

TOWN OF BRADFORD WEST GWILLIMBURY
BUILDING DEPARTMENT
PLANS EXAMINED
ONTARIO BUILDING CODE APPLIES
DATE: 2024-04-23
INSPECTOR: SE

**Schedule 1: Designer Information** 

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

A. Project Information			,	
Building number, street name			Lot:	
THWU-2	21C		Lot/con.	
Municipality Bradford	Postal code	Plan number/ other description	•	
B. Individual who reviews and takes responsibility for design	n activities			
Name David DaCosta		Firm	gtaDesigns Inc.	
Street address 2985 Drew Road	d, Suite 202		Unit no.	Lot/con.
' '	Postal code	Province	E-mail	
Mississauga Telephone number	L4T 0A4	Ontario	hvac@gtades	<u>igns.ca</u>
(905) 671-9800	Fax number		Cell number	
C. Design activities undertaken by individual identified in Se	ction B. [Buil	ding Code Table 3	3.5.2.1 of Division C]	
☐ House ☑ HVAC – Ho	use		■ Building Structural	
☐ Small Buildings ☐ Building Ser	vices		□ Plumbing – House	
	ighting and Pow	er	Plumbing – All Buildings	
☐ Complex Buildings ☐ Fire Protecti			☐ On-site Sewage System	
Description of designer's work Mod	el Certification		Project #:	
Heating and Cooling Load Calculations Main	Х	Builder	Layout #:  Bayview Wellingto	JB-09288
Air System Design Alternate	^	Project	Green Valley	л
Residential mechanical ventilation Design Summary O.D. GFA	2183	Model	•	
Residential System Design per CAN/CSA-F280-12			THWU-21C	
Residential New Construction - Forced Air  D. Declaration of Designer		SB-12	Package A1	
David DaCosta (print name)	declare that (c	hoose one as appro	opriate):	
☐ I review and take responsibility for th Division C of the Building Code. I am classes/categories. Individual BCIN: Firm BCIN:	n qualified, and t	ne firm is registered, ii	n the appropriate	
☑ I review and take responsibility for t designer" under subsection 3.2.5 of			ropriate category as an "other	
Individual BCIN:	3296	34		
Basis for exempti	on from registra	ion:	Division C 3.2.4.1. (4)	ı
☐ The design work is exempt from the	registration and	qualification requirem	ents of the Building Code.	
Basis for exempti	on from registra	ion and qualification:		
I certify that:				
The information contained in this schedule is true to the best of my      I have submitted this application with the knowledge and exposure	_			
I have submitted this application with the knowledge and consent of the cons	oi the iirm.			
December 13, 2023		Mane 14	CERT	
Date		Signature of De	esigner	•

NOTE:

Page 1

- 1. 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, temporay license, or a certificate of authorization, issed 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.



