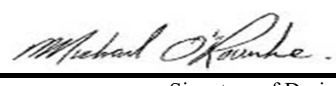


Schedule 1: Designer Information

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@hvacdesigns.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: 5002 - THE ROSEVIEW Project: PINE VALLEY & TESTON	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name)			
☐ 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 4, 2020		 Signature of Designer	
Date			

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										GFA: 3764										DATE: Jun-20 LO# 77473										WINTER NATURAL AIR CHANGE RATE 0.330 SUMMER NATURAL AIR CHANGE RATE 0.117										HEAT LOSS ΔT °F. 76 HEAT GAIN ΔT °F. 15										CSA-F280-12 SB-12 PACKAGE A1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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NORTH			21.3	16.5	18	383	298	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	0	0	0	0	0	0	0	0

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LOSS	GAIN	LIBR	DIN	KIT	LIV	LAUN	FOY	MUD	LOD	BAS
						37	29	63	12	7	31	27	52	196
						10	10	10	10	9	10	12	9	9
GRS.WALL AREA	GLAZING					370	290	630	120	63	310	324	468	1488
						LOSS	GAIN	LOSS	GAIN	LOSS	LOSS	LOSS	LOSS	LOSS
NORTH	21.3	16.5	0	0	0	0	0	0	0	9	192	149	0	0
EAST	21.3	42.1	48	1021	2021	0	0	0	0	0	0	0	0	0
SOUTH	21.3	25.5	12	255	306	0	0	0	24	511	611	0	0	0
WEST	21.3	42.1	0	0	0	54	1149	2274	102	2171	4295	0	0	0
SKYLT.	37.2	102.5	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	25.2	4.9	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	310	1383	269	236	1053	205	528	2356	459	96	428	83
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	126	162	78	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.5	0	0	0	0	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						2660		2202	4527	939	594	1862	1441	8438
SUB TOTAL HT GAIN							2596	2479	4754	694	274	363	964	562
LEVEL FACTOR / MULTIPLIER			0.30	0.46		0.30	0.46		0.30	0.46	0.30	0.46	0.30	1.15
AIR CHANGE HEAT LOSS						1232		1020	2097	435	162	862	1199	11410
AIR CHANGE HEAT GAIN							221	211	404	59	23	31		130
DUCT LOSS						0		0	0	0	0	0	0	0
DUCT GAIN						0		0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240		0		0	0		0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS					463		463	463	463	463	463	463	0	463
TOTAL HT LOSS BTU/H					3892		3222	6624	1374	756	3788	2724	1441	19848
TOTAL HT GAIN x 1.3 BTU/H					4264		4098	7308	1581	988	1313	1113	1253	1500

TOTAL HEAT GAIN BTU/H:

48842

TONS: 4.07

LOSS DUE TO VENTILATION LOAD BTU/H: 3181

STRUCTURAL HEAT LOSS: 65257

TOTAL COMBINED HEAT LOSS BTU/H: 68438



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

TYPE: 5002 - THE ROSEVIEW

DATE: Jun-20

GFA: 3764 LO# 77473

HEATING CFM	1525	COOLING CFM	1525
TOTAL HEAT LOSS	65,257	TOTAL HEAT GAIN	48,223
AIR FLOW RATE CFM	23.37	AIR FLOW RATE CFM	31.62

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure
for s/a & r/a 0.35

EL296UH090XE48C
FAN SPEED 90

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	10	5
R/A	0	0	5	3	1

plenium pressure s/a 0.18
max s/a dif 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

LOW 0
MEDLOW 0
MEDIUM 1105
MEDIUM HIGH 1255
HIGH 1525

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

TEMPERATURE RISE 52 °F

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

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

RUN #	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	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	ENS-4	LIBR	DIN	KIT	KIT	LIV	LAUN	ENS	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	2.40	1.44	0.77	2.56	2.60	1.87	0.43	2.56	2.60	2.40	0.10	1.95	1.61	2.21	2.21	1.37	0.76	1.44	3.79	2.72	4.26	4.26	4.26	4.26
CFM PER RUN HEAT	56	34	18	60	61	44	10	60	61	56	2	45	38	52	52	32	18	34	89	64	100	100	100	100
RM GAIN MBH	2.47	1.67	0.25	2.88	3.27	2.40	0.47	2.88	3.27	2.47	0.65	2.13	2.05	2.44	2.44	1.58	0.99	1.67	1.31	1.11	0.55	0.55	0.55	0.55
CFM PER RUN COOLING	78	53	8	91	103	76	15	91	103	78	21	67	65	77	77	50	31	53	42	35	17	17	17	17
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.16	0.17	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	47	43	66	42	29	65	44	28	23	45	22	47	44	16	33	21	19	47
EQUIVALENT LENGTH	200	205	195	130	170	140	140	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	187	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	0.09	0.09	0.06	0.07	0.1	0.1	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	6	5	4	6	6	5	4	6	6	6	4	5	5	5	5	4	4	5	6	5	5	6	5	6
HEATING VELOCITY (ft/min)	286	250	207	306	311	323	115	306	311	286	23	330	279	382	382	367	207	250	454	470	734	510	734	510
COOLING VELOCITY (ft/min)	398	389	92	464	525	558	172	464	525	398	241	492	477	565	565	574	356	389	214	257	125	87	125	87
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	3X10	4X10
TRUNK	D	A	A	D	B	A	D	D	B	D	C	B	A	C	D	A	D	A	B	C	A	D	C	B

RUN #	25	26	27	28	29
ROOM NAME	BAS	LIBR	DIN	KIT	BATH
RM LOSS MBH	4.26	1.95	1.61	2.21	0.43
CFM PER RUN HEAT	100	45	38	52	10
RM GAIN MBH	0.55	2.13	2.05	2.44	0.47
CFM PER RUN COOLING	17	67	65	77	15
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	55	56	36	25	41
EQUIVALENT LENGTH	110	120	130	90	170
TOTAL EFFECTIVE LENGTH	165	176	166	115	211
ADJUSTED PRESSURE	0.1	0.1	0.1	0.15	0.08
ROUND DUCT SIZE	6	5	5	5	4
HEATING VELOCITY (ft/min)	510	330	279	382	115
COOLING VELOCITY (ft/min)	87	492	477	565	172
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10
TRUNK	B	B	A	C	D

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	338	0.06	10	12	x 8 507
TRUNK B	501	0.06	11.6	16	x 8 564
TRUNK C	1109	0.06	15.7	28	x 8 713
TRUNK D	422	0.07	10.5	14	x 8 543
TRUNK E	0	0.00	0	0	x 8 0
TRUNK F	0	0.00	0	0	x 8 0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK O	0	0.06	0	0	x 8 0
TRUNK P	0	0.06	0	0	x 8 0
TRUNK Q	0	0.06	0	0	x 8 0
TRUNK R	0	0.06	0	0	x 8 0
TRUNK S	0	0.06	0	0	x 8 0
TRUNK T	0	0.06	0	0	x 8 0
TRUNK U	0	0.06	0	0	x 8 0
TRUNK V	0	0.06	0	0	x 8 0
TRUNK W	0	0.06	0	0	x 8 0

RETURN AIR #	1	2	3	4	5	6	7	8	BR
AIR VOLUME	130	130	130	130	155	365	85	2@6"	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH	59	59	53	66	35	33	54	39	1
EQUIVALENT LENGTH	175	165	165	195	195	185	165	0	0
TOTAL EFFECTIVE LH	234	224	218	261	230	228	239	204	1
ADJUSTED PRESSURE	0.06	0.07	0.07	0.06	0.06	0.06	0.06	0.07	14.80
ROUND DUCT SIZE	7	6.8	6.8	7	7.5	10.3	6	7.6	0
INLET GRILL SIZE	8	8	8	8	8	8	8	8	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	14	24	0

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK X	1525	0.06	17.7	32	x 10 686
TRUNK Y	995	0.06	15	26	x 8 689
TRUNK Z	285	0.06	9.4	10	x 8 513
DROP	1525	0.06	17.7	24	x 14 654

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

LO # 77473

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>7</u> @ 10.6 cfm	<u>74.2</u> cfm
Table 9.32.3.A.	TOTAL	<u>201.4</u> 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		<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>201.4</u>	cfm
Less Principal Ventil. Capacity	<u>155</u>	cfm
Required Supplemental Capacity	<u>46.4</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY			
Model:	VANEE 65H		
Location:	BSMT		
<u>155.0</u> cfm	<u>3.0</u> sones		
☒ HVI Approved			
PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °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	☒
BATH	QTXEN050C	50	☒
ENS-4	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 65H	
<u>155</u> cfm high	<u>64</u> cfm low	
<u>75</u> % Sensible Efficiency @ 32 deg F (0 deg C)	☒ HVI Approved	

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#: 77473		Model: 5002 - THE ROSEVIEW			Builder: GOLD PARK HOMES			Date: 6/4/2020																																																									
Volume Calculation					Air Change & Delta T Data																																																												
House Volume <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr> <td>Bsmt</td> <td>1700</td> <td>9</td> <td>15300</td> </tr> <tr> <td>First</td> <td>1700</td> <td>10</td> <td>17000</td> </tr> <tr> <td>Second</td> <td>2064</td> <td>9</td> <td>18576</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="3" style="text-align: right;">Total:</td> <td>50,876.0 ft³</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>1440.6 m³</td> </tr> </tbody> </table>					Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1700	9	15300	First	1700	10	17000	Second	2064	9	18576	Third	0	9	0	Fourth	0	9	0	Total:			50,876.0 ft³	Total:			1440.6 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 30%;">0.330</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.117</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-20</td> <td>42</td> <td>76</td> </tr> <tr> <td>Summer DTDc</td> <td>23</td> <td>31</td> <td>8</td> <td>15</td> </tr> </table>					WINTER NATURAL AIR CHANGE RATE	0.330	SUMMER NATURAL AIR CHANGE RATE	0.117	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-20	42	76	Summer DTDc	23	31	8	15
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5.2.3.1 Heat Loss due to Air Leakage					6.2.6 Sensible Gain due to Air Leakage																																																												
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.330 x 400.18 x 42 °C x 1.2 = 6688 W = 22820 Btu/h					$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.117 x 400.18 x 8 °C x 1.2 = 463 W = 1578 Btu/h																																																												
5.2.3.2 Heat Loss due to Mechanical Ventilation					6.2.7 Sensible heat Gain due to Ventilation																																																												
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 155 CFM x 76 °F x 1.08 x 0.25 = 3181 Btu/h					$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 155 CFM x 15 °F x 1.08 x 0.25 = 619 Btu/h																																																												
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																	
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairve Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clevel})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">22,820</td> <td>9,879</td> <td>1.155</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>14,779</td> <td>0.463</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>16,764</td> <td>0.272</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> </tbody> </table> *HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0										Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	22,820	9,879	1.155	2	0.3	14,779	0.463	3	0.2	16,764	0.272	4	0	0	0.000	5	0	0	0.000																														
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HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** 5002 - THE ROSEVIEW**BUILDER:** GOLD PARK HOMES**SFQT:** 3764**LO#** 77473**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)	73

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 (ft ³):	50876.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	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:	196.0 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	-

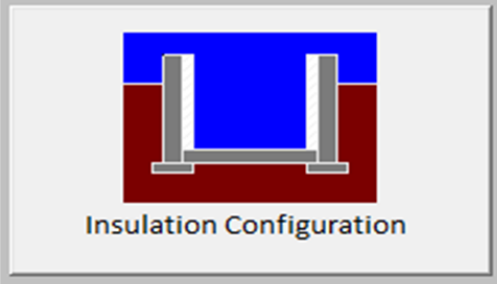
INDIVIDUAL BCIN: 19669

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):	17.1	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	2.8	
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):		1958

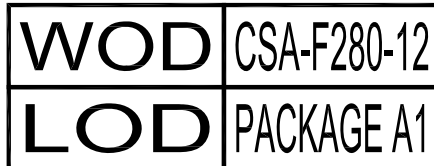
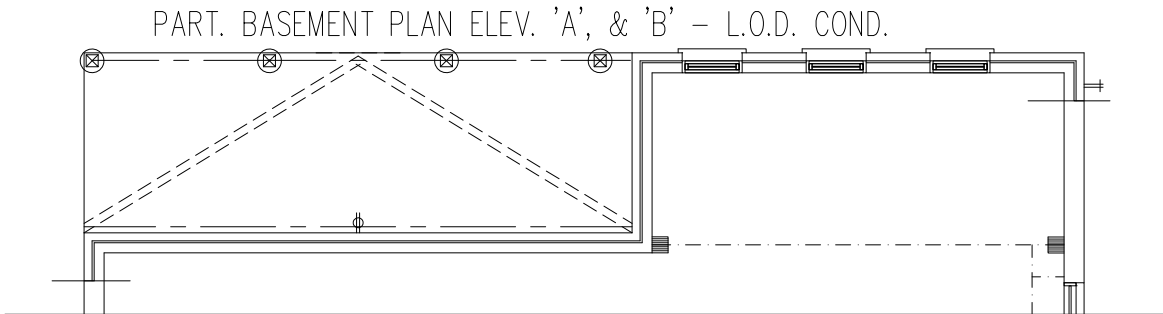
TYPE: 5002 - THE ROSEVIEW
LO# 77473

