

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 Barossa 6 S38-6 Lot 144				Lot:	144
				Lot/con.	
Municipality Bradford		Postal code	Plan number/ other description		
B. Individual who reviews and takes responsibility for design activities					
Name David DaCosta			Firm gtaDesigns Inc.		
Street address 2985 Drew Road, Suite 202				Unit no.	Lot/con.
Municipality Mississauga		Postal code L4T 0A4	Province Ontario	E-mail hvac@gtadesigns.ca	
Telephone number (905) 671-9800		Fax number		Cell number	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 of Division C]					
☐ House		☒ HVAC – House		☐ Building Structural	
☐ Small Buildings		☐ Building Services		☐ Plumbing – House	
☐ Large Buildings		☐ Detection, Lighting and Power		☐ Plumbing – All Buildings	
☐ Complex Buildings		☐ Fire Protection		☐ On-site Sewage Systems	
Description of designer's work			Model Certification		Project #:
					PJ-00041
					Layout #:
					JB-07266
Heating and Cooling Load Calculations		Main	X	Builder	Bayview Wellington
Air System Design		Alternate		Project	Green Valley East
Residential mechanical ventilation Design Summary		Area Sq ft:	2891	Model	Barossa 6
Residential System Design per CAN/CSA-F280-12					S38-6 Lot 144
Residential New Construction - Forced Air				SB-12	Package A1
D. Declaration of Designer					
I, <u>David DaCosta</u> declare that (choose one as appropriate): (print name) ☐ 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: _____ ☒ 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> ☐ 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: - The information contained in this schedule is true to the best of my knowledge. - I have submitted this application with the knowledge and consent of the firm.					
<u>June 25, 2021</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 Bayview Wellington				Layout No.	
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.				JB-07266	
Building Location					
Address (Model): S38-6 Lot 144			Site: Green Valley East		
Model: Barossa 6			Lot: 144		
City and Province: Bradford			Postal code:		
Calculations based on					
Dimensional information based on:			VA3 Design11/May/2012		
Attachment: Detached			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 65H HRV			Internal shading: Light-translucent		Occupants: 5
Sensible Eff. at -25C 60%		Apparent Effect. at -0C 83%		Units: Imperial	Area Sq ft: 2891
Sensible Eff. at -0C 75%					
Heating design conditions			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			Below grade walls		
Style A: As per OBC SB12 Package A1 R 22			Style A: As per OBC SB12 Package A1 R 20ci		
Style B:			Style B:		
Style C:			Style C:		
Style D:			Style D:		
Floors on soil			Ceilings		
Style A: As per Selected OBC SB12 Package A1			Style A: As per Selected OBC SB12 Package A1 R 60		
Style B:			Style B: As per Selected OBC SB12 Package A1 R 31		
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 4.00		
Windows			Style B:		
Style A: As per Selected OBC SB12 Package A1 R 3.55			Style C:		
Style B:			Skylights		
Style C:			Style A: As per Selected OBC SB12 Package A1 R 2.03		
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		
Company: gtaDesigns Inc.			Telephone: (905) 671-9800		
Address: 2985 Drew Road, Suite 202			Fax:		
City: Mississauga			E-mail hvac@gtadesigns.ca		

Builder: **Bayview Wellington**

Date: **June 25, 2021**

Project: **Green Valley East**

Model: **Barossa 6
S38-6 Lot 144**

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

Project # **PJ-00041**
Layout # **JB-07266**

Page 3

DESIGN LOAD SPECIFICATIONS		AIR DISTRIBUTION & PRESSURE		FURNACE/AIR HANDLER DATA:		BOILER/WATER HEATER DATA:		A/C UNIT DATA:	
Level 1 Net Load	23,940 btu/h	Equipment External Static Pressure	0.5 "w.c.	Make	Amana	Make	Type	Amana	2.5 Ton
Level 2 Net Load	19,151 btu/h	Additional Equipment Pressure Drop	0.225 "w.c.	Model	AMEC960803BNA	Model		Cond.-----	2.5
Level 3 Net Load	19,335 btu/h	Available Design Pressure	0.275 "w.c.	Input Btu/h	80000	Input Btu/h		Coil -----	2.5
Level 4 Net Load	0 btu/h	Return Branch Longest Effective Length	300 ft	Output Btu/h	76800	Output Btu/h			
Total Heat Loss	62,425 btu/h	R/A Plenum Pressure	0.138 "w.c.	E.s.p.	0.50 " W.C.	Min.Output Btu/h	AWH		
Total Heat Gain	29,825 btu/h	S/A Plenum Pressure	0.14 "w.c.	Water Temp	deg. F.	Blower DATA:			
		Heating Air Flow Proportioning Factor	0.0188 cfm/btuh	AFUE	96%	Blower Speed Selected:	W2	Blower Type	ECM
Building Volume Vb	36468 ft³	Cooling Air Flow Proportioning Factor	0.0393 cfm/btuh	Aux. Heat				(Brushless DC OBC 12.3.1.5.(2))	
Ventilation Load	1,188 Btuh.	R/A Temp	70 deg. F.	SB-12 Package	Package A1	Heating Check	1172 cfm	Cooling Check	1172 cfm
Ventilation PVC	79.5 cfm	S/A Temp	131 deg. F.						
Supply Branch and Grill Sizing		Diffuser loss	0.01 "w.c.	Temp. Rise>>>	61 deg. F.	Selected cfm>	1172 cfm	Cooling Air Flow Rate	1172 cfm

