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L4B North Perim Zn (G.N4)T	1424.	195.	0.033	0.279	0.	0.00	0.00	30.00	0.00	-18.77	1.

DOE-2.3-50h 1/26/2023

9:30:35 BDL RUN 9

REPORT- SV-A System Design Parameters for L4B (G.E5) APT1 VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP
SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
TYPE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)

PVVT 1.001 984.0 1. 0.000 15.085 0.742 -15.517 0.000 0.000 0.000

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC)

SUPPLY 503. 1.00 0.029 0.18 0.1 0.25 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM)	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	JLT
	= 0.0										_
L4B East Perim Zn (G.E5) 1	503.	66.	0.011	0.356	0.	0.00	0.00	10.55	0.00	-8.17	⊥.

DOE-2.3-50h 1/26/2023

9:30:35 BDL RUN 9

REPORT- SV-A System Design Parameters for L4B (G.W6) APT1 VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP
SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
TYPE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (KBTU/HR)

PVVT 1.001 765.0 1. 0.000 11.696 0.742 -12.031 0.000 0.000 0.000

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC)

SUPPLY 390. 1.00 0.022 0.18 0.1 0.25 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	LΤ
TAR Mark Production (C. MC) 1	200	F.1	0.000	0 250	0	0.00	0.00	0 00	0.00	c 20 -	1
L4B West Perim Zn (G.W6) 1	390.	51.	0.009	0.352	0.	0.00	0.00	8.20	0.00	-6.28 1	Ι.

REPORT- SV-A System Design Parameters for L4B (G.W7) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

REFORT BY	, H Dybeck				, ALII V							J I I 1121
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	654.5	1.	0.0	7.1	56	0.742	-7.361	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	239.	1.00	0.014	0.18	0.1	0.25	0.62	DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	
	020	4.4	0 005	0 205	•	0.00	0.00	4 05	0.00	2 42 1	
L4B West Perim Zn (G.W7) 1	239.	44.	0.007	0.307	0.	0.00	0.00	4.97	0.00	-3.43 1.	

REPORT- SV-A System Design Parameters for L4B (G.E8) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

REPORT- SV	/-A System	Design Para	meters for		5.E8) APTI V	KF 			WEATH!	EK FILE- SE	ATTLE BOEIN	G FI WA
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	628.5	1.	0.0	000 6.7	93	0.742	-6.987	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	T		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	227.	1.00	0.013	0.18	0.1	0.25	0.62	DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	ULT
L4B East Perim Zn (G.E8) 1	227.	42.	0.007	0.303	0	0.00	0.00	4.75	0.00	-3.21	1
L4B East Perill ZII (G.E6) I	221.	42.	0.007	0.303	υ.	0.00	0.00	4./5	0.00	-3.21	Ι.

DOE-2.3-50h 1/26/2023

9:30:35 BDL RUN 9

REPORT- SV-A System Design Parameters for L4B (G.E9) APT1 VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP
SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
TYPE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)

PVVT 1.001 789.0 1. 0.000 10.270 0.742 -10.564 0.000 0.000 0.000

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN TAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC)

SUPPLY 343. 1.00 0.020 0.18 0.1 0.25 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	LT
L4B East Perim Zn (G.E9) 1	343.	53.	0.009	0.442	0	0.00	0.00	7 17	0.00	-6.62	1

## WEATHER FILE- SEATTLE BOEING FI WA

	,											
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	'IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	3981.5	5.	0.0	00 51.1	38	0.742	-52.603	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ł.		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAI	RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	(FRAC)	(FRAC)	
SUPPLY	1706.	1.00	0.098	0.18	0.2	0.37	0.62	2 DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	ULT
IAR South Derim 7n (C S10D	1706	266	0 044	0 304		0 00	0 00	35 63	0 00	-24 26	_

WEATHER FILE- SEATTLE BOEING FI WA

REPORT- SV		Design Fara	merera ioi	9) d#L	) APII	VKF			MEAINI		AIILE BOEIN	
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	714.0	1.	0.0	000 11.1	85	0.742	-11.505	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	373.	1.00	0.021	0.18	0.1	0.25	0.62	DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	LΤ
L4B East Perim Zn (G.E19)T	373.	48.	0.008	0.394	0	0.00	0.00	7.87	0.00	-6.58 1	1
L4B East Perim Zn (G.Er9/1	3/3.	40.	0.000	0.394	υ.	0.00	0.00	/.0/	0.00	-0.50	⊥.

REPORT- SV-A System Design Parameters for  $\,$  L5A (G.E13) APT4 VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2229.8	3.	0.0	000 21.0	03	0.742	-21.603	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ī		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF			N FAI			
LAIN	CAPACITI	PACIOR	DEMAND	DELIA-1	PKESSUKE	EFF	EFF	r F	uv rai	N RAIIO	KAIIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	701.	1.00	0.040	0.18	0.1	0.30	0.62	DRAW-THR	U SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	ΙE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	Л
L5A East Perim Zn (G.E13)T	701.	149.	0.025	0.360	0.	0.00	0.00	14.74	0.00	-11.49 1	L.

WEATHER FILE- SEATTLE BOEING FI WA

REPORT SV	System Design	Parameters 10.	L DA (G.NWI/) APII VKT					WEATHER FILE- SEATTLE BOEING FI WA			
	F	LOOR	OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE 2	AREA MA	X A	IR CAPACI	TY SEI	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR (SQI	FT ) PEOPL	E RAT	'IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
D	1 001	15.5	0.0	14.0		0 540	15 000	0.000	0.000	0.000	
PVVT	1.001 93	15.5 1	. 0.0	000 14.8	60	0.742	-15.283	0.000	0.000	0.000	
	DIVERS	SITY POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY FAC	CTOR DEMAND	DELTA-T	PRESSURE	EFF	EFF	F.	AN FAI	N RATIO	RATIO	
TYPE	(CFM ) (FI	RAC) (KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	496.	1.00 0.028	0.18	0.1	0.25	0.62	DRAW-THE	RU SPEEI	D 1.00	0.30	
TYPE	CAPACITY FAC	CTOR DEMAND	DELTA-T	PRESSURE (IN-WATER)	EFF	EFF (FRAC)	PLACEMEN	NT CONTROL	N RATIO L (FRAC)	RAT (FRA	rio AC)

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	3
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	
L5A NW Perim Zn (G.NW17) 1	496.	61.	0.010	0.323	0.	0.00	0.00	10.63	0.00	-7.41 1.	

REPORT- SV-A System Design Parameters for  $\,$  L5A (G.N18) APT3 VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1566.5	2.	0.0	000 23.7	77	0.742	-24.456	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROI	(FRAC)	(FRAC)	
SUPPLY	793.	1.00	0.046	0.18	0.1	0.30	0.62	DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5A North Perim Zn (G.N18P	793.	105.	0.017	0.281	0.	0.00	0.00	16.81	0.00	-10.55	1.