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):	6.71			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1440.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1920.4 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	73.2	73.2		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.330			
Cooling Air Leakage Rate (ACH/H):	0.117			

TYPE: 5002 - THE ROSEVIEW
LO# 77473

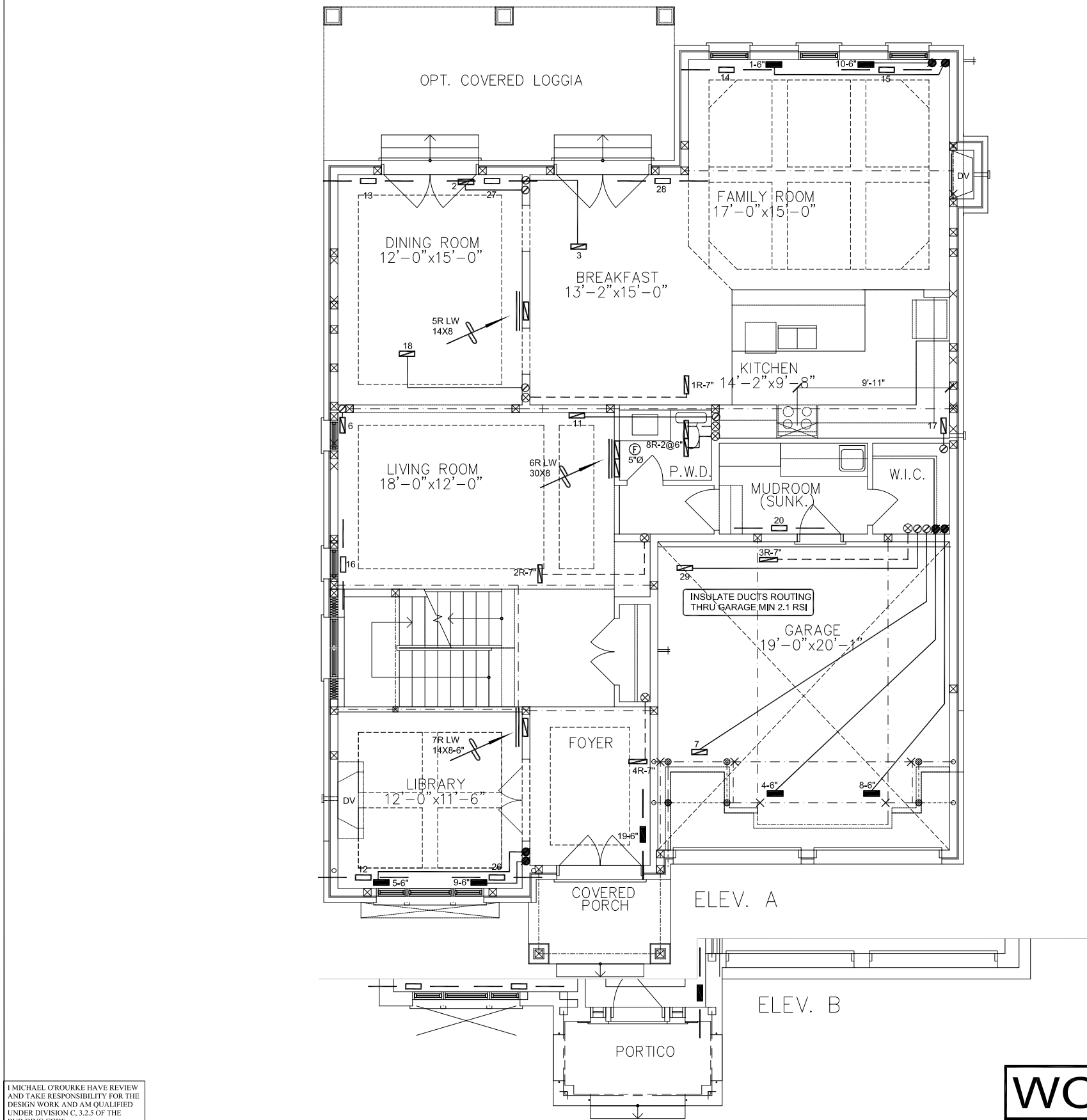


Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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Client GOLD PARK HOMES		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdsgns.ca Web: www.hvacdsgns.ca Specializing in Residential Mechanical Design Services	HEAT LOSS 68438 BTU/H		# OF RUNS S/A R/A FANS				Sheet Title	
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO			UNIT DATA		3RD FLOOR				BASEMENT HEATING LAYOUT	
			MAKE LENNOX		2ND FLOOR 14 5 4					
			MODEL EL296UH090XE48C		1ST FLOOR 10 3 2					
			INPUT 88 MBTU/H		BASEMENT 5 1 0				Date	JAN/2018
		OUTPUT 85 MBTU/H		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				Scale	3/16" = 1'-0"	
		COOLING 4.0 TONS						BCIN# 19669		
		FAN SPEED 1525 cfm @ 0.6" w.c.								
5002 - ROSEVIEW 3764 sqft		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.						LO#	77473	

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GOLD PARK HOMES		MAKE LENNOX	3RD FLOOR					BASEMENT HEATING LAYOUT	
Project Name		MODEL EL296UH090XE48C	2ND FLOOR		14	5	4		
PINE VALLEY & TESTON VAUGHAN, ONTARIO		INPUT 88 MBTU/H	1ST FLOOR		10	3	2		
5002 - ROSEVIEW 3764 sqft		OUTPUT 85 MBTU/H	BASEMENT		5	1	0	Date	JAN/2018
	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					Scale	3/16" = 1'-0"	
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							LO#	77473	



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

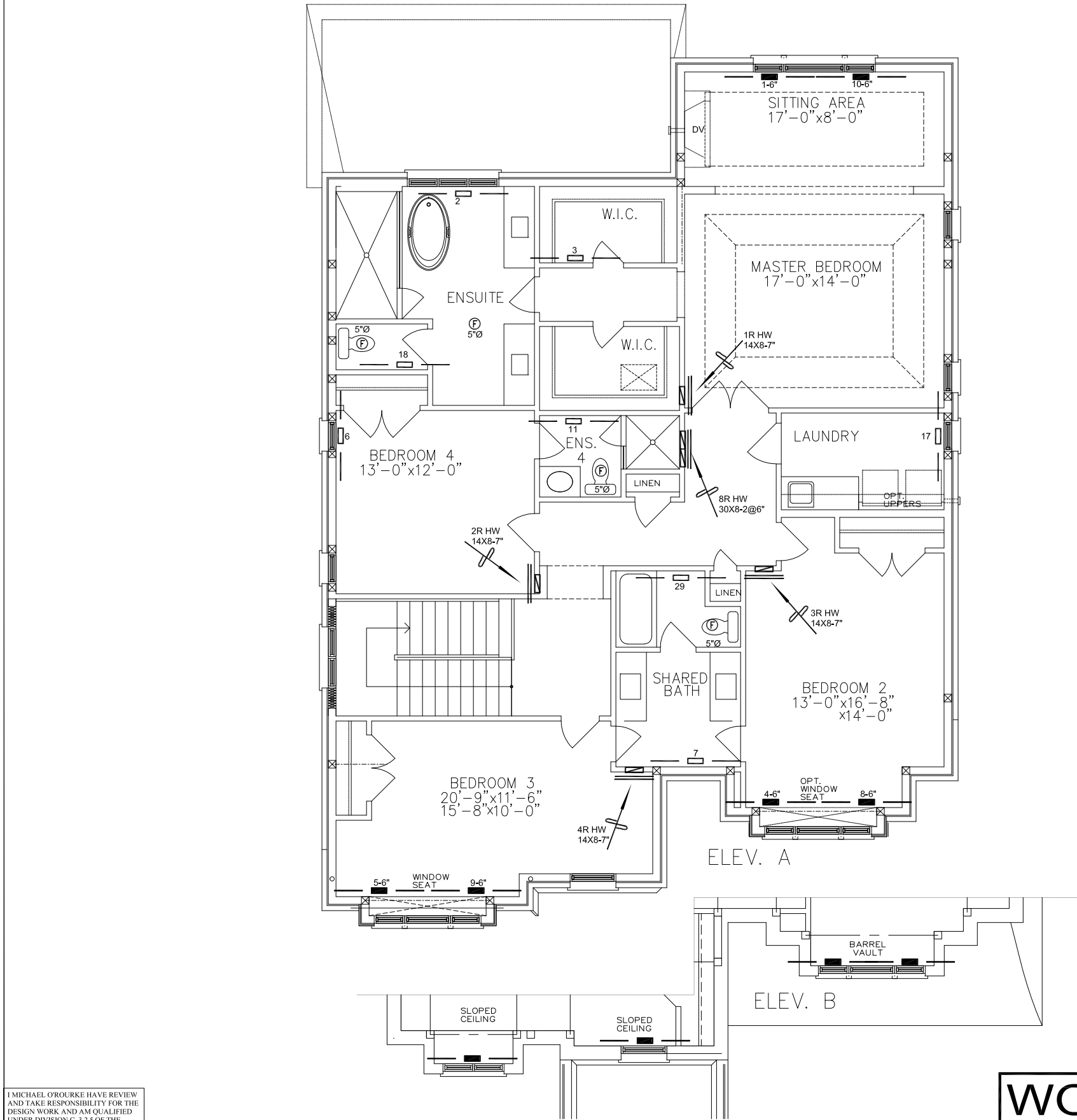
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

WOD	CSA-F280-12
LOD	PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	JUNE/2020
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	DECK CONDITIONS ADDED	OCT/2018
	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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GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
5002 - ROSEVIEW 3764 sqft			BCIN# 19669	
			LO#	77473



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AND TAKE RESPONSIBILITY FOR THE
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BUILDING CODE.

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

WOD	CSA-F280-12
LOD	PACKAGE A1

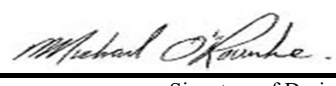
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	JUNE/2020
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	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
5002 - ROSEVIEW 3764 sqft			BCIN# 19669	
			LO#	77473

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@hvacdesigns.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: 5002 - THE ROSEVIEW OPT 5-BED 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 4, 2020		 Signature of Designer	
Date			

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										OPT 5-BED										DATE: Jun-20				WINTER NATURAL AIR CHANGE RATE 0.330										HEAT LOSS ΔT °F. 76				CSA-F280-12																	
BUILDER: GOLD PARK HOMES										TYPE: 5002 - THE ROSEVIEW										GFA: 3764				LO# 77474				SUMMER NATURAL AIR CHANGE RATE 0.111										HEAT GAIN ΔT °F. 13				SB-12 PACKAGE A1													
ROOM USE				MBR				ENS				WIC				BED-2				BED-3				BED-4				ENS-3				BED-5				ENS-4				LAUN															
EXP. WALL				44				27				8				34				32				16				17				11				5				0															
CLG. HT.				10				9				9				9				9				9				9				9				9				9															
FACTORS																																																							
GRS.WALL AREA				440				243				72				306				288				144				153				99				45				0															
GLAZING				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN															
NORTH				21.3	16.0	18	383	288	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	0	0	0																			
EAST				21.3	41.6	0	0	0	0	0	0	0	0	0	59	1256	2452	66	1404	2742	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																		
SOUTH				21.3	24.9	0	0	0	8	170	199	0	0	0	0	0	0	0	11	234	274	30	638	747	0	0	0	0	0	0	0	0	0	8	170	199	0	0	0	0															
WEST				21.3	41.6	40	851	1662	35	745	1454	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	0	0	0																
SKYLT.				37.2	101.5	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	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	0	0	0	0	0	0	0	0	0	0	0															
NET EXPOSED WALL				4.5	0.8	382	1705	287	200	893	150	72	321	54	247	1102	186	211	942	159	114	509	86	153	683	115	81	361	61	37	165	28	0	0	0	0	0	0	0	0	0														
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	0	0	0	0	0	0	0	0	0	0	0	0														
EXPOSED CLG				1.3	0.6	323	415	190	176	226	103	160	205	94	285	366	167	252	323	148	272	349	160	153	196	90	198	254	116	80	103	47	60	77	35																				
NO ATTIC EXPOSED CLG				2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
EXPOSED FLOOR				2.6	0.4	0	0	0	0	0	0	0	0	0	282	719	121	20	51	9	0	0	0	94	240	40	0	0	0	0	0	0	0	0	0	20	51	9																	
BASEMENT/CRAWL HEAT LOSS				0				0				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				0				0				0			
SUBTOTAL HT LOSS				3354				2033				527				3443				2955				1496				1119				999				438				128															
SUB TOTAL HT GAIN				2427				1907				148				2926				3332				992				245				465				274				44															
LEVEL FACTOR / MULTIPLIER				0.20	0.27				0.20	0.27				0.20	0.27			0.20	0.27				0.20	0.27			0.20	0.27			0.20	0.27			0.20	0.27																			
AIR CHANGE HEAT LOSS				891				540				140				915				785				398				297				265				116				34															
AIR CHANGE HEAT GAIN				175				138				11				211				241				72				18				34				20				3															
DUCT LOSS				0				0				0				436				374				0				142				0				0				16															
DUCT GAIN				0				0				0				384				427				0				73				0				0				51															
HEAT GAIN PEOPLE				240		2	480	0	0	0	0	0	0	1	240	1	240	1	240	0	0	1	240	0	1	240	0	1	240	0	0	0	0	0	0	0	0	0	0	0	0														
HEAT GAIN APPLIANCES/LIGHTS				463				463				0				463				463				463				463				463				0				463															
TOTAL HT LOSS BTU/H				4245				2574				667				4793				4114				1894				1558				1264				554				178															
TOTAL HT GAIN x 1.3 BTU/H				4608				3260				206				5491				6113				2297				1038				1561				382				729															