2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 e-mail hvac@gtadesigns.ca

Page 2

No. of Levels: 3 Ventilated? Included Air tightness: 1961-Present (ACH=3.57) Assumed? Yewather location: Bradford Wind exposure: Sheltered  HRV? VanEE V150E75NS Internal shading: Light-translucent Occupants: 5  Sensible Eff. at -25C 60% Apparent Effect. at -0C 80% Units: Imperial Area Sq ft: 2183  Sensible Eff. at -0C 75%   Heating design conditions  Cutdoor temp 9.4 Indoor temp: 72 Mean soil temp: 48 Outdoor temp 86 Indoor temp: 75 Latitude: 44  Above grade walls  Style A: As per OBC SB12 Package A1 R 22 Style A: As per OBC SB12 Package A1 R 20  Style B: Style C: Style C:  Style D: Floors on soil  Ceilings  Style A: As per Selected OBC SB12 Package A1 R Style B: Style B: As per Selected OBC SB12 Package A1 R Style B: Style B: As per Selected OBC SB12 Package A1 R Style B: Style B: As per Selected OBC SB12 Package A1 R Style B: Style B: Style C: Style C: Style B: Style B: As per Selected OBC SB12 Package A1 R Style B: As per Selected OBC SB12 Package A1 R Style B: Style	Heat loss and gain calcula	ation summary sheet CSA-F280-M12 Standard Form No. 1
Building Location	These documents issued for the use of	yview Wellington Layout No.
Address (Model): THWU-21C   Site: Green Valley	and may not be used by any other persons without authorization. Documents	for permit and/or construction are signed in red. JB-09288
Lot:   City and Province:   Bradford	Building I	ocation
Calculations   Postal code:   Calculations   Postal code:   Calculations   Dimensional information based on:   VA3 Design 23/Nov/2023   Attachment:   Townhome	Address (Model): THWU-21C	Site: Green Valley
Calculations based on  Dimensional information based on:  VA3 Design 23/Nov/2023  Attachment: Townhome Front facing: East/West Assumed? Yest No. of Levels: 3 Ventilated? Included Air tightness: 1961-Present (ACH=3.57) Assumed? Yest Westher location: Bradford Wind exposure: Sheltered HRV?  Westher location: Bradford Wind exposure: Sheltered HRV?  VanEE V150E75NS Internal shading: Light-translucent Occupants: 5 Sensible Eff. at -25C 60% Apparent Effect. at -0C 80% Units: Imperial Area Sq ft: 2183  Sensible Eff. at -25C 75% Units: Imperial Area Sq ft: 2183  Sensible Eff. at -0C 75% Paparent Effect. at -0C 80% Units: Imperial Area Sq ft: 2183  Sensible Eff. at -0C 75% Units: Imperial Area Sq ft: 2183  Sensible Eff. at -0C 75% Below grade walls  Floot remp -9.4 Indoor temp: 72 Mean soil temp: 48 Outdoor temp 86 Indoor temp: 75 Latitude: 44  Above grade walls  Below grade walls  Below grade walls  Style A: As per OBC SB12 Package A1 R 22 Style A: As per OBC SB12 Package A1 R 20  Style B: Style C: Style B: Style A: As per Selected OBC SB12 Package A1 R Style B: Style A: As per Selected OBC SB12 Package A1 R Style B: Style A: As per Selected OBC SB12 Package A1 R Style B: Style B: Style A: As per Selected OBC SB12 Package A1 R Style B: Style	Model:	Lot:
Dimensional information based on:	City and Province: Bradford	Postal code:
Attachment: Townhome   Front facing: East/West   Assumed? Yes   No. of Levels: 3   Ventilated? Included   Air tightness: 1961-Present (ACH=3.57)   Assumed? Yes   Weather location: Bradford   Wind exposure: Sheltered   HRV?   VanEE   V150E75NS   Internal shading: Light-translucent   Occupants: 5   Sensible Eff. at -25C   60%   Apparent Effect. at -0C   80%   Units: Imperial   Area Sq ft: 2183   Sensible Eff. at -0C   75%	Calculations	s based on
No. of Levels: 3 Ventilated? Included Air tightness: 1961-Present (ACH=3.57) Assumed? Yes Weather location: Bradford Wind exposure: Sheltered  HRV? VanEE V150E75NS Internal shading: Light-translucent Occupants: 5 Sensible Eff. at -25C 60% Apparent Effect. at -0C 80% Units: Imperial Area Sq ft: 2183  Sensible Eff. at -0C 75% Cooling design conditions  Outdoor temp -9.4 Indoor temp: 72 Mean soil temp: 48 Outdoor temp 86 Indoor temp: 75 Latitude: 44  Above grade walls  Style A: As per OBC SB12 Package A1 R 22 Style A: As per OBC SB12 Package A1 R 20  Style B: Style C: Style C: Style D:  Floors on soil Cellings  Style A: As per Selected OBC SB12 Package A1 R 31 Doors  Style B: Style A: As per Selected OBC SB12 Package A1 R 31 Doors  Style B: St	Dimensional information based on:	VA3 Design 23/Nov/2023
Weather location:   Bradford   Wind exposure:   Sheltered	Attachment: Townhome	Front facing: East/West Assumed? Yes
HRV?   VanEE	No. of Levels: 3 Ventilated? Included	Air tightness: 1961-Present (ACH=3.57) Assumed? Yes
Sensible Eff. at -25C 60% Apparent Effect. at -0C 80% Units: Imperial Area Sq ft: 2183  Sensible Eff. at -0C 75%   Heating design conditions  Outdoor temp -9.4 Indoor temp: 72 Mean soil temp: 48 Outdoor temp 86 Indoor temp: 75 Latitude: 44  Above grade walls  Style A: As per OBC SB12 Package A1 R 22 Style A: As per OBC SB12 Package A1 R 20  Style B: Style C: Style C: Style D:  Floors on soil Ceilings  Style A: As per Selected OBC SB12 Package A1 Style B: Style B: Style B: As per Selected OBC SB12 Package A1 R  Style B: Style B: As per Selected OBC SB12 Package A1 R  Style B: Style B: As per Selected OBC SB12 Package A1 R  Style B: Style B: As per Selected OBC SB12 Package A1 R  Style B: Style B: As per Selected OBC SB12 Package A1 R  Style B: Style B: As per Selected OBC SB12 Package A1 R  Style B: Sty	Weather location: Bradford	Wind exposure: Sheltered
Sensible Eff. at -0C   75%   Heating design conditions   Cooling design conditions	HRV? VanEE V150E75NS	Internal shading: Light-translucent Occupants: 5
Heating design conditions  Outdoor temp	Sensible Eff. at -25C 60% Apparent Effect. at -0C 80%	Units: Imperial Area Sq ft: 2183
Outdoor temp 9.4 Indoor temp: 72 Mean soil temp: 48 Outdoor temp 86 Indoor temp: 75 Latitude: 44  Above grade walls  Style A: As per OBC SB12 Package A1 R 22 Style A: As per OBC SB12 Package A1 R 20  Style B: Style C: Style D:  Floors on soil Ceilings  Style A: As per Selected OBC SB12 Package A1 R 20  Style B: Style B: Style C:  Style B: Style B: Style A: As per Selected OBC SB12 Package A1 R 20  Style B: As per Selected OBC SB12 Package A1 R 20  Style A: As per Selected OBC SB12 Package A1 R 31  Exposed floors  Style B: Style	Sensible Eff. at -0C 75%	
Above grade walls  Style A: As per OBC SB12 Package A1 R 22 Style A: As per OBC SB12 Package A1 R 20  Style B: Style C: Style C: Style C:  Style D: Ceilings  Style A: As per Selected OBC SB12 Package A1 R 20  Style A: As per Selected OBC SB12 Package A1 R 31  Style B: Style B: Style C:  Style B: Style C: Style C:  Style B: Style C: Style C: Style C:  Style B: Style C: Style C: Style C:  Style B: Style C:	Heating design conditions	Cooling design conditions
Style A:	Outdoor temp -9.4 Indoor temp: 72 Mean soil temp: 48	Outdoor temp 86 Indoor temp: 75 Latitude: 44
