

EX.RTU-1 VENTILATION CALCULATIONS													
ARIUM AE ARCHITECTS ENGINEERS INTERIORS PLANNING GREEN DESIGN										Project Name: Little Leaves Arium Project #: CG50-LLBS Version #: 1			
Room Number	Room Name	Area (ft ²) Az	Area Outdoor Air Rate Ra	Area Outdoor Rate RaAz (CFM)	Occupant Load Rate (People/1000 ft ²)	Occupancy Az* People / 1000 ft ² Pz	Occupant Outdoor Air Rate Rp	Occupant Outdoor Air RpPz (CFM)	Breathing Zone Outdoor Air Vbz=RpPz+RaAz (CFM)	Zone Air Distribution Effectiveness Ez	Zone Outdoor Air Voz=Vbz/Ez (CFM)	Supply Air Design Vpz	Outdoor Air Fraction Zp=Voz/Vpz
108	Therapy	200	0.06	12	5	1	5	5.0	17	0.8	21.3	420	0.05
109	Therapy	245	0.06	14.7	5	2	5	10.0	24.7	0.8	30.9	420	0.07
110	Open Therapy	535	0.06	32.1	5	3	5	15.0	47.1	0.8	58.9	560	0.11
112	Therapy	295	0.06	17.7	5	2	5	10.0	27.7	0.8	34.6	400	0.09
114	Changing	50	0.06	3	5	1	5	5.0	8	0.8	10.0	50	0.20
Totals									Vou = 124.5			1,850	Max Zp = 0.20
Applicable Code: IMC 2015 Table 403.3										Ev = 0.95			
Required Code Information:										Actual Design Information:			
Total Req'd Outdoor Air CFM (Vot = Vou/Ev): 131.1										Supply Air CFM: 1850			
Percentage of Outdoor Air: 7.1%										Ventilation CFM: 185			
										Ventilation Percentage: 10%			

EX.RTU-2 VENTILATION CALCULATIONS													
ARIUM AE ARCHITECTS ENGINEERS INTERIORS PLANNING GREEN DESIGN										Project Name: Little Leaves Arium Project #: CG50-LLBS Version #: 1			
Room Number	Room Name	Area (ft ²) Az	Area Outdoor Air Rate Ra	Area Outdoor Rate RaAz (CFM)	Occupant Load Rate (People/1000 ft ²)	Occupancy Az* People / 1000 ft ² Pz	Occupant Outdoor Air Rate Rp	Occupant Outdoor Air RpPz (CFM)	Breathing Zone Outdoor Air Vbz=RpPz+RaAz (CFM)	Zone Air Distribution Effectiveness Ez	Zone Outdoor Air Voz=Vbz/Ez (CFM)	Supply Air Design Vpz	Outdoor Air Fraction Zp=Voz/Vpz
101	Reception	80	0.06	4.8	30	3	5	15.0	19.8	0.8	24.8	100	0.25
113	Break Room	215	0.06	12.9	5	2	5	10.0	22.9	0.8	28.6	300	0.10
115	Toilet Room	201	0.06	12.06	0	0	0	0.0	12.06	0.8	15.1	200	0.08
116	Womens	135	0.06	8.1	0	0	0	0.0	8.1	0.8	10.1	175	0.06
117	Mens	135	0.06	8.1	0	0	0	0.0	8.1	0.8	10.1	175	0.06
118	Meeting	115	0.06	6.9	50	6	5	30.0	36.9	0.8	46.1	220	0.21
119	Office	95	0.06	5.7	5	1	5	5.0	10.7	0.8	13.4	100	0.13
120	Corridor	390	0.06	23.4	0	0	0	0.0	23.4	0.8	29.3	300	0.10
121	Quiet Room	135	0.06	8.1	5	1	5	5.0	13.1	0.8	16.4	100	0.16
122	Copy / Supply	100	0.06	6	4	1	5	5.0	11	0.8	13.8	220	0.06
124	Staff Room	175	0.06	10.5	5	1	5	5.0	15.5	0.8	19.4	220	0.09
125	Corridor	390	0.06	23.4	0	0	0	0.0	23.4	0.8	29.3	300	0.10
Totals									Vou = 205.0			2,410	Max Zp = 0.25
Applicable Code: IMC 2015 Table 403.3										Ev = 0.90			
Required Code Information:										Actual Design Information:			
Total Req'd Outdoor Air CFM (Vot = Vou/Ev): 227.7										Supply Air CFM: 2410			
Percentage of Outdoor Air: 9.4%										Ventilation CFM: 241			
										Ventilation Percentage: 10%			