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

OPT 5-BED
TYPE: 5002 - THE ROSEVIEW

DATE: Jun-20

GFA: 3764 LO# 77474

HEATING CFM 1525 COOLING CFM 1525
TOTAL HEAT LOSS 65,657 TOTAL HEAT GAIN 47,406
AIR FLOW RATE CFM 23.23 AIR FLOW RATE CFM 32.17

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure
for s/a & r/a 0.35

^LENNOX
EL296UH090XE48C
FAN SPEED 90

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000

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

plenium pressure s/a 0.18
max s/a dif 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

LOW 0
MEDLOW 0
MEDIUM 1105
MEDIUM HIGH 1255
HIGH 1525

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

TEMPERATURE RISE 52 °F

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

RUN #	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	MBR	WIC	LIBR	DIN	KIT	KIT	LIV	BED-5	ENS-4	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	2.12	1.29	1.29	2.40	2.06	1.89	1.56	2.40	2.06	2.12	0.67	1.95	1.61	2.21	2.21	1.37	1.26	0.55	3.79	2.72	4.25	4.25	4.25	4.25
CFM PER RUN HEAT	49	30	30	56	48	44	36	56	48	49	15	45	37	51	51	32	29	13	88	63	99	99	99	99
RM GAIN MBH	2.30	1.63	1.63	2.75	3.06	2.30	1.04	2.75	3.06	2.30	0.21	2.06	1.99	2.35	2.35	1.53	1.56	0.38	1.21	1.04	0.50	0.50	0.50	0.50
CFM PER RUN COOLING	74	52	52	88	98	74	33	88	98	74	7	66	64	76	76	49	50	12	39	33	16	16	16	16
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.16	0.17	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	195	130	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	0.1	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	6	6	5	4	6	6	5	4	5	5	5	5	4	4	4	6	4	5	6	5	6
HEATING VELOCITY (ft/min)	360	220	220	286	245	323	413	286	245	360	172	330	272	374	374	367	333	149	449	723	727	505	727	505
COOLING VELOCITY (ft/min)	543	382	382	449	500	543	379	449	500	543	80	485	470	558	558	562	574	138	199	379	117	82	117	82
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	3X10	4X10
TRUNK	D	A	A	D	B	A	B	D	B	D	C	B	A	C	D	A	D	A	B	C	A	D	C	B

RUN #	25	26	27	28	29	30	31
ROOM NAME	BAS	LIBR	DIN	KIT	BATH	LAUN	BATH
RM LOSS MBH	4.25	1.95	1.61	2.21	0.48	0.18	0.48
CFM PER RUN HEAT	99	45	37	51	11	4	11
RM GAIN MBH	0.50	2.06	1.99	2.35	0.13	0.73	0.13
CFM PER RUN COOLING	16	66	64	76	4	23	4
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	55	56	36	25	41	36	40
EQUIVALENT LENGTH	110	120	130	90	170	190	160
TOTAL EFFECTIVE LENGTH	165	176	166	115	211	226	200
ADJUSTED PRESSURE	0.1	0.1	0.1	0.15	0.08	0.08	0.09
ROUND DUCT SIZE	6	5	5	5	4	4	4
HEATING VELOCITY (ft/min)	505	330	272	374	126	46	126
COOLING VELOCITY (ft/min)	82	485	470	558	46	264	46
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	B	B	A	C	D	B	D

SUPPLY AIR TRUNK SIZE

	TRUNK	STATIC	ROUND	RECT	VELOCITY
	CFM	PRESS.	DUCT	DUCT	(ft/min)
TRUNK A	322	0.06	9.9	12	x 8 483
TRUNK B	512	0.06	11.7	16	x 8 576
TRUNK C	1113	0.06	15.7	28	x 8 716
TRUNK D	411	0.07	10.4	12	x 8 617
TRUNK E	0	0.00	0	0	x 8 0
TRUNK F	0	0.00	0	0	x 8 0

RETURN AIR TRUNK SIZE

	TRUNK	STATIC	ROUND	RECT	VELOCITY
	CFM	PRESS.	DUCT	DUCT	(ft/min)
TRUNK O	0	0.06	0	0	x 8 0
TRUNK P	0	0.06	0	0	x 8 0
TRUNK Q	0	0.06	0	0	x 8 0
TRUNK R	0	0.06	0	0	x 8 0
TRUNK S	0	0.06	0	0	x 8 0
TRUNK T	0	0.06	0	0	x 8 0
TRUNK U	0	0.06	0	0	x 8 0
TRUNK V	0	0.06	0	0	x 8 0
TRUNK W	0	0.06	0	0	x 8 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	130	130	130	130	155	365	85	95	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH	59	59	53	66	35	33	54	39	43	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	175	165	165	195	195	195	185	165	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	234	224	218	261	230	228	239	204	208	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.07	0.07	0.06	0.06	0.06	0.06	0.07	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	7	6.8	6.8	7	7.5	10.3	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TRUNK V	0	0.06	0	0	x	8	0
TRUNK W	0	0.06	0	0	x	8	0
TRUNK X	1525	0.06	17.7	32	x	10	686
TRUNK Y	995	0.06	15	26	x	8	689
TRUNK Z	285	0.06	9.4	10	x	8	513
DROP	1525	0.06	17.7	24	x	14	654

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

LO # 77474
OPT 5-BED

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Kitchen & Bathrooms	<u>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Other Rooms	<u>7</u> @ 10.6 cfm	<u>74.2</u> cfm
Table 9.32.3.A.	TOTAL	<u>222.6</u> 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		<u>95.4</u> cfm

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

PRINCIPAL EXHAUST FAN CAPACITY			
Model:	VANEE 65H		
Location:	BSMT		
<u>155.0</u> cfm	<u>3.0</u> sones		
☒ HVI Approved			
PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °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	☒
ENS-3	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
ENS-4	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 65H	
<u>155</u> cfm high	<u>64</u> cfm low	
<u>75</u> % Sensible Efficiency @ 32 deg F (0 deg C)	☒ HVI Approved	

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#: 77474	Model: 5002 - THE ROSEVIEW	Builder: GOLD PARK HOMES	Date: 6/4/2020																																																									
Volume Calculation			Air Change & Delta T Data																																																									
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.330 x 400.18 x 42 °C x 1.2 = 6688 W = 22820 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.111 x 400.18 x 7 °C x 1.2 = 379 W = 1291 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 155 CFM x 76 °F x 1.08 x 0.25 = 3181 Btu/h			$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 155 CFM x 13 °F 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)																																																												
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HL_{airve} Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clevel})</th> <th>Air Leakage Heat Loss Multiplier (LF x HL_{airbv} / HL_{clevel})</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">22,820</td> <td>9,829</td> <td>1.161</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>14,779</td> <td>0.463</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>17,175</td> <td>0.266</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> </tbody> </table>					Level	Level Factor (LF)	HL _{airve} Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HL _{airbv} / HL _{clevel})	1	0.5	22,820	9,829	1.161	2	0.3	14,779	0.463	3	0.2	17,175	0.266	4	0	0	0.000	5	0	0	0.000																														
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*HL_{airbv} = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HL_{airve} = 0																																																												

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5002 - THE ROSEVIEW	OPT 5-BED	BUILDER: GOLD PARK HOMES
SFQT: 3764	LO# 77474	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 (ft ³):	50876.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	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:	196.0 ft

2012 OBC - COMPLIANCE PACKAGE**Component****Compliance Package
A1****Nominal Min. Eff.**

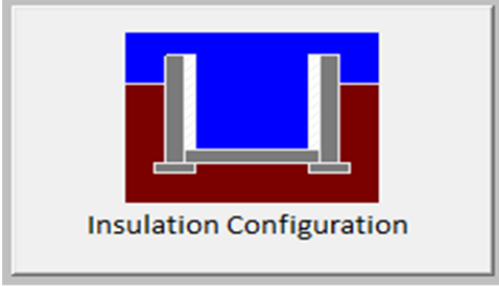
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below 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):	17.1	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	2.5	
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):		1962

TYPE: 5002 - THE ROSEVIEW
LO# 77474

OPT 5-BED

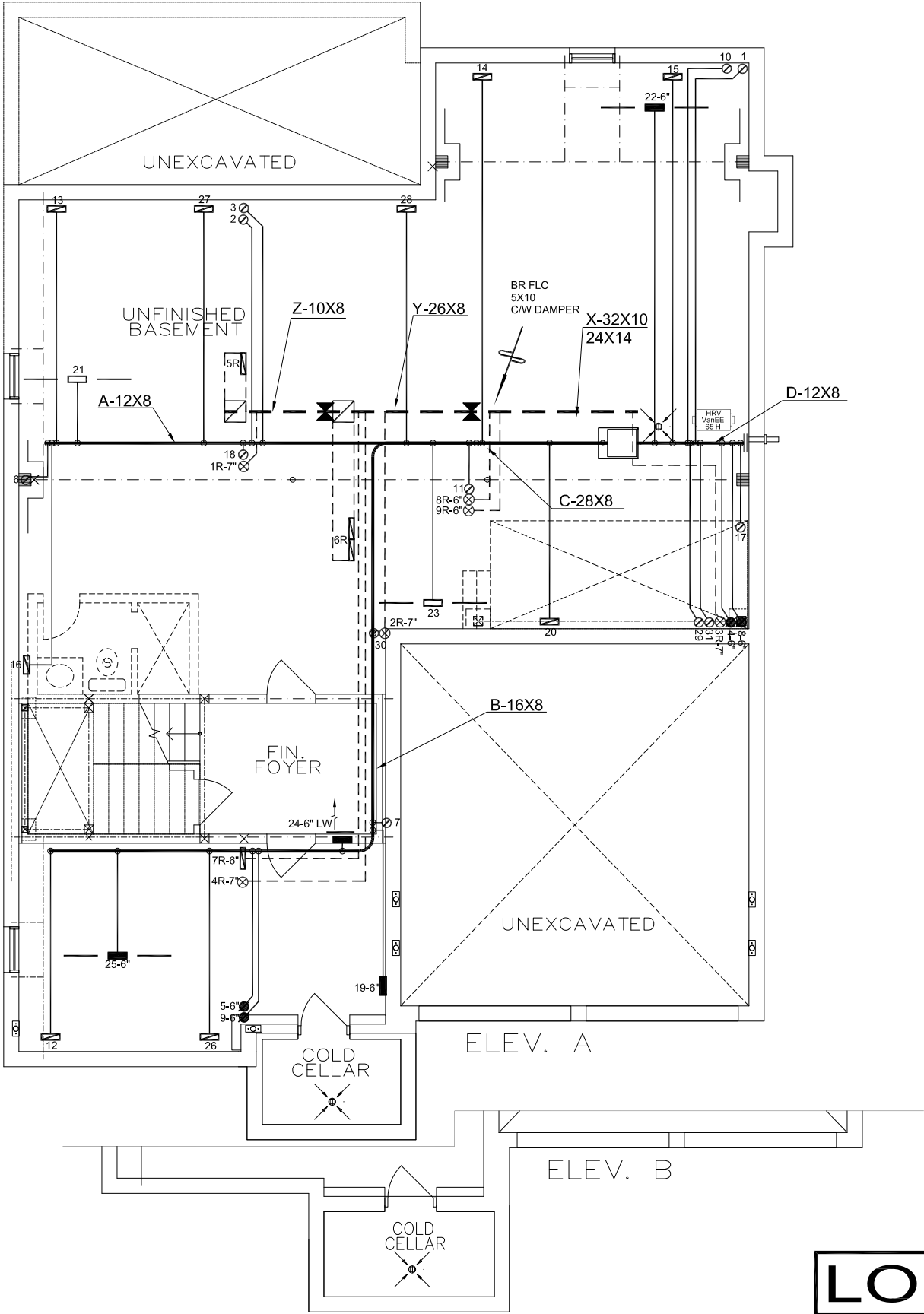
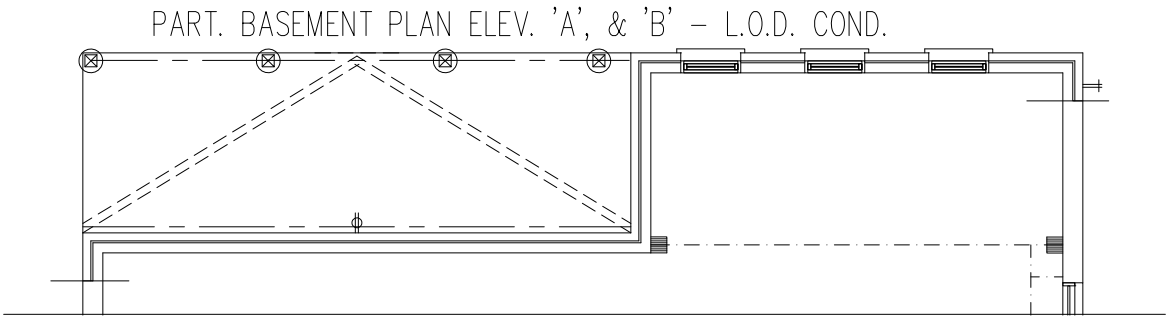
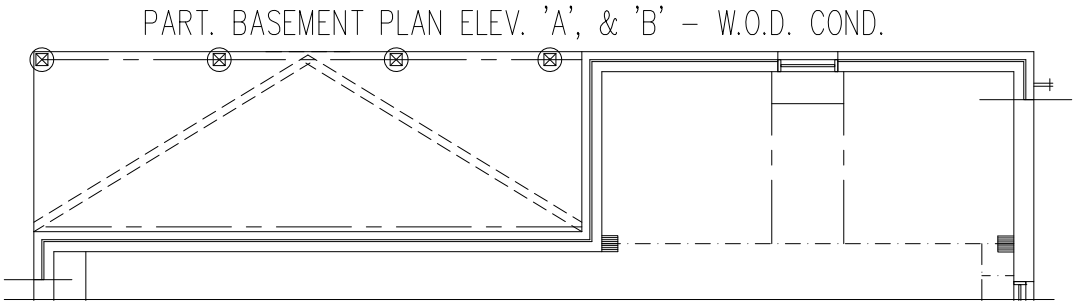
Air Infiltration Residential Load Calculator