	Level 1														Level 2									
	1	2	3	4	5										6	7	8	9	10	11	12	13	14	
S/A Outlet No.	1	2	3	4	5										6	7	8	9	10	11	12	13	14	
Room Use	BASE	BASE	BASE	BASE	BASE										KIT	KIT	STUDY	MUD	FOY	PWD	DIN	GRT	GRT	
Btu/Outlet	4788	4788	4788	4788	4788										2052	2052	2295	1344	3211	804	3401	1996	1996	
Heating Airflow Rate CFM	90	90	90	90	90										39	39	43	25	60	15	64	37	37	
Cooling Airflow Rate CFM	35	35	35	35	35										76	76	98	6	46	10	91	76	76	
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	35	44	26	24										45	50	5	23	32	23	29	53	43	
Equivalent Length	160	110	100	90	140	70	70	70	70	70	70	70	70	160	170	80	170	130	160	120	120	110	70	70
Total Effective Length	224	145	144	116	164	70	70	70	70	70	70	70	70	205	220	85	193	162	183	149	173	153	70	70
Adjusted Pressure	0.06	0.09	0.09	0.11	0.08	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.06	0.06	0.15	0.07	0.08	0.07	0.09	0.08	0.08	0.19	0.19
Duct Size Round	6	6	6	6	6									6	6	6	4	5	3	6	6	6	6	
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
Trunk	D	C	C	B	E									D	D	A	E	E	E	B	D	D		

	Level 3										Level 4													
	15	16	17	18	19	20	21	22	23	24														
S/A Outlet No.	15	16	17	18	19	20	21	22	23	24														
Room Use	MAST	ENS	BED 2	BATH	BED 3	BED 4	BED 4	ENS 2	LAUND	WIC														
Btu/Outlet	3522	2371	1430	681	1773	3018	3018	1835	821	864														
Heating Airflow Rate CFM	66	45	27	13	33	57	57	34	15	16														
Cooling Airflow Rate CFM	94	58	43	15	45	64	64	45	10	7														
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	60	63	49	47	50	51	46	47	31	44														
Equivalent Length	150	150	150	140	140	150	140	150	150	140	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Total Effective Length	210	213	199	187	190	201	186	197	181	184	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Adjusted Pressure	0.06	0.06	0.07	0.07	0.07	0.06	0.07	0.07	0.07	0.07	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	6	3	6	6	6	5	3	3														
Outlet Size	4x10	4x10	4x10	3x10	4x10	4x10	4x10	3x10	3x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
Trunk	D	D	C	B	B	E	E	E	B	C														

Return Branch And Grill Sizing		Grill Pressure Loss									
R/A Inlet No.	1R	2R	3R	4R	5R	6R	7R	8R	9R	10R	11R
Inlet Air Volume CFM	225	382	160	105	150	150					
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	9	30	30	56	31	40					
Equivalent Length	110	125	160	120	125	145	50	50	50	50	50
Total Effective Length	119	155	190	176	156	185	50	50	50	50	50
Adjusted Pressure	0.10	0.08	0.06	0.07	0.08	0.06	0.24	0.24	0.24	0.24	0.24
Duct Size Round	8.0	10.5	8.0	6.0	7.5	8.0					
Inlet Size	FLC	8	8	8	8	8					
" "	x	x	x	x	x	x	x	x	x	x	x
Inlet Size	9X6	30	14	14	14	14					
Trunk	Z	Y	Y	Z	Z	Z					

Return Trunk Duct Sizing				
Trunk	CFM	Press.	Round	Rect. Size
Drop	1172	0.06	16.5	24x10
Z	1172	0.06	16.5	32x8 24x10
Y	542	0.06	12.5	18x8 14x10
X				
W				
V				
U				
T				
S				
R				
Q				

