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						Unit no.	Lot/con.
Municipality		Postal code	Plan number/ other	· doc	crintion		
VAUGHAN (WOODBRIDGE)		r ostal code	rian number/ other	uesi	Silption		
B. Individual who review	c and takes	 rosponsibility f	or decign activities	_			
Name	s and takes	responsibility i	Firm	5			
MICHAEL O'ROURKE			HVAC DESIGNS L	TD.			
Street address			•		Unit no.		Lot/con.
375 FINLEY AVE					202		N/A
Municipality		Postal code	Province		E-mail		
AJAX		L1S 2E2	ONTARIO		info@hvacde	esigns.ca	
Telephone number		Fax number			Cell number		
(905) 619-2300		(905) 619-2375			()		
C. Design activities unde	ertaken by in	dividual identif	ied in Section B. [I	Build	ding Code Ta	able 3.5.2.1 OF	EDivision C]
☐ House		⊠ HVAC	: – House			Building Stru	ıctural
☐ Small Buildings			ng Services	_		Plumbing – I	
☐ Large Buildings☐ Complex Buildings		☐ Detec	tion, Lighting and	Pov		Plumbing – A On-site Sew	
Description of designer's work	•		•	al.	4002 THE VAI		age Systems
HEAT LOSS / GAIN CALCUL DUCT SIZING RESIDENTIAL MECHANICAI RESIDENTIAL SYSTEM DES D. Declaration of Design	_ VENTILATIO		MARY Proj	ect:	PINE VALLEY	& TESTON	
	er						
MICHAEL C	'ROURKE	int name)			declare t	that (choose one	as appropriate):
Division C, of the I classes/categories Individu	responsibility for Building Code. s. ual BCIN:	or the design work	on behalf of a firm re d the firm is registered			section 3.2.4.of appropria	ate
Firm B	CIN:						
	esponsibility for subsection 3.2		am qualified in the ap on C, of the Building			as an "other	
	ual BCIN:	19669					
Basis fo	or exemption for	om registration ar	nd qualification:		O.B.C SEI	NTENCE 3.2.4	4.1 (4)
☐ The design work is Basis for exemption			tion and qualification tion:	requi	rements of the	Building Code.	
I certify that:							
The information I have submitted.			dule is true to the best ledge and consent of		firm.		2.
February 26, 202	0				Mucha	of Offour	Le.
Date		•				Signature o	
							<i>S</i>

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 qualification under Subsections 3.2.4. and 3.2.5. of Division C.

^{2.} Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.



	PINE V								0,000,000			2700		2254	12020				Feb-20)				R NATURAL AIR CH				LOSS					CSA-F280-12
BUILDER:	GOLD	PARK	OMES					TYPE:	4002 T	HE VAL	LEYVI			GFA:	3138			LO#			_			R NATURAL AIR CH	ANGE RATE 0.118	_	HEAT	GAIN A	ΔT°F.	14	- 3	SB-12 P	ACKAGE A
ROOM USE		11	1	MBR			ENS	1		WIC			BED-4		1	BED-3			BED-2		9	ENS-3/4	1				ENS-2						
EXP. WALL				35			27			17			38		I	32			13			7					6	- 1					
CLG. HT.	C 1000 C 1000 C			10			9			9			9			10			9			9					9	- 1					
TO DESCRIPTION OF THE PROPERTY	FACTO																											- 1					
GRS.WALL AREA	LOSS	GAIN		350			243			153	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		342			320			117			63					54						
GLAZING				LOSS	GAIN	33	LOSS	GAIN		LOSS	GAIN		LOSS	GAIN	3	LOSS	GAIN		LOSS	GAIN		LOSS	GAIN				LOSS	GAIN					
NORTH	21.3	16.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	383	293	0	0	0			8	170	130					
EAST	21.3	41.8	0	0	0	0	0	0	0	0	0	45	958	1882	50	1064	2092	0	0	0	24	511	1004			0	0	0					
SOUTH	21.3	25.2	0	0	0	14	298	353	9	192	227	9	192	227	0	0	0	0	0	0	0	0	0			0	0	0					
WEST	21.3	41.8	36	766	1506	20	426	837	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0					
SKYLT.	37.2	102.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0					
DOORS	25.2	4.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0					
NET EXPOSED WALL	4.5	8.0	314	1401	254	209	933	169	144	643	117	288	1285	233	270	1205	219	99	442	80	39	174	32			46	205	37					
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0					
EXPOSED CLG	1.3	0.6	338	434	204	180	231	109	195	250	118	246	316	149	235	302	142	240	308	145	118	151	71			55	71	33					
NO ATTIC EXPOSED CLG	2.7	1.3	10	27	13	0	0	0	0	0	0	60	165	78	30	82	39	0	0	0	0	0	0			0	0	0					
EXPOSED FLOOR	2.6	0.5	0	0	0	0	0	0	0	0	0	20	51	9	213	543	99	0	0	0	118	301	55			0	0	0					
BASEMENT/CRAWL HEAT LOSS			72/126	0		-9654	0	7/1	Min	0	57.5		0	100	-10000	0		Course	0		(1000)	0					0						
SLAB ON GRADE HEAT LOSS				0			0			0			0		I	0			0			0					0	- 1					
SUBTOTAL HT LOSS				2629			1887			1084			2966			3196			1133			1137					446	- 1					
SUB TOTAL HT GAIN					1978			1467			461			2578			2590			518			1162					201					
LEVEL FACTOR / MULTIPLIER			0.20	0.29		0.20	0.29	VAC-00151	0.20	0.29	103,000	0.20	0.29	1000000	0.20	0.29		0.20	0.29		0.20	0.29				0.20	0.29	98000					
AIR CHANGE HEAT LOSS			William	756			543		SHARR	312			853		040000	919		5-51,007	326		11111111	327				COVID-1	128	- 1					
AIR CHANGE HEAT GAIN					172			127			40			224			225			45			101					17					
DUCTLOSS				0			0	1157612		0	100		382	9770		412			0			146					0	9522					
DUCT GAIN				9	0		2.53	0		157.0	0		1570	386			388			0		0.55	126				0.7	0					
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	3		240	1		240	0		0			0		0					
HEAT GAIN APPLIANCES/LIGHTS	2.10				823			0	, i		0	ं		823	15		823			823	1		0			-		0					
TOTAL HT LOSS BTU/H				3384	OL.		2430			1396	Ĭ.		4201	020		4527	020		1459	020		1611	•				574						
TOTAL HT GAIN x 1.3 BTU/H					4488		2.00	2073			652		1201	5527			5545			2114			1805					283					
						_																											
ROOM USE EXP. WALL				DIN 14						KT/GT 86						LAUN 22			PWD			FOY			100					LOD			BAS 178
CLG. HT.										7.5									6											42			
CLG. HT.				44						44					I				6			49								42			
	EACTO	De		:11						11						12			6 13			49 11								10			10
CRS WALL AREA	FACTO															12			13			11								10			10
GRS.WALL AREA				154	CAIN					946	CAIN					12 264	CAIN		13 78	CAIN		11 539	CAIN							10 420	CAIN		10 1498
GLAZING	LOSS	GAIN	26	154 LOSS						946 LOSS	011				40	12 264 LOSS		0	13 78 LOSS			11 539 LOSS								10 420 LOSS	70	200	10 1498 LOSS GAIN
GLAZING NORTH	21.3	GAIN 16.3	26	154 LOSS 553	423				0	946 LOSS 0	0				10	12 264 LOSS 213	163	0	78 LOSS 0	0	0	539 LOSS 0	0						0	10 420 LOSS 0	0	0	10 1498 LOSS GAIN 0 0
GLAZING NORTH EAST	21.3 21.3	16.3 41.8	0	154 LOSS 553 0	423 0				0	946 LOSS 0	0				10	12 264 LOSS 213 0	163 0	0	78 LOSS 0 0	0	35	539 LOSS 0 745	0 1464						0	10 420 LOSS	0	200	10 1498 LOSS GAIN 0 0 0 0
GLAZING NORTH EAST SOUTH	21.3 21.3 21.3	16.3 41.8 25.2	0	154 LOSS 553 0	423 0 0				0 24	946 LOSS 0 0 511	0 0 604				0	264 LOSS 213 0	163 0 0	0 8	78 LOSS 0 0 170	0 0 201	35 0	539 LOSS 0 745	0 1464 0						0 0 0	10 420 LOSS 0 0	0	0	10 1498 LOSS GAIN 0 0 0 0 128 151
GLAZING NORTH EAST SOUTH WEST	21.3 21.3 21.3 21.3	16.3 41.8 25.2 41.8	0 0 0	154 LOSS 553 0 0	423 0				0 24 117	946 LOSS 0 0 511 2490	0 0 604 4894				0 0	12 264 LOSS 213 0 0	163 0 0	0 8 0	78 LOSS 0 0 170	0 0 201 0	35 0 0	539 LOSS 0 745 0	0 1464 0 0						0 0 0 20	10 420 LOSS 0	0 0 0 837	0 0 6	10 1498 LOSS GAIN 0 0 0 0 128 151 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT.	21.3 21.3 21.3 21.3 21.3 37.2	16.3 41.8 25.2 41.8 102.0	0 0 0	154 LOSS 553 0 0	423 0 0 0 0				0 24 117 0	946 LOSS 0 0 511 2490	0 0 604 4894 0				0 0 0	264 LOSS 213 0 0	163 0 0 0	0 8 0	78 LOSS 0 0 170 0	0 0 201 0	35 0 0 0	539 LOSS 0 745 0	0 1464 0 0						0 0 0 20 0	10 420 LOSS 0 0	0 0 0 837	0 0 6 0	10 1498 LOSS GAIN 0 0 0 0 128 151 0 0 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS	21.3 21.3 21.3 21.3 21.3 37.2 25.2	16.3 41.8 25.2 41.8 102.0 4.6	0 0 0 0	154 LOSS 553 0 0 0	423 0 0 0 0 0				0 24 117 0 0	946 LOSS 0 0 511 2490 0	0 604 4894 0				0 0 0 0 0	264 LOSS 213 0 0 0 0 505	163 0 0 0 0 0	0 8 0 0	78 LOSS 0 0 170 0	0 0 201 0 0	35 0 0 0 20	539 LOSS 0 745 0 0 0 505	0 1464 0 0 0 0						0 0 0 20 0	10 420 LOSS 0 0 0 426 0	0 0 0 837 0	0 0 6 0 0	10 1498 LOSS GAIN 0 0 0 0 128 151 0 0 0 0 505 92
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8	0 0 0 0 0 128	154 LOSS 553 0 0 0 0 0	423 0 0 0 0 0 104				0 24 117 0 0 805	946 LOSS 0 0 511 2490 0 0 3592	0 604 4894 0 0 652				0 0 0 0 20 234	264 LOSS 213 0 0 0 0 505 1044	163 0 0 0 0 92 190	0 8 0 0 0 70	78 LOSS 0 0 170 0 0 0 312	0 0 201 0 0 0 57	35 0 0 0 20 484	539 LOSS 0 745 0 0 0 505 2160	0 1464 0 0 0 92 392						0 0 0 20 0 0	10 420 LOSS 0 0 0 426 0	0 0 837 0 0	0 0 6 0 0 20	10 1498 LOSS GAIN 0 0 0 0 128 151 0 0 0 0 505 92 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMT WALL ABOVE GR	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7	0 0 0 0 0 128	154 LOSS 553 0 0 0 0 0 571	423 0 0 0 0 0 104				0 24 117 0 0 805	946 LOSS 0 0 511 2490 0 0 3592 0	0 0 604 4894 0 0 652				0 0 0 0 20 234 0	264 LOSS 213 0 0 0 0 505 1044	163 0 0 0 0 92 190	0 8 0 0 0 70	78 LOSS 0 0 170 0 0 0 312	0 0 201 0 0 0 57	35 0 0 0 20 484 0	539 LOSS 0 745 0 0 0 505 2160	0 1464 0 0 0 92 392 0						0 0 20 0 0 0 232	10 420 LOSS 0 0 0 426 0	0 0 837 0 0 0	0 0 6 0 0 20 0 282	10 1498 LOSS GAIN 0 0 0 0 128 151 0 0 0 505 92 0 0 1015 184
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BSMT WALL ABOVE GR EXPOSED CLG	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6	0 0 0 0 0 128 0	154 LOSS 553 0 0 0 0 0 571 0	423 0 0 0 0 0 0 104 0				0 24 117 0 0 805 0	946 LOSS 0 0 511 2490 0 0 3592 0	0 0 604 4894 0 0 652 0				0 0 0 0 20 234 0	12 264 LOSS 213 0 0 0 0 505 1044 0	163 0 0 0 0 92 190 0	0 8 0 0 0 70 0	78 LOSS 0 0 170 0 0 312 0	0 201 0 0 0 57	35 0 0 0 20 484 0	539 LOSS 0 745 0 0 0 505 2160 0	0 1464 0 0 0 92 392 0						0 0 20 0 0 0 0 232	10 420 LOSS 0 0 0 426 0 0 0 835	0 0 0 837 0 0 0 152	0 0 6 0 0 20 0 282	10 1498 LOSS GAIN 0 0 0 128 151 0 0 0 0 505 92 0 0 1015 184 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 128 0	154 LOSS 553 0 0 0 0 571 0	423 0 0 0 0 0 104 0 0				0 24 117 0 0 805 0 0	946 LOSS 0 0 511 2490 0 0 3592 0 0	0 0 604 4894 0 0 652 0 0				0 0 0 0 20 234 0 0	12 264 LOSS 213 0 0 0 505 1044 0 0	163 0 0 0 0 92 190 0	0 8 0 0 70 0 0	78 LOSS 0 0 170 0 0 312 0 0	0 0 201 0 0 0 57 0	35 0 0 0 20 484 0 0	11 539 LOSS 0 745 0 0 505 2160 0	0 1464 0 0 0 92 392 0 0						0 0 20 0 0 0 232 0	10 420 LOSS 0 0 0 426 0 0 835 0	0 0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0	10 1498 LOSS GAIN 0 0 0 128 151 0 0 0 505 92 0 0 0 1015 184 0 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6	0 0 0 0 0 128 0	154 LOSS 553 0 0 0 0 571 0	423 0 0 0 0 0 0 104 0				0 24 117 0 0 805 0	946 LOSS 0 0 511 2490 0 0 3592 0 0 27	0 0 604 4894 0 0 652 0				0 0 0 0 20 234 0	12 264 LOSS 213 0 0 0 0 505 1044 0	163 0 0 0 0 92 190 0	0 8 0 0 0 70 0	78 LOSS 0 0 170 0 0 312 0 0	0 201 0 0 0 57	35 0 0 0 20 484 0	11 539 LOSS 0 745 0 0 0 505 2160 0 0	0 1464 0 0 0 92 392 0						0 0 20 0 0 0 0 232	10 420 LOSS 0 0 0 426 0 0 0 835	0 0 0 837 0 0 0 152	0 0 6 0 0 20 0 282 0	1498 LOSS GAIN 0 0 0 0 0 0 128 151 0 0 0 505 92 0 0 0 1015 184 0 0 0 0 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL MET EXPOSED SMMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 128 0	154 LOSS 553 0 0 0 0 571 0 0	423 0 0 0 0 0 104 0 0				0 24 117 0 0 805 0 0	946 LOSS 0 0 511 2490 0 0 3592 0 0	0 0 604 4894 0 0 652 0 0				0 0 0 0 20 234 0 0	12 264 LOSS 213 0 0 0 505 1044 0 0	163 0 0 0 0 92 190 0	0 8 0 0 70 0 0	13 78 LOSS 0 0 170 0 0 312 0 0 0 0	0 0 201 0 0 0 57 0	35 0 0 0 20 484 0 0	539 LOSS 0 745 0 0 505 2160 0 0	0 1464 0 0 0 92 392 0 0						0 0 20 0 0 0 232 0	10 420 LOSS 0 0 0 426 0 0 835 0	0 0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0	10 1498 LOSS GAIN 0 0 0 128 151 0 0 0 505 92 0 0 0 1015 184 0 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED SED NO ATTIC EXPOSED CLG NO ATTIC EXPOSED CLO BASEMENTICRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 128 0	154 LOSS 553 0 0 0 0 571 0 0 0	423 0 0 0 0 0 104 0 0				0 24 117 0 0 805 0 0	946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0	0 0 604 4894 0 0 652 0 0				0 0 0 0 20 234 0 0	12 264 LOSS 213 0 0 0 505 1044 0 0 0	163 0 0 0 0 92 190 0	0 8 0 0 70 0 0	13 78 LOSS 0 0 170 0 0 312 0 0 0 0 0	0 0 201 0 0 0 57 0	35 0 0 0 20 484 0 0	539 LOSS 0 745 0 0 505 2160 0 0 0	0 1464 0 0 0 92 392 0 0						0 0 20 0 0 0 232 0	10 420 LOSS 0 0 0 426 0 0 835 0	0 0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0 0	1098 LOSS GAIN 0 0 0 128 151 0 0 0 505 92 0 0 0 1015 184 0 0 0 5959
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED EMM WALL ABOVE OR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSS	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 128 0	154 LOSS 553 0 0 0 0 571 0 0	423 0 0 0 0 0 104 0 0				0 24 117 0 0 805 0 0	946 LOSS 0 0 511 2490 0 0 3592 0 0 27	0 0 604 4894 0 0 652 0 0 13				0 0 0 0 20 234 0 0	12 264 LOSS 213 0 0 0 505 1044 0 0	163 0 0 0 92 190 0 0	0 8 0 0 70 0 0	13 78 LOSS 0 0 170 0 0 312 0 0 0 0	0 0 201 0 0 0 57 0 0	35 0 0 0 20 484 0 0	539 LOSS 0 745 0 0 505 2160 0 0	0 1464 0 0 0 92 392 0 0						0 0 20 0 0 0 232 0	10 420 LOSS 0 0 0 426 0 0 835 0	0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0 0	10 1498 LOSS GAIM 0 0 0 0 128 151 0 0 0 0 0 0 1015 184 0 0 0 0 0 0 0 5959 7607
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL MET EXPOSED BSMT WALL ABOVE GR EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 128 0 0 0	154 LOSS 553 0 0 0 571 0 0 0 0	423 0 0 0 0 0 104 0 0				0 24 117 0 0 805 0 0 10	946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 0	0 0 604 4894 0 0 652 0 0				0 0 0 20 234 0 0	12 264 LOSS 213 0 0 0 505 1044 0 0 0 0 1762	163 0 0 0 0 92 190 0	0 8 0 0 70 0 0 0	78 LOSS 0 0 170 0 0 0 312 0 0 0 0 483	0 0 201 0 0 0 57 0	35 0 0 20 484 0 0	539 LOSS 0 745 0 0 0 505 2160 0 0 0 0	0 1464 0 0 0 92 392 0 0						0 0 20 0 0 0 232 0	10 420 LOSS 0 0 0 426 0 0 835 0	0 0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0 0	100 1498 LOSS GAIN 0 0 0 128 151 0 0 0 505 92 0 0 0 1015 184 0 0 0 5959 7607
GLAZING NORTH EAST SOUTH WEST SKYUT. DOORS NET EXPOSED WALL NET EXPOSED SMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT GAIN LEVEL FACTOR / MULTIPLIER	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 128 0	154 LOSS 553 0 0 0 0 571 0 0 0 0 1125	423 0 0 0 0 0 104 0 0				0 24 117 0 0 805 0 0	946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 0 6620	0 0 604 4894 0 0 652 0 0 13				0 0 0 0 20 234 0 0	12 264 LOSS 213 0 0 0 0 505 1044 0 0 0 0 1762	163 0 0 0 92 190 0 0	0 8 0 0 70 0 0	78 LOSS 0 0 170 0 0 0 0 0 0 0 0 483 0.47	0 0 201 0 0 0 57 0 0	35 0 0 0 20 484 0 0	539 LOSS 0 745 0 0 0 505 2160 0 0 0 0 3410	0 1464 0 0 0 92 392 0 0						0 0 20 0 0 0 232 0	10 420 LOSS 0 0 0 426 0 0 835 0	0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0 0	1098 LOSS GAIN 0 0 0 128 151 0 0 0 505 92 0 0 0 1015 184 0 0 0 0 0 5959 7607 427
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL METEXPOSED SMIT WALL ABOVE OR EXPOSED CLG NO ATTIC EXPOSED CLG NO ATTIC EXPOSED CLG SEXPOSED CLG NO ATTIC EXPOSED FLOOR BASEMENTICRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSS SUBTOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 128 0 0 0	154 LOSS 553 0 0 0 571 0 0 0 0	423 0 0 0 0 104 0 0 0				0 24 117 0 0 805 0 0 10	946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 0	0 0 604 4894 0 0 652 0 13 0				0 0 0 20 234 0 0	12 264 LOSS 213 0 0 0 505 1044 0 0 0 0 1762	163 0 0 0 0 92 190 0 0 0	0 8 0 0 70 0 0 0	78 LOSS 0 0 170 0 0 0 312 0 0 0 0 483	0 0 201 0 0 0 57 0 0 0	35 0 0 20 484 0 0	539 LOSS 0 745 0 0 0 505 2160 0 0 0 0	0 1464 0 0 92 392 0 0 0						0 0 20 0 0 0 232 0	10 420 LOSS 0 0 0 426 0 0 835 0	0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0 0	1098 LOSS GAIN 0 0 0 128 151 0 0 0 0 0 0 127 150 0 0 0 0 0 0 1015 184 0 0 0 0 0 0 5959 7607 427 1.17
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED UG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT GAIN	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 128 0 0 0	154 LOSS 553 0 0 0 0 0 571 0 0 0 0 1125	423 0 0 0 0 0 104 0 0				0 24 117 0 0 805 0 0 10	946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 6620	0 0 604 4894 0 0 652 0 0 13				0 0 0 20 234 0 0	12 264 LOSS 213 0 0 0 0 505 1044 0 0 0 0 1762	163 0 0 0 92 190 0 0	0 8 0 0 70 0 0 0	13 78 LOSS 0 0 170 0 0 312 0 0 0 483	0 0 201 0 0 0 57 0 0	35 0 0 20 484 0 0	539 LOSS 0 745 0 0 0 505 2160 0 0 0 0 3410	0 1464 0 0 0 92 392 0 0						0 0 20 0 0 0 232 0	10 420 LOSS 0 0 0 426 0 0 835 0	0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0 0	1098 LOSS GAIN 0 0 0 128 151 0 0 0 505 92 0 0 0 1015 184 0 0 0 0 0 5959 7607 427
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL MET EXPOSED BAST WALL ABOVE GR EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT GAIN DUCT LOSS	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 128 0 0 0	154 LOSS 553 0 0 0 0 571 0 0 0 0 1125	423 0 0 0 0 104 0 0 0				0 24 117 0 0 805 0 0 10	946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 0 6620	0 0 604 4894 0 0 652 0 0 13 0				0 0 0 20 234 0 0	12 264 LOSS 213 0 0 0 0 505 1044 0 0 0 0 1762	163 0 0 0 0 92 190 0 0 0	0 8 0 0 70 0 0 0	78 LOSS 0 0 170 0 0 0 0 0 0 0 0 483 0.47	0 0 201 0 0 57 0 0 0 0 258	35 0 0 20 484 0 0	539 LOSS 0 745 0 0 0 505 2160 0 0 0 0 3410	0 1464 0 0 92 392 0 0 0						0 0 20 0 0 0 232 0	10 420 LOSS 0 0 0 426 0 0 835 0	0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0 0	100 1498 LOSS GAIN 0 0 0 128 151 0 0 0 505 92 0 0 0 1015 184 0 0 0 0 0 5959 7607 427 1.17 10408 123
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED ELG EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSS SUBTOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS OUCT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 128 0 0 0	154 LOSS 553 0 0 0 0 0 571 0 0 0 0 1125	423 0 0 0 0 104 0 0 0				0 24 117 0 0 805 0 0 10	946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 6620	0 0 604 4894 0 0 652 0 13 0				0 0 0 20 234 0 0 0	12 264 LOSS 213 0 0 0 0 505 1044 0 0 0 0 1762	163 0 0 0 0 92 190 0 0 0 0	0 8 0 0 0 70 0 0 0	13 78 LOSS 0 0 170 0 0 312 0 0 0 483	0 0 201 0 0 0 57 0 0 0 0 258	35 0 0 20 484 0 0 0	539 LOSS 0 745 0 0 0 505 2160 0 0 0 0 3410	0 1464 0 0 0 92 392 0 0 0						0 0 20 0 0 0 0 232 0 0	10 420 LOSS 0 0 0 426 0 0 835 0	0 0 837 0 0 152 0 0	0 0 6 0 0 20 0 282 0 0	1098 LOSS GAIN 0 0 0 128 151 0 0 0 0 0 0 127 150 0 0 0 0 0 0 1015 184 0 0 0 0 0 0 5959 7607 427 1.17
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED CLOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSS SUBTOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS DUCT GAIN HEAT GAIN PEOPLE	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 128 0 0 0	154 LOSS 553 0 0 0 0 0 571 0 0 0 0 1125	423 0 0 0 0 0 104 0 0 0 0 526				0 24 117 0 0 805 0 0 10	946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 6620	0 0 604 4894 0 0 6522 0 0 13 0				0 0 0 20 234 0 0	12 264 LOSS 213 0 0 0 0 505 1044 0 0 0 0 1762	163 0 0 0 0 92 190 0 0 0 0 444	0 8 0 0 70 0 0 0	13 78 LOSS 0 0 170 0 0 312 0 0 0 483	0 0 201 0 0 0 57 0 0 0 0 0	35 0 0 20 484 0 0	539 LOSS 0 745 0 0 0 505 2160 0 0 0 0 3410	0 1464 0 0 92 392 0 0 0 0						0 0 20 0 0 0 232 0	10 420 LOSS 0 0 0 426 0 0 835 0	0 0 0 837 0 0 0 152 0 0 0	0 0 6 0 0 20 0 282 0 0	100 1498 LOSS GAIN 0 0 0 128 151 0 0 0 505 92 0 0 0 1015 184 0 0 0 0 0 5959 7607 427 1.17 10408 123
GLAZING NORTH EAST SOUTH WEST SYVIT. DOORS NET EXPOSED WALL NET EXPOSED ULG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON CRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT GAIN DUCT LOSS DUCT GAIN HEAT GAIN PEOPLE HEAT GAIN APPLIANCES/LIGHTS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 128 0 0 0	154 LOSS 553 0 0 0 0 0 571 0 0 0 0 1125 0.47 524	423 0 0 0 0 104 0 0 0				0 24 117 0 0 805 0 0 10	946 LOSS 0 0 5111 2490 0 0 3592 0 0 0 6620 0 .47 3086	0 0 604 4894 0 0 652 0 0 13 0				0 0 0 20 234 0 0 0	12 264 LOSS 213 0 0 0 505 1044 0 0 0 0 1762 0.47 821	163 0 0 0 0 92 190 0 0 0 0	0 8 0 0 0 70 0 0 0	13 78 LOSS 0 0 170 0 0 312 0 0 0 483 0.47 225	0 0 201 0 0 0 57 0 0 0 0 258	35 0 0 20 484 0 0 0	111 539 LOSS 0 745 0 0 505 2160 0 0 0 0 3410 0.47 1589	0 1464 0 0 0 92 392 0 0 0						0 0 20 0 0 0 0 232 0 0 0	10 420 LOSS 0 0 0 426 0 0 0 835 0 0 0	0 0 837 0 0 152 0 0	0 0 6 0 0 220 0 282 0 0	100 1498 LOSS GAIN 0 0 0 128 151 0 0 0 505 92 0 0 0 1015 184 0 0 0 5959 7607 427 1.17 10408 123 0 0 0 0 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL MET EXPOSED BMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSS SUBTOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS DUCT GAIN HEAT GAIN PEOPLE	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 128 0 0 0	154 LOSS 553 0 0 0 0 0 571 0 0 0 0 1125	423 0 0 0 0 0 104 0 0 0 0 526				0 24 117 0 0 805 0 0 10	946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 6620	0 0 604 4894 0 0 6522 0 0 13 0				0 0 0 20 234 0 0 0	12 264 LOSS 213 0 0 0 0 505 1044 0 0 0 0 1762	163 0 0 0 0 92 190 0 0 0 0 444	0 8 0 0 0 70 0 0 0	13 78 LOSS 0 0 170 0 0 312 0 0 0 483	0 0 201 0 0 0 57 0 0 0 0 0	35 0 0 20 484 0 0 0	539 LOSS 0 745 0 0 0 505 2160 0 0 0 0 3410	0 1464 0 0 92 392 0 0 0 0						0 0 20 0 0 0 0 232 0 0 0	10 420 LOSS 0 0 0 426 0 0 0 835 0 0 0 1260	0 0 0 837 0 0 0 152 0 0 0	0 0 6 0 0 220 0 282 0 0	100 1498 LOSS GAIN 0 0 0 128 151 0 0 0 505 92 0 0 0 1015 184 0 0 0 0 0 5959 7607 427 1.17 10408 123

TOTAL HEAT GAIN BTU/H:

41469

TONS: 3.46

LOSS DUE TO VENTILATION LOAD BTU/H: 3181

STRUCTURAL HEAT LOSS: 58501

TOTAL COMBINED HEAT LOSS BTU/H: 61682

Michael Oxombe.



