

	ROOM USE			LIV/DIN		DEN		K/B/F						W/R		FOY		MUD					BAS
	EXP. WALL			49		10		69						6		15		22					166
	CLG. HT.			10		10		10						10		10		10					8
	FACTORS																						
	GRS.WALL AREA	LOSS	GAIN		490		100		690					60		150		220					885
	GLAZING			LOSS	GAIN	LOSS	GAIN	LOSS	GAIN				LOSS	GAIN	LOSS	GAIN	LOSS	GAIN				LOSS	GAIN
	NORTH	20.3	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	EAST	20.3	40.5	55	1115	2230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	101
	SOUTH	20.3	23.9	39	791	932	24	487	573	39	791	932	15	304	358	30	608	717	0	0	0	5	101
	WEST	20.3	40.5	0	0	0	0	0	0	78	1581	3162	0	0	0	0	0	0	0	0	0	5	101
	SKYL.T.	35.5	99.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	DOORS	19.1	2.4	0	0	0	0	0	0	0	0	0	0	0	0	18	344	44	21	401	51	21	401
	NET EXPOSED WALL	4.3	0.5	396	1684	214	76	323	41	573	2436	310	45	191	24	102	434	55	199	846	108	0	0
	NET EXPOSED BSMT WALL ABOVE GR	3.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	498	1707
	EXPOSED CLG	1.2	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NO ATTIC EXPOSED CLG	2.6	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	EXPOSED FLOOR	2.4	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	BASEMENT/CRAWL HEAT LOSS			0		0		0		0			0		0		0						5413
	SLAB ON GRADE HEAT LOSS			0		0		0		0			0		0		0						
	SUBTOTAL HT LOSS			3589		810		4808					495		1386		1247						7826
	SUB TOTAL HT GAIN				3376		614		4404					383		816		158					793
	LEVEL FACTOR / MULTIPLIER	0.30	0.33			0.30	0.33		0.30	0.33			0.30	0.33		0.30	0.33					0.50	0.87
	AIR CHANGE HEAT LOSS			1189		268		1592					164		459		413						6808
	AIR CHANGE HEAT GAIN				109		20		142					12		26		5					26
	DUCT LOSS			0		0		0		0			0		0		0					0	
	DUCT GAIN			0		0		0		0			0		0		0					0	
	HEAT GAIN PEOPLE	240		0		0		0		0			0		0		0		0			0	
	HEAT GAIN APPLIANCES/LIGHTS				531		531		531				0		0		531					0	
	TOTAL HT LOSS BTU/H			4778		1078		6400					659		1845		1660						

TOTAL COMBINED HEAT LOSS BTU/H: 49346

SITE NAME: BARLASSINA

BUILDER: GREENPARK HOMES

TYPE: GARDEN 12

DATE: Aug-22

GFA: 2584

LO# 98646

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 47,792 TOTAL HEAT GAIN 36,043
AIR FLOW RATE CFM 23.66 AIR FLOW RATE CFM 31.38

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure
for s/a & r/a 0.35

#GOODMAN
GMEC960603BNA 60

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	9	4
R/A	0	0	5	2	1

plenum pressure s/a 0.18 r/a pressure 0.17
max s/a dif press. loss 0.02 r/a grille press. Loss 0.02
min adjusted pressure s/a 0.16 adjusted pressure r/a 0.15

FAN SPEED LOW
MEDLOW
MEDIUM 928
MEDIUM HIGH 1017
HIGH 1131

DESIGN CFM = 1131
CFM @ .6" E.S.P.

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5"Ø unless noted otherwise on layout.