Supply Trunk Duct Sizing				
Trunk	CFM	Press.	Round	Rect. Size
A	1171	0.06	16.5	32x8 24x10
B	790	0.06	14.5	24x8 18x10
C	575	0.06	12.5	18x8 14x10
D	352	0.06	10.5	12x8 10x10
E	338	0.06	10.5	12x8 10x10
F				
G				
H				
I				
J				
K				

2012 OBC

Builder: Bayview Wellington

Date: June 25, 2021

Project: Green Valley East

Model: Barossa 6 S38-6 Lot 144

System 1

Weather Data Bradford 44 -9.4 86 22 48.2

Heat Loss ^T 81.4 deg. F Ht gain ^T 11 deg. F GTA: 2891

Project # PJ-00041
Layout # JB-07266

Level 1				BASE															
Run ft. exposed wall A	129	A		A		A		A		A		A		A		A		A	
Run ft. exposed wall B	35	B		B		B		B		B		B		B		B		B	
Ceiling height	7.0	AG		7.0	AG	7.0	AG	7.0	AG	7.0	AG	7.0	AG	7.0	AG	7.0	AG	7.0	AG
Floor area	1134	Area		Area		Area		Area		Area		Area		Area		Area		Area	
Exposed Ceilings A	A			A		A		A		A		A		A		A		A	
Exposed Ceilings B	B			B		B		B		B		B		B		B		B	
Exposed Floors	Flr			Flr		Flr		Flr		Flr		Flr		Flr		Flr		Flr	
Gross Exp Wall A	903																		
Gross Exp Wall B	350																		
Components	R-Values	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain
North Shaded	3.55	22.93	11.62	3	69	35													
East/West	3.55	22.93	29.56																
South	3.55	22.93	22.50	3	69	68													
WOB Windows	3.55	22.93	27.86	81	1857	2257													
Skylight	2.03	40.10	88.23																
Doors	4.00	20.35	2.75	21	427	58													
Net exposed walls A	21.12	3.85	0.52	876		456													
Net exposed walls B	17.03	4.78	0.65	269		174													
Exposed Ceilings A	59.22	1.37	0.64																
Exposed Ceilings B	27.65	2.94	1.37																
Exposed Floors	29.80	2.73	0.17																
Foundation Conductive Heatloss																			
Total Conductive																			
Air Leakage																			
Ventilation																			
Heat Gain People																			
Appliances Loads	1 = .25 percent																		
Duct and Pipe loss																			
Level HL Total	23,940			23940															
Level HG Total	4,405				4405														

Level 2				KIT		STUDY		MUD		FOY		PWD		DIN		GRT		A		A		A		A	
Run ft. exposed wall A				36 A		21 A		9 A		24 A		6 A		34 A		34 A		A		A		A		A	
Run ft. exposed wall B				B		B		B		B		B		B		B		B		B		B		B	
Ceiling height				10.0		10.0		12.0		11.0		10.0		10.0		10.0		10.0		10.0		10.0		10.0	
Floor area				297 Area		133 Area		27 Area		68 Area		36 Area		391 Area		222 Area		Area		Area		Area		Area	
Exposed Ceilings A				A		A		A		A		A		A		5 A		A		A		A		A	
Exposed Ceilings B				B		B		B		B		B		B		B		B		B		B		B	
Exposed Floors				Flr		Flr		Flr		Flr		Flr		Flr		Flr		Flr		Flr		Flr		Flr	
Gross Exp Wall A				360		210		108		264		60		340		340									
Gross Exp Wall B																									
Components				R-Values		Loss		Gain		Loss		Gain		Loss		Gain		Loss		Gain		Loss		Gain	
North Shaded				3.55		22.93		11.62		47		1078		1389											
East/West				3.55		22.93		29.56								20		459		591					
South				3.55		22.93		22.50																	
Existing Windows				1.99		40.90		23.66																	
Skylight				2.03		40.10		88.23																	
Doors				4.00		20.35		2.75		21		427		58		25		509		69					
Net exposed walls A				17.03		4.78		0.65		313		1496		202		186		889		120		87		416	
Net exposed walls B				8.50		9.58		1.29																	
Exposed Ceilings A				59.22		1.37		0.64																	
Exposed Ceilings B				27.65		2.94		1.37																	
Exposed Floors				29.80		2.73		0.17																	
Foundation Conductive Heatloss						x																			
Total Conductive				Heat Loss						2574		1591		79		1439		660		114		801		505	
				Heat Gain										170		2133		527		170		801		2133	
Air Leakage				Heat Loss/Gain		0.5632		0.0496		1450		79		811		33		475		6		1134		40	
Ventilation				Case 1		0.03		0.06																	
				Case 2		14.95		11.88																	
				Case 3		x		0.03		0.06		80		100		45		41		26		7		63	
Heat Gain People								239		1.0		1191		1.0		1191		1.0		1191		1.0		1191	
Appliances Loads				1 = .25 percent		4763																			
Duct and Pipe loss						10%																			
Level HL Total				19,151		Total HL per per room				4104				2295		1344		3211		804		3401		3991	
Level HG Total				14,108		Total HG per room x 1.3				3849		2502		165		1159		247		2310		3877			