REPORT- SV-A System Design Parameters for	L5A (G.W21) APT4 VRF	WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT )	MAX PEOPLE		IR CAPACI	TY SEI	NSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)
PVVT	1.001	2478.2	3.	0.0	00 30.4	26	0.742	-31.297	0.000	0.000	0.000
FAN TYPE	CAPACITY (CFM )	DIVERSITY FACTOR (FRAC)	POWER DEMAND (KW)	FAN DELTA-T (F)	STATIC PRESSURE (IN-WATER)	TOTAL EFF (FRAC)	MECH EFF (FRAC)	F.F.			
SUPPLY	1015.	1.00	0.058	0.18	0.1	0.30	0.62	DRAW-THE	RU SPEEI	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	1
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	
15A West Derim 7n (G W21)T	1015	165	0 028	0 333		0 00	0 00	21 16	0 00	_15 22 1	

REPORT- SV-A System Design Parameters for  $\,$  L5A (G.SW22) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	944.2	1.	0.0	000 14.1	.54	0.742	-14.558	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	an fan	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	472.	1.00	0.027	0.18	0.1	0.25	0.62	DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	LΤ
L5A SW Perim Zn (G.SW22) 1	472.	63.	0.011	0.328	0.	0.00	0.00	10.08	0.00	-7.16 1	1.

WEATHER FILE- SEATTLE BOEING FI WA

					,							
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. A	IR CAPACI	TY SEI	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1832.5	2.	0.0	00 25.3	47	0.742	-26.073	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	n fan	RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	(FRAC)	(FRAC)	
SUPPLY	846.	1.00	0.049	0.18	0.1	0.30	0.62	PRAW-THR	U SPEED	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5A South Perim Zn (G.S24P	846.	122.	0.020	0.280	0.	0.00	0.00	17.73	0.00	-11.20	1.

REPORT- SV-A System Design Parameters for  $\,$  L5B (G.N4) APT4 VRF WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT)	MAX PEOPLE		IR CAPACI	TY SEI	NSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)
PVVT	1.001	2928.0	4.	0.0	00 42.7	91	0.742	-44.015	0.000	0.000	0.000
FAN TYPE	CAPACITY (CFM )	DIVERSITY FACTOR (FRAC)	POWER DEMAND (KW)	FAN DELTA-T (F)	STATIC PRESSURE (IN-WATER)	TOTAL EFF (FRAC)	MECH EFF (FRAC)	FA			MIN FAN RATIO (FRAC)
SUPPLY	1427.	1.00	0.082	0.18	0.2	0.34	0.62	DRAW-THE	RU SPEEI	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZO	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MU	JLT
ISB North Derim 7n (C NA)T	1427	105	0 033	0 278		0 00	0.00	30 08	0 00	_18 77	

REPORT- SV-A System Design Parameters for  $\,$  L5B (G.E5) APT1 VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTS	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	ζ 2	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RA'	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	984.0	1.	0.0	000 15.1	48	0.742	-15.582	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F.F.F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	505.	1.00	0.029	0.18	0.1	0.25	0.62	2 DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	Œ
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	т
L5B East Perim Zn (G.E5) 1	505.	66.	0.011	0.354	0.	0.00	0.00	10.59	0.00	-8.17 1	

REPORT- SV-A System Design Parameters for L5B (G.W6) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	765.0	1.	0.0	00 11.8	29	0.742	-12.167	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	395.	1.00	0.023	0.18	0.1	0.25	0.62	DRAW-THE	RU SPEEI	D 1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	ЛE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	ĴΤ
L5B West Perim Zn (G.W6) 1	395.	51.	0.009	0.349	0.	0.00	0.00	8.30	0.00	-6.30 1	1.

REPORT- SV-A System Design Parameters for L5B (G.W7) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	654.5	1.	0.0	000 7.2	96	0.742	-7.505	0.000	0.000	0.000
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	AN FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)
SUPPLY	243.	1.00	0.014	0.18	0.1	0.25	0.62	DRAW-THI	RU SPEEI	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5B West Perim Zn (G.W7) 1	243.	44.	0.007	0.301	0.	0.00	0.00	5.09	0.00	-3.44	1.

REPORT- SV-A System Design Parameters for L5B (G.E8) APT1 VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP
SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
TYPE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)

PVVT 1.001 628.5 1. 0.000 6.814 0.742 -7.009 0.000 0.000 0.000

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC) SUPPLY 227. 1.00 0.013 0.18 0.1 0.25 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

		SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE		FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
NAME		(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	TLUN
L5B East Perim Zn (	G.E8) 1	227.	42.	0.007	0.302	0.	0.00	0.00	4.76	0.00	-3.21	1.

REPORT- SV-A System Design Parameters for L5B (G.E9) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

REFORT DV	A Dybeem				, ALII V						ATTED DOBIN	
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	P	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	789.0	1.	0.0	10.6	96	0.742	-11.002	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	357.	1.00	0.021	0.18	0.1	0.25	0.62	DRAW-THR	U SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	ΙE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM)	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	JΤ
L5B East Perim Zn (G.E9) 1	357.	53.	0.009	0.425	0.	0.00	0.00	7.48	0.00	-6.68 1	Ĺ.

REPORT- SV-A System Design Parameters for L5B (G.S10) APT7 VRF

WEATHER FILE- SEATTLE BOEING FI WA

REPORT SV	-A System		merera ioi	D) dc1	.510) AP17	v.r. 			mEAINI	SE	BOEING	
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. A	IR CAPACI	TY SEI	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	3981.5	5.	0.0	00 51.1	59	0.742	-52.624	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1707.	1.00	0.098	0.18	0.2	0.37	0.62	DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L5B South Perim Zn (G.S10P	1707.	266.	0.044	0.304	0.	0.00	0.00	35.65	0.00	-24.26	1.

DOE-2.3-50h 1/26/2023

9:30:35 BDL RUN 9

REPORT- SV-A System Design Parameters for	L5B (G.E19) APT1 VRF	WEATHER FILE- SEATTLE BOEING FI

FLOOR OUTSIDE COOLING HEATING COOLING HEAT PUMP
AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
(SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR) SYSTEM ALTITUDE AREA
TYPE FACTOR (SQFT) PVVT 1.001 714.0 1. 0.000 11.482 0.742 -11.810 0.000 0.000 DIVERSITY POWER FAN STATIC TOTAL MECH FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF MAX FAN MIN FAN FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC) 383. 1.00 0.022 0.18 SUPPLY 0.1 0.25 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	5	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE		FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) I	MULT
L5B East Perim Zn (	G.E19)T	383.	48.	0.008	0.387	0.	0.00	0.00	8.07	0.00	-6.66	1.

REPORT- SV-A System Design Parameters for L6A (G.E13) APT4 VRF

WEATHER FILE- SEATTLE BOEING FI WA

KEFORI SV		IOI	O) AUL	EIS/ AFI4						BOEIN		
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	'IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2229.8	3.	0.0	00 21.5	75	0.742	-22.191	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	720.	1.00	0.041	0.18	0.1	0.30	0.62	DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) I	MULT
L6A East Perim Zn (G.E13)T	720.	149.	0.025	0.361	0.	0.00	0.00	15.20	0.00	-11.85	1.

REPORT- SV-A System Design Parameters for L6A (G.NW17) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	P	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	'IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	731.2	1.	0.0	12.9	28	0.742	-13.295	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ł.		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F.	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	431.	1.00	0.025	0.18	0.1	0.25	0.62	2 DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6A NW Perim Zn (G.NW17) 1	431.	49.	0.008	0.323	0.	0.00	0.00	9.33	0.00	-6.44	1.

