


Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

<b>A. Project Information</b>					
Building number, street name <b>TH-6E Alt WOB</b>				Lot: Lot/con.	
Municipality <b>Bradford</b>		Postal code	Plan number/ other description		
<b>B. Individual who reviews and takes responsibility for design activities</b>					
Name <b>David DaCosta</b>			Firm <b>gtaDesigns Inc.</b>		
Street address <b>2985 Drew Road, Suite 202</b>				Unit no.	Lot/con.
Municipality <b>Mississauga</b>		Postal code <b>L4T 0A4</b>	Province <b>Ontario</b>	E-mail <a href="mailto:dave@gtadesigns.ca">dave@gtadesigns.ca</a>	
Telephone number <b>(905) 671-9800</b>		Fax number <b>(647) 494-9643</b>		Cell number <b>(416) 268-6820</b>	
<b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 of Division C]</b>					
<input type="checkbox"/> House <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Structural <input type="checkbox"/> Small Buildings <input type="checkbox"/> Building Services <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Large Buildings <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> Complex Buildings <input type="checkbox"/> Fire Protection <input type="checkbox"/> On-site Sewage Systems					
<b>Description of designer's work</b>			<b>Model Certification</b>		<b>Project #:</b>
					<b>PJ-00204</b>
					<b>Layout #:</b>
					<b>JB-04870</b>
Heating and Cooling Load Calculations		<b>Main</b>		Builder	<b>Bayview Wellington</b>
Air System Design		<b>Alternate</b>		Project	<b>Green Valley East</b>
Residential mechanical ventilation Design Summary		<b>Area Sq ft:</b>		Model	<b>TH-6E Alt WOB</b>
Residential System Design per CAN/CSA-F280-12		<b>1902</b>		SB-12	<b>Package A1</b>
Residential New Construction - Forced Air					
<b>D. Declaration of Designer</b>					
I, <u>David DaCosta</u> declare that (choose one as appropriate): (print name)					
<input type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4 Division C of the Building Code. I am qualified, and the firm is registered in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____					
<input checked="" type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5 of Division C, of the Building Code. Individual BCIN: <u>32964</u> Basis for exemption from registration: <u>Division C 3.2.4.1. (4)</u>					
<input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____					
I certify that:					
1. The information contained in this schedule is true to the best of my knowledge.					
2. I have submitted this application with the knowledge and consent of the firm.					
<u>June 14, 2018</u> Date			 Signature of Designer		

**NOTE:**

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d), of Division C, Article 3.2.5.1. of Division C and all other persons who are exempt from qualifications under Subsections 3.2.4 . and 3.2.5. of Division C.
- Schedule 1 does not require to be completed a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited licence to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Heat loss and gain calculation summary sheet				CSA-F280-M12 Standard Form No. 1	
These documents issued for the use of <b>Bayview Wellington</b>				Layout No.	
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.				<b>JB-04870</b>	
Building Location					
Address (Model): <b>TH-6E Alt WOB</b>			Site: <b>Green Valley East</b>		
Model:			Lot:		
City and Province: <b>Bradford</b>			Postal code:		
Calculations based on					
Dimensional information based on:			<b>VA3 DESIGN22/May/2018</b>		
Attachment: <b>Townhome</b>			Front facing: <b>East/West</b>		Assumed? <b>Yes</b>
No. of Levels: <b>3</b>		Ventilated? <b>Included</b>	Air tightness: <b>1961-Present (ACH=3.57)</b>		Assumed? <b>Yes</b>
Weather location: <b>Bradford</b>			Wind exposure: <b>Sheltered</b>		
HRV? <b>LifeBreath</b>		<b>RNC155</b>	Internal shading: <b>Light-translucent</b>		Occupants: <b>5</b>
Sensible Eff. at -25C <b>71%</b>		Apparent Effect. at -0C <b>84%</b>	Units: <b>Imperial</b>		Area Sq ft: <b>1902</b>
Sensible Eff. at -0C <b>75%</b>					
Heating design conditions			Cooling design conditions		
Outdoor temp <b>-9.4</b> Indoor temp: <b>72</b> Mean soil temp: <b>48</b>			Outdoor temp <b>86</b> Indoor temp: <b>75</b> Latitude: <b>44</b>		
Above grade walls			Below grade walls		
Style A: <b>As per OBC SB12 Package A1 R 22</b>			Style A: <b>As per OBC SB12 Package A1 R 20ci</b>		
Style B: <b>Existing Walls (When Applicable) R 12</b>			Style B:		
Style C:			Style C:		
Style D:			Style D:		
Floors on soil			Ceilings		
Style A: <b>As per Selected OBC SB12 Package A1</b>			Style A: <b>As per Selected OBC SB12 Package A1 R 60</b>		
Style B:			Style B: <b>As per Selected OBC SB12 Package A1 R 31</b>		
Exposed floors			Style C:		
Style A: <b>As per Selected OBC SB12 Package A1 R 31</b>			Doors		
Style B:			Style A: <b>As per Selected OBC SB12 Package A1 R 4.00</b>		
Windows			Style B:		
Style A: <b>As per Selected OBC SB12 Package A1 R 3.55</b>			Style C:		
Style B: <b>Existing Windows (When Applicable) R 1.99</b>			Skylights		
Style C:			Style A: <b>As per Selected OBC SB12 Package A1 R 2.03</b>		
Style D:			Style B:		
Attached documents: <b>As per Shedule 1</b>		<b>Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values</b>			
Notes: <b>Residential New Construction - Forced Air</b>					
Calculations performed by					
Name: <b>David DaCosta</b>			Postal code: <b>L4T 0A4</b>		
Company: <b>gtaDesigns Inc.</b>			Telephone: <b>(905) 671-9800</b>		
Address: <b>2985 Drew Road, Suite 202</b>			Fax: <b>(416) 268-6820</b>		
City: <b>Mississauga</b>			E-mail: <b>dave@gtadesigns.ca</b>		

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Builder: Bayview Wellington Date: June 14, 2018

Project: Green Valley East Model: TH-6E Alt WOB

System 1

I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under Division C subsection 3.2.5. of the Building Code.

