


## Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

<b>A. Project Information</b>				
Building number, street name			Unit no.	Lot/con.
Municipality VAUGHAN (WOODBIDGE)	Postal code	Plan number/ other description		
<b>B. Individual who reviews and takes responsibility for design activities</b>				
Name MICHAEL O'ROURKE		Firm HVAC DESIGNS LTD.		
Street address 375 FINLEY AVE		Unit no. 202	Lot/con. N/A	
Municipality AJAX	Postal code L1S 2E2	Province ONTARIO	E-mail info@hvacdesigns.ca	
Telephone number (905) 619-2300	Fax number (905) 619-2375	Cell number ( )		
<b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]</b>				
<input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> On-site Sewage Systems				
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 5002 - THE ROSEVIEW  OPT 5-BED - WOB  Project: PINE VALLEY & TESTON		
<b>D. Declaration of Designer</b>				
I, <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):		
<input type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.  Individual BCIN: _____ Firm BCIN: _____				
<input checked="" type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code.  Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>				
<input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____				
I certify that:				
1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.				
October 5, 2018 Date		 Signature of Designer		

**NOTE:**

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d). of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- 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.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: PINE VALLEY & TESTON  
BUILDER: GOLD PARK HOMES  
TYPE: 5002 - THE ROSEVIEW  
DATE: OCT-18  
LO# 80240  
OPT 5-BED - WOB  
TYPE: 5002 - THE ROSEVIEW  
GFA: 3764  
WINTER NATURAL AIR CHANGE RATE 0.130  
HEAT LOSS AT °F. 76  
CSA-F280-12  
SB-12 PACKAGE A1

ROOM USE EXP. WALL CLG. HT.	MBR 44 10	WIC 8 9	ENS 27 9	BED-2 34 9	BED-3 32 9	BED-4 16 9	ENS-3 17 9	BED-5 11 9	ENS-4 5 9	LAUN 0 9
GRS.WALL AREA GLAZING	440	72	243	306	288	144	153	99	45	0
FACTORS	21.3	15.4	0	0	0	0	0	0	0	0
LOSS	383	278	0	0	0	0	0	18	0	0
GAIN	0	0	0	0	0	0	0	0	0	0
NORTH	0	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0	0
SKYLT.	40	851	1597	35	745	1397	0	0	0	0
DOORS	37.2	101.5	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	392	1705	287	200	893	150	72	321
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	323	415	190	176	226	103	160	205
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	3354	2352	2033	1843	527	148	0.20	0.31	165	12
SUB TOTAL HT GAIN	0.20	0.31	0.20	0.31	0.20	0.31	0.20	0.31	0.20	0.31
LEVEL FACTOR / MULTIPLIER	1050	186	636	145	0	0	0	0	0	0
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	2	480	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	463	463	691	4972	4267	1965	1616	1311	575	185
TOTAL HT LOSS BTU/H	4403	4524	2670	5371	5964	2287	1040	1552	374	729
TOTAL HT GAIN x 1.3 BTU/H			3186	5371	5964	2287	1040	1552	374	729

ROOM USE EXP. WALL CLG. HT.	LIBR 37 10	DIN 29 10	KIT 63 10	LIV 12 10	BATH 8 9	FOY 31 10	MUD 27 12	WOB 52 9	BAS 144 9
GRS.WALL AREA GLAZING	370	290	630	120	72	310	324	468	864
FACTORS	21.3	15.4	0	0	0	0	0	0	0
LOSS	0	0	0	0	0	0	0	0	0
GAIN	0	0	0	0	0	0	0	0	0
NORTH	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0
SKYLT.	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	310	1333	233	236	1053	177	528
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	2560	2437	2202	2333	4606	3756	939	648	169
SUB TOTAL HT GAIN	0.30	0.54	0.30	0.54	0.20	0.31	0.20	0.31	0.20
LEVEL FACTOR / MULTIPLIER	1444	192	1195	510	214	1405	1010	307	0.50
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	463	7106	1449	989	3994	2872	5097	18540
HEAT GAIN APPLIANCES/LIGHTS	463	463	463	463	463	463	463	463	463
TOTAL HT LOSS BTU/H	4104	4020	3397	3874	5869	1510	1041	3909	1752
TOTAL HT GAIN x 1.3 BTU/H			3874	5869	1510	1041	3909	3909	1752