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	WIC-2	BED-3	MBR	S-ENS	LIV/DIN	DEN	K/B/F	K/B/F	K/B/F	LIV/DIN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.51	1.96	0.53	1.63	1.94	1.97	0.23	0.31	1.94	1.51	0.79	2.39	1.08	2.13	2.13	2.13	2.39	0.66	1.84	1.66	3.66	3.66	3.66	3.66
CFM PER RUN HEAT	36	46	13	39	46	47	5	7	46	36	19	57	25	50	50	50	57	16	44	39	87	87	87	87
RM GAIN MBH.	1.86	1.67	0.10	1.69	2.70	2.72	0.06	0.06	2.70	1.86	0.67	2.61	1.52	2.20	2.20	2.20	2.61	0.51	1.09	0.90	0.44	0.44	0.44	0.44
CFM PER RUN COOLING	58	52	3	53	85	85	2	2	85	58	21	82	48	69	69	69	82	16	34	28	14	14	14	14
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.17	0.16	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	39	45	41	70	76	34	59	64	58	46	45	47	26	37	37	34	56	37	25	50	35	29	35	52
EQUIVALENT LENGTH	130	190	120	180	160	100	140	140	190	130	150	140	150	110	130	140	120	170	180	140	120	130	160	130
TOTAL EFFECTIVE LENGTH	169	235	161	250	236	134	199	204	248	176	195	187	176	147	167	174	176	207	205	190	155	159	195	182
ADJUSTED PRESSURE	0.1	0.07	0.11	0.07	0.07	0.12	0.09	0.08	0.07	0.1	0.09	0.09	0.1	0.12	0.1	0.1	0.09	0.08	0.08	0.09	0.1	0.1	0.08	0.09
ROUND DUCT SIZE	5	5	4	5	6	6	4	4	6	5	4	6	4	5	5	5	6	4	5	4	6	6	6	6
HEATING VELOCITY (ft/min)	264	338	149	286	235	240	57	80	235	264	218	291	287	367	367	367	291	184	323	447	444	444	444	444
COOLING VELOCITY (ft/min)	426	382	34	389	433	433	23	23	433	426	241	418	551	507	507	507	418	184	250	321	71	71	71	71
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	C	C	D	A	A	D	B	B	A	C	B	A	C	C	C	C	A	A	B	B	C	C	B	A

RUN #	25	26
ROOM NAME	BED-2	S-ENS
RM LOSS MBH.	1.63	0.79
CFM PER RUN HEAT	39	19
RM GAIN MBH.	1.69	0.67
CFM PER RUN COOLING	53	21
ADJUSTED PRESSURE	0.17	0.17
ACTUAL DUCT LGH.	77	44
EQUIVALENT LENGTH	140	160
TOTAL EFFECTIVE LENGTH	217	204
ADJUSTED PRESSURE	0.08	0.08
ROUND DUCT SIZE	5	4
HEATING VELOCITY (ft/min)	286	218
COOLING VELOCITY (ft/min)	389	241
OUTLET GRILL SIZE	3X10	3X10
TRUNK	B	B

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE									
TRUNK	STATIC	ROUND	RECT	VELOCITY						TRUNK	STATIC	ROUND	RECT	VELOCITY					
CFM	PRESS.	DUCT	DUCT	(ft/min)						CFM	PRESS.	DUCT	DUCT	(ft/min)					
TRUNK A	348	0.07	9.8	12	x	8	522			TRUNK G	0	0.00	0	0	x	8	0		
TRUNK B	607	0.07	12	16	x	8	683			TRUNK H	0	0.00	0	0	x	8	0		
TRUNK C	467	0.07	10.9	14	x	8	600			TRUNK I	0	0.00	0	0	x	8	0		
TRUNK D	1134	0.07	15.2	26	x	8	785			TRUNK J	0	0.00	0	0	x	8	0		
TRUNK E	0	0.00	0	0	x	8	0			TRUNK K	0	0.00	0	0	x	8	0		
TRUNK F	0	0.00	0	0	x	8	0			TRUNK L	0	0.00	0	0	x	8	0		

RETURN AIR #	1	2	3	4	5	6	7	BR											
AIR VOLUME	130	115	75	95	75	330	180	0	0	0	0	0	0	0	0	0	0	131	
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	
ACTUAL DUCT LGH.	41	83	86	44	43	30	41	1	1	1	1	1	1	1	1	1	1	16	
EQUIVALENT LENGTH	215	225	230	175	255	230	215	0	0	0	0	0	0	0	0	0	0	255	
TOTAL EFFECTIVE LH	256	308	316	219	298	260	256	1	1	1	1	1	1	1	1	1	1	271	
ADJUSTED PRESSURE	0.06	0.05	0.05	0.07	0.05	0.06	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.05		
ROUND DUCT SIZE	7	7	6	6	6	9.9	7.9	0	0	0	0	0	0	0	0	0	0	7.4	
INLET GRILL SIZE	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	8	
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
INLET GRILL SIZE	14	14	14	14	14	30	24	0	0	0	0	0	0	0	0	0	0	14	