DOE-2.3-50h 1/26/2023

9:30:35 BDL RUN 9

REPORT- SV-A System Design Parameters for L6A (G.N18) APT3 VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP
SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT
TYPE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)

PVVT 1.001 1404.0 2. 0.000 23.806 0.742 -24.485 0.000 0.000 0.000

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN TATIC TOTAL MECH MECH MAX FAN MIN FAN TATIC TOTAL MECH FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC) SUPPLY 794. 1.00 0.046 0.18 0.1 0.30 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

		SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
	ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ZONE
	NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	IULT
Т	6A North Perim Zn (G.N18P	794.	94.	0.016	0.262	0	0.00	0.00	16.90	0.00	-9.90	1

REPORT- SV-A System Design Parameters for L6A (G.W21) APT4 VRF

WEATHER FILE- SEATTLE BOEING FI WA

REPORT SV		Design Fara	merera ioi	DOA (G	WZI) API4	vKr 			MEAINI	SE	AIILE BOEIN	
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2478.2	3.	0.0	000 32.1	91	0.742	-33.113	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ł		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F.	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1074.	1.00	0.062	0.18	0.1	0.30	0.62	2 DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6A West Perim Zn (G.W21)T	1074.	165.	0.028	0.321	0.	0.00	0.00	22.40	0.00	-15.98	1.

REPORT- SV-A System Design Parameters for L6A (G.SW22) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

REPORT S		Design Fara	IOI		APII	VKF			mram	SE	AIILE BOEIN	3 F1 W
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	944.2	1.	0.0	000 14.1	94	0.742	-14.598	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	N FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	473.	1.00	0.027	0.18	0.1	0.25	0.62	DRAW-THR	U SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	
L6A SW Perim Zn (G.SW22) 1	473.	63.	0.011	0.329	0.	0.00	0.00	10.14	0.00	-7.20 1.	

REPORT- SV-A System Design Parameters for  $\,$  L6A (G.S24) APT3 VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1832.5	2.	0.0	000 25.9	60	0.742	-26.704	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ł		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	866.	1.00	0.050	0.18	0.1	0.30	0.62	2 DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE Z	ONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) M	ULT
L6A South Perim Zn (G.S24P	866.	122.	0.020	0.287	0.	0.00	0.00	18.17	0.00	-11.71	1.

SV-A System Design Parameters for L6B (G.N4) APT4 VRF
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		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	2928.0	4.	0.0	000 43.5	58	0.742	-44.804	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1453.	1.00	0.083	0.18	0.2	0.34	0.62	DRAW-THI	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6B North Perim Zn (G.N4)T	1453.	195.	0.033	0.277	0.	0.00	0.00	30.63	0.00	-19.05	1.

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. A:	IR CAPACI	TY SEI	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	984.0	1.	0.0	00 15.4	85	0.742	-15.929	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	, FA	N FAN	RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	(FRAC)	(FRAC)	
SUPPLY	517.	1.00	0.030	0.18	0.1	0.25	0.62	DRAW-THR	U SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

		SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE		FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME		(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L6B East Perin	n Zn (G.E5) 1	517.	66.	0.011	0.349	0.	0.00	0.00	10.82	0.00	-8.26	1.

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	765.0	1.	0.0	11.9	96	0.742	-12.339	0.000	0.000	0.000	
		DIVEDCIEV	DOMED	EAN	CMA MT C	moma r	MEGI	T		MAY EAN	MIN EAN	
		DIVERSITY	POWER	FAN	STATIC	TOTAL				MAX FAN		
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	400.	1.00	0.023	0.18	0.1	0.25	0.62	DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZOI	NE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	LT
L6B West Perim Zn (G.W6) 1	400.	51.	0.009	0.344	0	0.00	0.00	8.42	0.00	-6.31	1
LOD WEST PELLIN ZII (G.WO) I	400.	JI.	0.009	0.344	υ.	0.00	0.00	0.42	0.00	-0.31	Δ.

KEFORI SV												
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	654.5	1.	0.0	000 7.5	16	0.742	-7.731	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F.F.F	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	251.	1.00	0.014	0.18	0.1	0.25	0.62	DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	E
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	Г
ICD Want Davin Go (C MZ) 1	251	4.4	0 007	0 202	0	0.00	0.00	F 0F	0.00	2 46 1	
L6B West Perim Zn (G.W7) 1	251.	44.	0.007	0.293	υ.	0.00	0.00	5.25	0.00	-3.46 1	

REPORT- SV-A System Design Parameters for  $\,$  L6B (G.E8) APT1 VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

HEATING	HEAT PUMP
EIR	SUPP-HEAT
TU/BTU)	(KBTU/HR)
0.000	0.000
MAX FAN	MIN FAN
RATIO	RATIO
(FRAC)	(FRAC)
1.00	0.30
T	EIR U/BTU)  0.000  MAX FAN RATIO (FRAC)

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6B East Perim Zn (G.E8) 1	229.	42.	0.007	0.300	0.	0.00	0.00	4.80	0.00	-3.22	1.

REPORT- SV-A System Design Parameters for  $\,$  L6B (G.E9) APT1 VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	789.0	1.	0.0	00 11.5	67	0.742	-11.898	0.000	0.000	0.000
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	L (FRAC)	(FRAC)
SUPPLY	386.	1.00	0.022	0.18	0.1	0.25	0.62	DRAW-TH	RU SPEEI	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) I	MULT
L6B East Perim Zn (G.E9) 1	386.	53.	0.009	0.393	0.	0.00	0.00	8.12	0.00	-6.79	1.

REPORT- SV-A System Design Parameters for L6B (G.S10) APT7 VRF

WEATHER FILE- SEATTLE BOEING FI WA

KEFORI SV	A System		IOI	OD (0	AF17					ER FIDE SE	BOEIN	
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	3981.5	5.	0.0	00 51.2	12	0.742	-52.679	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	an fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	1708.	1.00	0.098	0.18	0.2	0.37	0.62	DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L6B South Perim Zn (G.S10P	1708.	266.	0.044	0.303	0.	0.00	0.00	35.69	0.00	-24.26	1.

DOE-2.3-50h 1/26/2023

9:30:35 BDL RUN 9

REPORT- SV-A System Design Parameters for L6B (G.E19) APT1 VRF WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT TYPE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)

PVVT 1.001 659.0 1. 0.000 11.697 0.742 -12.032 0.000 0.000 0.000

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC)

SUPPLY 390. 1.00 0.022 0.18 0.1 0.25 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

		SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE		FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME		(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) I	MULT
L6B East Perim Zn	(G.E19)T	390.	44.	0.007	0.378	0.	0.00	0.00	8.22	0.00	-6.65	⊥.

