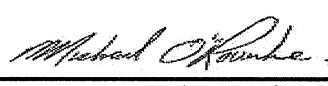


Schedule 1: Designer Information

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 VAUGHAN (WOODBIDGE)	Postal code	Plan number/ other description	
B. Individual who reviews and takes responsibility for design activities			
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@hvacdsgns.ca
Telephone number (905) 619-2300	Fax number (905) 619-2375	Cell number ()	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]			
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ 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: 5008 Project: PINE VALLEY & TESTON	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):	
☐ 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: _____			
☒ 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>			
☐ 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.			
June 26, 2020 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.

SITE NAME: PINE VALLEY & TESTON
BUILDER: GOLD PARK HOMES
TYPE: 5008
DATE: Jun-20
LO# 88416
GFA: 3452
WINTER NATURAL AIR CHANGE RATE 0.434
HEAT LOSS AT °F. 76
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	WIC-3	S-BATH	HEAT LOSS AT °F.
EXP. WALL CLG. HT.	36	36	12	35	28	16	6	14	9	9
FACTORS										
GRS.WALL AREA	324	324	108	315	252	144	54	126	81	
GLAZING	0	0	0	0	0	0	0	0	0	
NORTH	21.3	0	0	0	0	0	0	0	0	
EAST	21.3	0	0	42	958	1870	0	0	0	
SOUTH	21.3	0	0	0	0	0	0	34	0	
WEST	21.3	0	0	0	0	0	0	0	0	
SKYL.T.	37.2	2368	0	0	0	0	0	0	0	
DOORS	25.2	468	0	4	149	228	0	0	0	
NET EXPOSED WALL	4.5	267	1192	201	293	1308	220	108	482	
NET EXPOSED BSMT WALL ABOVE GR	3.6	0	0	0	0	0	0	0	0	
EXPOSED CLG	1.3	0	0	0	0	0	0	0	0	
NO ATTIC EXPOSED CLG	2.7	0	0	0	0	0	0	0	0	
EXPOSED FLOOR	2.6	0	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	3162	2273	596	3116	2292	1435	757	1320	755	
SUB TOTAL HT GAIN	3076	1498	133	2413	2374	943	274	1567	389	
LEVEL FACTOR / MULTIPLIER	0.20	0.38	0.20	0.38	0.20	0.38	0.20	0.38	0.20	
AIR CHANGE HEAT LOSS	1188	854	224	1171	861	539	284	496	284	
AIR CHANGE HEAT GAIN	249	121	11	195	192	76	22	127	32	
DUCT LOSS	0	0	0	429	0	0	104	0	0	
DUCT GAIN	0	0	0	0	0	0	30	0	0	
HEAT GAIN PEOPLE	2	0	0	1	240	1	0	0	0	
HEAT GAIN APPLIANCES/LIGHTS	881	0	0	881	881	881	0	0	0	
TOTAL HT LOSS BTU/H	4349	3126	820	4716	3153	1973	1145	1816	1039	
TOTAL HT GAIN x 1.3 BTU/H	6092	2106	188	5333	4793	2783	424	2202	547	

ROOM USE	GRT	DIN	KT/BF	LIB	L/M	WIR	FOY	WIC-3	S-BATH	HEAT LOSS AT °F.
EXP. WALL CLG. HT.	36	13	45	23	28	6	33	14	9	9
FACTORS										
GRS.WALL AREA	396	143	495	253	308	66	363	126	81	
GLAZING	0	0	0	0	0	0	0	0	0	
NORTH	21.3	0	0	0	0	0	0	0	0	
EAST	21.3	0	0	51	192	0	0	0	0	
SOUTH	21.3	0	0	0	0	0	0	0	0	
WEST	21.3	0	0	0	0	0	0	0	0	
SKYL.T.	37.2	0	0	0	0	0	0	0	0	
DOORS	25.2	0	0	0	0	0	0	0	0	
NET EXPOSED WALL	4.5	0	0	0	0	0	0	0	0	
NET EXPOSED BSMT WALL ABOVE GR	3.6	0	0	0	0	0	0	0	0	
EXPOSED CLG	1.3	0	0	0	0	0	0	0	0	
NO ATTIC EXPOSED CLG	2.7	0	0	0	0	0	0	0	0	
EXPOSED FLOOR	2.6	0	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	2827	1176	3567	1987	1942	446	2720	1065	868	
SUB TOTAL HT GAIN	2668	880	2599	2271	439	267	1065	868	868	
LEVEL FACTOR / MULTIPLIER	0.30	0.60	0.30	0.60	0.30	0.60	0.30	0.60	0.50	
AIR CHANGE HEAT LOSS	1706	710	2152	1199	1172	269	1642	14749	14749	
AIR CHANGE HEAT GAIN	232	71	211	184	36	22	86	70	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	0	0	0	0	0	0	0	0	
HEAT GAIN APPLIANCES/LIGHTS	881	881	881	881	881	881	0	0	0	
TOTAL HT LOSS BTU/H	4533	1886	5719	3486	3113	715	4362	23973	23973	
TOTAL HT GAIN x 1.3 BTU/H	5176	2382	4797	4336	1761	375	1498	2365	2365	