TOTAL HEAT GAIN BTU/H: 49199  
TONS: 4.10  
LOSS DUE TO VENTILATION LOAD BTU/H: 3181  
STRUCTURAL HEAT LOSS: 70203  
TOTAL COMBINED HEAT LOSS BTU/H: 73384

SITE NAME: PINE VALLEY & TESTON  
BUILDER: GOLD PARK HOMES

OPT 5-BED - WOB

TYPE: 5002 - THE ROSEVIEW

DATE: Oct-18

GFA: 3764 LO# 80240

HEATING CFM 1525 COOLING CFM 1525  
TOTAL HEAT LOSS 70,203 48,663  
AIR FLOW RATE CFM 21.72 31.34

EL296UH090XE48C

LENNOX

AFUE = 96 %

INPUT (BTU/H) = 88,000  
OUTPUT (BTU/H) = 85,000

DESIGN CFM = 1525  
CFM @ 6" E.S.P.

plenum pressure s/a 0.18  
max s/a diff press. loss 0.02  
min adjusted pressure s/a 0.16

r/a grille press. Loss 0.02  
adjusted pressure r/a 0.15

available pressure for s/a & r/a 0.35

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	16	10	6
R/A	0	0	5	3	1

All S/A diffusers 4"x10" unless noted otherwise on layout.  
All S/A runs 5"Ø unless noted otherwise on layout.

ROOM #	1	2	3	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	ENS	BED-2	BED-3	BED-4	ENS-3	BED-2	BED-3	WIC	LIBR	DIN	KIT	KIT	KIT	LIV	BED-5	ENS-4	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	2.20	1.33	1.33	2.49	2.13	2.20	1.96	2.49	2.13	2.20	0.69	2.05	1.70	2.37	2.37	1.45	1.31	0.58	3.99	2.87	3.94	3.94	3.94	3.94
CFM PER RUN HEAT	48	29	29	54	46	46	43	54	46	48	15	45	37	51	51	31	28	12	87	62	86	86	86	86
RM GAIN MBH	2.26	1.59	1.59	2.69	2.98	2.98	2.27	1.04	2.69	2.26	0.21	2.01	1.94	1.96	1.96	1.51	1.55	0.37	1.21	1.04	0.94	0.94	0.94	0.94
CFM PER RUN COOLING	71	50	50	84	93	93	71	33	84	71	7	63	61	61	61	47	49	12	38	33	30	30	30	30
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.16	0.16	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	48	62	51	46	72	45	59	43	66	42	29	65	44	28	23	45	22	47	44	16	33	21	19	47
EQUIVALENT LENGTH	200	205	196	176	170	140	220	140	205	190	150	100	110	110	150	110	120	190	190	130	120	160	100	180
TOTAL EFFECTIVE LENGTH	248	267	246	176	242	185	279	183	271	232	179	165	154	138	173	155	142	237	234	146	153	181	119	227
ADJUSTED PRESSURE	0.07	0.06	0.07	0.09	0.07	0.09	0.06	0.09	0.06	0.07	0.1	0.11	0.11	0.12	0.1	0.11	0.12	0.07	0.07	0.12	0.11	0.09	0.14	0.07
ROUND DUCT SIZE	5	5	5	5	6	5	4	5	6	5	4	5	5	4	5	4	4	4	6	4	5	5	5	6
HEATING VELOCITY (ft/min)	352	213	213	396	235	316	402	396	235	352	172	330	272	585	374	356	321	138	444	711	631	631	631	438
COOLING VELOCITY (ft/min)	521	367	367	617	474	521	379	617	474	521	80	463	448	700	448	539	562	138	194	379	220	220	220	153
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10
TRUNK	D	A	A	D	B	C	B	D	B	D	C	B	A	C	D	A	D	A	B	C	A	D	C	B