TYPE: GARDEN 12
SITE NAME: BARLASSINA

LO # 98646

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a)	☒ Direct vent (sealed combustion) only	
b)	☐ Positive venting induced draft (except fireplaces)	
c)	☐ Natural draft, B-vent or induced draft gas fireplace	
d)	☐ Solid Fuel (including fireplaces)	
e)	☐ No Combustion Appliances	

HEATING SYSTEM	
☒ Forced Air	☐ Non Forced Air
☐ Electric Space Heat	

HOUSE TYPE		9.32.1(2)
☒ I	Type a) or b) appliance only, no solid fuel	
☐ II	Type I except with solid fuel (including fireplaces)	
☐ III	Any Type c) appliance	
☐ IV	Type I, or II with electric space heat	
☐ Other:	Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
☐ 1	Exhaust only/Forced Air System	
☐ 2	HRV with Ducting/Forced Air System	
☒ 3	HRV Simplified/connected to forced air system	
☐ 4	HRV with Ducting/non forced air system	
☐	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	<u>2</u> @ 21.2 cfm <u>42.4</u> cfm	
Other Bedrooms	<u>3</u> @ 10.6 cfm <u>31.8</u> cfm	
Kitchen & Bathrooms	<u>5</u> @ 10.6 cfm <u>53</u> cfm	
Other Rooms	<u>5</u> @ 10.6 cfm <u>53.0</u> cfm	
Table 9.32.3.A.	TOTAL <u>180.2</u> cfm	

PRINCIPAL VENTILATION CAPACITY REQUIRED		9.32.3.4.(1)
1 Bedroom	31.8 cfm	
2 Bedroom	47.7 cfm	
3 Bedroom	63.6 cfm	
4 Bedroom	79.5 cfm	
5 Bedroom	95.4 cfm	
TOTAL	79.5 cfm	

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>180.2</u> cfm	
Less Principal Ventil. Capacity	<u>79.5</u> cfm	
Required Supplemental Capacity	<u>100.7</u> cfm	

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE V150H	Location: BSMT
<u>79.5</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
79.5 CFM	X 72 F	X 1.08	X 0.25

SUPPLEMENTAL FANS		BY INSTALLING CONTRACTOR		
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-2	BY INSTALLING CONTRACTOR	50	☒	3.5
S-ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
W/R	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE V150H		
<u>150</u> cfm high	<u>35</u> cfm low	
<u>75</u> % Sensible Efficiency	☒ HVI Approved	
@ 32 deg F (0 deg C)		

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER: GREENPARK HOMES	
Name:	
Address:	
City:	
Telephone #:	Fax #:

INSTALLING CONTRACTOR	
Name:	
Address:	
City:	
Telephone #:	Fax #:

DESIGNER CERTIFICATION	
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	
Name:	HVAC Designs Ltd.
Signature:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	August-22

