

Schedule 1: Designer Information

Page 1

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 The Lincoln	Lot 62 B		Lot:	62 B
Unit 40-1 Alt. Layo	ut 9'-0" Ceilings	S	Lot/con.	
Municipality Clarington, ON	Postal code	Plan number/ other description		
B. Individual who reviews and takes responsibility for design	gn activities			
Name David DaCosta		Firm	gtaDesigns Inc.	
Street address 2985 Drew Roa	d, Suite 202		Unit no.	_ot/con.
Municipality	Postal code	Province	E-mail	
Mississauga	L4T 0A4	Ontario	dave@gtadesi	gns.ca
Telephone number (905) 671-9800	Fax number) 494-9643	Cell number (416) 268-68	220
C. Design activities undertaken by individual identified in S				520
☐ House ☑ HVAC – H	louso		☐ Building Structural	
☐ Small Buildings ☐ Building Si			☐ Plumbing – House	
	Lighting and Po	wer.	☐ Plumbing – All Buildings	
☐ Complex Buildings ☐ Fire Protection,		WCI	☐ On-site Sewage System	
	del Certification		Project #:	15-34
Heating and Cooling Load Calculations	der Gertification	Builder	Highcastle Homes	
Air System Design		Project	Northglen	
Residential mechanical ventilation Design Summary		Model	The Lincoln Lot 62	
Residential System Design per CAN/CSA-F280-12		00.40	Unit 40-1 Alt. Layout 9'-0"	Ceilings
Residential New Construction - Forced Air D. Declaration of Designer		SB-12	Package D	
(print name) I review and take responsibility for 3.2.4 Division C of the Building Co classes/categories. Individual BCIN Firm BCIN: I review and take responsibility fo "other designer" under subsection Individual BCIN Basis for exemp	r the design and 3.2.5 of Division from registr	am qualified in the ap n C, of the Building Cod s4 ation:	propriate category as an de.	
	otion from registr	ation and qualification:		
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 Fax: 647-494-9643 e-mail dave@gtadesigns.ca

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Heat loss and gain calcul	ation summary sheet CSA-F280-M12 Standard
	ighcastle Homes Project No.
and may not be used by any other persons without authorization. Docum	
	Location
Address (Model): Unit 40-1 Alt. Layout 9'-0" Ceilings	Site: Northglen
Model: The Lincoln Lot 62 B	Lot: 62 B
City and Province: Clarington, ON	Postal code:
	is based on
	sidy & co. Dwgs Dated 18/Dec/2014
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: Newcastle	Wind exposure: Shelterd
HRV? Broan 684N	Internal shading: Light-translucent Occupants: 3
Recovery % at -25C 0 Recovery % at -0C 0	Units: Imperial
Heating design conditions	Cooling design conditions
Outdoor temp -4.0 Indoor temp: 72 Mean soil tem 48	Outdoor temp 86 Indoor temp: 75 Latitude: 44
Above grade walls	Below grade walls
Style A: As per Selected OBC SB12 Package D R 24	Style A: As per Selected OBC SB12 Package D R 20
Style B: Existing Walls (When Applicable) R 12	Style B:
Style C:	Style C:
Style D:	Style D:
Floors on soil	Ceilings
Style A: As per Selected OBC SB12 Package D	Style A: As per Selected OBC SB12 Package D R 50
Style B:	Style B: As per Selected OBC SB12 Package D R 31
Exposed floors	Style C:
Style A: As per Selected OBC SB12 Package D R 31	Doors
Style B:	Style A: As per Selected OBC SB12 Package D R 3.01
Windows	Style B:
Style A: As per Selected OBC SB12 Package D R 3.15	Style C:
Style B: Existing Windows (When Applicable) R 1.99	Skylights
Style C:	Style A: As per Selected OBC SB12 Package D R 2.03
Style D:	Style B:
Attached documents: As per Shedule 1	
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: (416) 268-6820
City: Mississauga	E-mail dave@gtadesigns.ca



Air System Design

Package D

Builder: Highcastle Homes Date: April 15, 2015

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

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.

Project #

15-34

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Heatloss/Gain Calculations CSA-F280-12