ROOM #	25	26	27	28	29	30	31	32
ROOM NAME	BAS	LIBR	DIN	KIT	BATH	LAUN	BATH	BAS
RM LOSS MBH	3.94	2.05	1.70	2.37	0.49	0.18	0.49	3.94
CFM PER RUN HEAT	86	45	37	51	11	4	11	86
RM GAIN MBH	0.94	2.01	1.94	1.96	0.13	0.73	0.13	0.94
CFM PER RUN COOLING	30	63	61	61	4	23	4	30
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.16
ACTUAL DUCT LGH	55	56	36	25	41	31	40	30
EQUIVALENT LENGTH	110	120	130	90	170	145	160	200
TOTAL EFFECTIVE LENGTH	165	176	166	115	211	176	200	230
ADJUSTED PRESSURE	0.1	0.1	0.1	0.15	0.08	0.1	0.09	0.07
ROUND DUCT SIZE	5	5	5	4	4	4	4	6
HEATING VELOCITY (ft/min)	631	330	272	585	126	46	126	438
COOLING VELOCITY (ft/min)	220	463	448	700	46	264	46	153
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10
TRUNK	B	B	A	C	D	C	D	A

SUPPLY AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	TRUNK G	TRUNK H	TRUNK I	TRUNK J	TRUNK K	TRUNK L	TRUNK M	TRUNK N	TRUNK O	TRUNK P	TRUNK Q	TRUNK R	TRUNK S	TRUNK T	TRUNK U	TRUNK V	TRUNK W	TRUNK X	TRUNK Y	TRUNK Z	DROP
TRUNK A	390	0.05	10.6	14	8	501	0	0.00	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK B	476	0.06	11.4	16	8	536	0	0.00	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK C	1135	0.06	15.8	28	8	730	0	0.00	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK D	391	0.07	10.2	12	8	587	0	0.00	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK E	0	0.00	0	0	8	0	0	0.00	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK F	0	0.00	0	0	8	0	0	0.00	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

RETURN AIR TRUNK SIZE

RETURN AIR #	1	2	3	4	5	6	7	8	2@6"										BR									
AIR VOLUME	0	0	0	0	0	0	0	0																				
PLENUM PRESSURE	130	130	130	130	155	365	85	180																				
ACTUAL DUCT LGH.	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15																				
EQVALENT LENGTH	59	59	53	66	35	33	54	39																				
TOTAL EFFECTIVE LH	175	165	165	195	195	195	185	165																				
ADJUSTED PRESSURE	234	224	218	261	230	228	239	204																				
ROUND DUCT SIZE	0.06	0.07	0.07	0.06	0.06	0.06	0.06	0.07																				
INLET GRILL SIZE	7	6.8	6.8	7	7.5	10.3	6	7.6																				
INLET GRILL SIZE	8	8	8	8	8	8	8	8																				
INLET GRILL SIZE	X	X	X	X	X	X	X	X																				
INLET GRILL SIZE	14	14	14	14	14	30	14	24																				

RETURN AIR #

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	TRUNK G	TRUNK H	TRUNK I	TRUNK J	TRUNK K	TRUNK L	TRUNK M	TRUNK N	TRUNK O	TRUNK P	TRUNK Q	TRUNK R	TRUNK S	TRUNK T	TRUNK U	TRUNK V	TRUNK W	TRUNK X	TRUNK Y	TRUNK Z	DROP
TRUNK A	390	0.05	10.6	14	8	501	0	0.00	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK B	476	0.06	11.4	16	8	536	0	0.00	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK C	1135	0.06	15.8	28	8	730	0	0.00	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK D	391	0.07	10.2	12	8	587	0	0.00	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK E	0	0.00	0	0	8	0	0	0.00	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK F	0	0.00	0	0	8	0	0	0.00	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