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 98646	Model: GARDEN 12	Builder: GREENPARK HOMES	Date: 8/25/2022																																																									
Volume Calculation		Air Change & Delta T Data																																																										
House Volume <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr><td>Bsmt</td><td>1182</td><td>8</td><td>9846.06</td></tr> <tr><td>First</td><td>1182</td><td>10</td><td>11820</td></tr> <tr><td>Second</td><td>1402</td><td>9</td><td>12618</td></tr> <tr><td>Third</td><td>0</td><td>9</td><td>0</td></tr> <tr><td>Fourth</td><td>0</td><td>9</td><td>0</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>34,284.1 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>970.8 m³</td></tr> </tbody> </table>		Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1182	8	9846.06	First	1182	10	11820	Second	1402	9	12618	Third	0	9	0	Fourth	0	9	0	Total:			34,284.1 ft³	Total:			970.8 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 30%; text-align: center;">0.307</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td style="text-align: center;">0.084</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td style="text-align: center;">22</td> <td style="text-align: center;">-18</td> <td style="text-align: center;">40</td> <td style="text-align: center;">72</td> </tr> <tr> <td>Summer DTDc</td> <td style="text-align: center;">24</td> <td style="text-align: center;">29</td> <td style="text-align: center;">5</td> <td style="text-align: center;">9</td> </tr> </table>			WINTER NATURAL AIR CHANGE RATE	0.307	SUMMER NATURAL AIR CHANGE RATE	0.084	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-18	40	72	Summer DTDc	24	29	5	9
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5.2.3.1 Heat Loss due to Air Leakage		6.2.6 Sensible Gain due to Air Leakage																																																										
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.307 x 269.67 x 40 °C x 1.2 = 3991 W = 13616 Btu/h		$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.084 x 269.67 x 5 °C x 1.2 = 139 W = 473 Btu/h																																																										
5.2.3.2 Heat Loss due to Mechanical Ventilation		6.2.7 Sensible heat Gain due to Ventilation																																																										
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 72 °F x 1.08 x 0.25 = 1554 Btu/h		$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 9 °F x 1.08 x 0.25 = 197 Btu/h																																																										
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																												
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairve Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clevel})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HL_{clevel})</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.5</td><td rowspan="5" style="text-align: center; vertical-align: middle;">13,616</td><td style="text-align: center;">7,826</td><td style="text-align: center;">0.870</td></tr> <tr><td>2</td><td>0.3</td><td style="text-align: center;">12,335</td><td style="text-align: center;">0.331</td></tr> <tr><td>3</td><td>0.2</td><td style="text-align: center;">13,698</td><td style="text-align: center;">0.199</td></tr> <tr><td>4</td><td>0</td><td style="text-align: center;">0</td><td style="text-align: center;">0.000</td></tr> <tr><td>5</td><td>0</td><td style="text-align: center;">0</td><td style="text-align: center;">0.000</td></tr> </tbody> </table>					Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HL _{clevel})	1	0.5	13,616	7,826	0.870	2	0.3	12,335	0.331	3	0.2	13,698	0.199	4	0	0	0.000	5	0	0	0.000																														
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																												
				Michael O'Rourke BCIN# 19669 																																																								

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** GARDEN 12**BUILDER:** GREENPARK HOMES**SFQT:** 2584**LO#** 98646**SITE:** BARLASSINA**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	0	OUTDOOR DESIGN TEMP.	84
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.50

BUILDING DATA

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft ³):	34284.1	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	5.3 ft
LENGTH: 55.0 ft	WIDTH: 28.0 ft	EXPOSED PERIMETER:	166.0 ft

2012 OBC - COMPLIANCE PACKAGE**Component****Compliance Package
A1****Nominal Min. Eff.**

Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	96%	-
HRV/ERV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

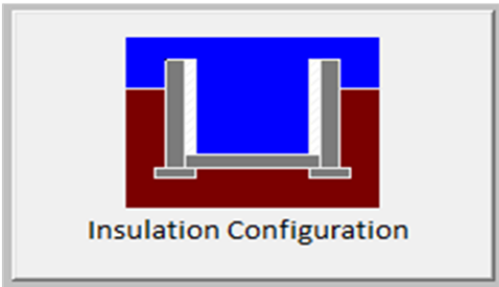
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Cambridge	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	16.8	 Insulation Configuration
Floor Width (m):	8.5	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.5	
Depth Below Grade (m):	1.62	
Window Area (m ²):	1.4	
Door Area (m ²):	2.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1586