TOTAL HEAT GAIN BTU/H: 47431 TONS: 3.95 LOSS DUE TO VENTILATION LOAD BTU/H: 1631 STRUCTURAL HEAT LOSS: 89625 TOTAL COMBINED HEAT LOSS BTU/H: 71256

Michael O'Rourke

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

HEATING CFM	1575	COOLING CFM	1575	TYPE: 5008	DATE: Jun-20	GFA: 3452	LO# 86416
TOTAL HEAT LOSS	69,625	TOTAL HEAT GAIN	47,156	furnace pressure	0.6		
AIR FLOW RATE CFM	22.62	AIR FLOW RATE CFM	33.4	alc coil pressure	0.2		
				available pressure for s/a & t/a	0.35		
				plenum pressure s/a	0.18		
				max s/a diff press. loss	0.02		
				min adjusted pressure s/a	0.16		
				r/a pressure	0.17		
				r/a grille press. loss	0.02		
				adjusted pressure r/a	0.15		

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

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

ROOM NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
BAS	BAS	BED-2	BED-3	BED-3	BED-3	BED-4	ENS-2	WIC-3	MBR	MBR	S-BATH	GRT	DIN	KT/BF	KT/BF	LIB	L/M	W/R	FOY	LIB	BAS	BAS	BAS	BAS
RM LOSS MBH	1.45	1.56	0.82	2.36	1.58	1.97	1.14	1.82	1.45	1.45	1.04	2.27	1.89	2.86	2.86	1.59	3.11	0.71	4.36	1.59	4.00	4.00	4.00	4.00
CFM PER RUN HEAT	33	35	19	53	36	45	26	41	33	33	24	51	43	65	65	36	70	16	99	36	90	90	90	90
RM GAIN MBH	2.03	1.05	0.19	2.67	2.40	2.78	0.42	2.20	2.03	2.03	0.55	2.59	2.38	2.40	2.40	2.17	1.76	0.38	1.50	2.17	0.39	0.39	0.39	0.39
CFM PER RUN COOLING	68	35	6	89	80	93	14	74	68	68	18	86	80	80	80	72	59	13	50	72	13	13	13	13
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.16	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	56	73	75	50	36	47	44	39	78	69	22	45	27	54	45	21	50	12	32	25	51	49	25	25
EQUIVALENT LENGTH	220	170	160	140	150	150	130	180	190	160	190	200	100	130	150	130	170	190	110	170	140	160	120	130
TOTAL EFFECTIVE LENGTH	276	243	235	190	186	197	174	219	288	229	212	245	127	184	195	151	220	202	142	195	191	209	145	155
ADJUSTED PRESSURE	0.06	0.07	0.07	0.09	0.09	0.08	0.1	0.08	0.06	0.08	0.08	0.07	0.14	0.09	0.09	0.11	0.08	0.09	0.11	0.09	0.08	0.08	0.11	0.1
ROUND DUCT SIZE	6	4	4	6	5	6	4	5	6	6	4	6	5	6	5	5	6	4	6	5	6	6	6	6
HEATING VELOCITY (ft/min)	168	402	218	270	264	229	298	301	168	168	275	260	316	331	477	264	357	184	505	264	459	459	459	459
COOLING VELOCITY (ft/min)	347	402	69	454	587	474	161	543	347	347	207	438	587	408	587	529	301	149	255	529	66	66	66	66
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	4X10	3X10	4X10	4X10	4X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	B	A	D	E	C	D	E	A	A	D	A	D	B	B	E	A	E	E	E	B	A	C	C