DOE-2.3-50h 1/26/2023

9:30:35 BDL RUN 9

REPORT- SV-A System Design Parameters for L7A (G.E13) APT2 VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR) SYSTEM ALTITUDE AREA (SQFT ) TYPE FACTOR PVVT 1.001 956.8 1. 0.000 9.770 0.742 -10.049 0.000 0.000

FAN STATIC TOTAL MECH ELTA-T PRESSURE EFF EFF DIVERSITY POWER MAX FAN MIN FAN FAN FAN FACTOR DEMAND DELTA-T PRESSURE EFF FAN CAPACITY RATIO RATIO (FRAC) TYPE (CFM ) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC) 0.18 1.00 0.30 SUPPLY 326. 1.00 0.019 0.1 0.25 0.62 DRAW-THRU SPEED

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
326.	64.	0.011	0.360	0.	0.00	0.00	6.85	0.00	-5.35	1.
	FLOW	FLOW FLOW (CFM ) (CFM )	FLOW FLOW FAN (CFM ) (CFM ) (KW)	FLOW FLOW FAN FLOW (CFM ) (CFM ) (KW) (FRAC)	FLOW FLOW FAN FLOW AIR FLOW (CFM ) (CFM ) (KW) (FRAC) (CFM )	FLOW FLOW FAN FLOW AIR FLOW CAPACITY (CFM ) (CFM ) (KW) (FRAC) (CFM ) (KBTU/HR)	FLOW FLOW FAN FLOW AIR FLOW CAPACITY SENSIBLE (CFM ) (CFM ) (KW) (FRAC) (CFM ) (KBTU/HR) (FRAC)	FLOW FLOW FAN FLOW AIR FLOW CAPACITY SENSIBLE RATE (CFM ) (CFM ) (KW) (FRAC) (CFM ) (KBTU/HR) (FRAC) (KBTU/HR)	FLOW FLOW FAN FLOW AIR FLOW CAPACITY SENSIBLE RATE CAPACITY (CFM ) (CFM ) (KW) (FRAC) (CFM ) (KBTU/HR) (FRAC) (KBTU/HR) (KBTU/HR)	FLOW FLOW FAN FLOW AIR FLOW CAPACITY SENSIBLE RATE CAPACITY RATE (CFM ) (CFM ) (KW) (FRAC) (CFM ) (KBTU/HR) (FRAC) (KBTU/HR) (KBTU/HR) (KBTU/HR)

REPORT- SV-A System Design Parameters for L7A (G.W18) APT2 VRF WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSIDE	COOLING		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	AIR	CAPACITY	SENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RATIO	(KBTU/HR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	999.0	1.	0.000	12.801	0.742	-13.168	0.000	0.000	0.000

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	427.	1.00	0.025	0.18	0.1	0.25	0.62	DRAW-THRU	SPEED	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPL	Y EXHAUST	'	MINIMUM	OUTSIDE	COOLING	1	EXTRACTION	HEATING	ADDITION	
ZONE	FLO	W FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE 2	ZONE
NAME	(CFM	) (CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) N	MULT
L7A West Perim Zn (G.W	18)T 427	. 67.	0.011	0.338	0.	0.00	0.00	9.01	0.00	-6.64	1.

REPORT- SV-A System Design Parameters for L7A (G.SW19) APT1 VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR) SYSTEM ALTITUDE AREA (SQFT ) TYPE FACTOR PVVT 1.001 891.8 1. 0.000 14.064 0.742 -14.466 0.000 0.000

FAN STATIC TOTAL MECH ELTA-T PRESSURE EFF EFF DIVERSITY POWER MAX FAN MIN FAN FACTOR DEMAND DELTA-T PRESSURE EFF FAN FAN FAN CAPACITY RATIO RATIO (FRAC) TYPE (CFM ) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC) 1.00 0.027 0.18 1.00 0.30 SUPPLY 469. 0.1 0.25 0.62 DRAW-THRU SPEED

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7A SW Perim Zn (G.SW19) 1	469.	60.	0.010	0.318	0.	0.00	0.00	9.84	0.00	-6.93	1.

REPORT- SV-A System Design Parameters for  $\,$  L7A (G.NW21) AMN VRF

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	778.0	0.	0.0	100 15.7	49	0.742	-16.200	0.000	0.000	0.000
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F	AN FAI	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	(FRAC)	(FRAC)
	( ,	(,	(,	(- /	(	(/	(/			(,	(,
SUPPLY	525.	1.00	0.030	0.18	0.1	0.25	0.62	DRAW-THE	RU SPEEI	1.00	0.30
SUPPLI	525.	1.00	0.030	0.16	0.1	0.25	0.02	. DIAW-III	CO SPEEL	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	2
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	
L7A NW Perim Zn (G.NW21)	525.	0.	0.000	0.240	47.	0.00	0.00	11.05	0.00	-6.07 1.	

REPORT- SV-A System Design Parameters for  $\,$  L7A (G.NE22) AMN VRF

WEATHER FILE- SEATTLE BOEING FI WA

	1											
		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	829.5	0.	0.0	000 15.1	13	0.742	-15.546	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	504.	1.00	0.029	0.18	0.1	0.25	0.62	DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	1E
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	ΔT
L7A NE Perim Zn (G.NE22)	504.	0.	0.000	0.251	50.	0.00	0.00	10.61	0.00	-6.05 1	L.

REPORT- SV-A System Design Parameters for L7A (G.SSE23) APT2 VRF

WEATHER FILE- SEATTLE BOEING FI WA

REFORT 5					AFI				WEATH		ATTHE BOEING	
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	1282.5	2.	0.0	000 18.4	12	0.742	-18.940	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFI	FA FA	in fai	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC	PLACEMEN	IT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	614.	1.00	0.035	0.18	0.1	0.25	0.62	DRAW-THR	U SPEEI	D 1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	Z
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	Γ
L7A SSE Perim Zn (G.SSE23P	614.	86.	0.014	0.324	0.	0.00	0.00	12.91	0.00	-9.22 1.	

REPORT- SV-A System Design Parameters for	L7B (G.N4) APT4 VRF	WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT )	MAX PEOPLE		IR CAPACI	TY SE	NSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)
PVVT	1.001	2668.0	3.	0.0	00 45.3	12	0.742	-46.608	0.000	0.000	0.000
FAN TYPE	CAPACITY (CFM )	DIVERSITY FACTOR (FRAC)	POWER DEMAND (KW)	FAN DELTA-T (F)	STATIC PRESSURE (IN-WATER)	TOTAL EFF (FRAC)		FA			
SUPPLY	1512.	1.00	0.087	0.18	0.2	0.34	0.62	DRAW-THE	RU SPEEI	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7B North Perim Zn (G.N4)T	1512.	178.	0.030	0.269	0.	0.00	0.00	31.87	0.00	-19.34	1.