Individual BCIN: 32964 *David DaCosta* David DaCosta

Page 3  
Project # PJ-00204  
Layout # JB-04870

DESIGN LOAD SPECIFICATIONS		AIR DISTRIBUTION & PRESSURE		FURNACE/AIR HANDLER DATA:		BOILER/WATER HEATER DATA:		A/C UNIT DATA:	
Level 1 Net Load	13,904 btu/h	Equipment External Static Pressure	0.5 "w.c.	Make	Amana	Make	Type	Amana	2.0 Ton
Level 2 Net Load	11,914 btu/h	Additional Equipment Pressure Drop	0.225 "w.c.	Model	AMEC960603ANA	Model		Cond.-----	2.0
Level 3 Net Load	10,566 btu/h	Available Design Pressure	0.275 "w.c.	Input Btu/h	60000	Input Btu/h		Coil -----	2.0
Level 4 Net Load	0 btu/h	Return Branch Longest Effective Length	300 ft	Output Btu/h	57600	Output Btu/h			
Total Heat Loss	36,384 btu/h	R/A Plenum Pressure	0.138 "w.c.	E.s.p.	0.50	" W.C.			
Total Heat Gain	20,186 btu/h	S/A Plenum Pressure	0.14 "w.c.	Water Temp		deg. F.			
Combo System HL + 10%	40,022 Btu/h	Heating Air Flow Proportioning Factor	0.0255 cfm/btuh	AFUE	96%				
Building Volume Vb	21620 ft³	Cooling Air Flow Proportioning Factor	0.0460 cfm/btuh	Aux. Heat					
Ventilation Load	1,118 Btu/h	R/A Temp	70 deg. F.	SB-12 Package	Package A1				
Ventilation PVC	79.5 cfm	S/A Temp	127 deg. F.						
Supply Branch and Grill Sizing		Diffuser loss	0.01 "w.c.	Temp. Rise>>>	57 deg. F.				

	Level 1													Level 2													
S/A Outlet No.	1	2	3	16										4	5	6	7	8	9								
Room Use	BASE	BASE	BASE	BASE										KIT	KIT	FAM	LAUN	PWD	FOY								
Btu/Outlet	3476	3476	3476	3476										1928	1928	3637	1231	650	2540								
Heating Airflow Rate CFM	89	89	89	89										49	49	93	31	17	65								
Cooling Airflow Rate CFM	44	44	44	44										92	92	99	54	15	39								
Duct Design Pressure	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13		
Actual Duct Length	59	46	10	74										68	74	57	24	2	12								
Equivalent Length	140	100	120	110	70	70	70	70	70	70	70	70	70	100	120	90	120	130	100	70	70	70	70	70	70		
Total Effective Length	199	146	130	184	70	70	70	70	70	70	70	70	70	168	194	147	144	132	112	70	70	70	70	70	70		
Adjusted Pressure	0.07	0.09	0.10	0.07	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.07	0.09	0.09	0.10	0.12	0.19	0.19	0.19	0.19	0.19	0.19		
Duct Size Round	6	6	6	6										6	6	6	5	3	5								
Outlet Size	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	3x10	3x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10		
Trunk	B	A	A	B										B	B	A	A	A	A								

	Level 3													Level 4												
S/A Outlet No.	10	11	12	13	14	15																				
Room Use	MAST	ENS	BED 4	BED 3	BED 2	BATH																				
Btu/Outlet	2003	1948	1249	2642	2579	146																				
Heating Airflow Rate CFM	51	50	32	67	66	4																				
Cooling Airflow Rate CFM	98	54	46	82	78	3																				
Duct Design Pressure	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13		
Actual Duct Length	64	89	76	22	36	35																				
Equivalent Length	130	150	170	100	130	110	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70		
Total Effective Length	194	239	246	122	166	145	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70		
Adjusted Pressure	0.07	0.05	0.05	0.11	0.08	0.09	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19		
Duct Size Round	6	6	5	6	6	2																				
Outlet Size	4x10	4x10	3x10	4x10	4x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10		
Trunk	B	B	B	A	A	A																				

Return Branch And Grill Sizing	Grill Pressure Loss											0.02 "w.c.
R/A Inlet No.	1R	2R	3R	4R	5R	6R	7R	8R	9R	10R	11R	
Inlet Air Volume CFM	178	436	105	105	105							
Duct Design Pressure	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	
Actual Duct Length	12	22	33	63	70							
Equivalent Length	115	140	130	195	160	50	50	50	50	50	50	
Total Effective Length	127	162	163	258	230	50	50	50	50	50	50	
Adjusted Pressure	0.09	0.07	0.07	0.05	0.05	0.24	0.24	0.24	0.24	0.24	0.24	
Duct Size Round	7.0	11.0	6.0	6.0	6.0							
Inlet Size	FLC	8	8	8	8							
" "	x	x	x	x	x	x	x	x	x	x	x	
Inlet Size		30	14	14	14							
Trunk	Z	Y	Z	Y	Y							

Return Trunk Duct Sizing					Supply Trunk Duct Sizing				
Trunk	CFM	Press.	Round	Rect. Size	Trunk	CFM	Press.	Round	Rect. Size
Drop	929	0.05	15.5	24x10	A	929	0.05	15.5	18x12
Z	929	0.05	15.5	18x12	B	409	0.05	11.5	14x8 12x10
Y	646	0.05	14.0	22x8 18x10	C				
X					D				
W					E				
V					F				
U					G				
T					H				
S					I				
R					J				
Q					K				

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I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under Division C subsection 3.2.5. of the Building Code.