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):	6.71			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1440.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1920.4 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	73.2	73.2		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.330			
Cooling Air Leakage Rate (ACH/H):	0.111			

TYPE: 5002 - THE ROSEVIEW
LO# 77474

OPT 5-BED



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.

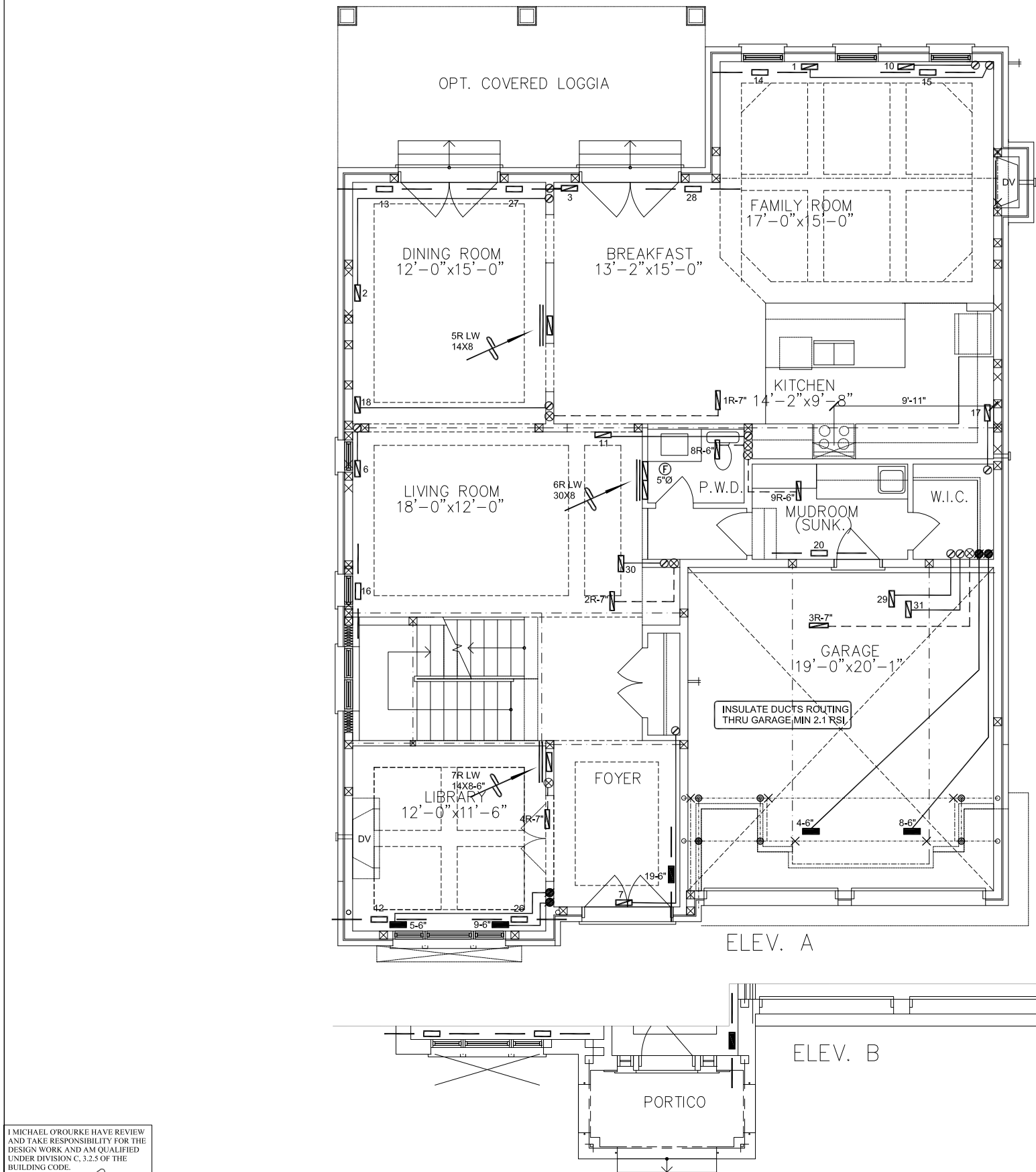
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

LOD	CSA-F280-12
WOD	PACKAGE A1

HVAC LEGEND								3.	REVISED AS PER ARCHITECTURALS	JUNE/2020
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	ADDED RETURN # 9	NOV/2018
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	DECK CONDITIONS ADDED	OCT/2018
	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	HEAT LOSS 68838 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title		
GOLD PARK HOMES		MAKE LENNOX		3RD FLOOR			BASEMENT HEATING LAYOUT		
Project Name		MODEL EL296UH090XE48C		2ND FLOOR	16	6			6
PINE VALLEY & TESTON VAUGHAN, ONTARIO		INPUT 88 MBTU/H		1ST FLOOR	10	3			2
OPT 5-BED 5002 - ROSEVIEW 3764 sqft		OUTPUT 85 MBTU/H		BASEMENT	5	1	0	Date	JAN/2018
	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				Scale	1/8" = 1'-0"	
	FAN SPEED 1525 cfm @ 0.6" w.c.						BCIN# 19669		
							LO#	77474	



I MICHAEL O'ROURKE HAVE REVIEW
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.

LOD	CSA-F280-12
WOD	PACKAGE A1

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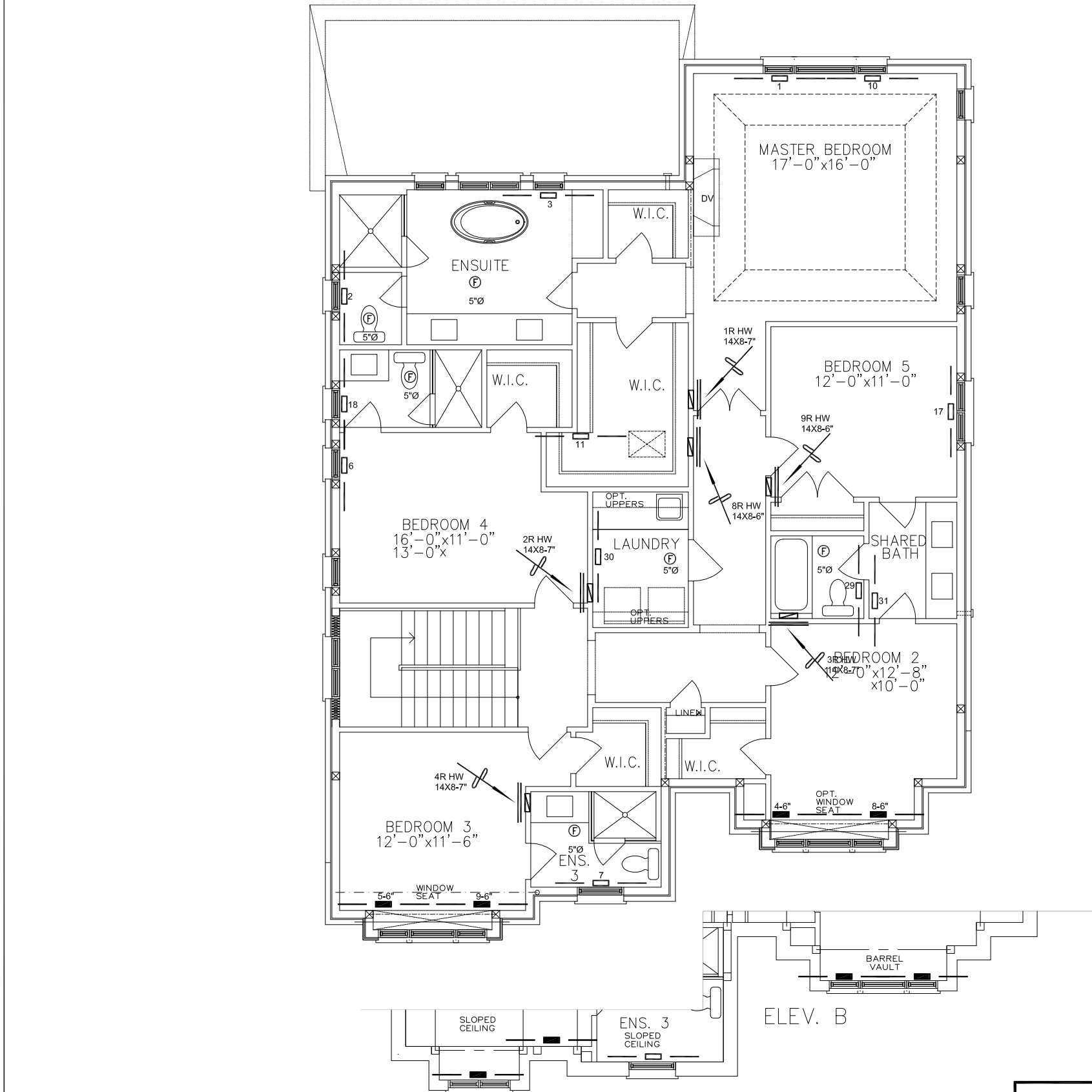
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GOLD PARK HOMES		FIRST FLOOR HEATING LAYOUT	
Project Name		Date JAN/2018	
PINE VALLEY & TESTON VAUGHAN, ONTARIO		Scale 1/8" = 1'-0"	
OPT 5-BED 5002 - ROSEVIEW 3764 sqft		BCIN# 19669	
		LO#	77474



375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdsgns.ca
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Specializing in Residential Mechanical Design Services

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

LOD	CSA-F280-12
WOD	PACKAGE A1

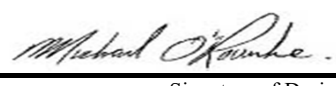
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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
OPT 5-BED 5002 - ROSEVIEW 3764 sqft			BCIN# 19669	
			LO#	77474

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@hvacdesigns.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: 5002 - THE ROSEVIEW OPT 5-BED - WOB Project: PINE VALLEY & TESTON	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name)			
☐ 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 4, 2020		 Signature of Designer	
Date			

