

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:	150
SD-30-1 L			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 Roa				_ot/con.
Municipality Mississauga	Postal code L4T 0A4	Province Ontario	E-mail <u>hvac@gtadesig</u>	gns.ca
Telephone number (905) 671-9800	Fax number		Cell number	
C. Design activities undertaken by individual identified in S	ection B. [Bu	ilding Code Table 3	3.5.2.1 of Division C]	
☐ House ☑ HVAC – H	ouse		☐ Building Structural	
☐ Small Buildings ☐ Building Se	ervices		☐ Plumbing – House	
☐ Large Buildings ☐ Detection,	Lighting and Po	wer	☐ Plumbing – All Buildings	
☐ Complex Buildings ☐ Fire Protect	tion		☐ On-site Sewage Systems	3
Description of designer's work Mod	del Certification	1	Project #:	PJ-00041
Water to the total and the tot		Della	Layout #:	JB-06123
Heating and Cooling Load Calculations Main Air System Design Alternate	X	Builder Project	Bayview Wellingtor Green Valley	n
Residential mechanical ventilation Design Summary Area Sq ft:	2366		Orcen vancy	
Residential System Design per CAN/CSA-F280-12		Model	SD-30-1 Lot 150	
Residential New Construction - Forced Air		SB-12	Package A1	
D. Declaration of Designer				
David DaCosta	declare that (d	choose one as appro	priate):	
(print name)				
☐ I review and take responsibility for to 3.2.4 Division C of the Building Cod				
classes/categories. Individual BCIN:				
			•	
Firm BCIN:			•	
Individual BCIN:	3296	64		
Basis for exemp	tion from registr	ation:	Division C 3.2.4.1. (4)	
☐ The design work is exempt from the	e registration and	d qualification requirem	ents of the Building Code.	
Basis for exemp	tion from registr	ation and qualification:		
I certify that:				
The information contained in this schedule is true to the best of n	ny knowledge.			
I have submitted this application with the knowledge and consent	of the firm.			
February 11, 2020		Mane Sto		
Date		Signature of Des	signer	

NOTE:

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 Associstion 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

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Heat loss and gain calcula	ation summary sheet CSA-F280-M12 Standard Form No. 1
These documents issued for the use of Bays	view Wellington Layout No.
and may not be used by any other persons without authorization. Documents	
Building I	Location
Address (Model): SD-30-1 Lot 150	Site: Green Valley
Model:	Lot: 150
City and Province: Bradford	Postal code:
Calculations	s based on
Dimensional information based on:	Bayview Wellington 14/Jan/2020
Attachment: Semi	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?	Internal shading: Light-translucent Occupants: 5
Sensible Eff. at -25C 71% Apparent Effect. at -0C 84%	Units: Imperial Area Sq ft: 2366
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/Gai	in Caculations based on CSA-F280-12 Effective R-Values
Notes: Residential New C	Construction - Forced Air
Calculations p	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



Air System Design

SB-12 Package A1

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

Builder: Bayview Wellington Date: February 11, 2020

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.

