

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 3 S38-3 WOB				Lot: 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-08541
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:	2593	Model	Barossa 3
Residential System Design per CAN/CSA-F280-12					S38-3 WOB
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>November 7, 2022</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-08541	
Building Location					
Address (Model): S38-3 WOB			Site: Green Valley East		
Model: Barossa 3			Lot:		
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 V150H75NT			Internal shading: Light-translucent		Occupants: 5
Sensible Eff. at -25C 60%		Apparent Effect. at -0C 83%		Units: Imperial	Area Sq ft: 2593
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: **November 7, 2022**

Project: **Green Valley East**

Model: **Barossa 3
S38-3 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

Project # **PJ-00041**
Layout # **JB-08541**

Page 3

DESIGN LOAD SPECIFICATIONS		AIR DISTRIBUTION & PRESSURE		FURNACE/AIR HANDLER DATA:		BOILER/WATER HEATER DATA:		A/C UNIT DATA:	
Level 1 Net Load	19,322 btu/h	Equipment External Static Pressure	0.5 "w.c.	Make	Amana	Make	Type	Amana	3.0 Ton
Level 2 Net Load	17,734 btu/h	Additional Equipment Pressure Drop	0.225 "w.c.	Model	AMEC960603ANA	Model		Cond.-----	3.0
Level 3 Net Load	16,761 btu/h	Available Design Pressure	0.275 "w.c.	Input Btu/h	60000	Input Btu/h		Coil -----	3.0
Level 4 Net Load	0 btu/h	Return Branch Longest Effective Length	300 ft	Output Btu/h	57600	Output Btu/h			
Total Heat Loss	53,817 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	30,303 btu/h	S/A Plenum Pressure	0.14 "w.c.	Water Temp	deg. F.	Blower DATA:			
		Heating Air Flow Proportioning Factor	0.0217 cfm/btuh	AFUE	96%	Blower Speed Selected:	W2	Blower Type	ECM
Building Volume Vb	29255 ft³	Cooling Air Flow Proportioning Factor	0.0386 cfm/btuh	Aux. Heat				(Brushless DC OBC 12.3.1.5.(2))	
Ventilation Load	1,188 Btu/h.	R/A Temp	70 deg. F.	SB-12 Package	Package A1	Heating Check	1170 cfm	Cooling Check	1170 cfm
Ventilation PVC	79.5 cfm	S/A Temp	116 deg. F.						
Supply Branch and Grill Sizing		Diffuser loss	0.01 "w.c.	Temp. Rise>>>	46 deg. F.	Selected cfm>	1170 cfm	Cooling Air Flow Rate	1170 cfm

	Level 1														Level 2													
S/A Outlet No.	1	2	3	4	5									6	7	8	9	10	11									
Room Use	BASE	BASE	BASE	BASE	BASE									KIT	KIT	GRT	LAUND	FOY	DIN									
Btu/Outlet	3864	3864	3864	3864	3864									2052	2052	3504	2265	4015	3846									
Heating Airflow Rate CFM	84	84	84	84	84									45	45	76	49	87	84									
Cooling Airflow Rate CFM	37	37	37	37	37									100	100	85	41	102	100									
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	53	40	24	29	20									34	31	46	24	27	6									
Equivalent Length	110	140	90	70	130	70	70	70	70	70	70	70	70	80	130	120	170	120	130	70	70	70	70	70	70			
Total Effective Length	163	180	114	99	150	70	70	70	70	70	70	70	70	114	161	166	194	147	136	70	70	70	70	70	70			
Adjusted Pressure	0.08	0.07	0.11	0.13	0.09	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.11	0.08	0.08	0.07	0.09	0.10	0.19	0.19	0.19	0.19	0.19	0.19			
Duct Size Round	6	6	6	6	6									6	6	6	5	6	6									
Outlet Size	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10			
Trunk	B	B	A	A	C									A	B	B	C	C	A									