REPORT- SV-A System Design Parameters for  $\,$  L7B (G.E5) APT1 VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

TELL OIGH D	, 11 0,000	Debign rara	mederb ror	2.2 (	J. 25 / 112 12 V				***************************************	02		
		FLOOR		OUTS	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	. I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	919.0	1.	0.0	000 16.4	27	0.742	-16.898	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F.F.	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	L (FRAC)	(FRAC)	
SUPPLY	548.	1.00	0.031	0.18	0.1	0.25	0.62	DRAW-THE	U SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	E
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	Т
L7B East Perim Zn (G.E5) 1	548.	61.	0.010	0.343	0	0 00	0.00	11 46	0 00	-8.62 1	
L/B East Perim Zn (G.E5) I	548.	bΙ.	0.010	0.343	υ.	0.00	0.00	11.46	0.00	-0.0Z I	

REPORT- SV-A System Design Parameters for L7B (G.W6) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

REFORT BY	, H Dybeem				, ALII V						ATTED DOBIN	
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	765.0	1.	0.0	000 13.4	37	0.742	-13.821	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	ł		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F F	AN FAN	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEME	NT CONTROL	(FRAC)	(FRAC)	
SUPPLY	448.	1.00	0.026	0.18	0.1	0.25	0.62	DRAW-TH	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	ΙE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	т
I TD Mark Davin Gr (C MC) 1	4.40	F1	0.000	0 252	0	0.00	0.00	0 41	0.00	7 00 1	
L7B West Perim Zn (G.W6) 1	448.	51.	0.009	0.353	υ.	0.00	0.00	9.41	0.00	-7.22 1	

REPORT- SV-A System Design Parameters for L7B (G.W7) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

REPORT- SV		Design Para			3.W/) APII V				mrain	SK FILE- SE	AIILE BOEING	FI V
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	P	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	654.5	1.	0.0	000 9.2	25	0.742	-9.489	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	H		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	F FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	) PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	308.	1.00	0.018	0.18	0.1	0.25	0.62	2 DRAW-THE	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	E
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUL	Т
L7B West Perim Zn (G.W7) 1	308.	44.	0.007	0.323	0.	0.00	0.00	6.49	0.00	-4.61 1	

SPEED

(FRAC) (FRAC)

1.00 0.30

REPORT- SV-A System Design Parameters for  $\,$  L7B (G.E8) APT1 VRF  $\,$ WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT )	MAX PEOPLE	OUTSIDE AIR RATIO	COOLING CAPACIT	Y S	ENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)	
PVVT	1.001	628.5	1.	0.000	7.97	2	0.742	-8.200	0.000	0.000	0.000	
FAN	CAPACITY	DIVERSITY FACTOR	POWER DEMAND	FAN DELTA-T E	STATIC PRESSURE	TOTA:			AN FAI	MAX FAN N RATIO	MIN FAN RATIO	

(FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

266.

TYPE (CFM )

SUPPLY

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

1.00 0.015 0.18

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7B East Perim Zn (G.E8) 1	266.	42.	0.007	0.350	0	0.00	0.00	5.56	0.00	-4.27	1

0.1 0.25 0.62 DRAW-THRU

REPORT- SV-A System Design Parameters for L7B (G.E9) APT1 VRF

WEATHER FILE- SEATTLE BOEING FI WA

REPORT- SV		Design Para	meters for		APII V				mrain	SE	AIILE BOEING	3 FI W
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	P	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	'IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	789.0	1.	0.0	14.3	09	0.742	-14.718	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r F	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTROL	L (FRAC)	(FRAC)	
SUPPLY	477.	1.00	0.027	0.18	0.1	0.25	0.62	DRAW-THI	RU SPEEI	1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	1E
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	ΔT
L7B East Perim Zn (G.E9) 1	477.	53.	0.009	0.360	0.	0.00	0.00	10.02	0.00	-7.82 1	L.

REPORT- SV-A System Design Parameters for  $\,$  L7B (G.SSW10) APT7 VRF WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	'IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
PVVT	1.001	3981.5	5.	0.0	000 58.1	16	0.742	-59.781	0.000	0.000	0.000
								_			
		DIVERSITY	POWER	FAN	STATIC	TOTAL				MAX FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' FA	n fai	N RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	L (FRAC)	(FRAC)
SUPPLY	1939.	1.00	0.111	0.18	0.2	0.37	0.62	DRAW-THR	U SPEEI	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.625(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

\*\*\* THE NUMBER OF VRF BRANCH LOOPS WAS SET TO: 2 TO SATISFY THE MAX-CAP/UNIT LIMIT OF 30000.(BTU/HR)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	XTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L7B SSW Perim Zn (G.SSW10P	1939.	266.	0.044	0.337	0.	0.00	0.00	40.63	0.00	-30.06	1.

REPORT- SV-A System Design Parameters for  $\,$  L8A (G.E3) APT2 VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	I	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	IR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	956.8	1.	0.0	10.8	49	0.742	-11.159	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	1		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF			an fai			
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)				(FRAC)	
	(0111 )	(11010)	(2211)	(-)	(111 1111111)	(11410)	(11110)	1 211021121		(11410)	(11410)	
SUPPLY	362.	1.00	0.021	0.18	0.1	0.25	0.62	2 DRAW-TH	RU SPEEI	D 1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONI	E
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	Γ
L8A East Perim Zn (G.E3) 2	362.	64.	0.011	0.391	0.	0.00	0.00	7.58	0.00	-6.34 1	

REPORT- SV-A System Design Parameters for  $\,$  L8A (G.W8) APT2 VRF  $\,$ 

WEATHER FILE- SEATTLE BOEING FI WA

	FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
FACTOR	(SQFT )	PEOPLE	RAT	CIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
1.001	891.0	1.	0.0	13.3	32	0.742	-13.714	0.000	0.000	0.000	
	DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAI	N RATIO	RATIO	
(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROI	L (FRAC)	(FRAC)	
445.	1.00	0.026	0.18	0.1	0.25	0.62	DRAW-THR	U SPEEI	1.00	0.30	
	ALTITUDE FACTOR 1.001 CAPACITY (CFM )	FLOOR ALTITUDE AREA FACTOR (SQFT)  1.001 891.0  DIVERSITY CAPACITY FACTOR (CFM) (FRAC)	FLOOR ALTITUDE AREA MAX FACTOR (SQFT ) PEOPLE  1.001 891.0 1.  DIVERSITY POWER CAPACITY FACTOR DEMAND (CFM ) (FRAC) (KW)	FLOOR OUTSI ALTITUDE AREA MAX F FACTOR (SQFT ) PEOPLE RAT  1.001 891.0 1. 0.0  DIVERSITY POWER FAN CAPACITY FACTOR DEMAND DELTA-T (CFM ) (FRAC) (KW) (F)	FLOOR OUTSIDE COOLI ALTITUDE AREA MAX AIR CAPACI FACTOR (SQFT ) PEOPLE RATIO (KBTU/H  1.001 891.0 1. 0.000 13.3  DIVERSITY POWER FAN STATIC CAPACITY FACTOR DEMAND DELTA-T PRESSURE (CFM ) (FRAC) (KW) (F) (IN-WATER)	FLOOR OUTSIDE COOLING ALTITUDE AREA MAX AIR CAPACITY SE FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR)  1.001 891.0 1. 0.000 13.332  DIVERSITY POWER FAN STATIC TOTAL CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC)	FLOOR OUTSIDE COOLING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR)  1.001 891.0 1. 0.000 13.332 0.742  DIVERSITY POWER FAN STATIC TOTAL MECH CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC)	FLOOR OUTSIDE COOLING HEATING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR)  1.001 891.0 1. 0.000 13.332 0.742 -13.714  DIVERSITY POWER FAN STATIC TOTAL MECH CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FA (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMEN	FLOOR OUTSIDE COOLING HEATING COOLING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU)  1.001 891.0 1. 0.000 13.332 0.742 -13.714 0.000  DIVERSITY POWER FAN STATIC TOTAL MECH CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL	FLOOR OUTSIDE COOLING HEATING COOLING HEATING ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU)  1.001 891.0 1. 0.000 13.332 0.742 -13.714 0.000 0.000  DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC)	FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT FACTOR (SQFT) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)  1.001 891.0 1. 0.000 13.332 0.742 -13.714 0.000 0.000 0.000  DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC)

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	F	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZON	1E
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MUI	JT
L8A West Perim Zn (G.W8) 2	445.	59.	0.010	0.344	0.	0.00	0.00	9.34	0.00	-7.01 1	L.