*Michael O'Rourke*

MICHAEL O'ROURKE  
INDIVIDUAL BCIN: 19669

TYPE: 5002 - THE ROSEVIEW  
SITE NAME: PINE VALLEY & TESTON

LO # 80240  
OPT 5-BED - WOB

**RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY**

COMBUSTION APPLIANCES		9.32.3.1(1)
a) <input checked="" type="checkbox"/>	Direct vent (sealed combustion) only	
b) <input type="checkbox"/>	Positive venting induced draft (except fireplaces)	
c) <input type="checkbox"/>	Natural draft, B-vent or induced draft gas fireplace	
d) <input type="checkbox"/>	Solid Fuel (including fireplaces)	
e) <input type="checkbox"/>	No Combustion Appliances	

HEATING SYSTEM	
<input checked="" type="checkbox"/>	Forced Air
<input type="checkbox"/>	Non Forced Air
<input type="checkbox"/>	Electric Space Heat

HOUSE TYPE		9.32.1(2)
<input checked="" type="checkbox"/>	I Type a) or b) appliance only, no solid fuel	
<input type="checkbox"/>	II Type I except with solid fuel (including fireplaces)	
<input type="checkbox"/>	III Any Type c) appliance	
<input type="checkbox"/>	IV Type I, or II with electric space heat	
<input type="checkbox"/>	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
<input type="checkbox"/>	1 Exhaust only/Forced Air System	
<input type="checkbox"/>	2 HRV with Ducting/Forced Air System	
<input checked="" type="checkbox"/>	3 HRV Simplified/connected to forced air system	
<input type="checkbox"/>	4 HRV with Ducting/non forced air system	
<input type="checkbox"/>	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	4 @ 10.6 cfm	42.4 cfm
Kitchen & Bathrooms	6 @ 10.6 cfm	63.6 cfm
Other Rooms	7 @ 10.6 cfm	74.2 cfm
Table 9.32.3.A.	TOTAL	222.6 cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED		9.32.3.4.(1)
1 Bedroom	31.8	cfm
2 Bedroom	47.7	cfm
3 Bedroom	63.6	cfm
4 Bedroom	79.5	cfm
5 Bedroom	95.4	cfm
TOTAL	95.4	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	222.6	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	67.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANE 65H	Location: BSMT
155.0 cfm	3.0 sones
<input checked="" type="checkbox"/> HVI Approved	

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	$\Delta T ^\circ F$	FACTOR	% LOSS
155.0 CFM	X 76 F	X 1.08	X 0.25

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	<input checked="" type="checkbox"/>
ENS-3	QTXEN050C	50	<input checked="" type="checkbox"/>
BATH	QTXEN050C	50	<input checked="" type="checkbox"/>
ENS-4	QTXEN050C	50	<input checked="" type="checkbox"/>

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 65H		
155 cfm high	64 cfm low	
75 % Sensible Efficiency	<input checked="" type="checkbox"/> HVI Approved	
@ 32 deg F ( 0 deg C)		

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER: GOLD PARK HOMES	
Name:	
Address:	
City:	
Telephone #:	Fax #:

INSTALLING CONTRACTOR	
Name:	
Address:	
City:	
Telephone #:	Fax #:

DESIGNER CERTIFICATION	
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	
Name:	HVAC Designs Ltd.
Signature:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	October-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																															
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																															
LO#: 80240	Model: 5002 - THE ROSEVIEW	Builder: GOLD PARK HOMES	Date: 10/5/2018																																																																												
Volume Calculation		Air Change & Delta T Data																																																																													
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$HG_{satb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																															
0.389	x	400.18	x	7 °C	x	1.2	=	446 W																																																																							
								=	1520 Btu/h																																																																						
6.2.7 Sensible heat Gain due to Ventilation																																																																															
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																															
155 CFM	x	76 °F	x	1.08	x	1.08	x	0.25	=	536 Btu/h																																																																					
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																															
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{aglevel} + HL_{bglevel})\}$																																																																															
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<p>*HLairbv = Air leakage heat loss + ventilation heat loss            **For a balanced or supply only ventilation system HLairve = 0</p>																																																																															