ROUND DUCT SIZE

INLET GRILL SIZE

INLET GRILL SIZE

EQUIVALENT LENGTH

TOTAL EFFECTIVE LH

ADJUSTED PRESSURE

235

286

0.05

7.5

X

14

205

263

0.06

6.6

8

X

14

165

222

0.07

6.6

8

X

185

219

0.07

6.6

8

X

14

225

267

0.06

6.6

8

X

		PINE VA						TYPE:	4002 THE	E VALLE	YVIEW		DATE:	Feb-20			GFA:	3138	LO#	77457				
HEATING CFM TOTAL HEAT LOSS AIR FLOW RATE CFM	58,501	A	TOTAL H	DLING CFM HEAT GAIN RATE CFM			a	furr a/c coil vailable p		0.6 0.05 0.2 0.35						EL	.296UH09		LENNO) 90	(AFUE = (BTU/H) = (BTU/H) =	88,000	
RUN COUNT S/A	4th 0	3rd 0	2nd 12	1st 8	Bas 5			num pre	s/a & r/a ssure s/a	0.18			pressure				999	EDLOW MEDIUM	0 1105		DESI	GN CFM = CFM @ .6		- 2
R/A	0	0	5	2	1	I			ess. loss				ess. Loss				MEDIL	JM HIGH		560			102523	17.52
All S/A diffusers 4"x10" unl				out.			min adju	isted pre	ssure s/a	0.15	adj	usted pre	essure r/a	0.15				HIGH	1525	1	EMPERAT	URE RISE	63	°F
All S/A runs 5"Ø unless not RUN#	ed otne	2	ayout.	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-4	BED-3	BED-2	ENS-3/4			MBR	ENS-2	DIN	KT/GT	KT/GT	KT/GT	KT/GT	LAUN	PWD	FOY	BED-3	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.69	2.43	1.40	2.10	2.26	1.46	0.81	0.81	2.10	1.69	0.57	1.65	2.43	2.43	2.43	2.43	2.58	0.71	5.00	2.26	3.86	3.86	3.86	3.8
CFM PER RUN HEAT	36	52	30	45	49	31	17	17	45	36	12	35	52	52	52	52	55	15	107	49	83	83	83	83
RM GAIN MBH.	2.24	2.07	0.65	2.76	2.77	2.11	0.90	0.90	2.76	2.24	0.28	1.81	2.44	2.44	2.44	2.44	1.70	0.36	2.75	2.77	0.40	0.40	0.40	0.4
CFM PER RUN COOLING	69	64	20	85	85	65	28	28	85	69	9	56	75	75	75	75	52	11	84	85	12	12	12	12
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.16	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.15	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	50	58	58	61	51	38	48	40	67	35	47	10	41	48	40	30	11	48	44	57	40	27	26	28
EQUIVALENT LENGTH	210	150	150	180	170	180	140	140	190	120	180	130	130	130	150	130	200	210	140	160	140	170	120	150
TOTAL EFFECTIVE LENGTH	260	208	208	241	221	218	188	180	257	155	227	140	171	178	190	160	211	258	184	217	180	197	146	178
ADJUSTED PRESSURE	0.07	0.08	0.08	0.07	0.07	0.08	0.09	0.1	0.06	0.11	0.08	0.12	0.1	0.1	0.09	0.11	0.08	0.07	0.08	0.07	0.09	0.08	0.11	0.09
ROUND DUCT SIZE	5	5	4	6	6	6	4	4	6	5	4	4	5	5	5	5	5	4	6	6	6	6	6	6
HEATING VELOCITY (ft/min)	264	382	344	229	250	158	195	195	229	264	138	402	382	382	382	382	404	172	546	250	423	423	423	423
COOLING VELOCITY (ft/min)	507	470	229	433	433	331	321	321	433	507	103	642	551	551	551	551	382	126	428	433	61	61	61	61
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	4X10
TRUNK	Α	A	A	С	D	В	D	D	С	В	D	В	Α	Α	Α	В	В	С	С	D	A	A	В	В
ROOM NAME RM LOSS MBH. CFM PER RUN HEAT RM GAIN MBH. CFM PER RUN COOLING ADJUSTED PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LENGTH ADJUSTED PRESSURE ROUND DUCT SIZE HEATING VELOCITY (ft/min) OUTLET GRILL SIZE TRUNK	BAS 3.86 83 0.40 12 0.16 43 150 193 0.08 6 423 61 4X10 C																							
SUPPLY AIR TRUNK SIZE		III USAANAA.	W120000000000	100000000			10.11.000000000000000000000000000000000			and the same of th	FORTING BARRIES		110000000			PRO 4 - 101 - 11	RETURN	AIR TRUNK	KSIZE					950 (000)
	TRUNK	STATIC	ROUND	RECT			VELOCITY			TRUNK	STATIC	ROUND	RECT			VELOCITY		TRUNK	STATIC	ROUND	RECT			VELOCI
	CFM	PRESS.	DUCT	DUCT		-	(ft/min)			CFM	PRESS.	DUCT	DUCT		020	(ft/min)		CFM	PRESS.	DUCT	DUCT		1217	(ft/mi
TRUNK A	440	0.07	10.7	14	×	8	566		TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	×	8	0
TRUNK B	815	0.07	13.4	20	×	8	734		TRUNK H	0	0.00	0	0	×	8	0	TRUNK P	0	0.05	0	0	×	8	0
TRUNK C	295	0.06	9.5	10	×	8	531		TRUNK I	0	0.00	0	0	×	8	0	TRUNK Q	0	0.05	0	0	×	8	0
TRUNK D TRUNK E	439	0.06	11.1	14	X	8	564 0		TRUNK J	0	0.00	0	0	X	8	0	TRUNK R	0	0.05	0	0	×	8	0
TRUNK F	0	0.00	0	0	×	8	0		TRUNK L	0	0.00	0	0	×	8	0	TRUNKT	0	0.05	0	0	×	8	0
TRUIK F	U	0.00	U	U		0	U		INONK L	U	0.00	U	U	Α.	0	U	TRUNK U	0	0.05	0	0	×	8	0
																	TRUNK V	o	0.05	Ö	Ö	x	8	Ö
RETURN AIR #	1	2	3	4	5	6	7									BR	TRUNK W	Ö	0.05	Ö	0	x	8	ō
	o	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100000	TRUNK X	1255	0.05	17.2	28	x	10	645
IR VOLUME	135	110	120	120	110	300	175	0	0	0	0	0	0	0	0	185	TRUNK Y	475	0.05	11.9	16	×	8	534
LENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	TRUNK Z	610	0.05	13.1	20	×	8	549
ACTUAL DUCT LGH.	51	58	57	34	42	28	35	1	1	1	1	1	1	1	1	18	DROP	1255	0.05	17.2	24	x	12	628
OUR MUENT LENGTH	225	205	405	405	225	400	405	0	•	0	•	0	•		0	245	10000000							

0

14.80

0

0

X

215

233

0.06

8

8

X

24

190

218

0.07

9.2

8

X

30

185

220

0.07

7.5

8

X

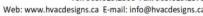
0

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TYPE: 4002 THE VALLEYVIEW SITE NAME: PINE VALLEY & TESTON

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

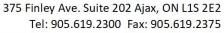
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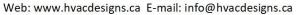
77457

COMBUSTION APPLIANCES	9.32.3.1(1)	SUPPLEMENTAL V	ENTILATION CAPACITY			9.32.3.5.
a) Direct vent (sealed combustion) only		Total Ventilation Cap	pacity	169.6	_	cfm
b) Positive venting induced draft (except fireplaces)		Less Principal Ventil	. Capacity	155	-	cfm
c) Natural draft, B-vent or induced draft gas fireplace		Required Supplement	ntal Capacity	14.6	_	cfm
d) Solid Fuel (including fireplaces)		DDINOIDAL EVILALI	CT FAN CARACITY			
e) No Combustion Appliances		PRINCIPAL EXHAU Model:	VANEE 65H	Location:	BSN	ΑΤ
HEATING SYSTEM		155.0		ones		Approved
✓ Forced Air Non Forced Air			ST HEAT LOSS CALCULATI	**************************************		
Non Forced All		CFM	ΔT *F	FACTOR		% LOSS
Electric Space Heat		155.0 CFM	X 76 F	X 1.08	Х	0.25
		SUPPLEMENTAL F.	ANS	NUTONE		
HOUSE TYPE	9.32.1(2)	Location ENS	Model QTXEN050C	cfm 50	HVI	Sones 0.3
HOUSE TIPE	3.32.1(2)	ENS-3/4	QTXEN050C	50	1	0.3
✓ I Type a) or b) appliance only, no solid fuel		ENS-2	QTXEN050C	50	1	0.3
II Tune I assent with solid first (including firenesses	.	PWD	QTXEN050C	50	1	0.3
II Type I except with solid fuel (including fireplaces)	HEAT RECOVERY	VENTILATOR			9.32.3.11.
III Any Type c) appliance		Model:	VANEE 65H			
IV Type I, or II with electric space heat		155	_ cfm high	64	_	cfm low
Other: Type I, II or IV no forced air		75	% Sensible Efficiency @ 32 deg F (0 deg C)		✓ HV	Approved
SYSTEM DESIGN OPTIONS	O.N.H.W.P.	LOCATION OF INS	TALLATION			
or or the second of the second	O.14.11.14.11	Lot:		Concession		
1 Exhaust only/Forced Air System				82888 V		
2 HRV with Ducting/Forced Air System		Township		Plan:		
		Address				
3 HRV Simplified/connected to forced air system		Roll#		Building Pern	nit#	
4 HRV with Ducting/non forced air system		BUILDER:	GOLD PARK HOMES	;		
Part 6 Design		Name:				
TOTAL VENTILATION CAPACITY	9.32.3.3(1)	Address:				
Basement + Master Bedroom 2 @ 21.2 cfm 42.4	cfm	City:				
Other Bedrooms <u>3</u> @ 10.6 cfm <u>31.8</u>	cfm	Telephone #:		Fax #:		
Kitchen & Bathrooms5 @ 10.6 cfm53	cfm	INSTALLING CONT	RACTOR			
Other Rooms <u>4</u> @ 10.6 cfm <u>42.4</u>	cfm	Name:				
Table 9.32.3.A. TOTAL <u>169.6</u>	cfm	Address:				
		City:				
PRINCIPAL VENTILATION CAPACITY REQUIRED	9.32.3.4.(1)	Telephone #:		Fax #:		
1 Bedroom 31.8	cfm	DESIGNER CERTIF	ICATION			
2 Bedroom 47.7	cfm	I hereby certify that t	his ventilation system has been ontario Building Code.	en designed		
3 Bedroom 63.6	cfm	Name:	HVAC Designs Ltd.			
4 Bedroom 79.5	cfm	Signature:	Ma	had Offenhe	٠.	
5 Bedroom 95.4	cfm	HRAI#		001820		
TOTAL 79.5 cfm I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUAL	IEIED IN THE AC	Date:	OTHER DESIGNED INDER DIVISIO	February-20	II DING CODE	
. METIET ATE TABLE RESPONDED TO THE DESIGN WORK AND AN QUAL	- TEN IN THE API	THE SELECTION AND AN	PEOIGHER DIVIDER DIVIDIO	V.E.V OF THE BU		



			10.75.05.05.05.05.05	80-12 Residential Hea nula Sheet (For Air Lea						
10"		14 11 4002 THE W	NATIONAL SALES AND ARCHITECTURE	Marrie de la constante de la c		alculation)				2020 02 25
LO#:	77457	Model: 4002 THE VA		Builde	er: GOLD PARK HOMES				Date	2020-02-26
		Volume Calculation	n			μ	Air Change & Delta	a T Data		
ouse Volume				1		WINTED NAT	URAL AIR CHANG	EDATE	0.340	1
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	-			TURAL AIR CHANG	E/200100.00	0.340	
Bsmt	1398	10	13980	-		JOINIVIER IVA	TOTAL AIR CHAIRC	TE NATE:	0.110	
First	1398	11	15378	1						
Second	1740	9	15660				Design Te	mperature Diff	erence	
Third	0	9	0	1			Tin °C	Tout °C	ΔT°C	ΔT °F
Fourth	0	9	0	1		Winter DTDh	22	-20	42	76
		Total:	45,018.0 ft ³			Summer DTDc	23	31	8	14
		Total:	1274.8 m³]		,	•			10
	5.2.3	3.1 Heat Loss due to A	r Leakage		4	6.2.6 \$	ensible Gain due	to Air Leakage		
0.340		$LR_{airh} \times \frac{V_b}{3.6} \times I_b$ $\times \qquad 42 ^{\circ}\text{C}$		= 6101 W = 20816 Btu/h		$HG_{salb} = LR_{airc} \times $ \times 354.10			. =	383 W
	5.2.3.2 He	at Loss due to Mechar	nical Ventilation			6.2.7 Sen	sible heat Gain du	ue to Ventilatio	n	
155 CFM	$HL_{vairb} =$ x 76 °F	$PVC \times DTD_h \times 1.08$	$1.08 \times (1 - E)$ x 0.25	= 3181 Btu/h	HL 155 CFM	$vairb = PVC \times DT$	$CD_h \times 1.08 \times 1.08 \times 1.08$	7,	=	578 Btu/h
	1	- 1) 8 .	-a 1-		4	-		3 H	•	-
			5.2.3.3 Calcula	tion of Air Change Heat	Loss for Each Room (Flo	or Multiplier Section)				
		HL_a	_{irr} = Level Fact	$or \times HL_{airbv} \times \{(H_{airbv}) \times \{$	$IL_{agcr} + HL_{bgcr}$) ÷	$(HL_{agclevel} + HL_{b}$	gclevel)}			
		Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Los HLairbv / H	SERVICE SERVICE SERVICES			
		1	0.5		8,867	1.174	1			
		2	0.3	1 (1.00) 10 (1.00) (1.00)	13,399	0.466	5			
		3	0.2	20,816	14,479	0.288	3			
					0	0.000)			
		5	0	1						







HEAT LOSS AND GAIN SUMMARY SHEET

		112/11 2	JUD AND GA	ANY SOUTH STILL	
MODEL:	4002 THE VALLEYVIEW	V		BUILDER: GOLD PARK HOMES	
SFQT:	3138	LO# 7	7457	SITE: PINE VALLEY & TEST	ON
DESIGN A	SSUMPTIONS				
HEATING			°F	COOLING	°F
OUTDOOL	R DESIGN TEMP.		-4	OUTDOOR DESIGN TEMP.	88
INDOOR [DESIGN TEMP.		72	INDOOR DESIGN TEMP. (MAX 75°F)	74
BUILDING	G DATA				
ATTACHM	MENIT:	Di	TACHED	# OF STORIES (+BASEMENT):	3
ATTACHIV	TENT.	Di	TACHED	# OF STORIES (+BASEMENT).	3
FRONT FA	ACES:		EAST	ASSUMED (Y/N):	Υ
				(-,,-	
AIR CHAN	IGES PER HOUR:		3.57	ASSUMED (Y/N):	Υ
AIR TIGHT	TNESS CATEGORY:	A	AVERAGE	ASSUMED (Y/N):	Υ
WIND EXE	POSURE:	SH	ELTERED	ASSUMED (Y/N):	Υ
HOUSE W	OLLINAE (5+3)		45018.0	ACCUMED (V/N).	Υ
HOUSE VO	OLUME (ft³):		45018.0	ASSUMED (Y/N):	ĭ
INTERNAL	_SHADING:	BLINDS/C	URTAINS	ASSUMED OCCUPANTS:	5
		52153, 6		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
INTERIOR	LIGHTING LOAD (Btu/h,	/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Υ
FOUNDAT	TION CONFIGURATION		BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH:	57.0 ft	WIDTH:	32.0 ft	EXPOSED PERIMETER:	178.0 ft

2012 OBC - COMPLIANCE PACKAGE		
	Complian	ce Package
Component		A1
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE





Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

W	eather Sta	tion Description
Province:	Ontario	
Region:	Vaughan	(Woodbridge)
	Site D	escription
Soil Conductivity:	Normal o	conductivity: dry sand, loam, clay
Water Table:	Normal (7-10 m, 23-33 ft)
	Foundatio	n Dimensions
Floor Length (m):	17.4	
Floor Width (m):	9.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	Insulation Configuration
Window Area (m²):	2.4	
Door Area (m²):	1.9	
	Radi	ant Slab
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
	Desig	n Months
Heating Month	1	
	Founda	tion Loads
Heating Load (Watts):		1746

TYPE: 4002 THE VALLEYVIEW

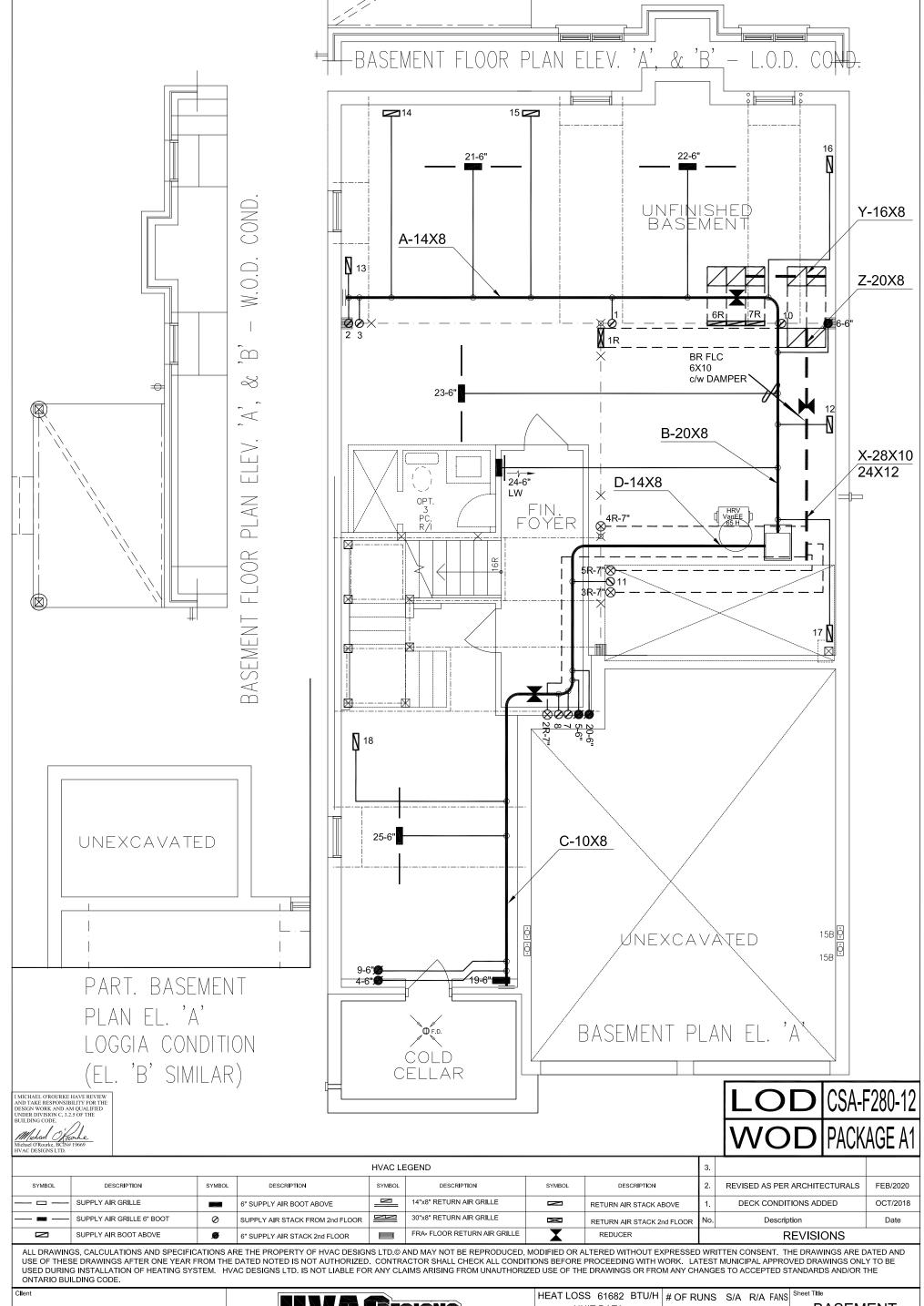


Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Statio	n Des	cripti	ion		
Province:	Ontar	io			
Region:	Vaugh	ıan (W	oodbri	idge)	
Weather Station Location:	Open	flat te	rrain, g	grass	
Anemometer height (m):	10				
Local Sh	ieldin	5			
Building Site:	Subur	ban, fo	orest		
Walls:	Heavy	,			
Flue:	Heavy	,			
Highest Ceiling Height (m):	7.01				
Building Cor	nfigura	ition			
Type:	Detac	hed			
Number of Stories:	Two				
Foundation:	Full				
House Volume (m³):	1274.	8			
Air Leakage/	Ventil	atior	1		
Air Tightness Type:	Prese	nt (196	61-) (3.	57 ACH	H)
Custom BDT Data:	ELA @	10 Pa	Э.		1699.3 cm²
	3.57				ACH @ 50 Pa
Mechanical Ventilation (L/s):	To	tal Sup	ply		Total Exhaust
		73.2			73.2
Flue	Size				
Flue #:	#1	#2	#3	#4	
Diameter (mm):	0	0	0	0	
Natural Infilt	ration	Rate	:S		
Heating Air Leakage Rate (ACH/H):		C	.34	0	
Cooling Air Leakage Rate (ACH/H):		C).11	8	

TYPE: 4002 THE VALLEYVIEW



GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON VAUGHAN, ONTARIO

THE VALLEYVIEW

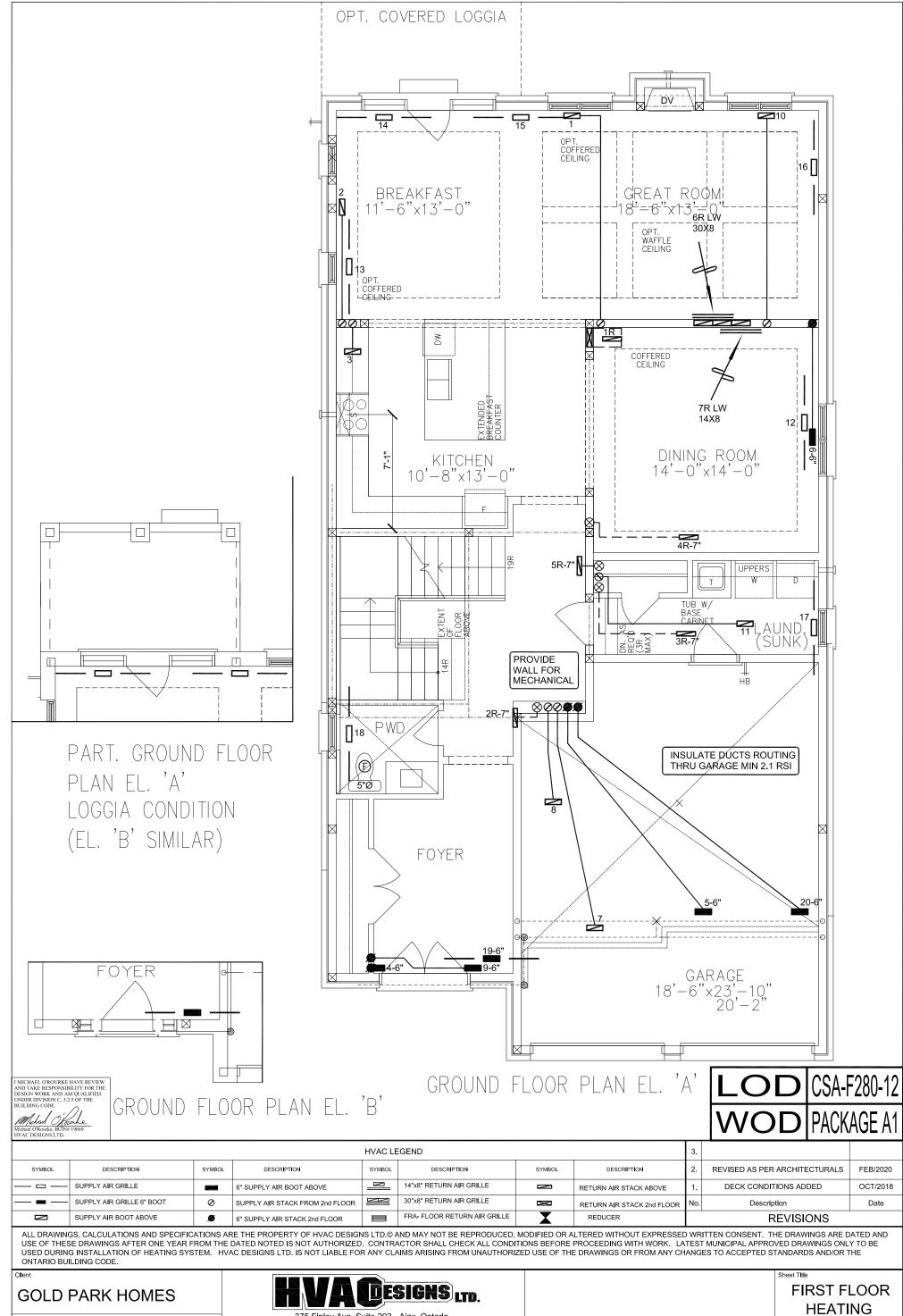
4002 3138 sqft

375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca

Specializing in Residential Mechanical Design Services	_
Specializing in resolution in serial 2 seight confiden	L٥
Installation to comply with the latest Ontario Building Code. All supply	
branch outlets shall be equipped with a manual balancing damper.	С
Ductwork which passes through the garage or unheated spaces shall be	
adequately insulated and be gas-proofed.	F

		SS 61682	BTU/H	# OF RUNS	S/A	R/A	FANS	Shee
		JNIT DATA		3RD FLOOR				
	MAKE L	.ENNOX		2ND FLOOR	12	5	3	
	MODEL EL296	UH090XE48	вС	1ST FLOOR	8	2	2	
	INPUT	88	МВТИ/Н	BASEMENT	5	1	0	Date
	ОИТРИТ	0.5	MBTU/H	ALL S/A DIFFU:	SERS	4 "x10)"	Scale
e	COOLING	85 3.5	TONS	UNLESS NOTE ON LAYOUT. A	LL S/A	RUN	S 5"Ø	
_	FAN SPEED	1255	cfm @ 0.6" w.c.	UNLESS NOTE ON LAYOUT. U DOORS 1" min.	NDER	CUT	ISE	L

۱S	Sheet Title		
	В	ASEMENT	
		HEATING	
		LAYOUT	
	Date	JAN/2018	
	Scale	3/16" = 1'-0"	
Ø		BCIN# 19669	
	LO7	<i>†</i> 77457	



Project Name

PINE VALLEY & TESTON VAUGHAN, ONTARIO

THE VALLEYVIEW 4002 3138 sqft

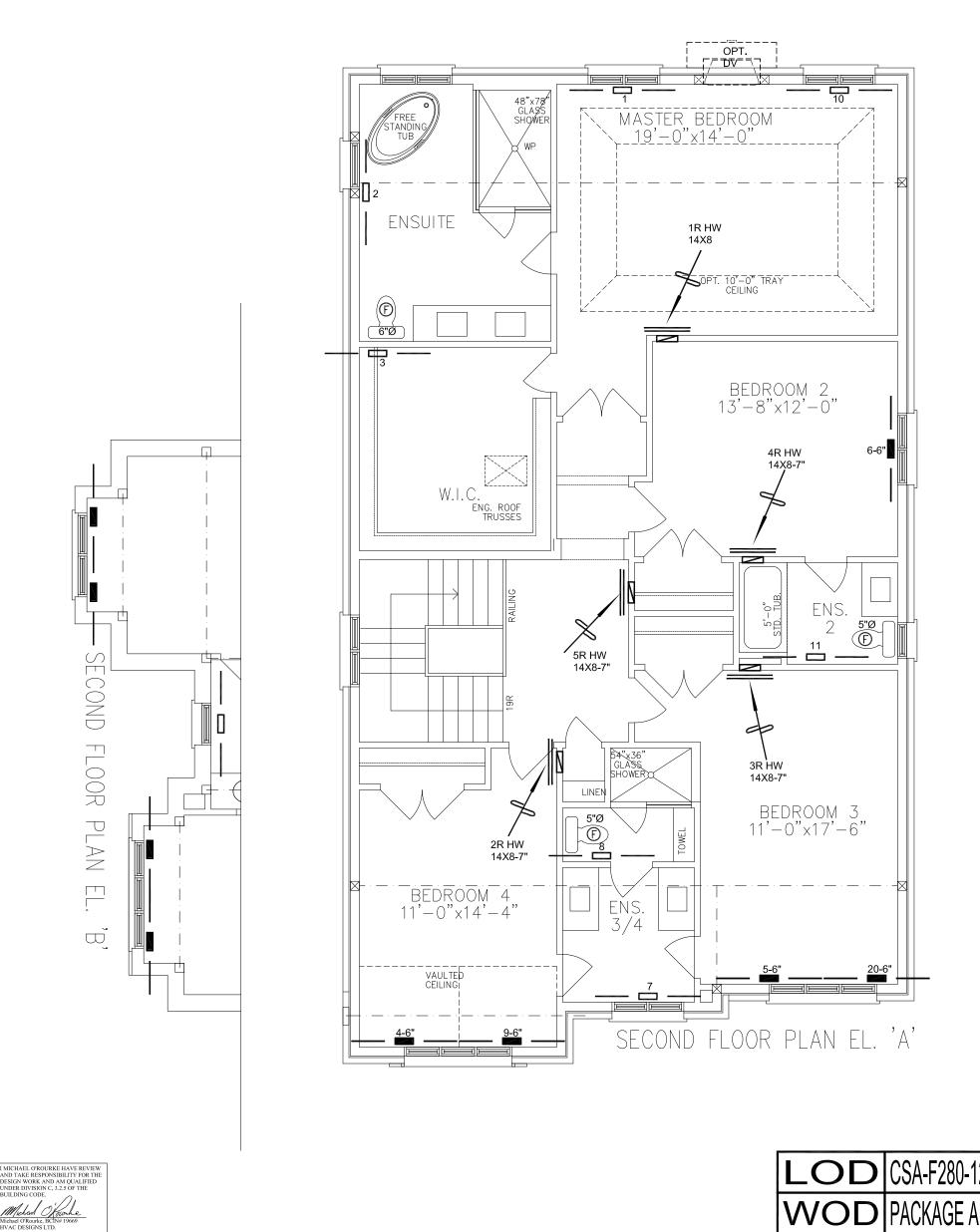
375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca

Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

LAYOUT

JAN/2018 3/16" = 1'-0" BCIN# 19669



HVAC LEGEND 2. REVISED AS PER ARCHITECTURALS SYMBOL DESCRIPTION SYMBOL DESCRIPTION SYMBOL DESCRIPTION SYMBOL DESCRIPTION FEB/2020 SUPPLY AIR GRILLE 14"x8" RETURN AIR GRILLE DECK CONDITIONS ADDED OCT/2018 1. _ 6" SUPPLY AIR BOOT ABOVE RETURN AIR STACK ABOVE 30"x8" RETURN AIR GRILLE SUPPLY AIR GRILLE 6" BOOT 0 SUPPLY AIR STACK FROM 2nd FLOOR \propto No. Description Date RETURN AIR STACK 2nd FLOOR FRA- FLOOR RETURN AIR GRILLE SUPPLY AIR BOOT ABOVE **REVISIONS** Ø 6" SUPPLY AIR STACK 2nd FLOOR

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD. AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

Cllent

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON VAUGHAN, ONTARIO

3138 sqft

THE VALLEYVIEW 4002

HVA DESIGNS LTD.

375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca

Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

SECOND FLOOR HEATING

Date JAN/2018
Scale 3/16" = 1'-0"

BCIN# 19669

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 I	nformation						
Building number	er, street name					Unit no.	Lot/con.
Municipality		Postal code	Plan number/ other	desc	ription	<u> </u>	
VAUGHAN (WO	DDBRIDGE)				'		
B. Individua	I who reviews and takes	responsibility f	or design activities	3			
Name		,	Firm				
MICHAEL O'R	OURKE		HVAC DESIGNS L	TD.			
Street address					Unit no. 202		Lot/con.
375 FINLEY A Municipality	VE	Postal code	Province		E-mail		N/A
AJAX		L1S 2E2	ONTARIO		info@hvacdes	sians.ca	
Telephone nun	nber	Fax number			Cell number		
(905) 619-230	0	(905) 619-2375			()		
C. Design a	ctivities undertaken by i	ndividual identif	ied in Section B. [E	Build	ling Code Ta	ble 3.5.2.1 OF [Division C]
☐ House		⊠ HVAC	C – House			Building Struct	tural
☐ Small B	uildings	Buildir	ng Services			Plumbing – Ho	ouse
☐ Large B	•		tion, Lighting and	Pow		Plumbing – All On-site Sewar	
Complex		☐ Fire P	Ī	_1.			ge Systems
•	designer's work GAIN CALCULATIONS		Mode	eı:	4002 THE VALL	EYVIEW	
DUCT SIZING	o, o, . <u>.</u>				WOB OPT SERV	VICE STAIRS	
	MECHANICAL VENTILATI		MARY Proje	ect:	PINE VALLEY &	TESTON	
	SYSTEM DESIGN per CSA	A-F280-12					
D. Declaration	on of Designer						
1	MICHAEL O'ROURKE	wint manna)			declare th	at (choose one a	s appropriate):
	(F	orint name)					
Div	view and take responsibility ision C, of the Building Code sses/categories.					ection 3.2.4.of appropriate	e
	Individual BCIN:						
	Firm BCIN:						
	view and take responsibility signer" under subsection 3		am qualified in the app ion C, of the Building (s an "other	
	Individual BCIN:	19669					
			nd qualification:		O.B.C SEN	TENCE 3.2.4.1	1 (4)
	e design work is exempt sis for exemption from regist		ation and qualification r	requir	rements of the I	Building Code.	
I certify that:							
1. 2.	The information contained I have submitted this application		dule is true to the best vledge and consent of				
E ₂	ebruary 26, 2020				Muchan	1 Ofound	e.
10	Date	_		•		Signature of 1	Designer
	2					Signature of I	2 20.501

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 qualification under Subsections 3.2.4. and 3.2.5. of Division C.