	Level 3										Level 4													
S/A Outlet No.	12	13	14	15	16	17	18	19	20	21														
Room Use	MAST	MAST	BED 2	BATH	BED 3	BED 3	LOFT	BED 4	ENS 2	ENS														
Btu/Outlet	1582	1582	1610	1467	1921	1921	3212	1265	590	1611														
Heating Airflow Rate CFM	34	34	35	32	42	42	70	28	13	35														
Cooling Airflow Rate CFM	60	60	33	22	54	54	93	39	13	31														
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	49	62	54	41	42	38	47	34	24	30														
Equivalent Length	150	140	180	160	140	130	140	150	120	140	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Total Effective Length	199	202	234	201	182	168	187	184	144	170	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Adjusted Pressure	0.07	0.06	0.06	0.06	0.07	0.08	0.07	0.07	0.09	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
Duct Size Round	5	5	5	4	5	5	6	5	3	4														
Outlet Size	3x10	3x10	3x10	3x10	3x10	3x10	4x10	3x10	3x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
Trunk	B	B	B	C	C	C	C	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	210	395	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	25	21	34	35	55	41					
Equivalent Length	110	165	150	105	200	140	50	50	50	50	50
Total Effective Length	135	186	184	140	255	181	50	50	50	50	50
Adjusted Pressure	0.09	0.06	0.06	0.08	0.05	0.06	0.24	0.24	0.24	0.24	0.24
Duct Size Round	8.0	11.0	8.0	6.0	8.0	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	X	Y	X	Z	Y	Y					

Return Trunk Duct Sizing	CFM	Press.	Round	Rect. Size
Trunk				
Drop	1170	0.05	17.0	24x12
Z	1170	0.05	17.0	26x10 22x12
Y	1065	0.05	16.5	32x8 24x10
X	370	0.06	11.0	14x8 10x10
W				
V				
U				
T				
S				
R				
Q				

Supply Trunk Duct Sizing	CFM	Press.	Round	Rect. Size
Trunk				
A	765	0.06	14.0	22x8 18x10
B	393	0.06	11.0	14x8 10x10
C	406	0.06	11.0	14x8 10x10
D				
E				
F				
G				
H				
I				
J				
K				

2012 OBC

Builder: Bayview Wellington

Date: November 7, 2022

Project: Green Valley East

Model: Barossa 3
S38-3 WOB

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: 2593

Project # PJ-00041
Layout # JB-08541

Level 1

BASE

Run ft. exposed wall A	103	A	A	A	A	A	A	A	A	A	A	A	A
Run ft. exposed wall B	51	B	B	B	B	B	B	B	B	B	B	B	B
Ceiling height	5.5	AG	5.5 AG	5.5 AG	5.5 AG	5.5 AG	5.5 AG	5.5 AG	5.5 AG	5.5 AG	5.5 AG	5.5 AG	5.5 AG
Floor area	714	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
Exposed Ceilings 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
Gross Exp Wall A	567												
Gross Exp Wall B	434												

Components	R-Values	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	5	115	113											
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	541		282											
Net exposed walls B	17.03	4.78	0.65	353	1685	228											
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		3843	0.5		480											
Duct and Pipe loss			10%														
Level HL Total	19,322			19322													
Level HG Total	4,790					4790											

Level 2

KIT

GRT

LAUND

FOY

DIN

Run ft. exposed wall A	31	A	33	A	18	A	24	A	44	A	A	A	A	A	A	A	A
Run ft. exposed wall B	10.0	B	10.0	B	12.0	B	11.0	B	10.0	B	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Ceiling height	10.0		10.0		12.0		11.0		10.0		10.0		10.0		10.0		10.0
Floor area	226	Area	225	Area	69	Area	79	Area	424	Area	Area	Area	Area	Area	Area	Area	Area
Exposed Ceilings A	A	A	A	A	A	A	76	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
Exposed Floors	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr
Gross Exp Wall A	310		330		216		264		440								
Gross Exp Wall B																	

Components	R-Values	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	74	1697	2187											
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	236	1128	152											
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																	
Air Leakage																	
Ventilation																	
Heat Gain People																	
Appliances Loads	1 = 25 percent		3843	1.5		1441											
Duct and Pipe loss			10%														
Level HL Total	17,734			4103													
Level HG Total	13,655					5193											