ROOM NAME	25	26	27	28	29	30
BAS	BAS	BED-2	BED-3	GRT	ENS	BAS
RM LOSS MBH	4.00	2.36	1.58	2.27	1.56	4.00
CFM PER RUN HEAT	90	53	36	51	35	90
RM GAIN MBH	0.39	2.67	2.40	2.59	1.05	0.39
CFM PER RUN COOLING	13	89	80	86	35	13
ADJUSTED PRESSURE	0.16	0.16	0.17	0.16	0.17	0.16
ACTUAL DUCT LGH	24	45	35	56	54	40
EQUIVALENT LENGTH	100	150	200	140	140	160
TOTAL EFFECTIVE LENGTH	124	195	235	196	194	200
ADJUSTED PRESSURE	0.13	0.08	0.07	0.08	0.09	0.08
ROUND DUCT SIZE	6	6	6	6	4	6
HEATING VELOCITY (ft/min)	459	270	184	260	402	459
COOLING VELOCITY (ft/min)	66	454	408	438	402	66
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	3X10	4X10
TRUNK	E	D	E	A	C	B

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	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	380	0.06	10.5	14	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK B	345	0.07	9.7	12	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK C	985	0.06	15	26	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK D	1184	0.06	16.1	30	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK E	390	0.07	10.2	12	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK F	0	0.00	0	0	8	0	0.00	0	0	0	0	0.00	0	0	0

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	75	155	95	95	75	330	155	175	155	0	0	0	0	0	0	0	0	0	560	12.7	18	18	8	560
PLENUM 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	0.15	0.15	0.05	0.05	0.05	0.05	0.05	0.05
ACTUAL DUCT LGH	84	54	50	49	46	53	28	31	44	1	1	1	1	1	1	1	1	1	655	1015	30	22	8	609
EQUIVALENT LENGTH	225	185	165	165	270	210	230	195	225	0	0	0	0	0	0	0	0	0	0.05	0.05	0.05	0.05	0.05	0.05
TOTAL EFFECTIVE LENGTH	309	239	215	214	316	263	258	226	269	1	1	1	1	1	1	1	1	1	0.05	0.05	0.05	0.05	0.05	0.05
ADJUSTED PRESSURE	0.05	0.06	0.07	0.07	0.05	0.06	0.06	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05
ROUND DUCT SIZE	6	7.5	6	6	6	9.9	7.5	7.5	7.5	0	0	0	0	0	0	0	0	0	0.05	0.05	0.05	0.05	0.05	0.05
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0.05	0.05	0.05	0.05	0.05	0.05
INLET GRILL SIZE	14	14	14	14	14	30	14	14	14	0	0	0	0	0	0	0	0	0	0.05	0.05	0.05	0.05	0.05	0.05

TYPE: 5008
SITE NAME: PINE VALLEY & TESTON

LO # 86416

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a)	☒ Direct vent (sealed combustion) only	
b)	☐ Positive venting induced draft (except fireplaces)	
c)	☐ Natural draft, B-vent or induced draft gas fireplace	
d)	☐ Solid Fuel (including fireplaces)	
e)	☐ No Combustion Appliances	

HEATING SYSTEM	
☒ Forced Air	☐ Non Forced Air
☐ Electric Space Heat	

HOUSE TYPE		9.32.1(2)
☒ I	Type a) or b) appliance only, no solid fuel	
☐ II	Type I except with solid fuel (including fireplaces)	
☐ III	Any Type c) appliance	
☐ IV	Type I, or II with electric space heat	
☐	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
☐ 1	Exhaust only/Forced Air System	
☐ 2	HRV with Ducting/Forced Air System	
☒ 3	HRV Simplified/connected to forced air system	
☐ 4	HRV with Ducting/non forced air system	
☐	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A.	TOTAL	190.8 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		79.5 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	190.8	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	111.3	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
79.5 cfm	3.0 sones
☒ HVI Approved	