Style B: Style C: Style C: Style D:  Floors on soil Style A: As per Selected OBC SB12 Package A1 Style B: Style B: Style B: Style A: As per Selected OBC SB12 Package A1 Style B: As per Selected OBC SB12 Package A1 R Style B: Style B: Style A: As per Selected OBC SB12 Package A1 R Style B: Style A: As per Selected OBC SB12 Package A1 R Style B: Style C: Style B: Style C: Style B: As per Selected OBC SB12 Package A1 R 2 Style B: Style B: Style B: Style B: As per Selected OBC SB12 Package A1 R 2 Style B: Style B: Style B: Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values Notes: Residential New Construction - Forced Air Calculations performed by Name: David DaCosta	Above grade walls	Below grade walls
Style C: Style D: Style A: As per Selected OBC SB12 Package A1 Style A: As per Selected OBC SB12 Package A1 R Style B: Style B: As per Selected OBC SB12 Package A1 R Style A: As per Selected OBC SB12 Package A1 R Style B: Style A: As per Selected OBC SB12 Package A1 R A1 Doors Style B: Style A: As per Selected OBC SB12 Package A1 R As per S	Style A: As per OBC SB12 Package A1 R 22	Style A: As per OBC SB12 Package A1 R 20ci
Style D:  Floors on soil  Style A: As per Selected OBC SB12 Package A1 Style A: As per Selected OBC SB12 Package A1 R  Style B: Style B: As per Selected OBC SB12 Package A1 R  Exposed floors  Style C:  Style A: As per Selected OBC SB12 Package A1 R  Style A: As per Selected OBC SB12 Package A1 R  Windows  Style B: Style A: As per Selected OBC SB12 Package A1 R 4  Windows  Style B: Style B: Style B:  Style A: As per Selected OBC SB12 Package A1 R 3.55 Style C:  Style B: Style B: Skylights  Style C: Style B: Style A: As per Selected OBC SB12 Package A1 R 2  Style C: Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style C: Style B: Residential New Construction - Forced Air  Calculations performed by  Name: David DaCosta Postal code: L4T 0A4	Style B:	Style B:
Style A: As per Selected OBC SB12   Package A1   Style A: As per Selected OBC SB12   Package A1   R	Style C:	Style C:
Style A: As per Selected OBC SB12 Package A1 Style A: As per Selected OBC SB12 Package A1 R  Style B: Style B: As per Selected OBC SB12 Package A1 R  Exposed floors Style C:  Style A: As per Selected OBC SB12 Package A1 R 31 Doors  Style B: Style A: As per Selected OBC SB12 Package A1 R 4  Windows Style B: Style B:  Style A: As per Selected OBC SB12 Package A1 R 3.55 Style C:  Style B: Skylights  Style C: Style B: Skylights  Style C: Style B: Style B:  Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values  Notes: Residential New Construction - Forced Air  Calculations performed by  Name: David DaCosta Postal code: L4T 0A4	Style D:	Style D:
Style B: Style B: As per Selected OBC SB12 Package A1 R  Exposed floors Style C:  Style A: As per Selected OBC SB12 Package A1 R 31 Doors  Style B: Style A: As per Selected OBC SB12 Package A1 R 4  Windows Style B: Style B: Style B:  Style A: As per Selected OBC SB12 Package A1 R 3.55 Style C:  Style B: Style B: Style C: Style B: Style C: Style B: As per Selected OBC SB12 Package A1 R 2  Style C: Style A: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style B: Style B: Style B: As per Selected OBC SB12 Package A1 R 4	Floors on soil	Ceilings
Exposed floors  Style A: As per Selected OBC SB12	Style A: As per Selected OBC SB12 Package A1	Style A: As per Selected OBC SB12 Package A1 R 60
Style A: As per Selected OBC SB12 Package A1 R 31 Doors  Style B: Style A: As per Selected OBC SB12 Package A1 R 4  Windows Style B: Style B: Skylights  Style B: Skylights  Style C: Style A: As per Selected OBC SB12 Package A1 R 3.55 Style C: Style B: Skylights  Style C: Style B: Style B: As per Selected OBC SB12 Package A1 R 2  Style D: Style B: Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values  Notes: Residential New Construction - Forced Air  Calculations performed by  Name: David DaCosta Postal code: L4T 0A4	Style B:	Style B: As per Selected OBC SB12 Package A1 R 31
Style B:  Style A: As per Selected OBC SB12 Package A1 R 4  Windows  Style B:  Style A: As per Selected OBC SB12 Package A1 R 3.55 Style C:  Style B:  Style C:  Style C:  Style C:  Style D:  Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values  Notes: Residential New Construction - Forced Air  Calculations performed by  Name: David DaCosta Postal code: L4T 0A4	Exposed floors	Style C:
Windows Style B:   Style A: As per Selected OBC SB12 Package A1 R 3.55 Style C:   Style B:   Style A: As per Selected OBC SB12 Package A1 R 2   Style D: Style B:   Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values   Notes: Residential New Construction - Forced Air   Calculations performed by   Name: David DaCosta   Postal code: L4T 0A4	Style A: As per Selected OBC SB12 Package A1 R 31	Doors
Style A: As per Selected OBC SB12 Package A1 R 3.55 Style C:  Style B: Style C: Style A: As per Selected OBC SB12 Package A1 R 2  Style D: Style B:  Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values  Notes: Residential New Construction - Forced Air  Calculations performed by  Name: David DaCosta Postal code: L4T 0A4	Style B:	Style A: As per Selected OBC SB12 Package A1 R 4.00
Style B:  Style C:  Style A: As per Selected OBC SB12 Package A1 R 2 Style D:  Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values  Notes: Residential New Construction - Forced Air  Calculations performed by  Name: David DaCosta Postal code: L4T 0A4	Windows	Style B:
Style B:  Style C:  Style A: As per Selected OBC SB12 Package A1 R 2 Style D:  Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values  Notes: Residential New Construction - Forced Air  Calculations performed by  Name: David DaCosta Postal code: L4T 0A4	Style A: As per Selected OBC SB12 Package A1 R 3.55	Style C:
Style C: Style A: As per Selected OBC SB12 Package A1 R 2 Style D: Style B: Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values Notes: Residential New Construction - Forced Air Calculations performed by Name: David DaCosta Postal code: L4T 0A4		Skylights
Style D:  Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values  Notes: Residential New Construction - Forced Air  Calculations performed by  Name: David DaCosta Postal code: L4T 0A4		Style A: As per Selected OBC SB12 Package A1 R 2.03
Notes: Residential New Construction - Forced Air  Calculations performed by  Name: David DaCosta Postal code: L4T 0A4		Style B:
Calculations performed by       Name:     David DaCosta     Postal code:     L4T 0A4	Attached documents: As per Shedule 1 Heat Loss/0	Gain Caculations based on CSA-F280-12 Effective R-Values
Name: David DaCosta Postal code: L4T 0A4	Notes: Residential New C	Construction - Forced Air
	Calculations p	erformed by
Company: gtaDesigns Inc. Telephone: (905) 671-9800	Name: David DaCosta	Postal code: L4T 0A4
	Company: gtaDesigns Inc.	Telephone: (905) 671-9800
Address: 2985 Drew Road, Suite 202 Fax:	Address: 2985 Drew Road, Suite 202	Fax:
City: Mississauga E-mail hvac@gtadesigns.ca	City: Mississauga	E-mail hvac@gtadesigns.ca