## HEAT LOSS AND GAIN SUMMARY SHEET

<b>MODEL:</b> 5002 - THE ROSEVIEW	<b>OPT</b> 5-BED - WOB	<b>BUILDER:</b> GOLD PARK HOMES
<b>SFQT:</b> 3764	<b>LO#</b> 80240	<b>SITE:</b> PINE VALLEY & TESTON

### DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
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):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	50876.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 56.0 ft	WIDTH: 42.0 ft	EXPOSED PERIMETER:	144.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	52.0 ft

2012 OBC - COMPLIANCE PACKAGE		
Component	Compliance Package 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	-

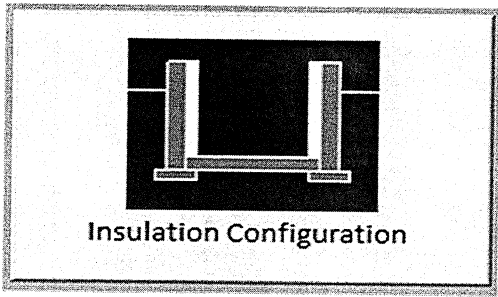
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



## Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

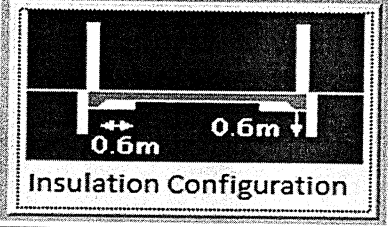
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	43.9	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.57	
Window Area (m <sup>2</sup> ):	1.1	
Door Area (m <sup>2</sup> ):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		<b>817</b>

TYPE: 5002 - THE ROSEVIEW  
LO# 80240

OPT 5-BED - WOB

## Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Length (m):	1.5	 Insulation Configuration
Width (m):	12.8	
Exposed Perimeter (m):	15.8	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		<b>217</b>