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

SB-12 Package

Package A1

Total Heat Loss	53,817	btu/h
Total Heat Gain	30,303	btu/h

2012 OBC

Builder: Bayview Wellington

Date: November 7, 2022

Project: Green Valley East

Model: Barossa 3
S38-3 WOB

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: 2593

Project # P3-00041
Layout # JB-08541

Level 3

	MAST	BED 2	BATH	BED 3	LOFT	BED 4	ENS 2	ENS				
Run ft. exposed wall A	30 A	18 A	15 A	27 A	30 A	13 A	6 A	22 A	A		A	A
Run ft. exposed wall B	B	B	B	B	B	B	B	B	B		B	B
Ceiling height	10.0	8.0	8.0	9.0	8.0	8.0	8.0	8.0	8.0		8.0	8.0
Floor area	295 Area	166 Area	74 Area	172 Area	269 Area	131 Area	69 Area	113 Area	Area		Area	Area
Exposed Ceilings A	295 A	166 A	74 A	180 A	269 A	131 A	69 A	113 A	A		A	A
Exposed Ceilings B	B	B	B	B	B	B	B	B	B		B	B
Exposed Floors	Flr	9 Flr	74 Flr	172 Flr	12 Flr	Flr	Flr	Flr	Flr		Flr	Flr
Gross Exp Wall A	300	144	120	243	240	104	48	176				
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
North Shaded	3.55	22.93	11.62																
East/West	3.55	22.93	29.56	32	734	946													
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	268	1281	173	128	612	83	112	535	72	199	951	129	190	908	123	88
Net exposed walls B	8.50	9.58	1.29																
Exposed Ceilings A	59.22	1.37	0.64	295	405	189	166	228	107	74	102	47	180	247	116	269	370	173	131
Exposed Ceilings B	27.65	2.94	1.37																
Exposed Floors	29.80	2.73	0.17				9	25	2	74	202	12	172	470	29	12	33	2	
Foundation Conductive Heatloss																			
Total Conductive																			
Heat Loss																			
Heat Gain																			
Air Leakage	Heat Loss/Gain	0.2736	0.0342																
Case 1		0.02	0.06																
Case 2		14.95	11.88																
Case 3	x	0.03	0.06																
Heat Gain People			239	2	82	75	1	42	22		35	21		91	90		83	97	
Appliances Loads	1 =.25 percent		3843	0.5		478			239					1	239				
Duct and Pipe loss			10%																
Level HL Total	16,761																		
Level HG Total	11,858																		

Level 4

	A	A	A	A	A	A	A	A	A	A	A	A
Run ft. exposed wall 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
Ceiling height												
Floor 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
Exposed Ceilings 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
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
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	0.0342																
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		3843																
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	53,817	btu/h
Total Heat Gain	30,303	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: S38-3 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	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	x	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	

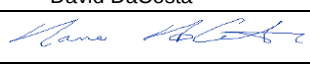
Principal Exhaust Fan Capacity			
Make	Model	Location	
VanEE	V150H75NT	Base	
140 cfm		Sones	or Equiv.

Heat Recovery Ventilator			
Make	VanEE		
Model	V150H75NT		
	140 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	November 7, 2022		



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-08541

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 3 S38-3 WOB		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>365.56</u> m ² or <u>3934.9</u> ft ²	W, S & G % = <u>12.5%</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>45.707</u> m ² or <u>492.0</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
S38-3 WOB

Air Leakage Calculations

Building Air Leakage Heat Loss				
B	LRairh	Vb	HL ^{AT}	HL _{leak}
0.018	0.398	29255	81.4	17042

Building Air Leakage Heat Gain				
B	LRairh	Vb	HG ^{AT}	HG _{Leak}
0.018	0.098	29255	11	566

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	17042	10447	0.8156
Level 2	0.3		12208	0.4188
Level 3	0.2		12460	0.2736
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		566	Air Leakage Heat Gain
BUILDING CONDUCTIVE HEAT GAIN		16543	
			0.0342

Levels this Dwelling	
3	

Ventilation Calculations

Ventilation Heat Loss

Ventilation Heat Loss				
C	PVC	HL ^{AT}	(1-E) HRV	HL _{vent}
1.08	79.5	81.4	0.17	1188

Ventilation Heat Gain

Ventilation Heat Gain			
C	PVC	HG ^{AT}	HG _{vent}
1.1	79.5	11	944

Case 1

Ventilation Heat Loss (Exhaust only Systems)

Case 1 - Exhaust Only				
Level	LF	HL _{vent}	LVL Cond. HL	Multiplier
Level 1	0.5	1188	10447	0.06
Level 2	0.3		12208	0.03
Level 3	0.2		12460	0.02
Level 4	0		0	0.00

Case 1

Ventilation Heat Gain (Exhaust Only Systems)

Case 1 - Exhaust Only		Multiplier
HG _{vent}	944	
Building	16543	
		0.06

Case 2

Ventilation Heat Loss (Direct Ducted Systems)