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
79.5 CFM	76 F	1.08	X	0.25

SUPPLEMENTAL FANS		PANASONIC		
Location	Model	cfm	HVI	Sones
ENS	FV-05-11VK1	50	☒	0.3
ENS-2	FV-05-11VK1	50	☒	0.3
S-BATH	FV-05-11VK1	50	☒	0.3
W/R	FV-05-11VK1	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
155	cfm high	64 cfm low
75	% Sensible Efficiency	☒ 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:	June-20

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																			
Formula Sheet (For Air Leakage / Ventilation Calculation)																																			
LO#: 86416	Model: 5008	Builder: GOLD PARK HOMES	Date: 26/06/2020																																
Volume Calculation																																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> <tr> <td>Bsmt</td> <td>1581</td> <td>10</td> <td>15810</td> </tr> <tr> <td>First</td> <td>1581</td> <td>11</td> <td>17391</td> </tr> <tr> <td>Second</td> <td>1871</td> <td>9</td> <td>16839</td> </tr> <tr> <td>Third</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td>Fourth</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td colspan="2">Total:</td> <td></td> <td>50,040.0 ft³</td> </tr> <tr> <td colspan="2">Total:</td> <td></td> <td>1417.0 m³</td> </tr> </table>				Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1581	10	15810	First	1581	11	17391	Second	1871	9	16839	Third	0	9	0	Fourth	0	9	0	Total:			50,040.0 ft³	Total:			1417.0 m³
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																
Bsmt	1581	10	15810																																
First	1581	11	17391																																
Second	1871	9	16839																																
Third	0	9	0																																
Fourth	0	9	0																																
Total:			50,040.0 ft³																																
Total:			1417.0 m³																																
Air Change & Delta T Data																																			
		WINTER NATURAL AIR CHANGE RATE	0.434																																
		SUMMER NATURAL AIR CHANGE RATE	0.145																																
Design Temperature Difference																																			
	Tin °C	Tout °C	ΔT °C																																
Winter DTDh	22	-20	42																																
Summer DTDc	24	31	7																																
			ΔT °F																																
			76																																
			13																																
6.2.6 Sensible Gain due to Air Leakage																																			
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																			
0.434	x	393.60	x																																
		7 °C	x																																
		1.2	=																																
			487 W																																
			=																																
			1663 Btu/h																																
6.2.7 Sensible heat Gain due to Ventilation																																			
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																			
80 CFM	x	13 °F	x																																
		1.08	x																																
		0.25	=																																
			275 Btu/h																																
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																			
$HL_{airrr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>Hlaire Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clevel})</th> <th>Air Leakage Heat Loss Multiplier (LF x Hlairebv / HLlevel)</th> </tr> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">29,498</td> <td>9,224</td> <td>1.599</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>14,664</td> <td>0.603</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>15,706</td> <td>0.376</td> </tr> <tr> <td>4</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> </table>				Level	Level Factor (LF)	Hlaire Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x Hlairebv / HLlevel)	1	0.5	29,498	9,224	1.599	2	0.3	14,664	0.603	3	0.2	15,706	0.376	4	0	0	0.000	5	0	0	0.000						
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4	0		0	0.000																															
5	0		0	0.000																															
*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system Hlairev = 0																																			

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** 5008**BUILDER:** GOLD PARK HOMES**SFQT:** 3452**LO#** 86416**SITE:** 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):	50040.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.75	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 54.0 ft	WIDTH: 39.0 ft	EXPOSED PERIMETER:	186.0 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	-

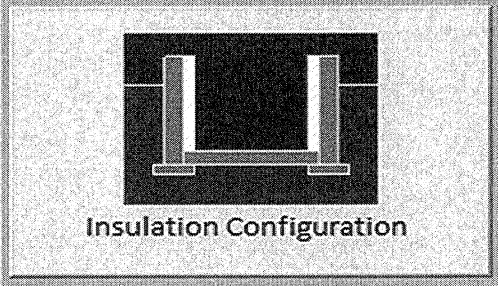
INDIVIDUAL BCIN: 19669

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):	16.5	 Insulation Configuration
Floor Width (m):	11.9	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	1.7	
Door Area (m ²):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1854