TYPE: GARDEN 12
LO# 98646

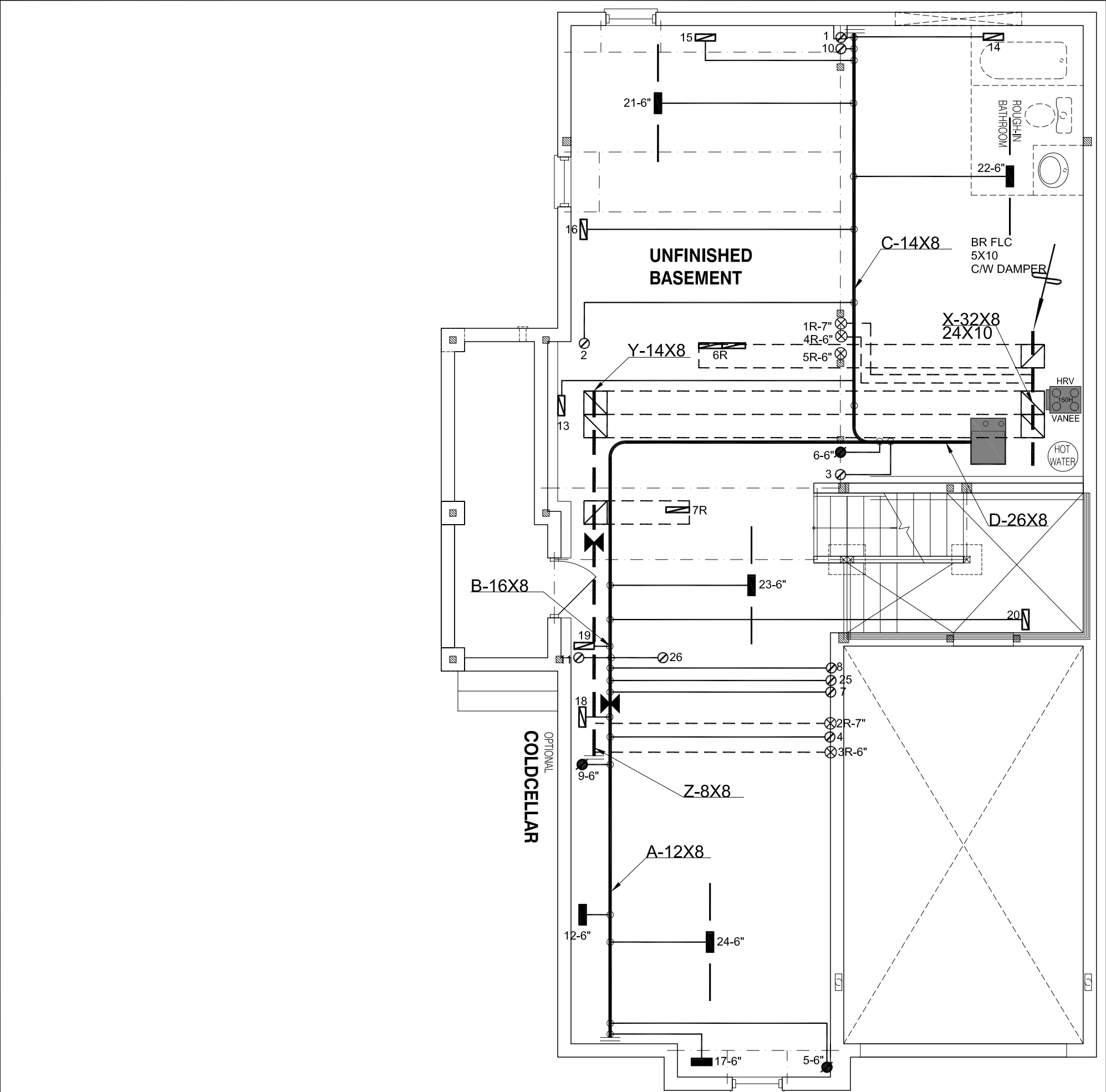
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Cambridge			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.71			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	970.8			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1294.1 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.307			
Cooling Air Leakage Rate (ACH/H):	0.084			

TYPE: GARDEN 12

LO# 98646



BSMT PLAN ELEVATION 1 (2 & 3 SIMILAR)

I MICHAEL O'ROURKE HAVE REVIEW
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C, 3.2.5 OF THE
BUILDING CODE.