Builder:

Inlet Size Trunk

## Air System Design

SB-12 Package A1

Date:

2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 e-mail hvac@gtadesigns.ca

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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 December 13, 2023

Bayview Wellington

		Valla						TINATI	24.0				Sy	stem 1		E	appropriate Building Co	ode.			er" under						oject #		-00204
l	Project: Gree  DESIGN LOAD SPECIFICATION	en Valley			Model:	IDUTION	& PRESSU	THWU-	210				URNACE/	AID HAND	N ED DAT		ndividual I		32964 BOILER/W					avid DaCo			yout #	JB	-09288
	DESIGN LOAD SPECIFICATION	NS		Ľ	AIR DISTR	IBUTION 8	& PRESSU	IRE				E	URNACE/	AIR HANI	DLER DAT	A:		L	BOILER/W	ATER HEA	TER DAT	A:			Ľ	VC UNIT D	ATA:		
	Level 1 Net Load Level 2 Net Load Level 3 Net Load Level 4 Net Load	13,380 t 15,155 t 13,054 t	btu/h	,	Additional Available D	Equipmer Design Pre			ı	0.5 "1 0.225 "1 0.275 "1 300 ft	w.c. w.c.	N H	Make Model ligh Input ligh Outpu		Amai AMEC9606 6000 5760	603ANA 10 E	BTU/h BTU/h	1	Make Model Input Btu/f Output Btu			T	ype		1	Amana Model: Cond		2.5 1 2.5 2.5	on
	Total Heat Loss	41,588 b			R/A Plenur	_				0.138 "			.s.p.		0.50		w.c.		Min.Outpu			Α	WH						
	Total Heat Gain	25,600 k	btu/h	5	S/A Plenun	n Pressur	е			0.14 "	w.c.	v	Vater Temp	р		c	deg. F.						Blo	wer DATA	:				
				ŀ	Heating Air	r Flow Pro	portioning	g Factor		0.0223 c	fm/btuh	т	hermal Eff	f.		96%		ī	Blower Spe	eed Selecte	ed:	OFF C	ON		E	Blower Typ	e E	СМ	
	Building Volume Vb	25124 f		(	Cooling Ai	r Flow Pro	portionin	-		0.0363 c		E	lectric Hea	at												(Brushle	ess DC OE	3C 12.3.1.	5.(2))
	Ventilation Load	1,398 E						R/A Temp			eg. F.							,	Check	929 cf	m C	ool. Chec	k _	929 c	fm				
	Ventilation PVC Supply Branch and Grill Sizing	79.5 0	cfm		Diffuser lo	ee	0.01 "	S/A Temp		127 d	eg. F.	т	emp. Rise		57 d	leg. F.			Heat.	929 cf	m C	ooling		929 c	fm [	Design Airl	flow	929 0	fm
	Supply Branch and Grill Sizing				Jiilusei io	<sup>35</sup> =	0.01	w.c.					emp. Kise	=	u	leg. r.		!		929 CI		oomig	=	929 0		Jesigii Aiii	- IOW =	929	
•								Level	1													Level	2						
	S/A Outlet No.	1	2	3	4											5	6	7	8	9	10	11	12						
	Room Use	BASE	BASE	BASE	BASE											KIT	LAUN	FOY	FOY	PWD	FAM	FAM	FAM						
	Btu/Outlet	3345	3345	3345	3345											1650	675	2848	2848	405	2243	2243	2243						
	Heating Airflow Rate CFM	75	75	75	75											37	15	64	64	9	50	50	50						
	Cooling Airflow Rate CFM	13	13	13	13											103	25	48	48	2	88	88	88						
	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	0.13	0.13	0.13
	Actual Duct Length	38	25	15	32											30	7	35	33	22	28	40	42						
	Equivalent Length	120 158	80 105	80	160	70	70 <b>70</b>	70	70 70	70	70	70 <b>70</b>	70	70	70	70	120	120	150	110 132	90	70	120	70	70	70	70	70 70	70
	Total Effective Length Adjusted Pressure	0.08	0.12	95 0.14	192 0.07	70		70 0.19	70 0.19	70 0.19	70		70	70 0.19	70 0.19	100	127 0.10	155 0.08	183 0.07	0.10	118 0.11	110	162 0.08	70 0.19	70	70	70	70 0.19	70 0.19
Ш	Duct Size Round	0.06	0.12	0.14	6	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.13 6	0.10	U.U6 5	5	3	6	0.12 6	0.06	0.19	0.19	0.19	0.19	0.19	0.19
$\mathbf{S}$	Outlet Size	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	3x10	3x10	3x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
>	Trunk	В	A	C	D	4410	47.10	4210	4210	4410	4210	4210	77.10	4210	4210	В	A	D	D	A	A	4A 10	В	4210	4210	4210	4210	4410	4210
Ш								Level	3													Level	4						
<b> </b>	S/A Outlet No.	13	14	15	16	17	18	19	20																				
Ш	Room Use	P.BED	P.BED	ENS	BATH	BED 2	BED 3	BED 3	BED 4																				
R	Btu/Outlet	2091	2091	803	147	2121	2086	2086	1629																				
<u>ш</u>	Heating Airflow Rate CFM	47	47	18	3	47	47	47	36																				
	Cooling Airflow Rate CFM	67	67	25	2	64	54	54	51																				
	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	0.13	0.13	0.13
	Actual Duct Length	62	51	52	20	38	47	57	37																				
	Equivalent Length	140	110	110	150	90	150	170	120	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
	Total Effective Length	202	161	162	170	128	197	227	157	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
	Adjusted Pressure Duct Size Round	0.06	0.08 6	0.08	0.08 2	0.10 6	0.07 6	0.06 6	0.08	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	0.19	0.19
	Outlet Size	4x10	4x10	3x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
	Trunk	В	В	В	A	C	D	D	A	4410	4210	4210	72.10	4210	4210	4410	72.10	4210	4210	4210	4210	4210	4810	4210	4210	4210	4210	4410	4210
•																													
	Return Branch And Grill Sizing		(	Grill Press	ure Loss		0.02 "	w.c					R	eturn Tru	nk Duct S	izing					s	upply Tru	nk Duct S	izing					
	R/A Inlet No.	1R	2R	3R	4R	5R	6R	7R	8R	9R	10R	11R	Ti	runk	C	FM F	Press. R	ound	Rect.	Size	T	runk C	.CFM F	I.CFM P	ress. F	Round	Rect. S	Size	
	Inlet Air Volume CFM	149	430	105	140	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	D	rop		929	0.05	15.5	24x10		Α	ı	633	512	0.06	13.0	18x8	14x10	
	Actual Duct Length	7	8	38	35	35							Z			929	0.05	15.5	28x8	22x10	В		364	273	0.06	11.0	14x8	10x10	
	Equivalent Length	155	130	140	180	140	50	50	50	50	50	50	Y			394	0.05	11.5	14x8	12x10	С		296	417	0.06	11.5	14x8	12x10	
	Total Effective Length	162	138	178	215	175	50	50	50	50	50	50	X								D		218	295	0.06	10.0	12x8	10x10	
	Adjusted Pressure	0.07	0.09	0.07	0.05	0.07	0.24	0.24	0.24	0.24	0.24	0.24	W								E								
	Duct Size Round	7.0	10.5	6.0	8.0	6.0							•								•								
	Inlet Size	FLC x	8 x	8 x	8 x	8 x	¥	x	x	J	x	x	U								G H								
i	Inlet Size	X	30 X	14	14	1.4	*		^		^	*	· · · · · · · · · · · · · · · · · · ·	:								1							



Total Heat Loss

Total Heat Gain

41,588 btu/h

25,600 btu/h

# ♦ GTADESIGNS

#### Heatloss/Gain Calculations CSA-F280-12

2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800

e-mail hvac@gtadesigns.ca

	Builder: Bayview Wellington	Date:	Decem	ber 13, 2023		Weather Data Bra	adford 44 -9.4	86 22 48.2	Page 4
2042 ODG	<u></u>				System 1				Project # PJ-00204
2012 OBC	Project: Green Valley	Model:	TH	WU-21C	Gyotom 1	Heat Loss ^T 81.4 deg. F	Ht gain ^T 1	1 deg. F	Layout # JB-09288
Level 1 Run ft. exposed wall / Run ft. exposed wall / Ceiling heigh Floor area Exposed Ceilings / Exposed Ceilings / Exposed Floors	122 / 1 1 4.5 1 496 / 1 1 1	3 AG 4.5 Area A	A A A A A A A B E Fir F	B B  G 4.5 AG  Area Area  A B B	A B 4.5 AG Area A B Fir	A A B B 4.5 AG 4.5 AG Area Area A B B B Fir Fir	A B 4.5 AG Area A B Fir	A A B B B 4.5 AG 4.5 AG Area Ar A B B B Fir Fi	ea Area A B
Gross Exp Wall A Gross Exp Wall B									
	R-Values Loss Gain	oss Gain	Loss Gain L	oss Gain Loss Gain	Loss Gain	Loss Gain Loss	Gain Loss Gain	Loss Gain Lo	ss Gain Loss Gain
East/Wes South	3.55 22.93 29.56 23	527 680 69 68							
Existing Windows	3.55 22.93 27.86	69 68							
Skyligh Doors	4.00 20.35 2.75								
Net exposed walls A Net exposed walls E		276							
Exposed Ceilings A Exposed Ceilings E	59.22 1.37 0.64								
Exposed Floors		5000							
Total Conductive Heat Loss		5993 6589							
Heat Gair Air Leakage Heat Loss/Gair	0.9783 0.0322	1023 6446 33							
Ventilation Case 1	5.1.1								
Case 3		344 73							
Appliances Loads Duct and Pipe loss	1 = .25 percent 3633								
Level HL Total         13,380           Level HG Total         1,469	Total HL for per room Total HG per room x 1.3	13380							
Level 110 Total 1,405	Total Ho per foolil X 1.5	1403							
Level 2		KIT	LAUN	FOY PWD	FAM				
Run ft. exposed wall A	10 /	A 10	A 37 A	6 A	59 A	Α Α	Α	Α Α	Α
Run ft. exposed wall E Ceiling heigh		3 10.0	B E	B 10.0	B 10.0	B B 10.0	B 10.0	B B 10.0 10.0	B 10.0
Floor area Exposed Ceilings A		Area 68 A	Area 123 A		429 Area A	Area Area A A	Area A	Area Ar A A	ea Area A
Exposed Ceilings E Exposed Floors			B E	В	B Fir	B B Fir Fir	B Fir	B B Fir Fi	В
Gross Exp Wall A Gross Exp Wall A	100	100		60	590				ru
Components	R-Values Loss Gain	oss Gain	Loss Gain L	oss Gain Loss Gain	Loss Gain	Loss Gain Loss	Gain Loss Gain	Loss Gain Lo	ss Gain Loss Gain
North Shaded East/Wes	3.55 22.93 29.56 38	871 1123	31	711 916	42 963 1241				
South Existing Windows			25	573 563	65 1490 1463				
Skyligh Doors	2.03 40.10 88.23		46	936 127					
Net exposed walls A Net exposed walls B	17.03 4.78 0.65 62	296 40 100		1812 245 60 287 3	9 483 2309 312				
Exposed Ceilings A Exposed Ceilings E	59.22 1.37 0.64								
Exposed Floors	29.80 2.73 0.17								
Total Conductive Heat Loss Heat Loss		1168	478	4032 287	4762				
Heat Gair Air Leakage Heat Loss/Gair		1163 421 37	65 172 2	1850 3 1454 60 103	9 3016 1 1717 97				
Ventilation Case 1									
Case 3		61 83	25 5	211 133 15	3 249 216				
Appliances Loads  Duct and Pipe loss	1 = .25 percent 3633 1.0	908 0.5	454		2.5 2271				
Level HL Total   15,155	Total HL for per room Total HG per room x 1.3	1650 2850	675 683	5696 405 2655 5	6728 6 7280				
Level 110 10tal 13,324	Total IIIG per 100III X 1.3	2000	003	2000	1280				

