



# Load Short Form

## Entire House

Curtis Saltzberry-Design

Job:  
Date:  
By:

Cert.#: (RHLG, RASD)

311 Highland Ave., Fort Erie, ON L2A 2Y1 Phone: 905.658.5452 Email: curtis@saltzberrydesign.com Web: www.saltzberrydesign.com License: #31364 #44567

### Project Information

For: J. Builder  
1239 Floor Rd, Wainfleet, ON

### Design Information

	Htg	Clg		Infiltration
Outside db (°F) <i>OUTDOOR TEMP.</i>	5	86	Method	F280-12
Inside db (°F) <i>INDOOR TEMP.</i>	72	75	Exposure category	No local shielding
Design TD (°F)	67	11	Construction category	Present (1961-) (ACH=3.57)
Daily range	-	L	Number of stories	2.0
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	53	47		

#### HEATING EQUIPMENT

Make	Rheem	<b>HEATING EQUIPMENT INFORMATION</b>
Trade	RHEEM	
Model	R97VA060M317KSA	
AHRI ref	9990327	
Efficiency	97 AFUE	
Heating input <i>EQUIPMENT CAPACITY</i>	56000 Btuh	
Heating output	55000 Btuh	
Temperature rise	63 °F	
Actual air flow	805 cfm	
Air flow factor	0.020 cfm/Btuh	
Static pressure	0.50 in H2O	
Space thermostat		

#### COOLING EQUIPMENT

Make	Generic	<b>COOLING EQUIPMENT INFORMATION</b>
Trade		
Cond	SEER 14.0	
Coil		
AHRI ref		
Efficiency	12.2 EER, 14 SEER	
Sensible cooling	16902 Btuh	
Latent cooling	7244 Btuh	
Total cooling <i>EQUIPMENT CAPACITY</i>	24145 Btuh	
Actual air flow	805 cfm	
Air flow factor	0.048 cfm/Btuh	
Static pressure	0.50 in H2O	
Load sensible heat ratio	0.77	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Crawlspace	1243	12576	0	246	0
KITCHEN	250	2801	996	55	47
LIV/DIN	369	4972	3310	97	158
FOYER/HALL	173	207	241	4	11
OFFICE	136	2291	1247	45	59
WASH RM	83	834	778	16	37
MUSIC RM	229	4485	2893	88	138
BDRM 1	211	2656	1268	52	60
WASHRM	89	810	772	16	37
BDRM 2	185	2517	1387	49	66
PRIMARY BDRM	275	3572	2052	70	98
ENSUITE	78	795	724	16	34
BDRM 3	204	2608	1234	51	59
HALLWAY	204	0	0	0	0

Entire House	d	3731	41123	16902	805	805
Other equip loads			0	0		
Equip. @ 1.00 RSM				16902		
Latent cooling				5070		
<b>TOTALS</b>		<b>3731</b>	<b>41123</b>	<b>21972</b>	<b>805</b>	<b>805</b>
		<i>AREA OF CONDITIONED SPACE</i>	<i>TOTAL BTU HEATING</i>	<i>TOTAL BTU COOLING</i>		



# Building Analysis

## Entire House

Curtis Saltzberry-Design

Job:  
Date:  
By:

Cert#: (RHLG, RASD)

311 Highland Ave., Fort Erie, ON L2A 2Y1 Phone: 905.658.6452 Email: curtis@saltzberrydesign.com Web: www.saltzberrydesign.com License: #31364 #44567

### Project Information

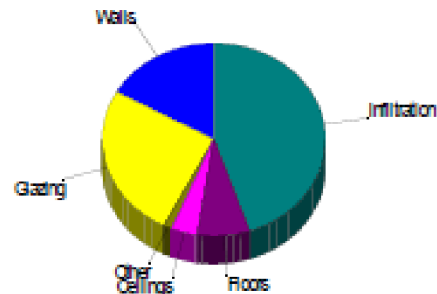
For: J. Builder  
1239 Floor Rd, Wainfleet, ON