2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 Fax: 647-494-9643

e-mail dave@gtadesigns.ca

		Builder:	Highcastle	Homes		Date:		April :	15, 2015				Weatl	ner Data	Newc	astle 44	-4.0	86 52	48.2		Pr	oject#	15-3
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2012 OBC		Project:	Northg	len	_	Model:	Unit	10-1 Alt. La	yout 9'-0" Ce	ilings		Jystom i	Heat	Loss ^T	76 deg. F	Ht gain ^1	11	deg. F	GTA:	2119			Page
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Level 1 HL Total Level 1 HG Total Run Run E	Appliances Loads Duct and Pipe loss 15,925 927 Level 2 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Floors Gross Exp Wall A Gross Exp Wall B Components	Total Total	rcent 414 al HL for per room x1. G per room x1. Section 24.13 11.3	KIT/ 38 A B 18 267 A B Fir 684	Gain	34 A B 10 232 Ai 163 A B FI 340	rea Ir	26 A B 10 118 Ard 13 A B Fir 260 Lo	ea	9 A B 10 65 Area A B Fir 90	10 291 228 400	A B Area A B Fir	25 A B 10 78 Area 78 A B Fir 250	Gain 181	7 A B 10 84 Area A B Fir 70	B 10 Are A B Fir Gain <u>Los</u>		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run E	Appliances Loads Duct and Pipe loss 15,925 927 Level 2 If. exposed wall A Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded	Total Total R-Values L 3.15	rcent 414 al HL for per room x1. G per room x1. Section 24.13 11.3	KIT/ 38 A B 18 456 Area 267 A B Fir 684	Gain	34 A B 10 232 Ai 163 A B FI 340	rea Ir oss Gain	26 A B 10 118 Ard 13 A B Fir 260 Lo	ea	9 A B 10 65 Area A B Fir 90	10 291 228 400	A B Area A B FIr	25 A B 10 78 Area 78 A B Fir 250 Loss	Gain 181	7 A B 10 84 Area A B Fir 70	B 10 Are A B Fir Gain <u>Los</u>		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run	Appliances Loads Duct and Pipe loss 15,925 927 If exposed wall A 1f. exposed wall B Celling height Floor area Exposed Cellings A Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West	Total Total R-Values L 3.15 3.15	reent 414 1009 al HL for per room x1. Open room x1. 24.13 11.3 24.13 22.7 24.13 21.2 38.19 22.3	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss	92: GRT Gain 44 1770	34 A B 10 232 Ai 163 A B FI 340	rea Ir oss Gain	26 A B 10 118 Ard 13 A B Fir 260 Lo	ea	9 A B 10 65 Area A B Fir 90	10 291 228 400 in	A B Area A B FIr	25 A B 10 78 Area 78 A B Fir 250 Loss	Gain 181	7 A B 10 84 Area A B Fir 70	B 10 Are A B Fir Gain <u>Los</u>		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run	Appliances Loads Duct and Pipe loss 15,925 927 Level 2 If. exposed wall A If. 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	R-Values L 3.15 3.15 1.99	oss Gain 24.13 11.3 24.13 12.2 38.19 22.1: 37.44 88.2	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss	92: GRT Gain 44 1770	34 A B 10 232 Ai 163 A B FI 340	rea Ir oss Gain	26 A B 10 118 Ard 13 A B Fir 260 Lo	ea	9 A B 10 65 Area A B Fir 90 Loss Ga	10 291 228 400 in	A B Area A B FIr	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386	Gain 181 694	7 A B 10 84 Area A B Fir 70	B 10 Are A B Fir Gain <u>Los</u>		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run	Appliances Loads Duct and Pipe loss 15,925 927 It. eyel 2 If. exposed wall A Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows	R-Values L 3.15 3.15 3.15 1.99 2.03	oss Gain 24.13 11.3 24.13 12.1 24.13 27.1 38.19 22.1 37.44 88.2 25.25 3.6	KIT/ 38 A B 18 456 Area 267 A B Fir 684	Gain 144 1776 55 234	34 A B 10 232 Ai 163 A B Fi 340 Lo	rea Ir oss Gain 290 33	26 A B 10 118 Arr 13 A B Fir 260 Lo	ea	9 A B 10 65 Area A B Fir 90 Loss Ga	10 291 228 400 in	A B Area A B B Fir Loss Gain 772 681	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603	Gain 181 694	7 A B 10 84 Area A B Fir 70 Loss 8 193	B 10 Are A B Fir Gain <u>Los</u>		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run E	Appliances Loads Duct and Pipe loss 15,925 927 It. evel 2 It. exposed wall A It. exposed wall A It. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Gomponents North Shaded East/West South Existing Windows Skylight Doors et exposed walls A	R-Values L 3.15 3.15 3.15 1.99 2.03 3.01 15.13	reent 414 1009 al HL for per room x1. dispersion x1. dis	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss	Gain 144 1776 55 234	34 A B 10 232 Ai 163 A B Fi 340 Lo	rea Ir oss Gain	26 A B 10 118 Arr 13 A B Fir 260 Lo	ea	9 A B 10 65 Area A B Fir 90 Loss Ga	10 291 228 400 in	A B Area A B FIr	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603	Gain 181 694	7 A B 10 84 Area A B Fir 70	B 10 Are A B Fir Gain <u>Los</u>		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run E E	Appliances Loads Duct and Pipe loss 15,925 927 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A	R-Values L 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13	oss Gain 24.13 11.3 24.13 12.2 24.13 22.2 25.25 3.6 5.02 0.7 3.94 14.2	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss 11 2	Gain 1777655 234	34 A B 10 232 Ai 163 A B FI 340 Lc	rea Ir SSS Gain 290 33 1648 23	26 A B 10 118 Are 13 A B Fir 260 Lo	es Gain 290 1366	9 A B 10 65 Area A B Fir 90 Loss Ga	10 291 228 400 in 77 50 368	A B B Area A B B Fir Loss Gain 772 681	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603	Gain 181 694 55 141	7 A B 10 84 Area A B Fir 70 Loss 8 193	B 10 Are A B Fir 90 90		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run E E	Appliances Loads Duct and Pipe loss 15,925 927 It. eyel 2 If. exposed wall A Ceiling height Floor area Exposed Ceilings A Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A et exposed walls A et exposed walls A	R-Values L 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50	nest 414 al HL for per room x1. al HL for per room x1. bess Gain 24.13 11.3 24.23 24.13 22.2. 37.44 88.2 22.1 37.44 88.2 25.25 3.6 5.02 0.7 8.94 1.2 1.52 0.1 0.1 1.52 0.1 0	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss 6 64 15 1 1 2	Gain 144 1776 55 234	34 A B 10 232 Ai 163 A B FI 340 Lc	rea Ir oss Gain 290 33	26 A B 10 118 Are 13 A B Fir 260 Lo	ea	9 A B 10 65 Area A B Fir 90 Loss Ga	10 291 228 400 in	A B Area A B B Fir Loss Gain 772 681	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603	Gain 181 694 55 141	7 A B 10 84 Area A B Fir 70 Loss 8 193	B 10 Are A B Fir 90 90		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run E E	Appliances Loads Duct and Pipe loss 15,925 927 If . exposed wall A If. exposed wall B Celling height Floor area Exposed Cellings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls B et exposed walls B Exposed Floors Area Exposed Floors Area Exposed Floors Gross Exp Wall B Components South Existing Windows Skylight Doors et exposed walls A et exposed cellings A	R-Values L 3.15 3.15 3.15 3.15 3.15 2.03 3.01 15.13 8.50 50.00 22.86	oss Gain 24.13 11.3 24.13 22.1 24.13 22.2 37.44 88.2 25.25 3.6 5.02 0.7 8.94 1.2 1.52 0.7 8.94 1.2 1.52 0.7 8.94 1.2 1.52 0.7	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss 111 2	Gain 1777655 234	34 A B 10 232 Ai 163 A B FI 340 Lc	rea Ir SSS Gain 290 33 1648 23	26 A B 10 118 Are 13 A B Fir 260 Lo	es Gain 290 1366	9 A B 10 65 Area A B Fir 90 Loss Ga	10 291 228 400 in 77 50 368	A B B Area A B B Fir Loss Gain 772 681	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603	Gain 181 694 55 141	7 A B 10 84 Area A B Fir 70 Loss 8 193	B 10 Are A B Fir 90 90		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run E E No.	