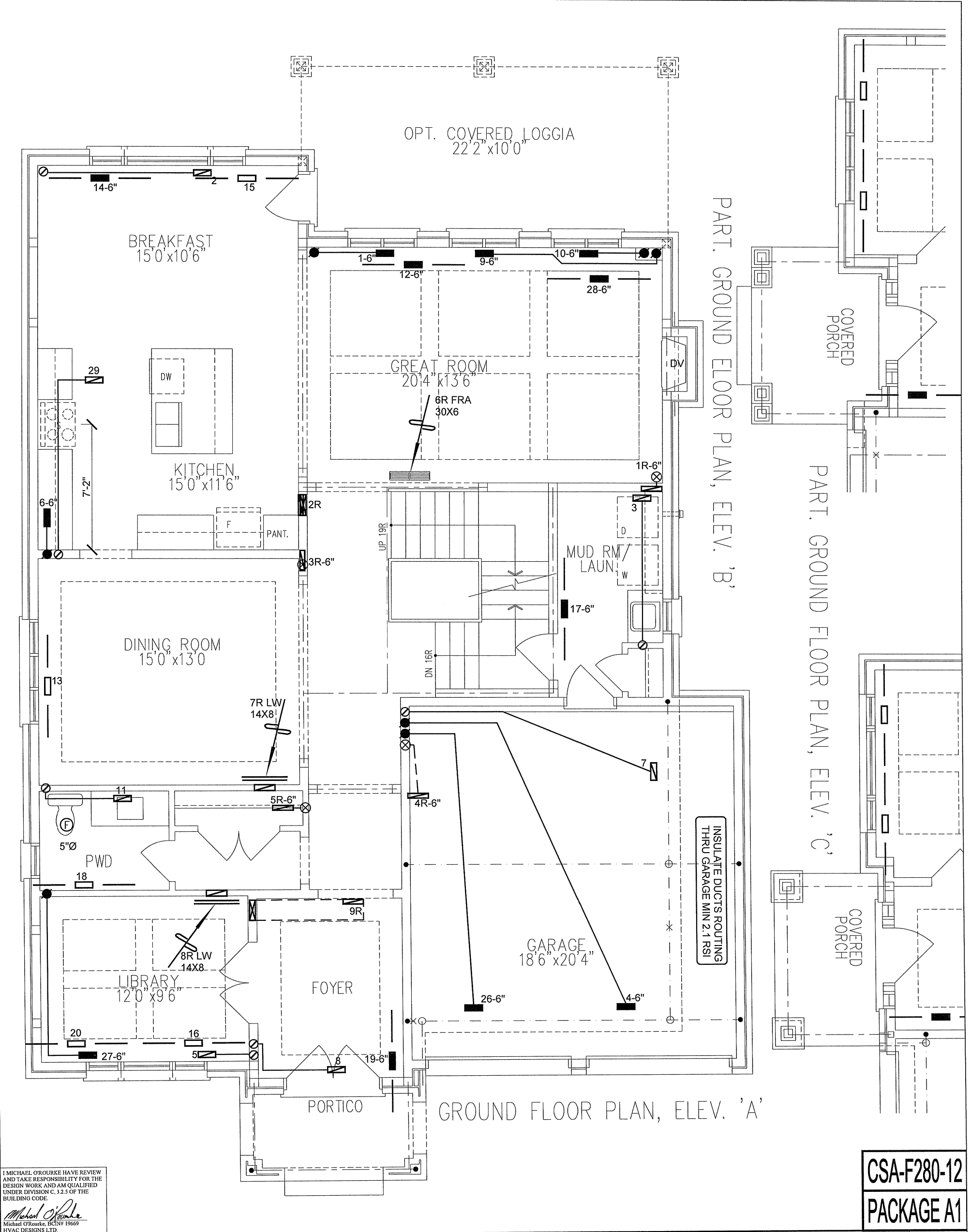
TYPE: 5008
LO# 86416

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):	10.06			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1417.0			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1888.9 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.434			
Cooling Air Leakage Rate (ACH/H):	0.145			

TYPE: 5008
LO# 86416



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.