### Design Conditions

<b>Location:</b>		<b>Indoor:</b>		<b>Heating</b>	<b>Cooling</b>
Port Colborne, ON, CA		Indoor temperature (°F)		72	75
Elevation: 604 ft		Design TD (°F)		67	11
Latitude: 43°N		Relative humidity (%)		50	50
<b>Outdoor:</b>		Moisture difference (gr/lb)		52.8	47.0
<b>Heating</b>	<b>Cooling</b>	<b>Infiltration:</b>			
Drybulb (°F)	5	86	Method	F280-12	
Dailyrange (°F)	-	9 ( L )	Exposure category	No local shielding	
Wetbulb (°F)	-	75	Construction category	Present (1961-) (ACH=3.57)	
Wind speed (mph)	16.8	11.2	Number of stories	2.0	

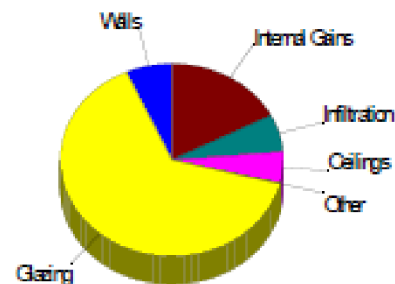
### Heating

Component	Btuh/ft²	Btuh	% of load
Walls	0.7	6906	16.8
Glazing	31.5	10618	25.8
Doors	5.9	124	0.3
Ceilings	1.2	1546	3.8
Floors	2.5	3100	7.5
Infiltration	51.5	18444	44.9
Ducts		0	0
Hydronic		0	0
Humidification		0	0
Ventilation		384	0.9
Adjustments		0	0
<b>Total</b>		<b>41123</b>	<b>100.0</b>



### Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.1	1136	6.7
Glazing	32.2	10865	64.3
Doors	0.4	8	0.0
Ceilings	0.7	877	5.2
Floors	0.0	20	0.1
Infiltration	3.0	1067	6.3
Ducts		0	0
Ventilation		0	0
Internal gains		2930	17.3
Blower		0	0
Adjustments		0	0
<b>Total</b>		<b>16902</b>	<b>100.0</b>



Latent Cooling Load = 5070 Btuh  
Overall U-value = 0.025 Btuh/ft²·°F

Data entries checked.



# Project Summary

## Entire House

### Curtis Saltzberry-Design

Job:  
Date:  
By:

Cert.#: (RHLG, RASD)

311 Highland Ave., Fort Erie, ON L2A 2Y1 Phone: 905.658.6452 Email: curtis@saltzberrydesign.com Web: www.saltzberrydesign.com License: #31364 #44567

## Project Information

For: J. Builder  
1239 Floor Rd, Wainfleet, ON

Notes:

## Design Information

Weather: Port Colborne, ON, CA

### Winter Design Conditions

Outside db 5 °F  
Inside db 72 °F  
Design TD 67 °F

### Summer Design Conditions

Outside db 86 °F  
Inside db 75 °F  
Design TD 11 °F  
Daily range L  
Relative humidity 50 %  
Moisture difference 47 gr/lb

### Heating Summary

Structure 41123 Btuh  
Ducts 0 Btuh  
Central vent (SER=75% 0 cfm) 0 Btuh  
Heat recovery  
Humidification 0 Btuh  
Piping 0 Btuh  
Equipment load 41123 Btuh

### Sensible Cooling Equipment Load Sizing

Structure 16902 Btuh  
Ducts 0 Btuh  
Central vent (SER=75% 0 cfm) 0 Btuh  
Heat recovery  
Blower 0 Btuh  
Use manufacturer's data y  
Rate/swing multiplier 1.00  
Equipment sensible load 16902 Btuh

### Infiltration

Method F280-12  
Exposure category No local shielding  
Const. categ. Present (1961-) (ACH=3.57)  
Number of stories 2.0

	Heating	Cooling
Area (ft <sup>2</sup> )	3731	2488
Volume (ft <sup>3</sup> )	27362	19907
Air changes/hour	0.56	0.27
Equip. AVF (cfm)	255	90