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:

Mane Alex

David DaCosta

SB-12 Package

Package A1





41,588

25,600

btu/h

btu/h

Total Heat Loss

Total Heat Gain

#### Heatloss/Gain Calculations CSA-F280-12

2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800

e-mail hvac@gtadesigns.ca

	Builder Bergiew We	llington Dat	n. Dan	ombor 12, 2022		Weather Data Bra		22 48.2	Dogo F
	Builder: Bayview We			ember 13, 2023	System 1				Page 5 Project # PJ-00204
2012 OBC	Project: Green Va	alley Mode	el:	THWU-21C	System 1	Heat Loss *T 81.4 deg. F	Ht gain ^T 11 deg	j. F	Layout # JB-09288
Level 3		P.BED 36 A	ENS	BATH BED 2 A 10 A	BED 3	BED 4	Α		A
Run ft. exposed wall A Run ft. exposed wall B	3	36 A B	6 A B	A 10 A B B	40 A 14 B	14 A A B	В	A A B B	В
Ceiling heigh Floor area			8.0 8.0 02 Area 65	0 8.0 5 Area 143 Area	8.0 8.0 227 Area 148	.0 8.0 I8 Area Area	8.0 8 Area	8.0 8.0 Area Area	8.0 Area
Exposed Ceilings A				5 A 143 A		18 A A	Area A	Area Area A A	Area A
Exposed Ceilings E	3	B	В	ВВ	B	В В	B Flr	В В	B
Exposed Floors Gross Exp Wall A		5 Flr 288	Fir 8 48	3 Fir 143 Fir 80	18 Fir 320 112	Fir Fir 12	FIF	Fir Fir	Flr
Gross Exp Wall E		T 1 0-i-	Lara Oalia	Lana Onlina Lana Onlina	Lana Onto	Lana Onio Lana	Only Land Only	Lana Onlina Lana	Online Land Online
North Shaded	s R-Values Loss Gain d 3.55 22.93 11.62	Loss Gain	Loss Gain	Loss Gain Loss Gain	Loss Gain	Loss Gain Loss	Gain Loss Gain	Loss Gain Loss	Gain Loss Gain
East/Wes Soutl			13 298 384		50 22 504 650 13 32 734 720 27	27 619 608			
Existing Windows				5 115 1	13 32 734 720 27	27 619 608			
Skyligh	t 2.03 40.10 88.23								
Net exposed walls A			35 167 23	53 253	34 266 1271 172 85	35 406 55			
Net exposed walls E	8.50 9.58 1.29								
Exposed Ceilings A  Exposed Ceilings B			02 140 65 65	5 89 42 143 197	92 227 312 146 148	18 203 95			
Exposed Floors				3 22 1 143 391	24 18 49 3				
Total Conductive Heat Loss  Heat Loss		3155	606	111 1460	2871	1229			
Air Leakage Heat Loss/Gair		2154 863 69	472 166 15		13 1691 29 785 54	757 336 24			
Case '			100 13	30 1 399	29 765 54	336 24			
Ventilation Case 2			32 34	6 3 76	65 150 121	64 54			
Heat Gain People	239	2 478	32 34		39 1 239 1	1 239			
Appliances Loads Duct and Pipe loss	s 1 = .25 percent 3633			1 186 1	15 1 366 193				
Level HL Total 13,054	Total HL for per room	4182	803	147 2121	4171	1629			
Level HG Total 10,607	Total HG per room x 1.3	3712	678	62 17	70 2988	1398			
Level 4	,								
Run ft. exposed wall A		A B	A B	A A B	A B	A A B B	A B	A A B B	A B
Run ft. exposed wall E Ceiling heigh		В	В	В	В	В	В	В	В
Floor area Exposed Ceilings A	a	Area A	Area	Area Area	Area	Area Area	Area	Area Area	Area
Exposed Ceilings E		В	A B	A A B	A B	A A B B	A B	A A B B	A B
Exposed Floors		Fir	Fir	Fir Fir	Fir	Fir Fir	Fir	Flr Flr	Flr
Gross Exp Wall A Gross Exp Wall B	3	_							
Components North Shaded	s R-Values Loss Gain d 3.55 22.93 11.62	Loss Gain	Loss Gain	Loss Gain Loss Gain	Loss Gain	Loss Gain Loss	Gain Loss Gain	Loss Gain Loss	Gain Loss Gain
East/Wes	t 3.55 22.93 29.56								
Souti Existing Windows	n 3.55 22.93 22.50 s 1.99 40.90 23.66								
Skyligh	t 2.03 40.10 88.23								
Doors Net exposed walls A	s 4.00 20.35 2.75								
Net exposed walls E	8.50 9.58 1.29								
Exposed Ceilings A Exposed Ceilings B									
Exposed Floors									
Foundation Conductive Heatloss  Total Conductive Heat Loss	s								
Heat Gair	1								
Air Leakage Heat Loss/Gair									
Ventilation Case 2	2 17.58 11.88								
Case :									
Appliances Loads	s 1 =.25 percent 3633								
Duct and Pipe loss Level HL Total 0	Total HL for per room								
Level HG Total 0	Total HG per room x 1.3								
									CD 40 Deelesse