Individual BCIN: 32964



David DaCosta

**Package:** Package A1  
**Project:** Bradford  
**Model:** TH-6E Alt WOB

## RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

*For systems serving one dwelling unit & conforming to the Ontario Building Code, O.reg 332/12*

Location of Installation	
Lot #	Plan #
Township	Bradford
Roll #	Permit #
Address	

Builder	
Name	Bayview Wellington
Address	
City	
Tel	Fax

Installing Contractor	
Name	
Address	
City	
Tel	Fax

Combustion Appliances 9.32.3.1(1)		
a)	x	Direct vent (sealed combustion) only
b)		Positive venting induced draft (except fireplaces)
c)		Natural draft, B-vent or induced draft fireplaces
d)		Solid fuel (including fireplaces)
e)		No combustion Appliances

Heating System		
x	Forced air	Non forced air
		Electric space heat (if over 10% of heat load)

House Type 9.32.3.1(2)		
I	x	Type a) or b) appliances only, no solid fuel
II		Type I except with solid fuel (including fireplace)
III		Any type c) appliance
IV		Type I or II either electric space heat
Other		Type I, II or IV no forced air

System Design Option		
1	x	Exhaust only / forced air system
2		HRV WITH DUCTING / forced air system
3		HRV simplified connection to forced air system
4		HRV full ducting/not coupled to forced air system
		Part 6 design

Total Ventilation Capacity 9.32.3.3(1)				
Bsmt & Master Bdrm	2	@	21.2 cfm	42.4 cfm
Other Bedrooms	3	@	10.6 cfm	31.8 cfm
Bathrooms & Kitchen	4	@	10.6 cfm	42.4 cfm
Other rooms	3	@	10.6 cfm	31.8 cfm
Total				<u>148.4</u>

Principal Ventilation Capacity 9.32.3.4(1)				
Master bedroom	1	@	31.8 cfm	31.8 cfm
Other bedrooms	3	@	15.9 cfm	47.7 cfm
Total				<u>79.5</u>

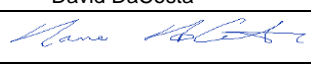
Principal Exhaust Fan Capacity				
Make	Model		Location	
LifeBreath	RNC155		Base	
132 cfm			Sones or Equiv.	

Heat Recovery Ventilator		
Make	LifeBreath	
Model	RNC155	
	132 cfm high	80 cfm low
Sensible efficiency @ -25 deg C	71%	
Sensible efficiency @ 0 deg C	75%	

Note: Installer to balance HRV/ERV to within 10 percent of PVC

Supplemental Ventilation Capacity	
Total ventilation capacity	148.4
Less principal exhaust capacity	79.5
REQUIRED supplemental vent. Capacity	<u>68.9</u> cfm

Supplemental Fans 9.32.3.5.			
Location	cfm	Model	Sones
Ens	50	XB50	0.3
Bath	50	XB50	0.3
all fans HVI listed			
		Make	Broan or Equiv.

Designer Certification	
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	
Name	David DaCosta
Signature	
HRAI #	5190 BCIN # 32964
Date	June 14, 2018

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2985 Drew Road, Suite 202, Mississauga, Ontario  
L4T 0A4 Tel: 905-671-9800 Fax: 647-494-9643  
e-mail dave@gtadesigns.ca

## Energy Efficiency Design Summary: Prescriptive Method (Building Code Part 9, Residential)

Page 7  
Project # PJ-00204  
Layout # JB-04870

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

For use by Principal Authority

Application No:

Model/Certification Number

### A. Project Information

Building number, street name <b>TH-6E Alt WOB</b>		Unit number	Lot/Con
Municipality <b>Bradford</b>	Postal code	Reg. Plan number / other description	

### B. Prescriptive Compliance [indicate the building code compliance package being employed in the house design]

SB-12 Prescriptive (input design package):

Package A1

Table: 3.1.1.2.A

### C. Project Design Conditions

Climatic Zone (SB-1):	Heat. Equip. Efficiency	Space Heating Fuel Source		
<input checked="" type="checkbox"/> Zone 1 (< 5000 degree days) <input type="checkbox"/> Zone 2 (≥ 5000 degree days)	<input checked="" type="checkbox"/> ≥ 92% AFUE <input type="checkbox"/> ≥ 84% < 92% AFUE	<input checked="" type="checkbox"/> Gas <input type="checkbox"/> Oil	<input type="checkbox"/> Propane <input type="checkbox"/> Electric	<input type="checkbox"/> Solid Fuel <input type="checkbox"/> Earth Energy
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics		
Area of Walls = <u>324.22</u> m <sup>2</sup> or <u>3489.9</u> ft <sup>2</sup>	W,S & G % = <u>9%</u>	<input type="checkbox"/> Log/Post&Beam <input type="checkbox"/> Slab-on-ground <input checked="" type="checkbox"/> Air Conditioning <input type="checkbox"/> Air Sourced Heat Pump (ASHP) <input type="checkbox"/> Ground Source Heat Pump (GSHP)		
Area of W, S & G = <u>27.963</u> m <sup>2</sup> or <u>301.0</u> ft <sup>2</sup>	Utilize Window Averaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> ICF Above Grade <input checked="" type="checkbox"/> Walkout Basement <input type="checkbox"/> Combo Unit		