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

Name

David DaCosta

SB-12 Package

Package A1

Total Heat Loss	62,425	btu/h
Total Heat Gain	29,825	btu/h

2012 OBC

Builder: Bayview Wellington

Date: June 25, 2021

Project: Green Valley East

Model: Barossa 6
S38-6 Lot 144

System 1

Weather Data Bradford 44 -9.4 86 22 48.2

Heat Loss ^T 81.4 deg. F Ht gain ^T 11 deg. F GTA: 2891

Project #
Layout #

Level 3

	MAST	ENS	BED 2	BATH	BED 3	BED 4	ENS 2	LAUND	WIC		
Run ft. exposed wall A	32 A	23 A	12 A	6 A	12 A	39 A	19 A	9 A	12 A	A	A
Run ft. exposed wall B	B	B	B	B	B	B	B	B	B	B	B
Ceiling height	11.0	9.0	9.0	9.0	9.0	11.0	9.0	9.0	9.0	9.0	9.0
Floor area	295 Area	129 Area	180 Area	72 Area	219 Area	314 Area	79 Area	66 Area	88 Area	Area	Area
Exposed Ceilings A	295 A	129 A	180 A	72 A	219 A	314 A	79 A	66 A	88 A	A	A
Exposed Ceilings B	B	B	B	B	B	B	B	B	B	B	B
Exposed Floors	Flr	Flr	Flr	Flr	73 Flr	190 Flr	10 Flr	Flr	Flr	Flr	Flr
Gross Exp Wall A	352	207	108	54	108	429	171	81	108		
Gross Exp Wall B											

Components	R-Values	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain
North Shaded	3.55	22.93	11.62																		
East/West	3.55	22.93	29.56	28	642	828	16	367	473	16	367	360	8	183	180	16	367	360			
South	3.55	22.93	22.50																		
Existing Windows	1.99	40.90	23.66																		
Skylight	2.03	40.10	88.23																		
Doors	4.00	20.35	2.75																		
Net exposed walls A	17.03	4.78	0.65	324	1549	209	175	836	113	92	440	59	46	220	30	92	440	59	371	1773	240
Net exposed walls B	8.50	9.58	1.29																		
Exposed Ceilings A	59.22	1.37	0.64	295	405	189	129	177	83	180	247	116	72	99	46	219	301	141	314	432	201
Exposed Ceilings B	27.65	2.94	1.37																		
Exposed Floors	29.80	2.73	0.17																		
Foundation Conductive Heatloss																					
Total Conductive																					
Heat Loss																					
Heat Gain																					
Air Leakage	Heat Loss/Gain	0.3255	0.0496																		
Case 1		0.02	0.06																		
Case 2		14.95	11.88																		
Case 3	x	0.03	0.06																		
Heat Gain People			239	2	81	77		54	64	1	33	33		16	16	1	41	36		126	116
Appliances Loads	1 =.25 percent		4763																		
Duct and Pipe loss			10%																		
Level HL Total	19,335																				
Level HG Total	11,312																				

Level 4

Run ft. exposed wall A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Run ft. exposed wall B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Ceiling height																					
Floor area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area
Exposed Ceilings A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Exposed Ceilings B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Exposed Floors	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr
Gross Exp Wall A																					
Gross Exp Wall B																					

Components	R-Values	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain
North Shaded	3.55	22.93	11.62																		
East/West	3.55	22.93	29.56																		
South	3.55	22.93	22.50																		
Existing Windows	1.99	40.90	23.66																		
Skylight	2.03	40.10	88.23																		
Doors	4.00	20.35	2.75																		
Net exposed walls A	17.03	4.78	0.65																		
Net exposed walls B	8.50	9.58	1.29																		
Exposed Ceilings A	59.22	1.37	0.64																		
Exposed Ceilings B	27.65	2.94	1.37																		
Exposed Floors	29.80	2.73	0.17																		
Foundation Conductive Heatloss																					
Total Conductive																					
Heat Loss																					
Heat Gain																					
Air Leakage	Heat Loss/Gain	0.0000	0.0496																		
Case 1		0.00	0.06																		
Case 2		14.95	11.88																		
Case 3	x	0.03	0.06																		
Heat Gain People			239																		
Appliances Loads	1 =.25 percent		4763																		
Duct and Pipe loss			10%																		
Level HL Total	0																				
Level HG Total	0																				

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

SB-12 Package

Package A1

Total Heat Loss	62,425	btu/h
Total Heat Gain	29,825	btu/h

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: S38-6 Lot 144

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	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	5 @	10.6 cfm	53 cfm	
Other rooms	5 @	10.6 cfm	53 cfm	
Total			180.2	

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			79.5	

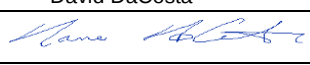
Principal Exhaust Fan Capacity				
Make	Model	Location		
VanEE	65H HRV	Base		
129 cfm		Sones	or Equiv.	

