

20.130104.000.00.CM

Issue Date: 02/10/21

LAMPONE INVESTMENT INC

ALL CONSTRUCTION SHALL COMPLY WITH THE
ONTARIO BUILDING CODE.

CITY OF MARKHAM

HEAT LOSS/HEAT GAIN CALCULATIONS

MODEL NAME : PEYTON 2S

ELEV 1, 2A, 2B & 3

SITE NAME: LAMPONE INVESTMENTS

BUILDER: GREENPARK HOMES

TYPE: PEYTON 2S

GFA: 1890

DATE: Jul-20

LO# 86808

WINTER NATURAL AIR CHANGE RATE 0.363

SUMMER NATURAL AIR CHANGE RATE 0.110

HEAT LOSS ΔT °F. 78

HEAT GAIN ΔT °F. 13

CSA-F280-12

SB-12 PACKAGE A1

ROOM USE			MBR		ENS		BED-2		BED-3		BATH					
EXP. WALL			15		25		10		22		30					
CLG. HT.			9		9		9		9		9					
FACTORS																
GRS.WALL AREA	LOSS GAIN		135		225		90		198		270					
GLAZING			LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN					
NORTH	21.8	16.0	0	0	0	0	0	0	0	0	0	0	0	0		
EAST	21.8	41.6	0	0	0	0	0	24	523	997	0	0	0	45	980	1870
SOUTH	21.8	24.9	0	0	0	8	174	0	0	0	34	741	847	0	0	0
WEST	21.8	41.6	21	457	873	11	240	0	0	0	0	0	0	0	0	0
SKYLT.	38.1	101.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	25.8	4.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.6	0.8	114	521	86	206	941	66	302	50	164	749	123	225	1028	169
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	255	335	150	139	183	158	208	93	308	405	181	80	105	47
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0	19	53	24	0	0	0	9	25	11
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	177	462	76	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS						0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS						0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS				1313			1538		1547			1895			2139	
SUB TOTAL HT GAIN					1108		893			1240		1151				2097
LEVEL FACTOR / MULTIPLIER			0.20	0.29		0.20	0.29	0.20	0.29		0.20	0.29		0.20	0.29	
AIR CHANGE HEAT LOSS				386			452		455			557			629	
AIR CHANGE HEAT GAIN					76		61			85		79				144
DUCT LOSS				0			0		200			0			0	
DUCT GAIN					0		0			200		0				0
HEAT GAIN PEOPLE	240		2		480	0	0	1		240	1		240	0		0
HEAT GAIN APPLIANCES/LIGHTS					434		0			434		434				0
TOTAL HT LOSS BTU/H					1700		1990		2203		2452		2768			
TOTAL HT GAIN x 1.3 BTU/H					2728		1240		2859		2475		2913			

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LOSS	GAIN	BRK	KIT	LIV/DIN	LAUN	W/R	FOY	MUD				
						24	11	45	0	13	19	11				
						10	10	10	9	11	11	11				
GRS.WALL AREA	GLAZING					230	106	432	0	138	201	117				
						LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN			
NORTH	21.8	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	21.8	41.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	21.8	24.9	0	0	0	0	0	26	566	647	0	0	0	0	0	0
WEST	21.8	41.6	21	457	873	64	1394	0	0	0	0	0	0	0	0	0
SKYLT.	38.1	101.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	25.8	4.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.6	0.8	209	957	157	42	190	406	1855	305	138	630	104	161	737	121
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	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	0	0	0	0
SLAB ON GRADE HEAT LOSS						0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS						1414	1584	2421	202	630	1771	958				
SUB TOTAL HT GAIN						1030	2691	953	61	104	291	158				
LEVEL FACTOR / MULTIPLIER			0.30	0.43		0.30	0.43	0.30	0.43	0.30	0.43	0.30	0.43			
AIR CHANGE HEAT LOSS						614	687	1051	59	273	769	416				
AIR CHANGE HEAT GAIN						71	184	65	4	7	20	11				
DUCT LOSS						0	0	0	26	0	0	0				
DUCT GAIN						0	0	0	50	0	0	0				
HEAT GAIN PEOPLE	240		0			0	0	0	0	0	0	0				
HEAT GAIN APPLIANCES/LIGHTS						434	434	434	434	0	0	0				
TOTAL HT LOSS BTU/H						2028	2272	3472	287	903	2540	1374				
TOTAL HT GAIN x 1.3 BTU/H						1995	4302	1888	715	144	405	219				

TOTAL HEAT GAIN BTU/H:

23598

TONS: 1.97

LOSS DUE TO VENTILATION LOAD BTU/H: 1336

STRUCTURAL HEAT LOSS: 35530

TOTAL COMBINED HEAT LOSS BTU/H: 36866



SITE NAME: LAMPONE INVESTMENTS
BUILDER: GREENPARK HOMES

TYPE: PEYTON 2S

DATE: Jul-20

GFA: 1890 LO# 86808

HEATING CFM 890 COOLING CFM 890
TOTAL HEAT LOSS 35,530 TOTAL HEAT GAIN 23,378
AIR FLOW RATE CFM 25.05 AIR FLOW RATE CFM 38.07

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

#GOODMAN
GMEC960402BNA 40

AFUE = 96 %
INPUT (BTU/H) = 40,000
OUTPUT (BTU/H) = 38,400

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	9	7	4
R/A	0	0	4	1	1

plenum pressure s/a 0.18
max s/a dif press. loss 0.02
min adjusted pressure s/a 0.16

r/a pressure 0.17
r/a grille press. Loss 0.02
adjusted pressure r/a 0.15

FAN SPEED
LOW
MEDLOW
MEDIUM 695
MEDIUM HIGH
HIGH 890

DESIGN CFM = 890
CFM @ .6" E.S.P.