### D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

Energy Efficiency Substitutions			
<input type="checkbox"/> ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5)) <input type="checkbox"/> Combined space heating and domestic water heating systems (3.1.1.2(7) / 3.1.1.3.(7))			
<input type="checkbox"/> Airtightness substitution(s) Airtightness test required (Refer to Design Guide Attached)	<input type="checkbox"/> Table 3.1.1.4.B Required:		Permitted Substitution:
	<input type="checkbox"/> Table 3.1.1.4.C Required:		Permitted Substitution:
Building Component	Minimum RSI/R-Values or Maximum U-Value <sup>1</sup>		Efficiency Ratings
<b>Thermal Insulation</b>	Nominal	Effective	<b>Windows &amp; Doors</b> Provide U-Value <sup>(1)</sup> or ER rating
Ceiling with Attic Space	60		Windows/Sliding Glass Doors 1.6
Ceiling without Attic Space	31		Skylights 2.8
Exposed Floor	31		<b>Mechanicals</b>
Walls Above Grade	22		Heating Equip.(AFUE) 96%
Basement Walls	20.0ci		HRV Efficiency (SRE% at 0°C) 75%
Slab (all >600mm below grade)	x		DHW Heater (EF) 0.80
Slab (edge only ≤600mm below grade)	10		DWHR (CSA B55.1 (min. 42% efficiency)) #Showers 2
Slab (all ≤600mm below grade, or heated)	10		Combined Heating System

(1) U value to be provided in either W/(m<sup>2</sup>·K) or Btu/(h·ft<sup>2</sup>·°F) but not both.

### E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets building code]

Name <b>David DaCosta</b>	BCIN <b>32964</b>	Signature 
------------------------------	----------------------	---------------

Form authorized by OHBA, OBOA, LMCBO. Revised December 1, 2016.

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Package: **Package A1** System: **System 1**  
Project: **Bradford** Model: **TH-6E Alt WOB**

## Air Leakage Calculations

Building Air Leakage Heat Loss				
B	LRairh	Vb	HL^T	HLleak
0.018	0.345	21620	81.4	10929

Building Air Leakage Heat Gain				
B	LRairh	Vb	HG^T	HG Leak
0.018	0.084	21620	11	360

Air Leakage Heat Loss/Gain Multiplier Table (Section 11)				
Level	Level Factor (LF)	Building Air	Level Conductive Heat Loss	Air Leakage Heat Loss Multiplier
Level 1	0.5	10929	8065	0.6775
Level 2	0.3		8253	0.3973
Level 3	0.2		7792	0.2805
Level 4	0		0	0.0000

Levels			
1	2	3	4
(LF)	(LF)	(LF)	(LF)
1.0	0.6	0.5	0.4
	0.4	0.3	0.3
		0.2	0.2
			0.1

HG LEAK		Air Leakage Heat Gain	
	360		0.0366
BUILDING CONDUCTIVE HEAT GAIN			9841

Levels this Dwelling	
3	

## Ventilation Calculations

Vent	Ventilation Heat Loss					Ventilation Heat Gain				Vent	
	Ventilation Heat Loss					Ventilation Heat Gain					
	C	PVC	HL^T	(1-E) HRV	HLbvent	C	PVC	HG^T	HGbvent		
	1.08	79.5	81.4	0.16	1118	1.1	79.5	11	944		
Case 1						Case 1					
Case 1	Ventilation Heat Loss (Exhaust only Systems)					Ventilation Heat Gain (Exhaust Only Systems)					Case 1
	Case 1 - Exhaust Only					Case 1 - Exhaust Only		Multiplier			
	Level	LF	HLbvent	LVL Cond. HL	Multiplier	HGbvent	944	0.10			
	Level 1	0.5	1118	8065	0.07	Building	9841				
	Level 2	0.3		8253	0.04						
	Level 3	0.2		7792	0.03						
Level 4	0	0		0.00							
Case 2						Case 2					
Case 2	Ventilation Heat Loss (Direct Ducted Systems)					Ventilation Heat Gain (Direct Ducted Systems)					Case 2
				Multiplier				Multiplier			
	C	HL^T	(1-E) HRV	14.07		C	HG^T	11.88			
	1.08	81.4	0.16			1.08	11				
Case 3						Case 3					
Case 3	Ventilation Heat Loss (Forced Air Systems)					Ventilation Heat Gain (Forced Air Systems)					Case 3
			HLbvent	Multiplier				Vent Heat Gain	Multiplier		
	Total Ventilation Load		1118	0.05		HGbvent	HG*1.3	944	0.10		
						944	1				

