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 TELECENT ENGINEERING, INC.

NO.	REVISION	DATE
FILE	DRAWN	ISSUED
20013J	TAB	06/19/2020

SHEET TITLE
O.A. Calculations

SHEET NUMBER

72.03

Bid/Permit Documents

Project Name: Vz Simpsonville, SC		Unit Total Supply Air: 1,400												
Date: 6/17/2020		Unit Total Outdoor Air: 285												
Unit Designation: RTU-1 (Sales)														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Room Number	Description	Area (ft²) (Az)	Area Outdoor Air Rate per VMC Table 403.3 (Ra)	Area Outdoor Air (RaAz)	Occupant Load Rate per VMC Table 403.3 (People/1000 ft²)	Occupancy C x F/1000 (Pz)	Occupant Outdoor Air Rate per VMC Table 403.3 (Rp)	Occupant Outdoor Air (RpPz)	Breathing Zone Outdoor Air (Vbz = RpPz + RaAz)	Zone Air Distribution Effectiveness (Ez)	Zone Outdoor Air (Voz = Vbz / Ez)	Supply Air Design (Vpz)	Secondary Recirculated Air	Outdoor Air Fraction (Zp = Voz / Vpz)
Retail	Retail	960	0.12	115	15	15	7.5	112.5	227.5	0.8	285	1400	0	0.204
Totals		960		115		15		112.5	227.5		285	1400	0	0.204

Do not utilize Occupant Diversity without specific approval from the Authority Having Jurisdiction		Occupant Diversity D = Pz/Σall zones Pz		Total Required Outdoor Air		E _r	
		1.000		240		0.950	
System Population (Ps)		Uncorrected O.A. Vou = D Σall zones RpPz + Σall zones RaAz		Percentage of Outdoor Air		Method	
Diversity →		15		228		17% IMC Chart	

Project Name: Vz Simpsonville, SC		Unit Total Supply Air: 1,400												
Date: 6/17/2020		Unit Total Outdoor Air: 285												
Unit Designation: RTU-2 (Sales)														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Room Number	Description	Area (ft²) (Az)	Area Outdoor Air Rate per VMC Table 403.3 (Ra)	Area Outdoor Air (RaAz)	Occupant Load Rate per VMC Table 403.3 (People/1000 ft²)	Occupancy C x F/1000 (Pz)	Occupant Outdoor Air Rate per VMC Table 403.3 (Rp)	Occupant Outdoor Air (RpPz)	Breathing Zone Outdoor Air (Vbz = RpPz + RaAz)	Zone Air Distribution Effectiveness (Ez)	Zone Outdoor Air (Voz = Vbz / Ez)	Supply Air Design (Vpz)	Secondary Recirculated Air	Outdoor Air Fraction (Zp = Voz / Vpz)
Retail	Retail	960	0.12	115	15	15	7.5	112.5	227.5	0.8	285	1400	0	0.204
Totals		960		115		15		112.5	227.5		285	1400	0	0.204

Do not utilize Occupant Diversity without specific approval from the Authority Having Jurisdiction		Occupant Diversity D = Pz/Σall zones Pz		Total Required Outdoor Air		E _r	
		1.000		240		0.950	
System Population (Ps)		Uncorrected O.A. Vou = D Σall zones RpPz + Σall zones RaAz		Percentage of Outdoor Air		Method	
Diversity →		15		228		17% IMC Chart	

Project Name: Vz Simpsonville, SC		Unit Total Supply Air: 1,400												
Date: 6/17/2020		Unit Total Outdoor Air: 120												
Unit Designation: RTU-3 (BOH)														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Room Number	Description	Area (ft²) (Az)	Area Outdoor Air Rate per VMC Table 403.3 (Ra)	Area Outdoor Air (RaAz)	Occupant Load Rate per VMC Table 403.3 (People/1000 ft²)	Occupancy C x F/1000 (Pz)	Occupant Outdoor Air Rate per VMC Table 403.3 (Rp)	Occupant Outdoor Air (RpPz)	Breathing Zone Outdoor Air (Vbz = RpPz + RaAz)	Zone Air Distribution Effectiveness (Ez)	Zone Outdoor Air (Voz = Vbz / Ez)	Supply Air Design (Vpz)	Secondary Recirculated Air	Outdoor Air Fraction (Zp = Voz / Vpz)
Operations	Office	324	0.06	19	5	2	5	10	29	0.8	37	600	0	0.062
Break Area	Break Rm	114	0.06	7	5	1	5	5	12	0.8	15	200	0	0.075
Manager's Office	Office	88	0.06	5	5	1	5	5	10	0.8	13	100	0	0.130
Inventory	Office	120	0.06	7	5	1	5	5	12	0.8	15	120	0	0.125
Storage	Storage Rm	55	0.12	7	0	0	0	0	7	0.8	9	80	0	0.113
Hall 102	Hallway	169	0.06	10	0	0	0	0	10	0.8	13	100	0	0.130
Hall 108	Hallway	45	0.06	3	0	0	0	0	3	0.8	4	100	0	0.040
Mens BR	N/A	52	0	0	0	0	0	0	0	0.8	0	50	0	0.000
Womens BR	N/A	46	0	0	0	0	0	0	0	0.8	0	50	0	0.000
Janitor's closet	N/A	38	0	0	0	0	0	0	0	0.8	0	0	0	0.000
Totals		1051		58		5		25	83		106	1400	0	0.130

Do not utilize Occupant Diversity without specific approval from the Authority Having Jurisdiction		Occupant Diversity D = Pz/Σall zones Pz		Total Required Outdoor Air		E _r	
		1.000		83		1.000	
System Population (Ps)		Uncorrected O.A. Vou = D Σall zones RpPz + Σall zones RaAz		Percentage of Outdoor Air		Method	
Diversity →		5		83		6% IMC Chart	

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