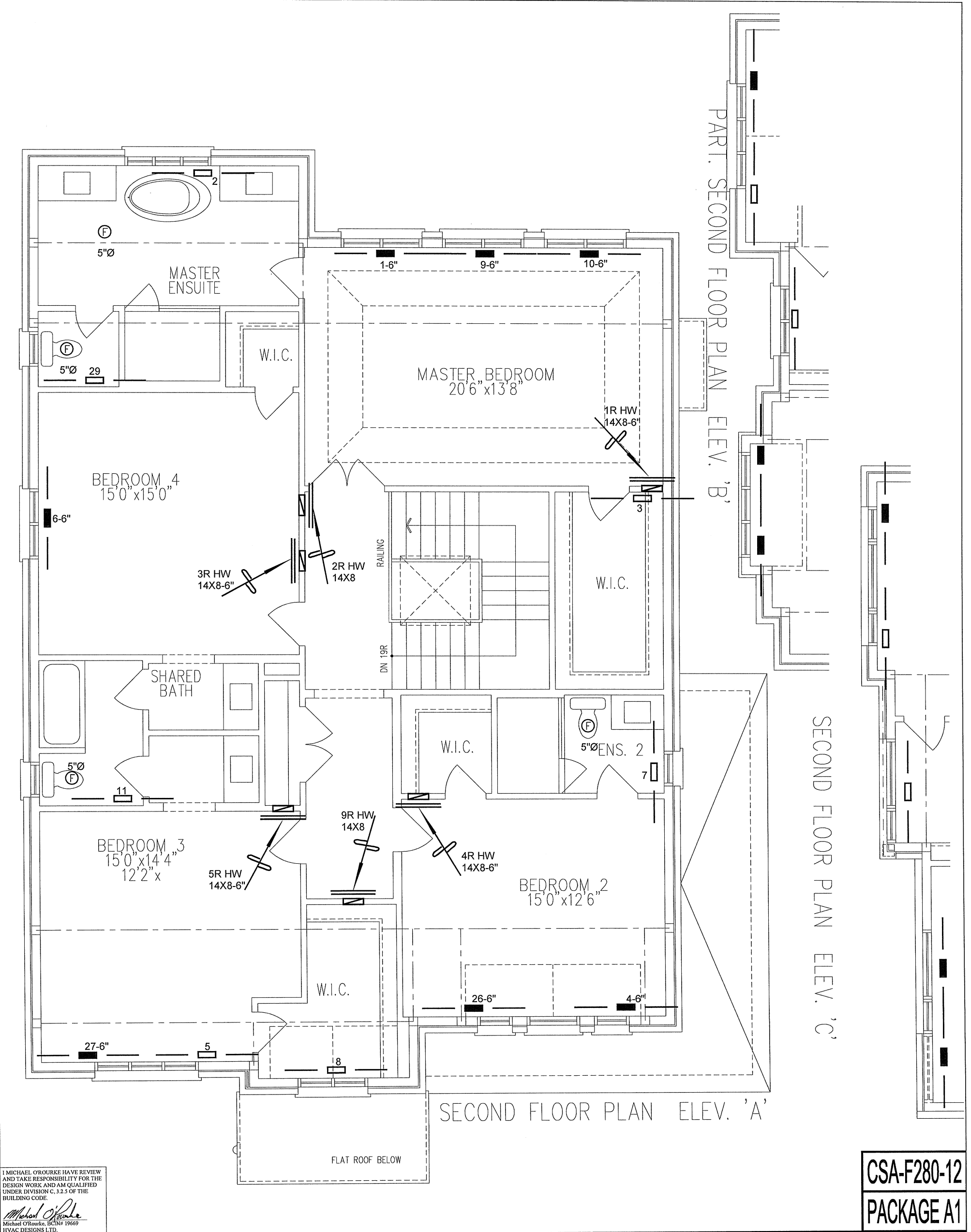
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
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		 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 Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	
PINE VALLEY & TESTON VAUGHAN, ONTARIO			JUNE/2020	
5008			Scale	
3452 sqft		3/16" = 1'-0"		
		BCIN# 19669		
		LO#	86416	



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

CSA-F280-12
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.	
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Client

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON
VAUGHAN, ONTARIO

5008

3452 sqft

HVAC

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 Title

SECOND FLOOR
HEATING
LAYOUT

Date

JUNE/2020

Scale

3/16" = 1'-0"

BCIN# 19669

LO#

86416