Foundation Conductive Heatloss Level 1

1700

Watts

5801

Btu/h

Foundation Conductive Heatloss Level 2

Watts

Btu/h



# Envelope Air Leakage Calculator

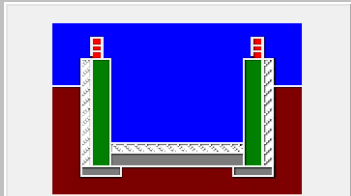
Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Bradford			
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):	7.16			
Building Configuration				
Type:	Semi-Detached			
Number of Stories:	Two			
Foundation:	Shallow			
House Volume (m <sup>3</sup> ):	612.26			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (ACH=3.57)			
Custom BDT Data:	ELA @ 10 Pa. 322.44 cm <sup>2</sup>			
	3.57 ACH @ 50 Pa			
Mechanical Ventilation (L/s):	Total Supply:		Total Exhaust:	
	39.75		39.75	
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Heating Air Leakage Rate (ACH/H): 0.345				
Cooling Air Leakage Rate (ACH/H): 0.084				

**SITE COPY**

# Residential Foundation Thermal Load Calculator

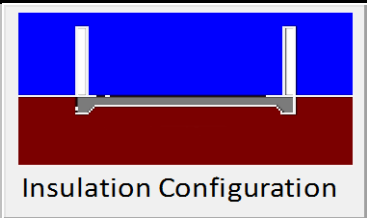
Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario ▼	
Region:	Bradford ▼	
Site Description		
Soil Conductivity:	High conductivity: moist soil ▼	
Water Table:	Normal (7-10 m, 23-33 Ft) ▼	
Foundation Dimensions		
Floor Length (m):	17.06	 <p>Insulation Configuration</p>
Floor Width (m):	3.97	
Exposed Perimeter (m):	27.43	
Wall Height (m):	2.59	
Depth Below Grade (m):	0.91	
Window Area (m <sup>2</sup> ):	0.56	
Door Area (m <sup>2</sup> ):	1.95	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1605

**SITE COPY**

# Residential Slab on Grade Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Bradford	
Site Description		
Soil Conductivity:	High conductivity: moist soil	
Water Table:	Normal (7-10 m, 23-33 Ft)	
Floor Dimensions		
Length (m):	5.79	 Insulation Configuration
Width (m):	0.61	
Exposed Perimeter (m):	6.40	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		95

SITE COPY

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE.  
ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE SPECIFIED.  
PROVIDE BALANCING DAMPERS ON ALL BRANCHES.  
ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)  
INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN.  
CONTRACTOR MUST WORK FROM APPROVED PLANS.  
ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE RESPONSIBILITY OF GTA DESIGNS.  
GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHAUST FAN EXCEEDS 700 CFM DEPRESSURIZATION MAY OCCUR WITH IN THE DWELLING.

GTADESIGNS

2985 DREW ROAD  
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MISSISSAUGA, ONT.  
L4T 0A4 TEL: 905-671-9800  
EMAIL: DAVE@GTADESIGNS.CA  
WEB: WWW.GTADESIGNS.CA

HEAT-LOSS

36,384

BTU/HR.

UNIT MAKE

AMANA

OR EQUAL.

UNIT MODEL

AMEC960603ANA

OR EQUAL.

UNIT HEATING INPUT

60,000

BTU/HR.

UNIT HEATING OUTPUT

57,600

BTU/HR.

A/C COOLING CAPACITY

2.0

TONS.

FAN SPEED

929

CFM

# OF RUNS

S/A

R/A

FANS

3RD FLOOR

2ND FLOOR

6

3

2

1ST FLOOR

6

1

3

BASEMENT

4

1

FLOOR PLAN:

BASEMENT

DRAWN BY:

CHECKED:

SOFT

JL

DD

1902

LAYOUT NO.

DRAWING NO.

JB-04870

MI

DATE:

JUNE 14, 2018

CLIENT:

BAYVIEW WELLINGTON

MODEL:











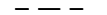





TH-6E ALT WOB

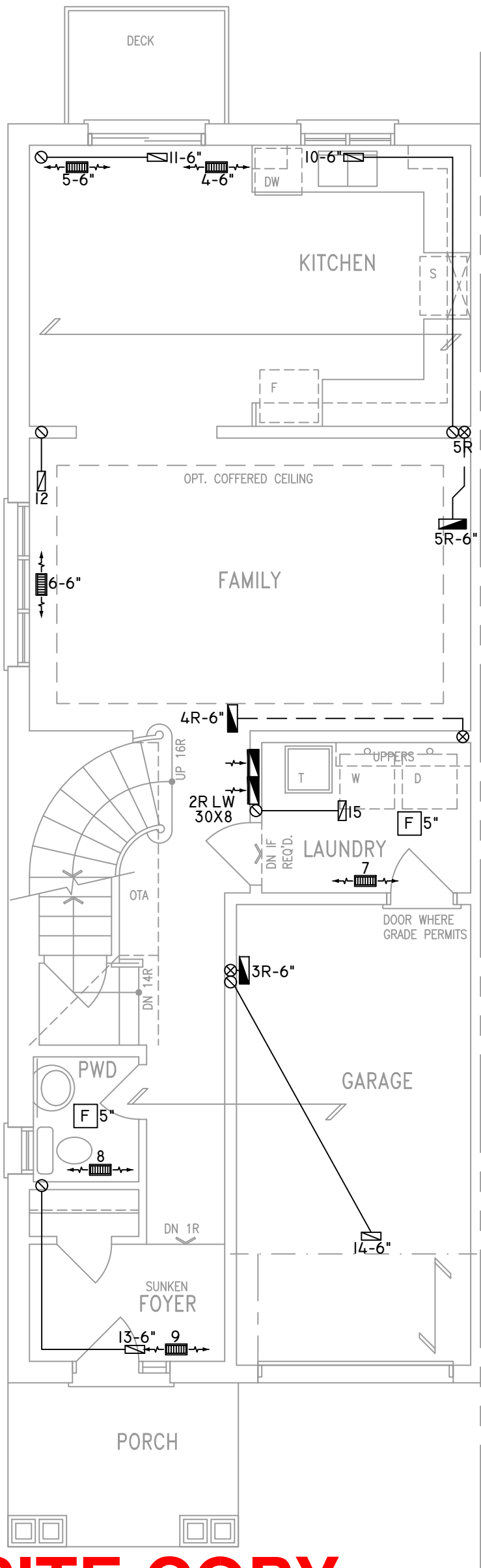
PROJECT:

GREEN VALLEY EAST  
BRADFORD,ONT.