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:

Mane Alet

David DaCosta

SB-12 Package Package A1

1 2

3 x

4



2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 e-mail hvac@gtadesigns.ca

System Design Option
Exhaust only / forced air system

HRV WITH DUCTING / forced air system

Part 6 design

HRV simplified connection to forced air system

HRV full ducting/not coupled to forced air system

Project # Layout # Page 6 PJ-00204 JB-09288

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:	THWU-21C	;
	RESIDENTIAL MECHANICAL	VENTILATION DES	GIGN SUMMARY	
	For systems serving one dwelling unit & cor	nforming to the Ontario Buildin	g Code, O.reg 332/12	
	Location of Installation	Total V	Contilation Consoity 0.22.2	2/4)
Lot #	Location of Installation Plan #	l otal v	entilation Capacity 9.32.3.	3(1)
Lot ii	T MAT II	Bsmt & Master Bdrm	2 @ 21.2 cfr	m 42.4 cfm
Township	Bradford	Other Bedrooms	3 @ 10.6 cfr	
Roll #	Permit #	Bathrooms & Kitchen Other rooms	4 @ 10.6 cfr 3 @ 10.6 cfr	
NOII #	remit#	Other rooms	Total	148.4
Address				
	Duilden	Principal	Ventilation Capacity 9.32.	3.4(1)
Name	Builder	Master bedroom	1 @ 31.8 cfr	m 31.8 cfm
ramo	Bayview Wellington	Other bedrooms	3 @ 15.9 cfr	
Address	, J		Total	79.5
0				
City		Drine	cipal Exhaust Fan Capacit	v
Tel	Fax	Make	Model	Location
		VanEE	V150E75NS	Base
Name	Installing Contractor	127 cfm		Sones or Equiv.
Name		121 01111		Corics of Equiv.
Address			leat Recovery Ventilator	
0:1		Make	VanEE	
City		Model	V150E75NS 127 cfm high	80 cfm low
Tel	Fax	Sensible efficiency @		60%
		Sensible efficiency @		<u>75%</u>
	Openhaustian Appliances 0.00.0 4(4)		ance HRV/ERV to within 10	•
a) x	Combustion Appliances 9.32.3.1(1) Direct vent (sealed combustion) only	Suppl	emental Ventilation Capac	city
b) X	Positive venting induced draft (except fireplaces)	Total ventilation capac	city	148.4
c)	Natural draft, B-vent or induced draft fireplaces	Less principal exhaus		79.5
d)	Solid fuel (including fireplaces)	REQUIRED supplement	ental vent. Capacity	<u>68.9</u> cfm
e)	No combustion Appliances			
		Su	pplemental Fans 9.32.3.5.	
	Heating System	Location	cfm Model	Sones
Х	Forced air	Ens	50 XB50	0.3
	Non forced air Electric space heat (if over 10% of heat load)	Bath	50 XB50	0.3
	Electric space fleat (ii over 10% of fleat load)			
·				
	House Type 9.32.3.1(2)			
l x	Type a) or b) appliances only, no solid fuel	all fans HVI listed	Make Broan	or Equiv.
	Type I except with solid fuel (including fireplace) Any type c) appliance		Designer Certification	
IV	Type I or II either electric space heat		is ventilation system has be	en designed
Other	Type I, II or IV no forced air		e Ontario Building Code.	-

Designer Certification  I hereby certify that this ventilation system has been designed							
in accordance v	vith the Ontario B	uilding Code.					
Name	David D	aCosta					
Signature	Mana	1462					
HRAI#	5190	BCIN#	32964				
Date	December	r 13, 2023					



**Energy Efficiency Design Summary: Prescriptive Method** 

(Building Code Part 9, Residential)

Page 7

Project # PJ-00204 Layout # JB-09288

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

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 Princ	ipal Authori	ty				
Application No:				Model/Cert	ification Nun	nber			
A. Project Information						T		I	
Building number, street name						Unit numl	per	Lot/Con	
			THWU-21C	T=		L			
Municipality Bradford			Postal code	Reg. Plan i	number / oth	er descripti	on		
B. Prescriptive Compliance [indic	ate the bu	ilding cod	ı e compliance packa	ı age being ei	mployed in t	the house	design]		
SB-12 Prescriptive (input design page 1)	ackage):		<u>Pacl</u>	kage A1			Table:	3.1.1.2.	7
C. Project Design Conditions									
Climatic Zone (SB-1):		Heat. E	quip. Efficiency			Spac	e Heating Fu	el Source	9
Zone 1 (< 5000 degree days)		√ ≥ 92	2% AFUE	<b>✓</b>	Gas		Propane		Solid Fuel
Zone 2 (≥ 5000 degree days)		_ ≥ 8	34% < 92% AFUE		Oil		Electric		Earth Energy
Ratio of Windows, Skylights & Gla	ss (W, S	& G) to	Wall Area			Other I	Building Cha	racteristi	cs
Area of Walls = 335.93 m <sup>2</sup> or 3615.9	ft²			☐ Log/F	ost&Beam		ICF Above	Grade	☐ ICF Basement
Area or walls = <u>333.93</u> IIF or <u>3613.9</u>	11-	W,S &	G % = <u>11.5%</u>	☐ Slab-	on-ground		Walkout Ba	sement	
				✓ Air C	onditioning		Combo Unit		
Area of W, S & G = $38.646$ m <sup>2</sup> or $416.0$	ft²	Utilize \	Window ☐ Yes	☐ Air Sc	ourced Heat	Pump (AS	SHP)		
		Aver	aging 🔽 No	☐ Grour	nd Source H	leat Pump	(GSHP)		
D. Building Specifications [provid	e values a	nd rating:	s of the energy effici	iency comp	onents prop	osed]			
Energy Efficiency Substitutions									
☐ ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5))									
<ul> <li>Combined space heating and domesti</li> </ul>	c water he	ating sys	tems (3.1.1.2(7) / 3.	1.1.3.(7))					
Airtightness substitution(s)		Table 3.	1.1.4.B Required:				Permitted S	Substitution	:
Airtightness test required		Table 3.	Required:				Permitted S	Substitution	:
(Refer to Design Guide Attached)			Required:				Permitted S	Substitution	:
Building Component			SI/R-Values or n U-Value¹		Build	ding Con	ponent		Efficiency Ratings
Thermal Insulation	Non	ninal	Effective	Window	s & Door	's Provide	U-Value <sup>(1)</sup> or	ER rating	
Ceiling with Attic Space	6	0	59.22	Windows	/Sliding Gl	ass Door	S		1.6
Ceiling without Attic Space	3	1	27.65	Skylights					2.8
Exposed Floor	3	1	29.80	Mechan	icals				
Walls Above Grade	22		17.03	Heating E	quip.(AFU	IE)			96%
Basement Walls		20.0ci	20.84	HRV Effic	ciency (SRI	E% at 0°C	)		75%
Slab (all >600mm below grade)	)	<b>(</b>	х	DHW He	ater (EF)				0.80
Slab (edge only ≤600mm below grade)	1	0	11.13	DWHR (0	CSA B55.1 (	(min. 42% e	fficiency))		#Showers 2
Slab (all ≤600mm below grade, or heated)	1	0	11.13	Combine	d Heating :	System			
(1) U value to be provided in either W/(m²·K) or B	tu/(h·ft·F) b	ut not bo	th.	_					
E. Designer(s) [name(s) & BCIN(s), if	applicable	e, of perso	on(s) providing infor	mation here	ein to substa	antiate that	design meets	building co	ode]
Name			BCIN		Signature				
David DaCosta			329	964			Mane	14C=	₹ 7