Appliances Loads Duct and Pipe loss 15,925 927 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed Walls B Exposed Ceilings A et exposed walls B Exposed Ceilings B Exposed Ceilings B Exposed Ceilings B Exposed Ceilings B	R-Values L 3.15 3.15 3.15 3.01 1.53 3.01 1.513 8.50 50.00 22.86	Main	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss 111 2	Gain 1777655 234	34 A B 10 232 Ai 163 A B FI 340 Lc	rea Ir SSS Gain 290 33 1648 23	26 A B 10 118 Are 13 A B Fir 260 Lo	es Gain 290 1366	9 A B 10 65 Area A B Fir 90 Loss Ga	10 291 228 400 in 77 50 368	A B B Area A B B Fir Loss Gain 772 681	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603	Gain 181 694 55 141	7 A B 10 84 Area A B Fir 70 Loss 8 193	B 10 Are A B Fir 90 90		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run E E E Foundation Cond	Appliances Loads Duct and Pipe loss 15,925 927 It. exposed wall A Ceiling height Floor area Exposed Ceilings B Exposed Floors Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A et exposed Walls A et exposed Ceilings A Exposed Floors	R-Values L 3.15 3.15 3.15 3.15 3.15 2.03 3.01 15.13 8.50 50.00 22.86	Main	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss 6 64 15 1 11 2	Gain 44 1776 55 234 569 443	34 A B 10 232 Ai 163 A B Fi 340 Lc	rea lr soss Gain 290 33 1648 23 248 12	26 A B 10 118 Arr 13 A B Fir 260 Lo 12 3 3 248	ss Gain 290 136	9 A B 10 65 Area A B Fir 90 Loss Ga 21 530 69 347	10 291 228 400 in 77 50 368	A B Area A B B Fir Loss Gain 772 681 1849 268 347 173	25 A B 10 78 Area 78 A B Fir 250 Loss 16 38(25 603 15 37(8) 194 974 78 118	Gain 181 694 55 141	7 A B 10 84 Area A B Fir 70 Loss 8 193	B 10 Are A B Fir 90 90		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run E E No.	Appliances Loads Duct and Pipe loss 15,925 927 If exposed wall A 1f. exposed wall B Celling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls B exposed Ceilings A et exposed wall S Exposed Floors South Existing Windows Skylight Doors et exposed walls B Exposed Floors et exposed walls B Exposed Floors	R-Values L 3.15 3.15 3.15 3.01 1.53 3.01 1.513 8.50 50.00 22.86	Main	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss 111 2	Gain 1776 55 234 1776 200 200 200 201	34 A B 10 232 Ai 163 A B Fi 340 Lc	rea ir 290 33 33 248 12 2185	26 A B 10 118 Arr. 13 A B B 260 Lo	ss Gain 290 136 1246 180 20 10	9 A B 10 65 Area A B Fir 90 Loss Ga 21 530 69 347	10 291 228 400 in 77 50 368 228	A B B Area A B B Fir Loss Gain 772 681 1849 268 347 173	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603 15 375 194 974 78 118	Gain 181 694 55 141	7 A B 10 84 Area A B Fir 70 Loss 8 193	B 10 Are A B Fir		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run E E Ne Ne E E Foundation Cond Total Conductive	Appliances Loads Duct and Pipe loss 15,925 927 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls B Exposed Ceilings B Exposed Floors Supplied Floors Existing Windows Skylight Lexisting Windows Skyli	R-Values L 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.66 22.05 Slab On G	A A A	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss 6 64 11 2	Gain 44 17765 234 59 44: 2656	34 A B 10 232 A B 163 A B F1 340 Lc	rea ir 290 33 4 12 2185 69	26 A B 10 118 Arr 13 A B Fir 260 Lo 12 3 248 4 13	ss Gain 290 136 1246 180 20 10	9 A B 10 65 Area A B Fir 90 Loss Ga	10 291 228 400 in 77 50 368 228	A B B Area A B B Fir Loss Gain 772 681 1849 268 347 173 2967 1122	25 A B 10 78 Area 78 A B Fir 250 Loss 16 38(25 60) 15 375 194 974 78 115	Gain 181 694 55 141 59	7 A B 10 84 Area A B Fir 70 Loss 8 193	B 10 Are A B Fir Sain Los		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run E E E Foundation Cond	Appliances Loads Duct and Pipe loss 15,925 927 It. eyvel 2 It. exposed wall A If. exposed wall B Ceiling height Floor area exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A et exposed walls A et exposed walls A et exposed ceilings B Exposed Floors uctive Heatloss Heat Loss Heat Loss Heat Loss Heat Loss/Gain	R-Values L 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05 Slab On G	oss Gain 24.13 11.3 24.13 12.2 37.44 88.2 25.25 3.6 3.45 0.2 3.46 0.2 3.46 0.2 3.46 0.2 3.47 0.2	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss 6 64 15 11 2 1 609 30 1 267 4	Gain 44 1776 55 234 59 44: 2656 74 2656	34 A B 10 232 Ai 163 A B Fi 340 Lc	rea ir 290 33 1648 23 248 12 2185 699 478 1	26 A B 10 118 Arc 13 A B Fir 260 Lo 12 3 3 248 4 13	ss Gain 290 136 290 136 20 10 1555 326 340 8	9 A B 10 65 Area A B Fir 90 Loss Ga 21 530 69 347	10 291 228 400 in 77 50 368 228	A B B Area A B B Fir Loss Gain 772 681 1849 268 347 173 2967 1122 649 26	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603 15 378 194 974 78 119 2461	Gain 181 694 55 141 59	7 A B 10 84 Area A B Fir 70 Loss 8 193 62 311	B 10 Are A B Fir		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run Run Ne E Foundation Cond Total Conductive Air Leakage	Appliances Loads Duct and Pipe loss 15,925 927 If exposed wall A If exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls B Exposed Floors et exposed walls B Exposed Floors tout be to the touch the	R-Values L 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.66 22.05 Slab On G	oss Gain 24.13 11.3 24.13 27.7 24.13 27.7 24.13 21.2 37.44 88.2 25.25 3.6 5.02 0.7 8.94 1.2 1.52 0.7 3.32 1.6 3.45 0.2 ade (x) x 0.2188 0.023	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss 5 64 11 2 6 609 30 6 609 30 6 609 30 7 11 2	Gain 44 17765 234 59 44: 2656	34 A B 10 232 Ai 163 A B Fi 340 Lc	rea ir 290 33 4 12 2185 69	26 A B 10 118 Arc 13 A B Fir 260 Lo 12 3 3 248 4 13	ss Gain 290 136 1246 180 20 10	9 A B 10 65 Area A B Fir 90 Loss Ga 21 530 69 347	10 291 228 400 in 77 50 368 228	A B B Area A B B Fir Loss Gain 772 681 1849 268 347 173 2967 1122	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603 15 378 194 974 78 119 2461	Gain 181 694 55 141 59	7 A B 10 84 Area A B Fir 70 Loss 8 193	B 10 Are A B Fir Sain Los		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run E E Ne Ne E E Foundation Cond Total Conductive	Appliances Loads Duct and Pipe loss 15,925 927 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls B Exposed Ceilings A At exposed Ceilings B Exposed Floors South Existing Windows Skylight Lexisting Windows Skylight Doors et exposed walls B Exposed Ceilings A Axposed Ceilings B Exposed Ceilings B Exposed Floors Suctive Heatloss Heat Loss Heat Gain Heat Loss Heat Gain Loss 2	R-Values L 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05 Slab On G	Mathematics	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss 6 64 11 2 6 609 30 6 609 30 6 609 30 6 609 30 7 609 30 8	Gain 44 1776 55 234 59 44: 2656 74 2656	34 A B 10 232 Ai 163 A B Fi 340 Lc	rea ir 290 33 1648 23 248 12 2185 699 478 1	26 A B 10 118 Arc 13 A B Fir 260 Lo 12 3 3 248 4 13	ss Gain 290 136 290 136 20 10 1555 326 340 8	9 A B 10 65 Area A B Fir 90 Loss Ga 21 530 69 347	10 291 228 400 in 77 50 368 228	A B B Area A B B Fir Loss Gain 772 681 1849 268 347 173 2967 1122 649 26	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603 15 378 194 974 78 119 2461	Gain 181 694 55 141 59	7 A B 10 84 Area A B Fir 70 Loss 8 193 62 311	B 10 Are A B Fir Sain Los		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run Run Ne E Foundation Cond Total Conductive