FACTOR

TYPE

DOE-2.3-50h 1/26/2023

9:30:35 BDL RUN 9

REPORT- SV-A System Design Parameters for  $\,$  L8A (G.SW9) APT1 VRF  $\,$ WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR) SYSTEM ALTITUDE AREA

(SQFT ) 688.5 PVVT 1.001 1. 0.000 12.166 0.742 -12.514 0.000 0.000

FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF MAX FAN MIN FAN FAN FAN RATIO RATIO TYPE (CFM ) (FRAC) (FRAC) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL SUPPLY 406. 1.00 0.023 0.18 0.1 0.25 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L8A SW Perim Zn (G.SW9) A	406.	46.	0.008	0.325	0.	0.00	0.00	8.49	0.00	-6.10	1.

					MIII							
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX		AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	TIO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PVVT	1.001	776.5	1.	0.0	000 16.5	33	0.742	-17.007	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	r FA	AN FAI	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	NT CONTRO	L (FRAC)	(FRAC)	
SUPPLY	552.	1.00	0.032	0.18	0.1	0.25	0.62	DRAW-TH	RU SPEE	D 1.00	0.30	

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L8A NW Perim Zn (G.NW11) 1	552.	52.	0.009	0.284	0.	0.00	0.00	11.53	0.00	-7.40	1.

FAN FAN

RATIO

RATIO

REPORT- SV-A System Design Parameters for  $\,$  L8A (G.NE12) APT1 VRF WEATHER FILE- SEATTLE BOEING FI WA

SYSTEM TYPE	ALTITUDE FACTOR	FLOOR AREA (SQFT )	MAX PEOPLE	OUTSIDE AIR RATIO	COOLING CAPACITY (KBTU/HR)	SENSIBLE (SHR)	HEATING CAPACITY (KBTU/HR)	COOLING EIR (BTU/BTU)	HEATING EIR (BTU/BTU)	HEAT PUMP SUPP-HEAT (KBTU/HR)	
PVVT	1.001	948.8	1.	0.000	16.758	0.742	-17.238	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC :	TOTAL MEC	Н		MAX FAN	MIN FAN	

TYPE (CFM ) (FRAC) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC) 559. 1.00 0.032 0.18 0.1 0.25 0.62 DRAW-THRU SPEED SUPPLY 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L8A NE Perim Zn (G.NE12) 1	559.	63.	0.011	0.301	0.	0.00	0.00	11.72	0.00	-7.88	1.

PVVT

1.001

0.000

0.000

-8.988

0.000

REPORT- SV-A System Design Parameters for L8A (G.S13) APT1 VRF WEATHER FILE- SEATTLE BOEING FI WA

FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP SYSTEM ALTITUDE AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT TYPE FACTOR (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR)

DIVERSITY POWER FAN STATIC TOTAL MECH MAX FAN MIN FAN FACTOR DEMAND DELTA-T PRESSURE EFF FAN FAN FAN CAPACITY EFF RATIO RATIO (FRAC) TYPE (CFM ) (KW) (F) (IN-WATER) (FRAC) (FRAC) PLACEMENT CONTROL (FRAC) (FRAC) 1.00 0.017 0.18 SUPPLY 291. 0.1 0.25 0.62 DRAW-THRU SPEED 1.00 0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

540.0

\*\*\* THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

1. 0.000

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L8A South Perim Zn (G.S13P	291.	36.	0.006	0.291	0.	0.00	0.00	6.15	0.00	-3.99	1.

8.738 0.742

REPORT- SV-A System Design Parameters for L8A (G.SE14) APT1 VRF WEATHER FILE- SEATTLE BOEING FI WA

		FLOOR		OUTSIDE	COOLING		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	AIR	CAPACITY	SENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RATIO	(KBTU/HR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
PWWT	1 001	540 0	1	0 000	9 005	0 742	-9 263	0 000	0 000	0 000	

		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH			MAX FAN	MIN FAN
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAN	FAN	RATIO	RATIO
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMENT	CONTROL	(FRAC)	(FRAC)
SUPPLY	300.	1.00	0.017	0.18	0.1	0.25	0.62	DRAW-THRU	SPEED	1.00	0.30

VRF BRANCH GAS PIPE NOMINAL DIA: 0.500(IN)

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	I	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE	E
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT	Γ
L8A SE Perim Zn (G.SE14) 1	300.	36.	0.006	0.355	0.	0.00	0.00	6.34	0.00	-4.87 1.	

REPORT- SV	/-A System	RTU-1	(Corridor D	OAS)			WEATHER FILE- SEATTLE BOEING FI WA					
		FLOOR		OUTSI	IDE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	P	AIR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	rio (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
SZRH	1.001	16630.2	0.	0.9	972 0.0	00	0.000	-20.472	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FA FA	N FAN	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	IT CONTROL	(FRAC)	(FRAC)	
SUPPLY	2802.	1.00	3.457	3.84	5.7	0.54	0.62	DRAW-THE	U CONSTANT	1.00	0.30	

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	1	EXTRACTION	HEATING	ADDITION	
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE	ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR)	MULT
L1A Core Zn (G.C21) COR	21.	0.	0.000	1.000	9.	0.00	0.00	0.01	0.00	-0.12	1.
P1B Core Zn (B.C12) COR	419.	0.	0.000	1.000	75.	0.00	0.00	-1.53	0.00	-4.20	1.
L1A Core Zn (G.C22) COR	119.	0.	0.000	1.000	40.	0.00	0.00	-0.24	0.00	-0.94	1.
L1B Core Zn (G.C4) COR	123.	0.	0.000	1.000	142.	0.00	0.00	-0.14	0.00	-1.11	1.
L2A Core Zn (G.C26) COR	144.	0.	0.000	1.000	167.	0.00	0.00	0.12	0.00	-1.16	1.
L2B Core Zn (G.C3) COR	162.	0.	0.000	1.000	187.	0.00	0.00	1.24	0.00	-1.06	1.
L3A Core Zn (G.C23) COR	96.	0.	0.000	1.000	112.	0.00	0.00	0.72	0.00	-0.52	1.
L3B North Perim Zn (G.N3)R	247.	0.	0.000	1.000	286.	0.00	0.00	1.17	0.00	-0.98	1.
L4A Core Zn (G.C23) COR	96.	0.	0.000	1.000	112.	0.00	0.00	0.74	0.00	-0.52	1.
L4B North Perim Zn (G.N3)R	247.	0.	0.000	1.000	286.	0.00	0.00	1.24	0.00	-0.94	1.
L5A Core Zn (G.C23) COR	96.	0.	0.000	1.000	112.	0.00	0.00	0.74	0.00	-0.52	1.
L5B North Perim Zn (G.N3)R	247.	0.	0.000	1.000	286.	0.00	0.00	1.24	0.00	-0.91	1.
L6A Core Zn (G.C23) COR	96.	0.	0.000	1.000	112.	0.00	0.00	0.68	0.00	-0.49	1.
L6B North Perim Zn (G.N3)R	247.	0.	0.000	1.000	286.	0.00	0.00	1.24	0.00	-0.87	1.
L7A Core Zn (G.C20) COR	88.	0.	0.000	1.000	102.	0.00	0.00	0.49	0.00	-0.21	1.
L7B North Perim Zn (G.N3)R	247.	0.	0.000	1.000	286.	0.00	0.00	0.85	0.00	-0.35	1.
L8A Core Zn (G.C10) COR	106.	0.	0.000	1.000	123.	0.00	0.00	0.40	0.00	-0.27	1.