P.I-00041

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Project: Green	n Valley		I	Model:		s	D-30-1 L	_ot 150				Sy	stem	1		of the Buil Individual		ode. 32964	10.	ane to	b Est	₹ □	avid DaC	osta		ject # yout #		00041 06123
DESIGN LOAD SPECIFICATION	IS			AIR DISTE	RIBUTION	& PRES	SURE				F	URNACE	/AIR HA	NDLER D	ATA:			BOILER/W	ATER H	EATER D	ATA:			A	VC UNIT E	DATA:		
Level 1 Net Load Level 2 Net Load Level 3 Net Load Level 4 Net Load Total Heat Loss Total Heat Gain	11,892 13,867 12,178 0 37,937 23,382	btu/h btu/h btu/h btu/h btu/h		Equipmer Additiona Available Return Br R/A Plenu S/A Plenu Heating A Cooling A	Il Equipm Design F ranch Lou Im Pressi Im Pressi Iir Flow P	ent Press ressure ngest Effe ure ure roportion	sure Drop ective Len sing Facto	gth	0.5 " 0.225 " 0.275 " 300 f 0.138 " 0.14 " 0.0245 c	w.c. w.c. t w.c. w.c.	n C E V	Make Model nput Btu/ Dutput Bt E.s.p. Water Ten AFUE	h u/h	Ama AMEC9606 6000 5760 0.56	603ANA 00 00 0	" W.C. deg. F.		Make Model Input Btu/ Output Bto Min.Outpu Blower Sp	u/h it Btu/h	ected:			wer DATA	C C	Amana Cond Coil Blower Typ (Brushle	•	2.0 T 2.0 2.0 2.0	
Ventilation Load	1,118	Btuh.					R/A Temp		70 d	eg. F.	5	SB-12 Pac	kage	Packag	e A1			Heating C	heck	929	fm				cooling Cl		929 c	,
Ventilation PVC	79.5	cfm				5	S/A Temp		127 d	eg. F.																		
Supply Branch and Grill Sizing				Diffuser lo	oss	0.01	w.c.				1	Temp. Ris	e>>>	<u>57</u> d	leg. F.			Selected c	fm>	929	fm		С	ooling Ai	ir Flow Ra	ate _	929 c	fm
O(A Overland No		2	3	4			Leve	l 1									7				Leve							
S/A Outlet No.	1			-											5	6		8	9	10	11	12						
Room Use	BASE	BASE	BASE	BASE											KIT	KIT	FAM	PWD	MUD	FOY	WIC 2	DIN						
Btu/Outlet	2973	2973	2973	2973											2104	2104	2233	345	887	2328	1127	2738						
Heating Airflow Rate CFM	73	73	73	73											52	52	55	8	22	57	28	67						
Cooling Airflow Rate CFM	6	6	6	6											90	90	120	2	5	74	26	95						
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	34	22	10	26											19	24	42	22	19	33	42	35						
Equivalent Length	100	110	100	80	70	70	70	70	70	70	70	70	70	70	110	70	80	110	120	110	120	70	70	70	70	70	70	70
Total Effective Length	134	132	110	106	70	70	70	70	70	70	70	70	70	70	129	94	122	132	139	143	162	105	70	70	70	70	70	70
Adjusted Pressure	0.10	0.10	0.12	0.12	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.10	0.14	0.11	0.10	0.09	0.09	0.08	0.12	0.19	0.19	0.19	0.19	0.19	0.19
Duct Size Round	5	5	5	5											6	6	6	3	4	6	4	6						
Outlet Size	3x10	3x10	3x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	3x10	3x10	4x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
Trunk	В	В	Α	С											Α	Α	В	С	С	D	D	С						
							Leve	13													Leve	14						
S/A Outlet No.	13	14	15	16	17	18	19	20																				
Room Use		LAUND	BED 2	BED 3	BED 3	BATH	BED 4	ENS																				
Btu/Outlet	2467	188	2375	1792	1792	639	1347	1578																				
Heating Airflow Rate CFM	60	5	58	44	44	16	33	39																				
Cooling Airflow Rate CFM	89	31																										
Duct Design Pressure			79	61	61	14	40	30																				0.13
Actual Duct Length	0 12		79 0.13	61 0.13	61 0.13	14	40 0.13	30 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	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	
-	51	0.13 34	0.13 42	0.13 54	0.13 53	0.13 57	0.13 16	0.13 40																				70
Equivalent Length	51 110	0.13 34 120	0.13 42 110	0.13 54 120	0.13 53 150	0.13 57 170	0.13 16 110	0.13 40 120	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Equivalent Length Total Effective Length	51 110 161	0.13 34 120 154	0.13 42 110 152	0.13 54 120 174	0.13 53 150 203	0.13 57 170 227	0.13 16 110 126	0.13 40 120 160	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70
Equivalent Length Total Effective Length Adjusted Pressure	51 110 161 0.08	0.13 34 120 154 0.08	0.13 42 110 152 0.09	0.13 54 120 174 0.07	0.13 53 150 203 0.06	0.13 57 170 227 0.06	0.13 16 110 126 0.10	0.13 40 120 160 0.08	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round	51 110 161 0.08 6	0.13 34 120 154 0.08 4	0.13 42 110 152 0.09 6	0.13 54 120 174 0.07 6	0.13 53 150 203 0.06 6	0.13 57 170 227 0.06 3	0.13 16 110 126 0.10 5	0.13 40 120 160 0.08 4	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size	51 110 161 0.08 6 4x10	0.13 34 120 154 0.08 4 3x10	0.13 42 110 152 0.09 6 4x10	0.13 54 120 174 0.07 6 4x10	0.13 53 150 203 0.06 6 4x10	0.13 57 170 227 0.06 3 3x10	0.13 16 110 126 0.10 5 3x10	0.13 40 120 160 0.08	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round	51 110 161 0.08 6	0.13 34 120 154 0.08 4	0.13 42 110 152 0.09 6	0.13 54 120 174 0.07 6	0.13 53 150 203 0.06 6	0.13 57 170 227 0.06 3	0.13 16 110 126 0.10 5	0.13 40 120 160 0.08 4	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk	51 110 161 0.08 6 4x10 B	0.13 34 120 154 0.08 4 3x10	0.13 42 110 152 0.09 6 4x10	0.13 54 120 174 0.07 6 4x10	0.13 53 150 203 0.06 6 4x10	0.13 57 170 227 0.06 3 3x10	0.13 16 110 126 0.10 5 3x10 PTO	0.13 40 120 160 0.08 4 3x10	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing	51 110 161 0.08 6 4x10 B	0.13 34 120 154 0.08 4 3x10	0.13 42 110 152 0.09 6 4x10 C	0.13 54 120 174 0.07 6 4x10 D	0.13 53 150 203 0.06 6 4x10 D	0.13 57 170 227 0.06 3 3x10 D	0.13 16 110 126 0.10 5 3x10 PTO	0.13 40 120 160 0.08 4 3x10 A	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Supply Tr	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing R/A Inlet No.	51 110 161 0.08 6 4x10 B	0.13 34 120 154 0.08 4 3x10 C	0.13 42 110 152 0.09 6 4x10 C	0.13 54 120 174 0.07 6 4x10 D	0.13 53 150 203 0.06 6 4x10 D	0.13 57 170 227 0.06 3 3x10	0.13 16 110 126 0.10 5 3x10 PTO	0.13 40 120 160 0.08 4 3x10	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19	70 70 0.19	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing	70 70 0.19 4x10	70 70 0.19	70 70 0.19	70 70 0.19 4x10	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM	51 110 161 0.08 6 4x10 B	0.13 34 120 154 0.08 4 3x10 C	0.13 42 110 152 0.09 6 4x10 C	0.13 54 120 174 0.07 6 4x10 D sure Loss 4R 105	0.13 53 150 203 0.06 6 4x10 D	0.13 57 170 227 0.06 3 3x10 D	0.13 16 110 126 0.10 5 3x10 PTO	0.13 40 120 160 0.08 4 3x10 A	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Return Tr	70 70 0.19 4x10	70 70 0.19 4x10 Sizing	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Supply Tr	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure	51 110 161 0.08 6 4x10 B	0.13 34 120 154 0.08 4 3x10 C	0.13 42 110 152 0.09 6 4x10 C Grill Pres 3R 105 0.12	0.13 54 120 174 0.07 6 4x10 D sure Loss 4R 105 0.12	0.13 53 150 203 0.06 6 4x10 D	0.13 57 170 227 0.06 3 3x10 D	0.13 16 110 126 0.10 5 3x10 PTO	0.13 40 120 160 0.08 4 3x10 A	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Return Ti Trunk	70 70 0.19 4x10	70 70 0.19 4x10 Sizing CFM	70 70 0.19 4x10 Press. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Supply Tri	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing FM P	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Size	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM	51 110 161 0.08 6 4x10 B 1R 146 0.12	0.13 34 120 154 0.08 4 3x10 C	0.13 42 110 152 0.09 6 4x10 C Grill Pres 3R 105 0.12 41	0.13 54 120 174 0.07 6 4x10 D sure Loss 4R 105 0.12 29	0.13 53 150 203 0.06 6 4x10 D 5 8 5 8 150 0.12 35	0.13 57 170 227 0.06 3 3x10 D	0.13 16 110 126 0.10 5 3x10 PTO 7R 0.12	0.13 40 120 160 0.08 4 3x10 A	70 70 0.19 4x10 9R 0.12	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 <u>F</u> T	70 70 0.19 4x10 Return Ti Trunk	70 70 0.19 4x10	70 70 0.19 4x10 Sizing CFM	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Supply Tri Frunk	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing FM P	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure	51 110 161 0.08 6 4x10 B	0.13 34 120 154 0.08 4 3x10 C	0.13 42 110 152 0.09 6 4x10 C Grill Pres 3R 105 0.12	0.13 54 120 174 0.07 6 4x10 D sure Loss 4R 105 0.12	0.13 53 150 203 0.06 6 4x10 D	0.13 57 170 227 0.06 3 3x10 D	0.13 16 110 126 0.10 5 3x10 PTO	0.13 40 120 160 0.08 4 3x10 A	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Return Ti Trunk	70 70 0.19 4x10	70 70 0.19 4x10 Sizing CFM	70 70 0.19 4x10 Press. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Supply Tri Frunk	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing FM P	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Size	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length	51 110 161 0.08 6 4x10 B 1R 146 0.12	0.13 34 120 154 0.08 4 3x10 C	0.13 42 110 152 0.09 6 4x10 C Grill Pres 3R 105 0.12 41	0.13 54 120 174 0.07 6 4x10 D sure Loss 4R 105 0.12 29	0.13 53 150 203 0.06 6 4x10 D 5 8 5 8 150 0.12 35	0.13 57 170 227 0.06 3 3x10 D	0.13 16 110 126 0.10 5 3x10 PTO 7R 0.12	0.13 40 120 160 0.08 4 3x10 A	70 70 0.19 4x10 9R 0.12	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 <u>F</u> T	70 70 0.19 4x10 Return Ti Trunk Drop	70 70 0.19 4x10	70 70 0.19 4x10 Sizing CFM	70 70 0.19 4x10 Press. R 0.05	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Supply Trunk	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing FM P	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. S	70 70 0.19 4x10 Size	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length	51 110 161 0.08 6 4x10 B 1R 146 0.12 7	0.13 34 120 154 0.08 4 3x10 C	0.13 42 110 152 0.09 6 4x10 C Grill Pres 3R 105 0.12 41	0.13 54 120 174 0.07 6 4x10 D sure Loss 4R 105 0.12 29 140	0.13 53 150 203 0.06 6 4x10 D 5 8 5 8 150 0.12 35 200	0.13 57 170 227 0.06 3 3x10 D 0.02 "	0.13 16 110 126 0.10 5 3x10 PTO 7R 0.12	0.13 40 120 160 0.08 4 3x10 A	70 70 0.19 4x10 9R 0.12	70 70 0.19 4x10 10R 0.12	70 70 0.19 4x10 11R 0.12	70 70 0.19 4x10	70 70 0.19 4x10 Return Ti Trunk Drop	70 70 0.19 4x10	70 70 0.19 4x10 Sizing CFM	70 70 0.19 4x10 Press. R 0.05	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Supply Trunk	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing FM P 475 261 421	70 70 0.19 4x10 ress. R 0.08 0.08	70 70 0.19 4x10 Round 11.0 9.0 11.5	70 70 0.19 4x10 Rect. 5	70 70 0.19 4x10 Size 10x10 10x7 12x10	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length	51 110 161 0.08 6 4x10 B 1R 146 0.12 7 110	0.13 34 120 154 0.08 4 3x10 C	0.13 42 110 152 0.09 6 4x10 C Grill Pres 3R 105 0.12 41 145 186	0.13 54 120 174 0.07 6 4x10 D sure Loss 4R 105 0.12 29 140 169	0.13 53 150 203 0.06 6 4x10 D 5 8 5 8 150 0.12 35 200 235	0.13 57 170 227 0.06 3 3x10 D 0.02 " 6R 0.12	0.13 16 110 126 0.10 5 3x10 PTO 7R 0.12 50 50	0.13 40 120 160 0.08 4 3x10 A 8R 0.12	70 70 0.19 4x10 9R 0.12 50	70 70 0.19 4x10 10R 0.12 50	70 70 0.19 4x10 11R 0.12 50	70 70 0.19 4x10	70 70 0.19 4x10 Return Ti Trunk Orop	70 70 0.19 4x10	70 70 0.19 4x10 Sizing CFM	70 70 0.19 4x10 Press. R 0.05	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Supply Trunk	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing FM P 475 261 421	70 70 0.19 4x10 ress. R 0.08 0.08	70 70 0.19 4x10 Round 11.0 9.0 11.5	70 70 0.19 4x10 Rect. 5	70 70 0.19 4x10 Size 10x10 10x7 12x10	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure	51 110 161 0.08 6 4x10 B 1R 146 0.12 7 110 117	0.13 34 120 154 0.08 4 3x10 C	0.13 42 110 152 0.09 6 4x10 C Grill Pres 3R 105 0.12 41 145 186 0.06	0.13 54 120 174 0.07 6 4x10 D sure Loss 4R 105 0.12 29 140 169 0.07	0.13 53 150 203 0.06 6 4x10 D 5 5 7 8 150 0.12 35 200 235 0.05	0.13 57 170 227 0.06 3 3x10 D 0.02 " 6R 0.12	0.13 16 110 126 0.10 5 3x10 PTO 7R 0.12 50 50	0.13 40 120 160 0.08 4 3x10 A 8R 0.12	70 70 0.19 4x10 9R 0.12 50	70 70 0.19 4x10 10R 0.12 50	70 70 0.19 4x10 11R 0.12 50	70 70 0.19 4x10 F T	70 70 0.19 4x10 Return Ti Trunk Orop	70 70 0.19 4x10	70 70 0.19 4x10 Sizing CFM	70 70 0.19 4x10 Press. R 0.05	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Supply Trunk	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing FM P 475 261 421	70 70 0.19 4x10 ress. R 0.08 0.08	70 70 0.19 4x10 Round 11.0 9.0 11.5	70 70 0.19 4x10 Rect. 5	70 70 0.19 4x10 Size 10x10 10x7 12x10	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round	51 110 161 0.08 6 4x10 B 1R 146 0.12 7 110 117 0.10 7.0	0.13 34 120 154 0.08 4 3x10 C 2R 423 0.12 8 175 183 0.06 11.5	0.13 42 110 152 0.09 6 4x10 C Grill Pres 3R 105 0.12 41 145 186 0.06 6.0	0.13 54 120 174 0.07 6 4x10 D sure Loss 4R 105 0.12 29 140 169 0.07 6.0	0.13 53 150 203 0.06 6 4x10 D 5 5 7 8 150 0.12 35 200 235 0.05 8.0	0.13 57 170 227 0.06 3 3x10 D 0.02 " 6R 0.12	0.13 16 110 126 0.10 5 3x10 PTO 7R 0.12 50 50	0.13 40 120 160 0.08 4 3x10 A 8R 0.12	70 70 0.19 4x10 9R 0.12 50	70 70 0.19 4x10 10R 0.12 50	70 70 0.19 4x10 11R 0.12 50	70 70 0.19 4x10 <u>F</u> 7	70 70 0.19 4x10 Return Ti Trunk Drop	70 70 0.19 4x10	70 70 0.19 4x10 Sizing CFM	70 70 0.19 4x10 Press. R 0.05	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Supply Trunk	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing FM P 475 261 421	70 70 0.19 4x10 ress. R 0.08 0.08	70 70 0.19 4x10 Round 11.0 9.0 11.5	70 70 0.19 4x10 Rect. 5	70 70 0.19 4x10 Size 10x10 10x7 12x10	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Inlet Size " "	51 110 161 0.08 6 4x10 B 1R 146 0.12 7 110 117 0.10 7.0	0.13 34 120 154 0.08 4 3x10 C 2R 423 0.12 8 175 183 0.06 11.5 8 x	0.13 42 110 152 0.09 6 4x10 C Grill Pres 3R 105 0.12 41 145 186 0.06 6.0 8 x	0.13 54 120 174 0.07 6 4x10 D sure Loss 4R 105 0.12 29 140 169 0.07 6.0 8 x	0.13 53 150 203 0.06 6 4x10 D 5 5 7 8 150 0.12 35 200 235 0.05 8.0	0.13 57 170 227 0.06 3 3x10 D 0.02 " 6R 0.12 50 0.24	0.13 16 110 126 0.10 5 3x10 PTO 7R 0.12 50 0.24	0.13 40 120 160 0.08 4 3x10 A 8R 0.12 50 0.24	70 70 0.19 4x10 9R 0.12 50 0.24	70 70 0.19 4x10 10R 0.12 50 50 0.24	70 70 0.19 4x10 11R 0.12 50	70 70 0.19 4x10 <u>F</u> T	70 70 0.19 4x10 Return Ti Trunk Orop	70 70 0.19 4x10	70 70 0.19 4x10 Sizing CFM	70 70 0.19 4x10 Press. R 0.05	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Supply Trunk	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing FM P 475 261 421	70 70 0.19 4x10 ress. R 0.08 0.08	70 70 0.19 4x10 Round 11.0 9.0 11.5	70 70 0.19 4x10 Rect. 5	70 70 0.19 4x10 Size 10x10 10x7 12x10	70 0.19
Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Inlet Size	51 110 161 0.08 6 4x10 B 1R 146 0.12 7 110 117 0.10 7.0	0.13 34 120 154 0.08 4 3x10 C 2R 423 0.12 8 175 183 0.06 11.5 8	0.13 42 110 152 0.09 6 4x10 C Grill Pres 3R 105 0.12 41 145 186 0.06 6.0 8	0.13 54 120 174 0.07 6 4x10 D sure Loss 4R 105 0.12 29 140 169 0.07 6.0	0.13 53 150 203 0.06 6 4x10 D 5 5 7 150 0.12 35 200 0.235 0.05 8.0	0.13 57 170 227 0.06 3 3x10 D 0.02 " 6R 0.12 50 0.24	0.13 16 110 126 0.10 5 3x10 PTO 7R 0.12 50 0.24	0.13 40 120 160 0.08 4 3x10 A 8R 0.12 50 0.24	70 70 0.19 4x10 9R 0.12 50 0.24	70 70 0.19 4x10 10R 0.12 50 50 0.24	70 70 0.19 4x10 11R 0.12 50	70 70 0.19 4x10 <u>F</u> 7	70 70 0.19 4x10 Return Ti Trunk Orop	70 70 0.19 4x10	70 70 0.19 4x10 Sizing CFM	70 70 0.19 4x10 Press. R 0.05	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Supply Trunk	70 70 0.19 4x10 unk Duct	70 70 0.19 4x10 Sizing FM P 475 261 421	70 70 0.19 4x10 ress. R 0.08 0.08	70 70 0.19 4x10 Round 11.0 9.0 11.5	70 70 0.19 4x10 Rect. 5	70 70 0.19 4x10 Size 10x10 10x7 12x10	70 0.19