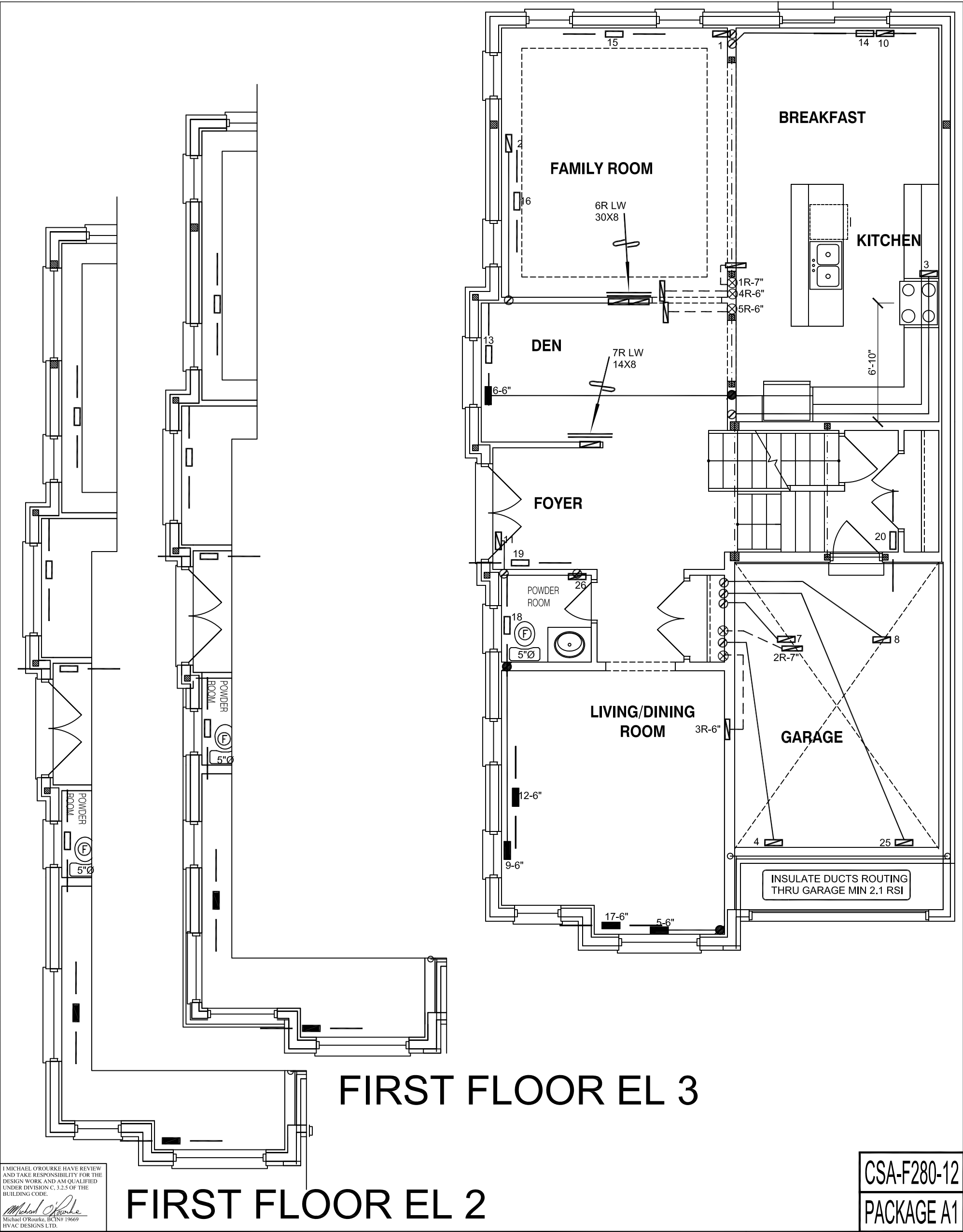
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	HEAT LOSS 49346 BTU/H		# OF RUNS S/A R/A FANS				Sheet Title	
GREENPARK HOMES			UNIT DATA		3RD FLOOR				BASEMENT	
Project Name			MAKE		2ND FLOOR				HEATING	
BARLASSINA			MODEL		1ST FLOOR				LAYOUT	
CAMBRIDGE, ONTARIO			INPUT		BASEMENT				Date	
Garden 12 - Elevation 3			60 MBTU/H		4 1 0				AUG/2022	
GARDEN 12			OUTPUT		ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A				Scale	
2584 sqft			57.6 MBTU/H		BCIN# 19669				LO#	
			COOLING		TONS				98646	
		FAN SPEED		cfm @ 0.6" w.c.						
		1131								