Heat Recovery Ventilator				
Make	VanEE			
Model	65H HRV			
	129 cfm high		80 cfm low	
Sensible efficiency @ -25 deg C			60%	
Sensible efficiency @ 0 deg C			75%	

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

Supplemental Ventilation Capacity				
Total ventilation capacity			180.2	
Less principal exhaust capacity			79.5	
REQUIRED supplemental vent. Capacity			100.7	cfm

Supplemental Fans 9.32.3.5.				
Location	cfm	Model	Sones	
Ens	50	XB50	0.3	
Ens 2	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 25, 2021		



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-00041
Layout # JB-07266

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 Barossa 6 S38-6 Lot 144		Unit number	Lot/Con
Municipality Bradford	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		
☒ Zone 1 (< 5000 degree days) ☐ Zone 2 (≥ 5000 degree days)	☒ ≥ 92% AFUE ☐ ≥ 84% < 92% AFUE	☒ Gas ☐ Oil	☐ Propane ☐ Electric	☐ Solid Fuel ☐ Earth Energy
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics		
Area of Walls = <u>422.97</u> m ² or <u>4552.9</u> ft ²	W, S & G % = <u>9.9%</u>	☐ Log/Post&Beam ☐ Slab-on-ground ☒ Air Conditioning ☐ Air Sourced Heat Pump (ASHP) ☐ Ground Source Heat Pump (GSHP)		
Area of W, S & G = <u>42.084</u> m ² or <u>453.0</u> ft ²	Utilize Window Averaging ☐ Yes ☒ No	☐ ICF Above Grade ☒ Walkout Basement ☐ Combo Unit		

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

Energy Efficiency Substitutions			
☐ ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5)) ☐ Combined space heating and domestic water heating systems (3.1.1.2(7) / 3.1.1.3.(7))			
☐ Airtightness substitution(s) Airtightness test required (Refer to Design Guide Attached)	☐ Table 3.1.1.4.B Required:		Permitted Substitution:
	☐ Table 3.1.1.4.C Required:		Permitted Substitution:
Building Component	Minimum RSI/R-Values or Maximum U-Value ¹		Efficiency Ratings
Thermal Insulation	Nominal	Effective	Windows & Doors Provide U-Value ⁽¹⁾ or ER rating
Ceiling with Attic Space	60	59.22	Windows/Sliding Glass Doors
Ceiling without Attic Space	31	27.65	Skylights
Exposed Floor	31	29.80	Mechanicals
Walls Above Grade	22	17.03	Heating Equip.(AFUE)
Basement Walls	20.0ci	21.12	HRV Efficiency (SRE% at 0°C)
Slab (all >600mm below grade)	x	x	DHW Heater (EF)
Slab (edge only ≤600mm below grade)	10	11.13	DWHR (CSA B55.1 (min. 42% efficiency))
Slab (all ≤600mm below grade, or heated)	10	11.13	Combined Heating System

(1) U value to be provided in either W/(m²·K) or Btu/(h·ft²·°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 David DaCosta	BCIN 32964	Signature
------------------------------	----------------------	---------------

Package:
Project:

Package A1
Bradford

System:
Model:

System 1
S38-6 Lot 144

Air Leakage Calculations

Building Air Leakage Heat Loss				
B	LRairh	Vb	HL ^{AT}	HL ^{leak}
0.018	0.422	36468	81.4	22551

Building Air Leakage Heat Gain				
B	LRairh	Vb	HG ^{AT}	HG ^{Leak}
0.018	0.104	36468	11	748

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	22551	12282	0.9181
Level 2	0.3		12012	0.5632
Level 3	0.2		13856	0.3255
Level 4	0		0	0.0000

HG LEAK			Air Leakage Heat Gain	
		748		0.0496
BUILDING CONDUCTIVE HEAT GAIN			15083	

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

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	0.17	1188	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	0.06			
	Level 1	0.5	1188	12282	0.05	Building	15083				
	Level 2	0.3		12012	0.03						
	Level 3	0.2		13856	0.02						
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	14.95		C	HG^T	11.88			
	1.08	81.4	0.17			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		1188	0.03		HGbvent	HG*1.3	944	0.06		
						944	1				