Air Leakage Ventilation	Appliances Loads Duct and Pipe loss 15,925 927 It. eyel 2 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls B Exposed Ceilings A Exposed Ceilings B Exposed Floors University of the Components Supplied of the Components Exposed Ceilings B Exposed Ceilings B Exposed Ceilings B Exposed Floors University of the Components Heat Gain Heat Loss Heat Gain Case 1 Case 2 Case 3	R-Values L 3.15 3.15 3.15 3.15 3.15 2.03 3.01 15.13 8.50 50.00 22.86 22.05 Slab On G	oss Gain 24.13 11.3 24.13 12.2 37.44 88.2 25.25 3.6 3.45 0.2 346 (x) x 0.2188 0.023 0.07 0.0 82.08 11.8 100 100 100 100 100 100 100 100 100 100	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss 4 64 15 4 609 30 6 609 30 6 267 4	Gain 44 1776 55 234 59 44: 2656 74 2656	34 A B 10 232 Ai 163 A B Fi 340 Lc	rea ir 290 33 1648 23 248 12 2185 69 478 1 153 4	26 A B 10 118 Ard 13 A B Fir 260 Lo 12 3 3 248 4 13	ss Gain 290 136 290 136 20 10 1555 326 340 8	9 A B 10 65 Area A B Fir 90 Loss Ga 21 530 69 347	10 291 228 400 in 77 50 368 228	A B B Area A B B Fir Loss Gain 772 681 1849 268 347 173 2967 1122 649 26	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603 15 378 194 974 78 119 2461	Gain 181 694 55 141 59	7 A B 10 84 Area A B Fir 70 Loss 8 193 62 311	B 10 Are A B Fir Sain Los		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run Run Ne E Foundation Conductive Air Leakage Ventilation	Appliances Loads Duct and Pipe loss 15,925 927 If exposed wall A off. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls B exposed Ceilings A et exposed wall B Exposed Floors Underwind Wall Existing Windows Skylight Doors et exposed walls B Exposed Floors underwind Wall Exposed Ceilings A et exposed Ceilings A et exposed Ceilings A et exposed Floors underwind Wall Exposed Floors Und	R-Values L 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05 Slab On Gr	oss Gain 24.13 11.3 24.13 27.7 24.13 21.2 38.19 22.1 38.19 22.1 5.02 0.7 8.94 1.2 1.52 0.7 8.94 1.2 8	KIII/ 38 A B 18 456 Area 267 A Fir 684 Loss 5 64 11 2 6 609 30 6 267 4	Gain Gain 1774 2656 205 74 2656 177	34 A B 10 232 Ai 163 A B FFI 340 Lc i 12 i 12 i 163	rea ir 290 33 1648 23 248 12 2185 699 478 1	26 A B 10 118 Ard 13 A B Fir 260 Lo 12 3 3 248 4 13	ss Gain 290 136 290 136 20 10 1555 326 340 8	9 A B 10 65 Area A B Fir 90 Loss Ga 21 530 69 347	10 291 228 400 in 777 50 368 228 127 3 8	A B B Area A B B Fir Loss Gain 772 681 1849 268 347 173 2967 1122 649 26 208 73	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603 15 378 194 974 78 118 2461 538 172	Gain 181 694 55 141 59 1130 27	7 A B 10 84 Area A B Fir 70 Loss 9 193 62 311 504 110 35	B 10 Are A B Fir Sain Los		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run Run Ne E E Foundation Cond Total Conductive Air Leakage Ventilation	Appliances Loads Duct and Pipe loss 15,925 927 It. eyel 2 If. exposed wall A Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed Walls A et exposed lings A Exposed Ceilings B Exposed Ceilings B Exposed Floors Skylight Doors et exposed walls A et exposed walls A et exposed Ceilings B Exposed Floors United Heat Loss Heat Loss Heat Loss Heat Casin Heat Loss/Gain Heat Loss/Gain Case 1 Case 2 Case 3 Heat Gain People	R-Values L 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05 Slab On Gr	Des Gain 24.13 11.3 24.13 21.2 38.19 22.1 37.44 88.2 25.25 3.8 5.02 0.7 3.32 1.6 3.45 0.2 ade (x) x 0.2188 0.023 0.07 0.0 2.01 0.00 2.01 0.00 2.01 0.00 2.01 0.00 2.01 0.00 2.01 0.00 2.00	KIII/ 38 A B 18 456 Area 267 A Fir 684 Loss 5 64 11 2 6 609 30 6 267 4	Gain 44 1776 55 234 59 44: 2656 74 2656	34 A B 10 232 Ai 163 A B FFI 340 Lc i 12 i 12 i 163	rea ir 290 33 1648 23 248 12 2185 69 478 1 153 4	26 A B 10 118 Ard 13 A B Fir 260 Lo 12 3 3 248 4 13	ss Gain 290 136 290 136 20 10 1555 326 340 8	9 A B 10 65 Area A B Fir 90 Loss Ga 21 530 69 347	10 291 228 400 in 77 50 368 228	A B B Area A B B Fir Loss Gain 772 681 1849 268 347 173 2967 1122 649 26	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603 15 378 194 974 78 119 2461	Gain 181 694 55 141 59	7 A B 10 84 Area A B Fir 70 Loss 8 193 62 311	B 10 Are A B Fir Sain Los		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run Run Ne E Foundation Cond Total Conductive Air Leakage Ventilation	Appliances Loads Duct and Pipe loss 15,925 927 It. eyel 2 It. exposed wall A It. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls B Exposed Ceilings A Exposed Ceilings B Exposed Floors Under the Components South Existing Windows Skylight Existing Windows Skylight Doors et exposed walls B Exposed Ceilings B Exposed Ceilings B Exposed Floors Under Components Loads Heat Gain Heat Loss Heat Gain Loase 1 Case 2 Case 3 Heat Gain People Appliances Loads Duct and Pipe loss	R-Values L 3.15 3.15 3.15 3.15 3.15 2.03 3.01 15.13 8.50 50.00 22.86 22.05 Slab On G	poss Gain 24.13 11.3 24.14 24.15 25.25 3.6 3.45	KIT/ 38 A B 18 456 Area 267 A B Fir 684 Loss 64 15 11 2 16 609 30 17 609 30 18 609 30 19 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Gain Gain 144 1776 55 234 2656 74 2656 59 172	34 A B 10 232 Ai 163 A B Fi 340 Lc	rea ir 290 33 1648 23 248 12 2185 69 478 1 153 4	26 A B 10 118 Ard 13 A B Fir 260 Lo 12 3 3 4 13	ss Gain 290 136 1246 180 20 10 1555 326 340 8 109 21	9 A B 10 65 Area A B Fir 90 Loss Ga 21 530 69 347 192 61	10 291 228 400 in 777 50 368 228 127 3 8	A B B Area A B B Fir Loss Gain 772 681 1849 268 347 173 2967 1122 649 26 208 73 1037	25 A B 10 78 Area 78 A B Fir 250 Loss 16 3868 25 600 15 378 194 974 78 119 2461 538 172	Gain 181 694 55 141 59 1130 27 73	7 A B 10 84 Area A B Fir 70 Loss 8 193 62 311 504 110 35	B 10 Are A B Fir Sain Los		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain
Level 1 HL Total Level 1 HG Total Run Run Run Ne E E Foundation Cond Total Conductive Air Leakage Ventilation	Appliances Loads Duct and Pipe loss 15,925 927 It. eyel 2 If. exposed wall A Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed Walls A et exposed lings A Exposed Ceilings B Exposed Ceilings B Exposed Floors Skylight Doors et exposed walls A et exposed walls A et exposed Ceilings B Exposed Floors United Heat Loss Heat Loss Heat Loss Heat Casin Heat Loss/Gain Heat Loss/Gain Case 1 Case 2 Case 3 Heat Gain People	R-Values L 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05 Slab On Gr	Des Gain 24.13 11.3 24.13 21.2 38.19 22.1 37.44 88.2 25.25 3.8 5.02 0.7 3.32 1.6 3.45 0.2 ade (x) x 0.2188 0.023 0.07 0.0 2.01 0.00 2.01 0.00 2.01 0.00 2.01 0.00 2.01 0.00 2.01 0.00 2.00	KIII/ 38 A B 18 456 Area 267 A Fir 684 Loss 5 64 11 2 6 69 30 6 267 4 1 1 2 6 1 1 2 6 1 1 3 6 1 1 3 6 1 1 3	Gain Gain 144 1776 55 234 2656 74 2656 59 172	34 A B 10 232 AB 163 A B F1 340 Lc 12 3 328 3 163	rea ir 290 33 1648 23 248 12 2185 69 478 1 153 4	26 A B 10 118 Ard 13 A B Fir 260 Lo 12 3 3 248 4 13	ss Gain 290 136 290 136 20 10 1555 326 340 8	9 A B 10 65 Area A B Fir 90 Loss Ga 21 530 69 347 877 192 61	10 291 228 400 in 777 50 368 228 127 3 8	A B B Area A B B Fir Loss Gain 772 681 1849 268 347 173 2967 1122 649 26 208 73	25 A B 10 78 Area 78 A B Fir 250 Loss 16 386 25 603 15 378 174 78 119 2461 538 172	Gain 181 694 55 141 59 1130 27 73	7 A B 10 84 Area A B Fir 70 Loss 9 193 62 311 504 110 35	B 10 Are A B Fir Sain Los		B 10 Area A B Fir		B 10 Ard A B Fir		B 10 Area A B Fir	Gain