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

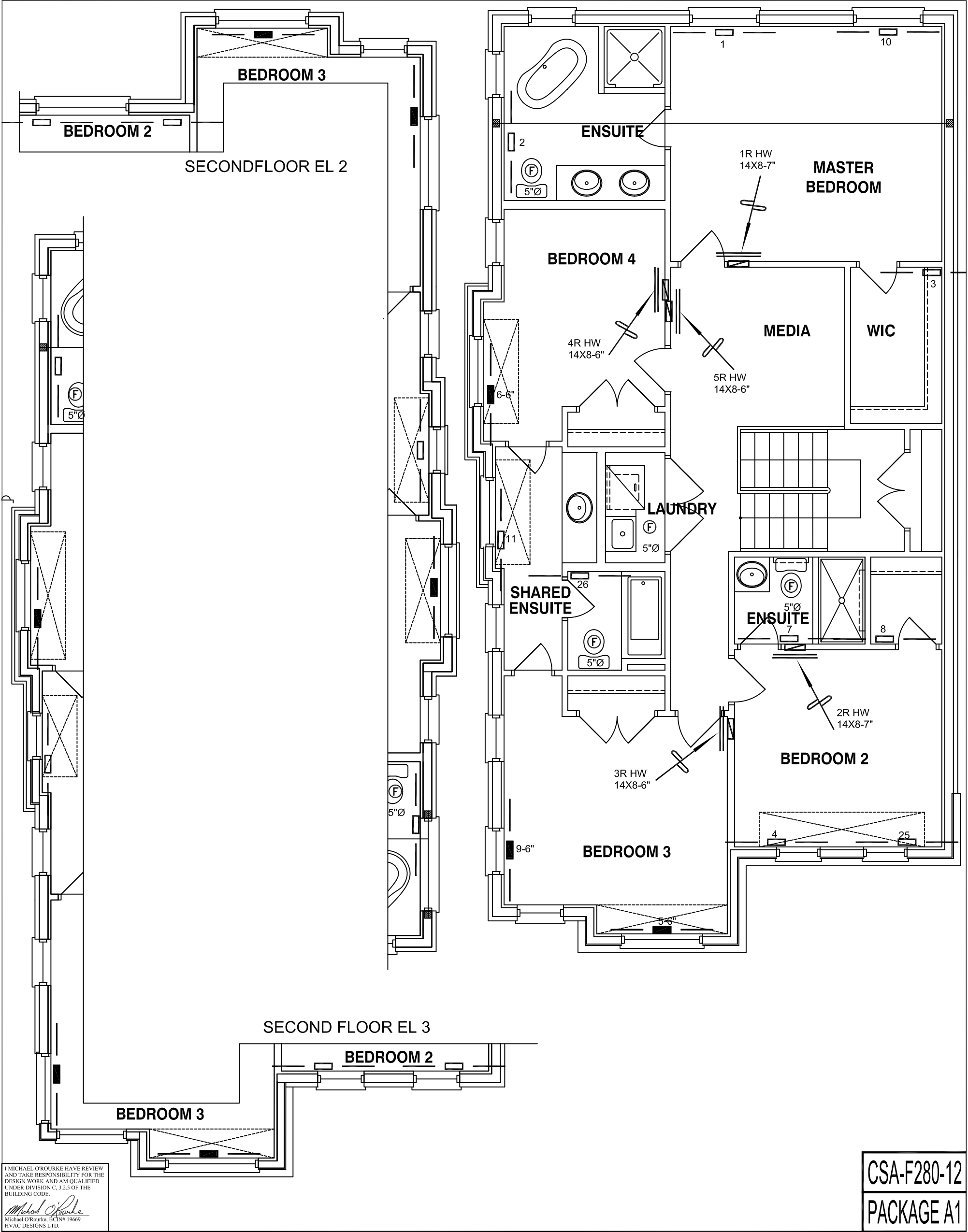
FIRST FLOOR EL 2

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	AUG/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Garden 12 - Elevation 3			BCIN# 19669	
GARDEN 12	2584 sqft		LO#	98646



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Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS	

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GREENPARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	AUG/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Garden 12 - Elevation 3			BCIN# 19669	
GARDEN 12	2584 sqft		LO#	98646