		FLOOR		OUTSIDE	COOLING		HEATING	COOLING	HEATING	HEAT PUMP
SYSTEM	ALTITUDE	AREA	MAX	AIR	CAPACITY	SENSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT
TYPE	FACTOR	(SQFT )	PEOPLE	RATIO	(KBTU/HR)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)
UHT	1.001	55590.5	0.	0.000	0.000	0.000	0.000	0.000	0.000	0.000

	GIIDDI V	EVIINICE		MINITMIN	OUTTO	GOOT TNG	,	aven a cert on	HEADING	ADDITION
ZONE	SUPPLY FLOW	EXHAUST FLOW	FAN	MINIMUM FLOW	OUTSIDE AIR FLOW	COOLING CAPACITY	SENSIBLE	EXTRACTION RATE	HEATING CAPACITY	ADDITION RATE ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)		(KBTU/HR)				(KBTU/HR) MULT
L2B South Perim Zn (G.S27E	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L6A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
PlA West Perim Zn (B.W7) H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
L2A Core Zn (G.C16) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
L3A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
L4A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00		(BASEBOARDS) 0.00 1.
									0.00	(BASEBOARDS)
L5A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1. (BASEBOARDS)
L6A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1. (BASEBOARDS)
L7A Core Zn (G.C15) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1. (BASEBOARDS)
L8A Core Zn (G.C5) TRSH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1. (BASEBOARDS)
P2A NNW Perim Zn (B.NNW13K	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-15.70 1.
P2B NW Perim Zn (B.NW6) X	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
P2B South Perim Zn (B.S10K	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) -161.86 1.
P2B NNE Perim Zn (B.NNE12K	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	-161.86 0.00	(BASEBOARDS) -27.28 1.
PlB South Perim Zn (B.S6)G	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	-27.28 0.00	(BASEBOARDS) -42.77 1.
P1B NNE Perim Zn (B.NNE9)G	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	-42.77 0.00	(BASEBOARDS) -34.74 1.
									-34.74	(BASEBOARDS)
L1A East Perim Zn (G.E18)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00		-0.19 1. (BASEBOARDS)
L1A Core Zn (G.C20) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 -0.41	-0.41 1. (BASEBOARDS)
L2A East Perim Zn (G.E13)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 -0.23	-0.23 1. (BASEBOARDS)
L2A Core Zn (G.C15) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1. (BASEBOARDS)
L3A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.43 1. (BASEBOARDS)
L3A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L4A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) -0.40 1.
L4A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	-0.40 0.00	(BASEBOARDS) 0.00 1.
L5A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) -0.40 1.
L5A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	-0.40 0.00	(BASEBOARDS) 0.00 1.
L6A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00		(BASEBOARDS) -0.40 1.
									-0.40	(BASEBOARDS)
L6A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00		0.00 1. (BASEBOARDS)
L7A East Perim Zn (G.E12)H	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 -0.40	-0.40 1. (BASEBOARDS)
L7A Core Zn (G.C14) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1. (BASEBOARDS)
L8A East Perim Zn (G.E2) F	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	-0.45 1. (BASEBOARDS)
L8A Core Zn (G.C4) TSHF	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
									0.00	(BASEBOARDS)

P2A Core Zn (B.C1) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
									0.00 (BASEBOARDS)
P2A Core Zn (B.C2) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
									0.00 (BASEBOARDS)
P2B Core Zn (B.C4) MECH	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
									0.00 (BASEBOARDS)
P2B Core Zn (B.C5) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
									0.00 (BASEBOARDS)
P2B SE Perim Zn (B.SE8) M	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
									0.00 (BASEBOARDS)
PlA Core Zn (B.C1) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
									0.00 (BASEBOARDS)
P1A Core Zn (B.C2) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
PlA NNW Perim Zn (B.NNW8)C	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
P1B Core Zn (B.C4) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
									0.00 (BASEBOARDS)
P1B SE Perim Zn (B.SE5) M	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
									0.00 (BASEBOARDS)
P1B ENE Perim Zn (B.ENE10E	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
									0.00 (BASEBOARDS)
L1A Core Zn (G.C1) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
									0.00 (BASEBOARDS)
L1A Core Zn (G.C2) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00 0.00 1.
									0.00 (BASEBOARDS)

REPORT- SV-A System Design Design			ze Protect					R FILE- SEA		
L1B Core Zn (G.C3) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L2A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
L2A NNW Perim Zn (G.NNW24T	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L2B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L3A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L3A Core Zn (G.C20) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L3B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L4A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L4A Core Zn (G.C20) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
I.4D G G. (G. G2) GED	0	0	0.000	0.000	0	0.00	0.00	0.00	0.00	0.00 1
L4B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L5A Core Zn (G.C1) ELV	0. 0.	0. 0.	0.000	0.000	0. 0.	0.00	0.00	0.00	0.00	0.00 1. 0.00 1.
L5A Core Zn (G.C20) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L5B Core Zn (G.C2) STR L6A Core Zn (G.C20) STR	0.	0.	0.000		0.	0.00	0.00		0.00	
Loa Core Zn (G.C20) Sir	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L6B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L7A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L7A Core Zn (G.C17) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L7B Core Zn (G.C2) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L8A Core Zn (G.C1) ELV	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L8A Core Zn (G.C7) STR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
P2B NNE Perim Zn (B.NNE11L	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L1A Core Zn (G.C23) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L1A SW Perim Zn (G.SW26) C	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L1B Core Zn (G.C12) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
EID COIC EM (C.CIE) EEDC	٠.	٠.	0.000	0.000	٠.	0.00	0.00	0.00		(BASEBOARDS)
L2A Core Zn (G.C17) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
L2B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	(BASEBOARDS) 0.00 1.
HZB COTE ZH (G.CII) EHEC	0.	٠.	0.000	0.000	0.	0.00	0.00	0.00		(BASEBOARDS)
L3A Core Zn (G.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
DJA COTE ZII (G.CTO) EDEC	0.	٥.	0.000	0.000	0.	0.00	0.00	0.00		(BASEBOARDS)
L3B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
232 0010 211 (0.011) 2220	٠.	٠.	0.000	0.000	٠.	0.00	0.00	0.00		(BASEBOARDS)
L4A Core Zn (G.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
									0.00	(BASEBOARDS)
L4B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
									0.00	(BASEBOARDS)
L5A Core Zn (G.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
									0.00	(BASEBOARDS)
L5B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
										(BASEBOARDS)
L6A Core Zn (G.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
7.65 6 7 40 611) 5756	•	0	0.000	0.000		0.00	0.00	0.00		(BASEBOARDS)
L6B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
173 Gama Fr. (G. G16), FILEG	0	0	0.000	0.000	0	0.00	0.00	0.00		(BASEBOARDS)
L7A Core Zn (G.C16) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1. (BASEBOARDS)
L7B Core Zn (G.C11) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
E/B Core Zii (G.Cii) EDEC	0.	٥.	0.000	0.000	0.	0.00	0.00	0.00		(BASEBOARDS)
L8A Core Zn (G.C6) ELEC	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										(BASEBOARDS)
P2A Core Zn (B.C7) STO	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
									0.00	(BASEBOARDS)
P2B NE Perim Zn (B.NE9) S	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
									0.00	(BASEBOARDS)
L1A Core Zn (G.C16) RR	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
										(BASEBOARDS)
L1A WNW Perim Zn (G.WNW25T	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
103 Mart Paris 7 (2 707)	•	0	0.000	0.000	0	0.00	0.00	0.00		(BASEBOARDS)
L2A West Perim Zn (G.W25)0	0.	0.	0.000	0.000	0.	0.00	0.00	0.00	0.00	0.00 1.
									0.00	(BASEBOARDS)