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										OPT 5-BED - WOB										DATE: Jun-20		WINTER NATURAL AIR CHANGE RATE 0.389										HEAT LOSS ΔT °F. 76				CSA-F280-12									
BUILDER: GOLD PARK HOMES										TYPE: 5002 - THE ROSEVIEW										LO# 80240		SUMMER NATURAL AIR CHANGE RATE 0.130										HEAT GAIN ΔT °F. 13				SB-12 PACKAGE A1									
ROOM USE		MBR				ENS				WIC				BED-2				BED-3				BED-4				ENS-3				BED-5				ENS-4				LAUN							
EXP. WALL		44				27				8				34				32				16				17				11				5				0							
CLG. HT.		10				9				9				9				9				9				9				9				9				9							
FACTORS																																													
GRS.WALL AREA		LOSS		GAIN		440		243		72		306		288		144		153		99		45		0																					
GLAZING				LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN															
NORTH		21.3	15.1	18	383	273	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														
EAST		21.3	38.4	0	0	0	0	0	0	0	0	59	1256	2265	66	1404	2534	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0													
SOUTH		21.3	23.5	0	0	0	8	170	188	0	0	0	0	0	0	11	234	258	30	638	704	0	0	0	8	170	188	0	0	0	0	0													
WEST		21.3	39.0	40	851	1561	35	745	1366	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0													
SKYLT.		37.2	101.5	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	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	0	0	0	0	0													
NET EXPOSED WALL		4.5	0.8	382	1705	287	200	893	150	72	321	54	247	1102	186	211	942	159	114	509	86	153	683	115	81	361	61	37	165	28	0	0	0												
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	0	0	0	0	0	0												
EXPOSED CLG		1.3	0.6	323	415	190	176	226	103	160	205	94	285	366	167	252	323	148	272	349	160	153	196	90	198	254	116	80	103	47	60	77	35												
NO ATTIC EXPOSED CLG		2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
EXPOSED FLOOR		2.6	0.4	0	0	0	0	0	0	0	0	0	282	719	121	20	51	9	0	0	0	94	240	40	0	0	0	0	0	0	20	51	9												
BASEMENT/CRAWL HEAT LOSS						0				0				0				0				0				0				0				0											
SLAB ON GRADE HEAT LOSS						0				0				0				0				0				0				0				0											
SUBTOTAL HT LOSS						3354				2033				527				3443				2955				1496				1119				999				438				128			
SUB TOTAL HT GAIN						2310				1807				148				2739				3107				950				245				450				263				44			
LEVEL FACTOR / MULTIPLIER		0.20		0.31		0.20		0.31		0.20		0.31		0.20		0.31		0.20		0.31		0.20		0.31		0.20		0.31		0.20		0.31													
AIR CHANGE HEAT LOSS						1050				636				165				1078				925				468				350				313				137				40			
AIR CHANGE HEAT GAIN						182				142				12				216				245				75				19				35				21				3			
DUCT LOSS						0				0				0				452				388				0				147				0				0				17			
DUCT GAIN						0				0				0				366				405				0				73				0				0				51			
HEAT GAIN PEOPLE		240	2	480	0	0	0	0	0	0	0	1	240	1	240	1	240	0	0	0	0	1	240	0	0	1	240	0	0	0	0	0	0												
HEAT GAIN APPLIANCES/LIGHTS						463				463				0				463				463				463				463				0				0				463			
TOTAL HT LOSS BTU/H						4403				2670				691				4972				4267				1965				1616				1311				575				185			
TOTAL HT GAIN x 1.3 BTU/H						4465				3136				208				5230				5798				2245				1040				1544				368				729			

ROOM USE			LIBR			DIN			KIT			LIV			BATH						FOY			MUD									WOB			BAS		
EXP. WALL			37			29			63			12			8						31			27									52			144		
CLG. HT.			10			10			10			10			9						10			12									9			9		
FACTORS		LOSS		GAIN																																		
GRS.WALL AREA	LOSS		GAIN						290				630				120				72				310				324				468		864			
GLAZING	LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN			
NORTH	21.3	15.1	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	0	0	0	0	0	3	64	45			
EAST	21.3	38.4	48	1021	1843	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	0	0	0	0	0			
SOUTH	21.3	23.5	12	255	282	0	0	0	0	0	0	0	24	511	563	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	128	141	0	0			
WEST	21.3	39.0	0	0	0	54	1149	2107	102	2171	3980	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
SKYLT.	37.2	101.5	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	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	58	1464	247	20	505	85	20	505	85	20	505	85			
NET EXPOSED WALL	4.5	0.8	310	1383	233	236	1053	177	528	2356	397	96	428	72	72	321	54	252	1125	189	304	1357	228	382	1705	287	0	0	0	0	0	0	0	0	0			
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	0	0	0	432	1555	262	0	0				
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	144	185	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	70	179	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
BASEMENT/CRAWL HEAT LOSS					0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		2799			
SLAB ON GRADE HEAT LOSS					0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0			
SUBTOTAL HT LOSS			2660				2202		4527				939		685				2589		1862				4355		5050											
SUB TOTAL HT GAIN			2357		2285				4377		636		169				436		314				2948		533													
LEVEL FACTOR / MULTIPLIER			0.30	0.55	0.30		0.55	0.30		0.55	0.30		0.55	0.20		0.31	0.30		0.55	0.30		0.55	0.50		1.43													
AIR CHANGE HEAT LOSS			1451		1202		2470		512		214		1413		1016		25		34		274																	
AIR CHANGE HEAT GAIN			0		186		180		345		50		13		90		18		0		0		0		0		0		0		0		0		0			
DUCT LOSS			0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0			
DUCT GAIN			0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0			
HEAT GAIN PEOPLE	240		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	0	0	0	0	0	0	0				
HEAT GAIN APPLIANCES/LIGHTS			463		463		463		463		463		0		463		463		463		463		463		463		463		463		463		463		463			
TOTAL HT LOSS BTU/H			4112		3404		6997		1452		989		4002		2877		1041		5097		18489		165															
TOTAL HT GAIN x 1.3 BTU/H			3907		3805		6739		1493		260		1213		1041		165		3832		165																	

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

OPT 5-BED - WOB
TYPE: 5002 - THE ROSEVIEW

DATE: Jun-20

GFA: 3764 LO# 80240

HEATING CFM 1525 COOLING CFM 1525
TOTAL HEAT LOSS 70,072 TOTAL HEAT GAIN 48,705
AIR FLOW RATE CFM 21.76 AIR FLOW RATE CFM 31.31

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure
for s/a & r/a 0.35

*LENNOX
EL296UH090XE48C

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000

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

plenium pressure s/a 0.18
max s/a dif 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

FAN SPEED 90
LOW 0
MEDLOW 0
MEDIUM 1105
MEDIUM HIGH 1255
HIGH 1525

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

TEMPERATURE RISE 52 °F

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

RUN #	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	MBR	WIC	LIBR	DIN	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	1.96	1.62	2.49	2.13	2.20	0.69	2.06	1.70	2.33	2.33	1.45	1.31	0.58	4.00	2.88	3.93	3.93	3.93	3.93
CFM PER RUN HEAT	48	29	29	54	46	43	35	54	46	48	15	45	37	51	51	32	29	13	87	63	86	86	86	86
RM GAIN MBH	2.23	1.57	1.57	2.62	2.90	2.25	1.04	2.62	2.90	2.23	0.21	1.95	1.90	2.25	2.25	1.49	1.54	0.37	1.21	1.04	0.91	0.91	0.91	0.91
CFM PER RUN COOLING	70	49	49	82	91	70	33	82	91	70	7	61	60	70	70	47	48	12	38	33	29	29	29	29
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.16	0.17	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	195	130	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	0.1	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	5	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	374	374	367	333	149	444	723	631	631	631	438
COOLING VELOCITY (ft/min)	514	360	360	602	464	514	379	602	464	514	80	448	441	514	514	539	551	138	194	379	213	213	213	148
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	A	B	D	B	D	C	B	A	C	D	A	D	A	B	C	A	D	C	B

RUN #	25	26	27	28	29	30	31	32
ROOM NAME	BAS	LIBR	DIN	KIT	BATH	LAUN	BATH	BAS
RM LOSS MBH	3.93	2.06	1.70	2.33	0.49	0.18	0.49	3.93
CFM PER RUN HEAT	86	45	37	51	11	4	11	86
RM GAIN MBH	0.91	1.95	1.90	2.25	0.13	0.73	0.13	0.91
CFM PER RUN COOLING	29	61	60	70	4	23	4	29
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	36	40	30
EQUIVALENT LENGTH	110	120	130	90	170	190	160	200
TOTAL EFFECTIVE LENGTH	165	176	166	115	211	226	200	230
ADJUSTED PRESSURE	0.1	0.1	0.1	0.15	0.08	0.08	0.09	0.07
ROUND DUCT SIZE	5	5	5	5	4	4	4	6
HEATING VELOCITY (ft/min)	631	330	272	374	126	46	126	438
COOLING VELOCITY (ft/min)	213	448	441	514	46	264	46	148
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10
TRUNK	B	B	A	C	D	B	D	A

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	392	0.06	10.6	14	x 8
TRUNK B	480	0.06	11.4	16	x 8
TRUNK C	1138	0.06	15.8	28	x 8
TRUNK D	392	0.07	10.2	12	x 8
TRUNK E	0	0.00	0	0	x 8
TRUNK F	0	0.00	0	0	x 8

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK O	0	0.06	0	0	x 8
TRUNK P	0	0.06	0	0	x 8
TRUNK Q	0	0.06	0	0	x 8
TRUNK R	0	0.06	0	0	x 8
TRUNK S	0	0.06	0	0	x 8
TRUNK T	0	0.06	0	0	x 8
TRUNK U	0	0.06	0	0	x 8
TRUNK V	0	0.06	0	0	x 8
TRUNK W	0	0.06	0	0	x 8

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	130	130	130	130	155	365	85	95	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH	59	59	53	66	35	33	54	39	43	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	175	165	165	195	195	195	185	165	165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	234	224	218	261	230	228	239	204	208	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.07	0.07	0.06	0.06	0.06	0.06	0.07	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	7	6.8	6.8	7	7.5	10.3	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0	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
TRUNK X	1525	0.06	17.7	32	x	10	686																	
TRUNK Y	995	0.06	15	26	x	8	689																	
TRUNK Z	285	0.06	9.4	10	x	8	513																	
DROP	1525	0.06	17.7	24	x	14	654																	

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)	☒ 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	<u>2</u> @ 21.2 cfm <u>42.4</u> cfm	
Other Bedrooms	<u>4</u> @ 10.6 cfm <u>42.4</u> cfm	
Kitchen & Bathrooms	<u>6</u> @ 10.6 cfm <u>63.6</u> cfm	
Other Rooms	<u>7</u> @ 10.6 cfm <u>74.2</u> cfm	
Table 9.32.3.A.	TOTAL <u>222.6</u> 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	<u>222.6</u> cfm	
Less Principal Ventil. Capacity	<u>155</u> cfm	
Required Supplemental Capacity	<u>67.6</u> cfm	

PRINCIPAL EXHAUST FAN CAPACITY			
Model: VANEE 65H	Location: BSMT		
<u>155.0</u> cfm	<u>3.0</u> sones ☒ HVI Approved		
PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °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	☒
ENS-3	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
ENS-4	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
<u>155</u> cfm high	<u>64</u> cfm low	
<u>75</u> % Sensible Efficiency @ 32 deg F (0 deg C)	☒ HVI Approved	

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#: 80240	Model: 5002 - THE ROSEVIEW	Builder: GOLD PARK HOMES	Date: 6/4/2020																																																									
Volume Calculation			Air Change & Delta T Data																																																									
House Volume <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr> <td>Bsmt</td> <td>1700</td> <td>9</td> <td>15300</td> </tr> <tr> <td>First</td> <td>1700</td> <td>10</td> <td>17000</td> </tr> <tr> <td>Second</td> <td>2064</td> <td>9</td> <td>18576</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="3" style="text-align: right;">Total:</td> <td>50,876.0 ft³</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>1440.6 m³</td> </tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1700	9	15300	First	1700	10	17000	Second	2064	9	18576	Third	0	9	0	Fourth	0	9	0	Total:			50,876.0 ft³	Total:			1440.6 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 20%; text-align: center;">0.389</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td style="text-align: center;">0.130</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td style="text-align: center;">22</td> <td style="text-align: center;">-20</td> <td style="text-align: center;">42</td> <td style="text-align: center;">76</td> </tr> <tr> <td>Summer DTDc</td> <td style="text-align: center;">24</td> <td style="text-align: center;">31</td> <td style="text-align: center;">7</td> <td style="text-align: center;">13</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.389	SUMMER NATURAL AIR CHANGE RATE	0.130	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-20	42	76	Summer DTDc	24	31	7	13
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.389 x 400.18 x 42 °C x 1.2 = 7877 W = 26877 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.130 x 400.18 x 7 °C x 1.2 = 446 W = 1520 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 155 CFM x 76 °F x 1.08 x 0.25 = 3181 Btu/h			$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 155 CFM x 13 °F 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)																																																												
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairve Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{level})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">26,877</td> <td style="text-align: center;">9,406</td> <td style="text-align: center;">1.429</td> </tr> <tr> <td>2</td> <td>0.3</td> <td style="text-align: center;">14,779</td> <td style="text-align: center;">0.546</td> </tr> <tr> <td>3</td> <td>0.2</td> <td style="text-align: center;">17,175</td> <td style="text-align: center;">0.313</td> </tr> <tr> <td>4</td> <td>0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0.000</td> </tr> </tbody> </table> *HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0					Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	26,877	9,406	1.429	2	0.3	14,779	0.546	3	0.2	17,175	0.313	4	0	0	0.000	5	0	0	0.000																														
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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5002 - THE ROSEVIEW	OPT 5-BED - WOB	BUILDER: GOLD PARK HOMES
SFQT: 3764	LO# 80240	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 (ft ³):	50876.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	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