TEMPERATURE RISE 40 °F

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	10	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	BED-2	BED-2	BED-3	BATH	BATH	MBR	BRK	KIT	KIT	LIV/DIN	LAUN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	0.85	1.99	1.10	1.10	2.45	1.38	1.38	0.85	2.03	1.14	1.14	3.47	0.29	0.90	2.54	1.37	2.89	2.89	2.89	2.89
CFM PER RUN HEAT	21	50	28	28	61	35	35	21	51	28	28	87	7	23	64	34	72	72	72	72
RM GAIN MBH.	1.36	1.24	1.43	1.43	2.48	1.46	1.46	1.36	2.00	2.15	2.15	1.89	0.71	0.14	0.40	0.22	0.37	0.37	0.37	0.37
CFM PER RUN COOLING	52	47	54	54	94	55	55	52	76	82	82	72	27	5	15	8	14	14	14	14
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	30	31	42	41	42	52	50	40	24	13	18	16	48	42	33	11	18	9	21	27
EQUIVALENT LENGTH	150	180	150	140	140	180	190	180	100	80	110	150	180	130	160	160	140	160	110	140
TOTAL EFFECTIVE LENGTH	180	211	192	181	182	232	240	220	124	93	128	166	228	172	193	171	158	169	131	167
ADJUSTED PRESSURE	0.1	0.08	0.09	0.1	0.09	0.07	0.07	0.08	0.14	0.17	0.13	0.1	0.08	0.1	0.09	0.1	0.11	0.1	0.13	0.1
ROUND DUCT SIZE	5	5	5	5	6	5	5	5	5	6	6	6	4	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	154	367	206	206	311	257	257	154	374	143	143	444	80	264	470	390	529	529	529	529
COOLING VELOCITY (ft/min)	382	345	396	396	479	404	404	382	558	418	418	367	310	57	110	92	103	103	103	103
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	B	B	B	A	A	C	C	C	C	B	C	A	A	B	C	C	B	A

RUN #	
ROOM NAME	
RM LOSS MBH.	
CFM PER RUN HEAT	
RM GAIN MBH.	
CFM PER RUN COOLING	
ADJUSTED PRESSURE	
ACTUAL DUCT LGH.	
EQUIVALENT LENGTH	
TOTAL EFFECTIVE LENGTH	
ADJUSTED PRESSURE	
ROUND DUCT SIZE	
HEATING VELOCITY (ft/min)	
COOLING VELOCITY (ft/min)	
OUTLET GRILL SIZE	
TRUNK	

SUPPLY AIR TRUNK SIZE																RETURN AIR TRUNK SIZE							
	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)			TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)		
TRUNK A	229	0.07	8.3	8	x	8	515	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	x	8	0
TRUNK B	539	0.07	11.5	16	x	8	606	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.05	0	0	x	8	0
TRUNK C	350	0.08	9.5	10	x	8	630	TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.05	0	0	x	8	0
TRUNK D	0	0.00	0	0	x	8	0	TRUNK J	0	0.00	0	0	x	8	0	TRUNK R	0	0.05	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 S	0	0.05	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	TRUNK T	0	0.05	0	0	x	8	0
																TRUNK U	0	0.05	0	0	x	8	0
																TRUNK V	0	0.05	0	0	x	8	0
																TRUNK W	0	0.05	0	0	x	8	0
RETURN AIR #	1	2	3	4	5									BR		TRUNK X	890	0.05	15.1	26	x	8	616
AIR VOLUME	105	75	85	75	420	0	0	0	0	0	0	0	0			TRUNK Y	235	0.05	9.2	10	x	8	423
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		TRUNK Z	0	0.05	0	0	x	8	0
ACTUAL DUCT LGH.	35	72	51	55	30	1	1	1	1	1	1	1	1	1		DROP	890	0.05	15.1	24	x	10	534
EQUIVALENT LENGTH	130	230	215	255	155	0	0	0	0	0	0	0	0	0									
TOTAL EFFECTIVE LH	165	302	266	310	185	1	1	1	1	1	1	1	1	1									
ADJUSTED PRESSURE	0.09	0.05	0.06	0.05	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.08								
ROUND DUCT SIZE	5.9	6	6	6	10.1	0	0	0	0	0	0	0	0	0	6.5								
INLET GRILL SIZE	8	8	8	8	8	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								
INLET GRILL SIZE	14	14	14	14	30	0	0	0	0	0	0	0	0	0	14								