Total Heat Loss

Total Heat Gain

37,937 btu/h

23,382 btu/h

Heatloss/Gain Calculations CSA-F280-12

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

e-mail hvac@gtadesigns.ca

Man 16Cot 2

David DaCosta

Package A1

		Builder:	Bayview Well	ington	_ 0	ate:	F	ebruary 11	2020				We	ather Data		Bradford	44	-9.4 86	22	48.2				Page 4
2012 OBC		Project:	Green Val	ley	Мо	del:	;	SD-30-1 Lo	150			System 1	He	eat Loss ^1	81.4 deg	g. F	Ht gain ^T	11 deg	ı. F	GTA:	2366	Pr La	oject # ayout #	PJ-00041 JB-06123
					-											-							-	
D (1	Level 1			BASE 121 A																				
				121 A R		A B		A B		A R		A B	A R		A B		A B		A B		A B		A B	
	posed wall B			2.0 AG		2.0 AG		2.0 AG		2.0 AG		2.0 AG	2.0 AG		2.0 AG		2.0 AG	•	.0 AG		2.0 AG		2.0 AG	
Ce	Ceiling height Floor area			1001 Area		Area		2.0 AG Area		2.0 AG Area		Area	2.0 AG Area		Z.U AG		2.0 AG Area	2.	.u AG Area		Z.U AG		Z.U AG	
Evnoser	ed Ceilings A			A A		A		A		A		A	A		A	a	A		A		A	a	A	za .
	ed Ceilings B			В		В		В		В		В	В		В		В		В		В		В	
	posed Floors			Fir		Flr		Flr		Fir		Flr	Flr		Fir		Fir		Fir		Fir		Fir	
	ss Exp Wall A			242				• • •		• • • •		• • •			• • •		• • • •		• • •		• • •		• • •	
	s Exp Wall B			2-72																				
	Components R	R-Values Los	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss Gain	Loss	Gain	Los	ss Gain	Loss	Gain	Loss	Gain	Los	s Gain	Los	ss Gain
	North Shaded		22.93 10.91												Ī		T [1	T			1
	East/West		22.93 27.35	6 138	164																			
	South		22.93 20.89	3 69																				
WO	OB Windows	3.55	22.93 11.42																					
	Skylight	2.03	40.10 88.23																					
	Doors		20.35 2.75	21 427	58																			
Net expo	oosed walls A	21.12	3.85 0.52	212	110																			
Net expo	osed walls B	17.03	4.78 0.65																					
Exposed	ed Ceilings A	59.22	1.37 0.64																					
Exposed	ed Ceilings B	27.65	2.94 1.37																					
	posed Floors	29.80	2.73 0.17																					
Foundation Conductive		On Grade () o	r Abo	4641																				
Total Conductive	Heat Loss			5275																				
	Heat Gain				395																			
Air Leakage Hea	eat Loss/Gain	1	.2076 0.0376	6370	15																			
	Case 1		0.11 0.08																					
Ventilation	Case 2		14.07 11.88																					
	Case 3	х	0.05 0.08	247	33																			
	t Gain People		239																					
Applia	iances Loads	1 =.25 perce																						
Applia Duct an	and Pipe loss		10%																					
Applia Duct an		Total		11892 KIT	576	FAN		PWD		MUD		FOY	Wi	C 2		DIN								
Applia Duct an Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Ce Exposec Exposec	11,892 576 Level 2 posed wall A posed wall B Ceiling height Floor area ed Ceilings A ed Ceilings B	Total	10% HL for per room	KIT 37 A B 10.0 275 Area A B	576	17 A B 10.0 342 Area 5 A B	1	5 A B 0.0 27 Area A B		6 A B 10.0 34 Area A B	10	17 A B 0.0 59 Area A B	11 A B 10.0 32 Area A B	C 2	29 A B 10.0 225 Are A B		A B 10.0 Area A B	10.	Area A B		A B 10.0 Are A B	a	A B 10.0 Are A B	
Applia Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Ce Exposec Exposec Exposec Exposec	Level 2 posed wall A posed wall B posed ilings A de Ceilings B posed Floors	Total	10% HL for per room	37 A B 10.0 275 Area A B Fir	576	17 A B 10.0 342 Area 5 A B Fir	1	5 A B 0.0 27 Area A B Fir		6 A B 10.0 34 Area A B Fir	10	17 A B 0.0 59 Area A B FIr	11 A B 10.0 32 Area A B Fir	C 2	29 A B 10.0 225 Are A B Fir		B 10.0 Area A	10.	B .0 Area A		10.0 Are A	a	B 10.0 Are	
Applia Duct an Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Ce Exposec Exposec Exposec Gross	Level 2 coposed wall A celling height Floor area ed Ceilings A ed Ceilings B posed Floors ss Exp Wall A	Total	10% HL for per room	KIT 37 A B 10.0 275 Area A B	576	17 A B 10.0 342 Area 5 A B	1	5 A B 0.0 27 Area A B		6 A B 10.0 34 Area A B	10	17 A B 0.0 59 Area A B	11 A B 10.0 32 Area A B	C 2	29 A B 10.0 225 Are A B		B 10.0 Area A B	10.	B .0 Area A B		B 10.0 Are A B	a	B 10.0 Are A B	
Applia Duct an Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Exposec Exposec Exposec Exposec Gross Gross	Level 2 posed wall A posed Flora rea de Ceilings A ed Ceilings B posed Flors se Exp Wall A ss Exp Wall A ss Exp Wall B	Total Total HG	HL for per room per room x 1.3	XIT 37 A B 10.0 275 Area A B Fir 370	576	17 A B 10.0 342 Area 5 A B Fir 170	11	5 A B 0.0 27 Area A B Fir 50		6 A B 10.0 34 Area A B Fir	10	17 A B 0.0 59 Area A B Fir	11 A B 10.0 32 Area A B Fir		29 A B 10.0 225 Are A B Fir 290	a	B 10.0 Area A B Fir		B .0 Area A B Fir	Grin	B 10.0 Are A B Fir		B 10.0 Are A B Fir	
Applia Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Ce Exposec Expose	Level 2 posed wall A posed wall B Cellings A ed Cellings A ed Cellings A ed Cellings B osed Floors ss Exp Wall A sc Exp Wall B	Total Total HG	HL for per room per room x 1.3	37 A B 10.0 275 Area A B Fir	576	17 A B 10.0 342 Area 5 A B Fir	1	5 A B 0.0 27 Area A B Fir 50	Gain	6 A B 10.0 34 Area A B Fir	10	17 A B 0.0 59 Area A B FIr	11 A B 10.0 32 Area A B Fir		29 A B 10.0 225 Are A B Fir	a	B 10.0 Area A B	10.	B .0 Area A B	Gain	B 10.0 Are A B		B 10.0 Are A B	
Applia Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Ce Exposec Expose	Level 2 posed wall A posed wall A posed wall B Ceiling height Floor area ed Ceilings A ed Ceilings A ed Ceilings B ss Exp Wall B Scy Wall B North Shaded	Total HG Total HG R-Values Los: 3.55	HL for per room per room x 1.3 s Gain 22.93 10.91	37 A B 10.0 275 Area A B Fir 370 Loss	576	17 A B 10.0 342 Area 5 A B Fir 170	1 Gain	5 A B 0.0 27 Area A B Fir 50		6 A B 10.0 34 Area A B Fir	10 1 Gain	17 A B 0.0 59 Area A B Fir 70	11 A B 10.0 32 Area A B FIr 110	s Gain	29 A B 10.0 225 Are A B Fir 290	a	B 10.0 Area A B Fir		B .0 Area A B Fir	Gain	B 10.0 Are A B Fir		B 10.0 Are A B Fir	
Applia Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Ce Exposec Expose	Level 2 Coposed wall A tposed wall B Ceiling height Floor area ed Ceilings B posed Floors se Exp Wall B Components R North Shaded East/West	Total HG Total HG R-Values Loss 3.55	HL for per room per room x 1.3 S Gain 22.93 10.91 22.93 27.35	37 A B 10.0 275 Area A B Fir 370 Loss	Gain 1067	17 A B 10.0 342 Area 5 A B Fir 170	1 Gain	5 A B 0.0 27 Area A B Fir 50		6 A B 10.0 34 Area A B Fir	10 1 Gain	17 A B 0.0 59 Area A B Fir	11 A B 10.0 32 Area A B FIr 110		29 A B 10.0 225 Are A B Fir 290	ss Gain	B 10.0 Area A B Fir		B .0 Area A B Fir	Gain	B 10.0 Are A B Fir		B 10.0 Are A B Fir	
Applia Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Ce Exposec Expose	Level 2 posed wall A posed wall B celling height Floor area ed Ceilings A ed Ceilings A ed Ceilings A ed Ceilings B se Exp Wall A SE Exp Wall B Components R North Shaded East/West South	Total Total HG Total HG R-Values Loss 3.55 3.55 3.55	HL for per room x 1.3 S Gain 22.93 10.91 27.35 22.93 20.89	37 A B 10.0 275 Area A B Fir 370 Loss	Gain 1067	17 A B 10.0 342 Area 5 A B Fir 170	1 Gain	5 A B 0.0 27 Area A B Fir 50		6 A B 10.0 34 Area A B Fir	10 1 Gain	17 A B 0.0 59 Area A B Fir 70	11 A B 10.0 32 Area A B FIr 110	s Gain	29 A B 10.0 225 Are A B Fir 290	ea ss Gain	B 10.0 Area A B Fir		B .0 Area A B Fir	Gain	B 10.0 Are A B Fir		B 10.0 Are A B Fir	
Applia Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Ce Exposec Expose	Level 2 toposed wall A toposed wall A toposed wall B Ceiling height Floor area ed Ceilings A ed Ceilings B posed Floors is Exp Wall B Components IB Components B South East/West South ing Windows	Total HG Total HG R-Values Los: 3.55 3.55 3.55 1.99	HL for per room per room x 1.3 s Gain 22.93 10.91 22.93 27.35 22.93 20.89 40.90 22.15	37 A B 10.0 275 Area A B Fir 370 Loss	Gain 1067	17 A B 10.0 342 Area 5 A B Fir 170	1 Gain	5 A B 0.0 27 Area A B Fir 50		6 A B 10.0 34 Area A B Fir	10 1 Gain	17 A B 0.0 59 Area A B Fir 70	11 A B 10.0 32 Area A B FIr 110	s Gain	29 A B 10.0 225 Are A B Fir 290	ss Gain	B 10.0 Area A B Fir		B .0 Area A B Fir	Gain	B 10.0 Are A B Fir		B 10.0 Are A B Fir	
Applia Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Ce Exposec Expose	Level 2 posed wall A posed wall B celling height Floor area ed Ceilings A ed Ceilings A ed Ceilings A ed Ceilings B se Exp Wall A SE Exp Wall B Components R North Shaded East/West South	Total HG Total HG R-Values Los: 3.55 3.55 3.55 1.99 2.03	HL for per room x 1.3 S Gain 22.93 10.91 27.35 22.93 20.89	37 A B 10.0 275 Area A B Fir 370 Loss	Gain 1067	17 A B 10.0 342 Area 5 A B Fir 170	1 Gain	5 A B 0.0 27 Area A B Fir 50		6 A B 10.0 34 Area A B Fir	10 1 Gain	17 A B 0.0 59 Area A B Fir 70	11 A B 10.0 32 Area A B FIr 110	s Gain	29 A B 10.0 225 Are A B Fir 290	ss Gain	B 10.0 Area A B Fir		B .0 Area A B Fir	Gain	B 10.0 Are A B Fir		B 10.0 Are A B Fir	
Applia Duct an Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Ce Exposec Expose	Level 2 posed wall A posed wall B celling height Floor area ed Ceilings A ed Ceilings A ed Ceilings A se Exp Wall B Components R North Shaded East/West South ing Windows Skylight Doors	Total HG Total HG R-Values Loss 3.55 3.55 3.55 1.99 2.03	B Gain 22.93 10.91 22.93 27.35 40.90 22.15 40.10 88.23 20.35 2.75	XIT 37 A B 10.0 275 Area A B Fir 370 Loss 39 894 550	Gain 1067 501	17 A B 10.0 342 Area 5 A B Fir 170 Loss 40 91	Gain 7 1094	5 A B B 10.0 27 Area A B Fir 50 Loss	Gain	6 A B 10.0 34 Area A B Fir 60 Loss	10 Gain 58	17 A B B 1.0 S Area A B Fir 70 Loss Gain 120	11 A B 10.0 32 Area A B Fir 110 Loss 4 14 3	Gain 383	29 A B 10.0 225 Are A B Fir 290 Los	ss Gain 642 58:	B 10.0 Area A B Fir		B .0 Area A B Fir	Gain	B 10.0 Are A B Fir		B 10.0 Are A B Fir	
Applia Duct an Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Cc Exposec Exposec Exposec Exposec Exposec Exps Gross C No No Existin	Level 2 posed wall A posed wall A posed wall B Ceiling height Floor area ed Ceilings A ed Ceilings	Total HG Total HG R-Values Los: 3.55 3.55 3.55 3.55 3.55 4.00 17.03	10% HL for per room per room x 1.3 s Gain 22.93 10.91 22.93 27.35 22.93 20.89 40.90 22.15 40.10 88.23 20.35 2.75 20.35 2.75 478 0.65	37 A B 10.0 275 Area A B Fir 370 Loss	Gain 1067 501	17 A B 10.0 342 Area 5 A B Fir 170	Gain 7 1094	5 A B 0.0 27 Area A B Fir 50	Gain	6 A B 10.0 34 Area A B Fir 60 Loss	10 Gain 58	17 A B 0.0 59 Area A B Fir 70	11 A B 10.0 32 Area A B Fir 110 Loss 4 14 3	s Gain	29 A B 10.0 225 Are A B Fir 290 Los	ss Gain	B 10.0 Area A B Fir		B .0 Area A B Fir	Gain	B 10.0 Are A B Fir		B 10.0 Are A B Fir	
Applia Duct an Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Run ft. exp Gross Exposec	Level 2 posed wall A posed wall B celling height Floor area ed Ceilings A ed Ceilings A posed Floors ss Exp Wall A components Sep Wall B Components South ing Windows Skylight Doors Skylight Sk	Total HG Total HG R-Values Loss 3.55 3.55 3.55 1.99 2.03	B Gain 22.93 10.91 22.93 27.35 40.90 22.15 40.10 88.23 20.35 2.75	XIT 37 A B 10.0 275 Area A B Fir 370 Loss 39 894 550	Gain 1067 501	17 A B 10.0 342 Area 5 A B Fir 170 Loss 40 91	Gain 7 1094	5 A B B 10.0 27 Area A B Fir 50 Loss	Gain	6 A B 10.0 34 Area A B Fir 60 Loss	10 Gain 58	17 A B B 1.0 S Area A B Fir 70 Loss Gain 120	11 A B 10.0 32 Area A B Fir 110 Loss 4 14 3	Gain 383	29 A B 10.0 225 Are A B Fir 290 Los	ss Gain 642 58:	B 10.0 Area A B Fir		B .0 Area A B Fir	Gain	B 10.0 Are A B Fir		B 10.0 Are A B Fir	
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Applia Duct an Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Run ft. exp Ce Exposec Exposec Exp Gross Gross Gross C Nc Existin Net expo Net expo Exposec Exposec Exposec Expessec Exposec	Level 2 576 Level 2 posed wall A posed wall B Celling height Floor area ed Ceilings A ed Ceilings A ed Ceilings B Components R North Shaded East/West South ing Windows Skylight Doors posed walls A posed walls B ed Ceilings A ed Ceilings B	R-Values Loss 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65	B Gain 22.93 10.91 22.93 27.35 22.93 20.89 40.90 22.15 4.78 0.65 4.78 0.65 2.94 1.37 2.95 1.37 2.96 1.37	XIT 37 A B 10.0 275 Area A B Fir 370 Loss 39 894 550	Gain 1067 501	17 A B 10.0 342 Area 5 A B Fir 170 Loss 40 91	Gain 7 1094 1 84	5 A B 10.0 27 Area A B Fir 50 Loss	Gain	6 A B 10.0 34 Area A B Fir 60 Loss	10 Gain 58	17 A B B 1.0 S Area A B Fir 70 Loss Gain 120	11 A B 10.0 32 Area A B Fir 110 Loss 4 14 3	Gain 383	29 A B 10.0 225 Are A B Fir 290 Los	ss Gain 642 58:	B 10.0 Area A B Fir		B .0 Area A B Fir	Gain	B 10.0 Are A B Fir		B 10.0 Are A B Fir	
Applia Duct an Level 1 HL Total Level 1 HG Total Run ft. exp Run ft. exp Cc Exposec	Level 2 posed wall A posed wall B celling height Floor area ed Ceilings A sis Exp Wall A sis Exp Wall A sis Exp Wall A sis Exp Wall B components R North Shaded East/West South cing Windows Skylight Doors posed walls A posed walls A ed Ceilings A ed Ceilings B posed Floors be ded Ceilings B posed Floors be Heatloss be ded Leilings B posed Floors be Heatloss	R-Values Loss 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65	B Gain 22.93 10.91 22.93 27.35 22.93 20.89 40.90 22.15 4.78 0.65 4.78 0.65 2.94 1.37 2.95 1.37 2.96 1.37	XIT 37 A B 10.0 275 Area A B Fir 370 Loss 39 894 550	Gain 1067 501	17 A B 10.0 342 Area 5 A B Fir 170 Loss 40 91	Gain 7 1094 1 84 7 3	5 A B 8 0.0 27 Area A B Fir 50 Loss	Gain	6 A B 10.0 34 Area A B FIr 60 Loss 21 427 39 186	10 Gain 58	17 A B B 1.0 S Area A B Fir 70 Loss Gain 120 120 26 602 8	11 A B 10.0 32 Area A B Fir 110 Loss 4 14 3	Gain 383	29 A B 10.0 225 Are A B Fir 290 Los	ss Gain 642 58:	B 10.0 Area A B Fir		B .0 Area A B Fir	Gain	B 10.0 Are A B Fir		B 10.0 Are A B Fir	
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Division C subsection 3.2.5. of the Building Code. Individual BCIN:



37,937

23,382

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

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		Builder:	Bayview	Wellington	_	Di	ate:		February	11, 2020						Weat	er Data	Bradfo	ord	44	-9.4 8	6 22	48.2		Proi	ect#	PJ-00
2012 OBC		Project:	Gree	Valley		Мо	del:		SD-30-1	Lot 150				System	1	Heat	Loss ^T 81.	4 deg. F	Ht ga	in ^T	11 c	leg. F	GTA:	2366		out #	JB-06
	Level 3				IAST		LAUN	ID	ВЕ	D 2		BED 3	•	BATH		BED	1	ENS									
	n ft. exposed wall A			21 A			Α		11 A		31 A	A		6 A		14 A		1 A		Α		Α		Α		Α	
Run	n ft. exposed wall B Ceiling height			8.0			B 8.0		8.0		8.0	3	8.	B 0		B 8.0	8.	B	8.0	В		B 8.0		B 8.0		B 8.0	
	Floor area			395 Ar	a		58 Area		191 Area	1	186 A		7	7 Area		136 Area	10	7 Area	0.0	Area		Area		Area		Area	a
	Exposed Ceilings A Exposed Ceilings B			395 A B			58 A B		191 A B		186 <i>A</i>		7	7 A B		136 A B	10	7 A B		A B		A B		A B		A B	
-	Exposed Floors			Fir			18 Flr		140 Flr			e Fir		Fir		Flr		Fir		Flr		Fir		Flr		Flr	
	Gross Exp Wall A			168					88		248		4	18		112	16	В									
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	North Shaded	3.55).91							15		164														
	East/West South	3.55 3.55		7.35 28 0.89	642	766			31 7	711 8	848 54	1238 1	477	8 183	167	16 367	334	3 298	356								
	Existing Windows	1.99	40.90 2	2.15																							
	Skylight Doors	2.03 4.00		2.75																							
Ne	let exposed walls A	17.03		0.65 140	669	90			57 2	272	37 179	856	116 4	0 191	26	96 459	62 15	5 741	100								
	let exposed walls B Exposed Ceilings A	8.50 59.22		.29 0.64 395	543	253	58 8	37	191 2	263 1	123 186	256	119 7	7 106	49	136 187	87 10	7 147	69								
	Exposed Ceilings A	27.65		.37	543	253	38 8	37	191 2	263	123 186	256	119 7	7 106	49	136 187	87 10	147	69								
	Exposed Floors	29.80).17			18 4	3	140 3	382	23																
	ductive Heatloss Heat Loss				854		12	9	16	528		2693		480		1013		1186									
otal Conductive	Heat Gain				1	110		40		10	031	1	876		242		483		524								
Air Leakage	Heat Loss/Gain Case 1		0.2836 0.0	376 0.08	526	42	3	7 2	4	162	39	764	71	136	9	287	18	336	20								
Ventilation	Case 2			.88																							
	Case 3	х		.08		93		6 3			87	126	157	23	20	47	41 239	56	44								
				220 2							220 4		220														
	Heat Gain People Appliances Loads	1 =.25 pc		239 2 994		478	0.5	499	1	2	239 1		239			i											
	Appliances Loads Duct and Pipe loss		ercent 3	994 0%			1 1	7 54		209 1	127		239	620		404		4570									
	Appliances Loads	То	ercent 3	994 0% om	2467			7 54		209 1		3584	046	639	353	1347		1578	765								
evel 3 HL Total evel 3 HG Total Run Run	Appliances Loads Duct and Pipe loss 12,178 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Ceiling height Floor area	То	tal HL for per re	994 0% om 1.3	2467		A B Area	7 54 B	A B Area	209 1 375 19	127 979	3584 3		A B Area	353	A B		A B	765	A B Area		A B Area		A B Area		A B Area	a
evel 3 HL Total evel 3 HG Total Run Run	Appliances Loads Duct and Pipe loss 12,178 12,178 10,175 Level 4 n ft. exposed wall A n ft. exposed wall B Ceiling height Floor area Exposed Ceilings A	То	tal HL for per re	994 0% om 1.3	2467		A B Area A	7 54 B	A B Area A	209 1 375 19	127 979	3584 3 3 Area		A B Area A	353	A B Area A		A B Area A	765	B Area A		B Area A		B Area A		B Area A	a
uevel 3 HL Total evel 3 HG Total Run Run E E E	Appliances Loads Duct and Pipe loss 12,178 10,175 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors	То	tal HL for per re	994 0% om 1.3	2.467 2.		A B Area	7 54 B	A B Area	209 1 375 19	127 979	3584 3 3 Area		A B Area	353	A B		A B	765	B Area		B Area		B Area		B Area	a
evel 3 HL Total evel 3 HG Total Run Run E	Appliances Loads Duct and Pipe loss 12,178 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Celling height Floor area Exposed Cellings A Exposed Cellings A Exposed Floors Gross Exp Wall A	То	tal HL for per re	994 0% om 1.3	2.467 2.		A B Area A B	7 54 B	A B Area A B	209 1 375 19	127 979	3584 3 3 3 4 3		A B Area A B	353	A B Area A B		A B Area A B	765	B Area A B		B Area A B		B Area A B		B Area A B	a
evel 3 HL Total evel 3 HG Total Run Run E	Appliances Loads Duct and Pipe loss 12,178 10,178 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components I	Total Total	atal HL for per rc HG per room	994 0% om 1.3 A B Arr A B Fir	2.467 2.	240	A B Area A B	7 54 B	A B Area A B	209 1 375 19	1127 1979	3584 3 3 3 4 3	046	A B Area A B Fir	353	A B Area A B		A B Area A B Fir	765	B Area A B Fir	Gain	B Area A B	Gain	B Area A B	Gain	B Area A B Fir	
evel 3 HL Total vel 3 HG Total Run Run E	Appliances Loads Duct and Pipe loss 12,178 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Celling height Floor area Exposed Cellings A Exposed Cellings A Exposed Floors Gross Exp Wall B Components I North Shaded	Total Total R-Values I	tal HL for per rom of the following states and the following states are states and the following states are states and the following states are states are states and the following states are states	994 0% 0% 0m 1.3 A B ArA A B Fir	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
l vel 3 HL Total vel 3 HG Total Run Run E E	Appliances Loads Duct and Pipe loss 12,178 10,175 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components I North Shaded East/West South	Total R-Values L 3.55 3.55	.oss Gain 22.93 1 22.93 2 22.93 2 2 2 2 2 2 2 3 2 2	994 0% 0m 1.3 A B Ar A A B Fir	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
l vel 3 HL Total vel 3 HG Total Run Run E E	Appliances Loads Duct and Pipe loss 12,178 10,175 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows	To Total R-Values L 3.55 3.55 3.55 1.99	.oss Gain 22.93 1 22.93 2 20.93 2 40.90 2	994 0% 0m 1.3 A B B Fir Lo 1.91 .335 .89 .1.15	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
evel 3 HL Total vel 3 HG Total Run Run E	Appliances Loads Duct and Pipe loss 12,178 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components I North Shaded East/West South Existing Windows Skylight Doors	R-Values L 3.55 3.55 3.55 1.99 2.03	.oss Gain 22.93 1 22.93 2 22.93 2 40.90 2 40.10 8	994 0% 0m 1.3 A B Ar A A B Fir Lo .35 .35 .35 .35 .23 .23	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
Run Run Run Run Run	Appliances Loads Duct and Pipe loss 12,178 10,175 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components I North Shaded East/West South Existing Windows Skylight Doors let exposed walls A	R-Values I 3.55 3.55 3.55 1.99 2.03 4.00	.oss Gain 22.93 1 22.93 2 22.93 2 40.90 8 20.35 4.78	994 0% 0m 1.3 A B B Fir Lo 1.35 8.89 1.15 1.23 1.25 1.65 1.65	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
Run	Appliances Loads Duct and Pipe loss 12,178 10,175 10,175 Level 4 In ft. exposed wall A In ft. exposed wall A In ft. exposed Wall B Ceiling height Floor area Exposed Ceilings B Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors let exposed walls A	R-Values L 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.59 59.22	.oss Gain 22.93 1 22.93 2 22.93 2 40.10 8 20.35 4.78 9.58	994 0% 0M 1.3 A B B Fir Lo 1.35 8.89 1.15 1.23 1.23 1.23 1.23 1.25 1.66 1.64	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
Run	Appliances Loads Duct and Pipe loss 12,178 10,175 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components II North Shaded East/West South Existing Windows Skylight Doors let exposed walls A let exposed ceilings B Exposed Ceilings B	R-Values I 3.55 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65	.oss Gain 22.93 1 22.93 2 22.93 2 40.90 8 20.35 4.78 9.58 1.37 2.94	994 0% 0	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
Run	Appliances Loads Duct and Pipe loss 12,178 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors let exposed walls B Exposed Walls B Exposed Walls B Exposed Walls B Exposed Ceilings A Let exposed Walls B Exposed Walls B Exposed Ceilings B Exposed Ceilings B Exposed Floors	R-Values L 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.59 59.22	.oss Gain 22.93 1 22.93 2 22.93 2 40.90 8 20.35 4.78 9.58 1.37 2.94	994 0% 0M 1.3 A B B Fir Lo 1.35 8.89 1.15 1.23 1.23 1.23 1.23 1.25 1.66 1.64	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
Run	Appliances Loads Duct and Pipe loss 12,178 10,175 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Floors Gross Exp Wall B Components I North Shaded East/West South Existing Windows Skylight Doors Let exposed walls A Let exposed walls B Exposed Floors Let exposed	R-Values I 3.55 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65	.oss Gain 22.93 1 22.93 2 22.93 2 40.90 8 20.35 4.78 9.58 1.37 2.94	994 0% 0	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
Run	Appliances Loads Duct and Pipe loss 12,178 10,175 1	R-Values I 3.55 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65		994 0% 0	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
Run Run N. N. N. N. N. C. E.	Appliances Loads Duct and Pipe loss 12,178 10,175 Level 4 In ft. exposed wall A In ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Floors Gross Exp Wall B Components I North Shaded East/West South Existing Windows Skylight Doors Let exposed walls B Exposed Ceilings B Exposed Floors Gross Exp Wall B Components I North Shaded East/West South Existing Windows Skylight Doors Let exposed walls B Exposed Ceilings B Exposed Floors ductive Heatloss Heat Loss Heat Gain Heat Loss/Gain	R-Values I 3.55 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65		994 07% 07% 07% 07% 07% 07% 07% 07% 07% 07%	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
Run	Appliances Loads Duct and Pipe loss 12,178 10,175 10,175 10,175 10,175 10,175 10,175 10,175 10,175 10,175 10,175 10,175 10,175 11,178 1	R-Values L 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65 29.80	.oss Gain 22.93 1 22.93 2 22.93 2 240.90 2 40.10 8 20.35 4.78 9.58 1.37 2.94 2.73 0.0000 0.0	994 076 076 076 076 076 076 076 076 076 076	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
Run	Appliances Loads Duct and Pipe loss 12,178 10,175 1	R-Values I 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 29.80 x	Content Cont	994 0% 0M 1.3 A B B Fir L L 1.5 1.23 1.75 1.65 1.223 1.77 1.17 1.17 1.17 1.17 1.17 1.17 1.1	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
Run Run No	Appliances Loads Duct and Pipe loss 12,178 10,175 1	R-Values L 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65 29.80	.oss Gain 22.93 1 22.93 2 22.93 2 22.93 2 20.90 2 40.10 8 9.58 1.37 2.94 2.73 0.0000 0.0 0.00 14.07 1 0.05	994 A B A B Ar A A B Fir Lo 1.33 L.0 1.215 1.23 1.215 1.23 1.215 1.23 1.215 1.23 1.21 1.21 1.21 1.21 1.21 1.21 1.21	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	
Run Run No	Appliances Loads Duct and Pipe loss 12,178 10,175 1	R-Values I 3.55 3.55 3.55 3.55 3.55 2.03 4.00 17.03 8.50 59.22 27.65 29.80	.oss Gain 22.93 1 22.93 2 22.93 2 22.93 2 20.90 2 40.10 8 9.58 1.37 2.94 2.73 0.0000 0.0 0.00 14.07 1 0.05	994 A B Ar A A B B Fir 1.3.35 8.89 1.2.23 2.75 1.2.23 2.7.75 1.2.23 3.7.	2.467 2.	240	A B Area A B Fir	7 54 3 778	A B Area A B Fir	209 1 375 19	1127 1979	3584 3 3 3 3 Area A 3 3	046	A B Area A B Fir		A B Area A B Fir	1016	A B Area A B Fir		B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	a SS Ga