### Latent Cooling Equipment Load Sizing

Structure 5070 Btuh  
Ducts 0 Btuh  
Central vent (0 cfm) 0 Btuh  
Heat recovery  
Equipment latent load 5070 Btuh  
Equipment Total Load (Sen+Lat) 21972 Btuh  
Req. total capacity at 0.70 SHR 2.0 ton

### Heating Equipment Summary

Make Rheem  
Trade RHEEM  
Model R97VA060M317KSA  
AHRI ref 9990327  
Efficiency 97 AFUE  
Heating input 56000 Btuh  
Heating output 55000 Btuh  
Temperature rise 63 °F  
Actual air flow 805 cfm  
Air flow factor 0.020 cfm/Btuh  
Static pressure 0.50 in H2O  
Space thermostat

### Cooling Equipment Summary

Make Generic  
Trade  
Cond SEER 14.0  
Coil  
AHRI ref  
Efficiency 12.2 EER, 14 SEER  
Sensible cooling 16902 Btuh  
Latent cooling 7244 Btuh  
Total cooling 24145 Btuh  
Actual air flow 805 cfm  
Air flow factor 0.048 cfm/Btuh  
Static pressure 0.50 in H2O  
Load sensible heat ratio 0.77



# F280 Infiltration Report

## Entire House

Curtis Saltberry-Design

Job:  
Date:  
By:

Cert.#: (RHLG, RASD)

311 Highland Ave., Fort Erie, ON L2A 2Y1 Phone: 905.658.6452 Email: curtis@saltberrydesign.com Web: www.saltberrydesign.com License: #31364 #44567

### Project Information

For: J. Builder  
1239 Floor Rd, Wainfleet, ON

### Design Conditions

House type	Detached
Site	Mud flats, no vegetation
Wall shielding	No local shielding
Storeys	2.0 (w/o basement)
Highest ceiling height (ft)	9.0
Foundation	Full

### Air Leakage

Air tightness Present (1961-) (ACH=3.57)

### Flues

Shielding	Heavy shielding			
	#1	#2	#3	#4
Diameter (in)	0	0	0	0

### Summary

#### Heating

Infiltration area	3731 ft <sup>2</sup>
Infiltration volume	27362 ft <sup>3</sup>
Unadjusted air change rate	0.559 ach
Unadjusted AVF	255 cfm
Vent adjustment	0 cfm
Net AVF	255 cfm
Net air change rate	0.559 ach

#### Cooling

Infiltration area	2488 ft <sup>2</sup>
Infiltration volume	19907 ft <sup>3</sup>
Unadjusted air change rate	0.271 ach
Unadjusted AVF	90 cfm
Vent adjustment	0 cfm
Net AVF	90 cfm
Net air change rate	0.271 ach



# F280-12 Room Infiltration

## Entire House

### Curtis Saltzberry-Design

Job:  
Date:  
By:

Cert.#: (RHLG, RASD)

311 Highland Ave., Fort Erie, ON L2A 2Y1 Phone: 905.658.6452 Email: curtis@saltzberrydesign.com Web: www.saltzberrydesign.com License: #31364 #44567

Room Name	Level Factor	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Crawlspace	0.50	9222	0	127	0
KITCHEN	0.30	994	59	14	5
LIV/DIN	0.30	1765	235	24	20
FOYER/HALL	0.30	74	1	1	0
OFFICE	0.30	813	78	11	7
WASH RM	0.30	296	42	4	4
MUSIC RM	0.30	1592	204	22	17
BDRM 1	0.20	735	73	10	6
WASHRM	0.20	218	38	3	3
BDRM 2	0.20	702	84	10	7
PRIMARY BDRM	0.20	985	130	14	11
ENSUITE	0.20	226	38	3	3
BDRM 3	0.20	725	72	10	6
HALLWAY	0.20	97	11	1	1
Entire House	0	18444	1067	255	90