SCALE:

3/16" = 1'-0"

	FLEX DUCT		LOW/HIGH WALL/KICK SUPPLY DIFFUSER		DUCT CONNECTION TO JOIST LINING		RETURN AIR GRILLE (SIZE INDICATED ON DRAWING)	S.A.	SUPPLY AIR
	RIGID ROUND DUCT		HRV EXHAUST GRILLE		RETURN AIR PIPE RISER		RETURN AIR RISER UP TO FLOOR ABOVE	R.A.	RETURN AIR
	SUPPLY DIFFUSER		SUPPLY AIR PIPE RISER		RETURN ROUND DUCT		RETURN AIR FROM BASEMENT SECOND FLOOR		THERMOSTAT
			VOLUME DAMPER						PRINCIPAL EXHAUST FAN SWITCH
									W/R & PRINCIPAL EXHAUST FAN




- FOR THE PURPOSE OF HEATLOSS/GAIN CALCULATIONS ALL ELEVATIONS HAVE BEEN CONSIDERED
- CIRCULATION PRINCIPAL FAN SWITCH TO BE CENTRALLY LOCATED
- INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12
- ALL DUCTWORK LOCATED IN CONDITIONED AREAS MUST BE SEALED TO CLASS C LEVEL AS PER OBC PART 6-6.2.4.3.(12)

THE UNDERSIGNED HAS REVIEWED AND TAKES RESPONSIBILITY FOR THIS DESIGN ON BEHALF OF GTA DESIGNS INC. AND HAS THE QUALIFICATIONS AND MEETS THE REQUIREMENTS SET OUT IN THE BUILDING CODE TO BE A DESIGNER

QUALIFICATION INFORMATION

REQUIRED UNLESS DESIGN IS EXEMPT UNDER DIVISION C 3.2.5.1 OF THE ONTARIO BUILDING CODE

DAVID DA COSTA  B.C.I.N. 32964

SIGNATURE OF DESIGNER

SITE COPY

PARTIAL GROUND FLOOR PLAN 'A'

W.O.B. CONDITION

OBC 2012

ZONE I COMPLIANCE

PACKAGE "A1" REF. TABLE 3.1.1.2.A

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE.

ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE SPECIFIED.

PROVIDE BALANCING DAMPERS ON ALL BRANCHES.

ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)

INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN.

CONTRACTOR MUST WORK FROM APPROVED PLANS.

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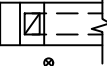







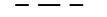




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L4T 0A4 TEL: 905-671-9800  
EMAIL: DAVE@GTADESIGNS.CA  
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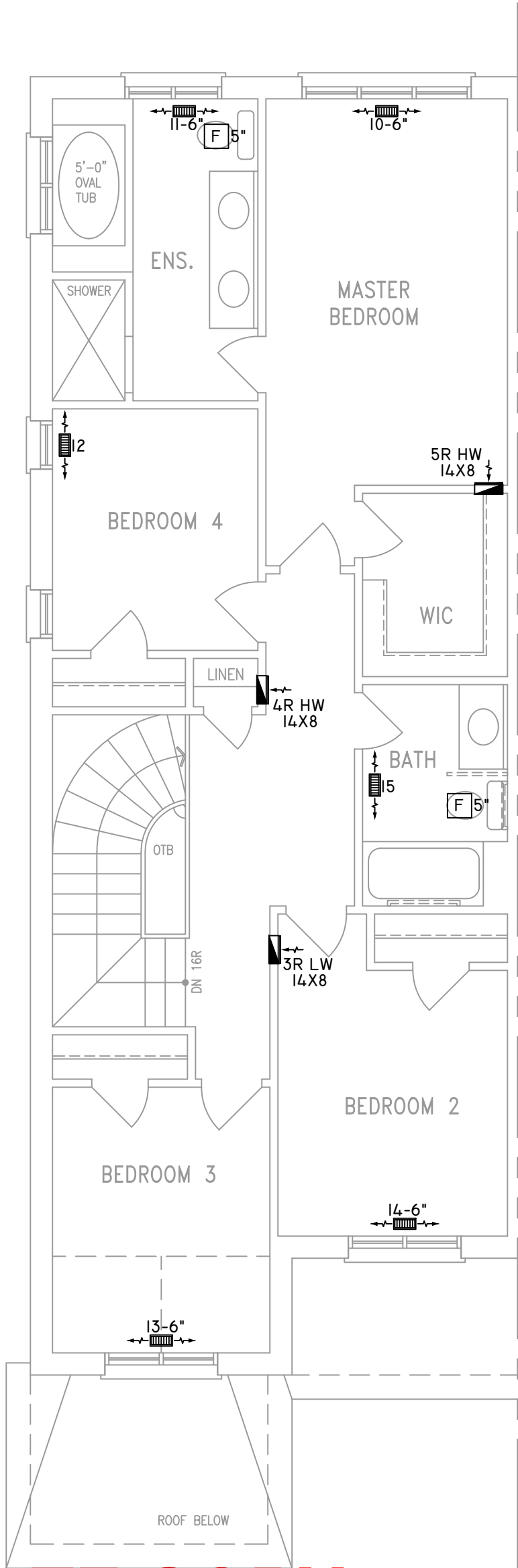
HEAT-LOSS	36,384	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC960603ANA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	2.0	TONS.
FAN SPEED	929	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	6	3	2
1ST FLOOR	6	1	3
BASEMENT	4	1	