Total Heat Loss
Total Heat Gain 44,152 btu/h 18,015 btu/h

Mana Alaka 32964

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

David DaCosta

Package D



Heatloss/Gain Calculations CSA-F280-12

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

	`																						
		Builder:	Hiç	ghcastle Hor	nes	_	Date:			pril 15, 201 incoln Lot				Weather Data	Newcastle	44	-4.0	86 52	48.2		Proje	ect #	
012 OBC		Project:		Northglen		_ '	Model:	ı			-0" Ceilings		System 1	Heat Loss ^T	76 deg. F	Ht gain ^T	11 0	deg. F	GTA:	2119			
	Level 3				LOF	т		BED 3		BATH			•										
Run	ft. exposed wall A				36 A		37 A		8	ВА		Α	Α	Α	Α	Α		Α		Α		Α	
	ft. exposed wall B				В		U. ,		•	В		В	В	В	В	В		В		В		В	
	Ceiling height				8		8	_	8		8		8	8	8	8		8		8		8	
	Floor area				327 Area		207 A	Aroa		Area		Area	Area	Area	Area	Area		Area		Are		Area	
-					327 Alea 327 A		207 4			A A A		Area A	Area A	Area A		Area A				A A	1	Area	1
	Exposed Ceilings A								53	В			В	В	A B	В		A B		В		В	
E	xposed Ceilings B				В		Е	_				В											
	Exposed Floors				Flr		19 F	Flr		Flr		Flr	Flr	Fir	Flr	Flr		Flr		Flr		Flr	
	Gross Exp Wall A			:	288		296		64	ļ.													
	Gross Exp Wall B																						
	Components			Gain	Loss	Gain			ain	Loss C	Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss	Gain	Loss	Gain	Los	s Gain	Loss	S
	North Shaded	3.15	24.13	11.31			12	290	136														
	East/West	3.15	24.13	27.75																			
	South	3.15	24.13	21.28	18 434	383																	
	Existing Windows	1.99	38.19	22.15																			
	Skylight	2.03	37.44	88.23																			
	Doors	3.01	25.25	3.65																			
Ne	et exposed walls A	15.13	5.02	0.73	270 1356	196	284	1427	206 64	321	47												
	et exposed walls B	8.50	8.94	1.29																			
	xposed Ceilings A	50.00	1.52		327 497	7 249	207	315	157 53	81	40												
	xposed Ceilings B	22.86	3.32	1.66																			
	Exposed Floors	22.05	3.45	0.23			19	65	4														
Indation Cond	luctive Heatloss																						
	Heat Loss				2288	3		2096		402													
I Conductive	Heat Gain					828		2000	504	102	87												
r Leakage	Heat Loss/Gain		0.4823	0.0235	1103			1011	12	194	2												
Lounago	Case 1	Х	0.1544	0.0233	350			324	33	62	6												
entilation	Case 2	^	82.08	11.88	33.	5 34		324	33	02	6												
muuuon	Case 3		0.13	0.06																			
																4							
			0.13																				
	Heat Gain People	4 05		239			1		239														
	Heat Gain People Appliances Loads	1 =.25		239 4148			1		239														
1	Heat Gain People Appliances Loads Duct and Pipe loss		percent	239 4148 10%			1	2424	239														
	Heat Gain People Appliances Loads	T		239 4148 10% per room	3744	1 1171	1	3431	1023	658	123												
[rel 3 HL Total el 3 HG Total Run	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 ft. exposed wall A	T	percent otal HL for	239 4148 10% per room	A		A	A		A		Ā	<u> </u>	Ā	A	A		A		A		A	
[el 3 HL Total el 3 HG Total Run	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 ft. exposed wall A ft. exposed wall B	T	percent otal HL for	239 4148 10% per room				A				A B	A B	A B	A B	A B		A B		A B		A B	
[el 3 HL Total el 3 HG Total Run	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 ft. exposed wall A ft. exposed wall B Ceiling height	T	percent otal HL for	239 4148 10% per room	A		A	A		A			A B	A B		A B							
el 3 HL Total el 3 HG Total Run Run	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 ft. exposed wall A ft. exposed wall B Ceiling height Floor area	T	percent otal HL for	239 4148 10% per room	A		A E	A B Area		A			B Area	B Area		A B Area		B Area					
El 3 HL Total el 3 HG Total Run Run	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 ft. exposed wall A ft. exposed wall B Ceiling height	T	percent otal HL for	239 4148 10% per room	A B		A E	A B		A B		В	В	В	В	В		В		В		В	1
I el 3 HL Total el 3 HG Total Run Run	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 ft. exposed wall A Ceiling height Floor area Exposed Ceilings A	T	percent otal HL for	239 4148 10% per room	A B		A E	A B Area		A B		B Area	B Area	B Area	B Area	B Area		B Area		B Area		B Area	1
t el 3 HL Total al 3 HG Total Run Run	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 ft. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings B Axposed Ceilings B	T	percent otal HL for	239 4148 10% per room	A B Area A B		A E A A	A B Area A		A B Area A B		B Area A B	B Area A B	B Area A B	B Area A	B Area A B		B Area A B		B Area A B		B Area A B	1
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E el 3 HL Total el 3 HG Total Run Run E E	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 ft. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings B Axposed Ceilings B	T	percent otal HL for	239 4148 10% per room	A B Area A B		A E A A	A B Area A		A B Area A B		B Area A B	B Area A B	B Area A B	B Area A B	B Area A B		B Area A B		B Area A B		B Area A B	1
E el 3 HL Total el 3 HG Total Run Run E E	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Ceilings B Exposed Floors Gross Exp Wall A	T. Tota	otal HL for II HG per ro	239 4148 10% per room	A B Area A B		A E A E F	A B Area A B B		A B Area A B Fir		B Area A B	B Area A B	B Area A B	B Area A B	B Area A B	Gain	B Area A B	Gain	B Area A B		B Area A B	-
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Run Run EE EE EE EE	Heat Gain People Appliances Loads Unct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded	T. Tota	otal HL for I HG per ro	239 4148 10% per room om x 1.3	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	-
Run Run EE EE EE EE	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A Ift. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components	T. Tota	otal HL for I HG per ro	239 4148 10% per room om x1.3	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	_
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E I 3 HL Total I 3 HG Total Run Run E E	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A ff. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows	R-Values 3.15 3.15 1.99	Loss (24.13 24.13 38.19	239 4148 10% per room om x1.3 3ain 11.31 27.75 21.28 22.15	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	-
E I 3 HL Total I 3 HG Total Run Run E E	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A ff. exposed wall B Ceiling height Floor area exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded EastWest South Existing Windows Skylight	R-Values 3.15 3.15 3.15 3.29	Loss (24.13 24.13 38.19 37.44	239 4148 10% per room om x1.3 3ain 11.31 27.75 21.28 22.15 88.23	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	_
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I 3 HL Total I 3 HG Total Run Run E	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A ff. exposed wall B Ceiling height Floor area exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A	R-Values 3.15 3.15 3.15 1.99 2.03 3.01	Loss (1 24.13 24.13 24.13 38.19 37.44 25.25	239 4148 10% per room om x1.3 3ain 11.31 27.75 21.28 82.23 3.65 0.73	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	_
I I I I I I I I I I I I I I I I I I I	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 If exposed wall A ft. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings B Exposed Ceilings A Exposed Ceilings A Exposed Floors Gross Exp Wall A Gross Exp Wall A Gross Exp Wall A Gross Exp Wall S Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A	R-Values 3.15 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13	Loss (1 24.13 24.13 38.19 37.44 25.25 5.02 8.94	239 4148 10% per room om x1.3 3ain 11.31 27.75 21.28 22.15 88.23 3.65	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	: Gain	B Area A B Fir		B Area A B Fir	_
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I 3 HL Total 3 HG Total Run Run E E	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A ff. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed ceilings A	R-Values 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00	Loss (1 24.13 24.13 24.13 24.13 24.13 25.02 8.94 1.52 3.32 3.32	239 4148 10% per room om x1.3 3ain 11.31 27.75 21.28 22.15 88.23 3.65 0.73 1.29 0.76 1.66	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	_
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Run	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Existing Windows Skylight Existing Windows Skylight Exposed Valls A et exposed walls A et exposed walls A et exposed walls A Exposed Ceilings B Exposed Floors Buccive Heatloss	R-Values 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00	Loss (1 24.13 24.13 24.13 24.13 24.13 25.02 8.94 1.52 3.32 3.32	239 4148 10% per room om x1.3 3ain 11.31 27.75 21.28 22.15 88.23 3.65 0.73 1.29 0.76 1.66	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	_
Run	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A ff. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A et exposed walls B Exposed Floors et exposed walls B Exposed Floors lettive Heatloss Heat Loss Heat Loss	R-Values 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00	Loss (1 24.13 24.13 24.13 24.13 24.13 25.02 8.94 1.52 3.32 3.32	239 4148 10% per room om x1.3 3ain 11.31 27.75 21.28 22.15 88.23 3.65 0.73 1.29 0.76 1.66	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	_
Run Run Ne E E undation Cond	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 If t. exposed wall A 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 Skylight Doors et exposed Walls A et exposed Ceilings B Exposed Ceilings B Exposed Floors South Existing Windows Skylight Doors et exposed walls A et exposed walls B Exposed Ceilings A Exposed Ceilings A Exposed Floors Lective Heatloss Heat Loss Heat Gain	R-Values 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00	Loss (1 24.13 24.13 38.19 37.44 25.25 5.02 8.94 1.52 3.32 3.45	239 4148 10% per room om x 1.3 3ain 11.31 27.75 21.28 22.15 88.23 3.65 0.73 1.29 0.76 1.66 0.23	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	-
Run	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A et exposed walls A et exposed ceilings B Exposed Floors University Berney Exposed Ceilings B Exposed Ceilings B Exposed Ceilings B Exposed Floors University Berney Exposed Floors Heat Loss Heat Loss Heat Gain Heat Loss/Gain	R-Values 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05	Loss 1 HG per ro Loss 24.13 24.13 38.19 37.44 25.25 5.02 8.94 1.52 3.32 3.45	239 4148 10% per room om x1.3 3ain 11.31 27.75 21.28 22.15 88.23 3.65 0.73 1.29 0.76 1.66 0.23	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	-
Run Run Ne E E undation Conductive ir Leakage	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A ff. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed Walls B Exposed Floors et exposed walls B Exposed Floors et exposed walls B Exposed Floors let exposed walls B Exposed Floors luctive Heatloss Heat Gain Heat Loss/Gain Heat Loss/Gain	R-Values 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00	Loss (1 Loss 24.13 24.13 24.13 24.13 24.13 33.19 37.44 25.25 3.322 3.45	239 4148 10% per room om x1.3 3ain 11.31 27.75 21.28 22.15 88.23 3.65 0.73 1.29 0.76 1.66 0.23	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	-
Run Run Ne Ne E Lundation Conductive r Leakage	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A fit. exposed wall A Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A Exposed Ceilings B Exposed Ceilings B Exposed Floors South Existing Windows Skylight Doors et exposed walls A Exposed Ceilings A Exposed Ceilings B Exposed Floors Lective Heatloss Heat Loss Heat Loss Heat Gain Heat Loss/Gain Case 2	R-Values 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05	Loss (1 24.13 24.13 24.13 38.19 37.44 25.25 5.02 3.32 3.45 0.0000 0.0000 82.08	239 4148 10% per room om x 1.3 3ain 11.31 27.75 21.28 22.15 88.23 3.65 0.73 1.29 0.76 1.66 0.23 0.0235 0.0036 11.88	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	-
Run Run Ne E E undation Conductive ir Leakage entilation	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A fit. exposed wall A fit. exposed wall A fit. exposed Ceilings A fix. exposed Ceilings B Exposed Ceilings B Exposed Floors Floor area Exposed Ceilings B Exposed Floors Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A et exposed Ceilings B Exposed Ceilings B Exposed Ceilings B Exposed Floors Lexiposed Floors Unctive Heat Loss Heat Loss Heat Loss Heat Loss/Gain Heat Loss/Gain Case 1 Case 2 Case 3	R-Values 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05	Loss (1 Loss 24.13 24.13 24.13 24.13 24.13 33.19 37.44 25.25 3.322 3.45	239 4148 10% per room om x1.3 Gain 11.31 27.75 21.28 22.15 88.23 3.65 0.73 1.29 0.76 1.66 0.23 0.0235 0.06 11.88 0.06	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	-
Run	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 If . exposed wall A ft. exposed wall A 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 et exposed walls A et exposed Ceilings B Exposed Floors Lock	R-Values 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05	Loss (1 HG per ro	239 4148 10% per room x 1.3 3ain 11.31 27.75 21.28 22.15 88.23 3.65 0.73 1.29 0.76 1.66 0.23 0.0235 0.0235	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	-
Run Run Ne E E E E E E E E E E E E E E E E E E	Heat Gain People Appliances Loads Appliances Loads T,833 2,317 Level 4 If. exposed wall A If. exposed wall A If. exposed wall A If. exposed cellings B Exposed Cellings B Exposed Cellings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Existing Windows Skylight Existing Windows Skylight Exposed Cellings B Exposed Floors Uctive Heatloss Heat Loss/Gain Case 1 Case 2 Case 3 Heat Gain People	R-Values 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05	Loss (1 HG per ro	239 4148 10% per room om x1.3 3ain 11.31 27.75 21.28 22.15 88.23 3.65 0.73 1.29 0.76 1.66 0.23 0.0235 0.06 11.88 0.06 239 4148	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	-
Run	Heat Gain People Appliances Loads Duct and Pipe loss 7,833 2,317 Level 4 If. exposed wall A If. exposed wall A If. exposed wall B Exposed Ceilings B Exposed Ceilings B Exposed Floors Exp Wall B Components North Shaded East/West Skylight Doors et exposed walls A et exposed walls A et exposed Ceilings B Exposed Floors Level B Exposed Floors William B Exposed Floors Level B Exposed Floors	R-Values 3.15 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05	Loss 1 24.13 24.13 24.13 24.13 38.19 37.44 25.25 3.32 3.45 0.0000 0.00 82.08 0.13	239 4148 10% per room om x1.3 3ain 11.31 27.75 21.28 8.23 3.65 3.65 1.66 0.23 0.0235 0.06 11.88 0.06 239 4148 10%	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	-
Run Run Ne E E undation Conductive ir Leakage	Heat Gain People Appliances Loads Appliances Loads T,833 2,317 Level 4 If. exposed wall A If. exposed wall A If. exposed wall A If. exposed cellings B Exposed Cellings B Exposed Cellings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Existing Windows Skylight Existing Windows Skylight Exposed Cellings B Exposed Floors Uctive Heatloss Heat Loss/Gain Case 1 Case 2 Case 3 Heat Gain People	R-Values 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05	Loss (1 HG per ro	239 4148 10% per room x 1.3 3ain 11.31 27.75 21.28 22.15 88.23 3.65 0.73 1.29 0.76 1.66 0.23 0.0235 0.06 11.88 0.06 239 4148 0.06 239 4148 10% per room	A B Area A B Fir	1171	A E A E F	A B Area A B B	1023	A B Area A B Fir		B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir		B Area A B Fir	-