^{2.} Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.



BUILDER:	GOLD I							TYPE:		OPT SEI				GFA:	3185			DATE:						R NATURAL AIR CH		HEAT I						CSA-F280-
ROOM USE				MBR			ENS			WIC			BED-4			BED-3			BED-2	1	- 1	ENS-3/4				ENS-2						
EXP. WALL				35			27			17			38			32			13			7				6	- 1					
CLG. HT.				10			9			9			9			10			9			9				9						
	FACTO	RS																														
GRS.WALL AREA		35500 mm		350			243			153			342			320			117			63				54						
GLAZING					GAIN	1	LOSS	GAIN		LOSS	GAIN	1	LOSS	GAIN	- 1	LOSS	GAIN			GAIN			GAIN			LOSS	GAIN					
NORTH	21.3	15.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	383	278	0	0	0		8	170	124					
		39.9	0	0	0	0	0		0	0	53	45	958	1797	50	10000000	1996	0	0	0	37.55	511	958		0	0	0					
EAST	21.3	0000000000		The same	37.500	(3,5/1)		0	200		0	SAVER			Salar.	1064				100	24		1000		100	0.50	C1100	l				
SOUTH	21.3	24.0	0	0	0	14	298	336	9	192	216	9	192	216	0	0	0	0	0	0	0	0	0		0	0	0					
WEST	21.3	39.9	36	766	1437	20	426	798	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0					
SKYLT.	37.2	92.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0					
DOORS	25.2	4.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0					
NET EXPOSED WALL	4.5	8.0	314	1401	236	209	933	157	144	643	108	288	1285	216	270	1205	203	99	442	74	39	174	29		46	205	35					
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	l				
EXPOSED CLG	1.3	0.6	338	434	199	180	231	106	195	250	115	246	316	145	235	302	138	240	308	141	118	151	69		55	71	32					
NO ATTIC EXPOSED CLG	2.7	1.3	10	27	13	0	0	0	0	0	0	60	165	76	30	82	38	0	0	0	0	0	0		0	0	0	l				
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0	0	0	20	51	9	193	492	83	0	0	0	118	301	51		0	0	0	l				
BASEMENT/CRAWL HEAT LOSS		3550		0	852	10000	0		357	0		470800	0	167	100000	0			0	35	0.935	0			100.000	0	Cf2	l				
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0			l	0		l				
SUBTOTAL HT LOSS				2629			1887			1084			2966			3145			1133			1137			l	446		l				
SUB TOTAL HT GAIN					1885			1397		1	439		1001/201	2458		3000	2458			493			1108		l	V 125	190	l				
LEVEL FACTOR / MULTIPLIER			0.20	0.35	1005	0.20	0.35	1001	0.20	0.35	455	0.20	0.35	2400	0.20	0.35	2430	0.20	0.35	400	0.20	0.35	1100		0.20	0.35						
			0.20			0.20			0.20			0.20			0.20			0.20			0.20				0.20		- 1					
AIR CHANGE HEAT LOSS				927			666			383			1047			1110			400			401				157						
AIR CHANGE HEAT GAIN					162			120			38			211			211			42			95				16					
DUCTLOSS				0			0			0			401			425			0			154				0						
DUCT GAIN					0			0			0			375			375			0			120				0					
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	-1		240	0		0		0		0					
HEAT GAIN APPLIANCES/LIGHTS					840			0	-		0			840			840			840			0				0					
TOTAL HT LOSS BTU/H				3556			2553			1467			4414			4680			1533			1692				604						
TOTAL HT GAIN x 1.3 BTU/H					4376			1972			619			5360			5361			2101			1720				269					
			_			_						_													 _			_				
ROOM USE				DIN					l	KT/GT						LAUN																BAS
EXP. WALL																			PWD			FOY						l	WOB			
				16						86						26			6			49							42			136
CLG. HT.		. 1.44		16																												
CLG. HT.	FACTO	RS								86						26			6			49							42			136
CLG. HT.	FACTO	A Company of the Company								86						26			6			49							42			136
CLG. HT.		A Company of the Company		11	GAIN					86 11	GAIN					26 12 312	GAIN		6 13 78	GAIN		49 11	GAIN						42 10 420	S GAIN		136 10
CLG. HT. GRS.WALL AREA		A Company of the Company	26	11 176	GAIN 402				0	86 11 946	GAIN 0				10	26 12 312	GAIN 154	0	6 13 78	GAIN 0	0	49 11 539	GAIN 0					0	42 10 420		0	136 10 952
CLG. HT. GRS.WALL AREA GLAZING	LOSS	GAIN	26 0	11 176 LOSS	1006				0	86 11 946 LOSS					10 0	26 12 312 LOSS	75077		6 13 78 LOSS	3.0	2500.00	49 11 539 LOSS	-8					0	42 10 420 LOSS	S GAIN	259	136 10 952 LOSS GAI
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST	21.3 21.3	GAIN 15.4	0	176 LOSS 553	402				100	946 LOSS	0				10	26 12 312 LOSS 213	154 0	0	6 13 78 LOSS 0	0	0 35	49 11 539 LOSS 0 745	0					0	42 10 420 LOSS 0	S GAIN	0	136 10 952 -OSS GAI 0 0
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH	21.3 21.3 21.3	GAIN 15.4 39.9 24.0	0	176 LOSS 553 0	402 0 0				0 24	946 LOSS 0 0 511	0 0 576				0	26 12 312 LOSS 213 0	154 0 0	0 0 8	6 13 78 LOSS 0 0	0 0 192	0 35 0	49 11 539 LOSS 0 745	0 1397 0	2				0 0 0 72	420 10 420 LOSS 0 0	S GAIN 0 0 0	0	136 10 952 OSS GAI 0 0 0 0
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST	21.3 21.3 21.3 21.3 21.3	15.4 39.9 24.0 39.9	0 0 0	176 LOSS 553 0 0	402 0 0 0				0 24 117	946 LOSS 0 0 511 2490	0 0 576 4671				0	26 12 312 LOSS 213 0 0	154 0 0	0 0 8 0	6 13 78 LOSS 0 0 170	0	0 35 0 0	49 11 539 LOSS 0 745 0	0 1397 0 0	*				0 0 0 72	420 420 LOSS 0 0 0 1532	6 GAIN 0 0 0 0	0 0 6	136 10 952 COSS GAI 0 0 0 128 144 0 0
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT.	21.3 21.3 21.3 21.3 21.3 37.2	15.4 39.9 24.0 39.9 92.7	0 0 0	11 176 LOSS 553 0 0	402 0 0 0 0				0 24 117 0	946 LOSS 0 0 511 2490	0 0 576 4671 0				0 0 0	26 12 312 LOSS 213 0 0	154 0 0 0	0 0 8 0	6 13 78 LOSS 0 0 170 0	0 0 192 0	0 35 0 0	49 11 539 LOSS 0 745 0 0	0 1397 0 0					0	420 100 420 LOSS 0 0 0 1532 0	6 GAIN 0 0 0 2875	0 6 0	136 10 952 COSS GAI 0 0 0 0 128 144 0 0 0 0
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS	21.3 21.3 21.3 21.3 21.3 37.2 25.2	15.4 39.9 24.0 39.9 92.7 4.3	0 0 0 0	11 176 LOSS 553 0 0 0	402 0 0 0 0 0				0 24 117 0	946 LOSS 0 0 511 2490 0	0 0 576 4671 0				0 0 0 0	26 12 312 LOSS 213 0 0 0 0 505	154 0 0 0 0 0 85	0 0 8 0 0	6 13 78 LOSS 0 0 170 0	0 0 192 0 0	0 35 0 0 0 20	49 11 539 LOSS 0 745 0 0 505	0 1397 0 0 0 0					0 10	420 10 420 LOSS 0 0 0 1532 0 252	S GAIN 0 0 0 2875 0 43	0 0 6 0 0	136 10 952 COSS GAI 0 0 0 128 144 0 0 0 505 85
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5	15.4 39.9 24.0 39.9 92.7 4.3 0.8	0 0 0 0 0 150	11 176 LOSS 553 0 0 0 0	402 0 0 0 0 0 0 113				0 24 117 0 0 805	946 LOSS 0 0 511 2490 0 0 3592	0 576 4671 0 0 605				0 0 0 0 20 282	26 12 312 LOSS 213 0 0 0 0 505 1258	154 0 0 0 0 85 212	0 8 0 0 0 70	6 13 78 LOSS 0 0 170 0 0 312	0 0 192 0 0 0 53	0 35 0 0 0 20 484	49 11 539 LOSS 0 745 0 0 505 2160	0 1397 0 0 0 85 364					0	420 LOSS 0 0 0 1532 0 252 1508	0 0 0 2875 0 43	0 6 0 0 20	136 10 952 COSS GAI 0 0 0 128 144 0 0 0 505 85 0 0
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BSMT WALL ABOVE GR	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6	0 0 0 0 0 150	11 176 LOSS 553 0 0 0 0 0 669	402 0 0 0 0 0 0 113				0 24 117 0 0 805 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0	0 0 576 4671 0 0 605				0 0 0 0 20 282 0	26 12 312 LOSS 213 0 0 0 0 505 1258 0	154 0 0 0 0 85 212	0 8 0 0 0 70	6 13 78 LOSS 0 0 170 0 0 312 0	0 0 192 0 0 0 53	0 35 0 0 0 20 484 0	49 11 539 LOSS 0 745 0 0 0 505 2160 0	0 1397 0 0 0 85 364 0					0 10	420 LOSS 0 0 0 1532 0 252 1508 0	0 0 0 2875 0 43 254	0 6 0 0 20 0 408	136 10 952 .OSS GAI 0 0 0 128 144 0 0 0 505 85 0 0
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BSMT WALL ABOVE GR	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6	0 0 0 0 0 150 0	11 176 LOSS 553 0 0 0 0 0 669 0	402 0 0 0 0 0 113 0				0 24 117 0 0 805 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0	0 576 4671 0 0 605 0				0 0 0 20 282 0	26 12 312 LOSS 213 0 0 0 505 1258 0	154 0 0 0 0 85 212 0	0 8 0 0 0 70 0	6 13 78 LOSS 0 0 170 0 0 312 0	0 0 192 0 0 0 53 0	0 35 0 0 0 20 484 0	49 11 539 LOSS 0 745 0 0 505 2160 0	0 1397 0 0 0 85 364 0					0 10	420 LOSS 0 0 0 1532 0 252 1508 0	0 0 0 2875 0 43 254 0	0 0 6 0 0 20 0 408	136 10 952 COSS GAI 0 0 0 128 144 0 0 0 505 85 0 0 0 1468 243 0 0
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 0 150 0	11 176 LOSS 553 0 0 0 0 0 669 0	402 0 0 0 0 0 113 0 0				0 24 117 0 0 805 0 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 27	0 0 576 4671 0 0 605 0				0 0 0 20 282 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0	154 0 0 0 0 85 212 0 0	0 0 8 0 0 0 70 0	6 13 78 LOSS 0 0 170 0 0 312 0 0	0 0 192 0 0 0 53 0	0 35 0 0 0 20 484 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0	0 1397 0 0 0 85 364 0					0 10 338 0 0	420 LOSS 0 0 0 1532 0 252 1508 0 0	S GAIN 0 0 0 2875 0 43 254 0	0 0 6 0 0 20 0 408 0	136 10 952
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6	0 0 0 0 0 150 0	11 176 LOSS 553 0 0 0 0 0 669 0	402 0 0 0 0 0 113 0				0 24 117 0 0 805 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 27	0 576 4671 0 0 605 0				0 0 0 20 282 0	26 12 312 LOSS 213 0 0 0 505 1258 0	154 0 0 0 0 85 212 0	0 8 0 0 0 70 0	6 13 78 LOSS 0 0 170 0 0 312 0 0	0 0 192 0 0 0 53 0	0 35 0 0 0 20 484 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0	0 1397 0 0 0 85 364 0					0 10	420 LOSS 0 0 0 1532 0 252 1508 0	0 0 0 2875 0 43 254 0	0 0 6 0 0 20 0 408	136 10 952 COSS GAI 0 0 0 128 144 0 0 0 505 85 0 0 1468 241 0 0 0 0 0
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL MET EXPOSED BMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED FLOOR ASEMENT/CRAWL HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 0 150 0	11 176 LOSS 553 0 0 0 0 0 669 0	402 0 0 0 0 0 113 0 0				0 24 117 0 0 805 0 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 27	0 0 576 4671 0 0 605 0				0 0 0 20 282 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0	154 0 0 0 0 85 212 0 0	0 0 8 0 0 0 70 0	6 13 78 LOSS 0 0 170 0 0 312 0 0	0 0 192 0 0 0 53 0	0 35 0 0 0 20 484 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0	0 1397 0 0 0 85 364 0					0 10 338 0 0	420 LOSS 0 0 0 1532 0 252 1508 0 0	S GAIN 0 0 0 2875 0 43 254 0	0 0 6 0 0 20 0 408 0	136 10 952
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 0 150 0	11 176 LOSS 553 0 0 0 0 0 669 0	402 0 0 0 0 0 113 0 0				0 24 117 0 0 805 0 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 27	0 0 576 4671 0 0 605 0				0 0 0 20 282 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0	154 0 0 0 0 85 212 0 0	0 0 8 0 0 0 70 0	6 13 78 LOSS 0 0 170 0 0 312 0 0	0 0 192 0 0 0 53 0	0 35 0 0 0 20 484 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0	0 1397 0 0 0 85 364 0					0 10 338 0 0	420 LOSS 0 0 0 1532 0 252 1508 0 0	S GAIN 0 0 0 2875 0 43 254 0	0 0 6 0 0 20 0 408 0	136 10 952 COSS GAI 0 0 0 128 14 0 0 0 505 85 0 0 1468 24 0 0 0 0
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED B8MT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED FLOOR ASEMENT/CRAWL HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 0 150 0	11 176 LOSS 553 0 0 0 0 669 0 0	402 0 0 0 0 0 113 0 0				0 24 117 0 0 805 0 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0	0 0 576 4671 0 0 605 0				0 0 0 20 282 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0	154 0 0 0 0 85 212 0 0	0 0 8 0 0 0 70 0	6 13 78 LOSS 0 0 170 0 0 312 0 0	0 0 192 0 0 0 53 0	0 35 0 0 0 20 484 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0	0 1397 0 0 0 85 364 0					0 10 338 0 0	42 10 420 LOSS 0 0 1532 0 252 1508 0 0	S GAIN 0 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0	136 10 952 COSS GAI 0 0 0 128 144 0 0 0 505 85 0 0 1468 24 0 0 0 0
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR ASEMENTICRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 0 150 0	11 176 LOSS 553 0 0 0 0 669 0 0	402 0 0 0 0 0 113 0 0				0 24 117 0 0 805 0 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0	0 0 576 4671 0 0 605 0				0 0 0 20 282 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0 0	154 0 0 0 0 85 212 0 0	0 0 8 0 0 0 70 0	6 13 78 LOSS 0 0 170 0 0 312 0 0 0	0 0 192 0 0 0 53 0	0 35 0 0 0 20 484 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0 0	0 1397 0 0 0 85 364 0					0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0	136 10 952 OSS GAI 0 0 0 0 128 14 0 0 0 0 505 85 0 0 0 0 0 0 0 0 2414
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG EXPOSED FLOOR ASEMENT/CRAWL HEAT LOSS SLAB ON CRADE HEAT LOSS SUB TOTAL HT GAIN	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 0 150 0 0	11 176 LOSS 553 0 0 0 0 669 0 0	402 0 0 0 0 0 113 0 0				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 0 0 6620	0 0 576 4671 0 0 605 0 0 13				0 0 0 20 282 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0 0	154 0 0 0 85 212 0 0	0 0 8 0 0 0 70 0 0 0	6 13 78 LOSS 0 0 170 0 0 312 0 0 0	0 0 192 0 0 0 53 0 0	0 35 0 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0 0	0 1397 0 0 0 85 364 0 0					0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0	136 10 952 LOSS GAI 0 0 0 128 14 0 0 0 0 0 1468 24 0 0 0 0 0 0 2414 4515
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED FLOOR ASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 0 150 0 0	11 176 LOSS 553 0 0 0 0 669 0 0 0 0 1223	402 0 0 0 0 0 113 0 0				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 0 511 2490 0 0 3592 0 0 0 27 0 0 6620	0 0 576 4671 0 0 605 0 0 13				0 0 0 20 282 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0 0 0 0 0	154 0 0 0 85 212 0 0	0 0 8 0 0 0 70 0 0 0	6 13 78 LOSS 0 0 170 0 0 0 312 0 0 0 0 483	0 0 192 0 0 0 53 0 0	0 35 0 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 0 505 2160 0 0 0 0 3410	0 1397 0 0 0 85 364 0 0					0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0 0	136 10 952 LOSS GAI 0 0 0 128 144 0 0 0 0 0 1468 24 0 0 0 0 0 0 0 2414 4515
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED CLG NO ATTIC EXPOSED CLG ASEMENT/CRAWL HEAT LOSS SUBTOTAL HT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 0 150 0 0	11 176 LOSS 553 0 0 0 0 669 0 0 0 0	402 0 0 0 0 0 113 0 0				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 0 0 6620	0 0 576 4671 0 0 605 0 13 0				0 0 0 20 282 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0 0 0	154 0 0 0 85 212 0 0 0	0 0 8 0 0 0 70 0 0 0	6 13 78 LOSS 0 0 170 0 0 0 312 0 0 0 0 483	0 0 192 0 0 0 53 0 0 0	0 35 0 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0 0 0 0 3410	0 1397 0 0 0 85 364 0 0 0					0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0 0	136 10 952 -OSS GAI 0 0 0 0 0 128 14 0 0 0 505 85 0 0 0 1468 24 0 0 0 0 0 0 2414 4515 47 1.53
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL MET EXPOSED WALL ABOVE GR EXPOSED CLG EXPOSED CLG EXPOSED FLOOR ASEMENT/CRAWL HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 0 150 0 0	11 176 LOSS 553 0 0 0 0 0 669 0 0 0 0 1223	402 0 0 0 0 0 113 0 0				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 0 6620 0.56	0 0 576 4671 0 0 605 0 0 13				0 0 0 20 282 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	154 0 0 0 85 212 0 0	0 0 8 0 0 0 70 0 0 0	6 13 78 LOSS 0 0 170 0 0 312 0 0 0 0 483	0 0 192 0 0 0 53 0 0	0 35 0 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 0 0 0 0 0 0	0 1397 0 0 0 85 364 0 0					0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0 0	136 10 952 COSS GA 0 0 0 128 14 0 0 0 0 0 1468 24 0 0 0 0 0 2414 4515 47 1.53 12727
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG EXPOSED FLOOR ASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT GAIN DUCT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 0 150 0 0	11 176 LOSS 553 0 0 0 0 669 0 0 0 0 1223	402 0 0 0 0 0 113 0 0 0				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 0 511 2490 0 0 3592 0 0 0 27 0 0 6620	0 0 576 4671 0 0 605 0 13 0				0 0 0 20 282 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0 0 0 0 0	154 0 0 0 0 85 212 0 0 0 0	0 0 8 0 0 0 70 0 0 0	6 13 78 LOSS 0 0 170 0 0 0 312 0 0 0 0 483	0 0 192 0 0 0 53 0 0 0 0	0 35 0 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0 0 0 0 3410	0 1397 0 0 85 364 0 0 0					0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0 0	136 10 952 LOSS GAI 0 0 0 128 14 0 0 0 0 0 128 24; 0 0 0 0 0 1468 24; 0 0 0 0 0 2414 4515 47(1.53) 12727 31;
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED CLG NO ATTIC EXPOSED CLG ASEMENT/CRAWL HEAT LOSS SUB TOTAL HT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS DUCT GAIN	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 150 0 0 0	11 176 LOSS 553 0 0 0 0 0 669 0 0 0 0 1223	402 0 0 0 0 0 113 0 0 0 0				0 24 117 0 0 805 0 0 10 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 0 6620 0.56	0 0 576 4671 0 0 605 0 0 13 0				0 0 0 20 282 0 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	154 0 0 0 0 85 212 0 0 0 0	0 0 8 0 0 0 70 0 0 0	6 13 78 LOSS 0 0 170 0 0 312 0 0 0 0 483	0 0 192 0 0 0 53 0 0 0 0 244 21	0 35 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 0 0 0 0 0 0	0 1397 0 0 0 85 364 0 0 0					0 10 338 0 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 0 0 2875 0 43 254 0 0 0 0	0 0 6 0 0 20 0 408 0 0	136 10 952 LOSS GAI 0 0 0 128 144 0 0 0 0 0 128 241 0 0 0 0 0 0 0 0 0 0 0 0 0 1468 241 0 0 0 0 0 0 0 1468 241 153 163 177 177 183 183 183 183 183 183 183 183 183 183
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED CLG NO ATTIC EXPOSED CLG SEMENTICANU. HEAT LOSS SUBTOTAL HT LOSS SUBTOTAL HT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS DUCT GAIN HEAT GAIN PEOPLE	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 0 150 0 0	11 176 LOSS 553 0 0 0 0 0 669 0 0 0 0 1223	402 0 0 0 0 0 1113 0 0 0 0 5 514				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 0 6620 0.56	0 0 576 4671 0 0 605 0 0 13 0				0 0 0 20 282 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	154 0 0 0 0 85 212 0 0 0 0 451	0 0 8 0 0 0 70 0 0	6 13 78 LOSS 0 0 170 0 0 312 0 0 0 0 483	0 0 192 0 0 0 53 0 0 0 0	0 35 0 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 0 0 0 0 0 0	0 1397 0 0 85 364 0 0 0 0					0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 0 0 2875 0 43 254 0 0 0 0 3171	0 0 6 0 0 20 0 408 0 0	136 10 952 .OSS GAI 0 0 0 0 0 128 144 0 0 0 0 0 5505 85 0 0 0 1468 24i 0 0 0 0 0 2414 4515 47i 1.53 22727 31:
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG EXPOSED FLOOR ASEMENT/CRAWL HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS DUCT GAIN HEAT GAIN HEAT GAIN HEAT GAIN HEAT GAIN PEOPLE HEAT GAIN APPLIANCES/LIGHTS	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 150 0 0 0	11 176 LOSS 553 0 0 0 0 0 0 0 0 0 1223 0.56 681	402 0 0 0 0 0 113 0 0 0 0				0 24 117 0 0 805 0 0 10 0	86 11 946 LOSS 0 0 511 2490 0 0 0 27 0 0 6620 0.56 3587	0 0 576 4671 0 0 605 0 0 13 0				0 0 0 20 282 0 0 0	26 12 312 LOSS 213 0 0 0 505 505 1258 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	154 0 0 0 0 85 212 0 0 0 0	0 0 8 0 0 0 70 0 0 0	6 13 78 LOSS 0 0 170 0 0 0 0 0 0 0 0 0 483 0.566	0 0 192 0 0 0 53 0 0 0 0 244 21	0 35 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1397 0 0 0 85 364 0 0 0					0 10 338 0 0 0	42 10 420 0 0 0 1532 0 252 1508 0 0 0 0 333 3826	S GAIN 0 0 0 2875 0 43 254 0 0 0 0 3171	0 0 6 0 0 20 0 408 0 0	136 10 952 COSS GAI 0 0 0 0 0 128 14-4 0 0 0 0 0 0 1468 24-1 0 0 0 0 0 0 2414 4515 47(1.53 0 0 0 0 0 0 0 0
CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED CLG ASEMENTICARW. HEAT LOSS SLAB ON CRADE HEAT LOSS SUB TOTAL HT LOSS SUB TOTAL HT LOSS AIR CHANGE HEAT LOSS AIR CHANGE HEAT GAIN DUCT GAIN HEAT GAIN PEOPLE	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6 0.6 1.3	0 0 0 0 150 0 0 0	11 176 LOSS 553 0 0 0 0 0 669 0 0 0 0 1223	402 0 0 0 0 0 1113 0 0 0 0 5 514				0 24 117 0 0 805 0 0 10 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 0 6620 0.56	0 0 576 4671 0 0 605 0 0 13 0				0 0 0 20 282 0 0 0	26 12 312 LOSS 213 0 0 0 505 1258 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	154 0 0 0 0 85 212 0 0 0 0 451	0 0 8 0 0 0 70 0 0 0	6 13 78 LOSS 0 0 170 0 0 312 0 0 0 0 483	0 0 192 0 0 0 53 0 0 0 0 244 21	0 35 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 0 0 0 0 0 0	0 1397 0 0 85 364 0 0 0 0					0 10 338 0 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 0 2875 0 43 254 0 0 0 0 3171	0 0 6 0 0 20 0 408 0 0	136 10 952 .OSS GAI 0 0 0 0 0 128 144 0 0 0 0 0 5505 85 0 0 0 1468 24i 0 0 0 0 0 2414 4515 47i 1.53 22727 31:

TOTAL HEAT GAIN BTU/H:

43331

TONS: 3.61

LOSS DUE TO VENTILATION LOAD BTU/H: 3181

STRUCTURAL HEAT LOSS: 63447

TOTAL COMBINED HEAT LOSS BTU/H: 66627

Mhehad Okowhe.