Foundation Conductive Heatloss Level 1	Level 1	2351	Watts	8022	Btu/h
Foundation Conductive Heatloss Level 2	Level 2		Watts		Btu/h
Slab on Grade Foundation Conductive Heatloss			Watts		Btu/h
Walk Out Basement Foundation Conductive Heatloss		162	Watts	552	Btu/h

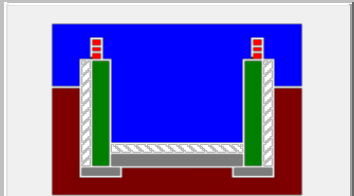
Envelope Air Leakage Calculator

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):	9.45			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Shallow			
House Volume (m ³):	1032.77			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (ACH=3.57)			
Custom BDT Data:	ELA @ 10 Pa. ▼ 322.44 cm ²			
	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):		0.422		
Cooling Air Leakage Rate (ACH/H):		0.104		

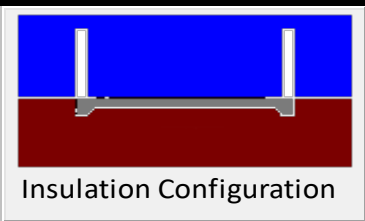
Residential Foundation Thermal Load Calculator

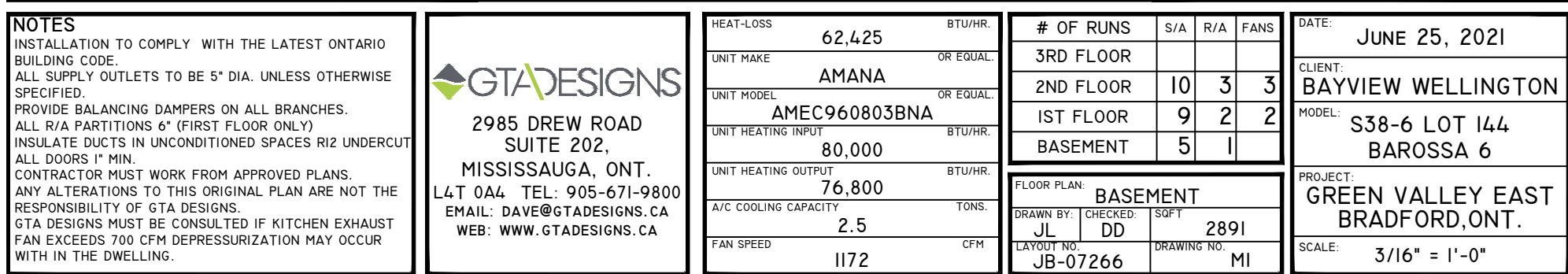
Supplemental tool for CAN/CSA-F280

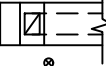
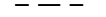
Weather Station Description		
Province:	Ontario	▼
Region:	Bradford	▼
Site Description		
Soil Conductivity:	High conductivity: moist soil	▼
Water Table:	Normal (7-10 m, 23-33 Ft)	▼
Foundation Dimensions		
Floor Length (m):	18.11	 Insulation Configuration
Floor Width (m):	5.82	
Exposed Perimeter (m):	39.32	
Wall Height (m):	3.05	
Depth Below Grade (m):	0.91	
Window Area (m ²):	0.56	
Door Area (m ²):	1.95	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		2351