TYPE: 5002 - THE ROSEVIEW  
LO# 80240

OPT 5-BED - WOB



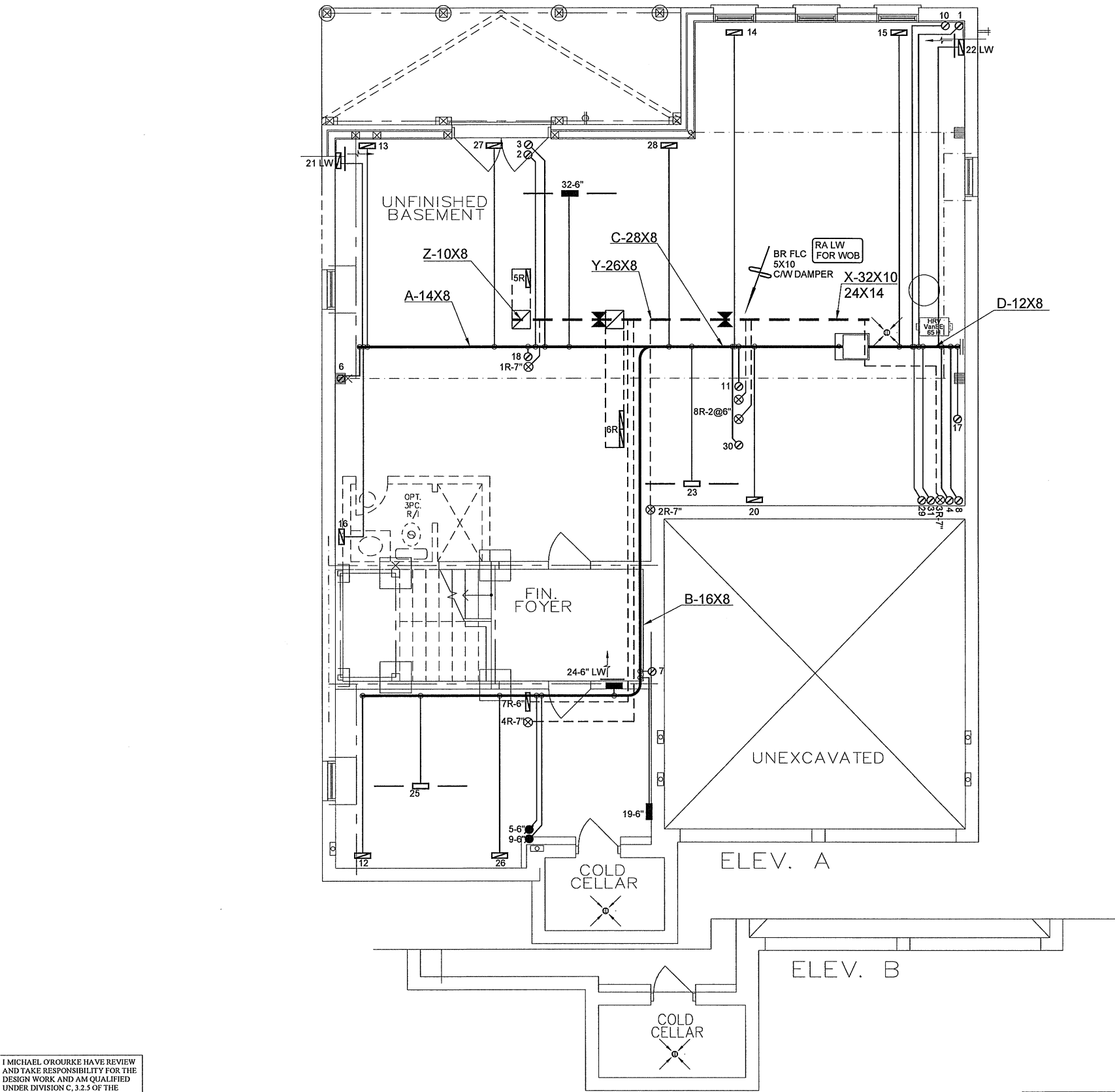
# Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Vaughan (Woodbridge)			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	8.53			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m <sup>3</sup> ):	1440.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa. 3.57	1920.4 cm <sup>2</sup> ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply 73.2	Total Exhaust 73.2		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.389			
Cooling Air Leakage Rate (ACH/H):	0.130			

TYPE: 5002 - THE ROSEVIEW  
LO# 80240

OPT 5-BED - WOB



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

*Michael O'Rourke*  
Michael O'Rourke, BCIN# 19669  
HVAC DESIGNS LTD.