		: PINE VA							WOB OP 4002 THE	VALLE		RS	DATE:	Feb-20			GFA:	3185	LO#	85448				
HEATING CFM TOTAL HEAT LOSS AIR FLOW RATE CFM	63,447	A	TOTAL H	LING CFM EAT GAIN RATE CFM	42,795		a	furr a/c coil vailable p	pressure pressure pressure s/a & r/a	0.6 0.05 0.2 0.35						EL	.296UH090 FAN		LENNO: 90	x		AFUE = (BTU/H) = (BTU/H) =	88,000	
RUN COUNT	4th	3rd	2nd	1st	Bas													DLOW	0		DESI	GN CFM =		
S/A R/A	0	0	12 5	8	5				ssure s/a ess. loss	0.18	r/a		pressure ess. Loss	0.17				MEDIUM M HIGH	1105 1255			CFM @ .	5 " E.S.P.	
All S/A diffusers 4"x10" unl	ess note	ed otherwi	se on lay			S.			ssure s/a	0.16			ssure r/a					HIGH	1525	T	EMPERAT	URE RISE	63	°F
All S/A runs 5"Ø unless no	ted othe	rwise on l	ayout.	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-4	BED-3		ENS-3/4			MBR	ENS-2	DIN	KT/GT	KT/GT	KT/GT	KT/GT	LAUN	PWD	FOY	BED-3	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.78	2.55	1.47	2.21	2.34	1.53	0.85	0.85	2.21	1.78	0.60	1.90	2.58	2.58	2.58	2.58	3.08	0.75	5.31	2.34	4.32	4.32	4.32	4.32
CFM PER RUN HEAT	35	51	29	44	46	30	17	17	44	35	12	38	51	51	51	51	61	15	105	46	85	85	85	85
RM GAIN MBH. CFM PER RUN COOLING	2.19	1.97 58	0.62	2.68 79	2.68 79	2.10 62	0.86 25	0.86	2.68 79	2.19	0.27 8	1.82 53	2.34	2.34	2.34	2.34	1.73 51	0.35	2.61 76	2.68	1.03	1.03	1.03	1.03
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	50	58	58	61	51	38	48	40	67	35	47	10	41	48	40	30	11	48	44	57	40	27	26	28
EQUIVALENT LENGTH	210	150	150	180	170	180	140	140	190	120	180	130	130	130	150	130	200	210	140	160	140	170	120	150
TOTAL EFFECTIVE LENGTH	260	208	208	241	221	218	188	180	257	155	227	140	171	178	190	160	211	258	184	217	180	197	146	178
ADJUSTED PRESSURE ROUND DUCT SIZE	0.07	0.08	0.08	0.07	0.08	0.08	0.09	0.1	0.07	0.11	0.08	0.12	0.1 5	0.1 5	0.09	0.11	0.08	0.07	0.09	0.08	0.09	0.08	0.11	0.09
HEATING VELOCITY (ft/min)	257	374	333	224	338	153	195	195	224	257	138	436	374	374	374	374	448	172	535	338	433	433	433	433
COOLING VELOCITY (ft/min)	470	426	207	403	580	316	287	287	403	470	92	608	507	507	507	507	374	115	388	580	153	153	153	153
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	Α	A	С	D	В	D	D	С	В	D	В	Α	Α	Α	В	В	С	С	D	Α	A	В	В
RUM # ROOM NAME RM LOSS MBH. CFM PER RUN HEAT RM GAIN MBH. CFM PER RUN COOLING ADJUSTED PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LENGTH ADJUSTED PRESSURE ROUND DUCT SIZE HEATING VELOCITY (ft/min) COOLING VELOCITY (ft/min) OUTLET GRILL SIZE TRUNK	25 BAS 4.32 85 1.03 30 0.16 43 150 193 0.08 6 433 153 4X10 C																							
SUPPLY AIR TRUNK SIZE	TRUNK	STATIC	ROUND	RECT			VELOCITY			TRUNK	STATIC	ROUND	RECT			VELOCITY	RETURN A	TRUNK	STATIC	ROUND	RECT			VELOCITY
	CFM	PRESS.	DUCT	DUCT			(ft/min)			CFM	PRESS.	DUCT	DUCT			(ft/min)		CFM	PRESS.	DUCT	DUCT			(ft/min)
TRUNK A	438	0.07	10.6	14	×	8	563		TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	×	8	0
TRUNK B	823				65	8	070		TOURSE SE											•	•		0	
100 (PRO 100 (SEE)		0.07	13.5	22	×	1.00	673		TRUNK H	0	0.00	0	0	×	8	0	TRUNK P	0	0.05	0	0	×	8	0
TRUNK C	293	0.07	9.2	10	×	8	527		TRUNK I	0	0.00	0	0	×	8	0	TRUNK Q	0	0.05	0	0	×	8	0
100 (PRO 100 (SEE)	293 431				722	1.00				55.000			2.73			3.00				0.000	10.75			
TRUNK C	293 431	0.07	9.2 10.6	10 14	×	8	527 554		TRUNK I	0	0.00	0	0	x x	8	0	TRUNK Q TRUNK R TRUNK S TRUNK T	0 0 0	0.05 0.05 0.05 0.05	0 0 0	0 0 0	x x x	8 8 8	0 0 0
TRUNK C TRUNK D TRUNK E	293 431 0	0.07 0.07 0.00	9.2 10.6 0	10 14 0	x x x	8 8 8	527 554 0		TRUNK I TRUNK J TRUNK K	0	0.00 0.00 0.00	0	0	x x	8 8 8	0	TRUNK Q TRUNK R TRUNK S	0	0.05 0.05 0.05	0 0	0	x x x	8 8 8	0
TRUNK C TRUNK D TRUNK E	293 431 0 0	0.07 0.07 0.00 0.00	9.2 10.6 0 0	10 14 0 0	x x x x	8 8 8 8	527 554 0 0	0	TRUNK I TRUNK J TRUNK K TRUNK L	0 0 0	0.00 0.00 0.00 0.00	0 0 0	0 0 0	x x x	8 8 8 8	0	TRUNK Q TRUNK R TRUNK S TRUNK T TRUNK U TRUNK V TRUNK W	0 0 0 0 0 0	0.05 0.05 0.05 0.05 0.05 0.05 0.05	0 0 0 0 0 0	0 0 0 0 0 0	x x x x x	8 8 8 8 8	0 0 0 0 0 0
TRUNK C TRUNK D TRUNK E TRUNK F	293 431 0 0	0.07 0.07 0.00 0.00	9.2 10.6 0 0	10 14 0 0 0	x x x x	8 8 8 8	527 554 0 0	0	TRUNK I TRUNK J TRUNK K TRUNK L	0 0 0 0	0.00 0.00 0.00	0 0 0 0	0 0 0 0	x x x x	8 8 8 8	0 0 0 0	TRUNK Q TRUNK R TRUNK S TRUNK T TRUNK U TRUNK V TRUNK W TRUNK X	0 0 0 0 0 0 0 1255	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	x x x x x x	8 8 8 8 8 8	0 0 0 0 0 0 0 645
TRUNK C TRUNK D TRUNK E TRUNK F	293 431 0 0	0.07 0.07 0.00 0.00	9.2 10.6 0 0	10 14 0 0	x x x x	8 8 8 8	527 554 0 0	0 0 0.15	TRUNK I TRUNK J TRUNK K TRUNK L	0 0 0	0.00 0.00 0.00 0.00	0 0 0	0 0 0	x x x	8 8 8 8	0 0 0	TRUNK Q TRUNK R TRUNK S TRUNK T TRUNK U TRUNK V TRUNK W	0 0 0 0 0 0	0.05 0.05 0.05 0.05 0.05 0.05 0.05	0 0 0 0 0 0	0 0 0 0 0 0	x x x x x x	8 8 8 8 8	0 0 0 0 0 0
TRUNK C TRUNK D TRUNK E TRUNK F RETURN AIR # AIR VOLUME	293 431 0 0 0 1 1 0 135 0.15 51	0.07 0.07 0.00 0.00 0.00	9.2 10.6 0 0 0 3 0 120 0.15 57	10 14 0 0 0	5 0 110 0.15 42	8 8 8 8 6 0 300 0.15 28	527 554 0 0 7 0 175 0.15 35	0 0.15 1	TRUNK I TRUNK J TRUNK K TRUNK L 0 0 0.15 1	0 0 0 0 0 0 0 0.15	0.00 0.00 0.00 0.00	0 0 0 0 0 0 0 0.15	0 0 0 0 0	x x x x x	8 8 8 8 0 0 0.15	0 0 0 0 0 8R 185 0.15 18	TRUNK Q TRUNK R TRUNK S TRUNK T TRUNK U TRUNK V TRUNK W TRUNK W TRUNK X TRUNK Y	0 0 0 0 0 0 0 1255 475	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	0 0 0 0 0 0 0 17.2 11.9	0 0 0 0 0 0 0 0 28 16	x x x x x x	8 8 8 8 8 8 8 10	0 0 0 0 0 0 0 645 534
RETURN AIR # AIR VOLUME PLENUM PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH	293 431 0 0 1 0 135 0.15 51 235	0.07 0.07 0.00 0.00 0.00 2 0 110 0.15 58 205	9.2 10.6 0 0 0 120 0.15 57 165	10 14 0 0 0 4 0 120 0.15 34 185	5 0 110 0.15 42 225	8 8 8 8 8 6 0 300 0.15 28 190	527 554 0 0 0 7 0 175 0.15 35 185	0 0.15 1 0	TRUNK I TRUNK J TRUNK K TRUNK L 0 0 0.15 1 0	0 0 0 0 0	0.00 0.00 0.00 0.00	0 0 0 0 0 0 0.15 1 0	0 0 0 0 0	x x x x 0 0 0.15	8 8 8 8 0 0 0.15 1 0	0 0 0 0 0 8 185 0.15 18 215	TRUNK Q TRUNK R TRUNK S TRUNK T TRUNK U TRUNK V TRUNK W TRUNK X TRUNK Y TRUNK Z	0 0 0 0 0 0 0 1255 475 610	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	0 0 0 0 0 0 0 17.2 11.9	0 0 0 0 0 0 0 0 28 16 20	x x x x x x x	8 8 8 8 8 8 8 10 8 8	0 0 0 0 0 0 0 645 534 549
TRUNK C TRUNK D TRUNK E TRUNK F RETURN AIR # AIR VOLUME PLENUM PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LH	293 431 0 0 135 0.15 51 235 286	0.07 0.07 0.00 0.00 0.00 2 0 110 0.15 58 205 263	9.2 10.6 0 0 0 3 0 120 0.15 57 165 222	10 14 0 0 0 120 0.15 34 185 219	x x x x x 5 0 110 0.15 42 225 267	8 8 8 8 8 0 300 0.15 28 190 218	527 554 0 0 0 7 0 175 0.15 35 185 220	0 0.15 1 0	TRUNK J TRUNK K TRUNK L 0 0 0.15 1 0	0 0 0 0 0 0 0.15 1 0	0.00 0.00 0.00 0.00 0.00	0 0 0 0 0 0.15 1 0	0 0 0 0 0 0.15 1 0	0 0 0.15 1 0 1	8 8 8 8 0 0 0.15 1 0	0 0 0 0 0 8 185 0.15 18 215 233	TRUNK Q TRUNK R TRUNK S TRUNK T TRUNK U TRUNK V TRUNK W TRUNK X TRUNK Y TRUNK Z	0 0 0 0 0 0 0 1255 475 610	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	0 0 0 0 0 0 0 17.2 11.9	0 0 0 0 0 0 0 0 28 16 20	x x x x x x x	8 8 8 8 8 8 8 10 8 8	0 0 0 0 0 0 0 645 534 549
TRUNK C TRUNK D TRUNK E TRUNK F RETURN AIR # AIR VOLUME PLENUM PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LH ADJUSTED PRESSURE	293 431 0 0 1 1 0 135 0.15 51 235 286 0.05	0.07 0.07 0.00 0.00 0.00 110 0.15 58 205 263 0.06	9.2 10.6 0 0 0 3 0 120 0.15 57 165 222 0.07	10 14 0 0 0 120 0.15 34 185 219 0.07	x x x x x x 5 0 110 0.15 42 225 267 0.06	8 8 8 8 8 8 9 300 0.15 28 190 218 0.07	527 554 0 0 0 7 0 175 0.15 35 185 220 0.07	0 0.15 1 0 1 14.80	TRUNK J TRUNK K TRUNK L 0 0 0.15 1 0 1 14.80	0 0 0 0 0 0 0.15 1 0 1 14.80	0.00 0.00 0.00 0.00 0.00	0 0 0 0 0 0.15 1 0 1 14.80	0 0 0 0 0 0.15 1 0 14.80	0 0 0.15 1 0 1 14.80	8 8 8 8 0 0 0.15 1 0 14.80	0 0 0 0 0 0 8 185 0.15 18 215 233 0.06	TRUNK Q TRUNK R TRUNK S TRUNK T TRUNK U TRUNK V TRUNK W TRUNK X TRUNK Y TRUNK Z	0 0 0 0 0 0 0 1255 475 610	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	0 0 0 0 0 0 0 17.2 11.9	0 0 0 0 0 0 0 0 28 16 20	x x x x x x x	8 8 8 8 8 8 8 10 8 8	0 0 0 0 0 0 0 645 534 549
TRUNK C TRUNK D TRUNK E TRUNK F RETURN AIR # AIR VOLUME PLENUM PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LH	293 431 0 0 135 0.15 51 235 286	0.07 0.07 0.00 0.00 0.00 2 0 110 0.15 58 205 263	9.2 10.6 0 0 0 3 0 120 0.15 57 165 222	10 14 0 0 0 120 0.15 34 185 219	x x x x x 5 0 110 0.15 42 225 267	8 8 8 8 8 0 300 0.15 28 190 218	527 554 0 0 0 7 0 175 0.15 35 185 220	0 0.15 1 0	TRUNK J TRUNK K TRUNK L 0 0 0.15 1 0	0 0 0 0 0 0 0.15 1 0	0.00 0.00 0.00 0.00 0.00	0 0 0 0 0 0.15 1 0	0 0 0 0 0 0.15 1 0	0 0 0.15 1 0 1	8 8 8 8 0 0 0.15 1 0	0 0 0 0 0 8 185 0.15 18 215 233	TRUNK Q TRUNK R TRUNK S TRUNK T TRUNK U TRUNK V TRUNK W TRUNK X TRUNK Y TRUNK Z	0 0 0 0 0 0 0 1255 475 610	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	0 0 0 0 0 0 0 17.2 11.9	0 0 0 0 0 0 0 0 28 16 20	x x x x x x x	8 8 8 8 8 8 8 10 8 8	0 0 0 0 0 0 0 645 534 549
TRUNK C TRUNK D TRUNK E TRUNK F RETURN AIR # AIR VOLUME PLENUM PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LH ADJUSTED PRESSURE ROUND DUCT SIZE	293 431 0 0 1 1 0 135 0.15 51 235 286 0.05 7.5	0.07 0.07 0.00 0.00 2 0 110 0.15 58 205 263 0.06 6.6	9.2 10.6 0 0 120 0.15 57 165 222 0.07 6.6	10 14 0 0 0 120 0.15 34 185 219 0.07 6.6	5 0 110 0.15 42 225 267 0.06 6.6	6 0 300 0.15 28 190 218 0.07 9.2	527 554 0 0 7 0 175 0.15 35 185 220 0.07 7.5	0 0.15 1 0 1 14.80	TRUNK J TRUNK K TRUNK L 0 0 0.15 1 0 1 14.80 0	0 0 0 0 0 0.15 1 0 1 14.80	0.00 0.00 0.00 0.00 0.00	0 0 0 0 0 0 0.15 1 0 1 14.80	0 0 0 0 0 0.15 1 0 14.80	0 0 0.15 1 0 1 14.80	0 0 0.15 1 0 1 14.80	0 0 0 0 0 0 185 0.15 18 215 233 0.06 8	TRUNK Q TRUNK R TRUNK S TRUNK T TRUNK U TRUNK V TRUNK W TRUNK X TRUNK Y TRUNK Z	0 0 0 0 0 0 0 1255 475 610	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	0 0 0 0 0 0 0 17.2 11.9	0 0 0 0 0 0 0 0 28 16 20	x x x x x x x	8 8 8 8 8 8 8 10 8 8	0 0 0 0 0 0 0 645 534 549





4002 THE VALLEYVIEW

TYPE:

SITE NAME: PINE VALLEY & TESTON WOB OPT SERVICE STAIRS

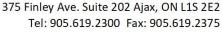
RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

85448

COMBUSTION APPLIANCES	9.32.3.1(1)	SUPPLEMENTAL VENTILATION	CAPACITY	9.32.3.5.
a) V Direct vent (sealed combustion) only	tertani	Total Ventilation Capacity	169.6	cfm
b) Positive venting induced draft (except fireplaces)		Less Principal Ventil. Capacity	155	cfm
c) Natural draft, B-vent or induced draft gas fireplace		Required Supplemental Capacity	14.6	_ cfm
d) Solid Fuel (including fireplaces)				
e) No Combustion Appliances		PRINCIPAL EXHAUST FAN CAP	ACITY	
о,		Model: VANE	E 65H Location:	BSMT
HEATING SYSTEM		cfm	3.0 sones	✓ HVI Approved
✓ Forced Air Non Forced Air		PRINCIPAL EXHAUST HEAT LO	17777	
		155.0 CFM X	ΔT *F FACTOR 76 F X 1.08	% LOSS X 0.25
Electric Space Heat		CURRI EMENTAL FANC		
		SUPPLEMENTAL FANS Location	NUTONE Model cfm	HVI Sones
HOUSE TYPE	9.32.1(2)	ENS Q	TXEN050C 50	✓ 0.3
Tune of or his appliance only no colid fuel			TXEN050C 50	✓ 0.3 ✓ 0.3
Type a) or b) appliance only, no solid fuel			TXEN050C 50 TXEN050C 50	✓ 0.3 ✓ 0.3
II Type I except with solid fuel (including fireplan	ces)	TWD Q	TALINOUG 00	0.0
		HEAT RECOVERY VENTILATOR		9.32.3.11.
III Any Type c) appliance			ANEE 65H cfm high 64	cfm low
IV Type I, or II with electric space heat		100		
			sible Efficiency	✓ HVI Approved
Other: Type I, II or IV no forced air		@ 32 0	leg F (0 deg C)	
		LOCATION OF INSTALLATION		
SYSTEM DESIGN OPTIONS	O.N.H.W.P.		2 (0)	
1 Exhaust only/Forced Air System		Lot:	Concession	
- Exhaust only n order Air System		Township	Plan:	
2 HRV with Ducting/Forced Air System		Address		
HRV Simplified/connected to forced air system	m	Roll#	Building Pern	nit#
4 HRV with Ducting/non forced air system		BUILDER: GOLD	PARK HOMES	
Part 6 Design		TORREST AND ADMINISTRATION OF THE PROPERTY OF	PARK HOWES	
TOTAL VENTILATION CAPACITY	0 22 2 2(4)	Name:		
	9.32.3.3(1)	Address:		
Basement + Master Bedroom 2 @ 21.2 cfm 42.	4 cfm	City:		
Other Bedrooms <u>3</u> @ 10.6 cfm <u>31.</u>	B cfm	Telephone #:	Fax #:	-
Kitchen & Bathrooms <u>5</u> @ 10.6 cfm <u>53</u>	cfm	INSTALLING CONTRACTOR		
Other Rooms <u>4</u> @ 10.6 cfm <u>42.4</u>	4 cfm	Name:		
Table 9.32.3.A. TOTAL <u>169.</u>	6 cfm	Address:		
PRINCIPAL VENTILATION CAPACITY REQUIRED	9.32.3.4.(1)	City:		
		Telephone #:	Fax #:	
1 Bedroom 31.8	cfm	DESIGNER CERTIFICATION		- i
2 Bedroom 47.7	cfm	I hereby certify that this ventilation		
3 Bedroom 63.6	cfm	in accordance with the Ontario Bu Name: HVAC	illding Code. Designs Ltd.	
4 Bedroom 79.5	cfm	Signature:	Mehad Oxombe	
5 Bedroom 95.4	cfm	HRAI#	001820	
TOTAL 79.5 cfm	,	Date:	February-20	
I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM Q				LDING CODE.



			NA CONTRACTOR	80-12 Residential Hea						
LO#:	85448	Model: 4002 THE VA	LLEYVIEW	Builde	er: GOLD PARK HOMES				Date:	02/26/2020
		Volume Calculatio	n				Air Change & Delta	a T Data		2 1
				7						1
use Volume	E1 4 (C.2)	T et	1 1/1 /6.21				URAL AIR CHANG		0.407	ļ
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)			SUMMER NA	TURAL AIR CHANG	EKAIL	0.137	
Bsmt First	1445 1445	10 11	14450 15895	-						
Second	1740	9	15660				Design Te	mperature Diff	erence	
Third	0	9	0				Tin °C	Tout °C	ΔT°C	ΔT °F
Fourth	0	9	0			Winter DTDh	22	-20	42	76
1.7.77.70		Total:	46,005.0 ft ³			Summer DTDc	24	31	7	13
		Total:	1302.7 m³	j						
	E 2 2	3.1 Heat Loss due to Ai	r Loakago			6265	ensible Gain due t	o Air Loakago		
	5.2.3	s.1 neat Loss due to Al	г сеакаде			0.2.0 3	ensible Gain due t	to Air Leakage		
0.407		$LR_{airh} \times \frac{V_b}{3.6} \times L$ $\times \frac{42 \text{ °C}}{}$		$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ $= $						
	E 2 2 2 Ho	at Loss due to Mechan	ical Vantilation	= 25453 Btu/h		62750	sible heat Gain du	o to Vantilatia	=	1438 Btu/
	5.2.3.2 Hea	at Loss due to Mechan	ical ventilation			6.2.7 Sen	sible neat Gain di	le to ventilatio	n	
455 6514		$PVC \times DTD_h \times 1$		2404 De //	1	$v_{vairb} = PVC \times DT$	TIME VALUE OF	100		F26 Pt //
155 CFM	x <u>76 °F</u>	x <u>1.08</u>	x <u>0.25</u>	= 3181 Btu/h	155 CFM	- X	x1.08	x0.25	=	536 Btu/h
			5.2.3.3 Calcula	tion of Air Change Heat	Loss for Each Room (Flo	or Multiplier Section)				
		HL_a	$_{irr} = Level Fact$	$vor \times HL_{airbv} \times \{(H_{airbv}) \times $	$IL_{agcr} + HL_{bgcr}$) ÷	$(HL_{agclevel} + HL_{t})$	gclevel)}			
		Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Los HLairbv / H	STATE OF THE PARTY			
		1	0.5		8,341	1.520	5			
		2	0.3		13,712	0.55	7			
		3	0.2	25,453	14,428	0.35	3			
		4	0	SHOWING	0	0.000)			







web: www.nvacdesigns.ca E-mail: info@nvacdesigns.c

HEAT LOSS AND GAIN SUMMARY SHEET

WOB OPT SERVICE STAIRS **BUILDER: GOLD PARK HOMES** MODEL: 4002 THE VALLEYVIEW SFQT: 3185 LO# 85448 **SITE: PINE VALLEY & TESTON DESIGN ASSUMPTIONS** °F °F **HEATING** COOLING OUTDOOR DESIGN TEMP. -4 OUTDOOR DESIGN TEMP. 88 INDOOR DESIGN TEMP. 72 INDOOR DESIGN TEMP. (MAX 75°F) 75 **BUILDING DATA** ATTACHMENT: **DETACHED** # OF STORIES (+BASEMENT): 3 FRONT FACES: **EAST** ASSUMED (Y/N): AIR CHANGES PER HOUR: 3.57 ASSUMED (Y/N): AIR TIGHTNESS CATEGORY: **AVERAGE** ASSUMED (Y/N): WIND EXPOSURE: **SHELTERED** ASSUMED (Y/N): HOUSE VOLUME (ft³): 46005.0 ASSUMED (Y/N): INTERNAL SHADING: **BLINDS/CURTAINS** ASSUMED OCCUPANTS: 5 INTERIOR LIGHTING LOAD (Btu/h/ft2): 1.27 DC BRUSHLESS MOTOR (Y/N): FOUNDATION CONFIGURATION BCIN_1 **DEPTH BELOW GRADE:** 7.0 ft LENGTH: 57.0 ft WIDTH: 32.0 ft **EXPOSED PERIMETER:** 136.0 ft WOB INSULATION CONFIGURATION SCB 9 WOB EXPOSED PERIMETER 42.0 ft

2012 OBC - COMPLIANCE PACKAGE	Complian	e Package
Component	•	A1
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE





Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Wea	ther Sta	tion Description						
Province: Region:	-19	(Woodbridge)						
Call Candustivity		escription						
Soil Conductivity:	Normal conductivity: dry sand, loam, clay Normal (7-10 m, 23-33 ft)							
Water Table:		on Dimensions						
		T Differsions						
Floor Length (m):	4.6							
Floor Width (m):	9.8							
Exposed Perimeter (m):	41.5							
Wall Height (m):	3.0							
Depth Below Grade (m):	1.79	Insulation Configuration						
Window Area (m²):	0.6							
Door Area (m²):	1.9							
	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):		707						

TYPE: 4002 THE VALLEYVIEW

LO# 85448

WOB OPT SERVICE STAIRS



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Wea	ther Sta	tion Description							
Province:	Ontario	-							
Region:	Vaughan	(Woodbridge)							
	Site D	escription							
Soil Conductivity:	Normal co	onductivity: dry sand, loam, clay							
Water Table: Normal (7-10 m, 23-33 ft)									
Fo	oundatio	n Dimensions							
Length (m):	1.5								
Width (m):	9.8								
Exposed Perimeter (m):	12.8	Insulation Configuration							
	Radi	ant Slab							
Heated Fraction of the Slab:	0								
Fluid Temperature (°C):	33								
	Design	n Months							
Heating Month	1								
	Re	esults							
Heating Load (Watts):		156							

TYPE: 4002 THE VALLEYVIEW

LO# 85448

WOB OPT SERVICE STAIRS



Air Infiltration Residential Load Calculator

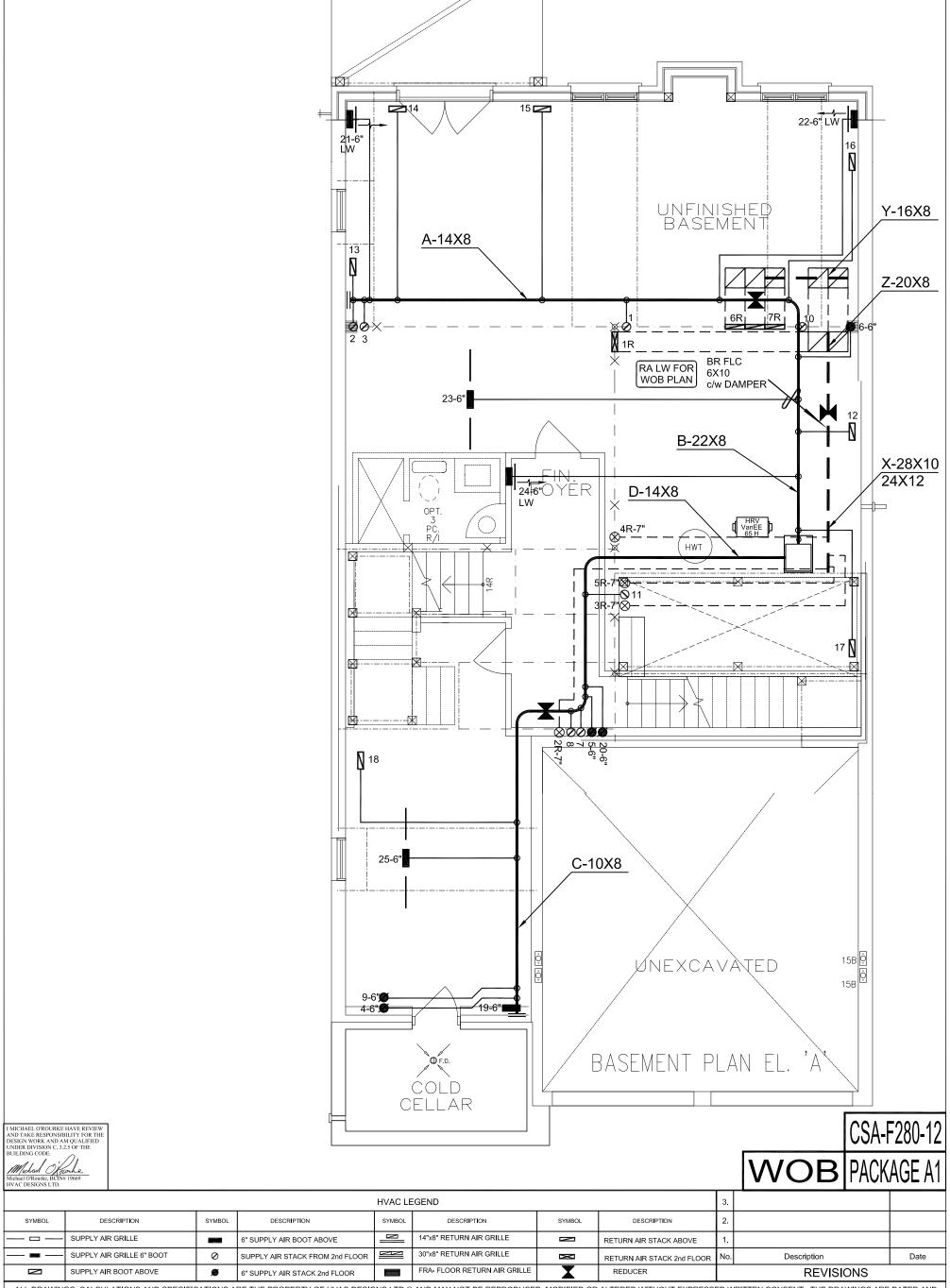
Supplemental tool for CAN/CSA-F280

Weather Statio	n Des	cripti	ion		
Province:	Ontar	io			
Region:	Vaugl	nan (W	oodbri	idge)	
Weather Station Location:	Open	flat te	rrain, g	grass	
Anemometer height (m):	10				
Local Sh	ieldin	g			
Building Site:	Subur	ban, fo	orest		
Walls:	Heavy	/			
Flue:	Heavy	/			
Highest Ceiling Height (m):	9.14				
Building Cor	nfigura	ation			
Type:	Detac	hed			
Number of Stories:	Two				
Foundation:	Full				
House Volume (m³):	1302.	7			
Air Leakage/	Ventil	atior	1		
Air Tightness Type:	Prese	nt (196	61-) (3.	57 ACH	H)
Custom BDT Data:	ELA @	9 10 Pa	Э.		1736.6 cm ²
	3.57				ACH @ 50 Pa
Mechanical Ventilation (L/s):	To	tal Sup	ply		Total Exhaust
		73.2			73.2
Flue	Size				
Flue #:	#1	#2	#3	#4	
Diameter (mm):	0	0	0	0	
Natural Infilt	ration	Rate	:S		
Heating Air Leakage Rate (ACH/H):		C	.40	7	
Cooling Air Leakage Rate (ACH/H):		C	0.13	7	

TYPE: 4002 THE VALLEYVIEW

LO# 85448

WOB OPT SERVICE STAIRS



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Cllent

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON
VAUGHAN, ONTARIO
OPT SERVICE STAIRS
THE VALLEYVIEW
4002 - WOB 3138 sqft

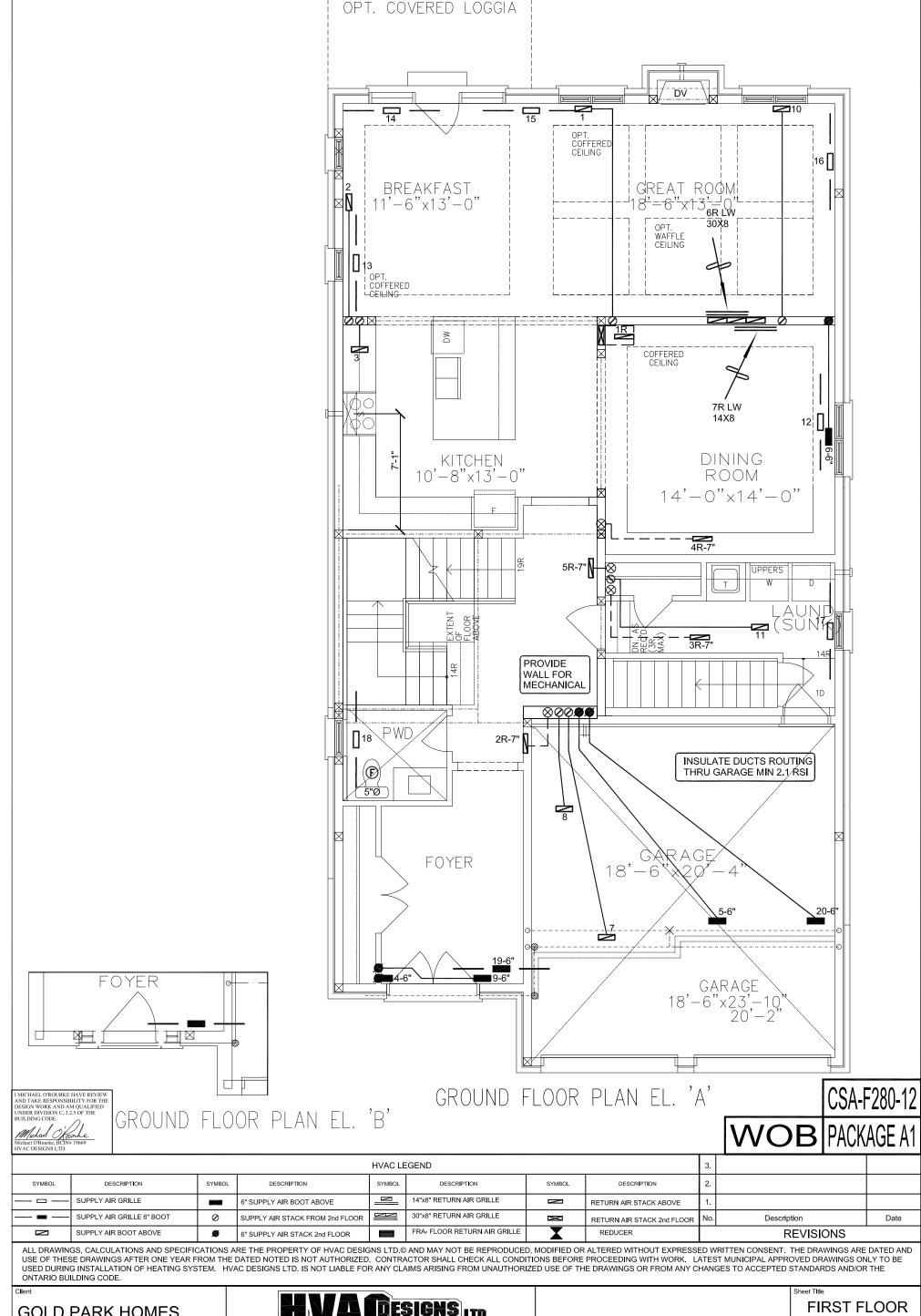
HVA DESIGNS LTD.