TYPE: PEYTON 2S
SITE NAME: LAMPONE INVESTMENTS

LO # 86808

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>2</u> @ 10.6 cfm <u>21.2</u> cfm	
Kitchen & Bathrooms	<u>4</u> @ 10.6 cfm <u>42.4</u> cfm	
Other Rooms	<u>4</u> @ 10.6 cfm <u>42.4</u> cfm	
Table 9.32.3.A.	TOTAL <u>148.4</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	63.6 cfm	

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>148.4</u> cfm	
Less Principal Ventil. Capacity	<u>63.6</u> cfm	
Required Supplemental Capacity	<u>84.8</u> cfm	

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
<u>63.6</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
63.6 CFM	X 78 F	X 1.08	X	0.25

SUPPLEMENTAL FANS		PANASONIC		
Location	Model	cfm	HVI	Sones
ENS	FV-05-11VK1	50	☒	0.3
BATH	FV-05-11VK1	50	☒	0.3
W/R	FV-05-11VK1	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
<u>155</u> cfm high	<u>64</u> cfm low	
<u>75</u> % Sensible Efficiency @ 32 deg F (0 deg C)	☒ HVI Approved	

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:	July-20

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

Michael O'Rourke

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 86808	Model: PEYTON 2S	Builder: GREENPARK HOMES	Date: 29/07/2020																																																									
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>846</td> <td>9</td> <td>7614</td> </tr> <tr> <td>First</td> <td>846</td> <td>10</td> <td>8121.6</td> </tr> <tr> <td>Second</td> <td>1044</td> <td>9</td> <td>9396</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>25,131.6 ft³</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>711.6 m³</td> </tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	846	9	7614	First	846	10	8121.6	Second	1044	9	9396	Third	0	9	0	Fourth	0	9	0	Total:			25,131.6 ft³	Total:			711.6 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 20%; text-align: center;">0.363</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td style="text-align: center;">0.110</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;">-21</td> <td style="text-align: center;">43</td> <td style="text-align: center;">78</td> </tr> <tr> <td>Summer DTDc</td> <td style="text-align: center;">24</td> <td style="text-align: center;">31</td> <td style="text-align: center;">7</td> <td style="text-align: center;">13</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.363	SUMMER NATURAL AIR CHANGE RATE	0.110	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-21	43	78	Summer DTDc	24	31	7	13
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																									
Bsmt	846	9	7614																																																									
First	846	10	8121.6																																																									
Second	1044	9	9396																																																									
Third	0	9	0																																																									
Fourth	0	9	0																																																									
Total:			25,131.6 ft³																																																									
Total:			711.6 m³																																																									
WINTER NATURAL AIR CHANGE RATE	0.363																																																											
SUMMER NATURAL AIR CHANGE RATE	0.110																																																											
Design Temperature Difference																																																												
	Tin °C	Tout °C	ΔT °C	ΔT °F																																																								
Winter DTDh	22	-21	43	78																																																								
Summer DTDc	24	31	7	13																																																								
5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.363 x 197.68 x 43 °C x 1.2 = 3721 W = 12698 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.110 x 197.68 x 7 °C x 1.2 = 186 W = 633 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 78 °F x 1.08 x 0.25 = 1336 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 13 °F x 1.08 x 0.25 = 220 Btu/h																																																									
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																												
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																												
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 / HLlevel)																																																								
1	0.5	12,698	5,195	1.222																																																								
2	0.3		8,778	0.434																																																								
3	0.2		8,633	0.294																																																								
4	0		0	0.000																																																								
5	0		0	0.000																																																								
*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																												

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** PEYTON 2S**BUILDER:** GREENPARK HOMES**SFQT:** 1890**LO#** 86808**SITE:** LAMPONE INVESTMENTS**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-6	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75

BUILDING DATA

ATTACHMENT:	ATTACHED	# 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 (ft³):	25131.6	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.5 ft
LENGTH: 46.0 ft	WIDTH: 24.0 ft	EXPOSED PERIMETER:	121.0 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	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

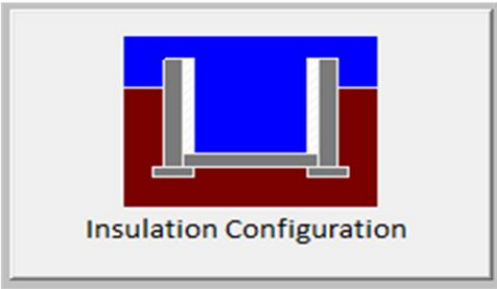
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Markham	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	14.0	 Insulation Configuration
Floor Width (m):	7.3	
Exposed Perimeter (m):	36.9	
Wall Height (m):	2.7	
Depth Below Grade (m):	2.29	
Window Area (m ²):	1.1	
Door Area (m ²):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		964

TYPE: PEYTON 2S

LO# 86808

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Markham			
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):	7.50			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	711.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	948.6 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	30.0	30.0		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.363			
Cooling Air Leakage Rate (ACH/H):	0.110			

TYPE: PEYTON 2S

LO# 86808