C	HL ^{AT}	(1-E) HRV	Multiplier
1.08	81.4	0.17	14.95

Case 2

Ventilation Heat Gain (Direct Ducted Systems)

C	HG ^{AT}	Multiplier
1.08	11	11.88

Case 3

Ventilation Heat Loss (Forced Air Systems)

		HL _{vent}	Multiplier
Total Ventilation Load		1188	0.03

Ventilation Heat Gain (Forced Air Systems)

		Vent Heat Gain	Multiplier
HGbvent	HG*1.3	944	0.06
944	1		

Foundation Conductive Heatloss Level 1	Level 1	1623	Watts	5538	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		242	Watts	826	Btu/h
--	--	-----	-------	-----	-------

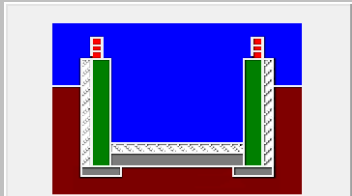
Envelope Air Leakage Calculator

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):	8.69			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Shallow			
House Volume (m ³):	828.49			
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):		0.398		
Cooling Air Leakage Rate (ACH/H):		0.098		

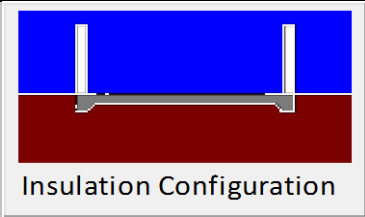
Residential Foundation Thermal Load Calculator

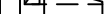
Supplemental tool for CAN/CSA-F280

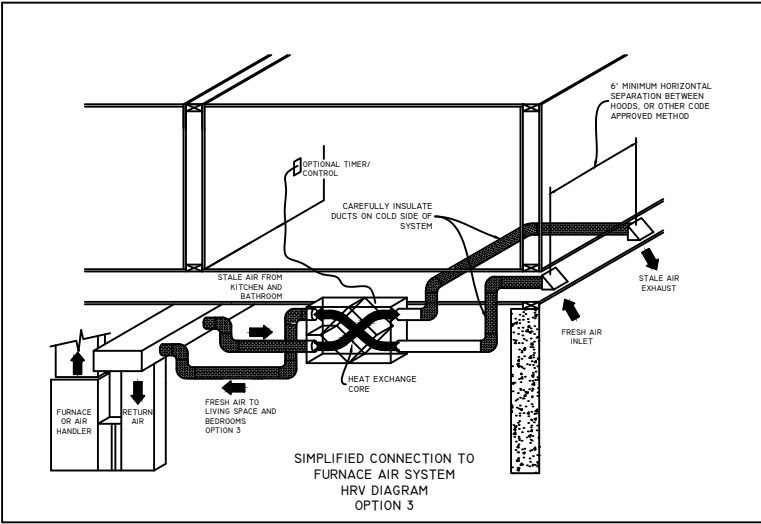
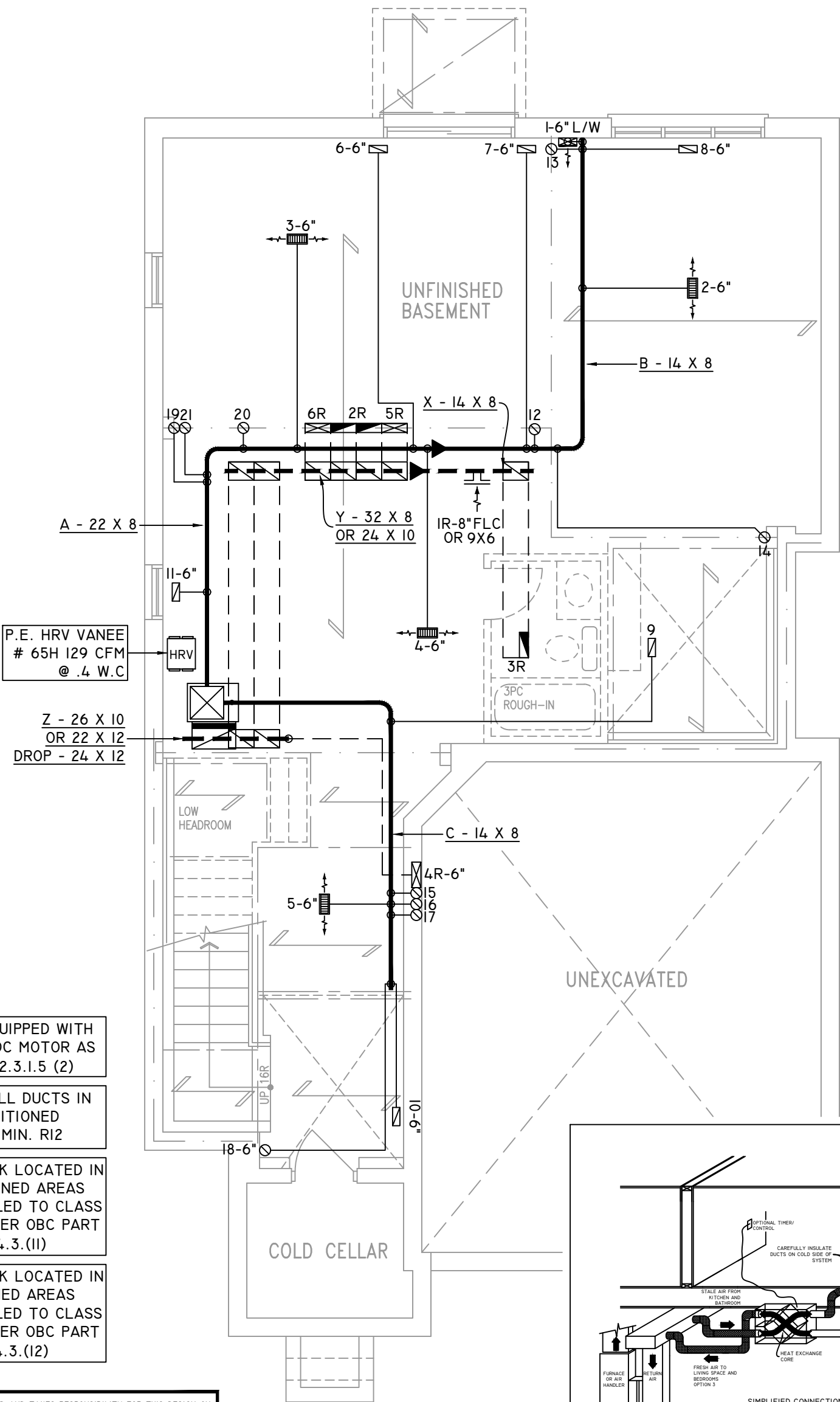
Weather Station Description		
Province:	Ontario	▼
Region:	Bradford	▼
Site Description		
Soil Conductivity:	High conductivity: moist soil	▼
Water Table:	Normal (7-10 m, 23-33 Ft)	▼
Foundation Dimensions		
Floor Length (m):	16.17	 Insulation Configuration
Floor Width (m):	4.10	
Exposed Perimeter (m):	31.39	
Wall Height (m):	2.59	
Depth Below Grade (m):	0.91	
Window Area (m ²):	0.46	
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):		1623