 Total Heat Loss
 44,152
 btu/h

 Total Heat Gain
 18,015
 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

Mana Alexa

David DaCosta

Package D



System Design Option

HRV simplified connection to forced air system

HRV full ducting/not coupled to forced air system

HRV WITH DUCTING / forced air system

X Exhaust only / forced air system

Part 6 design

2 3

4

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

Project #

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I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under Division C subsection 3.2.5. of the Building Code. Individual BCIN: 32964 David DaCosta

Project:	Clarington, ON	Model:	The Lincoln Lo Unit 40-1 Alt. Layout	
	RESIDENTIAL MECHANICAL For systems serving one dwelling unit & co			,
	Location of Installation	Total	Ventilation Capacity 9.32.	3.3(1)
Lot #	Plan #			
Township	Clarington, ON	Bsmt & Master Bdr Other Bedrooms Bathrooms & Kitch	1 @ 10 c	fm 40 cfm fm 10 cfm fm 40 cfm
Roll #	Permit #	Other rooms		fm 60 cfm
Address				
		Princip	al Ventilation Capacity 9.3	2 2 4/4\
	Builder	Princip	al ventilation Capacity 9.5	2.3.4(1)
Name	Highcastle Homes	Master bedroom Other bedrooms	1 @ 30 c 1 @ 15 c	fm <u>15</u> cfm
Address			Total	45
City				
Tel	Fax	Pri Make	incipal Exhaust Fan Capac Model	Location
rei	гах	iviake	Model	Location
		Broan	684N	Ens
Name	Installing Contractor	90 cfm		Sones
Address			Heat Recovery Ventilator	
O:h		Make	Broan	
City		Model	684N 90 cfm high	cfm low
Tel	Fax		ible efficiency @ -25 deg C ible Apparent efficiency @ -:	<u>0</u> 25 (<u>0</u>
	Combustion Appliances 9.32.3.1(1)	Sun	plemental Ventilation Capa	acity
a) x Direc	tr vent (sealed combustion) only ive venting induced draft (except fireplaces)	Total ventilation ca		150.0
	ral draft, B-vent or induced draft fireplaces	Less principal exha		45.0
	fuel (including fireplaces) ombustion Appliances	REQUIRED Supple	emental vent. Capacity	105.0_ cfm
		S	Supplemental Fans 9.32.3.5	5.
	Heating System	Location	cfm Model	Sones
x Force	ed air forced air	Bath Pwd	50 770 50 770	2.5 2.5
	ric space heat (if over 10% of heat load)	Laund	50 770	2.5
	Haves Time 0.22.2.4(0)	;		
I x Type	House Type 9.32.3.1(2) 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)			'
	ype c) appliance		Designer Certification	
	I or II either electric space heat I, II or IV no forced air		t this ventilation system has the Ontario Building Code.	been designed

	Designer C	ertification								
I hereby certify th	I hereby certify that this ventilation system has been designed									
in accordance wi	th the Ontario B	uilding Code.	-							
Name	David Da	aCosta								
	11	166	-							
Signature	- cana	400	2							
HRAI#	5190	BCIN#	32964							
Date	April 15,	2015								

gtaDesigns

Energy Efficiency Design Summary

(Part 9 Residential)

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

Project #

15-34

e-mail dave@gtadesigns.ca			6 1 - 1 - 1 - 1 - 1 -	-!			- 41 41-1 6	! 41-	Page /
i nis form is used to	summarize the	energy er	For us	sign of the se by Princi	project. Information pal Authority	on comple	eting this to	orm is on tr	ne reverse
Application No:			1 01 40	50 by 1 111101	Model/Certification Num	ber			
7 17 17 17 17 17 17 17 17 17 17 17 17 17									
A. Project Information	n.								
Building number, street name)II		The Line	coln Lot	62 B	Unit numbe	er	Lot/Con	
3 ,		Unit 4			0" Ceilings				
Municipality Claringt	ON	<u> </u>	Postal code		Reg. Plan number / othe	er description	on		
Claringto	on, ON								
B. Compliance Option	on				L				
☑ SB-12 Prescriptive		.]		Table:	Package: A B C	DEF	GHIJ	KLM	Package D
☐ SB-12 Performand	e* [SB-12 - 2.1	1.2.]		* Attach	energy performance	calculat	ions using	an appro	ved software
☐ Energy Star®* [SE	3-12 - 2.1.3.]			* Attach I	BOP form				
☐ EnerGuide 80® *				* House i	must be evaluated b	y NRCai	n advisor a	and meet	a rating of 80
C. Project Design Co	onditions								
Climatic Zone (SB	-1):	Heat	ing Equip	ment		Space H	eating Fue	el Source	
	e days)	~	≥ 90% AF	UE	☑ Gas		Propane		Solid Fuel
Zone 2 (≥ 5000 degree	e days)		≥ 78% < 9	0% AFUE	☐ Oil		Electric		Earth Energy
Windows	+Skylights+Gla	ss Doors	i			Other B	uilding Co	nditions	
Gross Wall Area =	289 m²	0/ 1	A/in daysas	70/	☐ ICF Basement		Walkout Ba	asement	Log/Post&Beam
Gross Window+ Area =	21 m²	%	Windows+	<u>7%</u>	☐ ICF Above Grade		Slab-on-gre	ound	
D. Building Speci	fications [provid	de values	and ratings	of the ener	gy efficiency componen	its propose	ed, or attach	Energy Sta	ar BOP form]
Building Con	nponent		RSI / R	values	Buildi	ng Comp	onent		Efficiency
Thermal Insulation					Windows & Doors	s ¹			
Ceiling with Attic Space			5	0	Windows/Sliding G	lass Doc	ors		1.8
Ceiling without Attic Space			3	1	Skylights				2.8
Exposed Floor			3	1	Mechanicals				
Walls Above Grade			2	4	Space Heating Equ				94%
Basement Walls			2	:0	HRV Efficiency (%))			0%
Slab (all >600mm below gra	ide)		2	X	DHW Heater (EF)				0.67
Slab (edge only ≤600mm be	elow grade)		1	0	NOTES 1. Provide U-Value in \	W/m2.K, o	r ER rating		
Slab (all ≤600mm below gra	de, or heated)		1	0	2. Provide AFUE or inc		•	pe combine	d system used
E. Performance D	esign Verifica	tion [com	plete applic	cable sectio	ns if <i>SB-12 Performand</i>	e, Energy	Star or Ene	erGuide80 (options used]
SB-12 Performance:									
The annual energy consumption	n using Subsect	ion 2.1.1	SB-12 Pa	ckage	is	_Gj (1 G	j =1000Mj)		
The annual energy consumption	on of this house a	as design	ed is	Gj					
The software used to simulate	the annual energ	gy use of	the building	g is:					
The building is being designed	using an air leal	kage of _	air c	hanges pe	er hour @50Pa.				
Energy Star: BOP form attached		ill be labe	eled on con	npletion by	:				
Energy Star and EnerGuide80):								
Evaluator/Advisor/Rater Name:					Evaluator/Advisor/Rater	Licence #:			
E Bod			** -						
F. Designers [nar Architectural	nes of designers	who are re	sponsible fo	or the buildi	ng code design and wh Mechanical	ose plans	accompany	the permit	application]
Alchilectural						_1_	1/1	1 1	46 1
					David DaCos	sta	16	me de	DC- 5 7



Project:

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Clarington, ON

Project # 15-34 Page 8

Unit 40-1 Alt. Layout 9'-0" Ceilings

Air Leakage Calculations **Building Air Leakage Heat Loss Building Air Leakage Heat Gain** HL^T LRairh ۷b HG^T В LRairh ۷b **HLleak** В HG Leak 0.018 0.293 28776 76 11541 0.018 0.034 28776 194 Air Leakage Calculations Air Leakage Calculations Levels Air Leakage Heat Loss/Gain Multiplier Table (Section 11) 1 2 3 4 Level Building **Level Conductive** Air Leakage Heat Loss Level (LF) (LF) (LF) (LF) **Heat Loss** Multiplier Factor (L 8308 0.6946 1 0.5 1.0 0.6 0.5 0.4 2 0.3 15824 0.2188 0.3 0.3 0.4 11541 4786 0.4823 3 0.2 0.2 0.2 4 0 0 0.0000 0.1 Levels this Dwelling Air Leakage Heat Gain **HG LEAK** 194 0.0235 3 **BUILDING CONDUCTIVE HEAT GAIN** 8264 **Ventilation Calculations Ventilation Heat Loss** Ventilation Heat Gain Vent Vent **Ventilation Heat Loss Ventilation Heat Gain** С PVC HL^T (1-E) HRV HLbvent PVC HG^T **HGbvent** С 3694 1.08 535 45 76 1.00 1.1 45 11 Case 1 Case 1 Ventilation Heat Loss (Exhaust only Systems) Ventilation Heat Gain (Exhaust Only Systems) Case 1 - Exhaust Only Case 1 - Exhaust Only Multiplier Case LVL Cond. HL **HGbvent** 535 Level LF **HLbvent** Multiplier 0.06 Building 8308 1 0.5 0.22 8264 15824 2 0.3 0.07 3694 3 0.2 4786 0.15 0 4 0 0.00 Case 2 Case 2 Ventilation Heat Loss (Direct Ducted Systems) **Ventilation Heat Gain (Direct Ducted Systems)** Case Multiplier Multiplier Case HL^T С HG^T С (1-E) HRV 82.08 11.88 1.08 1.08 Case 3 Case 3 **Ventilation Heat Loss (Forced Air Systems)** Ventilation Heat Gain (Forced Air Systems) 3 Case Case **HLbvent** Multiplier Vent Heat Gain Multiplier Total Ventilation **HGbvent** HG*1.3 3694 535 0.13 0.06 Load 535

Model:

Envelope Air Leakage Calculator

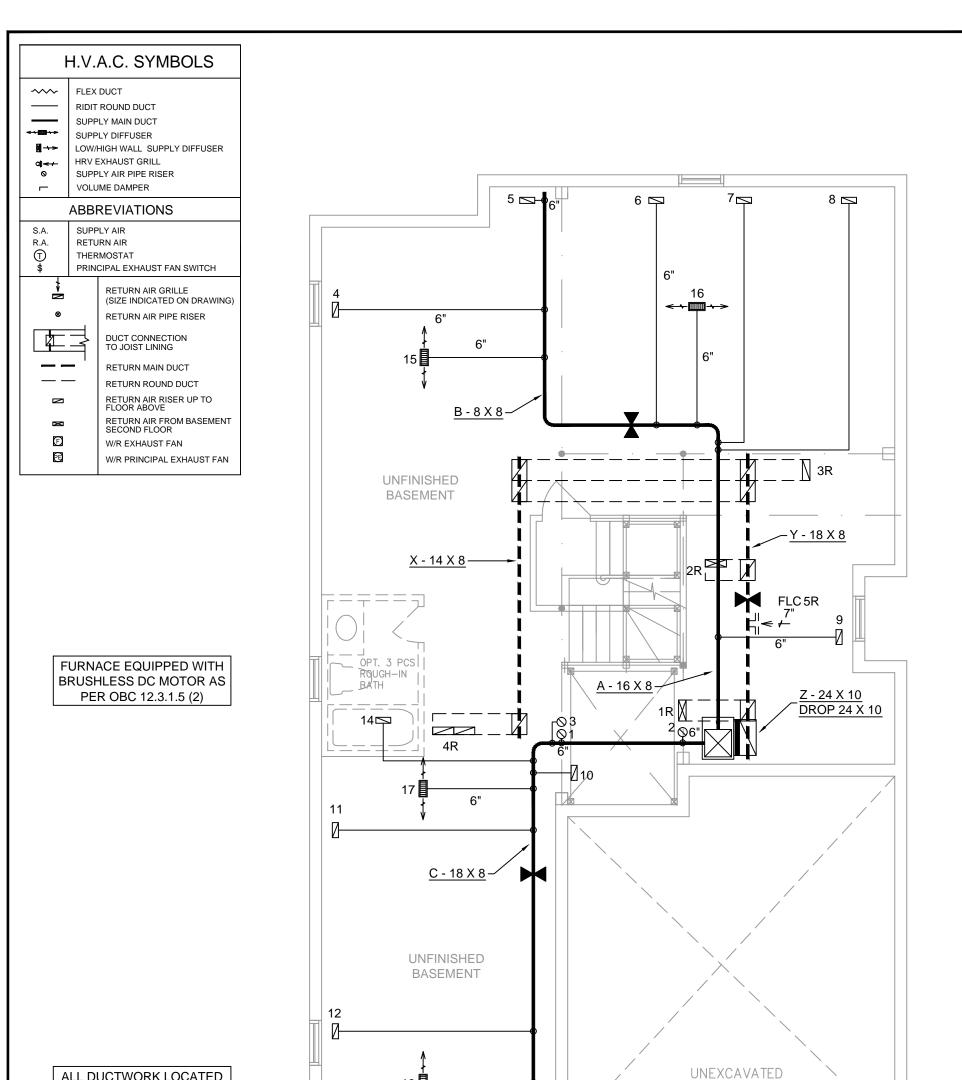
Supplemental tool for CAN/CSA-F280

Weather St	ation Description
Province:	Ontario ▼
Region:	Newcastle ▼
Weather Station Location:	Open flat terrain, grass
Anemometer height (m):	10
Loca	l Shielding
Building Site:	Suburban, forest ▼
Walls:	Heavy ▼
Flue:	Heavy ▼
Highest Ceiling Height (m):	8.53
Building	Configuration
Type:	Detached ▼
Number of Stories:	One & Half ▼
Foundation:	Full
House Volume (m³):	814.94
Air Leaka	ge/Ventilation
Air Tightness Type:	Present (1961-) (ACH=3.57) ▼
Custom DDT Data	ELA @ 10 Pa. 185.83 cm ²
Custom BDT Data:	3.57 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply: Total Exhaust:
	0 22.5
F	lue Size
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Envelope A	Air Leakage Rate
Heating Air Leakage Rate (ACH/	н): 0.293
Cooling Air Leakage Rate (ACH/I	H): 0.034

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weat	her Sta	tion Description
Province:	Ontario	▼
Region:	Newcastle	▼
	Site D	escription
Soil Conductivity:	High cond	uctivity: moist soil
Water Table:	Normal (7	7-10 m, 23-33 Ft)
Fou	ındatio	n Dimensions
Floor Length (m):	23.03	
Floor Width (m):	5.47	
Exposed Perimeter (m):	57.00	
Wall Height (m):	2.44	
Depth Below Grade (m):	1.83	Insulation Configuration
Window Area (m²):	1.39	
Door Area (m²):	1.95	
	Radi	ant Slab
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	23	
	Desig	n Months
Heating Month	1	
	Founda	ation Loads
Heating Load (Watts):		2173



ALL DUCTWORK LOCATED IN CONDITIONED SPACES MUST BE SEALED TO CLASS A LEVEL AS PER OBC PART 6-6.2.4.3. (11)

INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12 SEAL ALL JOINTS WITH APPROVED SEALANT OR FOIL TAPE

The undersigned has reviewed and takes responsibility for this design on behalf of GTA Designs Inc. and has the qualifications and meets the

QUALIFICATION INFORMATION

Required unless design is exempt under Division C 3.2.5.1 of the

Ontario building code

Ane 166 B.C.I.N. 32964

requirements set out in the Building Code to be a designer

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

ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY) INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN. HEATING CONTRACTOR MUST WORK FROM APPROVED

PLANS. ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE

RESPONSABILITY OF GTA DESIGNS. GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHUAST FAN EXCEEDS 700 CFM DEPRESSURIZATION MAY OCCUR WITH IN THE DWELLING gtaDesigns

18

6"

UNEX.