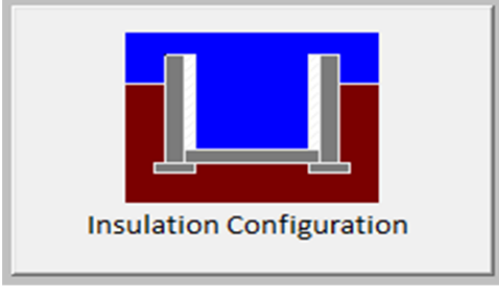
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 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

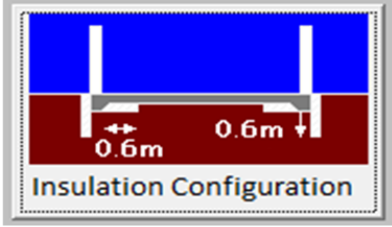
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	43.9	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.57	
Window Area (m ²):	0.8	
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):		820

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	
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):		217

TYPE: 5002 - THE ROSEVIEW
LO# 80240

OPT 5-BED - WOB

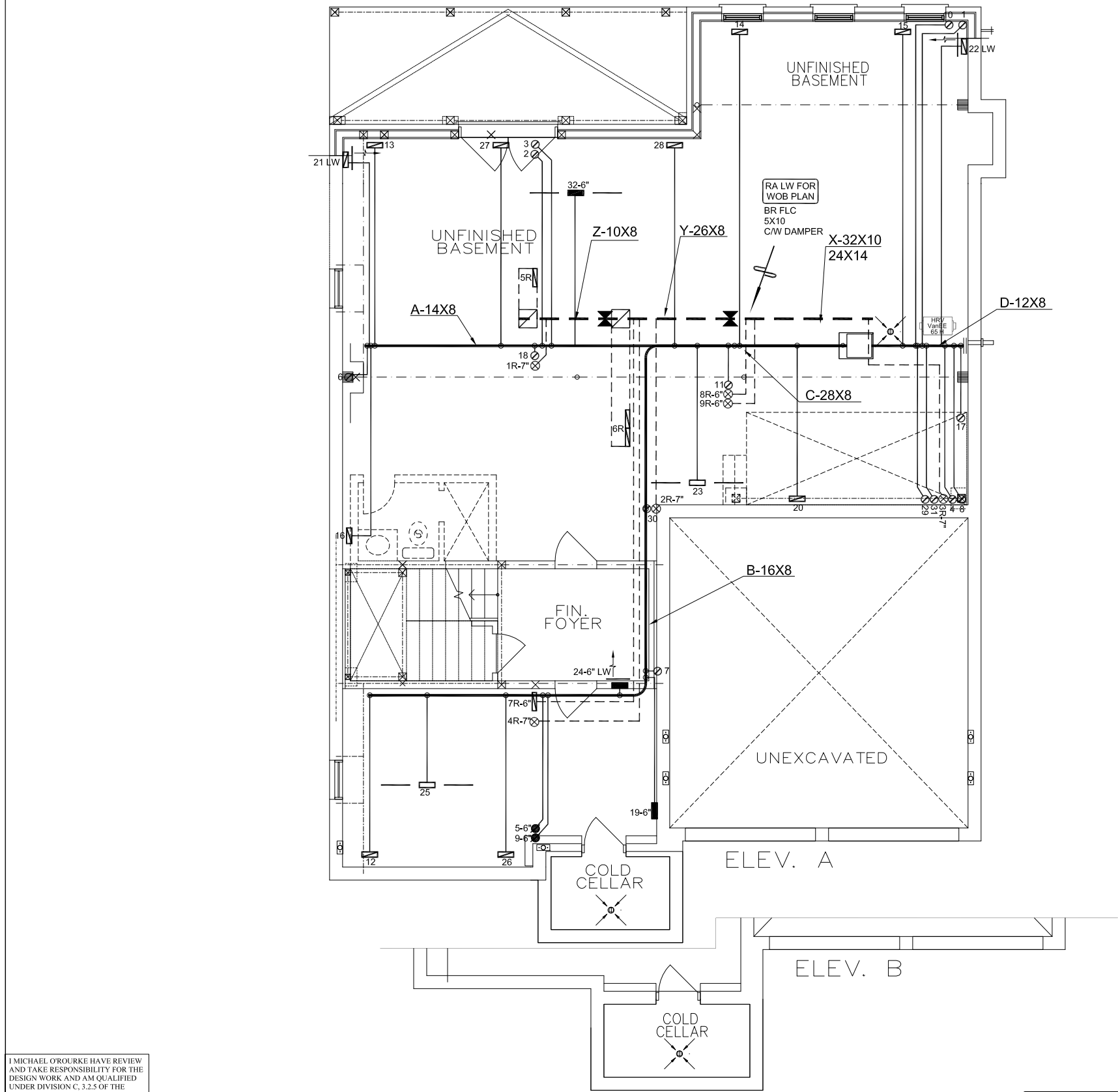
Air Infiltration Residential Load Calculator

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 ³):	1440.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.		1920.4 cm ²	
	3.57		ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply		Total Exhaust	
	73.2		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

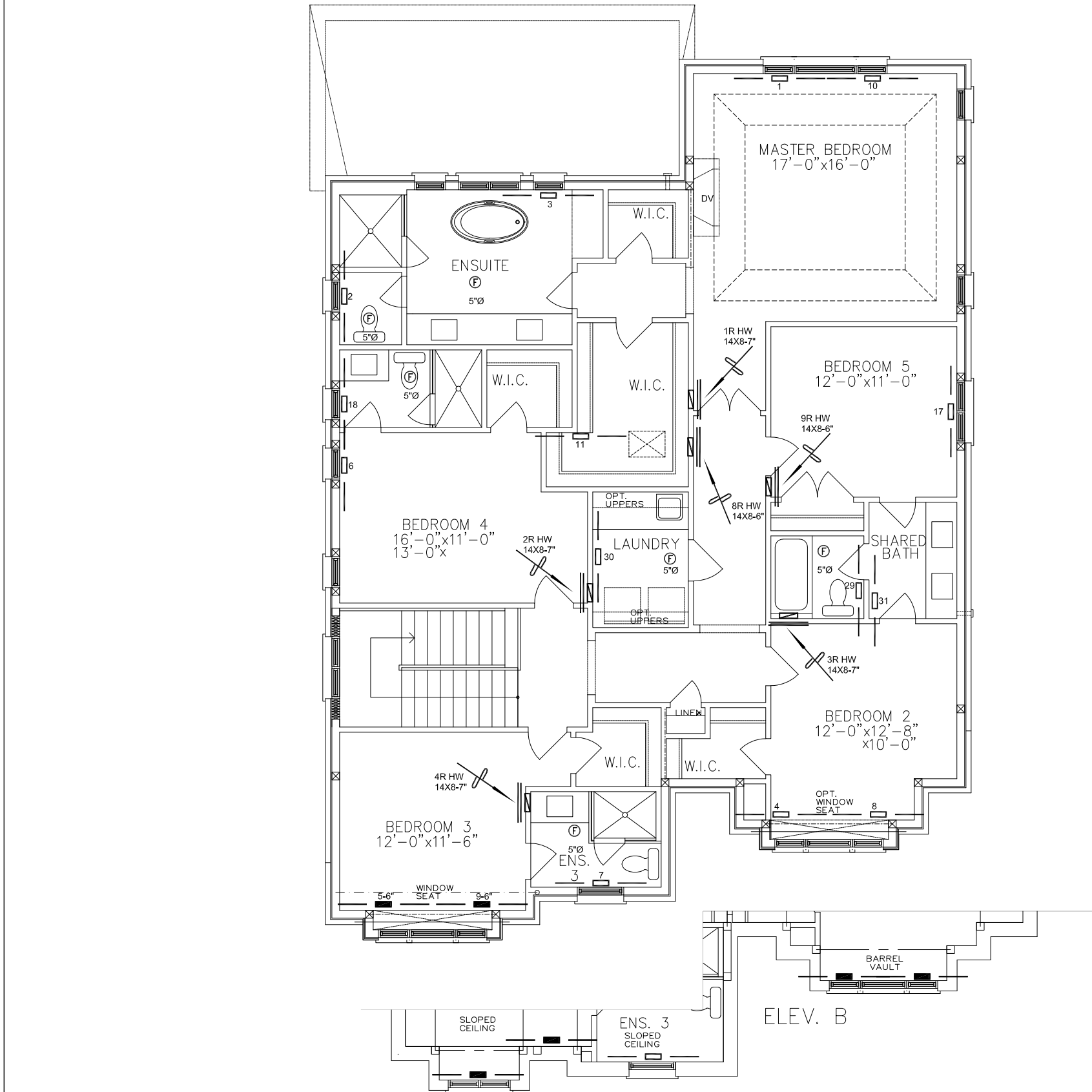
WOB

PACKAGE A1

HVAC LEGEND								3.	REVISED AS PER ARCHITECTURALS	JUNE/2020
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	ADDED RETURN # 9	NOV/2018
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	DECK CONDITIONS ADDED	OCT/2018
	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		

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.

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	HEAT LOSS 73253 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title		
GOLD PARK HOMES		MAKE LENNOX		3RD FLOOR			BASEMENT HEATING LAYOUT		
Project Name		MODEL EL296UH090XE48C		2ND FLOOR	16	6			6
PINE VALLEY & TESTON VAUGHAN, ONTARIO		INPUT 88 MBTU/H		1ST FLOOR	10	3			2
		OUTPUT 85 MBTU/H		BASEMENT	6	1	0	Date	OCT/2018
	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				Scale	1/8" = 1'-0"	
OPT 5-BED - WOB 5002 - ROSEVIEW 3764 sqft	FAN SPEED 1525 cfm @ 0.6" w.c.						BCIN# 19669		
			LO#				80240		



I MICHAEL O'ROURKE HAVE REVIEW
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

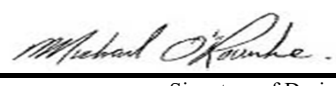
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Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest 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			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

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@hvacdesigns.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: 5002 - THE ROSEVIEW WOB Project: PINE VALLEY & TESTON	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name)			
☐ 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 4, 2020		 Signature of Designer	
Date			

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		WOB		TYPE: 5002 - THE ROSEVIEW		GFA: 3764		DATE: Jun-20		WINTER NATURAL AIR CHANGE RATE 0.389		HEAT LOSS ΔT °F. 76		CSA-F280-12	
BUILDER: GOLD PARK HOMES		TYPE: 5002 - THE ROSEVIEW		GFA: 3764		DATE: Jun-20		LO# 80239		SUMMER NATURAL AIR CHANGE RATE 0.138		HEAT GAIN ΔT °F. 15		SB-12 PACKAGE A1	
ROOM USE		MBR		ENS		WIC		BED-2		BED-3		BED-4		BATH	
EXP. WALL		50		30		10		39		48		16		4	
CLG. HT.		10		9		9		9		9		9		9	
FACTORS															
GRS.WALL AREA	LOSS GAIN	500		270		90		351		432		144		36	
GLAZING	LOSS GAIN														
NORTH	21.3 15.5	18 383 279		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0	
EAST	21.3 38.9	0 0 0		0 0 0		0 0 0		59 1256 2298		66 1404 2571		0 0 0		0 0 0	
SOUTH	21.3 23.7	0 0 0		20 426 474		0 0 0		0 0 0		9 192 213		32 681 758		0 0 0	
WEST	21.3 38.9	40 851 1558		26 553 1013		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0	
SKYLT.	37.2 102.5	0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0	
DOORS	25.2 4.9	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 0.9	442 1973 384		224 1000 195		90 402 78		292 1303 254		357 1593 310		112 500 97		36 161 31	
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	
EXPOSED CLG	1.3 0.6	437 561 272		224 287 139		160 205 99		294 377 183		374 480 232		224 287 139		162 208 101	
NO ATTIC EXPOSED CLG	2.7 1.3	0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0	
EXPOSED FLOOR	2.6 0.5	0 0 0		0 0 0		0 0 0		282 719 140		20 51 10		0 0 0		94 240 47	
BASEMENT/CRAWL HEAT LOSS		0		0		0		0		0		0		0	
SLAB ON GRADE HEAT LOSS		0		0		0		0		0		0		0	
SUBTOTAL HT LOSS		3768		2266		607		3655		3720		1468		608	
SUB TOTAL HT GAIN		2493		1820		178		2874		3336		994		179	
LEVEL FACTOR / MULTIPLIER	0.20 0.32			0.20 0.32		0.20 0.32		0.20 0.32		0.20 0.32		0.20 0.32		0.20 0.32	
AIR CHANGE HEAT LOSS		1208		727		195		1172		1193		471		195	
AIR CHANGE HEAT GAIN		239		175		17		276		320		95		17	
DUCT LOSS		0		0		0		483		491		0		80	
DUCT GAIN		0		0		0		385		436		0		66	
HEAT GAIN PEOPLE	240	2		480		0		1		240		1		240	
HEAT GAIN APPLIANCES/LIGHTS		463		463		0		463		463		463		463	
TOTAL HT LOSS BTU/H		4976		2993		802		5310		5404		1939		884	
TOTAL HT GAIN x 1.3 BTU/H		4777		3195		253		5509		6233		2330		941	