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):	9.21	 Insulation Configuration
Width (m):	3.14	
Exposed Perimeter (m):	15.54	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		242

	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



FURNACE EQUIPPED WITH
BRUSHLESS DC MOTOR AS
PER OBC 12.3.1.5 (2)

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  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.



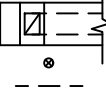
2985 DREW ROAD
SUITE 202,
MISSISSAUGA, ONT.
L4T 0A4 TEL: 905-671-9800
EMAIL: DAVE@GTADESIGNS.CA
WEB: WWW.GTADESIGNS.CA

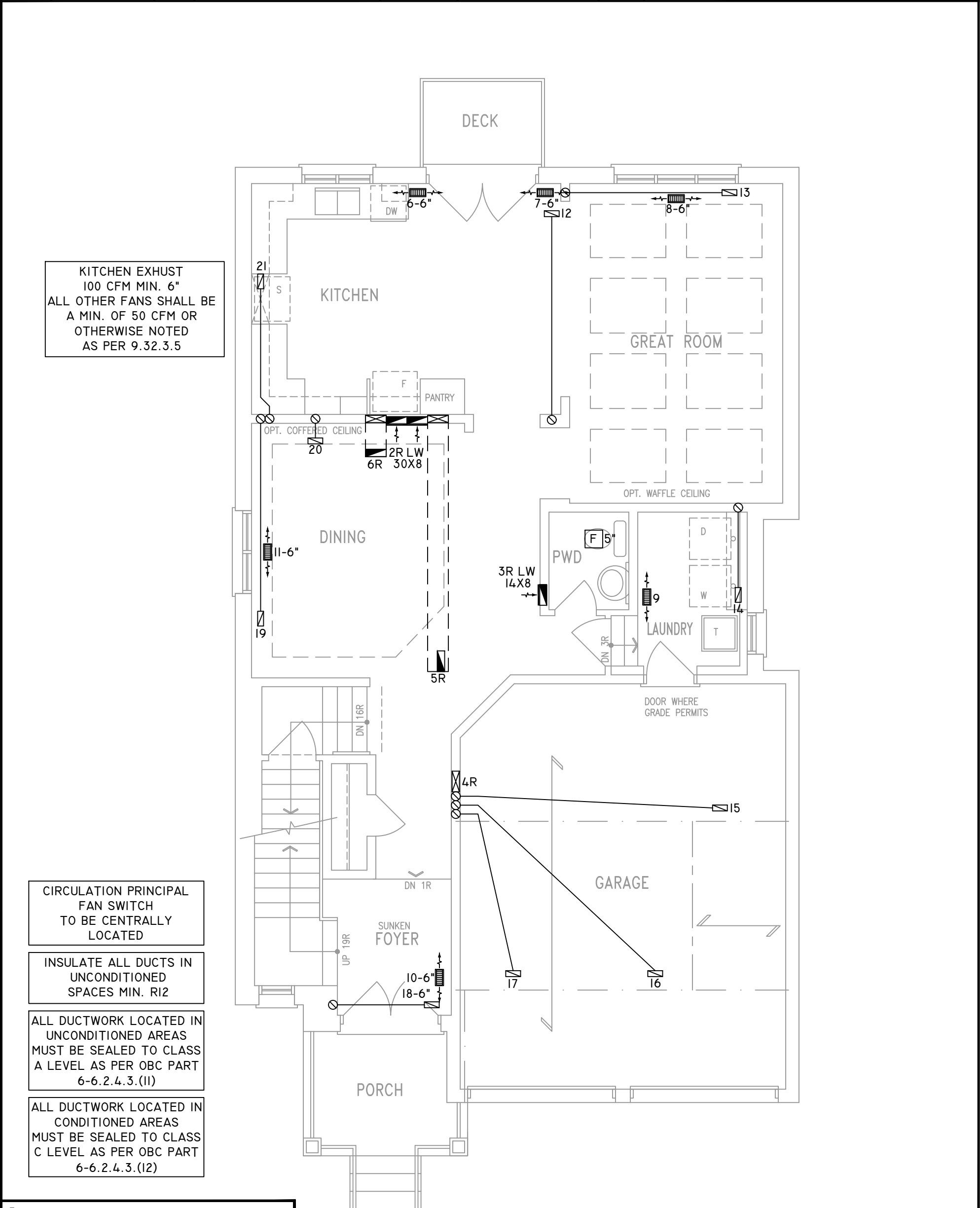
HEAT-LOSS	53,817	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC960603BNA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	3.0	TONS.
FAN SPEED	1170	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	10	3	3
1ST FLOOR	6	2	2
BASEMENT	5	1	

FLOOR PLAN:	BASEMENT
DRAWN BY:	AD
CHECKED:	DD
LAYOUT NO.	JB-08541
SQFT	2593
DRAWING NO.	MI

DATE:	NOVEMBER 7, 2022
CLIENT:	BAYVIEW WELLINGTON
MODEL:	S38-3 WOB BAROSSA 3
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



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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 "AI" REF. TABLE 3.1.1.2.A

NOTES

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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.