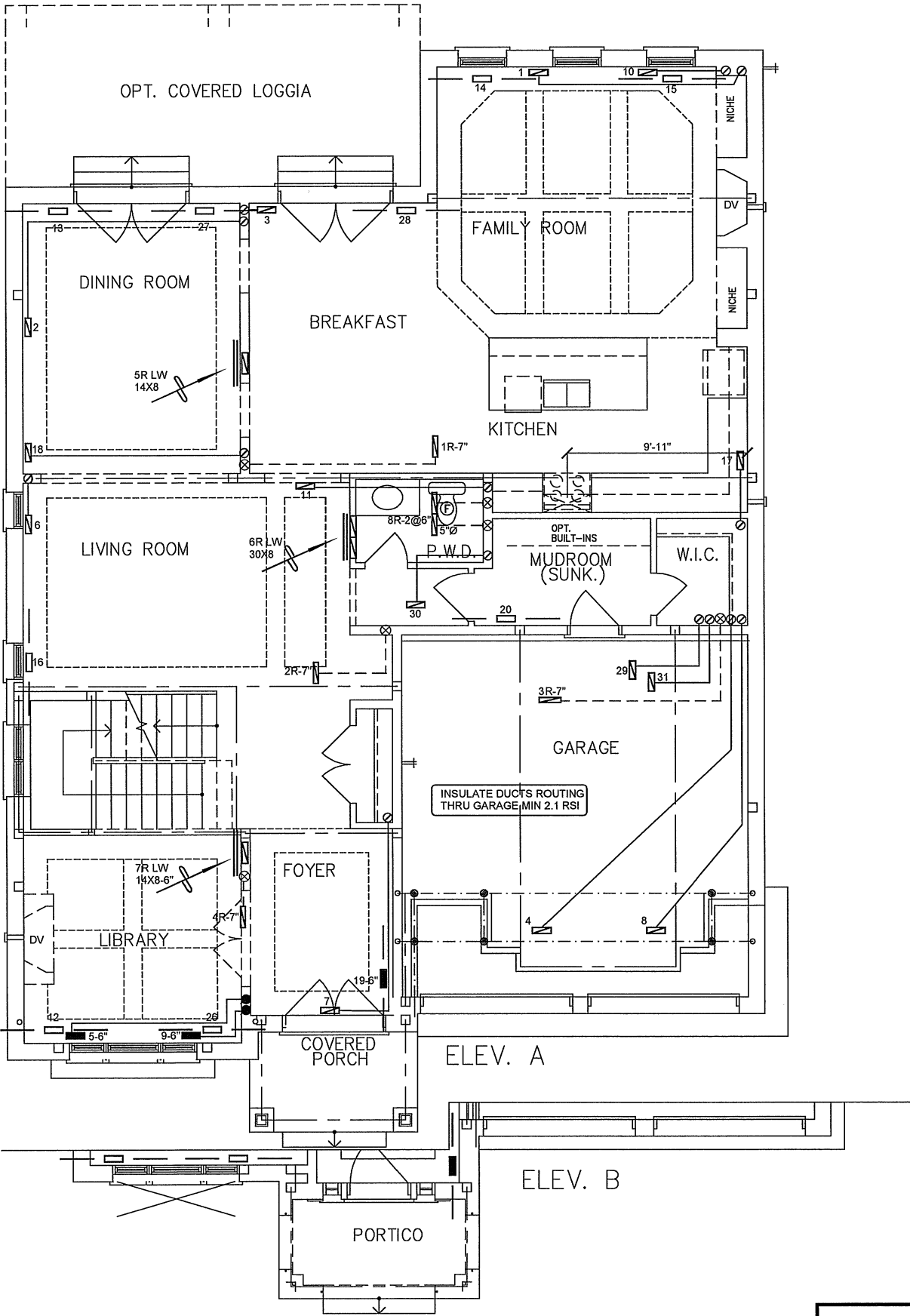
CSA-F280-12

WOB PACKAGE A1

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.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS	

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Client		<div><div><div>HVAC</div><div>DESIGNS LTD.</div></div><div>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</div></div>		HEAT LOSS 73384 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
GOLD PARK HOMES				MAKE LENNOX		3RD FLOOR			BASEMENT	
Project Name		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.		MODEL EL296UH090XE48C		2ND FLOOR			HEATING	
PINE VALLEY & TESTON VAUGHAN, ONTARIO				INPUT 88 MBTU/H		1ST FLOOR			LAYOUT	
OPT 5-BED - WOB				OUTPUT 85 MBTU/H		BASEMENT			Date	
5002 - ROSEVIEW 3764 sqft				COOLING 4.0 TONS		ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A			OCT/2018	
				FAN SPEED 1525 cfm @ 0.6" w.c.					Scale	
									1/8" = 1'-0"	
									BCIN# 19669	
									LO# 80240	