FLOOR PLAN: GROUND FLOOR		
DRAWN BY: JL	CHECKED: DD	SQFT 1902
LAYOUT NO. JB-04870	DRAWING NO. M2	

DATE:	JUNE 14, 2018
CLIENT:	BAYVIEW WELLINGTON
MODEL:	TH-6E ALT WOB
PROJECT:	GREEN VALLEY EAST BRADFORD,ONT.
SCALE:	3/16" = 1'-0"

	FLEX DUCT		LOW/HIGH WALL/KICK SUPPLY DIFFUSER		DUCT CONNECTION TO JOIST LINING		RETURN AIR RISER UP TO FLOOR ABOVE	S.A.	SUPPLY AIR
	RIGID ROUND DUCT		HRV EXHAUST GRILLE		RETURN AIR PIPE RISER		RETURN AIR FROM BASEMENT	R.A.	RETURN AIR
	SUPPLY DIFFUSER		VOLUME DAMPER		RETURN ROUND DUCT		SECOND FLOOR		THERMOSTAT
									PRINCIPAL EXHAUST FAN SWITCH
									W/R & PRINCIPAL EXHAUST FAN



FOR THE PURPOSE OF  
HEATLOSS/GAIN  
CALCULATIONS ALL  
ELEVATIONS HAVE BEEN  
CONSIDERED

INSULATE ALL DUCTS IN  
UNCONDITIONED  
SPACES MIN. R12


ALL DUCTWORK LOCATED IN  
CONDITIONED AREAS  
MUST BE SEALED TO CLASS  
C LEVEL AS PER OBC PART  
6-6.2.4.3.(12)

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DAVID DA COSTA



B.C.I.N. 32964

SIGNATURE OF DESIGNER

SITE COPY  
SECOND FLOOR PLAN 'A'

OBC 2012

ZONE I COMPLIANCE  
PACKAGE "A1" REF. TABLE 3.1.1.2.A

NOTES  
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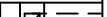



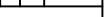



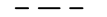





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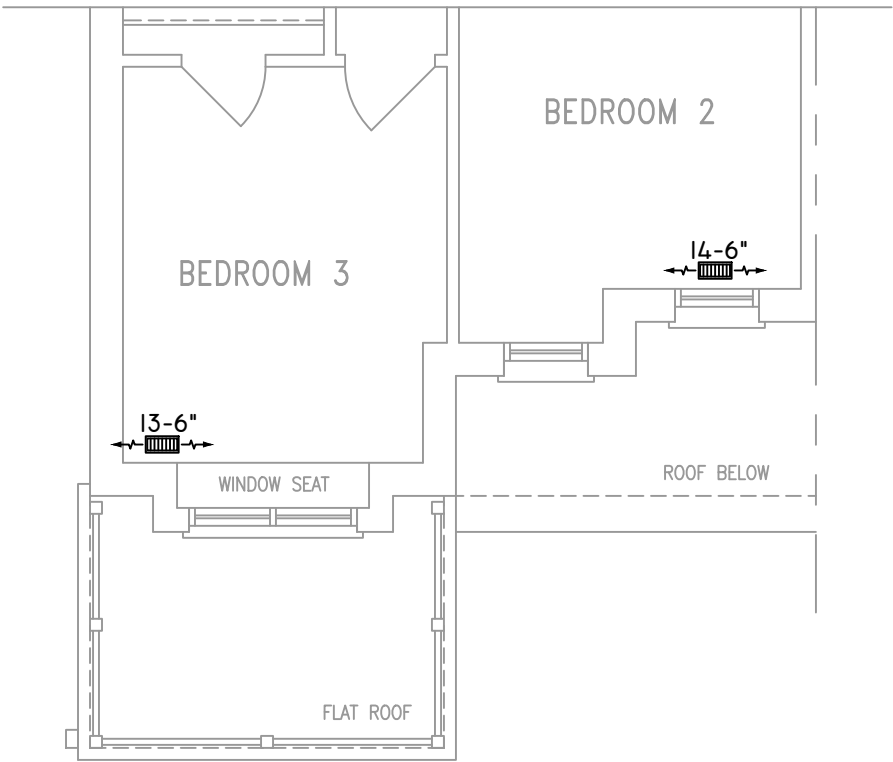
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UNIT MODEL	AMEC960603ANA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	2.0	TONS.
FAN SPEED	929	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	6	3	2
1ST FLOOR	6	1	3
BASEMENT	4	1	