32964

Division C subsection 3.2.5. of the Building Code. Individual BCIN:

Man Aleta

David DaCosta

Package A1



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

1 2

3 4 Х Project # Layout #

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I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under

Division C subsection 3.2.5. of the Building Code. Individual BCIN: 32964 Mane Aleta

David DaCosta

Package: Project:	Package A1 Bradford	Model:	SD-30-1 Lot 150	_
	RESIDENTIAL MECHANICAL	VENTU ATION DES	ICN SUMMARY	
	For systems serving one dwelling unit & co.			
	Location of Installation	Total Ve	entilation Capacity 9.32.3.3(1)	
Lot #	Plan #	Bsmt & Master Bdrm	2 @ 21.2 cfm 42.4	cfm
Township	Bradford	Other Bedrooms Bathrooms & Kitchen	3 @ 10.6 cfm 31.8 4 @ 10.6 cfm 42.4	
Roll #	Permit #	Other rooms	4 @ 10.6 cfm 42.4 Total 159	
Address				
		Principal '	Ventilation Capacity 9.32.3.4(1)	
Name	Builder	Master bedroom	1 @ 31.8 cfm 31.8	ofm
IName	Bayview Wellington	Other bedrooms	3 @ 15.9 cfm 47.7	
Address			Total <u>79.5</u>	
City		Princ	ipal Exhaust Fan Capacity	
Tel	Fax	Make	Model Location	
		LifeBreath	RNC155 Base	
	Installing Contractor		232	
Name		132 cfm	Sones	or Equiv.
Address		He	eat Recovery Ventilator	
		Make	the state of the s	
City		Model	of an height	- Constant
Tel	Fax	Sensible efficiency @		cfm low
		Sensible efficiency @	0 deg C <u>75%</u>	<u>.</u>
	Combination Appliances 0.22.2.4(4)		nnce HRV/ERV to within 10 percent of F	٧C
a) x	Combustion Appliances 9.32.3.1(1) Direct vent (sealed combustion) only	Supple	mental Ventilation Capacity	
b)	Positive venting induced draft (except fireplaces)	Total ventilation capac		
c)	Natural draft, B-vent or induced draft fireplaces	Less principal exhaust		~f
d) e)	Solid fuel (including fireplaces) No combustion Appliances	REQUIRED suppleme	ntal vent. Capacity 79.5	cfm
			plemental Fans 9.32.3.5.	
x	Heating System Forced air	Location Ens	cfm Model Sone 50 XB50 0.3	
	Non forced air	Bath	50 XB50 0.3	
	Electric space heat (if over 10% of heat load)			
	House Type 0.22.2.4/2\			
l x	House Type 9.32.3.1(2) Type a) or b) appliances only, no solid fuel	all fans HVI listed	Make Broan or Equiv.	
II	Type I except with solid fuel (including fireplace)		·	
III	Any type c) appliance		Designer Certification	
IV Other	Type I or II either electric space heat Type I, II or IV no forced air		s ventilation system has been designed Ontario Building Code.	
	1,700 1, 11 01 14 110 101000 011	in accordance with the	Smalle Building Code.	