32964



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Page 8 Project # PJ-00204 Layout # JB-09288

Vent

Case

Package: Package A1 System: System 1 Project:

THWU-21C Bradford Model:

## Air Leakage Calculations

	Building Air Leakage Heat Loss										
В	LRairh	Vb	HL^T	HLleak							
0.018	0.350	25124	81.4	12892							

	Building Air Leakage Heat Gain									
В	LRairh	Vb	HG^T	HG Leak						
0.018	0.085	25124	11	425						
0.018	0.085	25124	11	425						

Air Leakage Heat Loss/Gain Multiplier Table (Section 11)									
Level	Level	Building	Level Conductive	Air Leakage Heat Loss					
Level	Factor (LF)	Air	Heat Loss (HLclevel)	Multiplier					
Level 1	0.5		6589	0.9783					
Level 2	0.3	12892	10726	0.3606					
Level 3	0.2	12092	9431	0.2734					
Level 4	0		0	0.0000					

		Air Leakage Heat Gain
HG LEAK	425	0.0322
BUILDING CONDUCTIVE HEAT GAIN	13186	0.0322
Highost Coiling Hoight	24.0	ET 7.22 M

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				

Levels this Dwelling	
3	

### Ventilation Calculations

			Ventilat	tion Heat Loss					Ventila	ation Heat Gain	
Vent	C 1.08	PVC 79.5	Ventilation HL^T 81.4	n Heat Loss (1-E) HRV 0.20	HLbvent 1398	1	1	PVC 79.5	entilation I HG^T 11	Heat Gain HGbvent 944	
			Cas	se 1						Case 1	
		Ventila	tion Heat Lo	ss (Exhaust only S	ystems)			Ventil	ation Heat G	iain (Exhaust Only Systo	ems)

	Case 1 - Exhaust Only								
Level	LF	HLbvent	LVL Cond. HL	Multiplier					
Level 1	0.5		6589	0.11					
Level 2	0.3	1398	10726	0.04					
Level 3	0.2	1390	9431	0.03					
Level 4	0		0	0.00					

Case 1 - Exh	aust Only	Multiplier
HGbvent	944	0.07
Building	13186	0.07

			Case	2				Case 2	
2		Ventila	ation Heat Loss (	(Direct Ducted Systen	ns)	Ven	tilation Heat G	ain (Direct Ducted Systems)	2
Case 2	C 1.08	HL^T 81.4	(1-E) HRV 0.20	Multiplier 17.58		C 1.08	HG^T	Multiplier 11.88	Case
			Case	3				Case 3	
~		Vent	ilation Heat Los	s (Forced Air Systems	)	Ve	entilation Heat	Gain (Forced Air Systems)	~

3	Ventilation Heat Loss (Forced Air Systems)				Ventilation Heat Gain (Forced Air Systems)				$\sim$	
(b)					1			W 411 4 2 1		٠ (ه
Š			HLbvent	Multiplier				Vent Heat Gain	Multiplier	S
à		Total Ventilation Load	1398	0.05		HGbvent	HG*1.3	944	0.07	à
0		Total Ventilation Load	1330	0.03		944	1	J44	0.07	
					_				<u> </u>	

Foundation Conductive Heatloss Level 1	Level 1	1756	Watts	5993	Btu/h	
Foundation Conductive Heatloss Level 2	Level 2		Watts		Btu/h	
Slab on Grade Foundation Conductive Heatloss			Watts		Btu/h	

olab oli olado i calidation conductivo i localico	TTULLO	Blum
Walk Out Basement Foundation Conductive Heatloss	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 Shiel	ding
Building Site:	Suburban, forest ▼
Walls:	Heavy ▼
Flue:	Heavy ▼
Highest Ceiling Height (m):	7.32
Building Confi	guration
Type:	Semi-Detached
Number of Stories:	Two
Foundation:	Shallow
House Volume (m³):	711.51
Air Leakage/Ve	ntilation
Air Tightness Type:	Present (1961-) (ACH=3.57)
	ELA @ 10 Pa. 322,44 cm <sup>2</sup>
Custom BDT Data:	3.57 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply: Total Exhaust:
<b>`</b> ,	39.75
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Heating Air Leakage Rate (ACH/H):	0.350
Cooling Air Leakage Rate (ACH/H):	0.085

## **Residential Foundation Thermal Load Calculator**

Supplemental tool for CAN/CSA-F280

Weather Station Description							
Province:		Ontario <b>V</b>					
Region:		Bradford ▼					
	Site Description						
Soil Conductivity:		High conductivity: moist soil ▼					
Water Table:		Normal (7-10 m, 23-33 Ft)					
Fou	ındatio	n Dimensions					
Floor Length (m):	18.92						
Floor Width (m):	4.40						
Exposed Perimeter (m):	37.19						
Wall Height (m):	2.59						
Depth Below Grade (m):	1.22	Insulation Configuration					
Window Area (m²):	2.42						
Door Area (m²):	0.00						
	Radi	ant Slab					
Heated Fraction of the Slab:	0						
Fluid Temperature (°C):	33						
	Desig	n Months					
Heating Month	1						
	Founda	ation Loads					
Heating Load (Watts):		1756					

AMEC960603ANA

60,000

57,600

2.5

929

FAN SPEED

TONS

2985 DREW ROAD

SUITE 202,

MISSISSAUGA, ONT.

L4T 0A4 TEL: 905-67I-9800

EMAIL: DAVE@GTADESIGNS.CA

WEB: WWW.GTADESIGNS.CA

ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)
INSULATE DUCTS IN UNCONDITIONED SPACES RI2 UNDERCU

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

ALL DOORS I" MIN.

WITH IN THE DWELLING.

IST FLOOR

**BASEMENT** 

JB-09288

JL

8

4

DRAWING 1

2183

МΙ

**BASEMENT** 

DD

MODEL:

SCALE:

THWU-2IC

**GREEN VALLEY** 

BRADFORD, ONT.