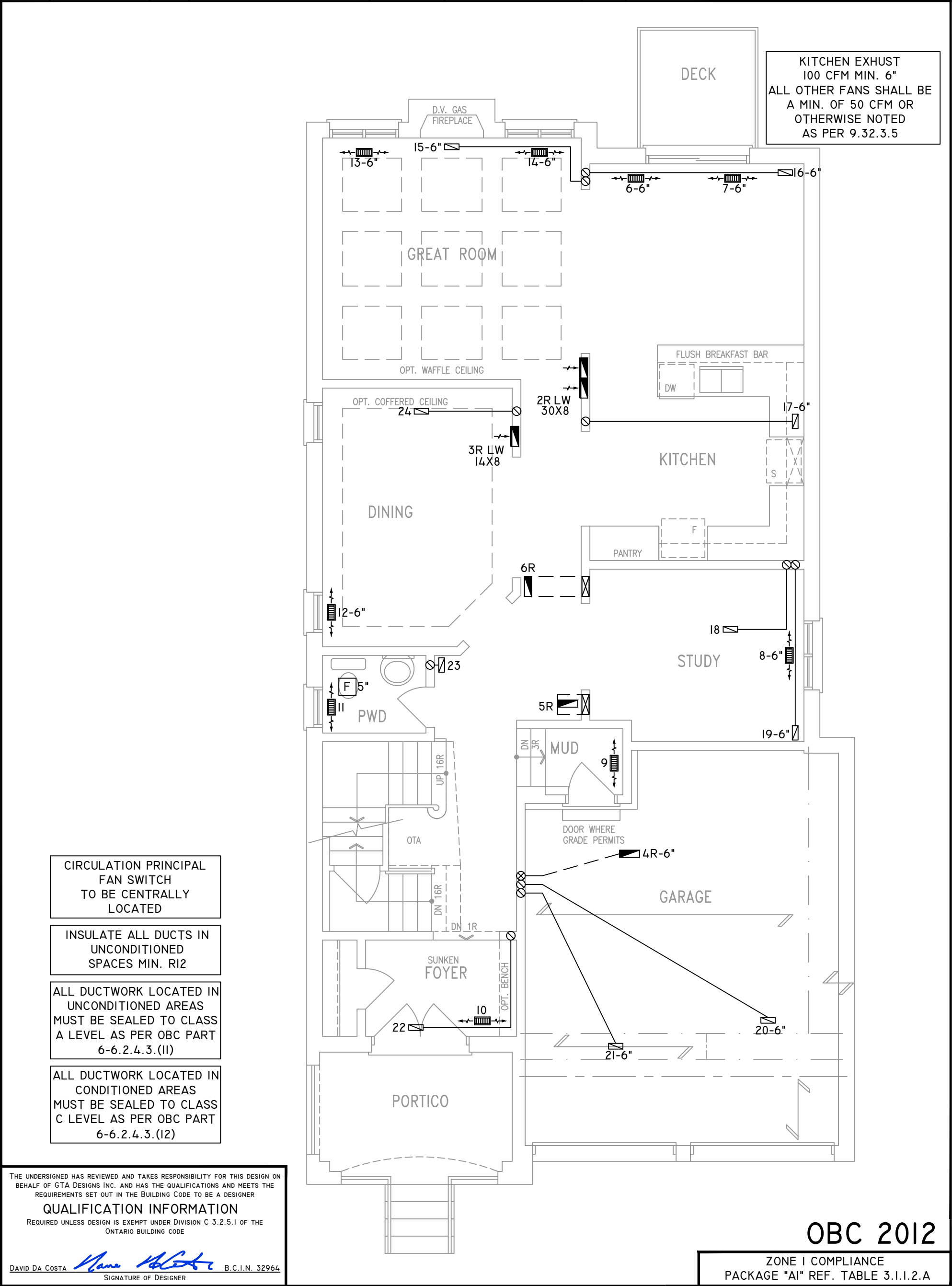
Residential Slab on Grade Thermal Load Calculator

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):	9.19	 Insulation Configuration
Width (m):	0.41	
Exposed Perimeter (m):	10.67	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		162



	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



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

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.
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