	Designer (Certification	
I hereby certify the	nat this ventilatio	n system has been	designed
in accordance w	ith the Ontario B	uilding Code.	-
Name	David D	aCosta	
0:	Mana	16000	
Signature			
HRAI#	5190	BCIN#	32964
HINAL#	5190	DOIN#	32304
Date	February	11 2020	
Date	i ebiuary	11, 2020	

♦GTA\DESIGNS

Energy Efficiency Design Summary: Prescriptive Method

(Building Code Part 9, Residential)

Page 7

Project # PJ-00041 Layout # JB-06123

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 Princip	oal A	uthority					
Application No:					el/Certification Nu	ımber				
A. Project Information										
Building number, street name						Unit	numbe	er	Lot/Con	
		SE	0-30-1 Lot 150							
Municipality Bradford			Postal code	Reg	. Plan number / otl	her de	script	ion		
Bradioid										
B. Prescriptive Compliance [indi	cate the build	ding cod	ı e compliance packa	ige b	eing employed in	the h	ouse	design]		
									0440	Λ.
SB-12 Prescriptive (input design p	oackage):		<u>Pack</u>	<u>age</u>	<u>A1</u>			i abie:	3.1.1.2	<u>A</u>
C. Project Design Conditions										
Climatic Zone (SB-1):		Heat. E	quip. Efficiency			S	pace	e Heating F	uel Sourc	ce
☑ Zone 1 (< 5000 degree days)]	√ ≥ 9	2% AFUE		☑ Gas			Propane		Solid Fuel
□ Zone 2 (≥ 5000 degree days)]] ≥ {	34% < 92% AFUE		□ Oil			Electric		Earth Energy
Ratio of Windows, Skylights & Gla	ass (W, S &	G) to	Wall Area			Ot	her E	Building Ch	aracteris	tics
Area of Walls = <u>278.14</u> m ² or <u>2993.9</u>	e ft²				Log/Post&Beam			ICF Above	Grade	☐ ICF Basement
71100 01 Walls = <u>270.11</u> 111 01 <u>2000.0</u>	<u>z</u>	W,S &	G % = <u>12%</u>		Slab-on-ground			Walkout Ba	sement	
				✓	Air Conditioning			Combo Unit	t	
Area of W, S & G = <u>33.723</u> m ² or <u>363.0</u>	ft² (Jtilize V	Vindow □ Yes		Air Sourced Hea	at Pun	np (As	SHP)		
		Aver	aging 🗵 No		Ground Source I	Heat I	Pump	(GSHP)		
D. Building Specifications [provi		d ratings	of the energy effici	ency	components pro	posed	<u> </u>			
Energy Efficiency Substitutions	3									
□ ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5))										
☐ Combined space heating and domes					.(7))					
☐ Airtightness substitution(s)	T	able 3.						Permitted S		
Airtightness test required	□т	able 3.						Permitted S		
(Refer to Design Guide Attached)			Required:					Permitted S	Substitution	1:
Building Component			I/R-Values or n U-Value¹		Buil	ding	Com	ponent		Efficiency Ratings
Thermal Insulation	Nomi		Effective	Wii	ndows & Doo	re Dr	ovido	. I I-Value ⁽¹⁾ e	r ED rating	
Ceiling with Attic Space	60		59.22	-	dows/Sliding G				LINIAUII	1.6
Ceiling without Attic Space	31		27.65	1	lights			-		2.8
Exposed Floor	31		29.80	<u> </u>	chanicals					1
Walls Above Grade	22		17.03		ating Equip.(AFL	UE)				96%
Basement Walls		20.0ci	21.12		V Efficiency (SF		at 0°C	;)		75%
Slab (all >600mm below grade)	x		х	-	W Heater (EF)			•		0.80
Slab (edge only ≤600mm below grade)	10		11.13		HR (CSA B55.1	(min.	42% e	efficiency))		#Showers 2
Slab (all ≤600mm below grade, or heated)	10		11.13	-	nbined Heating	•		***		
(1) U value to be provided in either W/(m²·K) or I	Btu/(h·ft·F) bu	t not bo	th.							
E. Designer(s) [name(s) & BCIN(s),	, ,			matic	n herein to subst	tantiat	te that	t design mee	ts building	code]
Name			BCIN		Signature					
David DaCosta			329	964	1			Jane	14C=	\



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

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Package: Package A1 System: System 1

Pack Proje	kage: Package A1 ect: Bradford		stem: lodel:		Syster SD-30-1 L	n 1 .ot 150		
		Air Leakage Ca	alculations					
	Building Air Leakage Heat	Loss		Building A	Air Leakage	Heat Gair	n	
		_^T HLleak 1.4 12740	B 0.018	LRairh 0.076	Vb 28149	HG^T 11	HG Leak 423	
					Leve	els		
	Air Leakage Heat Loss/Gain Multip	plier Table (Section 11)		1	2	3	4	
	Level Level Building Level Conduct Factor (LF) Air Heat Loss	tive Air Leakage Hea Multiplier		(LF)	(LF)	(LF)	(LF)	
	Level 1 0.5 5275 Level 2 0.3 42740 9596	1.2076 0.3983		1.0	0.6	0.5 0.3	0.4 0.3	
	Level 3 0.2 12/40 8984	0.2836			0.4	0.3	0.2	
	Level 4 0 0	0.0000					0.1	
	HG LEAK 42 BUILDING CONDUCTIVE HEAT GAIN 112	Air Leakage Hea	at Gain		Levels this			۰
		Ventilation Cal	culations					-
	Ventilation Heat Loss	ventilation ear	- Calations	Ventila	ition Heat Gai	in		
Vent	Ventilation Heat Loss			Ventilation F	leat Gain			Vent
>	C PVC HL^T (1-E) HRV 1.08 79.5 81.4 0.16	HLbvent 1118	C PVC 1.1 79.5	HG^T	HGbv 94			>
	Case 1				Case 1			
_	Ventilation Heat Loss (Exhaust only Sys	stems)	Ven	ilation Heat G	ain (Exhaust (Only Systen	ns)	
_	Case 1 - Exhaust Only			haust Only	Multip	olier		1
Sase	Level LF HLbvent LVL Cond. H Level 1 0.5 5275	0.11	HGbvent Building	944 11249	0.0	8		Case
	Level 2 0.3 Level 3 0.2 Level 4 0 9596 8984 0	0.03 0.02 0.00						
	Case 2				Case 2			
2	Ventilation Heat Loss (Direct Ducted Sys	stems)	Vent	ilation Heat Ga	ain (Direct Du	cted Syster	ms)	
Case 2	C HL^T (1-E) HRV 14.07		С	HG^T	Multip			Case 2
S	1.08 81.4 0.16 14.07		1.08	11	11.8	38		O
	Case 3 Ventilation Heat Loss (Forced Air Syst	rams)	1/-	atilation Haat	Case 3	Air Cuntan	-1	
e 3	· · · · · · · · · · · · · · · · · · ·	,	ve	ntilation Heat	Vent Hea			e 3
Case	Total Ventilation Load 1118	Multiplier 0.05	HGbvent 944	HG*1.3	94		Multiplier 0.08	Case
	Foundation Conductive Heatloss L	ovol 1	4200	Watta	404	4	D4:://b	
			1360	Watts	464	• 1	Btu/h	
	Foundation Conductive Heatloss L	Level 2		Watts			Btu/h	