3/16" = 1'-0"

RETURN AIR GRILLE (SIZE INDICATED ON DRAWING) SUPPLY AIR DUCT CONNECTION FLEX DUCT LOW/HIGH WALL/KICK SUPPLY DIFFUSER 4 TO JOIST LINING R.A RETURN AIR HRV EXHAUST GRILLE RETURN AIR RISER UP TO FLOOR ABOVE RIGID ROUND DUCT **a**]--1 THERMOSTAT 0 SUPPLY AIR PIPE RISER RETURN AIR PIPE RISER 8 PRINCIPAL EXHAUST FAN SWITCH SUPPLY DIFFUSER RETURN AIR FROM BASEMENT SECOND FLOOR RETURN ROUND DUCT VOLUME DAMPER  $\mathbf{x}$ W/R & PRINCIPAL EXHAUST FAN 14-6"□ **←** ~**~** 12-6" 5-6 15 🛚 13-6" [ 11-6 **FAMILY** DW KITCHEN EXHAUST BREAKFAST 100 CFM MIN. 6" ALL OTHER FANS SHALL BE A MIN. OF 50 CFM OR OTHERWISE NOTED AS PER 9.32.3.5 20-6"[] 10-6" KITCHEN 5R-6" 4R **PWD** F |5" LAUNDRY √]l6 6R 2R LW -30X8 14R M FOR THE PURPOSE OF **GARAGE** HEATLOSS/GAIN DN 5R CALCULATIONS ALL **ELEVATIONS HAVE BEEN CONSIDERED** CIRCULATION PRINCIPAL **FAN SWITCH** TO BE CENTRALLY **FOYER** LOCATED DOOR INSULATE ALL DUCTS IN WHERE UNCONDITIONED GRADE 8 PERMITS SPACES MIN. RI2 ALL DUCTWORK LOCATED IN **←**~ **|||||** ~ UNCONDITIONED AREAS 18-6" □ MUST BE SEALED TO CLASS A LEVEL AS PER OBC PART 6-6.2.4.3.(II) ALL DUCTWORK LOCATED IN PORCH 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  $$\operatorname{\textsc{Ontario}}$$  building code

B.C.I.N. 32964

GROUND FLOOR PLAN 'A'

HEAT-LOSS

OBC 2012

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

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE

PROVIDE BALANCING DAMPERS ON ALL BRANCHES. ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY) INSULATE DUCTS IN UNCONDITIONED SPACES RIZ UNDERCUT ALL DOORS I" 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.



2985 DREW ROAD SUITE 202, MISSISSAUGA, ONT. L4T 0A4 TEL: 905-671-9800 EMAIL: DAVE@GTADESIGNS.CA

WEB: WWW.GTADESIGNS.CA

UNIT MAKE	OR EQUAL.
AMANA	
UNIT MODEL	OR EQUAL.
AMEC960603ANA	
UNIT HEATING INPUT	BTU/HR.
60,000	
UNIT HEATING OUTPUT	BTU/HR.
57,600	
A/C COOLING CAPACITY	TONS.
2.5	
FAN SPEED	CFM
929	

41,588

# OF RUNS	S/A	R/A	FANS	
3RD FLOOR				
2ND FLOOR	8	3	2	
IST FLOOR	8	I	3	
BASEMENT	4	I		
FLOOR PLAN:				
GROUND FLOOR				

DD

JB-09288

2183

M2

**DECEMBER 13**, 2023 CLIENT: BAYVIEW WELLINGTON MODEL: THWU-2IC

PROJECT **GREEN VALLEY** BRADFORD, ONT. SCALE: 3/16" = 1'-0"

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 RI2 UNDERCUT
ALL DOORS I" 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

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WEB: WWW.GTADESIGNS.CA

UNIT MAKE AMANA

UNIT MODEL OR EQUAL.

AMEC960603ANA

UNIT HEATING INPUT BTU/HR.

60,000

UNIT HEATING OUTPUT 57,600

A/C COOLING CAPACITY TONS.

2.5

FAN SPEED 929

# OF RUNS	S/A	R/A	FANS	Ī
3RD FLOOR				
2ND FLOOR	8	3	2	
IST FLOOR	8	١	3	1
BASEMENT	4	-		
FLOOR PLAN: SECOND FLOOR			F	

JL

JB-09288

DD

2183

M3

DECEMBER 13, 2023

CLIENT:
BAYVIEW WELLINGTON

MODEL:
THWU-2IC

PROJECT:

**GREEN VALLEY** 

BRADFORD, ONT.

3/16" = 1'-0"

FLEX DUCT RIGID ROUND DUCT SUPPLY DIFFUSER

₫~ 0

LOW/HIGH WALL/KICK SUPPLY DIFFUSER HRV EXHAUST GRILLE SUPPLY AIR PIPE RISER VOLUME DAMPER



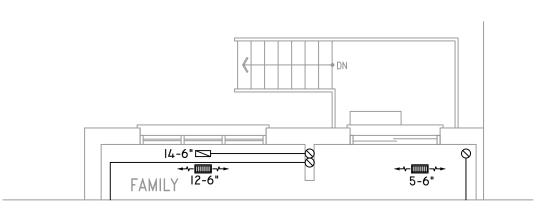
DUCT CONNECTION TO JOIST LINING RETURN AIR PIPE RISER

RETURN ROUND DUCT

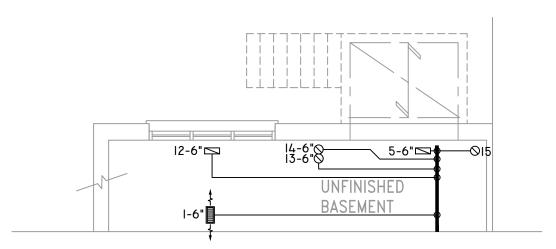
RETURN AIR GRILLE (SIZE INDICATED ON DRAWING) 4 RETURN AIR RISER UP TO FLOOR ABOVE RETURN AIR FROM BASEMENT SECOND FLOOR  $\boxtimes$ 

R.A 1

SUPPLY AIR RETURN AIR THERMOSTAT PRINCIPAL EXHAUST FAN SWITCH W/R & PRINCIPAL EXHAUST FAN



PARTIAL GROUND FLOOR PLAN W.O.D. CONDITION (9R OR GREATER)



PARTIAL BASEMENT PLAN W.O.D. CONDITION (9R OR GREATER)

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  $$\operatorname{\textsc{Ontario}}$$  building code

B.C.I.N. 32964

SUITE 202, MISSISSAUGA, ONT.

L4T 0A4 TEL: 905-671-9800 EMAIL: DAVE@GTADESIGNS.CA WEB: WWW.GTADESIGNS.CA

41,588 **AMANA** AMEC960603ANA RTU/HR 60,000 57,600 TONS 2.5 929

	FACRAGE			
# OF RUNS	S/A	R/A	FANS	
3RD FLOOR				
2ND FLOOR	8	3	2	
IST FLOOR	8	I	3	
BASEMENT	4	I		

FLOOR PLAN:
PARTIAL PLAN(S)
SDAMM RY-TCHECKED: SQFT 2183 DD JB-09288 M4

PACKAGE "AI" REF. TABLE 3.1.1.2.A DECEMBER 13, 2023 CLIENT: BAYVIEW WELLINGTON MODEL: THWU-2IC

OBC 2012

ZONE I COMPLIANCE

**GREEN VALLEY** BRADFORD, ONT. 3/16" = 1'-0"

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE

PROVIDE BALANCING DAMPERS ON ALL BRANCHES. ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY) INSULATE DUCTS IN UNCONDITIONED SPACES RI2 UNDERCUT

ALL DOORS I" 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