ROOM USE		LIBR		DIN		KIT		LIV		LAUN		FOY		MUD	
EXP. WALL		37		29		63		12		7		31		27	
CLG. HT.		10		10		10		10		9		10		12	
FACTORS															
GRS.WALL AREA	LOSS GAIN	370		290		630		120		63		310		324	
GLAZING	LOSS GAIN														
NORTH	21.3 15.5	0 0 0		0 0 0		0 0 0		0 0 0		9 192 140		0 0 0		0 0 0	
EAST	21.3 38.9	48 1021 1870		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0	
SOUTH	21.3 23.7	12 255 284		0 0 0		0 0 0		24 511 568		0 0 0		0 0 0		0 0 0	
WEST	21.3 38.9	0 0 0		54 1149 2103		92 1958 3583		0 0 0		0 0 0		0 0 0		0 0 0	
SKYLT.	37.2 102.5	0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0	
DOORS	25.2 4.9	0 0 0		0 0 0		10 252 49		0 0 0		0 0 0		58 1464 285		20 505 98	
NET EXPOSED WALL	4.5 0.9	310 1383 269		236 1053 205		528 2356 459		96 428 83		54 241 47		252 1125 219		304 1357 264	
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	
EXPOSED CLG	1.3 0.6	0 0 0		0 0 0		0 0 0		0 0 0		126 162 78		0 0 0		0 0 0	
NO ATTIC EXPOSED CLG	2.7 1.3	0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0	
EXPOSED FLOOR	2.6 0.5	0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0	
BASEMENT/CRAWL HEAT LOSS		0		0		0		0		0		0		0	
SLAB ON GRADE HEAT LOSS		0		0		0		0		0		0		0	
SUBTOTAL HT LOSS		2660		2202		4567		939		594		2589		1862	
SUB TOTAL HT GAIN		2423		2308		4091		652		265		504		363	
LEVEL FACTOR / MULTIPLIER	0.30 0.54			0.30 0.54		0.30 0.54		0.30 0.54		0.20 0.32		0.30 0.54		0.30 0.54	
AIR CHANGE HEAT LOSS		1447		1198		2485		511		191		1409		1013	
AIR CHANGE HEAT GAIN		232		221		392		63		25		48		35	
DUCT LOSS		0		0		0		0		0		0		0	
DUCT GAIN		0		0		0		0		0		0		0	
HEAT GAIN PEOPLE	240	0		0		0		0		0		0		0	
HEAT GAIN APPLIANCES/LIGHTS		463		463		463		463		463		463		463	
TOTAL HT LOSS BTU/H		4108		3401		7051		1450		785		3998		2875	
TOTAL HT GAIN x 1.3 BTU/H		4054		3890		6430		1530		979		1320		1118	

TOTAL HEAT GAIN BTU/H:

49154

TONS: 4.10

LOSS DUE TO VENTILATION LOAD BTU/H: 3181

STRUCTURAL HEAT LOSS: 69752

TOTAL COMBINED HEAT LOSS BTU/H: 72933



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

WOB
TYPE: 5002 - THE ROSEVIEW

DATE: Jun-20

GFA: 3764 LO# 80239

HEATING CFM 1525 COOLING CFM 1525
TOTAL HEAT LOSS 69,752 TOTAL HEAT GAIN 48,534
AIR FLOW RATE CFM 21.86 AIR FLOW RATE CFM 31.42

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure
for s/a & r/a 0.35

*LENNOX
EL296UH090XE48C

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	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.

plenium pressure s/a 0.18
max s/a dif 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

FAN SPEED 90
LOW 0
MEDLOW 0
MEDIUM 1105
MEDIUM HIGH 1255
HIGH 1525

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

TEMPERATURE RISE 52 °F

RUN #	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	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	ENS-4	LIBR	DIN	KIT	KIT	LIV	LAUN	ENS	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	2.49	1.50	0.80	2.65	2.70	1.94	0.44	2.65	2.70	2.49	0.10	2.05	1.70	2.35	2.35	1.45	0.78	1.50	4.00	2.87	3.95	3.95	3.95	3.95
CFM PER RUN HEAT	54	33	18	58	59	42	10	58	59	54	2	45	37	51	51	32	17	33	87	63	86	86	86	86
RM GAIN MBH	2.39	1.60	0.25	2.75	3.12	2.33	0.47	2.75	3.12	2.39	0.65	2.03	1.94	2.14	2.14	1.53	0.98	1.60	1.32	1.12	0.89	0.89	0.89	0.89
CFM PER RUN COOLING	75	50	8	87	98	73	15	87	98	75	21	64	61	67	67	48	31	50	41	35	28	28	28	28
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.16	0.17	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	47	43	66	42	29	65	44	28	23	45	22	47	44	16	33	21	19	47
EQUIVALENT LENGTH	200	205	195	130	170	140	140	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	187	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	0.09	0.09	0.06	0.07	0.1	0.1	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	4	5	6	5	4	5	6	5	4	5	5	5	5	4	4	5	6	4	5	5	5	6
HEATING VELOCITY (ft/min)	396	242	207	426	301	308	115	426	301	396	23	330	272	374	374	367	195	242	444	723	631	631	631	438
COOLING VELOCITY (ft/min)	551	367	92	639	500	536	172	639	500	551	241	470	448	492	492	551	356	367	209	402	206	206	206	143
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	A	D	D	B	D	C	B	A	C	D	A	D	A	B	C	A	D	C	B

RUN #	25	26	27	28	29	30
ROOM NAME	BAS	LIBR	DIN	KIT	BATH	BAS
RM LOSS MBH	3.95	2.05	1.70	2.35	0.44	3.95
CFM PER RUN HEAT	86	45	37	51	10	86
RM GAIN MBH	0.89	2.03	1.94	2.14	0.47	0.89
CFM PER RUN COOLING	28	64	61	67	15	28
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.17	0.16
ACTUAL DUCT LGH	55	56	36	25	41	30
EQUIVALENT LENGTH	110	120	130	90	170	160
TOTAL EFFECTIVE LENGTH	165	176	166	115	211	190
ADJUSTED PRESSURE	0.1	0.1	0.1	0.15	0.08	0.09
ROUND DUCT SIZE	5	5	5	4	4	5
HEATING VELOCITY (ft/min)	631	330	272	585	115	631
COOLING VELOCITY (ft/min)	206	470	448	769	172	206
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	B	B	A	C	D	A

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	404	0.06	10.7	14	x 8 519
TRUNK B	467	0.06	11.3	14	x 8 600
TRUNK C	1124	0.06	15.7	28	x 8 723
TRUNK D	398	0.07	10.3	12	x 8 597
TRUNK E	0	0.00	0	0	x 8 0
TRUNK F	0	0.00	0	0	x 8 0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK O	0	0.06	0	0	x 8 0
TRUNK P	0	0.06	0	0	x 8 0
TRUNK Q	0	0.06	0	0	x 8 0
TRUNK R	0	0.06	0	0	x 8 0
TRUNK S	0	0.06	0	0	x 8 0
TRUNK T	0	0.06	0	0	x 8 0
TRUNK U	0	0.06	0	0	x 8 0
TRUNK V	0	0.06	0	0	x 8 0
TRUNK W	0	0.06	0	0	x 8 0

RETURN AIR #	1	2	3	4	5	6	7	8	BR
AIR VOLUME	130	130	130	130	155	365	85	2@6"	0 0 0 0 0 0 0 220
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
ACTUAL DUCT LGH	59	59	53	66	35	33	54	39	1 1 1 1 1 1 1 14
EQUIVALENT LENGTH	175	165	165	195	195	185	165	0	0 0 0 0 0 0 0 135
TOTAL EFFECTIVE LH	234	224	218	261	230	228	239	204	1 1 1 1 1 1 1 149
ADJUSTED PRESSURE	0.06	0.07	0.07	0.06	0.06	0.06	0.06	0.07	14.80 14.80 14.80 14.80 14.80 14.80 14.80 0.10
ROUND DUCT SIZE	7	6.8	6.8	7	7.5	10.3	6	7.6	0 0 0 0 0 0 0 7.5
INLET GRILL SIZE	8	8	8	8	8	8	8	8	0 0 0 0 0 0 0 8
	X	X	X	X	X	X	X	X	X X X X X X X
INLET GRILL SIZE	14	14	14	14	14	30	14	24	0 0 0 0 0 0 0 14

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

LO # 80239
WOB

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>7</u> @ 10.6 cfm	<u>74.2</u> cfm
Table 9.32.3.A.	TOTAL	<u>201.4</u> 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		<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>201.4</u>	cfm
Less Principal Ventil. Capacity	<u>155</u>	cfm
Required Supplemental Capacity	<u>46.4</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY			
Model:	VANEE 65H		
Location:	BSMT		
<u>155.0</u> cfm	<u>3.0</u> sones		
☒ HVI Approved			
PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °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	☒
BATH	QTXEN050C	50	☒
ENS-4	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 65H	
<u>155</u> cfm high	<u>64</u> cfm low	
<u>75</u> % Sensible Efficiency @ 32 deg F (0 deg C)	☒ HVI Approved	

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#: 80239	Model: 5002 - THE ROSEVIEW	Builder: GOLD PARK HOMES	Date: 6/4/2020																																																									
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House Volume <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr> <td>Bsmt</td> <td>1700</td> <td>9</td> <td>15300</td> </tr> <tr> <td>First</td> <td>1700</td> <td>10</td> <td>17000</td> </tr> <tr> <td>Second</td> <td>2064</td> <td>9</td> <td>18576</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="3" style="text-align: right;">Total:</td> <td>50,876.0 ft³</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>1440.6 m³</td> </tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1700	9	15300	First	1700	10	17000	Second	2064	9	18576	Third	0	9	0	Fourth	0	9	0	Total:			50,876.0 ft³	Total:			1440.6 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 30%; text-align: center;">0.389</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td style="text-align: center;">0.138</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td style="text-align: center;">22</td> <td style="text-align: center;">-20</td> <td style="text-align: center;">42</td> <td style="text-align: center;">76</td> </tr> <tr> <td>Summer DTDc</td> <td style="text-align: center;">23</td> <td style="text-align: center;">31</td> <td style="text-align: center;">8</td> <td style="text-align: center;">15</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.389	SUMMER NATURAL AIR CHANGE RATE	0.138	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-20	42	76	Summer DTDc	23	31	8	15
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.389 x 400.18 x 42 °C x 1.2 = 7877 W = 26877 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.138 x 400.18 x 8 °C x 1.2 = 545 W = 1858 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 155 CFM x 76 °F x 1.08 x 0.25 = 3181 Btu/h			$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 155 CFM x 15 °F x 1.08 x 0.25 = 619 Btu/h																																																									
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																												
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairve Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{level})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">26,877</td> <td style="text-align: center;">9,497</td> <td style="text-align: center;">1.415</td> </tr> <tr> <td>2</td> <td>0.3</td> <td style="text-align: center;">14,819</td> <td style="text-align: center;">0.544</td> </tr> <tr> <td>3</td> <td>0.2</td> <td style="text-align: center;">16,764</td> <td style="text-align: center;">0.321</td> </tr> <tr> <td>4</td> <td>0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0.000</td> </tr> </tbody> </table>					Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	26,877	9,497	1.415	2	0.3	14,819	0.544	3	0.2	16,764	0.321	4	0	0	0.000	5	0	0	0.000																														
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																												

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5002 - THE ROSEVIEW	WOB	BUILDER: GOLD PARK HOMES
SFQT: 3764	LO# 80239	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)	73

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 (ft ³):	50876.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	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

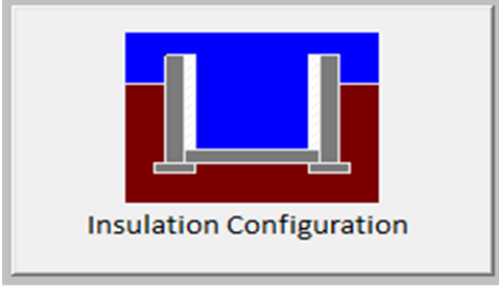
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 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

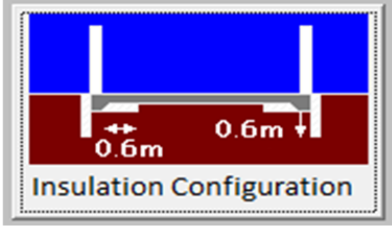
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	43.9	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.57	
Window Area (m ²):	1.1	
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):		817

TYPE: 5002 - THE ROSEVIEW
LO# 80239

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	
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):		217