REPORT- SV-A System Design Parameters for				OFFICE	OFFICE DOAS ERV					WEATHER FILE- SEATTLE BOEING FI WA				
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP			
SYSTEM	ALTITUDE	AREA	MAX	. A.	IR CAPACI	TY SEI	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT			
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)			
DOAS	1.001	4228.0	119.	1.00	0.0	00	0.000	-13.650	0.000	0.000	0.000			
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN			
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	' FAI	n fan	N RATIO	RATIO			
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r control	(FRAC)	(FRAC)			
SUPPLY	1236.	0.00	1.920	4.84	7.1	0.54	0.62	DRAW-THR	J CONSTANT	1.10	0.10			

<sup>\*\*\*</sup> THE ABOVE CHARACTERISTICS ARE FOR EACH OF: 1 AIR HANDLERS

	OA	ATTACHED TO	
SYSTEM NAME	MIXED AIR	ZONE	
ZONE NAME	(CFM )	(CFM )	MULT
L1A (G.S17) LOB VRF			
L1A South Perim Zn (G.S17) LOB	0.	257.	1.
L1B (G.SSW13) CONF VRF			
L1B SSW Perim Zn (G.SSW13) CONF	0.	73.	1.
L1B (G.C14) OFF VRF			
L1B Core Zn (G.C14) OFF	0.	22.	1.
L2A (G.C21) MAIL VRF			
L2A Core Zn (G.C21) MAIL	0.	0.	1.
L2B (G.SSW12) LOB VRF			
L2B SSW Perim Zn (G.SSW12) LOB	0.	252.	1.
TOTAL:	0.	605.	

REPORT SV			IOI		OA5 				WEATH	SK FILE- SE		G FI WA
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
DOAS	1.001	2287.5	76.	1.0	0.0	00	0.000	-311.437	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	, FA	N FAN	N RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN	T CONTROL	(FRAC)	(FRAC)	
SUPPLY	8006.	0.00	5.480	2.13	3.2	0.55	0.62	P DRAW-THR	U SPEEI	1.10	0.10	

	OA	ATTACHED TO	
SYSTEM NAME	MIXED AIR	ZONE	
ZONE NAME	(CFM )	(CFM )	MULT
L2A (G.SW20) RST VRF			
L2A SW Perim Zn (G.SW20) RST	0.	8006.	1.
TOTAL:	0.	8006.	

REPORT-	SV-A	System	Design	Parameters	for	FN-2-1	WEATHE	R FILE

ILE- SEATTLE BOEING FI WA FLOOR OUTSIDE COOLING HEATING COOLING HEATING HEAT PUMP AREA MAX AIR CAPACITY SENSIBLE CAPACITY EIR EIR SUPP-HEAT (SQFT ) PEOPLE RATIO (KBTU/HR) (SHR) (KBTU/HR) (BTU/BTU) (BTU/BTU) (KBTU/HR) SYSTEM ALTITUDE AREA
TYPE FACTOR (SQFT) PSZ 1.001 475.0 0. 0.181 0.000 0.000 -14.211 0.251 1.000 FAN CAPACITY FACTOR DEMAND DELTA-T PRESSURE EFF EFF FAN FAN RATIO RATIO 430. 1.00 0.060 0.43 0.4 0.30 0.62 DRAW-THRU CONSTANT 1.00 0.30 SUPPLY

	SUPPLY	EXHAUST		MINIMUM	OUTSIDE	COOLING	E	EXTRACTION	HEATING	ADDITION
ZONE	FLOW	FLOW	FAN	FLOW	AIR FLOW	CAPACITY	SENSIBLE	RATE	CAPACITY	RATE ZONE
NAME	(CFM )	(CFM )	(KW)	(FRAC)	(CFM )	(KBTU/HR)	(FRAC)	(KBTU/HR)	(KBTU/HR)	(KBTU/HR) MULT
P2A Core Zn (B.C3) COR	60.	0.	0.000	1.000	39.	0.00	0.00	0.40	0.00	-2.15 1.
									-1.41	(BASEBOARDS)
P1A Core Zn (B.C3) COR	370.	0.	0.000	1.000	39.	0.00	0.00	2.46	0.00	-4.13 1.
									-3.73	(BASEBOARDS)

REPORT- SV-A System Design Parameters for				Amenit	Amenity ERV WEATHER FILE- SEATTLE						ATTLE BOEIN	G FI WA
		FLOOR		OUTSI	DE COOLI	NG		HEATING	COOLING	HEATING	HEAT PUMP	
SYSTEM	ALTITUDE	AREA	MAX	A	IR CAPACI	TY SE	NSIBLE	CAPACITY	EIR	EIR	SUPP-HEAT	
TYPE	FACTOR	(SQFT )	PEOPLE	RAT	IO (KBTU/H	R)	(SHR)	(KBTU/HR)	(BTU/BTU)	(BTU/BTU)	(KBTU/HR)	
DOAS	1.001	1607.5	0.	1.0	0.0	00	0.000	0.000	0.000	0.000	0.000	
		DIVERSITY	POWER	FAN	STATIC	TOTAL	MECH	I		MAX FAN	MIN FAN	
FAN	CAPACITY	FACTOR	DEMAND	DELTA-T	PRESSURE	EFF	EFF	FAI	I FAN	RATIO	RATIO	
TYPE	(CFM )	(FRAC)	(KW)	(F)	(IN-WATER)	(FRAC)	(FRAC)	PLACEMEN'	r control	(FRAC)	(FRAC)	
SUPPLY	97.	0.00	0.119	3.85	3.9	0.37	0.62	DRAW-THR	J CONSTANT	1.10	0.10	

			OA	ATTACHED '	ro
SYSTEM NAME		MIXED	AIR	ZONE	
ZONE NAME		(CFM	I )	(CFM )	MULT
L7A (G.NW21) AMN VRF					
L7A NW Perim Zn (G.NW21)	AMN		0.	47	. 1.
L7A (G.NE22) AMN VRF					
L7A NE Perim Zn (G.NE22)	AMN		0.	50	. 1.
					_
	TOTAL:		0.	97	•