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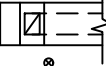
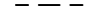
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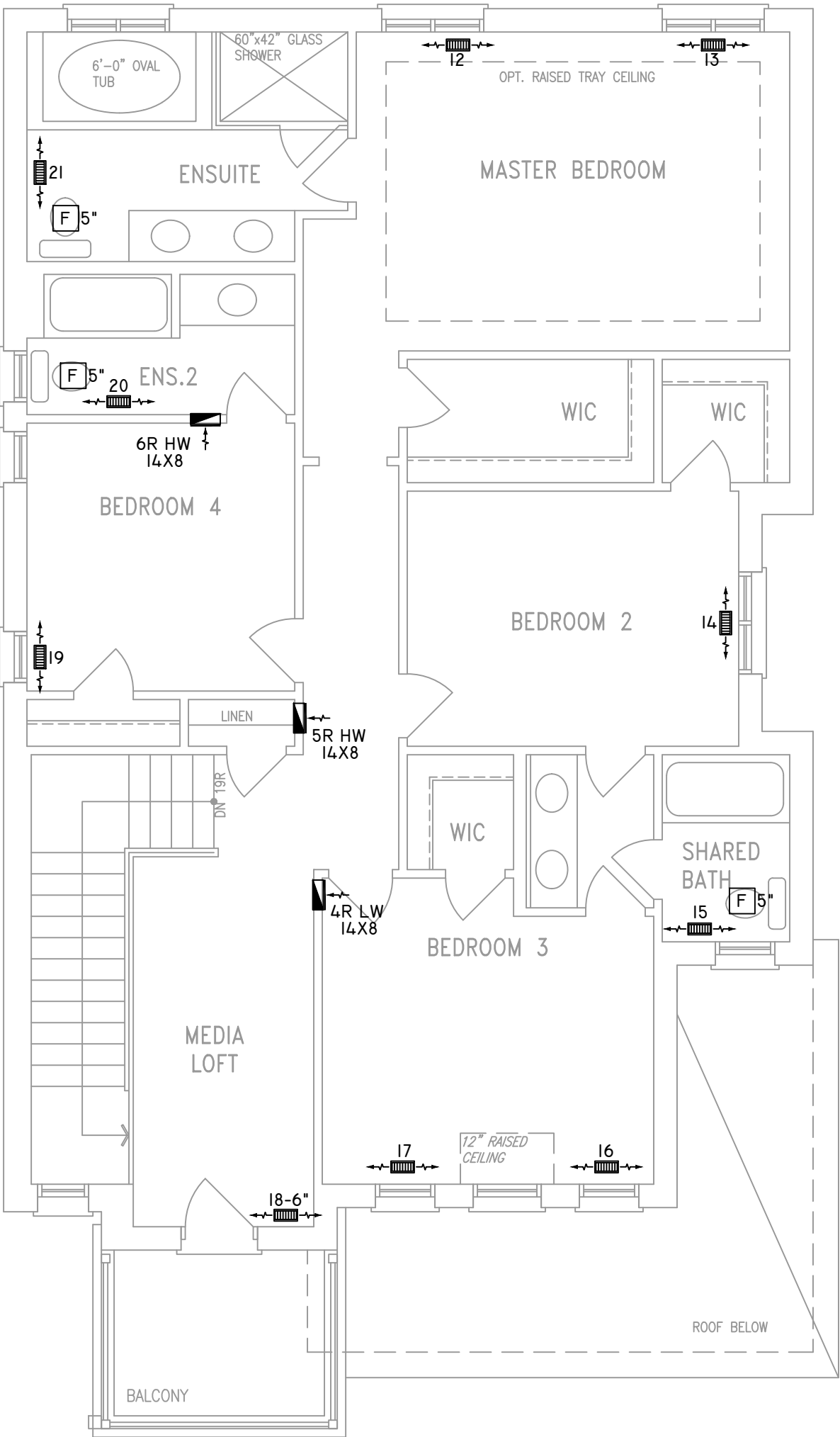
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UNIT MODEL	AMEC960603BNA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	3.0	TONS.
FAN SPEED	1170	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	10	3	3
1ST FLOOR	6	2	2
BASEMENT	5	1	

FLOOR PLAN: GROUND FLOOR		
DRAWN BY: AD	CHECKED: DD	SQFT 2593
LAYOUT NO. JB-08541	DRAWING NO. M2	

DATE:	NOVEMBER 7, 2022
CLIENT:	BAYVIEW WELLINGTON
MODEL:	S38-3 WOB BAROSSA 3
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



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.(11)

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

OBC 2012

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

NOTES

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

HEAT-LOSS	53,817	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC960603BNA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	3.0	TONS.
FAN SPEED	1170	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	10	3	3
1ST FLOOR	6	2	2
BASEMENT	5	1	

FLOOR PLAN: SECOND FLOOR		
DRAWN BY: AD	CHECKED: DD	SQFT 2593
LAYOUT NO. JB-08541	DRAWING NO. M3	

DATE:	NOVEMBER 7, 2022
CLIENT:	BAYVIEW WELLINGTON
MODEL:	S38-3 WOB BAROSSA 3
PROJECT:	GREEN VALLEY EAST BRADFORD,ONT.
SCALE:	3/16" = 1'-0"