EX.RTU-3 VENTILATION CALCULATIONS													
ARIUM AE ARCHITECTS ENGINEERS INTERIORS PLANNING GREEN DESIGN										Project Name: Little Leaves Arium Project #: CG50-LLBS Version #: 1			
Room Number	Room Name	Area (ft ²) Az	Area Outdoor Air Rate Ra	Area Outdoor Rate RaAz (CFM)	Occupant Load Rate (People/1000 ft ²)	Occupancy Az* People / 1000 ft ² Pz	Occupant Outdoor Air Rate Rp	Occupant Outdoor Air RpPz (CFM)	Breathing Zone Outdoor Air Vbz=RpPz+RaAz (CFM)	Zone Air Distribution Effectiveness Ez	Zone Outdoor Air Voz=Vbz/Ez (CFM)	Supply Air Design Vpz	Outdoor Air Fraction Zp=Voz/Vpz
100	Waiting	125	0.06	7.5	50	7	7.5	52.5	60	0.8	75.0	600	0.13
102	Office	110	0.06	6.6	5	1	5	5.0	11.6	0.8	14.5	400	0.04
103	Office	110	0.06	6.6	5	1	5	5.0	11.6	0.8	14.5	400	0.04
104	Therapy	245	0.06	14.7	5	2	5	10.0	24.7	0.8	30.9	820	0.04
105	Therapy	200	0.06	12	5	1	5	5.0	17	0.8	21.3	420	0.05
106	Therapy	200	0.06	12	5	1	5	5.0	17	0.8	21.3	420	0.05
107	Therapy	200	0.06	12	5	1	5	5.0	17	0.8	21.3	420	0.05
123	Therapy	325	0.06	19.5	5	2	5	10.0	29.5	0.8	36.9	400	0.09
Totals									Vou = 188.4			3,880	Max Zp = 0.13
Applicable Code: IMC 2018 Table 403.3										Ev = 1.00			
Required Code Information:										Actual Design Information:			
Total Req'd Outdoor Air CFM (Vot = Vou/Ev): 188.4										Supply Air CFM: 3880			
Percentage of Outdoor Air: 4.9%										Ventilation CFM: 388			
										Ventilation Percentage: 10%			

EXHAUST FAN SCHEDULE												
TAG	SERVICE	CFM	STATIC (IN W.G.)	CONTROL	ELECTRICAL DATA					WEIGHT (lbs.)	BASIS OF DESIGN	NOTES
					VOLT	PHASE	WATTS	HP	RPM			
EF-1	111 IT ROOM	350	0.375	T-STAT	120	1	135	0.19	1,350	24	GREENHECK / SP-A390	FACTORY SPEED CONTROLLER FOR BALANCING
EF-2	115 CHILD TOILET	290	0.375	WALL SWITCH	120	1	135	0.19	1,350	24	GREENHECK / SP-A390	FACTORY SPEED CONTROLLER FOR BALANCING
**CONTRACTOR TO CONFIRM ELEC REQUIREMENTS												

Scott H
Walthour

Digitally signed by
Scott H Walthour
Date: 2021.03.03
22:08:29 -05'00'



I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR ENGINEERED UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER: 31532 EXP. DATE: 3/14/2023

RECEIVED

APR 09 2021

LICENSES & PERMITS DIVISION

REVIEWED FOR CODE COMPLIANCE
Department of Inspections, Licenses and Permits
Howard County
Date: 03/16/21
By: Adolphe Hurlaux

DWG NO. M5

TITLE: SCHEDULES - MECHANICAL
PROJECT FILE NAME: CG50-LLBS
DATE: 03/16/21
ISSUE DATE: 03/16/21
LATEST REVISION: 1
BY: ENH
CHK: SHW
APP: SHW
DATE: 03/16/21

PROJECT: LITTLE LEAVES BEHAVIORAL SERVICES
GROUND LEVEL, SUITE A
COLUMBIA, MD 21046

ARCHITECT/MEP ENGINEER: ARIUM | AE

5527 TIM KNOLES ROAD
COLUMBIA, MD 21045
BALTIMORE #410-292-2000
COLUMBIA, MARYLAND 21046
PHONE: 443-285-5554
WWW.ARIUMAE.COM

PROJECT MANAGER:
CPI-CORPORATE OFFICE PROPERTIES TRUST
1000 W. WASHINGTON AVE, SUITE 300
COLUMBIA, MARYLAND 21046
PHONE: 443-285-5554

CONTRACTOR:

REV. NO. DATE DESCRIPTION