375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca

Specializing in Residential Mechanical Design Services
Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper.
Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

Sheet	FANS	R/A	S/A	# OF RUNS	BTU/H	SS 65820	
1				3RD FLOOR		JN I T DATA	
1	3	5	12	2ND FLOOR		ENNOX	MAKE L
	2	2	8	1ST FLOOR	вС	UH090XE4	MODEL EL296
Date	0	1	5	BASEMENT	МВТU/Н	88	INPUT
Scale)"	4 "x10	SERS	ALL S/A DIFFU	MBTU/H	0.5	-OUTPUT
	ISE	HERW	D OTH	UNLESS NOTE		85	
i				ON LAYOUT. A	TONS	2.5	COOLING
11.0	ISE			UNLESS NOTE		3.5	EAN OREER
L				ON LAYOUT. U DOORS 1" min.	cfm @ 0.6" w.c.	1255	FAN SPEED

Sheet Title	
BA	SEMENT
Н	IEATING
L	.AYOUT
Date	OCT/2018
Scale :	3/16" = 1'-0"
В	CIN# 19669
LO#	85448
	BA H L Date (Scale :



GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON VAUGHAN, ONTARIO OPT SERVICE STAIRS THE VALLEYVIEW 4002 - WOB 3138 sqft

375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca

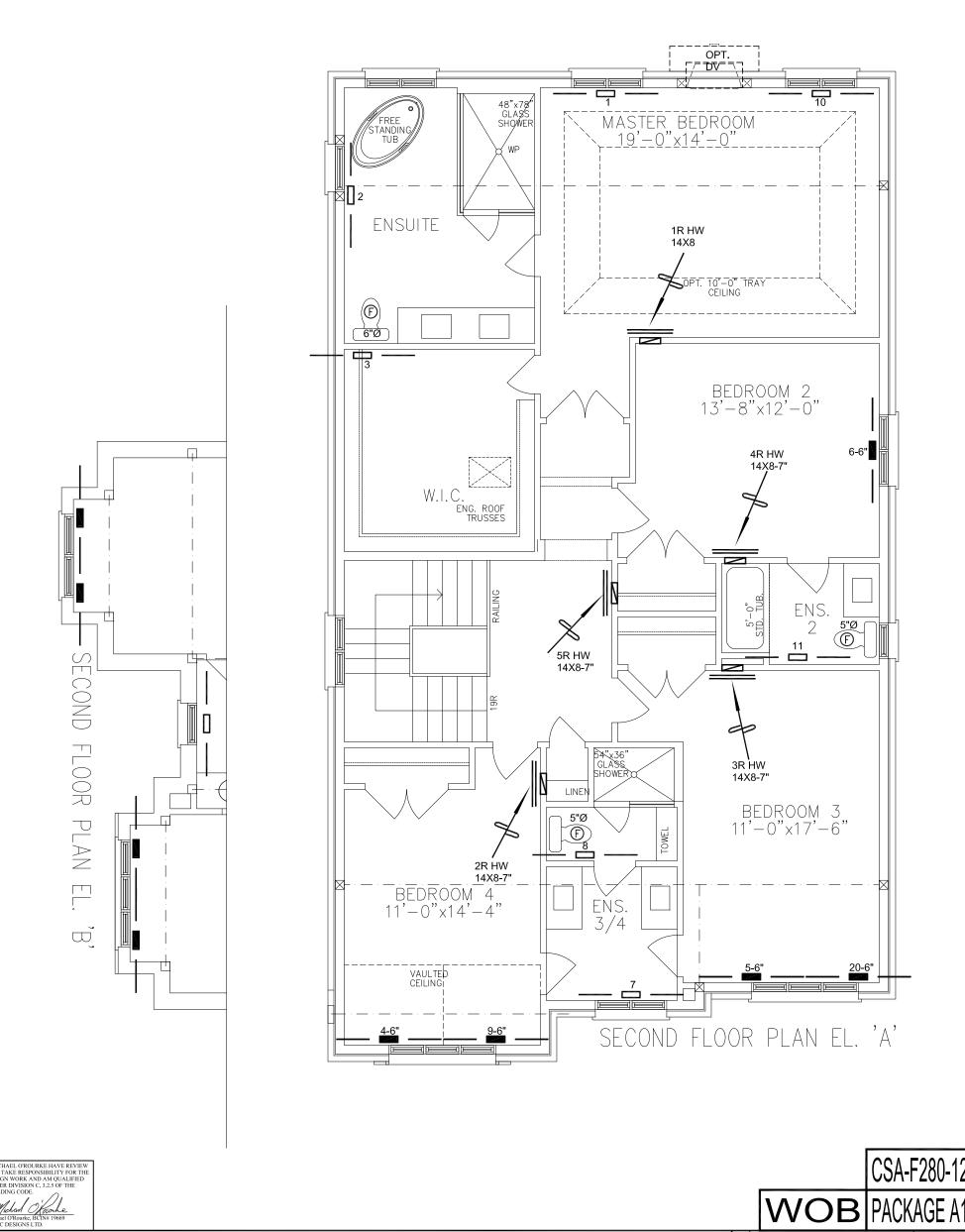
Specializing in Residential Mechanical Design Services

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HEATING LAYOUT

OCT/2018 3/16" = 1'-0"

BCIN# 19669



HVAC LEGEND 2. DESCRIPTION DESCRIPTION SYMBOL DESCRIPTION SYMBOL SYMBOL DESCRIPTION SYMBOL 14"x8" RETURN AIR GRILLE SUPPLY AIR GRILLE - 🗆 6" SUPPLY AIR BOOT ABOVE RETURN AIR STACK ABOVE 30"x8" RETURN AIR GRILLE SUPPLY AIR GRILLE 6" BOOT 0 SUPPLY AIR STACK FROM 2nd FLOOR \propto Description Date RETURN AIR STACK 2nd FLOOR SUPPLY AIR BOOT ABOVE FRA- FLOOR RETURN AIR GRILLE **REVISIONS** Ø 6" SUPPLY AIR STACK 2nd FLOOR

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Cllent

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON
VAUGHAN, ONTARIO
OPT SERVICE STAIRS
THE VALLEYVIEW
4002 - WOB 3138 sqft

HVA DESIGNS LTD.

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Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

SECOND FLOOR HEATING LAYOUT

Date OCT/2018
Scale 3/16" = 1'-0"

BCIN# 19669 LO# 85448

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				Unit no.	Lot/con.
Municipality	Postal code	Plan number/ other desc	cription		
VAUGHAN (WOODBRIDGE)					
B. Individual who reviews and takes	responsibility fo	r design activities			
Name		Firm			
MICHAEL O'ROURKE		HVAC DESIGNS LTD.			
Street address 375 FINLEY AVE			Unit no. 202		Lot/con. N/A
Municipality	Postal code	Province	E-mail		N/A
AJAX	L1S 2E2	ONTARIO	info@hvacdes	igns.ca	
Telephone number	Fax number	1	Cell number	3	
(905) 619-2300	(905) 619-2375		()		
C. Design activities undertaken by ir	dividual identific	ed in Section B. [Build	ding Code Tal	ble 3.5.2.1 OF D	ivision C]
☐ House	⊠ HVAC	_ House		Building Structi	ıral
☐ Small Buildings		g Services		Plumbing – Ho	
☐ Large Buildings		on, Lighting and Pow		Plumbing – All	•
☐ Complex Buildings	☐ Fire Pro			On-site Sewag	e Systems
Description of designer's work HEAT LOSS / GAIN CALCULATIONS		Model:	4002 THE VALL	EYVIEW	
DUCT SIZING			OPT SERVICE ST	TAIR	
RESIDENTIAL MECHANICAL VENTILATION		ARY Project:	PINE VALLEY &	TESTON	
RESIDENTIAL SYSTEM DESIGN per CSA	-F280-12				
D. Declaration of Designer					
IMICHAEL O'ROURKE (p	rint name)		declare th	at (choose one as	appropriate):
☐ I review and take responsibility f Division C, of the Building Code. classes/categories.	or the design work of am qualified, and	on behalf of a firm registe I the firm is registered, in t	red under subse the	ection 3.2.4.of appropriate	
Individual BCIN: Firm BCIN:					
☐ I review and take responsibility f designer" under subsection 3.		m qualified in the appropr on C, of the Building Code		an "other	
Individual BCIN:	19669		· · · · · · · · · · · · · · · ·		
Basis for exemption f	rom registration and	d qualification:	O.B.C SEN	TENCE 3.2.4.1	(4)
☐ The design work is exempt Basis for exemption from registre		ion and qualification requi on:	rements of the E	Building Code.	
I certify that:					
The information contained I have submitted this application.		ule is true to the best of medge and consent of the f			
February 26, 2020			Muchan	1 Oxounde	2 .
Date	•			Signature of D	Designer

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 qualification under Subsections 3.2.4. and 3.2.5. of Division C.

^{2.} Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.



BUILDER:	PINE V							TYPE:	OPT SE			EW		GFA:	3185			DATE:	Feb-20 85447					R NATURAL AIR CHANG R NATURAL AIR CHANG			HEAT LO						CSA-F280-
ROOM USE				MBR			ENS			WIC			BED-4			BED-3			BED-2			ENS-3/4	1				ENS-2						
EXP. WALL				35			27		l	17			38			32			13			7			- 1		6	- 1					
CLG. HT.				10			9		l	9			9			10			9			9					9						
	FACTO	RS							l																- 1			- 1					
GRS.WALL AREA	LOSS	GAIN		350			243		l	153			342			320			117			63			- 1		54	- 1					
GLAZING				LOSS	GAIN	- 0	LOSS	GAIN	1.0	LOSS	GAIN	1	oss	GAIN	1	LOSS	GAIN			GAIN			GAIN		- 1		LOSS G	AIN					
NORTH	21.3	16.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	383	293	0	0	0		- 1	8		130					
EAST	21.3	41.8	0	0	0	0	0	0	٥	0	0	45	958	1882	50	1064	2092	0	0	0	24	511	1004			0		0					
SOUTH	21.3	25.2	0	0	0	14	298	353	9	192	227	9	192	227	0	0	0	0	0	0	0	0	0			0	(1000)	0					
WEST	21.3	41.8	36	766	1506	20	426	837	0	0	0	0	0	0	٥	0	0	0	0	0	0	0	0			0	0.000	0					
SKYLT.			0	0	0	0	0	0	0	0	0	- 555	0	0	0	0	0	0	0	- 0	0	0	0			0	0	0					
100000000000000000000000000000000000000	37.2	102.0	27.7	50	9561	2550	100	7.7	934	10000	81	0		374	- 33	9.5%	120	(5) (5)	100	0	155101	100	870			0	1050	0.69					
DOORS	25.2	4.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			13.5		0					
NET EXPOSED WALL	4.5	8.0	314	1401	254	209	933	169	144	643	117		1285	233	270	1205	219	99	442	80	39	174	32		- 1	46		37					
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0					
EXPOSED CLG	1.3	0.6	338	434	204	180	231	109	195	250	118	246	316	149	235	302	142	240	308	145	118	151	71		- 1	55		33					
NO ATTIC EXPOSED CLG	2.7	1.3	10	27	13	0	0	0	0	0	0	60	165	78	30	82	39	0	0	0	0	0	0		- 1	0	0	0					
EXPOSED FLOOR	2.6	0.5	0	0	0	0	0	0	0	0	0	20	51	9	193	492	89	0	0	0	118	301	55			0	0	0					
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0			0			I		0						
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0			I		0						
SUBTOTAL HT LOSS				2629			1887			1084			2966		1	3145			1133			1137			I		446						
SUB TOTAL HT GAIN					1978			1467			461			2578	1		2581			518			1162		I		20.00000	201					
LEVEL FACTOR / MULTIPLIER			0.20	0.29		0.20	0.29		0.20	0.29	MATERIAL PROPERTY.	0.20	0.29	907556	0.20	0.29		0.20	0.29		0.20	0.29			ŀ	0.20	0.29	2001					
AIR CHANGE HEAT LOSS			100070	775		200000	557		55,657	320			875		0200000	927		251107	334		114000	335			1		132						
AIR CHANGE HEAT GAIN					174			129	l		41			227			227			46			102					18					
DUCTLOSS				0	30.00		0		l	0	100		384			407			0			147			- 1		0						
DUCT GAIN				ď	0			0	l		0		004	388		401	389			0			126					0					
HEAT GAIN PEOPLE	240		2		480	0		0	١,		0	1		240	١,,		240	1		240	0		0			0		0					
HEAT GAIN APPLIANCES/LIGHTS	240		*		840	١,		0	"		0			840	, i		840	3		840			0			U		0					
				3404	040		2444	U	l	1404	۰		4225	040		4480	040		1467	040		4600	U				578	۰					
TOTAL HT LOSS BTU/H TOTAL HT GAIN x 1.3 BTU/H				3404	4513		2444	2075	l	1404	652		4223	5555		4400	5559		1407	2136		1620	1807		- 1			284					
TOTAL HT GAIN X 1.3 BTO/H		-			4313	_		20/3			032			3333			5558			2130	_		1007			-		204				_	
ROOM USE		7		DIN				_		KT/GT						LAUN			PWD	7		FOY	_		T	_		$\neg T$	-	LOD			BAS
EXP. WALL				16					l	86						26			6			49								42			178
CLG. HT.				11					l	11						12			13			11								10			10
CEG. HT.		225		3.13					l	91.13					ı	12		l .				5350						- 1		10			10
	EACTO														l																		
CDC WALL AREA	FACTO			476		1			l	0.46						242						E20								420			4400
GRS.WALL AREA				176						946						312			78			539								420			1498
GLAZING	LOSS	GAIN		LOSS						LOSS	8/45					LOSS	GAIN	•	78 LOSS	GAIN		LOSS								LOSS	GAIN	259	LOSS GA
GLAZING NORTH	21.3	GAIN 16.3	26	LOSS 553	423				0	LOSS	0				10	LOSS 213	163	0	78 LOSS 0	0	0	LOSS	0						0		GAIN 0	0	LOSS GA
GLAZING NORTH EAST	21.3 21.3	16.3 41.8	0	553 0	423 0				0	O O	0				0	LOSS 213 0	163 0	0	78 LOSS 0	0	35	0 745	0 1464						0	O O	GAIN 0 0	0	LOSS GA
GLAZING NORTH EAST SOUTH	21.3 21.3 21.3	16.3 41.8 25.2	0	553 0 0	423 0 0				0 24	0 0 511	0 0 604				0	213 0 0	163 0 0	0 8	78 LOSS 0 0	0 0 201	35 0	0 745 0	0 1464 0						0 0 0	0 0	GAIN 0 0 0	0	0 0 0 0 128 15
GLAZING NORTH EAST SOUTH WEST	21.3 21.3 21.3 21.3 21.3	16.3 41.8 25.2 41.8	0 0 0	553 0 0	423 0 0 0				0 24 117	0 0 511 2490	0 0 604 4894				0 0 0	213 0 0 0	163 0 0	0 8 0	78 LOSS 0 0 170	0 0 201 0	35 0 0	0 745 0 0	0 1464 0 0						0 0 0 20	0 0 0 0 426	0 0 0 0 837	0 0 6	0 0 0 0 0 0 128 15 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT.	21.3 21.3 21.3 21.3 21.3 37.2	16.3 41.8 25.2 41.8 102.0	0 0 0	553 0 0 0	423 0 0 0 0				0 24 117 0	0 0 511 2490 0	0 0 604 4894 0				0 0 0	213 0 0 0	163 0 0 0	0 8 0	78 LOSS 0 0 170 0	0 0 201	35 0 0 0	0 745 0 0	0 1464 0 0						0 0 0 20 0	0 0	0 0 0 0 837	0 0 6 0	0 0 0 0 128 15 0 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS	21.3 21.3 21.3 21.3 21.3	16.3 41.8 25.2 41.8	0 0 0	553 0 0	423 0 0 0				0 24 117 0	0 0 511 2490	0 0 604 4894				0 0 0	213 0 0 0	163 0 0	0 8 0 0	78 LOSS 0 0 170	0 0 201 0	35 0 0 0 0	0 745 0 0	0 1464 0 0						0 0 0 20	0 0 0 0 426	0 0 0 0 837	0 0 6	0 0 0 0 0 0 128 15 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL	21.3 21.3 21.3 21.3 21.3 37.2	16.3 41.8 25.2 41.8 102.0	0 0 0	553 0 0 0	423 0 0 0 0				0 24 117 0	0 0 511 2490 0	0 0 604 4894 0				0 0 0	213 0 0 0	163 0 0 0	0 8 0	78 LOSS 0 0 170 0	0 0 201 0	35 0 0 0	0 745 0 0	0 1464 0 0						0 0 0 20 0 0	0 0 0 426 0	0 0 0 837 0 0	0 6 0 0 20	0 0 0 0 128 15 0 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS	21.3 21.3 21.3 21.3 21.3 37.2 25.2	16.3 41.8 25.2 41.8 102.0 4.6	0 0 0 0	553 0 0 0 0	423 0 0 0 0				0 24 117 0	0 0 511 2490 0	0 0 604 4894 0				0 0 0 0 20	LOSS 213 0 0 0 0 505	163 0 0 0 0 0	0 8 0 0	78 LOSS 0 0 170 0	0 0 201 0 0	35 0 0 0 0	0 745 0 0 0 0 505	0 1464 0 0 0 0						0 0 0 20 0	0 0 0 426 0	0 0 0 837 0 0	0 6 0 0 20	LOSS GA 0 0 0 0 128 15 0 0 0 0 505 92
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8	0 0 0 0 0 150	LOSS 553 0 0 0 0 0 0	423 0 0 0 0 0 122				0 24 117 0 0 805	0 0 511 2490 0 0 3592	0 0 604 4894 0 0				0 0 0 0 20 282	LOSS 213 0 0 0 0 505 1258	163 0 0 0 0 92 229	0 8 0 0 0 70	78 LOSS 0 0 170 0 0 0	0 0 201 0 0 0 57	35 0 0 0 20 484	0 745 0 0 0 505 2160	0 1464 0 0 0 92 392						0 0 0 20 0 0	0 0 0 426 0 0	0 0 0 837 0 0	0 6 0 0 20	USS GA 0 0 0 0 128 15 0 0 0 0 505 92 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7	0 0 0 0 0 150	LOSS 553 0 0 0 0 0 0 0 669 0	423 0 0 0 0 0 122 0				0 24 117 0 0 805	0 0 511 2490 0 0 3592 0	0 0 604 4894 0 0 652				0 0 0 0 20 282 0	LOSS 213 0 0 0 0 505 1258 0	163 0 0 0 0 92 229 0	0 8 0 0 0 70	78 LOSS 0 0 170 0 0 0 312	0 0 201 0 0 0 57	35 0 0 0 20 484 0	0 745 0 0 0 505 2160	0 1464 0 0 0 92 392 0						0 0 0 20 0 0 0	0 0 0 426 0 0	0 0 0 837 0 0 0 152	0 6 0 0 20 0 282	USS GA 0 0 0 0 128 15 0 0 0 0 505 92 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BSMTWALL ABOVE GR EXPOSED CLG	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6	0 0 0 0 0 150 0	LOSS 553 0 0 0 0 0 0 669 0 0 0	423 0 0 0 0 0 122 0				0 24 117 0 0 805 0	0 0 511 2490 0 0 3592 0	0 0 604 4894 0 0 652 0				0 0 0 20 282 0	LOSS 213 0 0 0 0 505 1258 0	163 0 0 0 0 92 229 0	0 8 0 0 0 70 0	78 LOSS 0 0 170 0 0 0 312 0	0 0 201 0 0 0 57 0	35 0 0 0 20 484 0	LOSS 0 745 0 0 505 2160 0	0 1464 0 0 0 92 392 0						0 0 20 0 0 0 0 232	0 0 0 426 0 0	0 0 0 837 0 0 0 152	0 0 6 0 0 20 0 282	LOSS GA 0 0 0 0 128 15 0 0 505 95 0 0 1015 18 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 150 0	LOSS 553 0 0 0 0 0 0 669 0 0 0 0	423 0 0 0 0 0 122 0 0				0 24 117 0 0 805 0 0	0 0 511 2490 0 0 3592 0 0	0 0 604 4894 0 0 652 0 0				0 0 0 0 20 282 0 0	LOSS 213 0 0 0 0 505 1258 0 0	163 0 0 0 0 92 229 0 0	0 8 0 0 0 70 0	78 LOSS 0 0 170 0 0 312 0 0	0 0 201 0 0 0 57 0	35 0 0 0 20 484 0 0	LOSS 0 745 0 0 505 2160 0 0	0 1464 0 0 0 92 392 0 0						0 0 0 20 0 0 0 232 0	0 0 0 426 0 0 0 835 0	0 0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0	LOSS GA 0 0 0 128 15 0 0 0 505 92 0 0 1015 18 0 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED SED EXPOSED CLG NO ATTIC EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 150 0	LOSS 553 0 0 0 0 0 0 669 0 0 0 0 0 0 0 0 0 0 0 0	423 0 0 0 0 0 122 0 0				0 24 117 0 0 805 0 0	LOSS 0 0 511 2490 0 0 3592 0 0 27 0	0 0 604 4894 0 0 652 0 0				0 0 0 0 20 282 0 0	LOSS 213 0 0 0 0 505 1258 0 0	163 0 0 0 0 92 229 0 0	0 8 0 0 0 70 0	78 LOSS 0 0 170 0 0 312 0 0	0 0 201 0 0 0 57 0	35 0 0 0 20 484 0 0	LOSS 0 745 0 0 505 2160 0 0	0 1464 0 0 0 92 392 0 0						0 0 0 20 0 0 0 232 0	0 0 0 426 0 0 0 835 0	0 0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0	LOSS GA 0 0 0 128 15 0 0 0 505 92 0 0 0 1015 18 0 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED SMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED CLG BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 150 0	LOSS 553 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	423 0 0 0 0 0 122 0 0				0 24 117 0 0 805 0 0	LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 0	0 0 604 4894 0 0 652 0 0				0 0 0 0 20 282 0 0	LOSS 213 0 0 0 0 505 1258 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	163 0 0 0 0 92 229 0 0	0 8 0 0 0 70 0	78 LOSS 0 0 1770 0 0 0 312 0 0 0 0 0 0 0	0 0 201 0 0 0 57 0	35 0 0 0 20 484 0 0	LOSS 0 745 0 0 505 2160 0 0 0	0 1464 0 0 0 92 392 0 0						0 0 0 20 0 0 0 232 0 0	0 0 426 0 0 0 835 0 0 0 0	6 GAIN 0 0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0	0 0 0 0 128 15 0 0 0 0 505 92 0 0 0 1015 18 0 0 0 0 5559
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 150 0	LOSS 553 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	423 0 0 0 0 0 122 0 0 0				0 24 117 0 0 805 0 0	LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0	0 0 604 4894 0 0 652 0 0 13				0 0 0 0 20 282 0 0	LOSS 213 0 0 0 0 505 1258 0 0 0 0 0	163 0 0 0 0 92 229 0 0	0 8 0 0 0 70 0	78 LOSS 0 0 170 0 0 312 0 0 0	0 0 201 0 0 0 57 0 0	35 0 0 0 20 484 0 0	LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 0 0	0 1464 0 0 0 92 392 0 0						0 0 0 20 0 0 0 232 0 0	0 0 0 426 0 0 0 835 0	S GAIN 0 0 0 837 0 0 152 0	0 0 6 0 0 20 0 282 0	0 0 0 128 15 0 0 0 0 0 0 0 0 0 0 0 1015 18 0 0 0 0 0 0 0 0 5959
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED CLG EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSING	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 150 0 0	LOSS 5553 0 0 0 0 0 0 0 0 0 0 0 0 1223	423 0 0 0 0 0 122 0 0				0 24 117 0 0 805 0 0 10	USS 0 0 511 2490 0 0 3592 0 0 27 0 0 6620	0 0 604 4894 0 0 652 0 0				0 0 0 20 282 0 0 0	LOSS 213 0 0 0 0 505 1258 0 0 0 0 0 1976	163 0 0 0 0 92 229 0 0	0 8 0 0 70 0 0	78 LOSS 0 0 170 0 0 312 0 0 0 0 483	0 0 201 0 0 0 57 0	35 0 0 20 484 0 0	LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 0 3410	0 1464 0 0 0 92 392 0 0						0 0 0 20 0 0 0 232 0 0	0 0 426 0 0 0 835 0 0 0 0	6 GAIN 0 0 0 837 0 0 0 152 0	0 0 6 0 0 20 0 282 0 0	0 0 0 128 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED CLG EXPOSED CLG ON ATTIC EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 150 0 0	LOSS 553 0 0 0 0 0 0 0 0 0 0 0 0 1223 0.47	423 0 0 0 0 0 122 0 0 0				0 24 117 0 0 805 0 0	LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 6620 0.47	0 0 604 4894 0 0 652 0 0 13				0 0 0 0 20 282 0 0	LOSS 213 0 0 0 0 505 1258 0 0 0 0 1976 0.47	163 0 0 0 0 92 229 0 0	0 8 0 0 0 70 0	78 LOSS 0 0 170 0 0 312 0 0 0 0 483	0 0 201 0 0 0 57 0 0	35 0 0 0 20 484 0 0	LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 3410 0.47	0 1464 0 0 0 92 392 0 0						0 0 0 20 0 0 0 232 0 0	0 0 426 0 0 0 835 0 0 0 0	S GAIN 0 0 0 837 0 0 152 0	0 0 6 0 0 20 0 282 0 0	0 0 0 128 15 0 0 0 0 0 0 0 0 0 0 0 1015 18 0 0 0 0 0 0 5959 7607 42
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED SMIT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG NO ATTIC EXPOSED CLG SEXPOSED CLG NO ATTIC EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 150 0 0	LOSS 5553 0 0 0 0 0 0 0 0 0 0 0 0 1223	423 0 0 0 0 122 0 0 0				0 24 117 0 0 805 0 0 10	USS 0 0 511 2490 0 0 3592 0 0 27 0 0 6620	0 0 604 4894 0 0 652 0 13 0				0 0 0 20 282 0 0 0	LOSS 213 0 0 0 0 505 1258 0 0 0 0 0 1976	163 0 0 0 0 92 229 0 0 0	0 8 0 0 70 0 0	78 LOSS 0 0 170 0 0 312 0 0 0 0 483	0 0 201 0 0 57 0 0 0	35 0 0 20 484 0 0	LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 0 3410	0 1464 0 0 92 392 0 0 0						0 0 0 20 0 0 0 232 0 0	0 0 426 0 0 0 835 0 0 0 0	S GAIN 0 0 0 837 0 0 152 0	0 0 6 0 0 20 0 282 0 0	0 0 0 128 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
GLAZING NORTH EAST SOUTH WEST SKYLL. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 150 0 0	LOSS 553 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	423 0 0 0 0 0 122 0 0 0				0 24 117 0 0 805 0 0 10	LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 6620 0.47 3081	0 0 604 4894 0 0 652 0 0 13				0 0 0 20 282 0 0 0	LOSS 213 0 0 0 505 1258 0 0 0 0 1976 0.47 920	163 0 0 0 0 92 229 0 0	0 8 0 0 70 0 0	78 LOSS 0 0 170 0 0 0 312 0 0 0 0 483 0.47 225	0 0 201 0 0 0 57 0 0	35 0 0 20 484 0 0	LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 0 3410 0.47 1587	0 1464 0 0 0 92 392 0 0						0 0 0 20 0 0 0 232 0 0	0 0 426 0 0 0 835 0 0 0 0	S GAIN 0 0 0 837 0 0 152 0	0 0 6 0 0 20 0 282 0 0	0 0 0 128 15 0 0 0 0 0 0 0 0 0 0 0 1015 18 0 0 0 0 0 0 5959 7607 42
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR MULTIPLIER AIR CHANGE HEAT GAIN DUCT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 150 0 0	LOSS 553 0 0 0 0 0 0 0 0 0 0 0 0 1223 0.47	423 0 0 0 0 122 0 0 0 0				0 24 117 0 0 805 0 0 10	LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 6620 0.47	0 0 604 4894 0 0 652 0 0 13 0				0 0 0 20 282 0 0 0	LOSS 213 0 0 0 0 505 1258 0 0 0 0 1976 0.47	163 0 0 0 0 92 2229 0 0 0 0	0 8 0 0 70 0 0	78 LOSS 0 0 170 0 0 312 0 0 0 0 483	0 0 201 0 0 0 57 0 0 0	35 0 0 20 484 0 0	LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 3410 0.47	0 1464 0 0 92 392 0 0 0						0 0 0 20 0 0 0 232 0 0	0 0 426 0 0 0 835 0 0 0 0	S GAIN 0 0 0 837 0 0 152 0	0 0 6 0 0 20 0 282 0 0	COSS GA 0 0 0 0 128 15 0 0 0 0 0 1015 18 0 0 0 0 0 1015 18 0 0 0 0 5959 7607 42 1.20 0 10636
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS OUCT GAIN	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 150 0 0 0	LOSS 553 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	423 0 0 0 0 122 0 0 0 0 544				0 24 117 0 0 805 0 0 10 0	LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 6620 0.47 3081	0 0 604 4894 0 0 652 0 0 13 0				0 0 0 20 282 0 0 0	LOSS 213 0 0 0 505 1258 0 0 0 0 1976 0.47 920	163 0 0 0 0 92 229 0 0 0 0	0 8 0 0 0 70 0 0 0	78 LOSS 0 0 170 0 0 0 312 0 0 0 0 483 0.47 225	0 0 201 0 0 0 57 0 0 0 0 258	35 0 0 20 484 0 0 0	LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 0 3410 0.47 1587	0 1464 0 0 0 92 392 0 0 0						0 0 0 20 0 0 0 0 0 232 0 0 0	0 0 426 0 0 0 835 0 0 0 0	6 GAIN 0 0 0 837 0 0 0 152 0 0 0 0	0 0 6 0 0 20 0 282 0 0	COSS GA 0 0 0 0 128 15 0 0 0 505 92 0 0 0 1015 18 0 0 0 0 0 5959 7607 42 1.20 10636 12 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED ELG NO ATTIC EXPOSED CLG EXPOSED CLG FOR ATTIC EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSS SUBTOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS DUCT GAIN HEAT GAIN PEOPLE	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 0 150 0 0	LOSS 553 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	423 0 0 0 0 0 122 0 0 0 0 544				0 24 117 0 0 805 0 0 10	LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 6620 0.47 3081	0 0 604 4894 0 0 652 0 0 13 0				0 0 0 20 282 0 0 0	LOSS 213 0 0 0 505 1258 0 0 0 0 1976 0.47 920	163 0 0 0 0 92 229 0 0 0 0	0 8 0 0 70 0 0	78 LOSS 0 0 170 0 0 0 312 0 0 0 0 483 0.47 225	0 0 201 0 0 0 57 0 0 0 0 0	35 0 0 20 484 0 0	LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 0 3410 0.47 1587	0 1464 0 0 92 392 0 0 0 0 0						0 0 0 20 0 0 0 232 0 0	0 0 426 0 0 0 835 0 0 0 0	GAIN 0 0 0 837 0 0 0 152 0 0 0 0 152 0 0 0 0	0 0 6 0 0 20 0 282 0 0	COSS GA 0 0 0 0 128 15 0 0 0 0 0 1015 18 0 0 0 0 0 1015 18 0 0 0 0 5959 7607 42 1.20 0 10636
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED UGE EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED CLG EXPOSED TLOOR BASEMENT/CRAWL HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT GAIN DUCT LOSS DUCT GAIN HEAT GAIN PEOPLE HEAT GAIN APPLIANCES/LIGHTS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 150 0 0 0	LOSS 553 0 0 0 0 0 0 0 0 0 0 0 1223 0.47 569 0	423 0 0 0 0 122 0 0 0 0 544				0 24 117 0 0 805 0 0 10 0	LOSS 0 0 5111 2490 0 0 3592 0 0 27 0 0 6620 0.47 3081 0	0 0 604 4894 0 0 652 0 0 13 0				0 0 0 20 282 0 0 0	LOSS 213 0 0 0 0 505 1258 0 0 0 0 1976 0.47 920 0	163 0 0 0 0 92 229 0 0 0 0	0 8 0 0 0 70 0 0 0	78 LOSS 0 0 1770 0 0 0 312 0 0 0 0 483 0.47 225 0	0 0 201 0 0 0 57 0 0 0 0 258	35 0 0 20 484 0 0 0	USS 0 745 0 0 0 505 2160 0 0 0 0 3410 0 0.47 1587 0	0 1464 0 0 0 92 392 0 0 0						0 0 0 20 0 0 0 0 2332 0 0 0	UOSS 0 0 426 0 0 0 835 0 0 0 1260	GAIN 0 0 0 0 837 0 0 0 152 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 6 0 0 22 0 0 0 282 0 0 0	COSS GA 0 0 0 0 128 15 0 0 0 0 0 0 128 15 0 0 0 0 1015 18 0 0 0 0 0 0 5959 7607 42 1.20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED ELG NO ATTIC EXPOSED CLG EXPOSED CLG NO ATTIC EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSS SUBTOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS DUCT GAIN HEAT GAIN PEOPLE	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	GAIN 16.3 41.8 25.2 41.8 102.0 4.6 0.8 0.7 0.6 1.3	0 0 0 0 150 0 0 0	LOSS 553 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	423 0 0 0 0 0 122 0 0 0 0 544				0 24 117 0 0 805 0 0 10 0	LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 6620 0.47 3081	0 0 604 4894 0 0 652 0 0 13 0				0 0 0 20 282 0 0 0	LOSS 213 0 0 0 505 1258 0 0 0 0 1976 0.47 920	163 0 0 0 0 92 229 0 0 0 0	0 8 0 0 0 70 0 0 0	78 LOSS 0 0 170 0 0 0 312 0 0 0 0 483 0.47 225	0 0 201 0 0 0 57 0 0 0 0 0	35 0 0 20 484 0 0 0	LOSS 0 745 0 0 0 505 2160 0 0 0 0 0 0 3410 0.47 1587	0 1464 0 0 92 392 0 0 0 0 0						0 0 0 20 0 0 0 0 2332 0 0 0	0 0 426 0 0 0 835 0 0 0 0	GAIN 0 0 0 0 837 0 0 0 152 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 6 0 0 22 0 0 0 282 0 0 0	COSS GA 0 0 0 0 128 15 0 0 0 505 92 0 0 0 1015 18 0 0 0 0 0 5959 7607 42 1.20 10636 12 0 0

TOTAL HEAT GAIN BTU/H:

41727

TONS: 3.48

LOSS DUE TO VENTILATION LOAD BTU/H: 3181

STRUCTURAL HEAT LOSS: 59218

TOTAL COMBINED HEAT LOSS BTU/H: 62398

Michael Oxombe.