Envelope Air Leakage Calculator

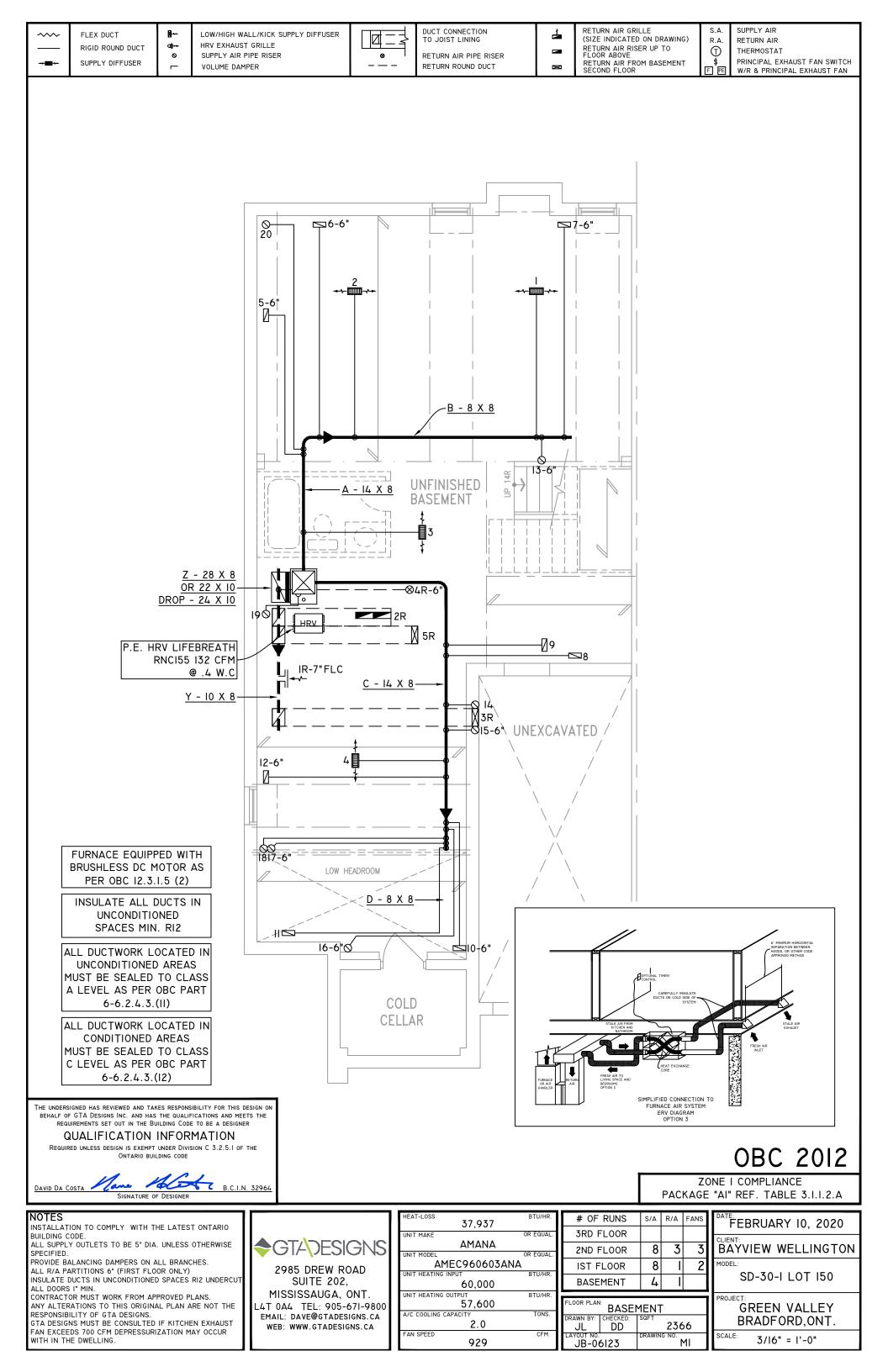
Supplemental tool for CAN/CSA-F280

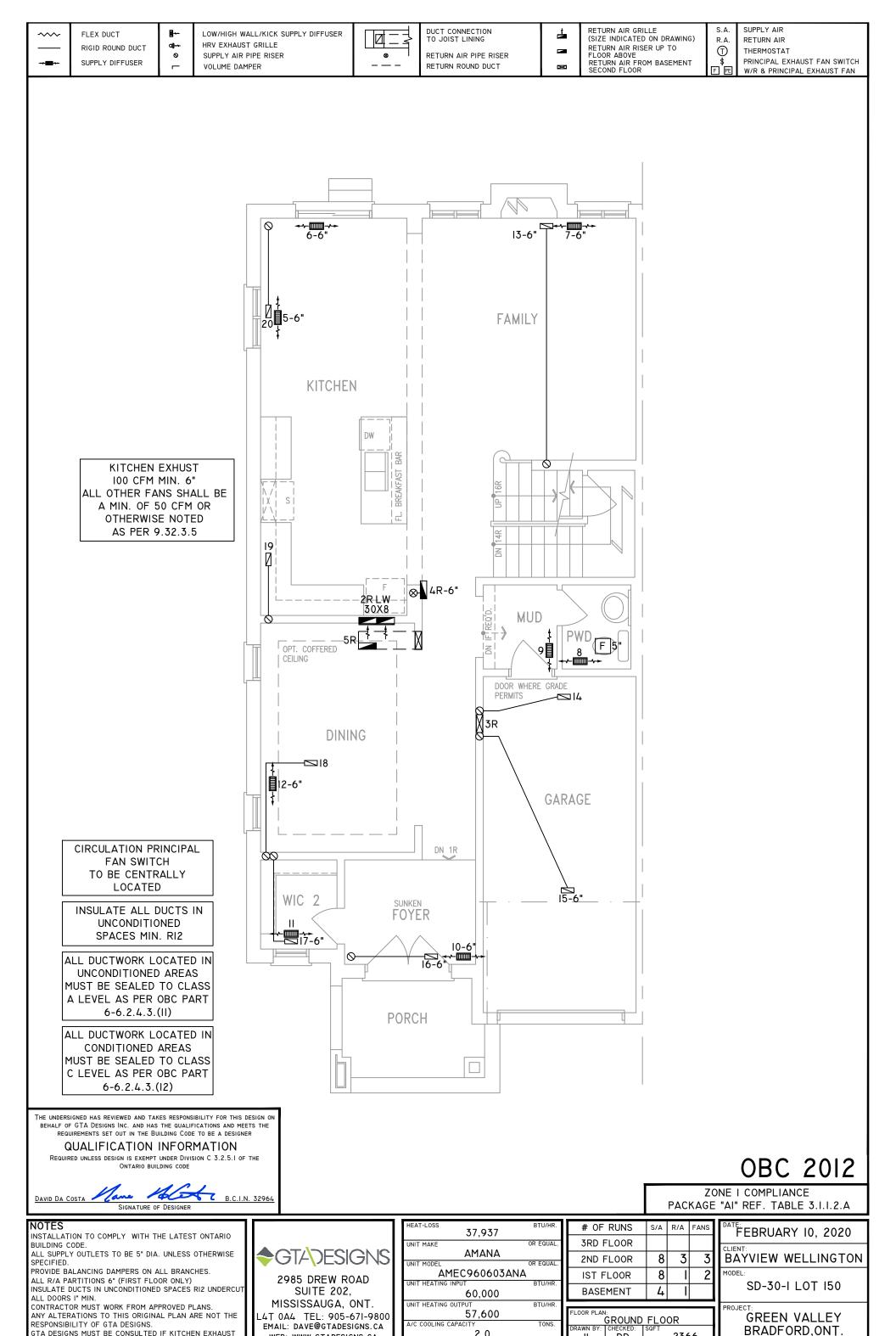
Weather Station	Description
Province:	Ontario
Region:	Bradford
Weather Station Location:	Open flat terrain, grass
Anemometer height (m):	10
Local Shiel	lding
Building Site:	Suburban, forest ▼
Walls:	Heavy ▼
Flue:	Heavy ▼
Highest Ceiling Height (m):	6.10
Building Confi	guration
Type:	Semi-Detached
Number of Stories:	Two
Foundation:	Full
House Volume (m ³):	797.18
Air Leakage/Ve	entilation
Air Tightness Type:	Present (1961-) (ACH=3.57)
0	ELA @ 10 Pa. 322.44 cm ²
Custom BDT Data:	3.57 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply: Total Exhaust:
	39.75
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Heating Air Leakage Rate (ACH/H):	0.309
Cooling Air Leakage Rate (ACH/H):	0.076

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weat	her Sta	tion Description
Province:		Ontario
Region:		Bradford
	Site D	escription
Soil Conductivity:		High conductivity: moist soil ▼
Water Table:		Normal (7-10 m, 23-33 Ft)
Fou	ındatio	n Dimensions
Floor Length (m):	17.78	
Floor Width (m):	5.23	
Exposed Perimeter (m):	36.88	
Wall Height (m):	2.74	
Depth Below Grade (m):	2.13	Insulation Configuration
Window Area (m²):	0.84	
Door Area (m²):	1.95	
	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):		1360





2.0

929

FAN SPEED

WEB: WWW.GTADESIGNS.CA

DD

JB-06123

2366

M2

3/16" = 1'-0"

GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHAUST FAN EXCEEDS 700 CFM DEPRESSURIZATION MAY OCCUR

WITH IN THE DWELLING.

RETURN AIR GRILLE (SIZE INDICATED ON DRAWING) DUCT CONNECTION TO JOIST LINING LOW/HIGH WALL/KICK SUPPLY DIFFUSER 占 FLEX DUCT R.A. HRV EXHAUST GRILLE **a**]⊶ ⊘ RETURN AIR RISER UP TO FLOOR ABOVE RIGID ROUND DUCT 1 SUPPLY AIR PIPE RISER 8 RETURN AIR PIPE RISER RETURN AIR FROM BASEMENT SECOND FLOOR SUPPLY DIFFUSER **VOLUME DAMPER** RETURN ROUND DUCT 48"x42" ⊷┈┈~→ 13-6" SHOWER 6'-0" OVAL TUB OPENING **ENSUITE** 20 (F)5 MASTER BEDROOM WIC BEDROOM 4 **1**9 4R HW 14X8 LAUND. 5R HW 14X8 } F 5" 14 3R LW 14X8 F5"<u>18</u> **BATH** BEDROOM 2 BEDROOM 3 15-6" **--**≁-**□□□**-**/**→ INSULATE ALL DUCTS IN 16" RAISED UNCONDITIONED CEILING 17-6" SPACES MIN. RI2 -<u>-</u>----16-6" 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.I of the ONTARIO BUILDING CODE

B.C.I.N. 32964

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.

GTADESIGNS

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

HEAT-LOSS 37,937	BTU/HR.
UNIT MAKE AMANA	OR EQUAL.
UNIT MODEL AMEC960603ANA	OR EQUAL.
UNIT HEATING INPUT 60,000	BTU/HR.
UNIT HEATING OUTPUT 57,600	BTU/HR.
A/C COOLING CAPACITY 2.0	TONS.
FAN SPEED 929	CFM

ROOF BELOW

# OF RUNS	S/A	R/A	FANS	FEBRUARY 10, 2020
3RD FLOOR				TEBROART 10, E020
SKD I LOOK				CLIENT:
2ND FLOOR	8	3	3	BAYVIEW WELLINGTO
IST FLOOR	8		2	MODEL:
DACEMENT	,			SD-30-I LOT 150
BASEMENT	4	I		
				PROJECT:
FLOOR PLAN:				GREEN VALLEY
SECOND FLOOR				GRLLIN VALLET

DD

JL

JB-06123

2366

M3

ROOF RELOW

BAYVIEW WELLINGTON SD-30-I LOT 150 PROJECT: **GREEN VALLEY** BRADFORD, ONT.

3/16" = 1'-0"

OBC 2012

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

SUPPLY AIR

RETURN AIR

THERMOSTAT

PRINCIPAL EXHAUST FAN SWITCH