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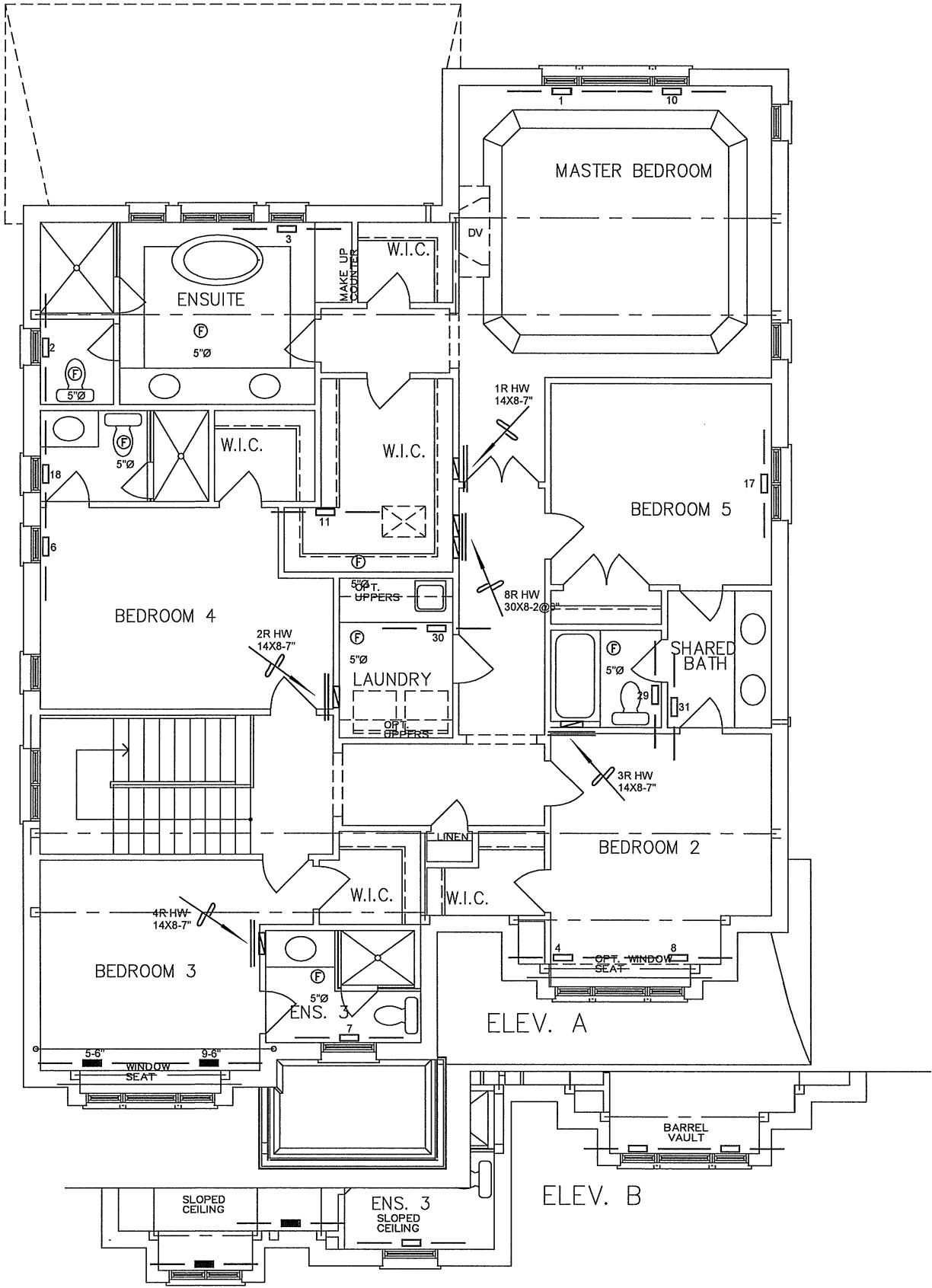
*Michael O'Rourke*  
Michael O'Rourke, BCIN# 19669  
HVAC DESIGNS LTD.

CSA-F280-12  
WOB  
PACKAGE A1

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GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
OPT 5-BED - WOB 5002 - ROSEVIEW 3764 sqft			BCIN# 19669	
			LO#	80240



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HVAC DESIGNS LTD.

CSA-F280-12

WOB

PACKAGE A1

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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
OPT 5-BED - WOB 5002 - ROSEVIEW 3764 sqft			BCIN# 19669	
			LO#	80240