		PINE VA							OPT SEF 4002 THE	E VALLE			DATE:	Feb-20			GFA:	3185	LO#	85447				
TOTAL HEAT LOSS	1255 59,218 21.19	A	TOTAL H	LING CFM IEAT GAIN RATE CFM	41,150		а	furr a/c coil vailable	pressure pressure pressure s/a & r/a	0.6 0.05 0.2 0.35						EL	. 296UH09 FAN		LENNO: 90	x		AFUE = (BTU/H) = (BTU/H) =	88,000	
RUN COUNT S/A R/A All S/A diffusers 4"x10" unle All S/A runs 5"Ø unless not				1st 8 2 out.	Bas 5 1		max	s/a dif pr	ssure s/a ress. loss ssure s/a	0.18 0.02 0.16		grille pre	pressure ess. Loss essure r/a	0.02			1	EDLOW MEDIUM JM HIGH HIGH	0 1105 1255 1525	т		GN CFM = CFM @ .	6 " E.S.P.	. °F
RUN # ROOM NAME RM LOSS MBH. CFM PER RUN HEAT RM GAIN MBH. CFM PER RUN COOLING ADJUSTED PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LENGTH ADJUSTED PRESSURE ROUND DUCT SIZE HEATING VELOCITY (ff/min) OUTLET GRILL SIZE TRUNK	1 MBR 1.70 36 2.26 69 0.17 50 210 260 0.07 5 264 507 3X10 A	2 ENS 2.44 52 2.08 63 0.17 58 150 208 0.08 5 382 463 3X10 A	3 VVIC 1.40 30 0.65 20 0.17 58 150 208 0.08 4 344 229 3X10 A	4 BED-4 2.11 45 2.78 85 0.16 61 180 241 0.07 6 229 433 4X10 C	5 BED-3 2.24 47 2.78 85 0.16 51 170 221 0.07 6 240 433 4X10 D	6 BED-2 1.47 31 2.14 65 0.17 38 180 218 0.08 6 158 331 4X10 B	7 ENS-3/4 0.81 17 0.90 28 0.17 48 140 188 0.09 4 195 321 3X10 D	8 ENS-3/4 0.81 17 0.90 28 0.17 40 140 180 0.1 4 195 321 3X10 D	9 BED-4 2.11 45 2.78 85 0.16 67 190 257 0.06 6 229 433 4X10 C	10 MBR 1.70 36 2.26 69 0.17 35 120 155 0.11 5 264 507 3X10 B	11 ENS-2 0.58 12 0.28 9 0.17 47 180 227 0.08 4 138 103 3X10 D	12 DIN 1.79 38 1.86 57 0.17 10 130 140 0.12 4 436 654 3X10 B	13 KT/GT 2.43 51 2.45 75 0.17 41 130 171 0.1 5 374 551 3X10 A	14 KT/GT 2.43 51 2.45 75 0.17 48 130 178 0.1 5 374 551 3X10 A	15 KT/GT 2.43 51 2.45 75 0.17 40 150 190 0.09 5 374 551 3X10 A	16 KT/GT 2.43 51 2.45 75 0.17 30 130 160 0.11 5 374 551 3X10 B	17 LAUN 2.90 61 1.77 54 0.17 11 200 211 0.08 5 448 396 3X10 B	18 PWD 0.71 15 0.37 11 0.17 48 210 258 0.07 4 172 126 3X10 C	19 FOY 5.00 106 2.76 84 0.16 44 140 184 0.09 6 540 428 4X10 C	20 BED-3 2.24 47 2.78 85 0.16 57 160 217 0.07 6 240 433 4X10 D	21 BAS 3.90 83 0.40 12 0.16 40 140 180 0.09 6 423 61 4X10 A	22 BAS 3.90 83 0.40 12 0.16 27 170 197 0.08 6 423 61 4X10 A	23 BAS 3.90 83 0.40 12 0.16 26 120 146 0.11 6 423 61 4X10 B	24 BAS 3.90 83 0.40 12 0.16 28 150 178 0.09 6 423 61 4X10 B
RUN # ROOM NAME RM LOSS MBH. CFM PER RUN HEAT RM GAIN MBH. CFM PER RUN COOLING ADJUSTED PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LENGTH ADJUSTED PRESSURE ROUND DUCT SIZE HEATING VELOCITY (ft/min) COOLING VELOCITY (ft/min) OUTLET GRILL SIZE TRUNK	25 BAS 3.90 83 0.40 12 0.16 43 150 193 0.08 6 423 61 4X10 C																							
SUPPLY AIR TRUNK SIZE																	RETURN A	AIR TRUNK	SIZE					
TRUNK A TRUNK B TRUNK C TRUNK C TRUNK C TRUNK E TRUNK F	TRUNK CFM 437 820 294 434 0	PRESS. 0.07 0.07 0.06 0.06 0.00 0.00	DUCT 10.6 13.5 9.5 11 0	14 22 10 14 0 0	x x x x x	8 8 8 8 8	VELOCITY (ft/min) 562 671 529 558 0 0		TRUNK G TRUNK H TRUNK I TRUNK J TRUNK K TRUNK L	TRUNK CFM 0 0 0 0 0 0	PRESS. 0.00 0.00 0.00 0.00 0.00 0.00 0.00	DUCT 0 0 0 0 0 0	RECT DUCT 0 0 0 0 0 0	x x x x x	8 8 8 8 8	VELOCITY (ft/min) 0 0 0 0 0	TRUNK O TRUNK P TRUNK Q TRUNK R TRUNK S TRUNK T TRUNK U TRUNK V	TRUNK CFM 0 0 0 0 0 0 0 0 0	PRESS, 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.0	ROUND DUCT 0 0 0 0 0 0	DUCT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	x x x x x x	8 8 8 8 8 8	VELOCITY (ft/min) 0 0 0 0 0 0 0 0 0
RETURN AIR # AIR VOLUME PLENUM PRESSURE ACTUAL DUCT LGH. ECUIVALENT LENGTH TOTAL EFFECTIVE LH ADJUSTED PRESSURE ROUND DUCT SIZE INLET GRILL SIZE INLET GRILL SIZE	1 0 135 0.15 51 235 286 0.05 7.5 8 X	2 0 110 0.15 58 205 263 0.06 6.6 8 X	3 0 120 0.15 57 165 222 0.07 6.6 8 X	4 0 120 0.15 34 185 219 0.07 6.6 8 X	5 0 110 0.15 42 225 267 0.06 6.6 8 X	6 0 300 0.15 28 190 218 0.07 9.2 8 X 30	7 0 175 0.15 35 185 220 0.07 7.5 8 X 14	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	185 0.15 18 215 233 0.06 8 8 X 24	TRUNK W TRUNK X TRUNK Y TRUNK Z DROP	0 1255 475	0.05 0.05 0.05 0.05 0.05 0.05	17.2 11.9 13.1 17.2	0 28 16 20 24	x x x x	8 10 8 8 8 12	0 645 534 549 628

Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca



4002 THE VALLEYVIEW

TYPE:

SITE NAME: PINE VALLEY & TESTON OPT SERVICE STAIR

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

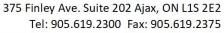
LO#

85447

COMBUSTION APPLIANCES	9.32.3.1(1)	SUPPLEMENTAL V	ENTILATION CAPACITY		9.32.3.5.
a) Direct vent (sealed combustion) only		Total Ventilation Ca	pacity	169.6	cfm
b) Positive venting induced draft (except fireplaces)		Less Principal Venti	I. Capacity	155	cfm
c) Natural draft, B-vent or induced draft gas fireplace		Required Suppleme	ntal Capacity	14.6	cfm
d) Solid Fuel (including fireplaces)					
e) No Combustion Appliances			ST FAN CAPACITY		20147
	9.0	Model:	VANEE 65H	Location:	BSMT
HEATING SYSTEM		155.0	_cfm3.0	sones	✓ HVI Approved
✓ Forced Air Non Forced Air			ST HEAT LOSS CALCULA		
		155.0 CFM	ΔT *F X 76 F	X 1.08	% LOSS X 0.25
Electric Space Heat			7003107		
		SUPPLEMENTAL F		NUTONE	LIV/I Conso
HOUSE TYPE	9.32.1(2)	Location ENS	Model QTXEN050C	50	HVI Sones ✓ 0.3
	11 10 15 15 15 15 15 15 15 15 15 15 15 15 15	ENS-3/4	QTXEN050C	50	✓ 0.3
Type a) or b) appliance only, no solid fuel		ENS-2	QTXEN050C	50	✓ 0.3
II Type I except with colid final /including fireplace	,c)	PWD	QTXEN050C	50	✓ 0.3
II Type I except with solid fuel (including fireplace	25)	HEAT RECOVERY Model:	VENTILATOR VANEE 65H		9.32.3.11.
		155	cfm high	64	cfm low
IV Type I, or II with electric space heat		75	N/ Occasible Efficiency	12	HVI Approved
Other: Type I, II or IV no forced air		75	 Sensible Efficiency 32 deg F (0 deg C 		✓ HVI Approved
EVETEM DECICAL ORTIONIC	ONHWB	LOCATION OF INS	TALLATION		
SYSTEM DESIGN OPTIONS	O.N.H.W.P.	Lot:		Concession	
1 Exhaust only/Forced Air System					
2 HRV with Ducting/Forced Air System		Township		Plan:	
		Address			
HRV Simplified/connected to forced air system		Roll #		Building Per	mit#
4 HRV with Ducting/non forced air system		BUILDER:	GOLD PARK HOME	s	
Part 6 Design			3323771117713112		
TOTAL VENTILATION CAPACITY	9.32.3.3(1)	Name: Address:			
		Addition.			
Basement + Master Bedroom 2 @ 21.2 cfm 42.4	_ cfm	City:			
Other Bedrooms <u>3</u> @ 10.6 cfm <u>31.8</u>	_ cfm	Telephone #:		Fax #:	<u> </u>
Kitchen & Bathrooms5 @ 10.6 cfm53	_ cfm	INSTALLING CONT	RACTOR		
Other Rooms <u>4</u> @ 10.6 cfm <u>42.4</u>	_ cfm	Name:			
Table 9.32.3.A. TOTAL <u>169.6</u>	cfm	Address:			
		City:			
PRINCIPAL VENTILATION CAPACITY REQUIRED	9.32.3.4.(1)	Telephone #:		Fax #:	
1 Bedroom 31.8	cfm	relephone #.		i da #.	
2 Potentia		DESIGNER CERTIF			
2 Bedroom 47.7	cfm		this ventilation system has b he Ontario Building Code.	een designed	
3 Bedroom 63.6	cfm	Name:	HVAC Designs Ltd.		
4 Bedroom 79.5	cfm	Signature:	M	Mehan Offente	۷.
5 Bedroom 95.4	cfm	HRAI#		001820	
TOTAL 79.5 cfm		Date:		February-20	
I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QU	ALIFIED IN THE AP		"OTHER DESIGNER" UNDER DIVIS		JILDING CODE.



			NOT THE STATE OF T	80-12 Residential Hea						
			Forn	nula Sheet (For Air Lea	akage / Ventiliation C	Calculation)				
LO#:	85447	Model: 4002 THE VA	LLEYVIEW	Builde	er: GOLD PARK HOMES				Date:	02/26/2020
		Volume Calculation	n				Air Change & Delt	ta T Data		Alin (K.)
				-						
ouse Volume	-1 . (6.2)	T =	1 1 15.31				URAL AIR CHANG		0.340	
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)			SUMMER NA	TURAL AIR CHANG	GE RATE	0.118	
Bsmt	1445 1445	10 11	14450 15895	-						
First Second	1740	9	15660	-			Design Te	emperature Diff	oronco	
Third	0	9	0				Tin °C	Tout °C	ΔT°C	ΔT°F
Fourth	0	9	0			Winter DTDh	22	-20	42	76
107000000		Total:	46,005.0 ft ³			Summer DTDc	23	31	8	14
		Total:	1302.7 m³		1					
	5.2.3	3.1 Heat Loss due to A	r Leakage			6.2.6 \$	ensible Gain due	to Air Leakage		
0.340		$LR_{airh} \times \frac{V_b}{3.6} \times I$ $\times 42 ^{\circ}\text{C}$		= 6235 W = 21273 Btu/h] = <u>0.118</u>	$HG_{salb} = LR_{airc} \times $ \times 361.87	5.0		. =	391 W
	5.2.3.2 He	at Loss due to Mechar	ical Ventilation			6.2.7 Sen	sible heat Gain d	ue to Ventilatio	n	
	$HL_{vairb} =$	$PVC \times DTD_h \times 1$	$1.08 \times (1-E)$		HL	$_{vairb} = PVC \times DT$	$CD_h \times 1.08 \times$	(1 - E)		
155 CFM	x <u>76 °F</u>	x <u>1.08</u>	x0.25	= 3181 Btu/h	155 CFM	_ x <u>14 °F</u>	x1.08	x0.25	:=	578 Btu/h
			5.2.3.3 Calcula	tion of Air Change Heat	Loss for Each Room (Flo	or Multiplier Section)				
		HL_a	_{irr} = Level Fact	$vor \times HL_{airbv} \times \{(H_{airbv}) \times $	$HL_{agcr} + HL_{bgcr}$) ÷	$(HL_{agclevel} + HL_{l}$	gclevel)}			
				HLairve Air Leakage +	Level Conductive Heat	Air Leakage Heat Los	s Multiplier (LF x	15		
		Level	Level Factor (LF)	Ventilation Heat Loss	Loss: (HL _{clevel})	HLairby / H	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.			
				(Btu/h)		, a		6		
		1	0.5		8,867	1.20				
		2	0.3		13,712	0.46				
		3	0.2	21,273	14,428	0.29				
		4	0		0	0.00				
		5	0							







HEAT LOSS AND GAIN SUMMARY SHEET

			LOCO / III O C/ III I		
MODEL:	4002 THE VALLEYVIEW	V	OPT SERVICE STAIR	BUILDER: GOLD PARK HOMES	
SFQT:	3185	LO#	85447	SITE : PINE VALLEY & TESTON	
DESIGN A	SSUMPTIONS				
-					
HEATING			°F	COOLING	°F
OUTDOO	R DESIGN TEMP.		-4	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.			72	INDOOR DESIGN TEMP. (MAX 75°F)	74
BUILDING	G DATA				
					_
ATTACHM	MENT:		DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FA	VCES.		EAST	ACCLIMED (V/NI)	Y
FRONT FA	ACES:		EAST	ASSUMED (Y/N):	ĭ
AIR CHAN	IGES PER HOUR:		3.57	ASSUMED (Y/N):	Υ
71111 6117111	IGES I EIT HOOK.		3.37	ASSUMED (1714).	•
AIR TIGHT	TNESS CATEGORY:		AVERAGE	ASSUMED (Y/N):	Υ
				(, ,	
WIND EX	POSURE:		SHELTERED	ASSUMED (Y/N):	Υ
HOUSE V	OLUME (ft³):		46005.0	ASSUMED (Y/N):	Υ
INTERNAL	L SHADING:	BLIND	S/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR	LIGHTING LOAD (Btu/h,	/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Υ
501115:	TION CONFIGURATION		DOIN 4	DEDTU DEL 014 00 40 5	7.0.5
FOUNDA	TION CONFIGURATION		BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH:	57.0 ft	WIDTH:	22.0 ft	EXPOSED PERIMETER:	178.0 ft
LENGTH:	57.0 π	WIDIH:	32.0 ft	EXPOSED PEKIIVIETEK:	1/8.0 ft

2012 OBC - COMPLIANCE PACKAGE		
	Compliance	Package
Component	А	1
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE





Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

W	eather Sta	tion Description							
Province:	Ontario								
Region:	Vaughan	(Woodbridge)							
	Site D	Description							
Soil Conductivity:	Normal	Normal conductivity: dry sand, loam, clay							
Water Table:	Normal (7-10 m, 23-33 ft)							
	Foundatio	n Dimensions							
Floor Length (m):	17.4								
Floor Width (m):	9.8								
Exposed Perimeter (m):	0.0								
Wall Height (m):	3.0								
Depth Below Grade (m):	2.13	Insulation Configuration							
Window Area (m²):	2.4								
Door Area (m²):	1.9								
	Radi	ant Slab							
Heated Fraction of the Slab:	0								
Fluid Temperature (°C):	33								
	Desig	n Months							
Heating Month	1								
	Founda	tion Loads							
Heating Load (Watts):		1746							

TYPE: 4002 THE VALLEYVIEW

LO# 85447

OPT SERVICE STAIR



Air Infiltration Residential Load Calculator

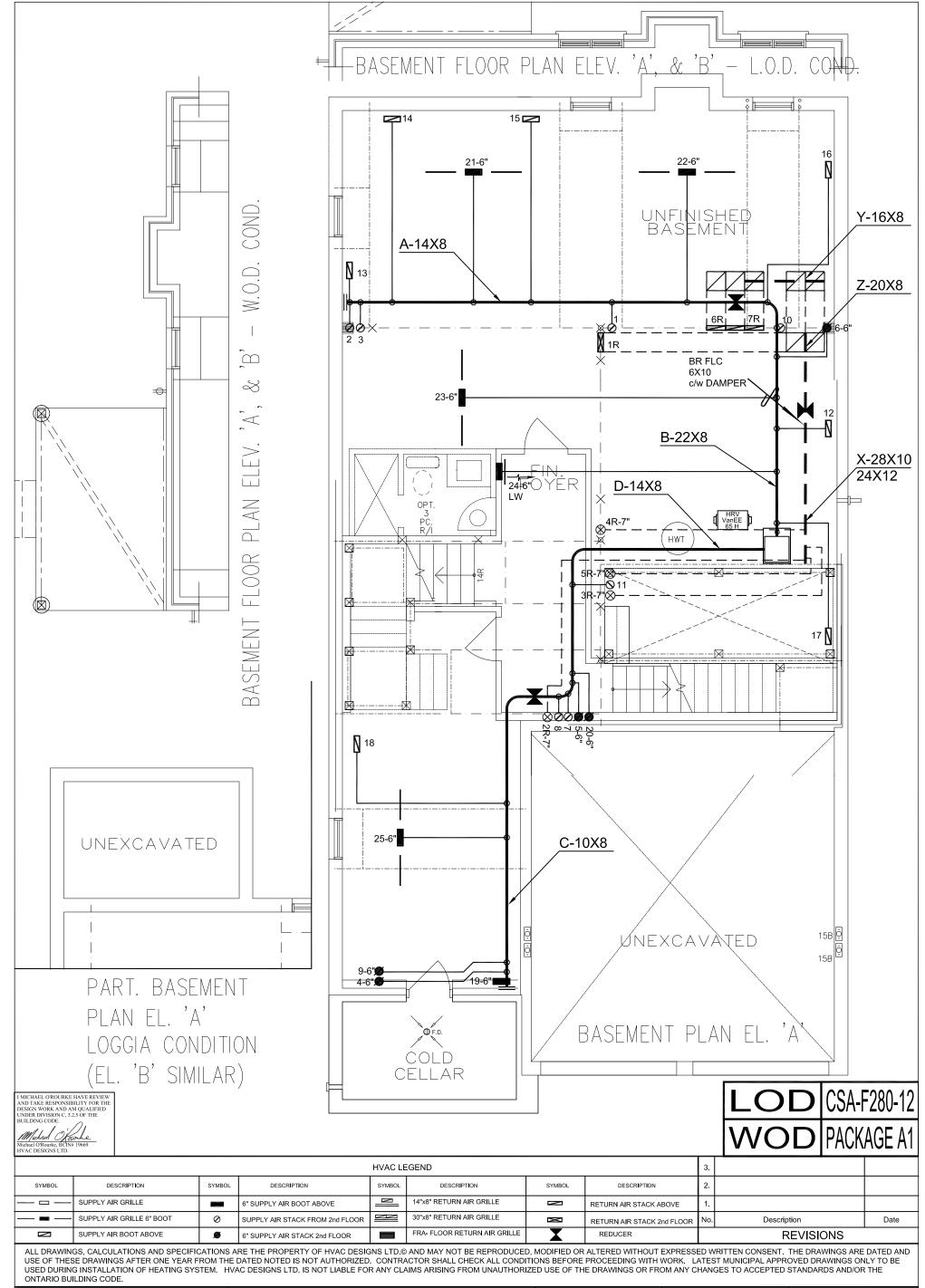
Supplemental tool for CAN/CSA-F280

Weather Station	n Des	cripti	ion					
Province:	Ontar	io						
Region:	Vaugl	nan (W	oodbr/	idge)				
Weather Station Location:	Open	flat te	rrain, g	grass				
Anemometer height (m):	10							
Local Sh	ieldin	g						
Building Site:	Subur	ban, fo	orest					
Walls:	Heavy	/						
Flue:	Heavy	/						
Highest Ceiling Height (m):	7.01							
Building Cor	nfigura	ation						
Type:	Detac	hed						
Number of Stories:	Two							
Foundation:	Full							
House Volume (m³):	1302.	7						
Air Leakage/	Venti l	atior	1					
Air Tightness Type:	Prese	nt (196	61-) (3.	57 ACH	H)			
Custom BDT Data:	ELA @	9 10 Pa	Э.		1736.6 cm ²			
	3.57				ACH @ 50 Pa			
Mechanical Ventilation (L/s):	To	tal Sup	ply		Total Exhaust			
		73.2			73.2			
Flue	Size							
Flue #:	#1	#2	#3	#4				
Diameter (mm):	0	0	0	0				
Natural Infilt	ration	Rate	es.					
Heating Air Leakage Rate (ACH/H):): 0.340							
Cooling Air Leakage Rate (ACH/H):		C).11	8				

TYPE: 4002 THE VALLEYVIEW

LO# 85447

OPT SERVICE STAIR



GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON
VAUGHAN, ONTARIO
OPT SERVICE STAIR
THE VALLEYVIEW
4002 3185 sqft

HVA DESIGNS LTD.

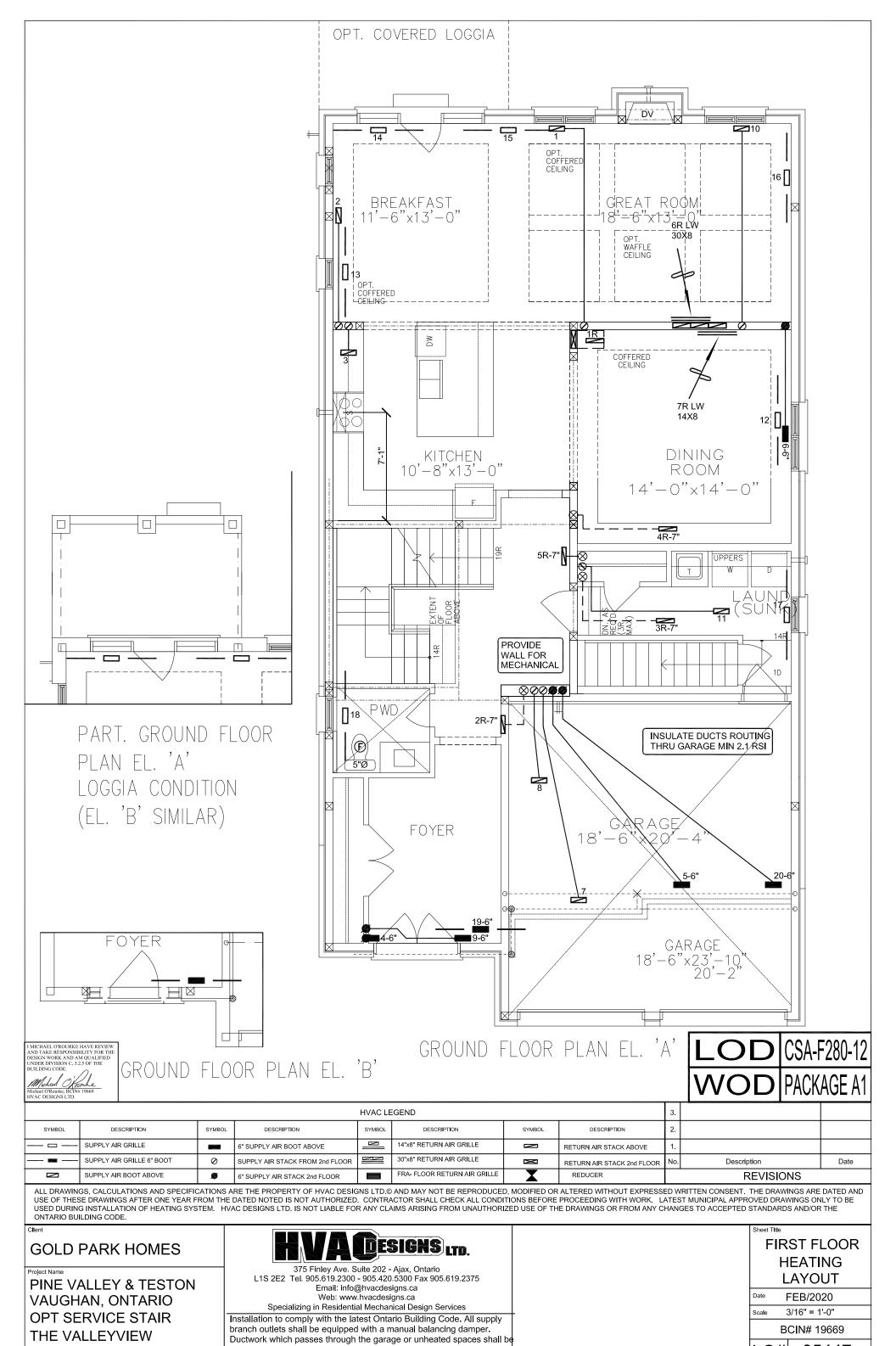
375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca

adequately insulated and be gas-proofed.

Specializing in Residential Mechanical Design Services
Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper.
Ductwork which passes through the garage or unheated spaces shall be

		SS 62398	BTU/H	# OF RUNS	S/A	R/A	FANS	She
		JN I T DATA		3RD FLOOR				
		ENNOX		2ND FLOOR	12	5	3	
	MODEL EL296	UH090XE4	вС	1ST FLOOR	8	2	2	
	INPUT	88	MBTU/H	BASEMENT	5	1	0	Date
	-OUTPUT	85	MBTU/H	ALL S/A DIFFU				Scal
e	COOLING	3.5	TONS	ON LAYOUT. A	LL S/A	RUN	S 5"Ø	
	FAN SPEED	1255	cfm @ 0.6" w.c.	ON LAYOUT. U	NDER	CUT		L

S	Sheet Title											
	BASEMENT											
	HEATING											
	L	.AYOUT										
	Date	FEB/2020										
	Scale	3/16" = 1'-0"										
í	В	BCIN# 19669										
	LO# 85447											

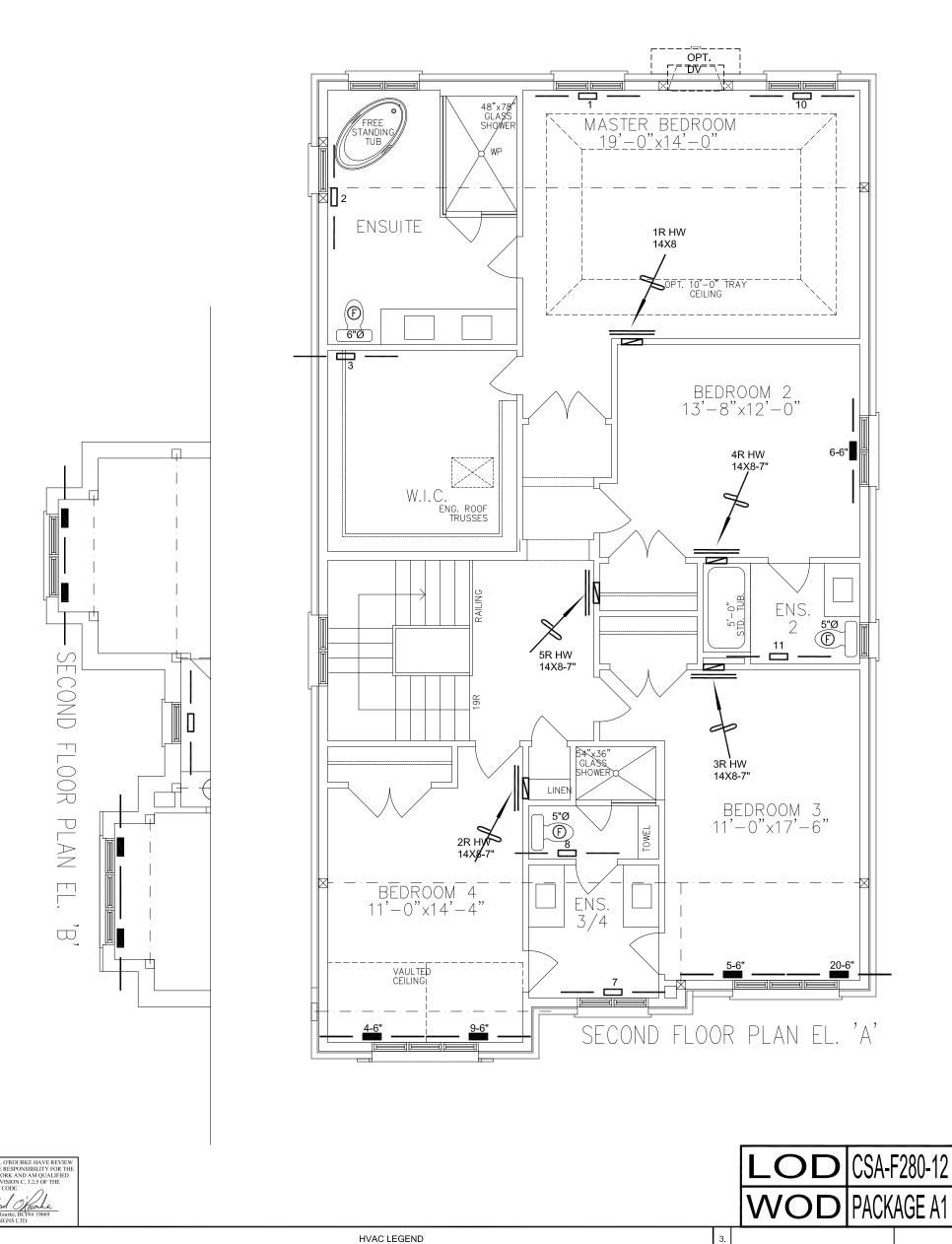


adequately insulated and be gas-proofed.