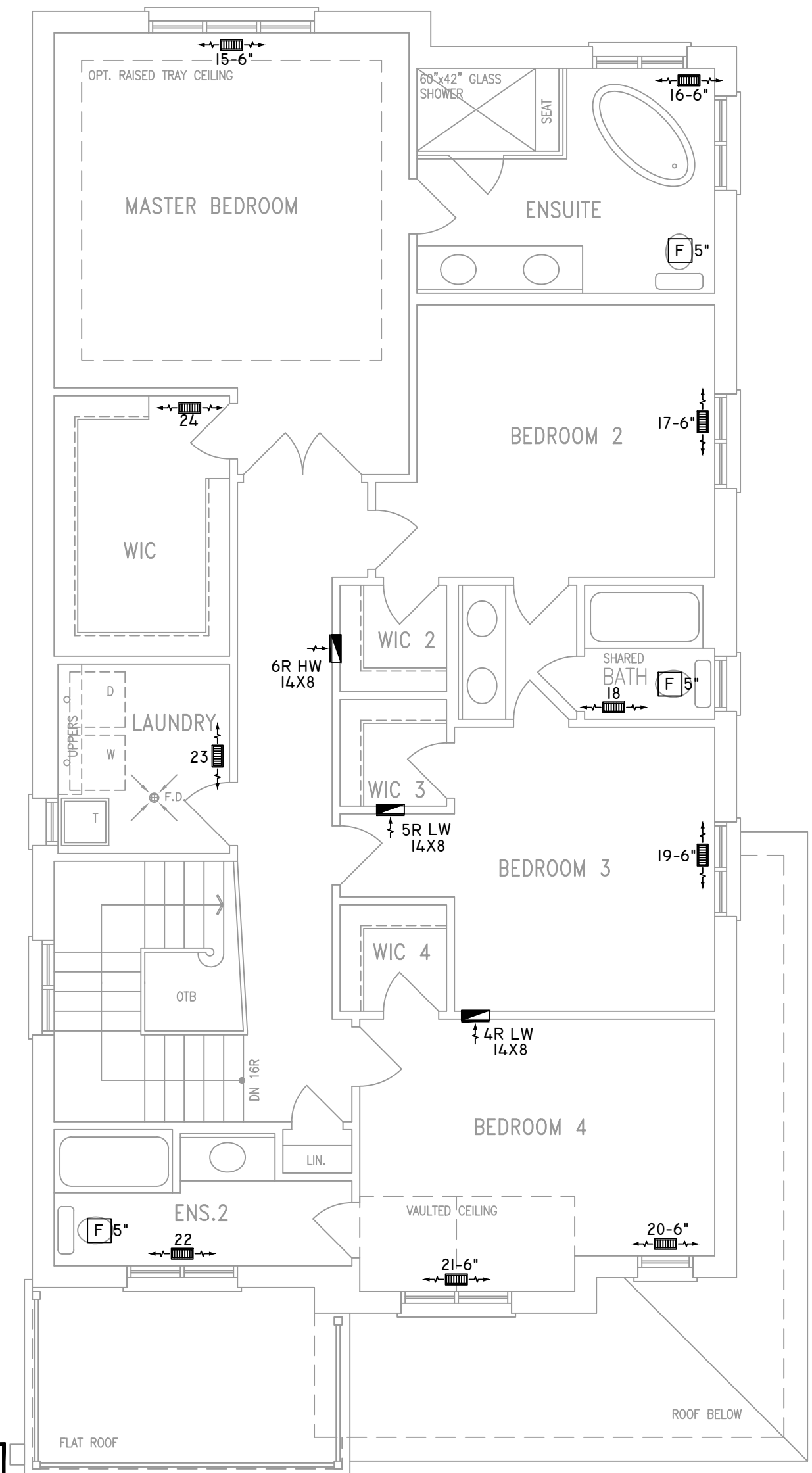
HEAT-LOSS	62,425	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC960803BNA	OR EQUAL.
UNIT HEATING INPUT	80,000	BTU/HR.
UNIT HEATING OUTPUT	76,800	BTU/HR.
A/C COOLING CAPACITY	2.5	TONS.
FAN SPEED	1172	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	10	3	3
1ST FLOOR	9	2	2
BASEMENT	5	1	

FLOOR PLAN: GROUND FLOOR		
DRAWN BY: JL	CHECKED: DD	SQFT 2891
LAYOUT NO. JB-07266	DRAWING NO. M2	

DATE:	JUNE 25, 2021
CLIENT:	BAYVIEW WELLINGTON
MODEL:	S38-6 LOT 144 BAROSSA 6
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. R.A. T	SUPPLY AIR
	RIGID ROUND DUCT		HRV EXHAUST GRILLE		SUPPLY AIR PIPE RISER		RETURN AIR RISER UP TO FLOOR ABOVE	 T	RETURN AIR
	SUPPLY DIFFUSER		VOLUME DAMPER		RETURN ROUND DUCT		RETURN AIR FROM BASEMENT SECOND FLOOR	 F PE	PRINCIPAL EXHAUST FAN SWITCH W/R & PRINCIPAL EXHAUST FAN



INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12

ALL DUCTWORK LOCATED IN
UNCONDITIONED AREAS
MUST BE SEALED TO CLASS
A LEVEL AS PER OBC PART
6-6.2.4.3.(II)

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

DAVID DA COSTA  B.C.I.F.
SIGNATURE OF DESIGNER

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE.

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PROVIDE BALANCING DAMPERS ON ALL BRANCHES.

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

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L4T 0A4 TEL: 905-671-9800
EMAIL: DAVE@GTADESIGNS.CA
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HEAT-LOSS	62,425	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC960803BNA	OR EQUAL.
UNIT HEATING INPUT	80,000	BTU/HR.
UNIT HEATING OUTPUT	76,800	BTU/HR.
A/C COOLING CAPACITY	2.5	TONS.
FAN SPEED	1172	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	10	3	3
1ST FLOOR	9	2	2
BASEMENT	5	1	

FLOOR PLAN:		
SECOND FLOOR		
DRAWN BY:	CHECKED:	SOFT
JL	DD	2891
LAYOUT NO.	DRAWING NO.	
JB-07266	M3	

DATE:	JUNE 25, 2021
CLIENT:	BAYVIEW WELLINGTON
MODEL:	S38-6 LOT 144 BAROSSA 6
PROJECT:	GREEN VALLEY EAST BRADFORD, ONT.
SCALE:	3/16" = 1'-0"

OBC 2012

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