TYPE: 5002 - THE ROSEVIEW
LO# 80239

WOB

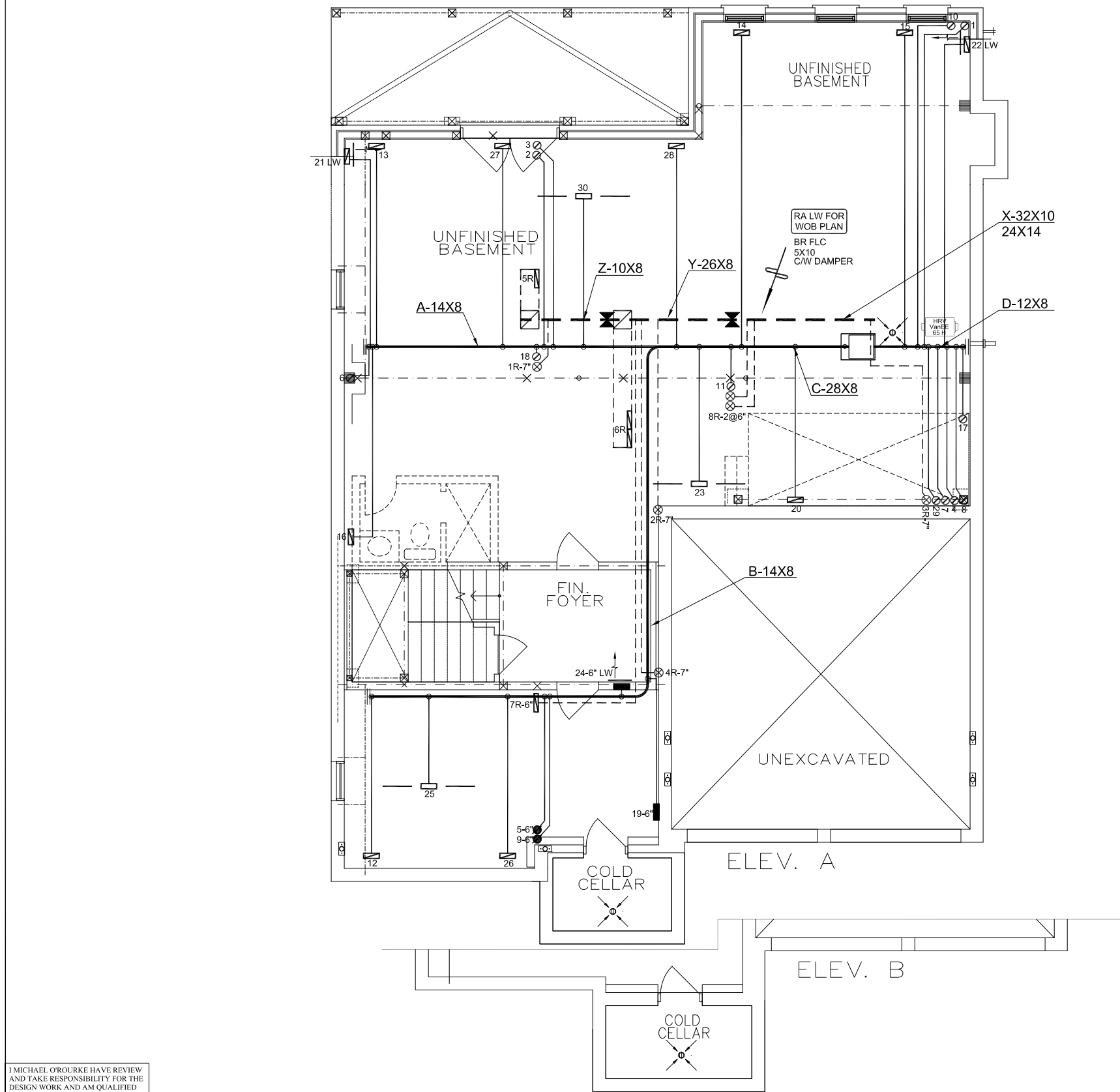
Air Infiltration Residential Load Calculator

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 ³):	1440.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1920.4 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	73.2	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):	0.138			

TYPE: 5002 - THE ROSEVIEW
LO# 80239

WOB



I MICHAEL O'ROURKE HAVE REVIEW
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.

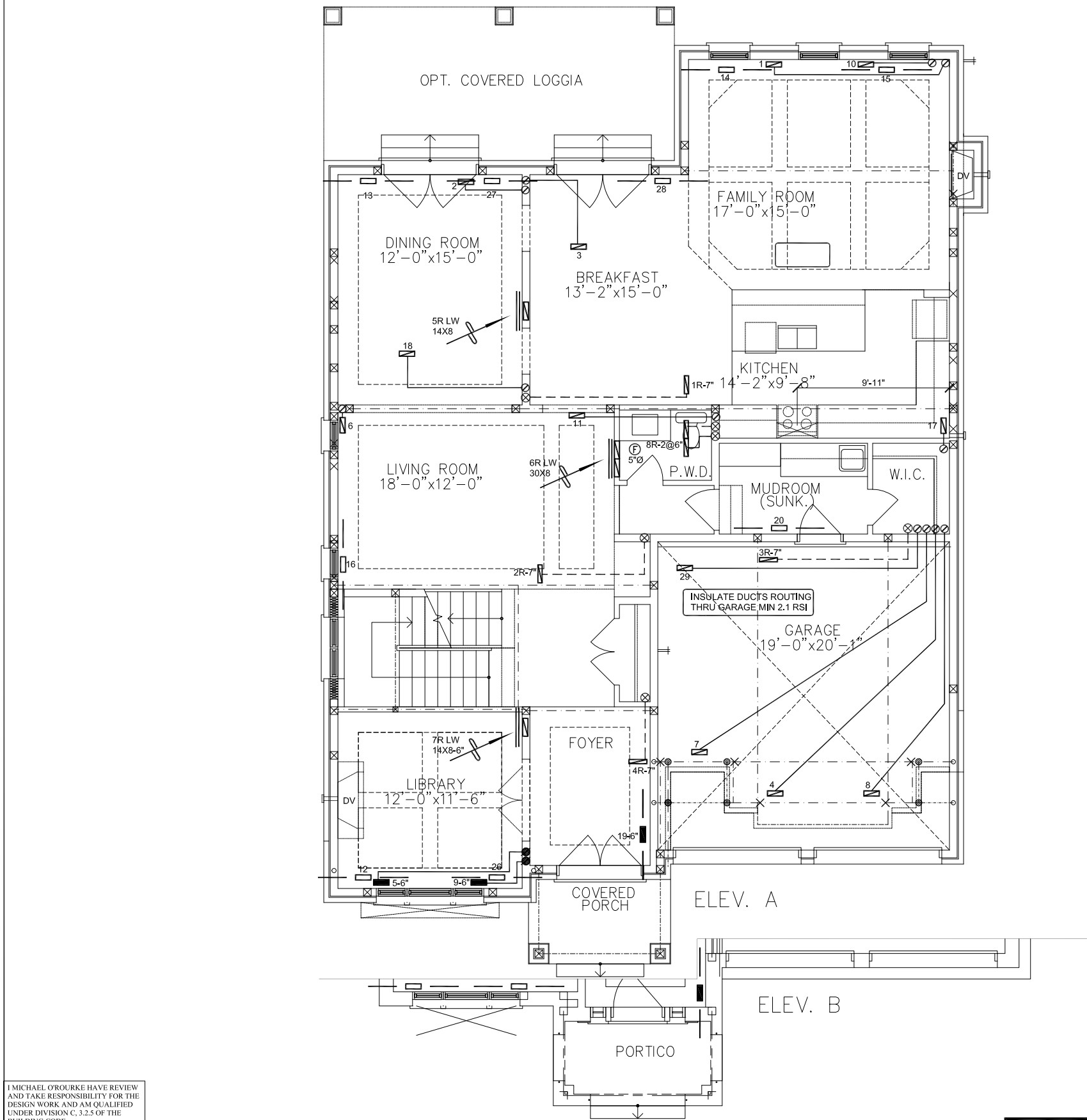
CSA-F280-12

WOB PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	JUNE/2020
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	DECK CONDITIONS ADDED	OCT/2018
	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	GOLD PARK HOMES	 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdsgns.ca Web: www.hvacdsgns.ca Specializing in Residential Mechanical Design Services	HEAT LOSS 72933 BTU/H UNIT DATA MAKE LENNOX MODEL EL296UH090XE48C INPUT 88 MBTU/H OUTPUT 85 MBTU/H COOLING 4.0 TONS FAN SPEED 1525 cfm @ 0.6" w.c.	# OF RUNS S/A R/A FANS 3RD FLOOR 2ND FLOOR 14 5 4 1ST FLOOR 10 3 2 BASEMENT 6 1 0	Sheet Title BASEMENT HEATING LAYOUT
Project Name	PINE VALLEY & TESTON VAUGHAN, ONTARIO	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.		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	Date OCT/2018
					Scale 3/16" = 1'-0"
WOB	5002 - ROSEVIEW 3764 sqft				BCIN# 19669
					LO# 80239



I MICHAEL O'ROURKE HAVE REVIEW
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

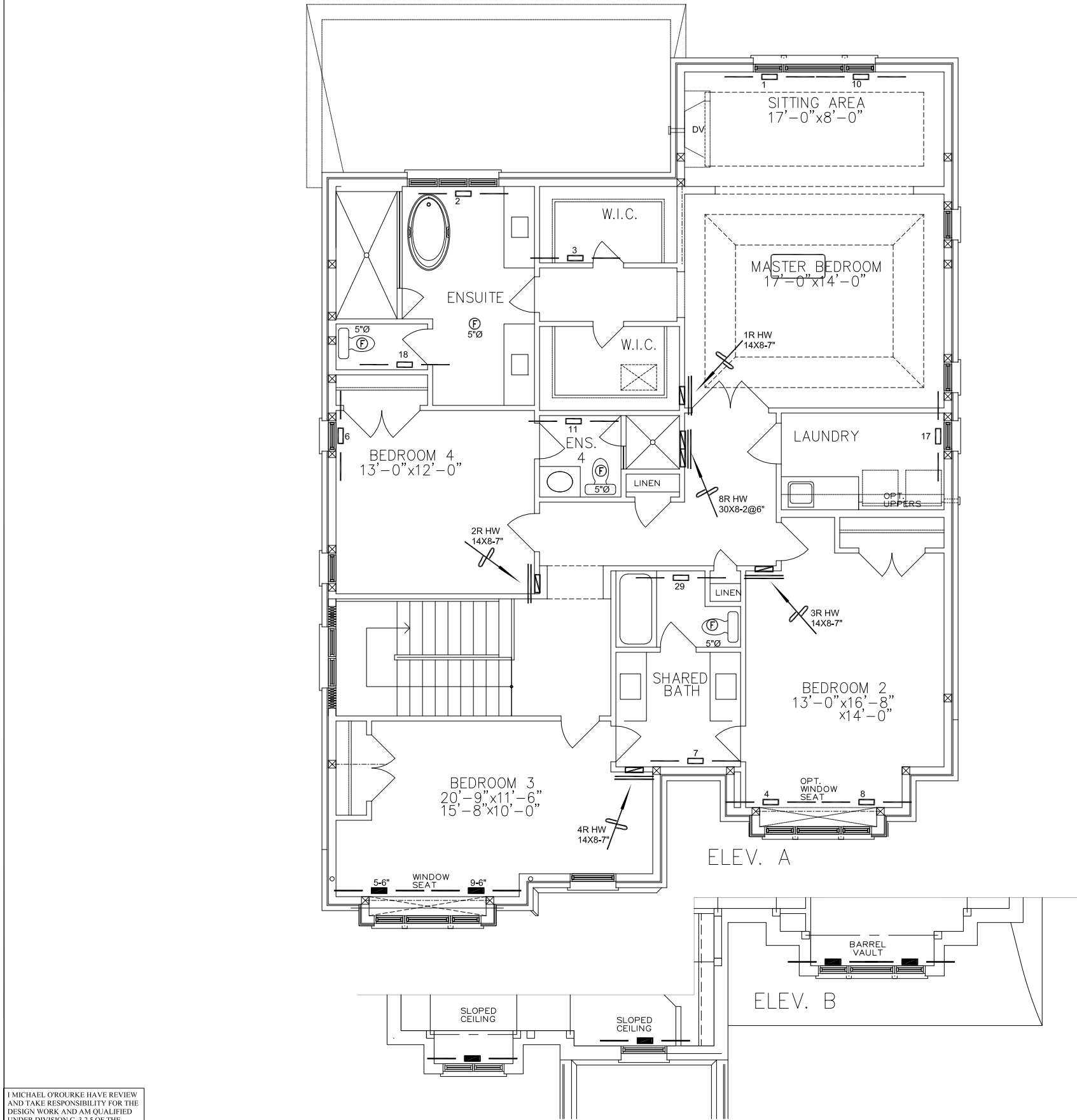
WOB

PACKAGE A1

HVAC LEGEND								3.		
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	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	DECK CONDITIONS ADDED	OCT/2018
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	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	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
WOB			BCIN# 19669	
5002 - ROSEVIEW 3764 sqft			LO#	80239



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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.	REVISED AS PER ARCHITECTURALS	JUNE/2020
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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
WOB			BCIN# 19669	
5002 - ROSEVIEW 3764 sqft			LO#	80239