3185 sqft

4002

85447



HVAC DESIGNS LTD.										V 1 U	
		3.	-								
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.			
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE	N	RETURN AIR STACK ABOVE	1.			
	SUPPLY AIR GRILLE 6" BOOT	0	SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	×	RETURN AIR STACK 2nd FLOOR	No.	Description		Date
	SUPPLY AIR BOOT ABOVE	Ø	6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE	X	REDUCER		REVISIONS		•

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Cllent

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON
VAUGHAN, ONTARIO
OPT SERVICE STAIR
THE VALLEYVIEW
4002 3185 sqft

HVA DESIGNS LTD.

375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca

Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

SECOND FLOOR HEATING LAYOUT

rate FEB/2020 cale 3/16" = 1'-0"

BCIN# 19669 LO# 85447

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			Unit no.	Lot/con.
Municipality	Postal code	Plan number/ other des	cription	
VAUGHAN (WOODBRIDGE)			•	
B. Individual who reviews ar	nd takes responsibility	for design activities		
Name	,	Firm		
MICHAEL O'ROURKE		HVAC DESIGNS LTD.		
Street address 375 FINLEY AVE			Unit no. 202	Lot/con. N/A
Municipality	Postal code	Province	E-mail	N/A
AJAX	L1S 2E2	ONTARIO	info@hvacdesigns.ca	
Telephone number	Fax number		Cell number	
(905) 619-2300	(905) 619-2375	}	()	
C. Design activities undertal	ken by individual identi	fied in Section B. [Buil	ding Code Table 3.5.2.	1 OF Division C]
	FT 1 1 / A			<u> </u>
☐ House ☐ Small Buildings		C – House ng Services	☐ Building ☐ Plumbin	
☐ Large Buildings		ction, Lighting and Pov		g – All Buildings
☐ Complex Buildings	☐ Fire F	Protection	☐ On-site :	Sewage Systems
Description of designer's work		Model:	4002 THE VALLEYVIEW	
HEAT LOSS / GAIN CALCULATI	ONS		WOB	
DUCT SIZING RESIDENTIAL MECHANICAL VE	NTIL ATION DESIGN SLIM	MARV		
RESIDENTIAL MEGNANICAL VE		Project:	PINE VALLEY & TESTON	
D. Declaration of Designer				
I MICHAEL O'RO	IIRKE		declare that (choose	e one as appropriate):
· · · · · · · · · · · · · · · · · · ·	(print name)		doolaro triat (oriodot	o one de appropriato).
	onsibility for the design wor ing Code. I am qualified, ar			4.of ropriate
Individual E Firm BCIN:	CIN:			
	onsibility for the design and section 3.2.5.of Di	am qualified in the approp sion C, of the Building Code		
Individual B	CIN: 19669			
Basis for ex	emption from registration a	nd qualification:	O.B.C SENTENCE	3.2.4.1 (4)
☐ The design work is exe Basis for exemption fro	empt from the registration and qualification	ation and qualification requation:	irements of the Building Co	ode. -
I certify that:				
The information co I have submitted to	ontained in this sche his application with the kno	dule is true to the best of n		
F.I. 26 2622			Michael OK	mhe
February 26, 2020				
Date			Signat	ture of Designer

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 qualification under Subsections 3.2.4. and 3.2.5. of Division C.

^{2.} Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.



	PINE V								WOB			2000		122747	2022				Feb-20						IANGE RATE 0.407			LOSS					CSA-F28	
BUILDER:	GOLD	PARK	HOMES					TYPE:	4002		LLEYV			GFA:	3138			LO#	_		_			R NATURAL AIR CH	ANGE RATE 0.137	_		GAIN	ΔT°F.	13	_	SB-12	PACKAG	E A1
ROOM USE				MBR			ENS			WIC			BED-4	- 1		BED-3			BED-2		9	ENS-3/	4				ENS-2	2						
EXP. WALL				35			27			17			38	- 1		32			13			7					6							
CLG. HT.				10			9			9			9	- 1		10			9			9					9							
170-44-2007-9-04-201-17-17-17-17-17-17-17-17-17-17-17-17-17	FACTO													- 1																				
GRS.WALL AREA	LOSS	GAIN	1	350			243			153			342			320			117			63					54							
GLAZING				LOSS	GAIN	1	LOSS	GAIN		LOSS	GAIN	- 8	LOSS	GAIN	1	LOSS	GAIN		LOSS	GAIN		LOSS	GAIN				LOSS	GAIN						
NORTH	21.3	15.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	383	278	0	0	0			8	170	124						
EAST	21.3	39.9	0	0	0	0	0	0	0	0	0	45	958	1797	50	1064	1996	0	0	0	24	511	958			0	0	0						
SOUTH	21.3	24.0	0	0	0	14	298	336	9	192	216	9	192	216	0	0	0	0	0	0	0	0	0			0	0	0						
WEST	21.3	39.9	36	766	1437	20	426	798	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0						
SKYLT.	37.2	92.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0						
DOORS	25.2	4.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0						
NET EXPOSED WALL	4.5	0.8	314	1401	236	209	933	157	144	643	108	288	1285	216	270	1205	203	99	442	74	39	174	29			46	205	35						
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0						
EXPOSED CLG	1.3	0.6	338	434	199	180	231	106	195	250	115	246	316	145	235	302	138	240	308	141	118	151	69			55	71	32						
NO ATTIC EXPOSED CLG			10	27	13	0	0	0	0	0	0	60	165	76	30		38	0	0	0	0	0	0			0	0	0						
	2.7	1.3	0.00000		2532	12000	191500	200	623	1200	555	F. 100 100 100 100 100 100 100 100 100 10		1000000	2000	82		25/0	1							192533	100	0.0536						
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0	0	0	20	51	9	213	543	91	0	0	0	118	301	51			0	0	0						
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0			0				l	0							
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0					0							
SUBTOTAL HT LOSS				2629			1887			1084			2966			3196			1133			1137					446							
SUB TOTAL HT GAIN					1885			1397			439			2458			2467			493			1108					190						
LEVEL FACTOR / MULTIPLIER			0.20	0.34		0.20	0.34		0.20	0.34		0.20	0.34	- 1	0.20	0.34		0.20	0.34		0.20	0.34				0.20	0.34							
AIR CHANGE HEAT LOSS				904			649			373			1020	- 1		1100			390			391					153							
AIR CHANGE HEAT GAIN					160			118			37			208			209			42			94					16						
DUCTLOSS				0			0			0			399	11.0000.00		430			0			153					0	***						
DUCT GAIN					0			0			0			373			374			0			120					0						
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	-1		240	0		0			0		0						
HEAT GAIN APPLIANCES/LIGHTS			100		823	100		0	200		0			823	7.0		823			823	1.5		0			100		0						
TOTAL HT LOSS BTU/H				3533			2537			1457			4385			4725			1523			1681					600							
TOTAL HT GAIN x 1.3 BTU/H					4351			1970			619			5332			5346			2078			1718					269						
POOM USE				DIN	_	_				KTIGT	_					LAUN			DWD		_	EOV								WOR		_	DAC	
ROOM USE				DIN						KT/GT	_					LAUN			PWD			FOY								WOB	1		BAS	
EXP. WALL				14						86						22			6			49								42	1		136	
	FACTO																														•			
EXP. WALL CLG. HT.	FACTO			14 11						86 11						22 12			6 13			49 11								42 10			136 10	
EXP. WALL CLG. HT. GRS.WALL AREA				14 11 154						86 11 946						22 12 264			6 13 78			49 11 539								42 10 420			136 10 952	
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING	LOSS	GAIN		14 11 154 LOSS						86 11 946 LOSS	GAIN					22 12 264 LOSS	GAIN		6 13 78 LOSS	GAIN		49 11 539 LOSS							0.455	42 10 420 LOSS	S GAIN	259	136 10 952 LOSS (AIN
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH	21.3	GAIN 15.4	26	14 11 154 LOSS 553	402				0	946 LOSS	GAIN 0				10	22 12 264 LOSS 213	154	0	6 13 78 LOSS 0	GAIN 0	0	49 11 539 LOSS	0						0	42 10 420	S GAIN	0	136 10 952 LOSS 0	0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST	21.3 21.3	GAIN 15.4 39.9	0	14 11 154 LOSS 553 0	402 0				0	946 LOSS 0	GAIN 0 0				0	22 12 264 LOSS 213 0	154 0	0	6 13 78 LOSS 0	GAIN 0 0	35	49 11 539 LOSS 0 745	0 1397						0	42 10 420 LOSS 0 0	GAIN 0 0	0	136 10 952 LOSS 0 0	0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH	21.3 21.3 21.3	15.4 39.9 24.0	0	14 11 154 LOSS 553 0	402 0 0				0 24	946 LOSS 0 0 511	GAIN 0 0 576				0	22 12 264 LOSS 213 0	154 0 0	0 8	6 13 78 LOSS 0 0	GAIN 0 0 192	35 0	49 11 539 LOSS 0 745	0 1397 0						0 0	420 420 LOSS 0 0	S GAIN 0 0 0	0 0 6	136 10 952 LOSS 0 0	0 0 144
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST	21.3 21.3 21.3 21.3 21.3	15.4 39.9 24.0 39.9	0 0	14 11 154 LOSS 553 0	402 0 0 0				0 24 117	946 LOSS 0 0 511 2490	GAIN 0 0 576 4671				0 0	22 12 264 LOSS 213 0 0	154 0 0	0 8 0	6 13 78 LOSS 0 0 170	GAIN 0 0 192 0	35 0 0	49 11 539 LOSS 0 745 0	0 1397 0 0						0 0 0 72	420 420 LOSS 0 0 0 1532	6 GAIN 0 0 0 0	0 0 6	136 10 952 LOSS 0 0 0 128	0 0 144 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT.	21.3 21.3 21.3 21.3 21.3 37.2	15.4 39.9 24.0 39.9 92.7	0 0 0	14 11 154 LOSS 553 0 0	402 0 0 0				0 24 117 0	946 LOSS 0 0 511 2490	GAIN 0 0 576 4671 0				0 0 0	22 12 264 LOSS 213 0 0	154 0 0 0	0 8 0	6 13 78 LOSS 0 0 170 0	GAIN 0 0 192 0	35 0 0 0	49 11 539 LOSS 0 745 0 0	0 1397 0 0						0 0 0 72 0	420 10 420 LOSS 0 0 0 1532 0	6 GAIN 0 0 0 2875	0 6 0	136 10 952 LOSS 0 0 0 128 0	0 0 144 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS	21.3 21.3 21.3 21.3 21.3 37.2 25.2	15.4 39.9 24.0 39.9 92.7 4.3	0 0 0 0	14 11 154 LOSS 553 0 0 0	402 0 0 0 0				0 24 117 0 0	946 LOSS 0 0 511 2490 0	GAIN 0 0 576 4671 0				0 0 0 0 20	22 12 264 LOSS 213 0 0 0 0 505	154 0 0 0 0 0	0 8 0 0	6 13 78 LOSS 0 0 170 0	GAIN 0 0 192 0 0	35 0 0 0 20	49 11 539 LOSS 0 745 0 0 0 505	0 1397 0 0 0 85						0 0 72 0 10	420 10 420 LOSS 0 0 0 1532 0 252	6 GAIN 0 0 0 2875 0 43	0 6 0 0 20	136 10 952 LOSS 0 0 0 128 0 0 505	0 0 144 0 0 85
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5	15.4 39.9 24.0 39.9 92.7 4.3 0.8	0 0 0 0 0 128	14 11 154 LOSS 553 0 0 0 0 571	402 0 0 0 0 0 0				0 24 117 0 0 805	86 11 946 LOSS 0 0 511 2490 0 0 3592	GAIN 0 0 576 4671 0 0				0 0 0 0 20 234	22 12 264 LOSS 213 0 0 0 0 505 1044	154 0 0 0 0 85 176	0 8 0 0 0 70	6 13 78 LOSS 0 0 170 0 0 0 312	GAIN 0 0 192 0	35 0 0 0 20 484	49 11 539 LOSS 0 745 0 0 505 2160	0 1397 0 0 0 85 364						0 0 72 0 10 338	420 10 420 LOSS 0 0 0 1532 0	0 0 0 2875 0 43 254	0 6 0 0 20	136 10 952 LOSS 0 0 0 128 0 0 505	0 0 144 0 0 85
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMT WALL ABOVE GR	21.3 21.3 21.3 21.3 21.3 37.2 25.2	15.4 39.9 24.0 39.9 92.7 4.3	0 0 0 0	14 11 154 LOSS 553 0 0 0	402 0 0 0 0				0 24 117 0 0	946 LOSS 0 0 511 2490 0	GAIN 0 0 576 4671 0				0 0 0 0 20	22 12 264 LOSS 213 0 0 0 0 505	154 0 0 0 0 0	0 8 0 0	6 13 78 LOSS 0 0 170 0	GAIN 0 0 192 0 0	35 0 0 0 20	49 11 539 LOSS 0 745 0 0 0 505	0 1397 0 0 0 85						0 0 72 0 10	420 10 420 LOSS 0 0 0 1532 0 252	6 GAIN 0 0 0 2875 0 43	0 6 0 0 20	136 10 952 LOSS 0 0 0 128 0 0 505	0 0 144 0 0 85
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL	21.3 21.3 21.3 21.3 21.3 37.2 25.2 4.5	15.4 39.9 24.0 39.9 92.7 4.3 0.8	0 0 0 0 0 128	14 11 154 LOSS 553 0 0 0 0 571	402 0 0 0 0 0 0				0 24 117 0 0 805	86 11 946 LOSS 0 0 511 2490 0 0 3592	GAIN 0 0 576 4671 0 0				0 0 0 0 20 234	22 12 264 LOSS 213 0 0 0 0 505 1044	154 0 0 0 0 85 176	0 8 0 0 0 70	6 13 78 LOSS 0 0 170 0 0 0 312	GAIN 0 0 192 0 0 0 53	35 0 0 0 20 484	49 11 539 LOSS 0 745 0 0 505 2160	0 1397 0 0 0 85 364						0 0 72 0 10 338	420 LOSS 0 0 0 1532 0 252 1508	0 0 0 2875 0 43 254	0 6 0 0 20	136 10 952 LOSS 0 0 0 128 0 0 505	0 0 144 0 0 85
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMT WALL ABOVE GR	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6	15.4 39.9 24.0 39.9 92.7 4.3 0.8 0.6	0 0 0 0 0 128	14 11 154 LOSS 553 0 0 0 0 571	402 0 0 0 0 0 0 96				0 24 117 0 0 805 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0	GAIN 0 0 576 4671 0 0 605				0 0 0 0 20 234 0	22 12 264 LOSS 213 0 0 0 0 505 1044 0	154 0 0 0 0 85 176	0 8 0 0 0 70	6 13 78 LOSS 0 0 170 0 0 312 0	GAIN 0 0 192 0 0 0 53	35 0 0 0 20 484 0	49 11 539 LOSS 0 745 0 0 505 2160 0	0 1397 0 0 0 85 364 0						0 0 72 0 10 338 0	420 LOSS 0 0 0 1532 0 252 1508	6 GAIN 0 0 0 2875 0 43 254	0 6 0 0 20 0 408	136 10 952 LOSS 0 0 0 128 0 0 505	0 0 144 0 0 85 0 247
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BSMT WALL ABOVE GR	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6	0 0 0 0 0 128 0	14 11 154 LOSS 553 0 0 0 0 0 571 0	402 0 0 0 0 0 0 96 0				0 24 117 0 0 805 0	946 LOSS 0 0 511 2490 0 0 3592 0	GAIN 0 576 4671 0 605 0				0 0 0 20 234 0	22 12 264 LOSS 213 0 0 0 0 505 1044 0	154 0 0 0 0 85 176 0	0 8 0 0 0 70 0	6 13 78 LOSS 0 0 170 0 0 0 312 0	GAIN 0 0 192 0 0 0 53 0	35 0 0 0 20 484 0	49 11 539 LOSS 0 745 0 0 505 2160 0	0 1397 0 0 0 85 364 0						0 0 72 0 10 338 0	420 LOSS 0 0 0 1532 0 252 1508	6 GAIN 0 0 0 2875 0 43 254 0	0 0 6 0 0 20 0 408	136 10 952 LOSS 0 0 0 128 0 0 505	0 0 144 0 0 85 0 247
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMM WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 0 128 0	14 11 154 LOSS 553 0 0 0 0 0 571 0	402 0 0 0 0 0 96 0				0 24 117 0 0 805 0 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 27	GAIN 0 576 4671 0 0 605 0				0 0 0 20 234 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0	154 0 0 0 0 85 176 0	0 8 0 0 0 70 0	6 13 78 LOSS 0 0 170 0 0 312 0 0	GAIN 0 0 192 0 0 0 53 0	35 0 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 505 2160 0	0 1397 0 0 0 85 364 0						0 0 72 0 10 338 0 0	420 LOSS 0 0 0 1532 0 252 1508 0 0	6 GAIN 0 0 0 2875 0 43 254 0	0 0 6 0 0 20 0 408 0	136 10 952 LOSS 0 0 0 128 0 0 505 0 1468 0	0 0 144 0 0 85 0 247 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 0 128 0	14 11 154 LOSS 553 0 0 0 0 571 0	402 0 0 0 0 0 96 0				0 24 117 0 0 805 0 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 27	GAIN 0 576 4671 0 0 605 0				0 0 0 20 234 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0	154 0 0 0 0 85 176 0	0 8 0 0 0 70 0	6 13 78 LOSS 0 0 170 0 0 312 0 0	GAIN 0 0 192 0 0 0 53 0	35 0 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 505 2160 0	0 1397 0 0 0 85 364 0						0 0 72 0 10 338 0 0	420 LOSS 0 0 0 1532 0 252 1508 0 0	6 GAIN 0 0 0 2875 0 43 254 0	0 0 6 0 0 20 0 408 0	136 10 952 LOSS 0 0 128 0 0 505 0 1468 0 0	0 0 144 0 0 85 0 247 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED SLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 0 128 0	14 11 154 LOSS 553 0 0 0 0 571 0 0	402 0 0 0 0 0 96 0				0 24 117 0 0 805 0 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0	GAIN 0 576 4671 0 0 605 0				0 0 0 20 234 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0 0 0	154 0 0 0 0 85 176 0	0 8 0 0 0 70 0	6 13 78 LOSS 0 0 170 0 0 312 0 0 0	GAIN 0 0 192 0 0 0 53 0	35 0 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0	0 1397 0 0 0 85 364 0						0 0 72 0 10 338 0 0	42 10 420 LOSS 0 0 1532 0 252 1508 0 0	6 GAIN 0 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0	136 10 952 LOSS 0 0 128 0 0 505 0 1468 0 0	0 0 144 0 0 85 0 247 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 0 128 0	14 11 154 LOSS 553 0 0 0 0 571 0 0 0	402 0 0 0 0 0 96 0				0 24 117 0 0 805 0 0	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 27 0 0	GAIN 0 576 4671 0 0 605 0				0 0 0 20 234 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0 0 0	154 0 0 0 0 85 176 0	0 8 0 0 0 70 0	6 13 78 LOSS 0 0 170 0 0 0 312 0 0 0	GAIN 0 0 192 0 0 0 53 0	35 0 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0 0	0 1397 0 0 0 85 364 0						0 0 72 0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	6 GAIN 0 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0	136 10 952 LOSS 0 0 0 128 0 0 0 1468 0 0 2414 4515	0 0 144 0 0 85 0 247 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT LOSIN	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 128 0 0	14 11 154 LOSS 553 0 0 0 0 0 571 0 0 0 0	402 0 0 0 0 0 96 0 0				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 0	GAIN 0 0 576 4671 0 0 605 0 13				0 0 0 20 234 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0 0 0 0	154 0 0 0 85 176 0 0	0 8 0 0 70 0 0	6 13 78 LOSS 0 0 170 0 0 0 312 0 0 0	GAIN 0 0 192 0 0 0 53 0 0 0 0	35 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 0 505 2160 0 0 0 0	0 1397 0 0 0 85 364 0 0						0 0 72 0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0	136 10 952 LOSS 0 0 0 128 0 0 505 0 1468 0 0 0 2414	0 0 144 0 0 85 0 247 0 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 128 0 0	14 11 154 LOSS 553 0 0 0 0 0 571 0 0 0 0 0 1125	402 0 0 0 0 0 96 0 0				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 0 511 2490 0 0 3592 0 0 0 27 0 0 6620	GAIN 0 0 576 4671 0 0 605 0 13				0 0 0 20 234 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0 0 0	154 0 0 0 85 176 0 0	0 8 0 0 0 70 0	6 13 78 LOSS 0 0 0 170 0 0 0 312 0 0 0 0 483	GAIN 0 0 192 0 0 0 53 0 0 0 0	35 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 0 505 2160 0 0 0 3410	0 1397 0 0 0 85 364 0 0						0 0 72 0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0	136 10 952 LOSS 0 0 0 128 0 0 505 0 1468 0 0 2414 4515	0 0 144 0 0 85 0 247 0 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED CLG NO ATTIC EXPOSED CLG SEXPOSED CLG NO ATTIC EXPOSED CLG SEXPOSED CLG NO ATTIC EXPOSED CLG SEXPOSED CLG AND ATTIC EXPOSED CLG SEXPOSED CLG SEXPOSED CLG AND ATTIC EXPOSED CLG SEXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SUB TOTAL HT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 128 0 0	14 11 154 LOSS 553 0 0 0 0 0 571 0 0 0 0	402 0 0 0 0 96 0 0 0				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 27 0 0 0	GAIN 0 0 0 576 4671 0 0 605 0 0 13 0				0 0 0 20 234 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0 0 0 0 1762	154 0 0 0 85 176 0 0 0	0 8 0 0 70 0 0	6 13 78 LOSS 0 0 170 0 0 0 312 0 0 0 0 483	GAIN 0 0 192 0 0 0 53 0 0 0 0 2444	35 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 0 505 2160 0 0 0 0	0 1397 0 0 0 85 364 0 0 0						0 0 72 0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0	136 10 952 LOSS 0 0 0 128 0 0 505 0 1468 0 0 0 2414 4515	0 0 144 0 0 85 0 247 0 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMIT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 128 0 0	14 11 154 LOSS 553 0 0 0 0 571 0 0 0 0 1125 0.56627	402 0 0 0 0 0 96 0 0				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 0 6620 0.56	GAIN 0 0 576 4671 0 0 605 0 13				0 0 0 20 234 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0 0 0 0 1762	154 0 0 0 85 176 0 0	0 8 0 0 70 0 0	6 13 78 LOSS 0 0 170 0 0 312 0 0 0 0 483	GAIN 0 0 192 0 0 0 53 0 0 0 0	35 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0 0 0 3410	0 1397 0 0 0 85 364 0 0						0 0 72 0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0	136 10 952 LOSS 0 0 0 128 0 0 505 0 1468 0 0 0 2414 4515	0 0 144 0 0 85 0 247 0 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED ULG EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT GAIN DUCT LOSS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 128 0 0	14 11 154 LOSS 553 0 0 0 0 0 571 0 0 0 0 0 1125	402 0 0 0 0 0 96 0 0 0 0				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 0 511 2490 0 0 3592 0 0 0 27 0 0 6620	GAIN 0 0 576 4671 0 0 605 0 0 13 0 5864				0 0 0 20 234 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	154 0 0 0 0 85 176 0 0 0 415	0 8 0 0 70 0 0	6 13 78 LOSS 0 0 0 170 0 0 0 312 0 0 0 0 483	GAIN 0 0 192 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	35 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 0 505 2160 0 0 0 3410	0 1397 0 0 0 85 364 0 0 0						0 0 72 0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 2875 0 43 254 0 0	0 0 6 0 0 20 0 408 0	136 10 952 LOSS 0 0 0 128 0 0 505 0 1468 0 0 0 2414 4515	0 0 144 0 0 85 0 247 0 0 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS DUCT GAIN	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 0 128 0 0 0	14 11 154 LOSS 553 0 0 0 0 571 0 0 0 0 1125 0.56627	402 0 0 0 0 0 96 0 0 0 0 498 422				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 0 6620 0.56	GAIN 0 0 576 4671 0 0 605 0 0 13 0 5864 496 0				0 0 0 20 234 0 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	154 0 0 0 0 85 176 0 0 0 0	0 8 0 0 0 70 0 0 0	6 13 78 LOSS 0 0 170 0 0 312 0 0 0 0 483	GAIN 0 0 192 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	35 0 0 20 484 0 0 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0 0 0 3410	0 1397 0 0 0 85 364 0 0 0 0						0 0 72 0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 0 2875 0 43 2254 0 0 0 0 3171	0 0 6 0 0 20 0 408 0	136 10 952 LOSS 0 0 0 128 0 0 505 0 1468 0 0 0 2414 4515	0 0 1144 0 0 85 0 2247 0 0 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED BMIT WALL ABOVE GR EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT GAIN DUCT LOSS DUCT GAIN HEAT GAIN PEOPLE	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 128 0 0	14 11 154 LOSS 553 0 0 0 0 571 0 0 0 0 1125 0.56627	402 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 0 6620 0.56	GAIN 0 0 576 4671 0 0 605 0 0 13 0 5864 496 0 0				0 0 0 20 234 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	154 0 0 0 0 85 176 0 0 0 415	0 8 0 0 70 0 0	6 13 78 LOSS 0 0 170 0 0 312 0 0 0 0 483	GAIN 0 0 192 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	35 0 0 20 484 0 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0 0 0 3410	0 1397 0 0 0 85 364 0 0 0 0						0 0 72 0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	GAIN 0 0 0 0 2875 0 43 254 0 0 0 0 0 3171	0 0 6 0 0 20 0 408 0	136 10 952 LOSS 0 0 0 128 0 0 505 0 1468 0 0 0 2414 4515	0 0 1144 0 0 85 0 2247 0 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUBTOTAL HT GAIN LEVEL FACTOR! MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT GAIN DUCT LOSS DUCT GAIN HEAT GAIN PEOPLE HEAT GAIN APPLIANCES/LIGHTS	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 0 128 0 0 0	14 11 154 LOSS 553 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	402 0 0 0 0 0 96 0 0 0 0 498 422				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 0 0 6620 0.56 3692	GAIN 0 0 576 4671 0 0 605 0 0 13 0 5864 496 0 0 823				0 0 0 20 234 0 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0 0 0 0 0 1762 0.56 983	154 0 0 0 0 85 176 0 0 0 0	0 8 0 0 0 70 0 0 0	6 13 78 LOSS 0 0 170 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	GAIN 0 0 192 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	35 0 0 20 484 0 0 0	49 11 539 LOSS 0 0 0 505 2160 0 0 0 0 0 3410	0 1397 0 0 0 85 364 0 0 0 0						0 0 72 0 10 338 0 0	42 10 420 0 0 0 1532 0 0 252 1508 0 0 0 0 533 3826	S GAIN 0 0 0 2875 0 43 254 0 0 0 0 3171	0 0 6 0 0 20 0 408 0 0 0	136 10 952 LOSS 0 0 0 128 0 0 0 1468 0 0 0 2414 4515	0 0 1144 0 0 85 0 2247 0 0 0
EXP. WALL CLG. HT. GRS.WALL AREA GLAZING NORTH EAST SOUTH WEST SKYLT. DOORS NET EXPOSED WALL NET EXPOSED WALL NET EXPOSED CLG NO ATTIC EXPOSED CLG EXPOSED FLOOR BASEMENT/CRAWL HEAT LOSS SLAB ON GRADE HEAT LOSS SUB TOTAL HT GAIN LEVEL FACTOR / MULTIPLIER AIR CHANGE HEAT LOSS AIR CHANGE HEAT GAIN DUCT LOSS DUCT GAIN HEAT GAIN PEOPLE	21.3 21.3 21.3 21.3 37.2 25.2 4.5 3.6 1.3 2.7 2.6	15.4 39.9 24.0 39.9 92.7 4.3 0.6 0.6 1.3	0 0 0 0 0 128 0 0 0	14 11 154 LOSS 553 0 0 0 0 571 0 0 0 0 1125 0.56627	402 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 24 117 0 0 805 0 0 10	86 11 946 LOSS 0 0 511 2490 0 0 3592 0 0 0 6620 0.56	GAIN 0 0 576 4671 0 0 605 0 0 13 0 5864 496 0 0 823				0 0 0 20 234 0 0 0	22 12 264 LOSS 213 0 0 0 505 1044 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	154 0 0 0 0 85 176 0 0 0 415	0 8 0 0 0 70 0 0 0	6 13 78 LOSS 0 0 170 0 0 312 0 0 0 0 483	GAIN 0 0 192 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	35 0 0 20 484 0 0 0	49 11 539 LOSS 0 745 0 0 505 2160 0 0 0 0 3410	0 1397 0 0 0 85 364 0 0 0 0						0 0 72 0 10 338 0 0	420 10 420 LOSS 0 0 0 1532 0 252 1508 0 0 0 0 533	S GAIN 0 0 0 2875 0 43 254 0 0 0 0 3171	0 0 6 0 0 20 0 408 0 0 0	136 10 952 LOSS 0 0 0 128 0 0 0 1468 0 0 0 2414 4515 1.49 12453	0 0 1144 0 0 85 0 2247 0 0 0

TOTAL HEAT GAIN BTU/H:

43074

TONS: 3.59

LOSS DUE TO VENTILATION LOAD BTU/H: 3181

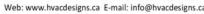
STRUCTURAL HEAT LOSS: 62640

TOTAL COMBINED HEAT LOSS BTU/H: 65820

Michael Oxounde.