(OPT. COLD CELLAR)

13 -7 6"

D-8X8

MI L4T

8.00	UNIT MODEL
2985 DREW ROAD	GMEC960603BNA
SUITE 202,	UNIT HEATING INPUT BTU/H
•	60,000
IISSISSAUGA, ONT.	UNIT HEATING OUTPUT BTU/H
0A4 TEL: 416-268-6820	57,600
nail: dave@gtadesigns.ca	A/C COOLING CAPACITY TON:
eb: www.gtadesigns.ca	2.0
	FAN SPEED CFM
	1,000

UNIT MAKE

		l		
	-	_		
51,510	# OF RUNS	S/A	R/A	FANS
,	3RD FLOOR			
AMANA	2ND FLOOR	3	2	1
EC960603BNA	1ST FLOOR	11	2	4
1NPUT BTU/HR. 60,000	BASEMENT	4	1	
OUTPUT BTU/HR.				
57,600	FLOOR PLAN: BASEM	1FNT	-	
CAPACITY TONS.		SQFT	2 1 1	0

D. DACOSTA

LAYOUT NO. 15-34

(REMOVE TOP SOIL ONLY)

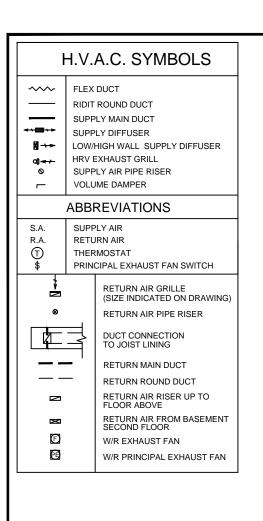
MARCH 4, 2015 HIGHCASTLE HOMES 40-I 9" CEILINGS WITH LOFT NORTHGLEN CLARINGTON, ON. SCALE:

3/16" = 1"-0"

OBC 2012

ZONE 1 COMPLIANCE PACKAGE "D" REF. TABLE 2.1.1.2.A

2,119



TO BE CENTRALLY LOCATED

IN CONDITIONED SPACES MUST BE SEALED TO CLASS A LEVEL AS PER

INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12 SEAL ALL JOINTS WITH APPROVED SEALANT

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

ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)
INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN.

HEATING CONTRACTOR MUST WORK FROM APPROVED ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE

RESPONSABILITY OF GTA DESIGNS.

GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHUAST FAN EXCEEDS 700 CFM DEPRESSURIZATION MAY OCCUR WITH IN THE DWELLING



SUITE 202, MISSISSAUGA, ONT.

L4T 0A4 TEL: 416-268-6820 email: dave@gtadesigns.ca web: www.gtadesigns.ca

UNIT MAKE	
UNIT MODEL	
UNIT HEATING INPUT	BTU/HR.
ONIT HEATING INFOT	BTO/TIK.
UNIT HEATING OUTPUT	BTU/HR.
A/C COOLING CAPACITY	TONS.
FAN SPEED	CFM

HEAT-LOSS

PACKAGE "D" REF. TABLE 2.1.1.2.A # OF RUNS R/A FANS 3RD FLOOR 2ND FLOOR 1ST FLOOR **BASEMENT**

GROUND FLOOR D. DACOSTA 2,119 <u>15-34</u>

MARCH 4, 2015 CLIENT: HIGHCASTLE HOMES 40-I 9" CEILINGS WITH LOFT NORTHGLEN

CLARINGTON, ON. 3/16" = 1"-0"

CIRCULATION FAN SWITCH

ALL DUCTWORK LOCATED OBC PART 6-6.2.4.3. (11)

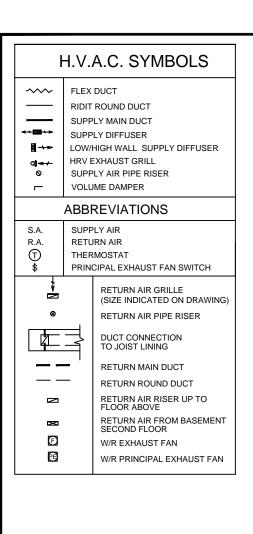
OR FOIL TAPE

The undersigned has reviewed and takes responsibility for this design on behalf of GTA Designs Inc. and has the qualifications and meets the COVERED PORCH 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 B.C.I.N. 32964
Signature ot Designer David Da Costa

< → **||||**|-6 --4" X 10" 6"Ø 4" X 10" 6"Ø 4" X 10" 6"Ø **GREAT** MASTER ROOM **BEDROOM KITCHEN** 3R HW 14X8 WIC 2R \ \sim 9 📗 **ENSUITE** SUNKEN LAUNDRY 14 1R \ ------**[**] 3 0 F 5' 4R LW 10 30X8 11 LIVING/ DINING **ROOM GARAGE** 12 13 4" X 10" 6"Ø

OBC 2012

ZONE 1 COMPLIANCE



ALL DUCTWORK LOCATED IN CONDITIONED SPACES MUST BE SEALED TO CLASS A LEVEL AS PER OBC PART 6-6.2.4.3. (11)

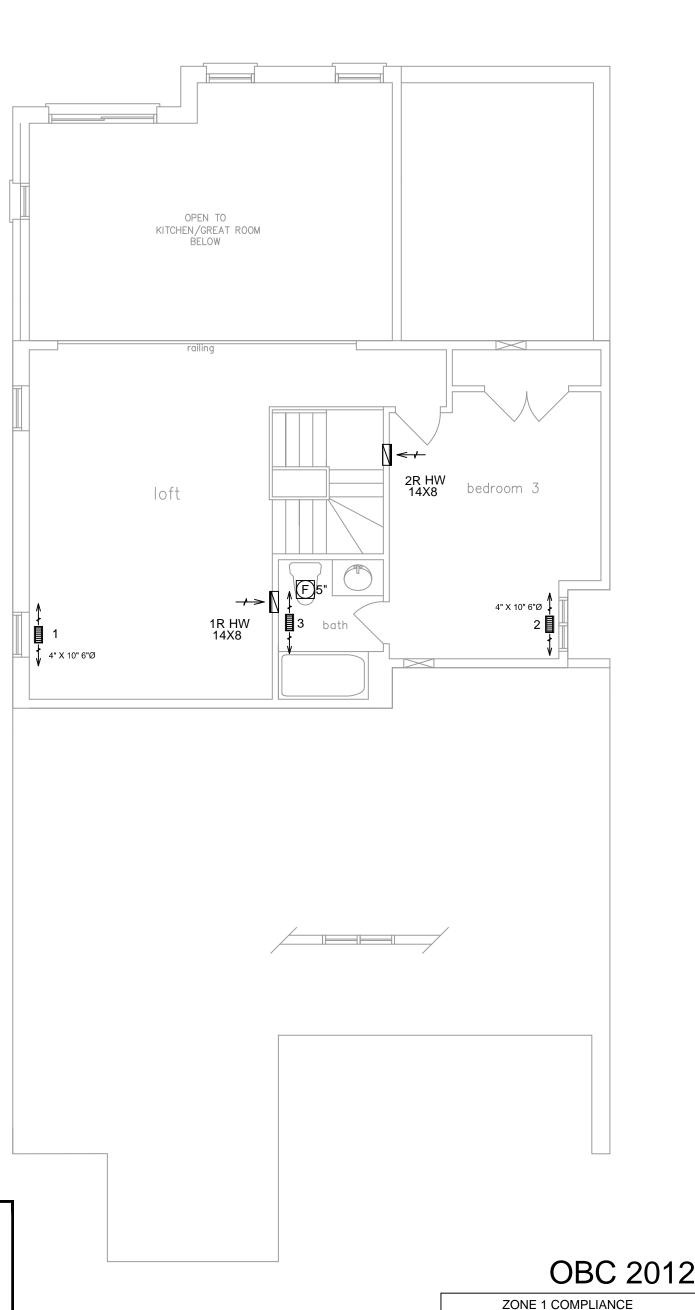
INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12 **SEAL ALL JOINTS WITH** APPROVED SEALANT OR FOIL TAPE

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

B.C.I.N. 32964
Signature ot Designer David Da Costa



INSTALLATION TO COMPLY WITH THE LATEST ONTARIO

BUILDING CODE.
ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE

ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)
INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN. HEATING CONTRACTOR MUST WORK FROM APPROVED

ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE

RESPONSABILITY OF GTA DESIGNS. GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHUAST FAN EXCEEDS 700 CFM DEPRESSURIZATION

MAY OCCUR WITH IN THE DWELLING

gtaDesigns 2985 DREW ROAD

SUITE 202, MISSISSAUGA, ONT.

L4T 0A4 TEL: 416-268-6820 email: dave@gtadesigns.ca web: www.gtadesigns.ca

HEAT-LOSS	BTO/HK.
UNIT MAKE	
UNIT MODEL	
UNIT HEATING INPUT	BTU/HR.
UNIT HEATING OUTPUT	BTU/HR.
A/C COOLING CAPACITY	TONS.
FAN SPEED	CFM

	PACKAGE "D" REF. TABLE 2.1.1.2.A			
# OF RUNS	S/A	R/A	FANS	DATE:
3RD FLOOR				MARCH 4, 2015
2ND FLOOR				HIGHCASTLE HOME
1ST FLOOR				PROJECT:
BASEMENT				40-I 9" CEILINGS
			WITH LOFT	

SECOND FLOOR
DRAWN BY SQFT 2.1 D. DACOSTA 2,119 <u>15-34</u>

MARCH 4, 2015 HIGHCASTLE HOMES 40-I 9" CEILINGS

WITH LOFT NORTHGLEN CLARINGTON, ON.

3/16" = 1"-0"