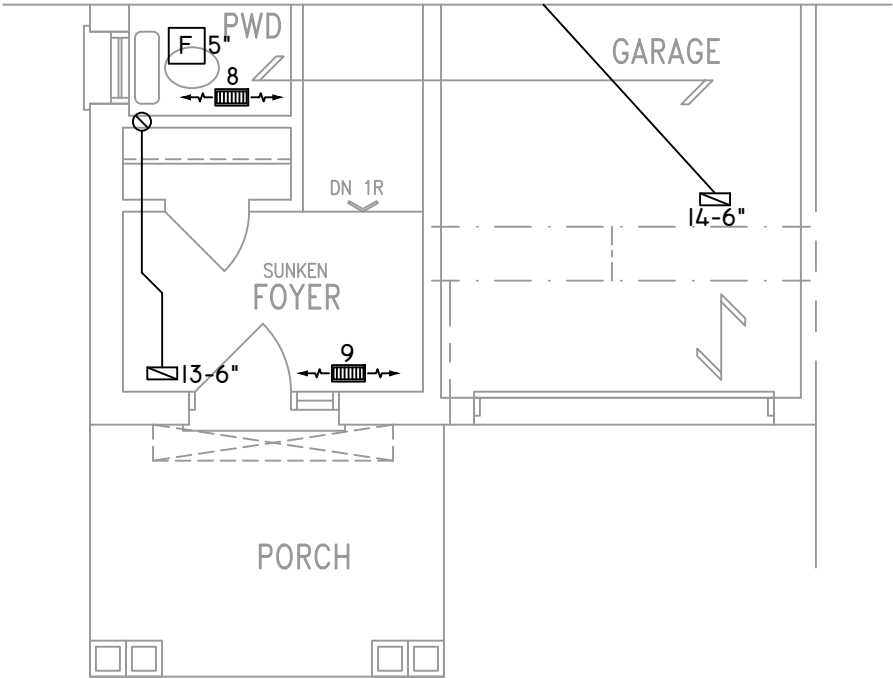
FLOOR PLAN: SECOND FLOOR		
DRAWN BY: JL	CHECKED: DD	SQFT 1902
LAYOUT NO. JB-04870	DRAWING NO. M3	

DATE:	JUNE 14, 2018
CLIENT:	BAYVIEW WELLINGTON
MODEL:	TH-6E ALT WOB
PROJECT:	GREEN VALLEY EAST BRADFORD,ONT.
SCALE:	3/16" = 1'-0"

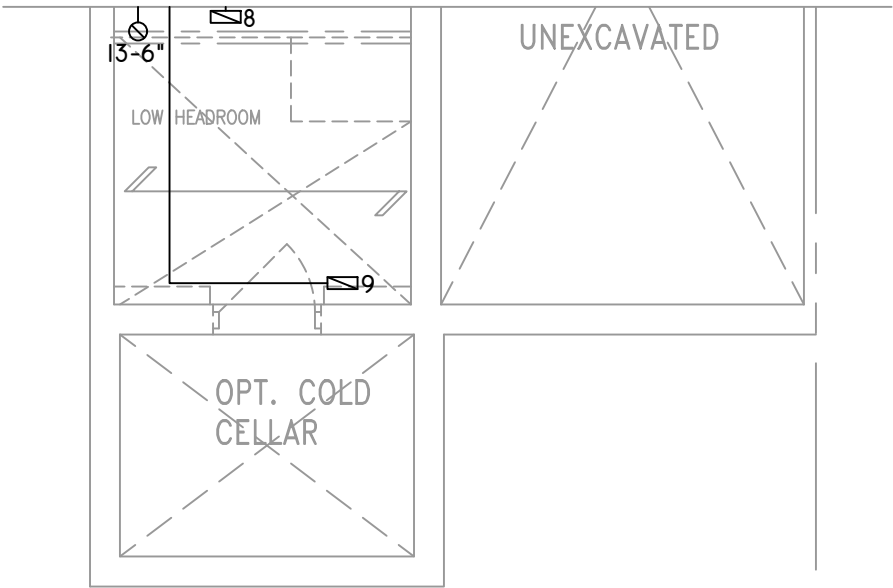
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	RIGID ROUND DUCT		HRV EXHAUST GRILLE		RETURN AIR PIPE RISER		RETURN AIR RISER UP TO FLOOR ABOVE	R.A.	RETURN AIR
	SUPPLY DIFFUSER		SUPPLY AIR PIPE RISER		RETURN ROUND DUCT		RETURN AIR FROM BASEMENT SECOND FLOOR		THERMOSTAT
			VOLUME DAMPER						PRINCIPAL EXHAUST FAN SWITCH
									W/R & PRINCIPAL EXHAUST FAN



PARTIAL SECOND FLOOR PLAN 'B'



PARTIAL GROUND FLOOR PLAN 'B'



PARTIAL BASEMENT PLAN 'B'

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QUALIFICATION INFORMATION

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DAVID DA COSTA  B.C.I.N. 32964

SIGNATURE OF DESIGNER

SITE COPY

OBC 2012

ZONE I COMPLIANCE  
PACKAGE "A1" REF. TABLE 3.1.1.2.A

**NOTES**  
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WEB: WWW.GTADESIGNS.CA

HEAT-LOSS	36,384	BTU/HR.
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UNIT MODEL	AMEC960603ANA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	2.0	TONS.
FAN SPEED	929	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	6	3	2
1ST FLOOR	6	1	3
BASEMENT	4	1	

FLOOR PLAN: PARTIAL PLAN(S)	
DRAWN BY: JL	CHECKED: DD
LAYOUT NO. JB-04870	SQFT 1902
DRAWING NO. M4	

DATE:	JUNE 14, 2018
CLIENT:	BAYVIEW WELLINGTON
MODEL:	TH-6E ALT WOB
PROJECT:	GREEN VALLEY EAST BRADFORD,ONT.
SCALE:	3/16" = 1'-0"