		PINE VA							WOB 4002 THI		YVIEW		DATE:	Feb-20			GFA:	3138	LO#	80231				
HEATING CFM TOTAL HEAT LOSS AIR FLOW RATE CFM	1255 62,640 20.04	A	TOTAL H	LING CFM IEAT GAIN RATE CFM	42,539		a	furr a/c coil vailable	pressure pressure pressure s/a & r/a	0.6 0.05 0.2 0.35						EL	296UH09 FAN		LENNO: 90	x		AFUE = (BTU/H) = (BTU/H) =	88,000	
RUN COUNT S/A R/A All S/A diffusers 4"x10" unle All S/A runs 5"Ø unless not				1st 8 2 out.	Bas 5 1		max	s/a dif pi	essure s/a ress. loss essure s/a	0.18 0.02 0.16		grille pro	pressure ess. Loss essure r/a	0.02			1	EDLOW MEDIUM IM HIGH HIGH	0 1105 1255 1525	т		GN CFM = CFM @ .	6 " E.S.P.	- - °F
RUN # ROOM NAME RM LOSS MBH. CFM PER RUN HEAT RM GAIN MBH. CFM PER RUN COOLING ADJUSTED PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LENGTH ADJUSTED PRESSURE ROUND DUCT SIZE HEATING VELOCITY (ff/min) COOLING VELOCITY (ff/min) OUTLET GRILL SIZE TRUNK	1 MBR 1.77 35 2.18 64 0.17 50 210 260 0.07 5 257 470 3X10 A	2 ENS 2.54 51 1.97 58 0.17 58 150 208 0.08 5 374 426 3X10 A	3 WIC 1.46 29 0.62 18 0.17 58 150 208 0.08 4 333 207 3X10 A	4 BED-4 2.19 44 2.67 79 0.17 61 180 241 0.07 6 224 403 4X10 C	5 BED-3 2.36 47 2.67 79 0.17 51 170 221 0.08 5 345 580 3X10 D	6 BED-2 1.52 31 2.08 61 0.17 38 180 218 0.08 6 158 311 4X10 B	7 ENS-3/4 0.84 17 0.86 25 0.17 48 140 188 0.09 4 195 287 3X10 D	8 ENS-3/4 0.84 17 0.86 25 0.17 40 140 180 0.1 4 195 287 3X10 D	9 BED-4 2.19 44 2.67 79 0.17 67 190 257 0.07 6 224 403 4X10 C	10 MBR 1.77 35 2.18 64 0.17 35 120 155 0.11 5 257 470 3X10 B	11 ENS-2 0.60 12 0.27 8 0.17 47 180 227 0.08 4 138 92 3X10 D	12 DIN 1.75 35 1.77 52 0.17 10 130 0.12 4 402 597 3X10 B	13 KT/GT 2.58 52 2.33 69 0.17 41 130 171 0.1 5 382 507 3X10 A	14 KT/GT 2.58 52 2.33 69 0.17 48 130 178 0.1 5 382 507 3X10 A	15 KT/GT 2.58 52 2.33 69 0.17 40 150 0.09 5 382 507 3X10 A	16 KT/GT 2.58 52 2.33 69 0.17 30 130 160 0.11 5 382 507 3X10 B	17 LAUN 2.74 55 1.66 49 0.17 11 200 211 0.08 5 404 360 3X10 B	18 PWD 0.75 15 0.34 10 0.17 48 210 258 0.07 4 172 115 3X10 C	19 FOY 5.31 106 2.60 77 0.16 44 140 184 0.09 6 540 393 4X10 C	20 BED-3 2.36 47 2.67 79 0.17 57 160 217 0.08 5 345 580 3X10 D	21 BAS 4.27 85 1.03 30 0.16 40 140 180 0.09 6 433 153 4X10 A	22 BAS 4.27 85 1.03 30 0.16 27 170 197 0.08 6 433 153 4X10 A	23 BAS 4.27 85 1.03 30 0.16 26 120 146 0.11 6 433 153 4X10 B	24 BAS 4.27 85 1.03 30 0.16 28 150 178 0.09 6 433 153 4X10 B
RUN # ROOM NAME RM LOSS MBH. CFM PER RUN HEAT RM GAIN MBH. CFM PER RUN COOLING ADJUSTED PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LENGTH ADJUSTED PRESSURE ROUND DUCT SIZE HEATING VELOCITY (ft/min) COOLING VELOCITY (ft/min) OUTLET GRILL SIZE TRUNK	25 BAS 4.27 85 1.03 30 0.16 43 150 193 0.08 6 433 153 4X10 C																							
SUPPLY AIR TRUNK SIZE																	RETURN A	AIR TRUNK	SIZE					
TRUNK A TRUNK B TRUNK C TRUNK C TRUNK C TRUNK E TRUNK F	TRUNK CFM 441 819 294 434 0	STATIC PRESS. 0.07 0.07 0.07 0.07 0.00 0.00	10.7 13.5 9.2 10.6 0	14 22 10 14 0 0	x x x x x	8 8 8 8 8	VELOCITY (ft/min) 567 670 529 558 0		TRUNK G TRUNK H TRUNK I TRUNK J TRUNK K TRUNK L	TRUNK CFM 0 0 0 0 0 0	STATIC PRESS. 0.00 0.00 0.00 0.00 0.00 0.00 0.00	DUCT 0 0 0 0 0	RECT DUCT 0 0 0 0 0	x x x x x	8 8 8 8 8	VELOCITY (ft/min) 0 0 0 0 0	TRUNK O TRUNK P TRUNK Q TRUNK R TRUNK S TRUNK T TRUNK U TRUNK U	TRUNK CFM 0 0 0 0 0 0 0 0	PRESS, 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.0	ROUND DUCT 0 0 0 0 0 0	DUCT 0 0 0 0 0 0 0 0 0 0 0	x x x x x x	8 8 8 8 8 8	VELOCITY (ft/min) 0 0 0 0 0 0 0
RETURN AIR # AIR VOLUME PLENUM PRESSURE ACTUAL DUCT LGH. EQUIVALENT LENGTH TOTAL EFFECTIVE LH ADJUSTED PRESSURE ROUND DUCT SIZE INLET GRILL SIZE INLET GRILL SIZE	1 0 135 0.15 51 235 286 0.05 7.5 8 X	2 0 110 0.15 58 205 263 0.06 6.6 8 X 14	3 0 120 0.15 57 165 222 0.07 6.6 8 X	4 0 120 0.15 34 185 219 0.07 6.6 8 X	5 0 110 0.15 42 225 267 0.06 6.6 8 X 14	6 0 300 0.15 28 190 218 0.07 9.2 8 X 30	7 0 175 0.15 35 185 220 0.07 7.5 8 X 14	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	0 0 0.15 1 0 1 14.80 0 0 0 X	185 0.15 18 215 233 0.06 8 8 X 24	TRUNK W TRUNK X TRUNK Y TRUNK Z DROP	0 1255 475 610 1255	0.05 0.05 0.05 0.05 0.05 0.05	17.2 11.9 13.1 17.2	0 28 16 20 24	x x x x	8 10 8 8 8 12	645 534 549 628





TYPE: 4002 THE VALLEYVIEW 80231 LO# SITE NAME: PINE VALLEY & TESTON WOB

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES	9.32.3.1(1)	SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5
a)	200.00	Total Ventilation Capacity
b) Positive venting induced draft (except fireplaces)		Less Principal Ventil. Capacity cfm
c) Natural draft, B-vent or induced draft gas fireplace		Required Supplemental Capacity 14.6 cfm
d) Solid Fuel (including fireplaces)		DDINGIDAL EVHALICT FAN CADACITY
e) No Combustion Appliances		PRINCIPAL EXHAUST FAN CAPACITY Model: VANEE 65H Location: BSMT
HEATING SYSTEM	$\overline{}$	155.0 cfm 3.0 sones ✓ HVI Approved
✓ Forced Air Non Forced Air		PRINCIPAL EXHAUST HEAT LOSS CALCULATION
		CFM ΔT *F FACTOR % LOSS 155.0 CFM X 76 F X 1.08 X 0.25
Electric Space Heat		SUPPLEMENTAL FANS NUTONE
		Location Model cfm HVI Sones
HOUSE TYPE	9.32.1(2)	ENS QTXEN050C 50 ✓ 0.3
✓ I Type a) or b) appliance only, no solid fuel		ENS-3/4 QTXEN050C 50 ✓ 0.3 ENS-2 QTXEN050C 50 ✓ 0.3
Type a) or b) appliance only, no solid iden		PWD QTXEN050C 50 V 0.3
II Type I except with solid fuel (including fireplace	s)	
III Anu Tuna a) and Garage		HEAT RECOVERY VENTILATOR 9.32.3.11
III Any Type c) appliance		Model: VANEE 65H 155
IV Type I, or II with electric space heat		
Other: Type I, II or IV no forced air		75 % Sensible Efficiency ✓ HVI Approved @ 32 deg F (0 deg C)
		LOCATION OF INSTALLATION
SYSTEM DESIGN OPTIONS	O.N.H.W.P.	assault of moral and
		Lot: Concession
1 Exhaust only/Forced Air System		Township Plan:
2 HRV with Ducting/Forced Air System		Address
HRV Simplified/connected to forced air system		Roll # Building Permit #
4 HRV with Ducting/non forced air system		BUILDER: GOLD PARK HOMES
Part 6 Design		Name:
TOTAL VENTILATION CAPACITY	9.32.3.3(1)	Address:
Basement + Master Bedroom 2 @ 21.2 cfm 42.4	cfm	City:
Other Bedrooms <u>3</u> @ 10.6 cfm <u>31.8</u>	cfm	Telephone #: Fax #:
Kitchen & Bathrooms 5 @ 10.6 cfm 53	cfm	INSTALLING CONTRACTOR
Other Rooms <u>4</u> @ 10.6 cfm <u>42.4</u>	cfm	Name:
Table 9.32.3.A. TOTAL <u>169.6</u>	cfm	Address:
		City:
PRINCIPAL VENTILATION CAPACITY REQUIRED	9.32.3.4.(1)	Telephone #: Fax #:
1 Bedroom 31.8	cfm	
2 Bedroom 47.7	cfm	DESIGNER CERTIFICATION I hereby certify that this ventilation system has been designed
3 Bedroom 63.6	cfm	in accordance with the Ontario Building Code. Name: HVAC Designs Ltd.
4 Bedroom 79.5	cfm	Signature: Maharl Offende.
5 Bedroom 95.4	cfm	HRAI # 001820
TOTAL 79.5 cfm		Date: February-20
I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM OUR	ALIFIED IN THE AP	PPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C. 3,2,5 OF THE BUILDING CODE.



				80-12 Residential Hea						
LO#:	80231	Model: 4002 THE VA	entralista de la companya del companya de la companya del companya de la companya	The process are an area of the second and the second area.	er: GOLD PARK HOMES				Date:	2020-02-26
		Volume Calculatio				-	Air Change & Delta	a T Data		
				3)		4		_		<u> </u>
ouse Volume							URAL AIR CHANG		0.407	ļ
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)			SUMMER NA	TURAL AIR CHANG	SE RATE	0.137	
Bsmt	1398	10	13980	_						
First Second	1398 1740	11	15378 15660				Design To	manager Diff		
Third	0	9	15660	-		-	Tin °C	mperature Diffe Tout °C	ΔT°C	ΔT°F
Fourth	0	9	0			Winter DTDh	22	-20	42	76
Tourth		Total:	45,018.0 ft ³			Summer DTDc	24	31	7	13
		Total:	1274.8 m³			Summer Dibe	24	31		15
	5.2.3	3.1 Heat Loss due to Ai	r Leakage		4	6.2.6 \$	ensible Gain due t	to Air Leakage		
0.407		$LR_{airh} \times \frac{V_b}{3.6} \times L$ $\times 42 ^{\circ}\text{C}$		= 7300 W = 24907 Btu/h		$HG_{salb} = LR_{airc} \times $ \times 354.10	0.0		. =	412 W
	5.2.3.2 He	at Loss due to Mechan	ical Ventilation			6.2.7 Sen	sible heat Gain du	ue to Ventilatio	n	
155 CFM	$HL_{vairb} =$ x $76^{\circ}F$	$PVC \times DTD_h \times 1$	$1.08 \times (1 - E)$	= 3181 Btu/h	HL	$v_{vairb} = PVC \times DT$	TD _h × 1.08 × (. =	536 Btu/h
			5 2 3 3 Calcula	tion of Air Change Heat	Loss for Each Room (Flo	or Multiplier Section)				
		HL_a		$vor \times HL_{airbv} \times \{(H_{airbv}) \times $		Total Control of the	gclevel)}	114		
		Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Los HLairbv / H	SECTION OF THE PROPERTY OF THE PARTY OF THE			
		1	0.5		8,341	1.493	3			
		2	0.3	9,000	13,399	0.558	3			
		3	0.2	24,907	14,479	0.344	10			
					0	0.000)			
		4	0		0	0.000				





web. www.nvacuesigns.ca E-mail.mio@nvacuesigns.

HEAT LOSS AND GAIN SUMMARY SHEET

		TILAT LOSS AND	GAIN SOMMAN SHEET	
MODEL:	4002 THE VALLEYVIEW	WOB	BUILDER: GOLD PARK HOMES	
SFQT:	3138	LO# 80231	SITE: PINE VALLEY & TESTON	
DESIGN A	SSUMPTIONS			
2				
HEATING		°F	COOLING	°F
OUTDOOL	R DESIGN TEMP.	-4	OUTDOOR DESIGN TEMP.	88
INDOOR [DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
BUILDING	DATA			
ATTACHM	IENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FA	ices:	EAST	ASSUMED (Y/N):	Υ
AID CHAN	CEC DED LIQUID.	2.57	ACCUMATED (V/AI).	V
AIR CHAIN	GES PER HOUR:	3.57	ASSUMED (Y/N):	Υ
AIR TIGHT	NESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Υ
AIN HOITI	NESS CATEGORY.	AVENAGE	ASSOMED (1714).	'
WIND EXF	POSURE:	SHELTERED	ASSUMED (Y/N):	Υ
		51,121,21,25	, 65522 (.,,.	•
HOUSE V	OLUME (ft³):	45018.0	ASSUMED (Y/N):	Υ
	•		, ,	
INTERNAL	SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR	LIGHTING LOAD (Btu/h/f	t ²): 1.27	DC BRUSHLESS MOTOR (Y/N):	Υ
FOUNDAT	TION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGT	5706	AUDTU 20.00	EVENOSED DEDUKTED	125.05
LENGTH:	57.0 ft V	WIDTH: 32.0 ft	EXPOSED PERIMETER:	136.0 ft
WORING	II ATION CONFICURATION		WOR EXPOSED REPIMETER	42.0 fs
MORINZ	JLATION CONFIGURATION	N SCB_9	WOB EXPOSED PERIMETER	42.0 ft

2012 OBC - COMPLIANCE PACKAGE		
	Complian	e Package
Component		A1
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE





Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

We	ather Sta	tion Description
Province:	Ontario	•
Region:	Vaughan	(Woodbridge)
	Site D	escription
Soil Conductivity:	Normal	conductivity: dry sand, loam, clay
Water Table:	Normal	(7-10 m, 23-33 ft)
F	oundatio	n Dimensions
Floor Length (m):	4.6	
Floor Width (m):	9.8	
Exposed Perimeter (m):	41.5	
Wall Height (m):	3.0	
Depth Below Grade (m):	1.79	Insulation Configuration
Window Area (m²):	0.6	
Door Area (m²):	1.9	
	Radi	ant Slab
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
	Desig	n Months
Heating Month	1	
	Founda	ntion Loads
Heating Load (Watts):		707

TYPE: 4002 THE VALLEYVIEW

LO# 80231

WOB



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

W	eather Sta	tion Description
Province:	Ontario	
Region:		(Woodbridge)
	Site D	escription
Soil Conductivity:	Normal co	onductivity: dry sand, loam, clay
Water Table:	Normal (7	7-10 m, 23-33 ft)
	Foundatio	n Dimensions
Length (m):	1.5	
Width (m):	9.8	
Exposed Perimeter (m):	12.8	0.6m Insulation Configuration
	Radia	ant Slab
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
	Desigr	n Months
Heating Month	1	
	Re	sults
Heating Load (Watts):		156

TYPE: 4002 THE VALLEYVIEW WOB



Air Infiltration Residential Load Calculator

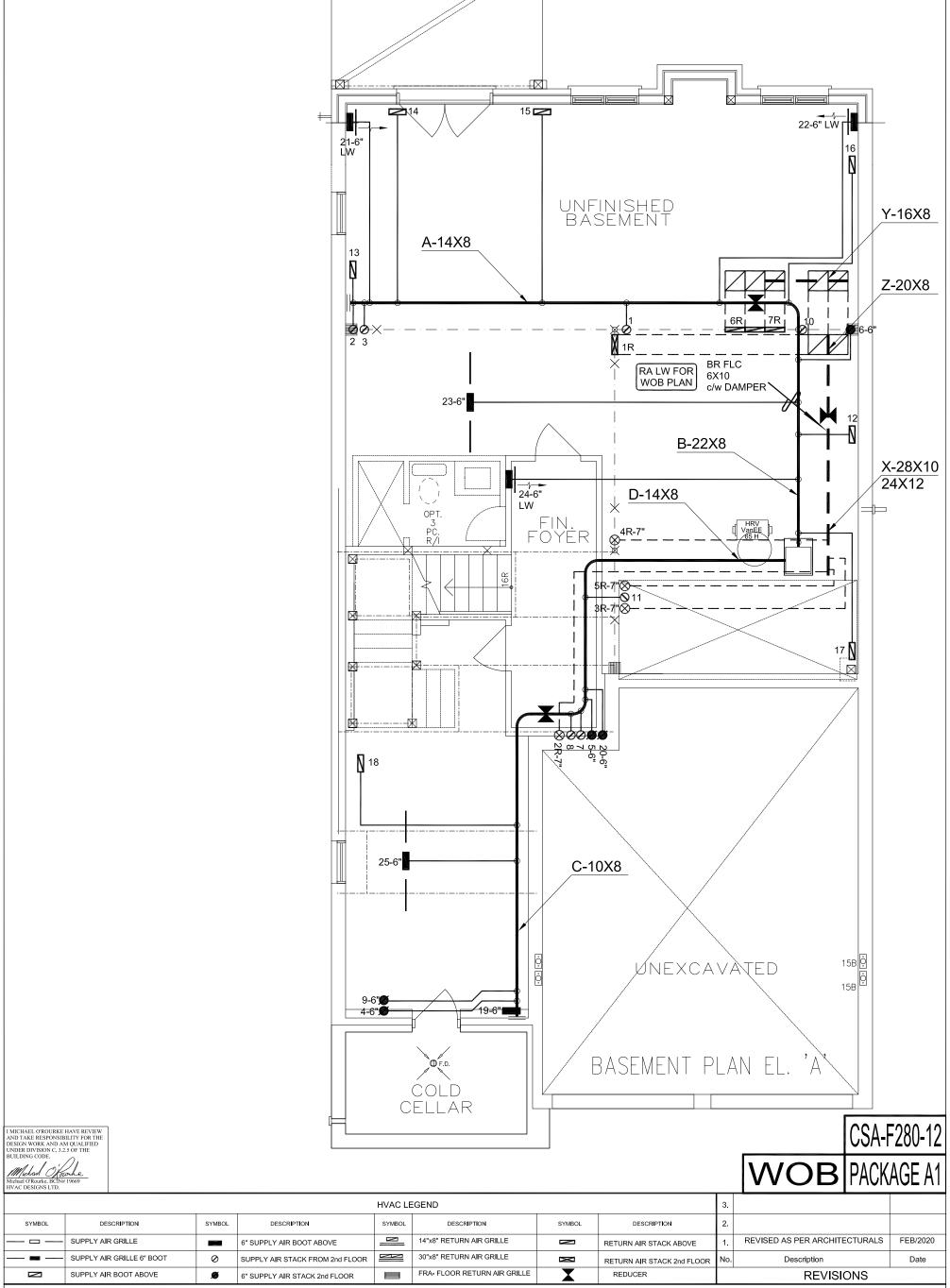
Supplemental tool for CAN/CSA-F280

Weather Statio	n Des	cript	ion		
Province:	Ontai	rio			
Region:	Vaug	han (W	oodbr/	idge)	
Weather Station Location:	Open	flat te	rrain,	grass	
Anemometer height (m):	10				
Local Sh	ieldin	g			
Building Site:	Subu	rban, f	orest		
Walls:	Heav	у			
Flue:	Heav	У			
Highest Ceiling Height (m):	9.14				
Building Co	nfigur	ation			
Туре:	Deta	ched			
Number of Stories:	Two				
Foundation:	Full				
House Volume (m³):	1274	.8			
Air Leakage/	Venti	latior	1		
Air Tightness Type:	Prese	nt (19	61-) (3	.57 ACI	Н)
Custom BDT Data:	ELA (9 10 Pa	a.		1699.3 cm ²
	3.57				ACH @ 50 Pa
Mechanical Ventilation (L/s):	To	otal Sup	ply		Total Exhaust
(, ,		73.2			73.2
Flue	Size				
Flue #:	#1	#2	#3	#4	
Diameter (mm):	0	0	0	0	
Natural Infilt	ration	Rate	es .		
Heating Air Leakage Rate (ACH/H):		C	.40	7	
Cooling Air Leakage Rate (ACH/H):		C).13	7	

TYPE: 4002 THE VALLEYVIEW

LO# 80231

WOB



SUPPLY AIR BOOT ABOVE

6" SUPPLY AIR STACK 2nd FLOOR

FRA- FLOOR RETURN AIR GRILLE

REDUCER

REDUCER

REDUCER

REDUCER

REPOZER

ONTARIO BUILDING CODE

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON VAUGHAN, ONTARIO

THE VALLEYVIEW 4002 - WOB 3138 sqft

	VA DESIGNS LTD.
_	75.5

375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdesigns.ca
Web: www.hvacdesigns.ca

Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper.

Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

OUTPUT

COOLING

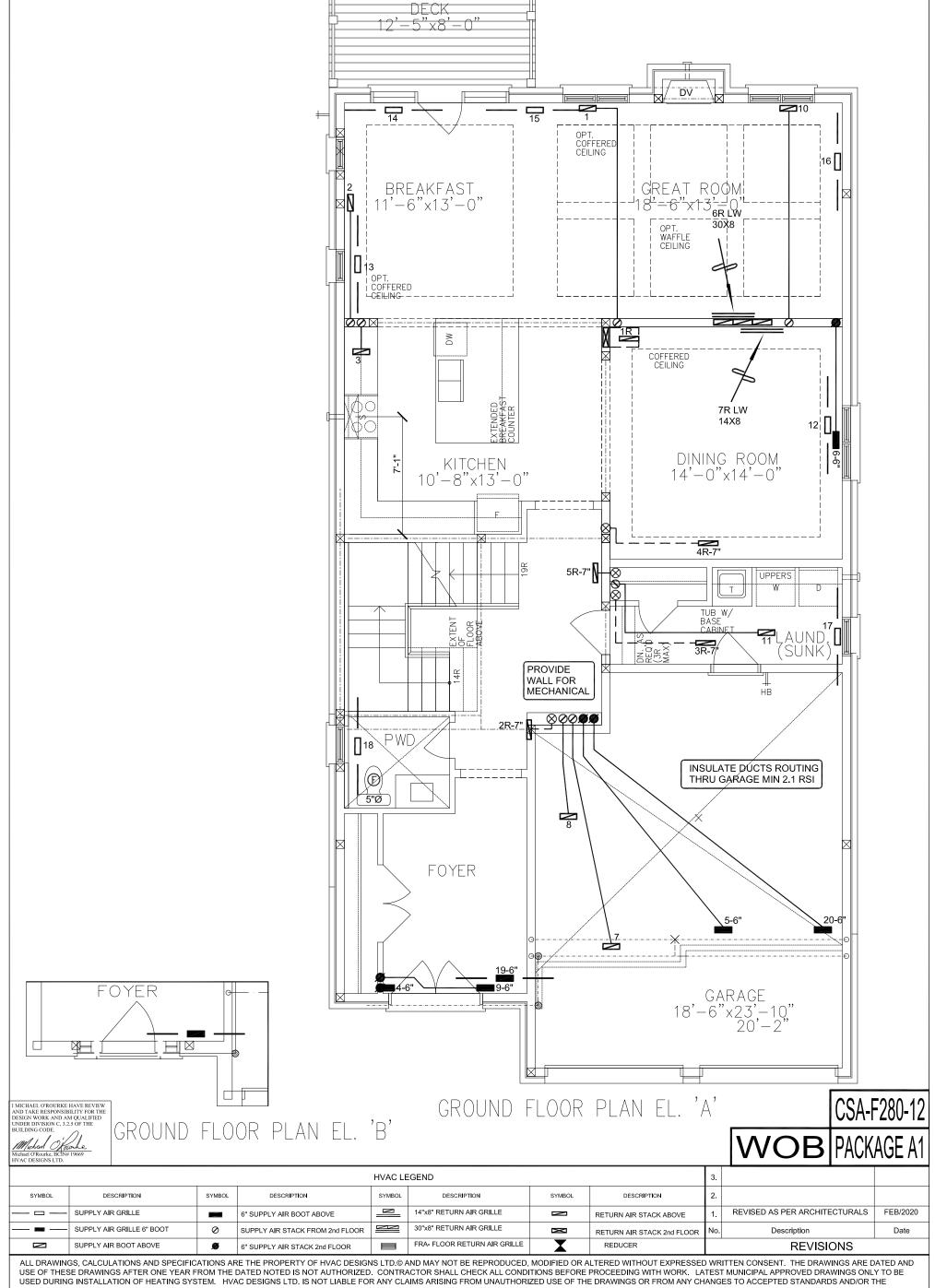
		SS 65820	BTU/H	# OF RUNS	S/A	R/A	FANS	Sh		
		JNIT DATA		3RD FLOOR						
	MAKE I	LENNOX		2ND FLOOR	12	5	3			
	MODEL EL296	SUH090XE48	1ST FLOOR	8	2	2				
	INPUT	88	MBTU/H	BASEMENT	5	1	0	Da		
-	-OUTPUT		MBTU/H	ALL S/A DIFFU	SERS	4 "x10)"	Sc		
		85		UNLESS NOTE						
е	COOLING	3.5	TONS	ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE						

1255

ON LAYOUT. UNDERCUT

DOORS 1" min. FOR R/A

IS	Sheet Ti	ie:	
_	E	BASEMENT	
		HEATING	
		LAYOUT	
	Date	OCT/2018	
	Scale	3/16" = 1'-0"	
Ø		BCIN# 19669	
	LO	# 80231	



ONTARIO BUILDING CODE

GOLD PARK HOMES

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3138 sqft

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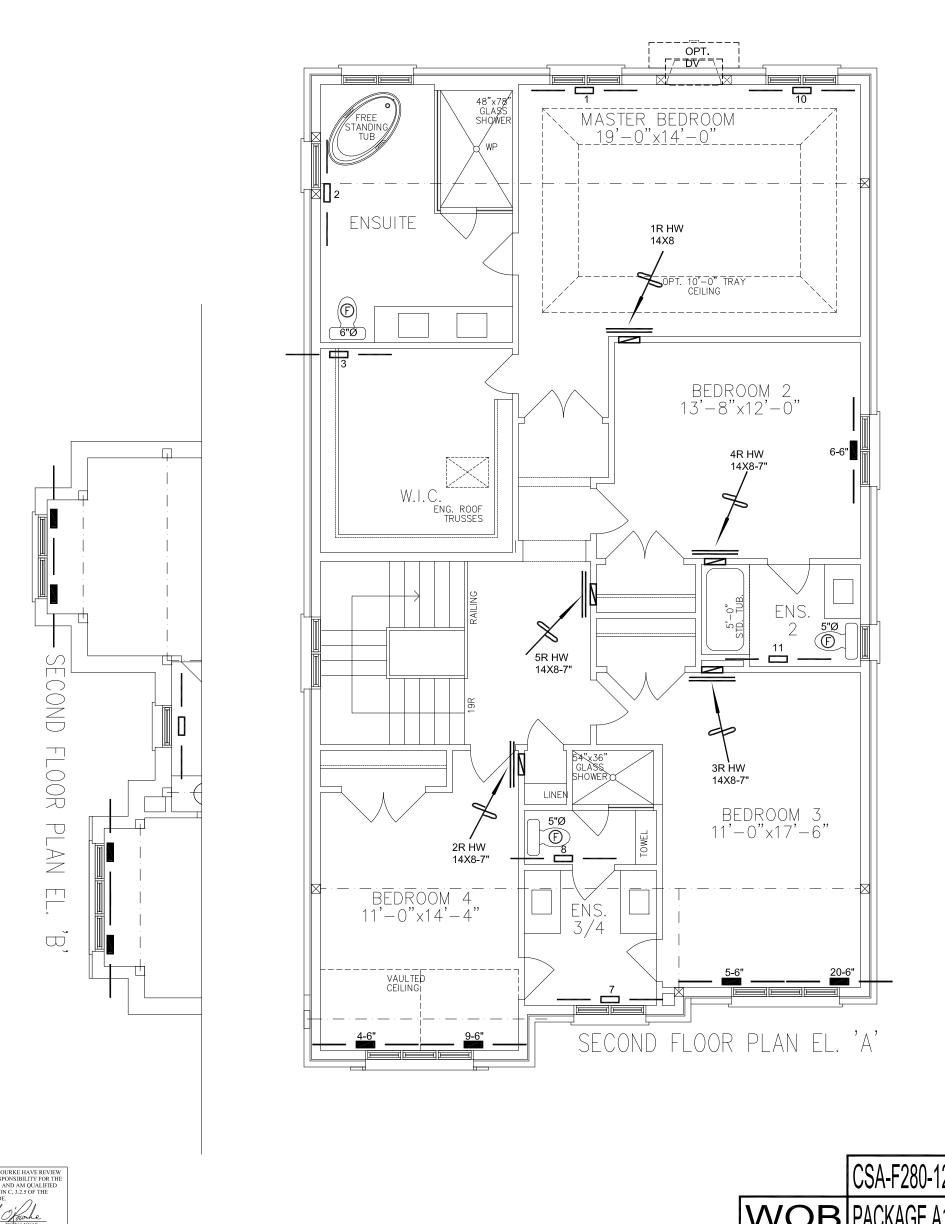
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Sileet Title					
FIRST FLOOR					
FIRST FLOOR HEATING LAYOUT					
LAYOUT					

OCT/2018 3/16" = 1'-0" BCIN# 19669

80231



HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED AS PER ARCHITECTURALS	FEB/2020
	SUPPLY AIR GRILLE 6" BOOT	0	SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	⋈	RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE	Ø	6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE	X	REDUCER		REVISIONS	

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GOLD PARK HOMES

Project Name

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3138 sqft

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SECOND FLOOR HEATING LAYOUT

OCT/2018 3/16" = 1'-0"

BCIN# 19669